THE UNIVERSITY
OF ILLINOIS
LIBRARY
610.5
BR
1920

NATURAL
BIOLOGY
LIBRARY

Return this book on or before the **Latest Date** stamped below. A charge is made on all overdue books.
University of Illinois Library

JAN 4 - 1945
FEB 21 1952
DEC 22 1959
AUG 8 1960
BUILDING USE ONLY
JUN 07 1996
JUN 03 1996

M32

13 P

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LIBRARY
UNIVERSITY OF ILLINOIS
URBANA

1963
10
del

EDITED BY

DAWSON WILLIAMS, M.D., D.Sc.(Hon.),

ASSISTED BY

NORMAN GERALD HORNER, M.A., M.B.

VOLUME I, 1920.

JANUARY TO JUNE.

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

LIST OF ILLUSTRATIONS.

SPECIAL PLATES.

	PAGE
Deficiency Disease (R. McCarrison) ... ... facing	823
Detection of Suture Material Embedded in Tissues (M. J. Stewart) ... ... facing	663
Fraser, Sir Thomas ... ... facing	100
Heart Disease: The Passive Mechanical Factor in (A. Blackhall-Morison) ... ... facing	822
Horsley, Sir Victor ... ... facing	260
Nutrition of Articular Cartilage (T. S. P. Strangeways) ... facing	662
Osler, Sir William ... ... facing	30

ILLUSTRATIONS IN THE TEXT.

	PAGE
Actinomycosis: Simple Method of Cultivating the Micro-Organism of (M. H. Gordon)	435
Ankylosis of the Mandible (Gilbert Chubb)	257
Appendicectomy by a New Route (R. H. Anglin Whitelocke) ...	211
Banks, George	127
Caius, Johannes	370
Cambridge, Views of 17, 125, 505, 651, 772,	845
Dietaries, Deficient, Effects of on Monkeys (Lieut.-Col. Robert McCarrison)	249
Facial Trophoneurosis with Deformity of the Hand (I. H. Lloyd)	735
Flail Joints and their Treatment (Sir Robert Jones)	177
Gall Stones (R. P. Rowlands)	665
Gastric and Duodenal Ulcer (Arthur F. Hurst)	559
Harvey, William	371
Head Lamp	472
Health Services, Diagram of an Area	741
Heat Hyperpyrexia (W. H. Willcox)	393
Herpes Zoster and Greyness of Hair (Sir G. Lenthal Cheatle) ...	219
Maternity Homes and Hospitals	299
Needle for Artificial Pneumothorax, a New (Frederic C. Coley) ...	433
Newton, Sir Isaac	505
Oxygen in Pulmonary Lesions, Value of (Jonathan C. Meakins) ...	325
Penetrating Wound of Chest, Thoracotomy, Suture of Pericardium (J. B. Haycraft)	184
Physiological Cost of Muscular Work (A. D. Waller)	537
Poison of the Spiny Dog-fish (H. Muir Evans)	287
Public Health *versus* the State (Bertram G. M. Baskett) ...	41
Rhinoplasty and Cheiloplasty (Rushton Parker)	12
Rock Tombs or Caves in Palestine	97
Sedimentary Cell for Microscopical Examination of Cerebro-spinal and other Fluids	708
Soldier's Heart and War Neurosis (Sir James Mackenzie) 491,	530
Tonsil Bayonet	472
Tuberculosis, Epidemiology of (William Gordon)	595
Tumours Complicating Pregnancy, Labour, and the Puerperium (Herbert R. Spencer) 179,	320
Turner, Sir William	439
Urethroscopic Tube	771
Young, Thomas	774

610.5
BR
1920
1
Nat. Hist.
LIBRARY
UNIVERSITY OF ILLINOIS
URBANA
5 Ap21 B.R.B.
Bdg. 3.25

INDEX TO VOLUME I FOR 1920.

READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma, Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Light, Roentgen, Radium, *X* Rays; Status Lymphaticus and Thymus; Eye, Ophthalmia and Vision; Bicycle and Cycle; Motor and Automobile; Association, Institution, and Society; Paris, France; Berlin, Prussia, Germany; Vienna, Austria, etc. Subjects dealt with under various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example, "Correspondence," "Leading Articles," "Reviews," etc. Original Articles are indicated by the letter (O).

A.

ABBOTT, Charles C., "herbal specialist," legal proceedings against, 659
Abdominal cases, three acute: polypus of stomach, large haemorrhage into wall of caecum, large ovarian cyst (J. Lionel Stretton), 80. (O)
Abdominal emergencies (Rutherford Morison), 425. (O)
Abdominal tuberculosis. *See* Tuberculosis
ABERCROMBIE, R. W.: Physiopathic paralysis of the hand and its causation, 764. (O)
Aberdeen, proposed institute of research in animal nutrition at, 438
Abortifacients, sale and advertisement of (leading article), 192—Correspondence on, 242
Abortion, attempted, sudden death at, 624
Abortion, cervical (Gladys J. C. Russell), 363
Abortion, etiological factors in (Daniel Dougal and J. W. Bride), 632. (O)
Abortion, factors in (Drs. Dougal and Bride), 540
Abortionist sentenced (Devi Dayal Sasun), 589, 754
ABT, Isaac A.: *The Baby's Food*, rev., 368
Académie de Médecine, centenary of, 161—Election of members and corresponding members, 589
Academy, Royal, 645

ACADEMY, ROYAL, OF MEDICINE, IN IRELAND:
Section of Medicine.—Exhibition of cases, 736—Dr. Spears: Mixed functional and organic palsy, 736
Section of Obstetrics.—Bethel Solomons: Uterine cancer, 48—Dr. Ashe: Ovarian insufficiency, 48—Sir W. Smyly: Schultz's forceps, 48—Hastings Tweedy: Tubal sterility, 604—Spencer Sheill: Circumcision as an ancient rite and as a surgical procedure, 768
Section of Surgery.—Cases and specimens, 519—A. E. Boyd: Oil ether colonic anaesthesia, 768—Sir W. I. de C. Wheeler: Arthroplasty of the knee-joint, 768—Seton Pringle: Early symptoms of cancer of colon, 768

Acari from lungs of *Macacus rhesus* (F. Martin Duncan), 276
Accidents, rare, presumed due to negligence, 554
ACHARD: Lethargic encephalitis, 193, 241
Achilleion palace at Corfu now known as the Tribondeau hospital, 458
Acidosis in certain nervous disorders (B. H. Shaw), 695. (O)
Acne vulgaris, *x*-ray treatment of (H. C. Semon), 700. (O)
Acoustic tumour. *See* Tumour
Acta Societatis Medicorum Fennicae Duodecim, 312
Actinomycosis, simple method of cultivating the micro organism of, 435
ADAMI, J. G.: The diphtheroid group, 14—Elected honorary Fellow of Christ's College, Cambridge, 785
ADAMS, John: Ante-natal and post-natal syphilis, 603
ADAMSON, James, obituary notice of, 313
ADDISON, Right Hon. Christopher: Appreciation of Sir Robert Morant, 455
Addison and Harley on the colour of a cat, 72
Adenoids, nasal drill in treatment of (Gertrude H. Hickling), 147. (O)—Correspondence on, 238, 310, 349, 487
Adenomyoma of recto-vaginal septum (M. H. Phillips), 224
Adjusting the matter, 278
Adrenalin mydriasis (Loewi's) as a sign of pancreatic insufficiency (W. L. Cockcroft), 669. (O)
Advertisements for medical officers. *See* Medical
Advertising's artful aid, 558
Aeroplane in medical investigation, 230—Aërial expedition to make journey from Cairo to the Cape, 230. *See also* Mitchell, Chalmers
Aesculapian Club, Toronto, election of officers, 725
AFFLECK, Sir James O.: Appreciation of Sir Thomas Fraser, 101
Afghanistan dispatch, 422
Africa, East, Indian medical practitioners in (parliamentary question), 482, 650
Africa, sleeping sickness in (Captain Basil Spence), 205
Africa, West, the white man in, 411
"After-care," 650. *See also* Sanatorium treatment
Air Ministry: *The Medical Examination of Civilian Pilots, Navigators, and Engineers*, 608
Air raid claims (parliamentary question), 808
Air-way infections (T. H. C. Benians), 668. (O)—Correspondence on, 812
AITKEN, Captain C. J. H.: Night blindness in scurvy, 526
ALBERT-WEIL, E.: *Éléments de Radiologie*, rev., 770
ALCOCK, A.: *Entomology for Medical Officers*, rev., 707
Alcohol, supply of to doctors in America, 623
Alcohol as a therapeutic agent (Dr. Dale), 294—Discussion, 295
Alcohol for power and traction purposes: Investigation officer appointed, 112
Alcoholism, acute, in man, toxicological investigation of, 411
ALDERSON, Reginald: Severe angio-neurotic oedema, 828
Alien enemy practitioners (New South Wales), 233
Alimentary canal, needle in (Heywood Smith), 81—(W. M. Feldman), 206—Pin in (H. B. Pope), 242—(A. B. Roberts), 424
ALLBUTT, Sir Clifford: Appreciation of Sir William Osler, 64—Appreciation of Charles Louis Taylor, 101—Medical literature for Vienna, 484—Elected an honorary member of the Association of American Physicians, 779—Presentation portrait of, 876—Writes a preface to *Industrial Colonies and Village Settlements for Consumptives*, 885
Alopecia, 138, 173
ALSTROM, Hedda: Mechano-therapy, 366
AMBARD, L.: *Physiologie normale et pathologique des reins*, rev., 606
Ambassadors to the United States, medical, 410
Ambulance Service, the Home, 716
Ambulances, 1st and 2nd South Midland Field, dinner, 687
Ambulances for civil work in the United Kingdom, 434—Correspondence on, 784
Amenorrhoea, pregnancy during, 278
America. *See* United States
American Frohse life-size anatomical charts, 16
Amibiasine for dysentery, 190
Amicis prize, 691
Ammonia coefficient, high (Lady Barrett), 603
AMOSS: Portal for acute poliomyelitis, 343
Anaesthesia, colonic ether (A. E. Boyd), 768
Anaesthesia in epileptics, 526, 558, 624
Anaesthesia in throat operations (Felix Rood), 295
Anaesthesia for thyroid operations (Mrs. Dickinson Berry), 635
Anaesthetics, administration of (parliamentary question), 583
Anaesthetics, discussion at Sheffield Medico-Chirurgical Society, 539
Analgesia, visceral, in tabes, 480
Anaphylaxis, severe recovery, 72
Anatomy inspector for Scotland, appointment of, 617
Anatomy, review of books on, 367
ANDERSON, Daniel E.: *Epidemics of Mauritius*, rev., 298—Letter on, 383
ANDERSON, Ford: Rupture of uterus, 829
ANDERSON, Dr. Garrett: Surgery at the Endell Street Hospital, 605
ANDERSON, Kenneth: Acute oedema of lungs, 571
ANDERSON, R.: Small-pox in Scotland, 785
ANDREWS, Captain H. J., obituary notice of, 137
Angio-neurotic oedema. *See* Oedema
Ankle amputation, artificial appliance for, 590
Ankle, fracture dislocations of, 62
Ankylosis of mandible and its operative treatment (Gilbert Chubb), 256. (O)
ANSON, G. E.: Haematoporphyrinuria, 634
Ante-natal respiratory movements, 877
Anthrax infection by brushes, 25, 53, 276
Anthrax Prevention Act, 276
Antianaphylaxis in treatment of chronic disorders (leading article), 839
Antimony intravenously in filariasis (Lieut.-Col. Sir Leonard Rogers), 596 (O)
Antipyretic drugs and cold water, 206
Antiscorbutic lemon juice tablets, 624
Antispiritualistic vaccine, 726
Antistreptococcic serum in puerperal fever (O. Hilton), 185
Antistreptococcic serum in quinsy (Noel C. Forsyth), 361. (O)
Antityphoid inoculation (parliamentary question), 482
Antivermin paste, 472
Anzacs, prophylaxis and venereal disease amongst, 202. *See also* Venereal
Aortic endocarditis and aortitis, association of (J. E. MacIlwaine), 428. (O)—Correspondence on, 586, 656, 688, 754
Apoplexy, utero-placental. *See* Haemorrhage, accidental
Apothecaries' Society of London: Pass lists, 204, 690, 814—Awards Gillson scholarship, 277
Apothecary poet's house (Keats), 526
Apparatus for man without arms, 20
Appendicectomy by a new route (R. H. Anglin Whitelocke) 211, 223. (O)—(H. Stewart Brander), 293—Correspondence on, 416
Appendicitis without protective stiffening of the abdominal wall (John D. Malcolm), 432. (O)
Appendicular concretions (S. G. Shattock), 635
Appendix dyspepsia. *See* Dyspepsia
Appendix, intussusception of (Archibald Young), 365
ARAUJO, Heraclides Cesar de Souza: *A Prophylaxia Rural no Estado do Paraná*, rev., 738
ARKWRIGHT, Dr.: Rickettsia bodiès in trench fever and typhus, 709—Bacterial variation, 709
ARMAND-DELILLE, P. (and Ph. WAPIER): *L'Ecole de Plein air et L'Ecole au Soleil*, rev., 154
Armless man, apparatus for, 20
ARMSTRONG, Henry Edward, Honorary Fellowship of Society of Medical Officers of Health conferred upon, 305
ARMSTRONG, Richard R.: Cervical caries simulating cerebellar tumour, 499. (O)
ARMSTRONG-JONES, Sir Robert: Forgetting, psychological repression, 98, 236

ARMY, BRITISH, MEDICAL SERVICE OF:
Appointments to new territorial army, 489
Army Medical Service in the war (leading article), 840
Army pay of civilian medical practitioners, 172
Auxiliary R.A.M.C. funds, 35
Commissions R.A.M.C, 724
Estimates, 269
Memorial to officers and men of the R.A.M.C. who fell in the war, 307, 385
Military medical services in 1919, 134
Nurses, 269
Officers' gratuity, 855
Parliamentary questions, 269, 345, 449, 720, 879
R.A.M.C.: As a career, 29—Memorial to officers and men who fell in the war, 307, 385—War Office memorandum on strength and arrangements for the future, 312—Special Reserve, 489—R.A.M.C. pay in India, 525—R.A.M.C. officers detailed for foreign service, 720—R.A.M.C. commissions, War Office announcement, 724—R.A.M.C. officers' gratuity, 855
Services of (dinner), 807, 831, 840—Leading article on, 840
Special Reserve R.A.M.C., 489, 590, 624
T.F. and S.R. *See* Territorial army
Territorial army, 192, 307, 350, 383, 417, 489, 590, 624, 879—Appointments to the new Territorial army, 489—Conditions of service, 879
Territorial general hospital staffs, 238
Territorial and Special Reserve officers, R.A.M.C., in Mesopotamia, 345
War memorial, 307, 385

Army Council instruction, army fees for civilian doctors, 814
Army fees for civilian doctors, 814
Army, French, medical school of, 55

439124

Army, Indian, medical service of: Temporary commissions, 35, 93, 96, 168, 200, 382, 417—Is it worth while? 307—R.A.M.C., pay in, 525—Correspondence on, 554—Pensions for widows, children, and dependants of deceased officers (parliamentary question), 650—Assistance for invalided officers (parliamentary question), 650—Cost of increases of pay (parliamentary question), 751—Revised rates of pension, 813—Annual dinner, 814—Recruiting for, 849
Army masseuses. *See* Masseuses
Army Medical Department, services of, 807, 831
Army mental hospitals. *See* Hospitals
Army nurses (parliamentary question), 269
Army officers in India. *See* India
Army, United States, medical museum of, 163
ARNOLD, F. S.: Erysipelas, 277, 316—A correction, 316
Arsenic in lethargic encephalitis, 655
Arsenic, permeability of the meninges to, 785
Arseniuretted hydrogen gas, poisoning by (Thomas H. Wignall), 826 (O)
Arseno-benzol compounds in syphilis comparison of two methods of administering (H. E. Gibson), 114. (O)
Arseno-benzol compounds used in treatment of syphilis poisoning by (Alexander G. R. Foulerton), 864. (O)
Arseno-benzol preparations, toxic effects of (leading article), 51
Arterial embolism, operation for, 8 5
Artery, subclavian, subcutaneous rupture of (Cecil Rowntree), 326
Arthritis, suppurative, and peritonitis after acute bronchopneumonia (A. Lloyd Davies), 501
Arthroplasty of knee-joint (Sir W. I. de C. Wheeler), 768
ARTHUS, Maurice: *La Physiologie*, rev., 540
Articular cartilage, nutrition of (T. S. P. Strangeways), 661. (O)
Artificial appliance for amputation below ankle, 590
Artificial limbs, provision of (parliamentary question), 583
Artificial limbs, provisional, 423
Artificial pneumothorax, note on, with description of a new needle (Frederic C. Coley), 432 (O)—Correspondence on 522
ASHE, Dr.: Ovarian insufficiency, 48
ASKEY, S. G.: Mode of quinine administration, 61
Asphyxia neonatorum, cardiac massage in (E. Ward), 257
Asphyxia from inhalation of tobacco smoke, 692
Association, British, Cardiff meeting, 880
Association, British Dental, new head quarters opened, 173
Association, British Medical: Annual Meeting at Cambridge, 1920, 17, 125, 369, 410, 505, 511, 551, 579, 612, 645 651, 681, 714, 772, 840, 843, 845—Evolution of the Cambridge medical school, 369, 505, 651—Note on, 511—Pathological museum, 579—Sections, 645, 681, 714—Annual dinner, 645—Present Cambridge medical school, 772—Honorary degrees at, 840—Picturesque Cambridge, 845

ASSOCIATION, BRITISH MEDICAL:
Bromley Division.—Golf tournament, 785
East Riding Division.—E. Harrison: Early diagnosis of syphilis, 364
Edinburgh Branch.—Clinical meeting, 234, 348
Hampstead Division.—Meeting and exhibition of cases, 438
New South Wales Branch.—Resolution *re* alien enemy practitioners, 233
Portsmouth Division.—Clinical demonstration, 14

Association, British Medical, proposed new Branch in China, 619
Association, British Medical, machinery of, 63
Association, British Medical, President-elect, 551
Association, British Medical, South African Congress of 514
Association, British Medical, Stewart Prize, 748
Association, British Orthopaedic, 687
Association of Certifying Factory Surgeons, report, 335
Association, London, of the Medical Women's Federation: Discussion on infant welfare centres, 153—Hedda Alstrom: Mechanotherapy, 366—Helen Boyle: Early nervous and borderland cases. 438—Dr. Garrett Anderson: Surgery at the Endell Street Hospital, 605—Sibyl I. Welsh: The nervous system and the endocrine glands. 769
Association, Medical Museums. *See* Medical
Association, Medico-Psychological:—R. Hunter Steen: Chronic hallucinatory psychosis, 363—Report on treatment of incipient mental disease, 515
Association, Mental After-Care, annual meeting, 423
Association, National, for Prevention of Tuberculosis, appeal, 423
Association of Public Vaccinators, annual meeting, 368
Association, Scottish Poor Law Medical Officers', annual report, 166
Association of Surgeons of Great Britain and Ireland: Leading article on, 90—Formal constitution of, 90—First annual meeting, 445—First meeting in London, 714
Association, Women's Medical, of New York City: Mary Putnam Jacobi fellowship, 173, 205
Association, Women Sanitary Inspectors and Health Visitors', advocate equal pay for both sexes, 815
Asthma, results of peptone treatment of (A. G. Auld), 567. (O)
Asylum Medical Service, improvements in, 550, 686
Asylums as military hospitals (parliamentary question), 551
Atropine in acute suffocative catarrh (Wm. Verner Furlong), 219
Atropine in pylorospasm and pyloric hypertrophy, 551
Atropine in sea-sickness, 23
AULD, A. G.: Mitral stenosis in soldiers, 13—"Intravenous protein therapy," 380—Results of peptone treatment of asthma, 567. (O)
AUSTEN, Major E. E.: *The House-fly, its Life-history and Practical Measures for its Suppression*, rev., 607
Australasian Medical Congress, 206
Australia: Deaths from diphtheria in, 632—Friendly societies and nursing benefits, 881—Federal control of the public health, 881
Australia, South: Medico-political, 27—University and medical school, 27—Verco, Sir Joseph, 27
Australia, West: Number of cases of gonorrhoea and syphilis notified, 724
Austrian destitute orphans, hospitality for (parliamentary question), 346
Aviators, civilian, medical examination of, 608
Aviators, experienced, labyrinthine reactions of (David Ranken), 860. (O)

B.

Babies, review of books on, 368
Baby week, 849
BACOT, Mr.: Rickettsia bodies in trench fever and typhus, 709
B. influenzae. *See* Influenza bacillus
Bacteria, review of books on, 297
Baden and Prussia decide to create a doctorate in dentistry, 589
Bahr. *See* Manson-Bahr
BAILLIÈRE, Emile J. B., death of, 557
BAIRD, Captain H. C: *Service Handbook*, 385
BALFOUR, Andrew: Ticks and relapsing fever, 97, 235
BALFOUR, Major Thomas Henry, obituary notice of, 556
BALL, E. J.: Our opportunity, 520
BALL, Captain Robert Gordon, obituary notice of, 690
BALLANCE, Sir Charles A. (and Charles David GREEN): *Essays in the Surgery of the Temporal Bone*, rev., 798
BALLANTYNE, J. W.: Colour in pregnancy, 438
BALMAIN, Captain Augustus R.: Treatment of malaria, 381
BANA, F.: Acute attack of asthmatic dyspnoea caused by filarial embryos, 796
BANKS, George, diamond jubilee of, 127
BANNING, Robert J., obituary notice of, 351
BARBER, Hugh: Case of tuberculous meningitis with complete recovery, 601. (O)
BARBER, Margaret H.: *British Nurse in Bolshevik Russia*, rev., 799
BARBER, Maurice C.: Case of encephalitis lethargica, 500
BARCROFT, J.: Oxygen therapy, 150
BARDSWELL, Noel Dean: *Advice to Consumptives, Home Treatment, After-care, and Prevention*, rev., 708
BARENDT, Frank H.: Remarks on sclerodermia, 44. (O)
BARFORD, A. M.: Anaesthesia in epileptics, 558
BARKER, Arthur, the drugless healer, sentence on, 314
BARKER, J. C.: Treatment of septic peritonitis, 656
BARLING, Colonel Seymour (and Major J. T. MORRISON): *Manual of War Surgery*, rev., 469
BARNES, John A.: New lamps for old in obstetrics, 59
BARR, Sir James: Measurement of emotion, 381
BARRETT, Lady: High ammonia coefficient, 603
BARTER, Brigade Surgeon Joseph Francis, obituary notice of, 855
BARTON, H. T.: A record tramp, 726
BARWISE, Sidney: Public health versus the State, 96
BASKETT, Bertram G. M.: Public health versus the State, 40. (O)—Letters on, 167, 308, 417, 520, 656
Batavia, third centenary of the foundation of, 315
Baths of old London, 807
BAYLISS, W. M.: Is haemolyzed blood toxic? 351
BAYLY, H. Wansey: Prevention of venereal disease, 61—Prophylaxis and venereal disease amongst the Anzacs, 202—Prevention of venereal disease, 623—*Venereal Disease: its Prevention, Symptoms, and Treatment*, rev., 639—Early diagnosis of syphilis, 753
BAZELY, Minnie W.: Incision in Caesarean section, 602
BEADNELL, Surgeon Captain C. Marsh: *The Reality or Unreality of Spiritualistic Phenomena*, 77
Beard case, House of Lords judgement in, 383
BEATTIE, J. Martin (and F. C. LEWIS): Sterilization of milk by electricity, 682, 722
BEATTIE, Thomas: Early diagnosis of pulmonary tuberculosis, 111. (O)
Belfast: Tuberculosis sanatorium, objections to proposed site for, 617, 783—Graymount hospital, Sir H. Gauvain's report, 655, 688
BELL, W. Blair: Diverticulum of bladder, 224—Transfusion of blood in eclampsia, 625. (O)—Correlation of function, 787. (O)—Treatment of cancer of cervix uteri, 850
BELLHOUSE, Gerald: "Safety first," 848
BENIANS, T. H. C.: Air-way infections, 668. (O)
Bequests to hospitals and medical charities, 46, 71, 81, 149, 165, 173, 226, 277, 315, 525, 815
BERGEL: Biology of the lymphocyte, 123
Bergonié chair, description of, 365
Beri-beri and carbohydrate excess (K. Simpson), 735
Beri-beri, early manifestations of (H. H. Hepburn), 466. (O)
Beri-beri, prevention of, 72
Beri-beri, treatment of (W. H. Willcox), 73. (O)
Beri-beri, value of legumes in, 816
BERKELEY, Comyns (and Victor BONNEY): *Textbook of Gynaecological Surgery*, rev., 708—(and Victor BONNEY) *Guide to Gynaecology in General Practice*, rev., 770—*Gynaecology for Nurses and Gynaecological Nursing*, rev., 870
BERNARD, Léon, elected a member of the Académie de Médecine, 221
BERNHARD-SMITH, A.: Thyroid administration in hibernating dormice, 424
Berraute Prize awarded, 457
BERRY, Mrs. Dickinson: Anaesthesia for thyroid operations. 635
BERRY, Richard J. A.: A plea for the tonsils, 199
BIER, August, and abolition of compulsory military service. 289
BILLINGTON, William: St. Chad's Hospital, Birmingham, 263—Future provision of medical services: provision of private wards in health centres, 783
Biochemistry at the universities, 841
BIRK, Walter: *Säuglingskrankheiten*, rev., 771
Birmingham: Difficulty in dealing with orthopaedic cases (parliamentary question), 650—1st and 2nd South Midland Field Ambulances, dinner, 687
Birmingham scheme for the mentally defective (W. A. Potts), 472. *See also* Mentally defective
Birthday honours, 805
Birth rate, the declining (leading article), 611
Births in England and Wales, Registrar-General's quarterly return, 457, 752, 775, 802, 836, 874. *See also* Vital statistics
Births, illegitimate, and ophthalmia neonatorum (Grace H. Giffen Dundas), 436
BISHOP, Ernest S.: *Narcotic Drug Problem*, rev., 573
Biting insects and children (Sir A. Shipley), 659
BLACKER, G.: Rockefeller Foundation gifts, 883
BLACKHALL-MORISON, Alexander: Future provision of medical services, 812—The passive mechanical factor in heart disease, 817. (O)
Bladder, diverticulum of (W. Blair Bell), 224
Bladder, rifle bullet in (Major F. R. Brown), 220
BLAIR, Alexander: New lamps for old in obstetrics, 60
BLAKE: Experimental production of influenza, 267—Experimental pneumonia, 875
BLAKER, Nathaniel Paine: *Sussex in Bygone Days*, rev., 226
BLAKER, Thos. Fredk. I.: Coelum non animum, 278
BLAND-SUTTON, Sir John: Diverticulitis, 84—Retirement of, 780
BLAXLAND, A. J.: Carcinoma of thyroid, 454
Blind Committees, local Advisory (parliamentary question), 650
Blind, deaf, and crippled students, training of, Board of Education draft statutory rules, 584
Blind Persons Bill, 751
Blind, training of (parliamentary question) 345, 413
Blind masseurs, 232, 624
Blind, pensions for (parliamentary question), 615
Blind soldiers, numbers of (parliamentary question), 615
Blind, welfare of, Joint Committee appointed by Ministry of Health, 276—Parliamentary question, 879
Blindness, night. *See* Hemeralopia
BLOMFIELD, James E.: Nephritis, abdominal haemorrhage, death, 400

Blood-cell suspension in complement fixation tests (F. C. Lewis), 637
Blood, haemolyzed, is it toxic? (W. M. Bayliss), 351
Blood, parental, in haemorrhage of the newborn (Montague Dixon), 539
Blood, pericranial effusion of, 206
Blood pressure, review of books on, 503
Blood serum of the patient injected in meningitis (Rupert Waterhouse), 45. (O)
Blood transfusion in eclampsia (W. Blair Bell), 625. (O)
Blood transfusion in nephritis (Jeffrey Ramsay), 766 (O)
Blood transfusion before operation (Herbert Williamson), 603
Blood transfusion, use of immunized blood donors in (Captain H. J. B. Fry), 290 (O)
Board, Central Midwives, 58, 315, 483, 616, 752
Board, Central Midwives (Scotland), 379
Board of Education: Issues a new edition of the *Syllabus of Physical Training*, 77—Makes it compulsory that local authorities should provide for medical inspection of all their schools, 241—Draft regulations *re* medical inspection and treatment of school children, 481 — Draft statutory rules *re* training of blind, deaf, and crippled students, 584—Issues list of schools and institutions for physically and mentally defective, 809 — Draft statutory regulations *re* medical inspection of secondary schools, 241, 581, 855
Board, Local Government, forty-eighth and last annual report of, 56, 164, 622—Note on, 52—Public health in 1918-19, 164 —Section dealing with the work of inspectors of food (A. W. J. Macfadden) now published separately, 622
Board, Local Government (Ireland), influenza vaccine, 271
Board of Trade: Sale, prices, and supply of quinine, 124, 173—Report on price of petrol, 352—Issues licence to Scottish Shale Oil Scientific and Industrial Research Association for industrial research, 557
Boarding out of children. *See* Children
Bohemia, small-pox in, 725
Bolton, small-pox at (parliamentary question), 650
BOLTON, Alethia J.: Dried eggs, 856
BOLTON, Charles (and Wilfred TROTTER): Jejuno-colic fistula following gastro-jejunostomy, 757. (O)
BONNEY, Victor: "New lamps for old" in obstetrics, 97—(and Comyns BERKELEY): *Textbook of Gynaecological Surgery*, rev., 708—(and Comyns BERKELEY): *Guide to Gynaecology in General Practice*, rev., 770
BONNEY, William Augustus, obituary notice of, 421
Boots, Messrs., copper alanine in inoperable cancer, 174
Borderland cases (Helen Boyle), 438
BORRADAILE, L. A. (and J. Stanley GARDINER): *The Cambridge Note Book for Practical Biology (Zoology)*, rev., 154
BOSE, Sir Jagadis: Plant response, 412
BOSE, Major Satis, obituary notice of, 690
BOSSAN: Experimental production of pulmonary tuberculosis, 162
Boston, deaths from tuberculosis in 1919, 213
BOUCHÉ, G.: Two typical cases of lethargic encephalitis, 601
BOURNE, Aleck W.: Toxaemias of pregnancy, 727. (O)
BOURNE, A. W.: Spontaneous rupture of uterus following pituitrin, 829
BOUSFIELD, Paul: Forgetting, psychological repression, 237
BOVERI, Piero: Myoclonic form of epidemic encephalitis, 570. (O)
BOWLBY, Sir Anthony: Gunshot fracture of the femur, 1. (O)—War methods in civil practice, 86
BOX, Charles R.: Some points in connexion with renal disease, 356. (O)—*Post-mortem Manual*, rev., 470
BOYD, A. E.: Colonic ether anaesthesia, 768
BOYD, John Alexander, obituary notice of, 314
BOYLE, Helen: Nervous and borderland cases, 438
BRACKENBURY, H. B.: Appreciation of Sir Robert Morant, 421—Presentation to, 847
BRADLEY, Major Richard James, obituary notice of, 70
Brain workers, federations of, 229
BRANDER, H. Stewart: Appendicectomy, 293
Bread (parliamentary question), 615
BREND, W. A, presentation to, 379
BRERETON, Lieut.-Col. F. S.: *The Great War and the R.A.M.C.*, rev., 48
BREWERTON, E. (and Harold B. GRIMSDALE): *Textbook of Ophthalmic Operations*, rev., 606
BRIDE, Dr.: Factors in abortion, 540
BRIDE, J. W.: Results of hysterectomy for fibroids, 14—(and Daniel DOUGAL): Etiological factors in abortion, 632. (O)
BRISCOE, J. F.: Forgetting, psychological repression, 274
BRISTOWE, Hubert C.: Pneumonic haemorrhagic effusion into pleura, 500
British Dental Association. *See* Association
British Federation of Medical and Allied Societies: Tuberculosis Society decides not to affiliate with, 241
British Journal of Experimental Pathology, first number, 351
British Journal Photographic Almanac, rev., 331
British Medical Association. *See* Association
British Science Guild, 195
British soldiers in France and Germany (parliamentary question), 720
Bronchiectasis (A. J. Jex-Blake), 591. (O)—(Ivor J. Davies), 767
Bronchiectasis, spirochaetes in (E. E. Glynn), 14
Bronchopneumonia, acute, followed by suppurative arthritis and peritonitis (A. Lloyd Davies), 501
Bronchus, left, foreign body in (W. R. Cammock), 602—(Thomas Guthrie), 735
BROWDY, M. W.: Prevention of venereal disease, 274
Brown Brothers, motor accessories, 526
BROWN, F. Leonard: Prevention of venereal disease, 99
BROWN, Major F. R.: Rifle bullet in bladder, 220
BROWN, Herbert H.: Acute oedema of lungs, 435
BROWN, John: Acute pulmonary oedema, 726
BROWN, Orville H.: *Asthma*, rev., 869
BROWN, William: Psychopathology and dissociation, 139. (O)
BROWN, W. H.: Plea for the early recognition of syphilis, 501
BROWN, W. Herbert (and Charles F. WHITE): *Atlas of the Primary and Cutaneous Lesions of Acquired Syphilis in the Male*, rev., 541
BROWN, W. Langdon: *Physiological Principles in Treatment*, rev., 188
BROWNE, F. J.: Hydatidiform mole, 152
BROWNLEE, John: Epidemiology of phthisis, 444 478—Public health administration in epidemics of measles, 534. (O)
BRUGSCH, Th.: *Ergebnisse der gesamten Medizin*, rev., 639
BRYAN, Frank: Commissions, I.M.S., 200
BRYANS, A.: Early diagnosis of syphilis, 416, 620
Budget (leading article), 577, 610—Parliamentary questions, 582, 686—The new taxes, 609, 677, 686
BUIST, H. Massac: Motor notes for medical men, 517, 543—Taxation of motor cars, 574
Bullet in bladder (Major F. R. Brown), 220
BURDETT, Sir Henry Charles: *Burdett's Hospitals and Charities, 1919: being the Year Book of Philanthropy and the Hospital Annual*, rev., 49—Obituary notice of, 657
BURKE, E. T.: *The Venereal Problem*, rev., 190
BURNETT, Sir E. Napier: Report of hospital survey, 684, 710
BURNHAM, Colonel Fred. E.: A record tramp? 692
Burns, paraffin wax for first-aid treatment in (J. R. Garrood), 539
BURROWS, Arthur: Radium therapy in advanced cancer of cervix, 806, 829
BUSHE, Surgeon Commander C. K.: Naval Medical Memorial Fund, 457
BUTCHER, W. Herbert: Prevention of venereal disease, 28
BUTTAR, Charles: The Territorial Force, 350—Public health versus the State, 382
BUTTER, John Kerr, obituary notice of, 690
Butter, cocoa, 446
BUTTERS, Geo.: "Acute suffocative catarrh," 150
BUXTON, P. A.: House-fly as a carrier of *E. histolytica*, 142. (O)
BYERS, Sir John, dinner to, 167

C.

CABOT, Hugh (editor), *Modern Urology*, rev., 470
Caecum, large haemorrhage into wall of (J. Lionel Stretton), 80. (O)
Caecum, volvulus of, double obstruction (R. Eccles Smith), 289. (O)
Caesarean section for dystocia (D. Dougal), 224
Caesarean section, the incision in (Minnie W. Bazely), 602
Caesarean section for placenta praevia with concealed haemorrhage (R. Douglas Laurie), 220
Caesarean section scar (Eardley Holland), 705
Calcium chloride as a haemostatic (W. R. Grove), 47
Calcium lactate, value of, 726
Calcutta: School of Tropical Medicine, 550—Small-pox in, 618
CALEY, Guthrie Neville, obituary notice of, 588
Calf lymph, preparation of (H. S. Fremlin), 368
CALVERT, James: Appreciation of Samuel West, 386
CAMAC, James: Case of encephalitis, lethargy and myoclonus, 704
Cambridge: Annual meeting of the Association at, 17, 125, 369, 505, 772, 843, 845 (*see also* Association, annual meeting)—Evolution of the medical school at, 369, 505, 772
Cambridge Natural Science Club, 163
CAMMOCK, W. R.: Foreign body in left bronchus, 602
Camphor oil, subcutaneous injections of, 388, 424, 828—(Captain A. D. GORMAN), 828
CAMPBELL, Thomas: Mode of infection in pulmonary infection, 185
CAMPBELL, W.: Diagnosis of syphilis, 469
Canada: Aesculapian Club, Toronto, 725—Prescriptions for liquor in Ontario, 725
Cancer of cervix, advanced, rendered operable by radium therapy, 806, 829, 850
Cancer of colon, early symptoms of (Seton Pringle), 768
Cancer, experimental induction of (leading article), 680 - Correspondence on, 722, 850
Cancer, helminths in (leading article), 777
Cancer, inoperable, copper alanin in, 104, 174
Cancer operations, use of x rays as immunity-raising agents before and after (Francis Hernaman-Johnson), 793. (O)
Cancer, radium in, 483, 745
Cancer, tar, and chronic ulceration, Home Office Order, 122
Cancer of thyroid gland, papilliferous (Basil Hughes), 362. (O)—Correspondence on, 454, 586
Cancer of uterus (Bethel Solomons), 48
Cancer of uterus, radiotherapy in, 480
Cancer of uterus, treatment of, 416, 452, 521, 554, 585. *See also* Tumours
CANNON, Walter B.: *Bodily Changes in Pain, Hunger, Fear, and Rage*, rev., 440
Capetown, annual report of M.O.H., 241
Carbohydrate excess and beri-beri (K. Simpson), 735
Cardiac disease, analysis of 100 consecutive cases (W. Black Jones), 145. (O)
Cardiac massage in asphyxia neonatorum (E. Ward), 257
Cardiff, hospitals and clinics at, 307—Early care of mental cases in, 348
CARLESS, Albert: *Manual of Surgery* (Rose and Carless), rev., 769
Carlisle experiment in liquor control, annua report, 653
CARMALT-JONES, D. W., appointed to chair of systematic medicine in the University of Otago, 35
Carmarthen, medical dinner at, 166
CARNOT: Retrograde absorption by the kidney, 878
Carolina, South, bill passed requiring all "chiropractors, osteopaths, and other healers" to submit to State medical examination, 623
CARRUTHERS, Major V. T.: Instinct and hysteria, 792. (O)
CARTER, F. Bolton: Gastric ulcer after gastro-jejunostomy, 13
CARTER, Herbert S.: Diet lists of the Presbyterian Hospital, New York City, rev., 16
CARTER, Captain H. S.: Case of dermographism, 149
CARVER, Alfred: Forgetting, psychological repression, 46. (O)—Letter on, 170
CARVER, G. E.: Alopecia, 173
Catarrh, acute suffocative (W. Duncan Lawrie), 115—(Geo. Butters), 150—(Henry Yellowlees), 257—(J. A. Smyth), 670. (O)
Catarrh, acute suffocative, atropine in (Wm. Verner Furlong), 219
CATHCART, E. P., elected Fellow Royal Society, 344
CATTLE, C. H.: Soldier's heart, 188
Cavell monument in London, 148, 413—Unveiling of, 413
CAZAMIAN: Atropine in sea-sickness, 23
CECIL: Experimental production of influenza, 267—Experimental pneumonia, 875
Census bill, 305, 879
Census, the next, 842
Census, physical, of the male population, report on, 331—Leading article, 339
Cerebro-cranial injuries, review of books on, 830
Cerebro-spinal fever. *See* Fever
Cerebro-spinal and other fluids, sedimentary cell for microscopical examination of, 708
Cervical fistula. *See* Fistula
Cervical caries simulating cerebellar tumour (Richard R. Armstrong), 499. (O)
Cervical vagus and sympathetic: a correction, 138
Chadwick prizes, 355
CHALMERS, Albert J., death of, 514—Obituary notice of, 657
CHAMBERLAIN, James Thomas, obituary notice of, 137
CHAMBERS, E. R.: Prolonged retention of a foreign body in the cornea, 363
CHANDLER, Asa C.: *Animal Parasites and Human Disease*, rev., 118
CHAPLIN, Arnold: Appreciation of Sir William Osler, 66
Charaka Club: Proceedings, vol. v., rev., 16
Charing Cross improvements, 104
Chavasse's Advice to a Mother, rev., 368
CHEATLE, G. Lenthal: Herpes zoster and greyness of hair, 219
Cheltenham and district, reunion dinner, 103
Cheshire: County health administration, 58
Chest wound, penetrating: thoracotomy: suture of pericardium (J. B. Haycraft), 184. (O)
Chest wounds, penetrating (leading article), 91
Chest surgery (Sir Charters Symonds), 401
CHEVERS, Martin J.: Cutaneous manifestations in a case of cervical fistula, 424
Chicago: Increase of medical fees in, 725
CHICK, Harriette, awarded Stewart prize, 748
Chicken-pox and shingles (A. Ingram Cooke), 468—Correspondence on, 487

Child labour, restriction of (parliamentary question), 414
Children, boarding out of, Ministry of Health circular on, 782
Children, crippled. *See* Crippled
Children, defective. *See* Defective
China: Proposed new branch of the Association, 619—Joint Conference of English and Chinese doctors, 619—Red Cross Society of, 755
Chinese Medical Missionary Society and National Medical Association, joint conference, 619
Chinese medicine, the founder of, 72
Chiropractors to submit to State medical examination in South Carolina, 623
Chloroform, intratracheal (Clarence Mott), 13
Christie, Captain J. M. (and Major R. W. Sutherland): Military orthopaedics, 762. (O)
Chrome ulceration, Home Office order, 122
Chrysophanic acid and *x* rays in tinea (C. J. Glasson), 219 (O)
Chubb, Gilbert: Ankylosis of mandible and its operative treatment, 256. (O)—A head lamp, 472
Church, Archibald (and Frederick Peterson): *Nervous and Mental Diseases*, rev., 471
Circumcision, a barbarous and unnecessary mutilation (G. S. Thompson), 436—Correspondence on, 620.
Circumcision, for and against (Spencer Sheill), 768
Circumlocution office to-day, 513
Civil motor ambulance *See* Ambulance
Civil practice, war methods in (Sir Anthony Bowlby), 86
Civilian practitioners, army pay of, 172
Clark, John M., obituary notice of, 524
Clark, Somerton: Asphyxia from inhalation of tobacco smoke, 692
Clark, Colonel S. F.: Intramuscular injection of quinine, 99
Clarke, Astley: University College for Leicester, 715
Clarke, Lilian: *The Country Cousin at Cambridge*, rev., 869
Cleghorn, Surgeon-Major-General James, obituary notice of, 884
Cleland, J. B, appointed to Chair of Pathology at Adelaide University, 526
Clery, Surgeon-General James Albert, obituary notice of, 314
Clinical centres, 520
Clinical research (Sir James Mackenzie), 105. (O)—Leading article on, 119—Correspondence on, 311
Clinical teaching "elements" at work, 161. *See also* University units
Clinical units in medical schools, 775 *See also* Medical schools
Clippingdale, S. D.: Wilksiana, 104
Clodd, Edward: Occultism, 771
Clothing for tuberculous patients (parliamentary question), 482
Club: East of Scotland Overseas Medical, 196—North of England Edinburgh University, annual dinner, 584
Club, Royal Naval Medical, dinner, 814
Coal gas for motors, 205
Coal for invalids (parliamentary question), 720
Coates, Stanley B., presentation to, 848
Cobb, Geikie, his book *Organs of Internal Secretion* translated into Spanish and Italian, 71
Cobb, Lieut.-Col. R.: Rats and plague, 816
Cockcroft, W. L.: Loewi's adrenalin mydriasis as a sign of pancreatic insufficiency, 669. (O)
Cocoa butter, 446
Codd, John Alfred, obituary notice of, 556
Coelum non animum, 278
Cohen, H. M.: Anaesthesia in epileptics, 526
Cohen, S. Solis: Mode of quinine administration, 756
Cohn, I.: *Urologisches praktikum*, rev, 831
Coley, Frederic C.: Artificial pneumothorax, with description of a new needle, 432. (O)
Colitis, ulcerative, operative treatment of (P. Lockhart-Mummery), 497. (O)
College, Epsom: Change of address of London offices, 71—Fees raised, 623
College, King's, London, Old Students' Association, 315, 557
College, Royal, of Physicians of Edinburgh: Degrees and pass lists, 240—Fellows, 240, 785—Licences, 240—Lister Fellowship, 785—Members, 240—Parkin prize, 785—Quarterly meeting, 240, 785 — Supplementary royal charter, 240—Suspension of member, 240

College, Royal, of Physicians of London:
Comitia, 203, 488, 658, 724
Council, 204
Degrees, 203
Diploma in ophthalmic medicine and surgery, 659; in psychological medicine, 658; in tropical medicine, 204
Diplomas, 204, 658, 724
Elections, 488
Fellows, 658, 724
Lectures, 204
Licences, 488
Members admitted, 203, 658
Mitchell lecture on tuberculosis, 204
Obituaries, 488
University of London, 658

College, Royal, of Surgeons, of Edinburgh: Degrees and pass lists, 422, 755—Memorial Prizes awarded, 755—Women to be admitted to Fellowship, 351

College, Royal, of Surgeons of England:
Appointment of representatives, 275
Bradshaw Lecturer, 275
Chamberlens and the Midwifery Forceps presented to library in memory of C. Louis Taylor, 346
Council election, 275, 489, 587
Council meeting, 102, 587, 755
Court of examiners, 102 275
Diploma in tropical medicine, 275
Diplomas in psychological medicine and ophthalmic medicine and surgery, 755
Diplomas, 275, 755, 854
Donations, 587
Examination results, 854
Examiners, election of, 854
Historical surgical instrument cases, 54
Honorary Fellows, 275 854
Hunterian Oration, 102
Representation of members, 102
Vote of condolence, 587

College, Royal, of Surgeons, in Ireland: Mary Louisa Prentice Montgomery lectureship in ophthalmology, 241, 588
College, Trinity, Dublin: Degrees and pass lists, 34, 525
College, University, for Leicester, 715
College, University, London: Election of Fellows, 384—Report, 488—Biometric and eugenic laboratories at, 799—Rockefeller Foundation gifts to, 799, 834, 838
College, West London Post-Graduate, 126
Colleges, Royal, of Physicians and Surgeons, Ireland: Pass lists, 423
Collett, J. Wallace: Treatment of malaria, 273, 453
Colliery Surgeons' Committee (Scotland), 27
Colon, pelvic, adhesions of, causing obstruction (Donald M. MacLeod), 867
Colonial Office issues a set of returns concerning the white man in West Africa, 411
Combe, Charles, note on, 205
Complement fixation test in syphilis, report on, 877
Complement fixation tests, standardization of blood cell suspension in (F. C. Lewis), 637
Condensed milk. *See* Milk
Conference of delegates of the Metropolitan Medical Schools, 885
Congress, Australasian Medical, 659
Congress of Dermatology and Syphiligraphy, Rome, founds a Tommaso de Amicis prize, 691
Congress, French Medical, 423, 691
Congress of French-speaking members of the medical profession, 296
Congress, annual, of the Ophthalmological Society of the United Kingdom, 582
Congress, Oxford Ophthalmological, 351
Congress, Pan-Hellenic, 1921, 853
Congress of physicians and surgeons, proposed world, 241
Congress of physiology, Paris, July, 1920, 514, 659
Congress for public health, Dutch, 438
Congress of Royal Institute of Public Health, Brussels, 691, 743—Medicine and the State (Lord Dawson), 743
Congress of Royal Sanitary Institute. *See* Royal
Congress, Swiss medical, 543
Conjoint Board in England: Pass lists, 275
Conjoint Board in Ireland: Pass lists, 423
Conjoint Board of Scientific Societies: Annual report, 725
Conjoint Board in Scotland: Pass lists, 172, 588, 690, 755
Consultative Council. *See* Health Ministry
Consulting surgeon and house-surgeon, 518, 616
Consumption. *See* Tuberculosis
Contraction and retraction rings, 61. *See also* Labour
Convalescent Home for Professional Class Children (Broadstairs), reopening of, 376
Cooke, Arthur: *Groundwork of Surgery*, rev., 225
Cooke, Luther, appointed J.P. for County Palatine of Lancaster, 35
Coombs, Carey: Irritable heart, 404
Cooper, Arthur: Prevention of venereal disease, 28—*The Sexual Disabilities of Man and their Treatment and Prevention*, rev., 771
Cope, V. Zachary (editor): *Pye's Elementary Bandaging and Surgical Dressing*, rev., 190
Copper alanin in inoperable cancer, 104, 174
Corbet, William: New lamps for old in obstetrics, 59
Corbett, Sir Julian S.: *Naval Operations*, rev., 637
Cornea, prolonged retention of foreign body in (E. R. Chambers), 363
Coroner for Westminster, and what the soldier said, 716
Corporation tax (parliamentary question) 650
Corrections, 138, 316, 726
Correlation of function. *See* Function

Correspondence:
Adenoids, treatment of, 238, 310, 349, 407. *See also* Nasal drill
Air-way infections, 812
Ante-partum haemorrhage, treatment of, 753
Aortitis and aortic regurgitation, 586, 656, 688, 754
Appendicectomy by a new route, 416
Arsenic in lethargic encephalitis, 655
Artificial pneumothorax, 522
Cancer of cervix uteri, treatment of, 850
Cancer, experimental induction of, 850
Cancer of uterus. *See* Uterine
Carcinoma of thyroid, 454, 586
Circumcision, a barbarous and unnecessary mutilation, 620
Civil motor ambulance service, 784
Clinical centres, 520
Clinical research, 311
Contraction and retraction rings, 61
Dental caries and oral osmosis, 585
Diagnosis and treatment, 619
Duodenal ulcer and the hypertonic stomach 655, 688
Dyspepsia, 380
Ear, running, treatment of, 382
Emotion, measurement of, 381
End of the war, 383
Encephalitis, epidemic, 722
Encephalitis lethargica, 621
Epidemic diseases in Mauritius, 383
Ethyl chloride, safety of, 485
Fees for treatment of school children, 883
Fibroids complicating pregnancy, hysterectomy, recovery, 554
Forerunners of Harvey in antiquity, 58
Forgetting, psychological repression, 98, 131, 169, 201, 236, 274
Fracture dislocations of the ankle, 62
Future provision of medical services. *See* Medical
General practitioners and the health services, 753, 784
Heat hyperpyrexia, 485, 521
Horsley, Sir Victor, proposed memorial to, 271, 370, 418, 785
Hospitals, co-operation between, 418
Hypernephroma of ovary, 133
Ileo-caecal valve, 553
Indian Medical Service, 554
Indian Medical Service: Is it worth while? 307
Indian Medical Service, temporary commissions, 96, 168, 200, 382, 417
Influenza and epidemiology, 235
Influenza, protective inoculations against, 309
Intraspinal pressure in acute disease, 311
Intravenous protein therapy, 380
Irish motor deadlock, 132
Local clinical laboratories, 59
Machinery of the Association, 63
Malaria, treatment of, 199, 235, 272, 381, 453
Medical discovery, awards for, 486, 519
Medical literature for Vienna, 484
Medical services, future provision of, 783, 812, 850, 882
Medical societies, international organization of, 272
Memorial to the officers and men of the R.A.M.C. who fell in the war, 307
Meninges, permeability of to arsenic, 785
Mentally defective, 554
Mental disorder, treatment of, 851
Mental disorders, physical basis of, 415, 452
Mental treatment, early, and the rights of the subject, 689
Milk sterilized by electricity, 722
Motors, taxation of, 555
Nasal drill, 310, 487. *See also* Adenoids
"New lamps for old" in obstetrics, 59, 97, 127, 170, 202
Nyctalopia or hemeralopia, 555
Order of St. John, 171
Osler, Sir William, biography of, 522
Our opportunity, 484, 520
Pancreas, diagnosis of disease of, 553
Pancreatitis, chronic, 62, 132, 236
Panel practitioners and vaccination, 883
Pensions referee, work of, 132
Polish Red Cross Society of Great Britain, 884
Prophylaxis and venereal disease amongst the Anzacs, 202
Protein therapy, intravenous, 380
Public health versus the State, 96, 127, 167, 237, 308, 349, 382, 416, 454, 520, 586, 656
Quinine administration, mode of, 28, 60, 99, 130, 168, 454
R.A.M.C. as a career, 29
Rare accidents presumed due to negligence, 554
Relapsing fever and ticks. *See* Ticks
Rockefeller Foundation gifts, 883
Sanatorium hospital for the well-to-do, 883
Sand-fly fever in Mesopotamia, 620
Scottish colliery surgeons and the Miners' Union, 171, 239
Senior surgeon commanders, R N., 454

Correspondence (*continued*):
Septic peritonitis, treatment of, 656
Shingles, varicella, epilepsy and the weather, 487
Small-pox in Scotland, 785
Spelman, Dr. A. P., death of: an appeal, 689
Spleen, apparent spontaneous rupture of a normal, 63
Sterility, 274, 349
Surgical war honours, 236
Syme the discoverer of waterproofing, 521
Syphilis, early diagnosis of, 416, 486, 620, 688, 753
Temporary commissions I.M.S. *See* Indian
Territorial Force, 309, 350, 383, 417
Territorial general hospital staffs, 236
Ticks and relapsing fever, 97, 132, 200, 235, 273, 310, 380
Tonsils, a plea for, 199, 722, 851
Tuberculosis as affected by the war, 585
Tuberculosis, pulmonary, early diagnosis of, 753
Tuberculosis, pulmonary, treatment of in private practice, 552
Tuberculosis sanatoriums, 619, 688
Tuberculosis village settlements, 552
Tumours, origin of, 132
Uterine cancer, treatment of, 452, 521, 554, 585
Uterine cancer complicating pregnancy and the puerperium, treatment of, 452
Vaccinal condition of small-pox carriers, 851
"Vagasthenia," 813
Venereal disease prevention, 28, 61, 98, 128, 273, 311
Vienna, distress in, 29
Village tuberculosis settlements. *See* Tuberculosis
War honours, 312, 555, 586
War records, 723

Cost of living (parliamentary question), 844
Cottages, timber, Ministry of Health standard specification for, 418
COTTON, W.: Localization of foreign body, 327
Council, General Medical: Number of medical and dental students, 102—*Minutes*, rev., 331—Election of Direct Representative to fill vacancy: Bill to amend the Medical Council Act introduced in Parliament, 685; Bill read a second time, 843

COUNCIL, LONDON COUNTY:
Health services and hospitals in London, 752
Influenza, precautions against, 205
Medical inspection and treatment of school children, 483
Medical officers, appointment of, 483
Medical practitioners' fees in midwives' cases, 348
Medical staff of, 379
Medical treatment for fee-paying pupils, 387
Venereal clinics in London, 414
Venereal prophylaxis, 166

Council, Worcestershire County, whole-time medical appointments under, 654
Counter-irritation, value of, 856
County health administration, Cheshire, 58
Cow, a tuberculous (J. E. Scales), 400
CRAIK, Robert: Simple treatment of ringworm of the nails, 185
CRAMER, W.: Nature and treatment of hyperpyrexial heatstroke, 343
CRAWFORD, Alexander David, obituary notice of, 70
CRAWFORD, Barbara G. R.: Abortifacients and preventives, 242
CRAWSHAW, Captain J. W.: Treatment of cerebro-spinal fever, 750
Cremation, progress of, 513
Cress, consumption of in large quantities causes dysuria, vesical spasm, etc. (Leclerc), 637
CRICHTON-BROWNE, Sir James: Prevention of venereal disease, 623—Prevention and treatment of insanity (Maudsley Lecture), 749
CRILE: Treatment of peritonitis, 376
Criminal Law Amendment Bills (parliamentary question), 414, 482, 879
Crippen, Hawley Harvey, Trial of, rev., 299
Crippled children, care of (G. R. Girdlestone), 697. (O)
Crippled and disabled men, *Handicapped Worker* issued by New York Institute for, 829
CROFTON, W. M.: Association of lethargy with the influenza bacillus, 431. (O)
CROMBIE, John Liddle, obituary notice of, 658
CROOKSHANK, F. G.: First principles and epidemiology, 186—Encephalitis lethargica, 621
CROSLAND, George William Kilner, obituary notice of, 137
CROSSLEY, Leonard: Tuberculosis sanatoriums, 688
CUMMINS, Colonel S. L.: Oxygen therapy, 152
Cunningham's Manual of Practical Anatomy, rev., 367
CUSHING, Harvey: Biography of Sir William Osler, 522
Cyclopegia in routine refraction work (N. Bishop Harman), 598. (O)
Cyst, ectopic ovarian (J. W. Thomson), 437
Cyst of ovary, large (J. Lionel Stretton), 80. (O)
Cystoscopy, review of books on, 541
Czernovitz, plague at, 855

D.

DA COSTA, John C.: *Principles and Practice of Physical Diagnosis*, rev., 331
Dairies, inspection of (parliamentary question), 378
D'ALBE, Fournier: Reading by ear, 692
DALE, Dr.: Alcohol as a therapeutic agent, 294
DANYSZ, J: *Origine, Évolution, et Traitement des Maladies Chroniques non Contagieuses*, 839
DAS, J. L.: *A Manual of Conservancy*, rev., 471
DAVID, Dr.: *Quelques précisions rapides sur Salies-de-Béarn et le rôle de ses Eaux en Chirurgie*, rev., 831
DAVIDSON, Mackenzie, Fund. *See* Fund
DAVIDSON, W. Cameron: Treatment of profuse sweating in axillae, 242
DAVIES, A. Lloyd: Suppurative arthritis and peritonitis after acute bronchopneumonia, 501
DAVIES, Ivor J.: Bronchiectasis, 767
DAVIES, Sidney: Public health versus the State, 238, 349, 454
DAVIES-JONES, Charles: Forgetting, psychological repression, 237
DAVIS, Haldin: Dermatitis artefacta in the army, 433. (O)
DAWSON, Sir Bertrand, takes the title of Baron Dawson of Penn, 269—Dinner to, 337—Medicine and the State, 743—Future provision of medical services, 800
DAWSON, W. S.: Treatment of malaria, 600
Deaths and Births. *See* Births
Death rate of illegitimate infants (parliamentary question), 378
DEAVER, John B.: *The Breast: its Anomalies, its Diseases, and their Treatment*, rev., 675
Defective children, industrial schools for (parliamentary question), 269
Deficiency disease, with special reference to gastro-intestinal disorders (Robert McCarrison), 822. (O)
Deficiency diseases (scurvy and beri-beri)—Treatment and management of (W. H. Willcox), 73. (O)
Deficiency diseases in Vienna (leading article), 477
Degrees, registrable foreign, 786
DE LAET: Origin of polymorphonuclear leucocytes, 93
DELANEY, P. J.: The death of Dr. A. P. Spelman: An appeal, 689
Delhi, maternity and welfare exhibition at, 618
Delirium tremens, treatment of (W. Starkey), 47—(Richard Eager), 114
Demobilization of medical students (parliamentary question), 720
Demobilized, handbook for, 385
Denmark: Investigations into various types of pneumococcus in, 557—Compulsory notification of lethargic encephalitis in, 659
Dental caries and oral osmosis, review of book on, 189—Correspondence on, 585
Dental legislation, proposed (parliamentary question), 305
Dental sepsis in children (S. F. St. J. Steadman), 186—Discussion on, 187
Dental students, number of, 102
Dentistry, doctorate of to be created in Prussia and Baden, 589
Dentists Act, revision of (parliamentary question), 615, 686, 843, 844
Dentists' registration, future of, 549
DENYER, Stanley E.: Diurnal enuresis in a child: treatment with galvanism, 795
DERCUM, Francis X.: *Rest, Suggestion, and other Therapeutic Measures in Nervous and Mental Diseases*, rev., 367
Dermatitis artefacta in the army (Haldin Davis), 433. (O)
Dermographism, case of (Captain H. S. Carter), 149
Detection of suture material. *See* Suture
Deutsche Kongress für Innere Medizin, 557
Devon: School medical officers' salaries, 686, 847
DEWAR, Michael: Future provision of medical services, 850
Diabetes mellitus, dietetic treatment of (R. T. Williamson), 399. (O)
Diagnosis, surprises in (Edmund I. Spriggs), 563. (O)
Diagnosis and treatment, 619
Diamond jubilee of a Scottish practitioner (George Banks), 127
Diathermy, review of books on, 869
Dickens on the treatment of malaria, 756
DICKIE, W. S.: Treatment of uterine cancer, 452
Dictionary, new English, medical terms in, 683
Diet, deficient, effect of on monkeys (Lieut.-Col. Robert McCarrison), 249. (O)
Dietetic treatment of diabetes. *See* Diabetes
DIGBY, Kenelm H.: Plea for the tonsils, 722
Diphtheria in London, 27
Diphtheria, deaths from in Australia, 632
Diphtheria bacilli in the throat (P. Hartley and C. J. Martin), 796
Diphtheria, naked-eye diagnosis of (H. Drinkwater), 259
Diphtheria, measles, and scarlatina, review of books on, 573
Diphtheroid group (J. G. Adami), 14
Diphtheroid septicaemia (H. E. Roaf), 13

Diploma in medical radiology and electrology, 55
Diplomas, special, 303
Disabled ex-service men, number of in training (parliamentary question), 650—Circular from Ministry of Health *re* employment of, 691
Disability partly due to military service (parliamentary question), 345
Disability pensioners' rights (parliamentary question), 482
Disclaimer, 138
Discovery, notice of, 138, 315
Disease, acute, intraspinal pressure in, 311
Diseases, rare, 374
Dispatch, Afghanistan, 422
Diverticulitis (W. H. Maxwell Telling), 82—Discussion on, 84, 115—Leading article on, 119
Diverticulitis, etiology of (C. H. Willey), 631. (O)
Divorce law, medical aspects of (parliamentary questions), 583
DIXON, Montague: Parental blood in haemorrhage of the newborn, 539
Doctors and motors *See* Motor
Doctors' threatened strike (Castlecomer Union), 167
Dogfish, spiny, poison of (H. Muir Evans), 287. (O)
Dogs' Bill in America, 512
Dogs' Protection Bill (parliamentary question), 269, 305, 448—(Leading article), 301—Text of the bill, 305—Second reading talked out, 448
DOMVILLE, Edward J.: Proposal for a memorial to Sir Victor Horsley, 271, 785—Acts as consulting surgeon and house-surgeon, 518
DONALDSON, Robert, appointed pathologist and curator of the museum of St. George's Hospital, 71
DONCASTER, Leonard, obituary notice of, 815
DONELAN, James: Copper alanin in inoperable cancer, 104
DONKIN, Sir Bryan: Prevention of venereal disease, 623
DONOVAN, Lieut.-Col. C. A.: "Froghopper" as a blood-sucking insect, 220
DOUGAL, D.: Caesarean section for dystocia, 224—(and J. W. BRIDE), Etiological factors in abortion, 632. (O)
DOUGAL, Dr.: Factors in abortion, 540
DOUGLAS, Lieut.-Col. C. G.: Oxygen therapy, 152
DOWNS, William Campbell, obituary notice of, 70
DRAKE-BROCKMAN, R. E.: Ticks and relapsing fever, 273—Treatment of malaria, 381
DREVER, James R.: Scottish colliery surgeons and the miners' union, 171
DREW, Douglas: Appendicectomy by a new route, 416
DREW, H. V.: Intraspinal pressure in acute disease, 311
DRINKWATER, H.: Naked-eye diagnosis of throat infections, 259
Dropwort, water, fatal poisoning by (T. Harvey Thomson), 795
Drug idiosyncrasy, discussion on, 405
Drugless healer sentenced (Arthur Barker), 314
Drugs, antipyretic, and cold water, 206
Drugs, Dangerous, Bill (parliamentary question), 650, 720, 843—Leading article, 714
Drugs, retail price of, 474
DRUMMOND, Hamilton: Diverticulitis, 85
Drunkenness in murder cases, House of Lords judgement in Beard case, 383
Drunkenness statistics (parliamentary question), 346
Dublin: Postal arrangements, 234—Radium Institute, 550
DUDGEON, L. S.: Intramuscular injections of quinine, 25
DUKE, Lieut.-Col. Joshua, obituary notice of, 314
DUNCAN, F. Martin: Photomicrographs of acari from lungs of *Macacus rhesus*, 276
DUNCAN, J. W.: Erysipelas, 278
DUNDAS, Grace H. Giffen: Illegitimate births and ophthalmia neonatorum, 436
DUNLOP, J. Leeper: Ticks and relapsing fever, 132
DUNN, Edwin Lindsay, obituary notice of, 204
Duodecim. See Acta Societatis
Duodenal ulcer. *See* Ulcer
Dupuytren's contraction not scheduled under Workmen's Compensation Act, 242
DURET, H.: *Traumatismes cranio-cérébraux*, rev., 830
DUTCH, Henry: Simple speculum illuminator, 174
Duty and discipline movement, 589
DYER, Francis Norman Victor, obituary notice of, 172
Dysentery, amibiasine in, 190
Dysentery, bacillary, c mmon complications of in military practice (Philip Manson-Bahr), 791. (O)
Dysentery, some unusual forms of (George C. Low), 255. (O)
Dysentery in lambs, isolation of an organism which is probably the cause of, 776
Dyspepsia, appendix and gall bladder (Sir Humphry Rolleston, 317. (O)—Correspondence on, 380
Dyspnoea, acute asthmatic, caused by filarial embryos (F. F. Bana), 796

E.

EAGER, Richard: Treatment of delirium tremens, 114
EAGER, Wilson, obituary notice of, 754
Ear (middle) disease, suppurative, plea for early treatment of (H. Smurthwaite), 467. (O)
Ear, running, treatment of (T. A. MacGibbon), 294—Correspondence on, 382
EASON, H. L., appointed superintendent of Guy's Hospital, 241
EASTBURN, A. S., sentence on, 384
Eaton Hall, Chester, hospital for convalescent soldiers (parliamentary question), 686
EAVES, Captain Wilberforce Vaughan, obituary notice of, 276
ECCLES, McAdam: Diverticulitis, 85
ECCLES, O.: Contraction and retraction rings, 61
ECKERMAN, Ragnar: *Dental Caries in Relation to Oral Osmosis*, rev., 189 - Letter on, 585
Eclampsia, expectant treatment in (W. Gough), 636
Eclampsia, nature of (leading article), 479
Eclampsia treated by blood transfusion (W. Blair Bell), 635. (O)
Eclamptic toxin, path of (J. F. D. Hunter), 469
Economic questions of the day, pamphlet on, 815
Ectopia vesicae treated by implantation of the ureters in the rectum (C. C. Holman), 149 (O)
EDDOWES, Alfred: Cutaneous manifestations in a case of cervical fistula, 326. (O)
EDEN, Thomas Watts, (and Cuthbert LOCKYER), *Gynaecology for Students and Practitioners*, rev., 770

EDINBURGH:
Edinburgh Medical Journal, 127
Graduate courses, 349
Growth of the city, 617
"Liberton," 810
Lister Memorial Institute, proposed, 95
Neo natal death rate in, 270
Royal Maternity and Simpson Memorial Hospital, 809
Stillbirths rate in, 687

Edinburgh Medical Journal, 127
EDINGTON, Colonel G. H.: *With the 1/1st Lowland Field Ambulance in Gallipoli*, rev., 503
EDRIDGE-GREEN, F. W.: *The Physiology of Vision, with Special Reference to Colour Blindness*, rev., 502—*Card Test for Colour Blindness*, rev., 502
EDWARDS, Charles, appointed J.P. for borough of Bridport, 589
EDWARDS, Francis H.: Physical basis of mental disorders, 452
EDWARDS, Robert, obituary notice of, 813
Eggs, dried, 856
Egypt: Report on pellagra outbreak in a refugee camp, 805—Plague in, 815
E. histolytica, house-fly as a carrier of (P. A. Buxton), 142. (O)
Ekaterinodar, medical school established at, 837
Electrology, diploma in, 55
ELFORD, W. H.: Treatment of ringworm, 867
ELIZALDE, Pedro I.: *Anatomia patologica y patogenia de la sifilis pulmonar*, rev., 869
ELLIOT, H.: *Modern Science and Materialism*, rev., 89
ELLIOT, Lieut.-Col. R. H.: Temporary commissions I.M.S., 96, 168, 201, 554—Diagnosis of glaucoma, 279. (O)—Indian Medical Service, 554
ELLIOT, Captain W. E., appointed Secretary of Committee of Medical Members of House of Commons, 344
ELLIOTT, Major George Blacker, obituary notice of, 524
ELMES, J. H.: Dickens on the treatment of malaria, 756
ELMSLIE, R. C.: *After-treatment of Wounds and Injuries*, rev., 868
EMBLETON, Dennis: Sphenoidal empyema and epidemic cerebro spinal fever, 7. (O)
Emotion, measurement of (A. D. Waller), 259—Correspondence on, 381
Empyema, sphenoidal, and epidemic cerebro-spinal fever (Dennis Embleton), 7. (O)
Empyemata, immediate closure of (Frank Hathaway), 734. (O)
EMRYS-ROBERTS, Professor: The Welsh mobile laboratory, 27
Encephalitis, case of: lethargy and myoclonus (James Camac), 704
Encephalitis, epidemic, committee appointed to report on by Bordeaux Society of Medicine, 457
Encephalitis, epidemic, myoclonic form of (Piero Boveri), 570. (O)—(E. W. M. Hubert Phillips), 634—Correspondence on, 722
Encephalitis, epidemic, virus of, 646
Encephalitis lethargica, 621—In Spain, 659—In Denmark, compulsory notification of, 659
Encephalitis lethargica (Netter and Achard), 193, 241
Encephalitis lethargica, acute, compulsory notification of, 71
Encephalitis lethargica, arsen 55
Encephalitis lethargica, case of (Maurice C. Barber), 500—(Captain A. Smith Goudie), 671
Encephalitis lethargica, cases in Roumania and Egypt, 512
Encephalitis lethargica, two typical cases (G. Bouché), 601
Encephalitis lethargica, circular from Scottish Board of Health, 452
Encephalitis lethargica, death from in Lincolnshire, 351
Encephalitis lethargica, diagnosis of (leading article), 409—Note on, 481
Encyclopaedia Medica, vol. vi, rev., 118
Endocarditis, malignant, in a war pensioner (J. A. Nixon), 435
Endocrine glands. *See* Glands
Endocrinology as an exact science (leading article), 644
England and Wales, class fertility in (T. H. C. Stevenson), 604—Vital statistics, 457, 752, 775, 802, 836, 874
English and Chinese doctors, joint conference, 619
Enham village centre, basket-making shop to be erected, 150
Enteroptosis (Chalmers Watson), 797
Entomology, review of books on, 707
Entozoa, review of books on, 675
Enuresis, diurnal, in a child, treated with galvanism (Stanley E. Denyer), 795
Epidemiology, first principles of (F. G. Crookshank), 186
Epilepsy, literature dealing with influence of atmospheric conditions on, 173
Epilepsy and the weather, 282, 487
Epileptics, anaesthesia in, 526, 558, 624
Epsom College. *See* College
Erysipelas, treatment of, 242, 277, 316, 352—A correction, 316
Establishment licences, 590
Estimates (parliamentary papers on the), 413
Ethyl chloride, safety of, 485
Eugenics, national, Galton chair of (leading article), 803
Eusol in subtertian malaria, 303
Evans's Analytical Notes, 786
EVANS, Herbert: Urinary system and the *Bacillus coli communis*, 438
EVANS, H. Muir: Poison of the spiny dog-fish, 287. (O)
EVANS, Thomas Melancthon, obituary notice of, 487
EVE, Frank C.: Sedimentary cell for microscopical examination of cerebro-spinal and other fluids, 708
Everett *v.* Griffiths and Anklesaria, 522
EVERSHED, A. Reginald F., obituary notice of, 276
EWART, William, appreciation of George V. Perez, 456
Experiments on animals (parliamentary question), 305
Ex-service men: Professional training of (parliamentary question), 306, 650—Half-fare vouchers for men under treatment (parliamentary question), 650, 720
Eye, fundus of after death, 878
Eyelid, granuloma of, 458
Eyesight of miners, discussion on, 327
EYRE, Captain Charles R. B., appointed assistant surgeon to British Ophthalmic Hospital, Jerusalem, 525

F.

Facial trophoneurosis. *See* Trophoneurosis
Factory Surgeons, Association of Certifying, report, 335
FAIRBAIRN, John S.: New lamps for old in obstetrics, 127
FALTA, W. (and K. F. WENCKEBACH): *Wiener Archiv für Innere Medizin*, rev., 574
Fascia lata, uses of free transplants of, in surgery (G. Grey Turner), 79. (O)
Faucial and post-nasal lymphoid tissue in children, chronic infection of (Percival W. Leathart), 217. (O)
Federations for brain workers, 229
Fee, notification, and the end of the war, 344, 383—Ministry of Health's Statutory Order *re*, 659
Feeble-minded youth, trade teaching for, 558
Fees, army, for civilian doctors, 814
Fees, medical, increased in Chicago, 725
Fees, medical, under Workmen's Compensation Act (parliamentary question), 879
Fees, medical, for public work (Ireland), 655
Fees in midwives' cases, 348
Fees for treatment of school children, 883
FEILING, Anthony (and E. WARD): Familial form of acoustic tumour, 496. (O)
FELDMAN, W. M.: Needle in alimentary canal, 206—Diagnosis of disease of the pancreas, 553—*Principles of Ante-natal and Post-natal Child Physiology: Pure and Applied*, rev., 572
Fellowship of Medicine and Post-Graduate Medical Association: First general meeting, 305—Number of graduates who attended emergency courses, 351—Note on, 779
Femur, gunshot fracture of (Sir Anthony Bowlby), 1. (O)
FERGUSON, Alexander, obituary notice of, 422, 621
FERGUSON, R. Bruce: *Aids to the Mathematics of Hygiene*, rev., 708
Fertility of various classes in England and Wales (T. H. C. Stevenson), 604
Fetal intracranial haemorrhage during birth (Eardley Holland), 868
Fetal movements, 71
Fever, epidemic cerebro-spinal, and sphenoidal empyema (Dennis Embleton), 7. (O)
Fever, cerebro-spinal, treated by monotypical serum (W. T. Munro), 430. (O)
Fever, cerebro-spinal, treatment of (Captain J. W. Crawshaw), 750
Fever, enteric, diagnosis of (parliamentary question, 449
Fever, enteric, and pyrexia of uncertain origin (leading article), 373
Fever, puerperal, antistreptococcic serum in (O. Hilton), 185
Fever relapsing, in the East (W. H. Willcox), 222—Correspondence on, 380
Fever, relapsing, and ticks, 97, 132, 200, 235, 273, 310
Fever, sand-fly, in Mesopotamia, 620
Fever, scarlet, in London, 27
Fever, typhus, in the East (W. H. Willcox), 222
Fever, typhus: In Poland, 122, 614, 751—In Russia, 751—Threatened western extension of (parliamentary question), 879
Fever, typhus, Rickettsia bodies in, 709
Fever, yellow, etiology of, 375—Indian committee on, 484
FFRENCH, Major E. G.: Early diagnosis of syphilis, 486
FFRENCH-MULLEN, Colonel Douglas, obituary notice of, 556
FIBIGER: Experimental induction of cancer, 680—Helminths in cancer, 777
Fibroid, subperitoneal, traumatic rupture of pedicle of (P. D. Turner), 829
Fibroids, results of hysterectomy for (J. W. Bride), 14
Fibroids complicating pregnancy: hysterectomy: recovery (R. de S. Stawell), 498. (O)—Correspondence on, 554
Filaria conjunctivae, the host of the parasite of found in man (Forbes), 4
Filarial embryos causing acute asthmatic dyspnoea (F. F. Bana), 796
Filariasis, further work on antimony intravenously in (Lieut.-Colonel Sir Leonard Rogers), 596. (O)
FILDES, Surgeon Lieut Commander P.: Toxic effects of arseno-benzol preparations, 51
Finance Bill, 677. *See also* Budget
FINDLAY, Leonard: *Syphilis in Childhood*, rev., 366
Finger-prints on documents, persistence of (C. A. Mitchell), 387
FIRTH, J. B. (and J. E. MYERS): *Elementary Practical Chemistry*, rev., 190
FIRTH, Colonel R. H.: *Musings of an Idle Man*, rev., 262
FISHER, Irving: *Effect of Diet on Endurance*, rev., 16
FISHER, Theodore: Aortitis and aortic regurgitation, 586, 688
FISHER, Walter: Pericranial effusion of blood, 206
Fistula, cervical, cutaneous manifestations in a case of (Alfred Eddowes), 326. (O)—Correspondence on, 424
Fistula, jejuno-colic, following gastro-jejunostomy (Charles Bolton and Wilfred Trotter), 757. (O)
FLAGG, P. J.: *The Art of Anaesthesia*, rev., 117
Flail joints and their treatment (Sir Robert Jones), 175. (O)
FLECHSIG celebrates the fiftieth anniversary of his doctorate, 815
FLEMMING, Chas. E. S.: New lamps for old in obstetrics, 202—Our opportunity, 484
FLETCHER, Rory: Nyctalopia or hemeralopia, 555
FLETCHER, Sir Walter: Appreciation of Sir Robert Morant, 420
FLEXNER: Portal for acute poliomyelitis, 343
Flies, house, as carriers of *E. histolytica* (P. A. Buxton), 142. (O)
Flies, house, review of books on, 607
Food, clothing, and medical aid for countries devastated by the war, sum required in United States to continue the supply of, 46
Food and disease, 816
Food and Drugs Acts: duties of local authorities, 173
Food factors, accessory, in infant feeding, discussion on, 328—Work on, 709
Food Ministry, continuation of the work of, 686
Food poisoning, review of book on, 225
Food supply of Germany (leading article), 301
FORBES: Parasite of *Filaria conjunctivae* found in man, 4
Forceps, Schultze's (Sir W. Smyly), 48
Forearm, ischaemic, contracture of (Arch. Young), 636
Foreign body in left bronchus (W. R. Cammock), 602—(Thomas Guthrie), 735
Foreign body, localization of (W. Cotton), 327
Foreign body in cornea, prolonged retention of (E. R. Chambers), 363
Foreign degrees, registrable, 786
Foreign mineral water resorts, 545
Forgetting, psychological repression (Alfred Carver), 46. (O)—Correspondence on, 98, 131, 169, 201, 236, 274

FORNI, G G: *Ferite del Capo e dell' Addome in un Ambulanza Chirurgica*, rev., 541
FORSYTH, Noel C.: Use of antistreptococcic serum in quinsy, 361. (O)
FOSS, R. Stafford: Treatment of gonorrhoea in women, 434. (O)
FOSTER, Alfred: Early diagnosis of pulmonary tuberculosis, 753
FOTHERGILL, W.: Hydatid mole, 224
FOULERTON, Alexander G. R.: Poisoning by arsenobenzol compounds used in the treatment of syphilis, 864. (O)
Fracture dislocations of ankle, 62
Fracture of femur, gunshot (Sir Anthony Bowlby), 1. (O)
Fractures of skull in civil life, lessons of the war for treatment of (C. M. Kennedy), 630. (O)
Fractures, treatment of (Major M. Sinclair), 198

FRANCE:
Army Medical School at Val de Grâce, 55
Institute of Hygiene of Paris, 878
International Society of Surgery, next meeting, 144, 351
Maternity benefit for suckling mothers, 12
Medical Congress. *See* Congress
Medical History Society renews its activities, 387
Number of wounded and sick demobilized soldiers under treatment in hospitals, 457
Paris hospitals, scheme for improvement of, 283
Pharmacopoeia, additions to, 613
School of puericulture to be inaugurated at Edith Cavell Hospital, Paris, 557
See also Paris

FRANCIS, Alexander: Nasal drill, 310
Franco-Jugo-Slav medical union, 387
FRÄNKEL, Sigmund: *Praktikum der medizinischen Chemie*, rev., 16
FRANKS, Sir Kendal, obituary notice of, 723
FRASER, A. Mearns: Prevention of venereal disease, 686
FRASER, Peter obituary notice of, 204
FRASER, Sir Thomas Richard, death of, 55—Obituary notice of, 100
FREEMAN, John: Susceptibility to foreign proteins, 188—Toxic idiopathies, 403
FREEAR, Kathleen (and others): Production of clean milk 876
FREER, H. W.: Public health versus the State, 96, 416, 586
FREMANTLE, Lieut.-Col. F. E.: Elected M.P. for St. Albans, 27—Elected Chairman of Housing Committee of London County Council, 457
FREMLIN, H. S.: Preparation of calf lymph, 368
FRENCH, E. G.: Early diagnosis of syphilis, 688
French Medical History Society renews its activities, 387
FREUD, Sigmund: *Totem and Taboo: Resemblances between the Psychic Lives of Savages and Neurotics*, rev. 502
FRIEDENWALD, Julius (and John RUHRÄH): *Diet in Health and Disease*, rev., 262
Friedmann's remedy for tuberculosis, Prussian committee of inquiry into, 315
Friedmann's turtle vaccine, 94
Friendly societies and nursing benefits (Australia), 881
Friends' Emergency and War Victims' Relief Committee, 885
"Froghopper" as a blood-sucking insect (Lieut.-Col. C. Donovan), 220
FRY, Captain H. J. B.: Use of immunized blood donors in treatment of pyogenic infections by whole blood transfusion, 290. (O)
FRY, P. V., presentation to, 518
Fuel Research Board, report, 584
FULLARTON, J. H., obituary notice of, 723
FULLERTON, Andrew (and T. S. S. HOLMES): Ruptured gastric ulcer in an old man, laparotomy, recovery, 218. (O)
Function, correlation of (W. Blair Bell), 787. (O)
Fund, King Edward's Hospital: Statement *re* London hospitals, 451—Committee appointed to act in absence of the Prince of Wales, 457—Statistical Report Committee, 518—Annual meeting, 687
Fund, the King's (parliamentary question), 345
Fund, Mackenzie Davidson Memorial, 341
Fund, Naval Medical Memorial, 457
Fund, Queen Alexander's Field Force, demobilization of, 315
Fund, R.A.M.C. Central Mess, annual meeting, 587
Fund, R.A.M.C., and Officers' Benevolent Society, annual meeting, 587
Fund, Royal Medical Benevolent, 154, 262, 476, 504, 608, 802—War Emergency Fund, 303
Fund Guild, Royal Medical Benevolent, appeal at annual meeting, 457
Funds, Auxiliary R.A.M.C., 35, 685, 689——Annual meeting, 689
FURLONG, Wm. Verner: Atropine in acute suffocative catarrh, 219
FYFFE, Lieut.-Col. William Kington, obituary notice of 690

G.

GAGE, Captain Harold C.: *X-ray Observations for Foreign Bodies and their Localization*, rev., 153
GAIGER, S. H., isolates an organism which is probably the cause of dysentery in lambs, 776
GALBRAITH, Walter W.: Effusion into both knee-joints due to congenital syphilis, 636
GALLAVARDIN, L.: *La tension en clinique. Sa mésure, sa valeur séméiologique*, rev., 503
Gall-bladder dyspepsia. *See* Dyspepsia
GALLICHAN, Walter M.: *The Critical Age of Women*, rev., 708
Gall stones (R. P. Rowlands) 665. (O)
Galton chair of national eugenics (leading article), 803
Galvanism in treatment of diurnal enuresis in a child (Stanley E. Denver), 795
GANGI, Salvatore: *Il Colpo di Calore*, rev. 89
GARDINER, Frederick: *Handbook of Skin Diseases*, rev., 676
GARDINER, J. Stanley (and L. A. BORRADAILE): *The Cambridge Notebook for Practical Biology (Zoology)*, rev., 154
GARRATT, G. C.: Severe anaphylaxis, recovery, 72
GARROD, Sir Archibald E., appointed Regius Professor of Medicine at Oxford, 344—Schorstein lecture on diagnosis of disease of pancreas, 459. (O)—Elected to a studentship at Christ Church, 717
GARROOD, J. R.: Paraffin wax for first-aid treatment in burns, 539
GARRY, T. Gerald: Forerunners of Harvey in antiquity, 58
Gas, arseniuretted hydrogen, poisoning by (Thomas H. Wignall), 826. (O)
Gas poisoning (Sir Wilmot Herringham), 221—Discussion, 222
GASTER, Leon: Industrial lighting and its relation to efficiency, 557
Gastric pain, origin of, 162
Gastric ulcer. *See* Ulcer
Gastro-jejunostomy, gastric ulcer after (F. Bolton Carter), 13
Gastro jejunostomy followed by jejuno-colic fistula (Charles Bolton and Wilfred Trotter), 757. (O)
GAUVAIN, Sir Henry, luncheon to, 166
GAVRILOVITCH, Michailo, appointed President of Serbian Red Cross Society in Great Britain, 224
GAY, Frederick P: *Typhoid Fever*, rev., 88
GEDDES, Sir Auckland, appointed British Ambassador in Washington, 344
GEMMELL, A. C.: Sudden death at attempted abortion, 624
General Medical Council. *See* Council
General practitioners and the health services. *See* Health
Geneva Red Cross Congress, 377. *See also* Red Cross
German universities, appointment of professors to, 277
Germany: Food supply of (leading article), 301—Tuberculosis statistics in Germany and the Rhine provinces, 837—Proposed tuberculosis law, 315—Small-pox in (parliamentary question), 346
Gestation, length of, 558
G.H.Q. (*Montreuil-sur-Mer*), rev., 117
GIBBES, C. Chapman (and others): Ten thousand recruits with doubtful heart conditions, 730. (O)
GIBSON, H. E.: Comparison of two methods of administering arseno-benzol compounds in syphilis, 114. (O)
Giessen, Liebig museum opened at, 557
GILLETT, A. Scott: Tonsil bayonet, 472
GIRDLESTONE, G. R.: Care of crippled children, 697. (O)
Gland, thyroid, papilliferous carcinoma of (Basil Hughes), 362. (O)
Glands, endocrine, and the nervous system (Sibyl I. Welsh), 769
Glands of internal secretion and reproductive organs, functional connexion between (Evelyn E Hewer), 293. (O)
Glasgow: Erskine Limbless Hospital, 197—Post-graduate courses in, 721—Radium in cancer, 483—Small-pox in, 483, 584, 617, 687, 721, 782, 881—Western Infirmary, 58
GLASSON, C. J.: Method of treating tinea, 219. (O)
Glaucoma, diagnosis of (Lieut.-Col. R. H. Elliot), 279. (O)
GLEN, A. Kennedy: Panel practitioners and vaccination, 883
GLYNN, E. E.: Spirochaetes in bronchiectasis, 14—Ovarian hypernephromas, 572
GODDARD, Henry Herbert: *Psychology of the Normal and Subnormal*, rev., 470
Golf tournament (Bromley Division), 785
Gonorrhoea, number of cases notified in Western Australia, 724
Gonorrhoea in the female, diagnosis of (W. W. King), 364—Treatment of (R. Stafford Foss), 434. (O)
Gonorrhoeal vulvo-vaginitis in a newborn infant (Margaret Rorke), 671
GOODALL, Alexander: *Aids to Histology*, rev., 190
GOODALL, J. Strickland: Presentation to, 725—(and others) Ten thousand recruits with doubtful heart conditions, 730. (O)
GORDON, A. Knyvett: Hypernephroma of ovary, 133
GORDON, J. F.: The tertium quid, 206
GORDON, M. H.: Simple method of cultivating the micro-organism of actinomycosis, 435
GORDON, William: Epidemiology of phthisis, 594. (O)—Future provision of medical services, 882
GORMAN, Captain A. D.: Subcutaneous injections of camphor, 828
GOUDIE, Captain A. Smith: Case of encephalitis lethargica, 671
GOUGH, George W.: *Half past Twelve*, rev., 771
GOUGH, W.: Expectant treatment in eclampsia, 636
Government policy as to hospitals. *See* Hospitals, voluntary
GOW, A. E.: Intravenous protein therapy, 284. (O)
GOYDER, David, obituary notice of, 204
Graduate education in the United States (Sir Humphry Rolleston and H. J. Waring), 833
Graduate study, aims and methods of (Sir Humphry Rolleston), 77. (O). *See also* Post-graduate
GRANT, Sir James Alexander, death of, 232—Obituary notice of, 487
GRANT, William F.: Pregnancy during amenorrhoea, 278
Granuloma of eyelid, 458
Grateful country, 316
GRAVES, T. C.: Mammary sarcoma in old age, 81
GRAY, H. Tyrrell: Atropine in pylorospasm and pyloric hypertrophy, 551
GRAY, J. Pereira: Shingles, varicella, epilepsy, and the weather, 487—Anaesthesia in epileptics, 558
Greek science and modern science 748
GREEN, Charles David (and Sir Charles A. BALLANCE): *Essays on the Surgery of the Temporal Bone*, rev., 798
GREEN, Charles E., obituary notice of, 95
Greenwich Hospital pensions, 203
GREENWOOD, Major: Forgetting, psychological repression, 131
GREVES, E. Hyla, name of, accidentally omitted from current issue of *Medical Directory*, 242
GRIMSDALE, Harold B. (and E. BREWERTON): *Textbook of Ophthalmic Operations*, rev., 606
Grocers' scholarships for research in sanitary science, 489
GROSE, Staff Surgeon Samuel, obituary notice of, 70
GROVE, W. R.: Calcium chloride as a haemostatic, 47
GROVES, E. W. Hey: *Surgical Operations: A Textbook for Nurses*, rev., 471
GUBB, Alfred S.: Prevention of beri-beri, 72—Mode of quinine administration, 131
GUICCIARDI, Giuseppe, becomes editor of *Rivista Sperimentale de Freniatria*, 855
GULLAND, G. Lovell: Appreciation of Sir W. Osler, 67
Gunshot fracture of femur (Sir Anthony Bowlby), 1. (O)
Gunshot injuries, review of book on, 707
GURNEY-DIXON, S.: *Transmutation of Bacteria*, rev., 297
GUTHRIE, Thomas: Foreign body in bronchus, 735
Gynaecology and obstetrics, vaccines in (Robert Robertson), 437
Gynaecology, review of books on, 15, 708, 770

H.

HADDON, John: Clinical research, 311—Food and disease, 816
Haematoporphyrinuria (G. E. Anson), 634
Haemorrhage, accidental (Gordon Ley), 437
Haemorrhage, ante-partum, treatment of (Hastings Tweedy), 672—Discussion, 672—Correspondence on, 753
Haemorrhage, fetal intracranial, during birth (Eardley Holland), 868
Haemorrhage of the newborn, parental blood in (Montague Dixon), 539
Haemostatic, calcium chloride as a (W. R. Grove), 47
Hair, grey, and herpes zoster (G. Lenthal Cheatle), 219
HALDANE, J. S.: Oxygen therapy, 151
HALE, Arthur J.: *The Applications of Electrolysis in Chemical Industry*, rev., 154
HALES, Stephen, account of, 173
HALE-WHITE, Sir William: Alcohol as a therapeutic agent, 295—Drug idiosyncrasy, 405
HALLAM, Rupert: Radium therapy, 736
Hallucinatory psychosis. *See* Psychosis
HALSTEAD, J. I.: Future provision of medical services, 882
HAMILL, P.: Oxygen therapy, 152—(and others) Ten thousand recruits with doubtful heart conditions 730. (O)
Hampstead Research Institute. *See* Research
Hand, physiopathic paralysis of, and its causation (R. G. Abercrombie), 764. (O)
Handicapped Worker, 829
HANDLEY, W. Sampson: Diverticulitis,

HANNAY, M. G.: Early diagnosis of syphilis, 620
HANSCHELL, H. M.: Phagedaena of Hunterian chancre following treatment with novarsenobenzol, 498. (O)
Hard hit by the war, 303
HARDWICKE, W. Wright: *Sight Testing Made Easy*, rev., 471
HARFORD, Charles F.: "Miners' nystagmus," 138
HARMAN, N. Bishop: Cycloplegia in routine refraction work, 598. (O)
HARRIS, Wilfred: Chronic paroxysmal trigeminal neuralgia and its treatment, 693 (O)
HARRISON, E.: Early diagnosis of syphilis, 364
HARRISON, Lieut.-Colonel L. W.: *Manual of Venereal Diseases for Students*, rev., 638
Harrogate: Appoints an analytical chemist to the baths, 124—Medical dinner at, 584—Corporation pamphlet on, 815
HART, Bernard: Modern treatment of functional nervous disorders, 207. (O)
HART, David Berry: Puerperal sepsis, 296—Obituary notice of, 852
HARTLEY, P. (and C. J. MARTIN), Diphtheria, 796
HARVEY, forerunners of in antiquity, 58
HASSALL, G. W.: Anaesthesia in epileptics, 624
HASTINGS, Walter B., obituary notice of, 70
HATHAWAY, Frank: Immediate closure of empyemata, 734. (O)
HATSCHEK, Emil: *Laboratory Manual of Elementary Colloid Chemistry*, rev., 543
HAUSER: Visceral analgesia in tabes, 480
Havana, epidemic of meningitis in, 755
Hay fever, treatment of, 458, 490
HAYCRAFT, J. B.: Penetrating wound of chest, thoracotomy, suture of pericardium, 184. (O)
HAYES, Maurice R. J.: Irish motor deadlock, 132
HAYNES, F. H., presentation to, 270—Inherited syphilis, 765. (O)
HAYTON, C. H.: Air-way infections, 812
Hazell Annual and Almanack for 1920, rev., 49
HEAD, Henry: Elements of the psychoneuroses, 389. (O)
Head lamp, 472
Health Conference, International, 587

HEALTH MINISTRY:
Administrative posts, 808
Appointments, 785
Blind, deaf, and crippled students, training for, 584
Blind, welfare of, joint committee appointed, 276
Boarding-out of children, 782
Complement fixation test in syphilis, report on, 877
Compulsory notification of acute encephalitis lethargica and acute polio-encephalitis, 71
Consultative Council's interim report, 739, 746—Leading article on report, 746
Discharged and disabled officers and men, circular *re* employment for, 691
Dwellings, unoccupied, utilization of (parmentary question), 844
Expenditure (parliamentary question), 306, 649
General Health Council, 270
General Nursing Council, 616
Health of the people, 583
Health Services Bill, 751
Health survey, memorandum on, 267
House demolition, rules for procedure of, 623
Housing plans, volume on, 885
Infants' and children's homes and hospitals, 880
Influenza prevention, memorandum on, 19, 23, 205
Irish Public Health Council, 197, 870
Land for housing, amended regulations, 277
Maternity and Child Welfare Centres in England and Wales, 379
Maternity homes and hospitals, memorandum on, 299, 847
Medical staff of, 808
Milk for children and mothers, 124
Notification fee, 344, 659
Number of people employed by, 720
Nursing service, 450
Outdoor medical officers, new staff of, 407, 476
Parliamentary questions, 378, 450, 583, 720, 808
Poor Law Institution's Order, revival of Article 4, 489
Salaries of medical officers of local authorities, 230
Sale of Food and Drugs Act, memorandum on duties of local authorities, 173
Scottish Board of Health, 127, 196, 418, 452, 518, 654, 752
Smoke abatement, 303
Timber cottages, 418
Venereal disease, tests of cure in, memorandum on, 89—Leading article on above, 92—Deputation *re* professional secrecy (protection for medical officers of clinics), 691—Treatment centres, 815
Village tuberculosis settlements, deputation to Minister of Health, 476
Welsh Board of Health, 345, 809
Welsh Consultative Council's report, 781, 809
Work of, 378

Health of the people (parliamentary question), 583
Health Services Bill, 751
Health services and the general practitioner, 753, 784
Health services and hospitals in London, 752
Health services. *See also* Medical services
Health surveys, Ministry of Health memorandum, 267
Health work, co-operation in, 490
HEARNE, K. G.: Heat hyperpyrexia, 521
Heart affections in relation to the labour market (R. O. Moon), 628. (O)
Heart conditions, collective investigation on ten thousand recruits with doubtful (C. Chapman Gibbes, R. O. Moon, S. Russell Wells, P. Hamill, Frederick W. Price, and J. Strickland Goodall), 730. (O)
Heart disease, the passive mechanical factor in (Alexander Blackhall-Morison), 817. (O)
Heart, irritable (Carey Coombs), 404
Heart, soldier's (C. H. Cattle), 188
Heart, soldier's, and war neurosis (Sir James Mackenzie), 491, 530. (O)
Heat hyperpyrexia, nature, prevention and treatment of (W. H. Willcox), 392. (O)—Physiological aspect of (Leonard Hill), 397 (O)—Discussion on, 401—Correspondence on, 485, 521—(Captain John N. McIntosh), 795
Heat-stroke, hyperpyrexial, nature and treatment of, 343
Heath's Minor Surgery and Bandaging, rev., 226
HECKEL, Francis: *Grandes et Petites Obésités, Cure Radicale*, rev., 118
HEFFERNAN, Major P.: Duration of pulmonary tuberculosis, 206
HEHIR, Major-General P.: Commissions in the Indian Medical Service, 382—Treatment of malaria, 453
Helminths in cancer (leading article), 777
HEMBROUGH, John William, obituary notice of, 313
Hemeralopia, epidemic of, 480
Hemeralopia or nyctalopia, 514, 555
Hemeralopia in scurvy, 526
Hemiplegia, two cases of (Kenneth Rogers), 220
HENDERSON, G. G.: *Catalysis in Industrial Chemistry*, rev., 154
HENDRICK, Ellwood: *Chemistry in Everyday Life*, rev., 190
HENNESSY, Thomas: Report of the Irish Public Health Council, 870
HEPBURN, H. H.: Early manifestations of beri-beri, 466 (O)
HERBERT, Lieut.-Col. Arthur Stanley: *Military Physical Orthopaedics, Part I, Gunshot Wound of Nerve*, rev., 831
Hereford, medical reunion dinner, 198
Herman's Difficult Labour, rev., 606
HERNAMAN-JOHNSON, Francis: Use of *x* rays as immunity-raising agents before and after operation for cancer, 793. (O)
Hernia, review of books on, 15
Hernia, strangulated umbilical (C. M. Kennedy), 468. (O)
Herpes and varicella (Claude Wilson), 828
Herpes zoster and greyness of hair (G. Lenthal Cheatle), 219
HERPIN, A.: *Les fractures de guerre du maxillaire inférieur*, rev., 543
HERRINGHAM, Sir Wilmot: Gas poisoning, 221—International Organization of Medical Societies, 272
HERSCHELL, G.: *Textbook of Indigestion*, rev., 573
HERTZLER, Arthur E.: *The Peritoneum: Vol. I, Structure and Function in Relation to the Principles of Abdominal Surgery. Vol. II, Diseases and their Treatment*, rev., 15
HEWER, C. Langton: Anaesthesia in epileptics, 558
HEWER, Evelyn E.: Functional connexion between the reproductive organs and other glands of internal secretion, 293. (O)
HEWER, Mrs. J. Langton: *Our Baby: for Mothers and Nurses*, rev., 368
HEWETSON, W. M.: Mode of quinine administration, 756
HICKLING, Gertrude H.: Nasal drill in treatment of adenoids, 147. (O)
HICKS, George Adam, obituary notice of, 172
HIGGS, T. F., presentation to, 489
Highlands and Islands Medical Service, 848
HILL, A. W., elected Fellow Royal Society, 344
HILL, Leonard: Physiological aspect of heat-stroke, 397. (O)—Ventilation and heating of tuberculosis institutions, 797
HILTON, O.: Antistreptococcic serum in puerperal fever, 185
HIRST, Barton Cooke: *An Atlas of Operative Gynaecology*, rev., 15
Historical surgical instrument cases, 54
History, Annals of Medical, 226
History of the war, medical and surgical: Surgeon-General of the United States Army asks for a grant towards the publication of, 623
HODDER, A. E.: Sclerema neonatorum associated with placenta praevia, 634
HOFFMANN, F. L.: *Is Leprosy Increasing?* 855
HOLDEN, Oscar M.: The general practitioner and the health services, 784
Holland, rabies in, 525
HOLLAND, C. Thurstan: War lessons for radiology, 353. (O)

HOLLAND, Eardley: Rupture of Caesarean section scar, 705—Fetal intracranial haemorrhage during birth, 868
HOLLIS, H. S.: Treatment of ante-partum haemorrhage, 753
HOLMAN, C. C.: Ectopia vesicae treated by implantation of the ureters in the rectum, 149. (O)
HOLMES, T. S. S. (and Andrew FULLERTON): Ruptured gastric ulcer in an old man, laparotomy, recovery, 218. (O)
Holt case, 523
HOLTH, S.: Bronze medico-chirurgical instruments, 268—The Roman netting needle for winding a surgical thread, 458
Home Office, order *re* tar cancer and chrome ulceration, 122
Homes of Recovery (parliamentary question), 650

HONOURS (January to June, 1920), 26, 27, 35, 99, 103, 124, 136, 172, 203, 240, 269, 275, 276, 304, 312, 313, 352, 385, 422, 457, 508, 545, 555, 557, 589, 660, 689, 725, 755, 771, 785, 805, 814, 854, 884
Peerage, 26
K.C.B., 26
C.B., 35
Order of St. Michael and St. George: C.M.G., 26, 240
Order of the British Empire:
G.B.E., 509
K.B.E., 203, 304, 422, 508
C.B.E., 35, 136, 203, 240, 313, 508, 854
O.B.E., 35, 203, 240, 275, 508, 660, 771, 884
M.B.E., 35, 203, 545, 589
Knighthoods, 26, 27
Distinguished Service Order (and bars), 240
Military Cross (and bars), 136, 172, 203, 240
Order of St. John of Jerusalem, 124, 557, 589
Birthday honours, 805
New Year honours, 26
Kaisar-i-Hind medal, 26
Territorial decoration, 137, 172, 457, 689
Foreign decorations, 35, 103, 136, 172, 276, 313, 385, 457, 546, 689, 725, 755, 785, 814, 855
Mentioned for services, 172, 203, 240, 275, 313, 884
American surgeons mentioned in dispatches, 725
Mentioned in dispatches, 99, 385, 525, 755, 854
Surgical war honours, 238, 352
War honours, 312, 352, 555, 586

Hookworm disease, review of books on, 542
HORDER, Sir Thomas: Influenza and epidemiology, 235—Nerve symptoms in acute infections, 404
HORNABROOK, R. W.: Safety of ethyl chloride, 485
HORROCKS, Sir William Heaton: Hon. Fellowship of Society of Medical Officers of Health conferred upon, 305
Horse-shoe kidney. *See* Kidney
HORSLEY, Lady: Proposal for a memorial to Sir Victor Horsley, 418
HORSLEY, Sir Victor, Life of, rev., 260—Proposed memorial to, 271, 350, 418, 785
Hospital, No. 14 General: Work of, 195—Dinner, 195
Hospital, American, in London, progress of, 650, 779
Hospital, Craigleith Military, closure of, 270
Hospital, Edinburgh Royal Maternity, and Simpson Memorial, 809
Hospital, Endell Street, surgery at (Dr. Garrett Anderson), 605
Hospital, Erskine, for limbless service men (Glasgow), 197
Hospital, Freemasons' paying, 415
Hospital, Glasgow Royal Cancer, annual meeting, 483
Hospital, Graymount, Belfast, Sir H. Gauvain's report, 655, 688
Hospital, Guy's, new superintendent appointed, 241
Hospital, Johns Hopkins, first superintendent of, 232
Hospital for limbless men, the Erskine (Glasgow), 197
Hospital, the London, in-patients to pay 10s. a week, 351
Hospital, Maudsley Mental, lectures in medical psychology at, 376
Hospital, Middlesex: Joel chair of physics, 194, 315—Chair of pathology, 315—Special meeting *re* amalgamation of Cancer Research Department and Bland-Sutton Institute of Pathology, 580
Hospital and Nursing Services (Scotland), 848, 880
Hospital for paying patients, 263. *See also* Hospital, St. Chad's
Hospital, provision in the future (parliamentary question), 377. *See also* Hospitals, voluntary
Hospital, Queen Charlotte's Maternity, London, report, 518
Hospital, Royal Free, reunion dinner of past and present students (women), 415
Hospital, Royal Prince Alfred, note on, 271
Hospital, St. Bartholomew's, clinical teaching "element" at work, 228
Hospital, St Chad's, Birmingham, for paying patients (William Billington), 263

Hospital, St. Luke's, Bradford (parliamentary question), 551
Hospital, St. Mary's, and clinical education at the Poor Law Infirmary, 92, 242
Hospital, St. Thomas's: University unit at, 26—Old students' dinner, 123
Hospital, Sir Patrick Dun's, memorial brass and bed, 589
Hospital survey, 684. *See also* Hospitals, voluntary
Hospital, Swansea General and Eye, opening of a pathological department, 722
Hospital system, remoulding the (leading article), 160. *See also* Hospitals, voluntary
Hospital, Tribondeau, 458
Hospital, University College: University unit, 26, 161—Rockefeller Foundation gifts to, 799, 834, 838
Hospitals, army mental, treatment in (parliamentary question), 306
Hospitals, bequests to. *See* Bequests
Hospitals and clinics at Cardiff, 307
Hospitals, co-operation between, 418
Hospitals in India (parliamentary question), 306
Hospitals, in-patients at: Organization of in-patient treatment (leading article) 372—To pay 10s. a week at the London Hospital, 351. *See also* Hospitals, voluntary
Hospitals, London Mental, increase of remuneration of medical superintendents of, 264
Hospitals, maternity. *See* Maternity
Hospitals, mental, assistant medical officers at, 686. *See also* Asylum
Hospitals for mental cases (parliamentary question), 649 *See also* Mental
Hospitals, military, board appointed to advise on chronic cases in, 277
Hospitals, municipal general (parliamentary question), 583—Government policy as to, 612
Hospitals, Public and Secondary Schools Red Cross, hand over balance of their funds to the Village Centres Council, 35
Hospitals, voluntary: Future of, 156, 160, 351, 372, 377, 379, 451, 647, 685, 691, 710, 713 751, 752, 783, 844, 879—Scheme for Red Cross assistance, 156 — Discussion at Birmingham, 157—Proposed public inquiry into the medical service of the community, 157—Leading article, 160, 713 – In-patients at, 351, 372—Parliamentary questions, 377, 647, 685, 751, 844, 879—The question of in Kent, 379 – Statement of King Edward's Hospital Fund, 451—Government policy as to, 647—Financial position of, 685, 751, 879—Sir Arthur Stanley on, 691—Survey (Sir E. Napier Burnett's report), 684, 710, 713—Payment of visiting staffs, conference at Leicester, 752—Statement by Dr. Addison, 783
Hôtel-Dieu, Paris: Advanced lectures on diseases of the gastro-intestinal canal, 796
Hour glass stomach, gastric and pyloric ulcers (Donald M. MacLeod), 115
Hours of labour 446
House of Commons, ventilation of, 650
House demolition, Ministry of Health's rules of procedure for, 623
House flies. *See* Flies
Housing, lead for, amended regulations from Ministry of Health, 277
Housing, in Scotland (Sir George McCrae), 95—Volume on *Type Plans*, etc., issued by Ministry of Health, 885
HOWARD, A. H. H.: Heat hyperpyrexia, 485
HOWARD, H. H.: *The Control of the Hookworm Disease by the Intensive Method*, rev., 542
HUGHES, Basil: Papilliferous carcinoma of the thyroid gland, 362. (O)—Letter on, 586
HUGHES, Edmund: Experimental induction of cancer 722
Human metabolism. *See* Metabolism
HUMPHRY, Laurence, obituary notice of, 239
HUNT, G. H.: Oxygen therapy, 151
HUNT, Lieut.-Colonel John Percival, obituary notice of, 524
HUNT, Joseph William, obituary notice of, 658
HUNTER, Duncan Francis, obituary notice of, 524
HUNTER, J. F. D.: Path of the eclamptic toxin, 469
Hunterian chancre, phagedaena of, following treatment with novarsenobenzol (H. M. Hanschell), 498 (O)
HUNTLEY, E.: Three cases of acute perforation of duodenal ulcer, laparotomy, recovery, 362. (O)
HURD, H. M., and Johns Hopkins Hospital, 232
HURST, Arthur F.: Forgetting, psychological repression, 170—New views on the pathology, diagnosis, and treatment of gastric and duodenal ulcer, 559. (O)—Duodenal ulcer and the hypertonic stomach, 688
Hydatid mole (Dr. Fothergill), 224—(Carlton Oldfield), 224
Hydrogen peroxide solution, supply limited, 103
Hydatidiform mole (F. J. Browne), 152
Hygiene Institute of Paris, 878
Hyperglycaemia in mental disorders, 193
Hypernephroma of ovary, 133—(Ernest E. Glynn), 572
Hyperpyrexia, heat *See* Heat
Hysterectomy for fibroids, results of (J. W. Bride), 14
Hysteria and instinct (Major V. T. Carruthers), 792. (O)

I.

Ileo-caecal valve, 553
Imitation of Christ, "Edith Cavell" edition, rev., 407
Immunity, non-specific (leading article), 228
Imperial War Museum. *See* Museum
Improving us off the earth, 104
IMRIE, C. G. (and others): Pyrexia of uncertain origin and enteric fever, 373
Income tax, 36, 71, 104, 138, 173, 242, 277, 316, 388, 409, 424, 441, 458, 479, 490, 526, 558, 624, 660, 692 726, 756 786, 808, 816, 856, 879, 885—And pensions of retired naval officers (parliamentary question), 305—Of naval officers (parliamentary question), 345—Reconstruction of (leading article), 409—Editorial article, 441—And service gratuities, 479—Parliamentary questions, 305, 345, 808, 879—Method of dealing with renewals, 885

INDIA:
Army officers in (parliamentary question), 345
Cost of increased pay, 751
Indigenous medicine, 618
Influenza, 199 618
Kashmir Medical Mission, report, 881
Leper Hospital, Kashmir State, 881
Leprosy, 484, 618, 749
Maternity and infant welfare, 483, 618
Medical conditions of service in (parliamentary question), 720
Medical inspection by women, 849
Medical institutions of Jaipur, 198
Medical research, 199
Plague in the United Provinces (1918-19), 849
Proposed all-India research institute, 344
R.A.M.C. pay in 525
Recruiting for the Indian Medical Service, 849
Small-pox in Calcutta, 618
Yellow Fever Committee, 484

Indian medical practitioners in East Africa (parliamentary question), 482, 650
Indian Medical Service. *See* Army, Indian
Indigestion, review of books on, 573
Industrial lighting (Leon Gaster), 557
Industrial research: Board of Trade issues licence to Scottish Shale Oil Scientific and Industrial Research Association, 557
Industrial schools, defective children in (parliamentary question), 269
Infant feeding, accessory food factors in, discussion on, 328
Infant welfare centres, discussion at London Association of the Medical Women's Federation, 153. *See also* Maternity
Infants' and children's homes and hospitals, Ministry of Health circular, 880
Infants, illegitimate, death rate of (parliamentary question), 378
Infectious diseases at British ports (parliamentary question), 345
Infirmaries, Poor Law, and clinical education, 92—Decision of Paddington guardians, 92, 242
Infirmaries, Poor Law, future of (parliamentary question), 414
Infirmary, Edinburgh Royal, report, 234
Infirmary, Glasgow Royal, annual report, 270
Infirmary, Glasgow Western, 58
Infirmary, Leeds General, new year's gift for nurses' pension fund, 71
Infirmary, Leicester Royal, conference on payment of visiting staffs of voluntary hospitals, 752
Infirmary, Manchester Royal: Post-graduate courses, 126—Annual report, 233
Influenza: Note on, 163, 232, 342—Leading article, 191—In India, 199, 618—Made notifiable in Vienna, 589—In St. Kilda, 654
Influenza bacillus, association of with lethargy (W. M. Crofton) 431. (O)
Influenza, chameleon, 424
Influenza, control of (Reginald Pollard), 258
Influenza deaths: Registrar-General's weekly returns, 305—In England and Wales (February-March, 1920), 423 — Parliamentary questions, 514
Influenza and epidemiology, 235
Influenza, experimental production of, 267
Influenza, inoculation against (W. H. Wynn), 254. (O)
Influenza, inoculation against (preventive), results of in the army at home, 1918-1919 (Major-General Sir William B. Leishman), 214. (O)—Correspondence on, 309
Influenza among the Lapps (A. H. Macklin), 465. (O)
Influenza, ocular conditions in, 72
Influenza prevention: Memorandum by Ministry of Health, 19, 23—Regulations for prevention of, 205, 305—Parliamentary questions, 305—Correspondence on, 886
Influenza, vaccinal prophylaxis of, 19, 23
Influenza vaccine, 271
INGLIS, Florence E.: Prevention of venereal disease, 311
INMAN, F. Wm.: Tuberculosis sanatoriums, 619
INNES, Deputy Surgeon-General Charles Alexander, obituary notice of, 524
In-patient treatment, 372. *See also* Hospitals, in-patients
Inquests in the City of London and Southwark, 451
Insanitary areas (parliamentary question), 844
Insanitary conditions at theatres. *See* Theatres
Insanity and crime (Holt case), 523
Insanity, prevention and treatment of (Sir James Crichton-Browne), 749
Insect, blood-sucking, the "froghopper" as (Lieut.-Col. C. Donovan), 220
Insomnia aggravated by noise, 424
Instinct and hysteria (Major V. T. Carruthers) 792 (O)
Institution, Liverpool Medical:—J. G. Adami: Historical sketch of the diphtheroid group, 14—Keith Monsarrat: Massive calculous deposit in the urinary channels, 14—E. E. Glynn: Spirochaetes in bronchiectasis, 14—Ovarian hypernephromas, 572 — Annual meeting, 166—R. Stenhouse Williams: Bacteriology of milk, 365—F. C. Lewis: Standardization of blood cell suspension in complement fixation tests 637
Instrument cases, historical surgical, 54
Instruments, bronze medico-chirurgical, 268
Insular orthography, 174

INSURANCE, NATIONAL:
Administration, 345
Amending Bill, 345, 450, 717
Arbitration, 378
Expenses, 482
Finance, 306, 808
Highlands and Islands Medical Services, 848
Hospitals and nursing services (Scotland), 848, 880
Medical grants under, 269
Medical remuneration (leading article), 120
Panel practitioners and vaccination, 883
Parliamentary questions, 269, 306, 345, 378 450, 482, 615, 650, 686, 717, 808
Practices, 378
Tuberculosis treatment in London, 782

Insurance against sickness, Swedish commission appointed to report on, 557
Internal secretion, organs of (W. Blair Bell), 787. (O). *See also* Function, correlation of
Internal secretion, review of book on, 189
International good fellowship, 779. *See also* Fellowship of Medicine
International Society of Surgery. *See* Society
Intestinal obstruction. *See* Obstruction
Intestine, large, atony and prolapse of (J. W. Smith), 243. (O)
Intestinal obstruction, acute, due to pregnancy in a bicornuate uterus (C. E. S. Jackson), 185. (O)
Intraspinal pressure in acute disease, 311
Intravenous injections, physiological action of, 375
Intravenous protein therapy. *See* Protein
Intussusception of appendix (Archibald Young), 365
Invalid chairs (motor driven), taxation of (parliamentary question), 346
Invalids, opportunity for, 786

Ireland:
Belfast: Tuberculosis sanatorium, objections to proposed site, 617—Purchase of Craigavon refused, 783—Graymount Hospital, Sir H. Gauvain's report, 655, 688
Byers, Sir John, dinner to, 167
Coates, S. P., presentation to, 848
Doctors' threatened strike, 167
Dublin, postal arrangements in, 234
Influenza vaccine, 271
Irish General Nursing Council, 271
Irish Public Health Council, 197
Medical attendance on the Royal Irish Constabulary, 234
Medical fees for public work (Limerick), 655
National University of Ireland, roll of honour, 234
Royal Academy of Medicine, 519
Salaries of Poor Law medical officers, 234, 519
Sanatorium at Craigavon, Belfast, proposed 783
Spelman, the late Dr. A. P., 721
State medical service, the proposed, 197—Meeting in Belfast 197
Taylor, James, presentation to, 849
Ulster Medical Society, 197, 379, 618, 688, 783—Examination in ophthalmology, 198
Wexford county practitioners, meeting o , 783

Irish General Nursing Council, 271. *See also* Nursing
Irish motor deadlock, 132
Irish Public Health Council, 197, 870—Report (Thomas Hennessy), 870
IRVING, Captain G: Sublimed sulphur in mercurialism, 149
Ischaemic contracture of forearm (Archibald Young), 636
Italy, statistics of the deaths and wounded in the navy during the war, 313—Activities of Italian section of "Pneumothorax artificialis" to be resumed, 472—Statistics of war deaths in the sanitary service, 543

J.

JACKSON, C. E. S: Acute intestinal obstruction due to pregnancy in a bicornuate uterus, 185. (O)
JACKSON, F. S.: Erysipelas, 278
JACKSON, Thomas, obituary notice of, 690
Jaipur, medical institutions of, 198
Jamaica as a holiday resort, 590
JAMES, Major Gwilym Gregory, obituary notice of, 690
JAMESON, Sir Leander Starr, his body removed to Africa, 779
JANET, Pierre: Psychology and mental pathology, 774, 805
JARDINE, Robert (and A. M. KENNEDY): Puerperal suppression of urine, 767
Java, plague in, 589, 771
Jejuno-colic fistula following gastro jejunostomy (Charles Bolton and Wilfred Trotter), 757. (O)
Jejuno-ileum, volvulus of the whole (B. P. Sabawala), 221
Jenner Society, 842
JEX-BLAKE, A. J.: Bronchiectasis, 591. (O)
Joel chair of physics, 194
Johannesburg Medical Advisory Committee presents a report on the organization of the medical school, 153
Johns Hopkins Hospital, first superintendent of, 232
JOHNSON, Claude, obituary notice of, 853
JOHNSON, Reginald: Combined use of novarsenobillon and mercury intravenously, 436—Early diagnosis of syphilis, 620
JONA, J. Leon: Prevention of influenza, 886
JONES, D. W. Carmalt: Hypothesis as to the organic basis of functional nervous disease, 231
JONES, E. Gabriel: *Chemistry for Public Health Students*, rev., 543
JONES, E. H.: *The Road to Endor*, rev., 542
JONES, Sir Robert: Flail joints and their treatment, 175. (O)
JONES, W. Black: Analysis of 100 consecutive cases of cardiac disease, 145. (O)
JONES, Wood: Voluntary movements in nerve lesions, 684
Journal of Neurology and Psychopathology, rev., 870
JUDD, W. Rossell: Hay fever, 490
Jugs, good and bad, 490

K.

Kantara, camp conditions (parliamentary question), 879
Kashmir, State leper hospital, 881—Medical mission (report), 881
KAYSERLING proposes a tuberculosis law for Germany, 315
KEANE, A. H.: *Man, Past and Present*, rev., 330
KEATS, John, his house at Hampstead for sale, 526—Memorial fund, 614
KEEPER, Frank R.: *Textbook of Elementary Military Hygiene and Sanitation*, rev., 88
KEEGAN, Colonel Denis Francis, obituary notice of, 386
KEELING, G. S.: End of the war, 383
KEITH, Arthur: *Engines of the Human Body*, rev., 638
KEITH, Brigade Surgeon Lieut.-Colonel Joseph Forbes, obituary notice of, 556
KELLY, Surgeon Lieutenant Peter Burrowes, obituary notice of, 557, 724
KENEALY, Arabella: *Feminism and Sex Extinction*, rev., 676
KENNEDY, A. M. (and Robert JARDINE): Puerperal suppression of urine, 767
KENNEDY, C. M.: Strangulated umbilical hernia, 468 (O)—Lessons of the war in treatment of civil fractures of the skull, 630 (O)
Kent, hospital question in, 379
KEOGH, Sir Alfred: A warning, 624
KHOURI, Joseph: *Essai d'Urologie Pathologique des Pays Chauds*, rev., 639
KIDD, H. Cameron: Acute pulmonary oedema, 490
KIDD, Leonard J.: Treatment of psoriasis, 756
Kidney, horseshoe, two cases of (J. Mill Renton), 601
Kidney, metastatic staphylococcal infection of (Captain H. R. Souper), 288 (O)
Kidney, retrograde absorption by, 878
KING, Colonel W. G.: Awards for medical discovery, 519—Small-pox, its types and prevention, 778
KING, W. W.: Spindle-celled sarcoma, 224—Diagnosis of gonorrhoea in the female, 364
King's Fund. *See* Fund
King's speech, 232
KINGZETT, C. T.: *Popular Chemical Dictionary*, rev., 226
KIRKPATRICK, T. Percy C.: *Henry Quin, M.D.*, rev., 407
KNAUER: Intracarotid salvarsan injections, 162
Knee joint, arthroplasty of, 768
Knee-joint effusion due to congenital syphilis (Walter W. Galbraith) 636
KNIGHT, E.: Sterility, 274
KNIGHT, Edith G. (and others): Production of clean milk, 876
KNOX, Robert: *Radiography in the Examination of the Liver, Gall Bladder, and Bile Ducts*, rev., 405
KOLL, Irvin S.: *Diseases of the Male Urethra*, rev., 406
KOOY: Hyperglycaemia in mental disorders, 193
KÖRBL: Manicure infection, 376
KYNASTON, Lieut.-Col. John: Treatment of adenoids, 238

L.

LABBÉ, Marcel, nominated Professor of Pathology and Therapeutics in Paris Faculty of Medicine, 315
Laboratories, local clinical, 59
Laboratory, Welsh mobile, 27
Labour, delayed, significance of the "contraction ring" in (C. D. Lochrane), 11. (O)—Correspondence on, 61
Labour, review of books on, 606
Labour, hours of, 446
Labour market, heart affections in relation to (R. O. Moon), 628. (O)
Labour Ministry, statistics on the cost of living, 443
Labyrinthine reactions of experienced aviators (David Ranken), 860. (O)
LADELL, R. G. M.: Forgetting, psychological repression, 169
LAIGNEL-LAVASTINE, M.: *The Internal Secretions and the Nervous System*, rev., 189
Lambs, dysentery in, isolation of an organism causing, 776
Lamp, a head, 472
LANCISI, Giovanni Maria, celebration of second centenary of, 305
LANE, Sir W. Arbuthnot: Prevention of venereal disease, 623
LANG, W. D. Handbook of British mosquitos, rev., 737
Lapps, influenza among (A. H. Macklin), 465. (O)
LARKIN, F. C., presentation to, 752
LARKING, A. E., presentation to, 95
Larynx, malignant disease of (W. S. Syme), 365
LASSABLIÈRE, P.: *Le Lait Condensé*, rev., 88
LAUMONIER: Physiological action of intravenous injections, 375
LAURENS, Georges: *Oto-Rhino-Laryngology*, rev., 830
LAURIE, R. Douglas: Caesarean section for placenta praevia with concealed haemorrhage, 220
LAW, W. F: Treatment of malaria, 272
LAWRIE, W. Duncan: "Acute suffocative catarrh," 115
LAYTON, Frank G.: "Vagasthenia," 813
LEADER, Charles Robert, obituary notice of, 70

Leading Articles:
Abortifacients, sale and advertisement of, 192
Antianaphylaxis in treatment of chronic disorders, 839
Army Medical Service in the war, 840
Association of Surgeons of Great Britain and Ireland, 90
Budget, 577, 610
Birth rate, declining, 611
Cancer, experimental induction of, 680
Clinical research, 119
Consultative Council, report of, 746
Dangerous Drugs Bill, 714
Deficiency diseases in Vienna, 477
Diverticulitis, chronic, 119
Dogs' Protection Bill, 301
Eclampsia, nature of, 479
Encephalitis, epidemic, types and treatment of, 578
Endocrinology as an exact science, 644
Food supply of Germany, 301
Galton chair of National Eugenics, 803
Helminths in cancer, 777
Hospital survey, 713
Hospital system, remoulding the, 160
Immunity, non-specific, 228
Income tax, reconstruction of, 409
Influenza, 191
In-patient treatment, organization of, 372
Insurance medical remuneration, 120
League of Red Cross Societies. *See* Red Cross
Lethargic encephalitis, diagnosis of, 409
Lobar pneumonia, etiology of, 875
London's opportunity, 50
Malaria, treatment of, 875
Mechanism of symptoms, 547
Medical Research Council, 510
Medicine in the House of Lords, 21
Military service and medical graduation, 445
Miners' nystagmus, 227
Opium question and the peace treaty, 339
Organization of in-patient treatment, 372
Osler, William, 21
Parliamentary session, 22
Paternalism or *laissez faire?* 52
Penetrating wounds of the chest, 91

Leading Articles (*continued*):
Physical education, 338
Physique of British manhood, 339
"Pities of old surgeons," 265
Preventive medicine, teaching and research, 159
Psycho-neuroses, 408
Pyrexia of uncertain origin and enteric fever, 373
Radium therapy, 644
Red Cross Societies, League of, 547
Rockefeller Foundation gifts, 838
St. Andrews Institute for Clinical Research, 115
Salvarsan, composition of, 804
Security of tenure for health officers, 803
Small-pox, its types and prevention, 778
Skiagraphy of solid viscera, 511
Stomach, volvulus of, 548
Symptoms, mechanism of, 547
Toxic effects of arsenobenzol preparations, 51
Toxins and antitoxins, 266
Tuberculosis, epidemiology of, 444, 478
Tumours complicating pregnancy, 373
Venereal clinic, needs of the, 92
Venereal disease in the Portsmouth area, 680
Volvulus of the stomach, 548

League of Red Cross Societies. *See* Red Cross
LEATHART, Percival W.: Chronic infection of the faucial and post-nasal lymphoid tissue in children, 217. (O)
LEATHES, J. B.: Renal function in nephritis, 403
LECLERC, H.: Cress consumption causing dysuria, vesical spasm, etc., 637
Lecture, Lady Priestley Memorial: Public opinion and preventive medicine (Sir George Newman), 646
Lecture, Schorstein: Diagnosis of disease of the pancreas (Sir A. E. Garrod), 459 (O)
Lectures, Lettsomian: Tumours complicating pregnancy, labour, and the puerperium (Herbert R. Spencer), 179, 246, 320. (O)—Note on, 205—Leading article on, 373—Correspondence on, 416, 452
Lectures, Mackenzie Davidson Memorial, 581
Lectures, Maudsley: Prevention and treatment of insanity (Sir James Crichton-Browne), 749
L'Encéphale and *L'Informateur des aliénistes et des neurologistes* resume publication, 457
Legumes in beri-beri. *See* Beri-beri
Leicester: Public medical service, 415—Post-graduate course, 518—University college for, 715
LEISHMAN, Major-General Sir William B.: Results of protective inoculation against influenza in the army at home, 1918-1919, 214. (O)
LEITCH, Archibald: Treatment of uterine cancer, 416, 522, 585
LEITH, W. Compton: *Domus Doloris*, rev., 639
Lemon juice tablets, antiscorbutic, 624
Leprosy conference in India, 484, 618, 749
Leprosy statistics (F. L. Hoffman), 855
LESBRE, Dr., elected correspondent of the Académie de Médecine, 221
Lethargy, association of with the influenza bacillus (W. M. Crofton), 431. (O)
Letters of a Widowed Physician to his Daughter, rev., 331
Leucocytes, polymorphonuclear, origin of, 93
Leukaemia, acute, 231
LEWIN, Octavia: Nasal hygiene or nasal drill, 487
LEWIS, F. C.: Standardization of blood-cell suspension in complement fixation tests, 637—(and J. Martin BEATTIE) Sterilization of milk by electricity, 682
LEWIS, Thomas: *Mechanism and Graphic Registration of the Heart Beat*, 622
LEY, Gordon: Utero-placental apoplexy (accidental haemorrhage), 437
"Liberton," 810
Licences, establishment, 590
Liebig museum opened at Giessen, 557
Life, span of, 138
LIGNIÈRES, Dr., elected a corresponding member of the Académie de Médecine, 221
Liguria Medica, reappearance of, 725
LINDBOM, O.: Acute leukaemia, 231
Lip reading, 103
Liquor control, annual report of the Carlisle experiment, 653
Liquor prescriptions in Ontario, 725
Lister Institute, report of governing body, 709
Lister memorial institute in Edinburgh, proposed, 95
LISTER, T. D.: Address on the Assurance Medical Society, 366
LITTLEJOHN, Arthur Rieussett, obituary notice of, 69
LITTLE, Muirhead: Artificial appliance for amputation below the ankle, 590
Liver, acute yellow atrophy of (Major E. C. Whitehead), 400
Liverpool: Women students' dinner, 198—Health of, 379
Living, cost of, 443
LLOYD, G. W. (and Col. Ransom PICKARD) Early signs of scurvy, 329
LLOYD, I. H.: Case of facial trophoneurosis with deformity of hand, 735

Local Government Board. *See* Board
Local War Pensions Committees' Handbook, 587
LOCHRANE, C. D.: Significance of the position of a "contraction ring," 11. (O)
LOCKHART-MUMMERY, J. P.: Diverticulitis, 115—Operative treatment of ulcerative colitis, 497. (O)
LOCKYER, Cuthbert (and Thomas Watts EDEN): *Gynaecology for Students and Practitioners*, rev., 770
Loewi's adrenalin mydriasis as a sign of pancreatic insufficiency (W. L. Cockcroft), 669. (O)
LOGIE, James Scarth Spence, 100th birthday of, 691, 717

LONDON:
Association of Medical Women's Federation. *See* Association
Baths of old London, 807
County Council. *See* Council
Diphtheria and scarlet fever in, 27
District discharge centre, 518
District nursing in, 307, 348
Health services and hospitals in, 752
Inquests in, 451
Maternity and child welfare arrangements in, 687
Mental hospitals. *See* Hospitals
Post-graduate teaching in. *See* Post-graduate
Radium Institute report, 640, 644
School of Tropical Medicine. *See* Tropical
Small-pox in, 660
Small-pox in East London (parliamentary question), 378
University quarter for, 780
Venereal clinics in (parliamentary question), 414

LONDON, Bishop of (and others): Polish Red Cross Society of Great Britain, 884
London Insurance Committee's report on sanatorium benefit, 782
London's opportunity (leading article), 50
Longevity, weight, and height (Lewis P. Orr), 678
Loss of both legs (parliamentary question), 450
LOW, Barbara: *Psycho analysis*, rev., 640.
Low, George C.: Some unusual forms of dysentery, 255. (O)
LUCAS, A.: *Legal Chemistry and Scientific Criminal Investigation*, rev., 607
LUMB, Major N. P. L.: *The Urethroscope in the Diagnosis and Treatment of Urethritis: a Contribution to Urethroscopy*, rev., 48—A urethroscopic tube, 771
LUMSDEN, Thomas: Forgetting psychological repression, 131, 201
Lunacy Act, liability under (Everett *v.* Griffiths and Anklesaria), 522
Lunacy statistics (parliamentary question), 345
Lungs, acute oedema of (Stewart McNaughton, 293—(Herbert H. Brown), 435—(Cecil Musgrave), 468—(H. Cameron Kidd), 490—(Kenneth Anderson), 571—(William S. Scott), 571
Luxembourg, number of doctors, dentists, etc., in, 670
LUYS, Georges: *Textbook on Gonorrhoea and its Complications*, rev., 441—*Treatise on Cystoscopy and Urethroscopy*, rev., 541
Lymph, Government (parliamentary question), 378
Lymphocyte, biology of, 123
LYSTER, Cecil Rupert Chaworth, obituary notice of, 172

M.

MACALISTER, Alexander, estate of, 457
MACALISTER, Sir John, complimentary dinner to, 447—Presentation to, 885
MCBRIDE, P.: Adenoids, nasal catarrh, and influenza, 349
MACCABE, Lieut.-Col. Frederick F.: The span of life, 138
MCCARDIE, Mr. Justice: His remarks on professional secrecy, 102, 135
MCCARRISON, Lieut.-Col. Robert: Effects of deficient dietaries on monkeys, 249. (O)—Deficiency disease, with special reference to gastro-intestinal disorders, 822. (O)
MCCRAE, Sir George: *Summary of the Report by the Committee on Housing in Scotland*, 95
MCCUBBIN, Thomas, obituary notice of, 313
MCCURRICH, H. J.: Case of malignant pustule in which the incubation period was known, 828
MACDONALD, D. M.: Treatment of profuse sweating in axillae, 242
MACDONALD, J. F., called to the bar, 659
MCFARLAND, Joseph (and John B. DEAVER): *The Breast, its Diseases and their Treatment*, rev., 675
MACGIBBON, T. A.: Treatment of the running ear, 294
Machinery of the Association. *See* Association
MACILRAITH, W. M.: New lamps for old in obstetrics, 278
MACILWAINE, J. E.: Association of aortic endocartitis and aortitis, 428. (O)—Aortitis and aortic regurgitation, 656, 754
MCINTOSH, James, appointed to University chair of pathology at Middlesex Hospital Medical School, 315
MCINTOSH, Captain John N.: Heat hyperpyrexia, 795
MACKENNA, Robert William, appointed honorary dermatologist to Royal Infirmary, Liverpool, 173
MACKENZIE, J.: Medical literature for Vienna, 484—Future provision of medical services, 783
MACKENZIE, Sir James: Clinical research, 105. (O)—The soldier's heart and war neurosis, 491, 530. (O)
MACKENZIE, John W.: Ticks and relapsing fever, 200
MACKIE, Major F. P.: Treatment of relapsing fever, 380
MACKINNON, Grace: Idiosyncrasy to quinine, 258
Mackintosh. *See* Waterproofing
MACKINTOSH, Ashley W.: Appreciation of Sir W. Osler, 67
MACKLIN, A. H.: Influenza among the Lapps, 465. (O)
MACKWOOD, J. Charsley: Prevention of venereal disease, 130
MACLEAN, Inspector-General George, obituary notice of, 855
MACLEOD, Donald M.: Hour-glass stomach, gastric and pyloric ulcers, 115—Obstruction due to adhesions of the pelvic colon, 867
MACMILLAN, Margaret: *The Nursery School*, rev., 367
MCNABB, Surgeon Rear-Admiral Sir Daniel J. P., appointed naval member of Medical Consultative Board to Admiralty, 884
MCNAUGHTON, Stewart: Acute oedema of lungs, 293
MACNEECE, Major-General James Gaussen, obituary notice of, 70
MCOSCAR, J.: Our opportunity, 520
MACPHAIL, James M.: *Eyes Right*, rev., 441
MCVAIL, John O.: *Half a Century of Small-pox and Vaccination*, rev., 605
MCWALTER, J. C.: Prevention of venereal disease, 273—Syphilis insontium, 827. (O)
MADDEN, Frank Cole: *The Surgery of Egypt*, rev., 405
Madrid. *See* Spain
MAGIAN, A. C.: A disclaimer, 138—*Practitioner's Manual of Venereal Diseases*, rev., 331
Magic and medicine, 612
MAKINS, Sir George: Dinner to, 232, 684—Memorial to officers and men of the R.A.M.C. who fell in the war, 307—Becomes President of the Fellowship of Medicine, 377
Malaria, haematozoon of first verified in America by Osler, 525
Malaria in Scotland, 654
Malaria, subtertian, eusol in, 303
Malaria, treatment of, 199, 235, 272, 381, 453, 872—(W. S. Dawson), 600. (O)—Volume edited for War Office by Sir Ronald Ross, with reports by many officers, 872—Leading article on the volume, 875
Malaria treatment, Charles Dickens on, 756
Malaria in Uganda, routine treatment of (J. A. Taylor), 113. (O)
Malay States gold medal, 133
MALCOLM, E.: Sanatorium hospital for the well-to-do, 883
MALCOLM, John D.: Appendicitis without protective stiffening of the abdominal wall, 432. (O)
Male population, physical census of, report on, 331—Leading article on, 339
MALING, Edwin Allan, obituary notice of, 588
Malta, nurses in (parliamentary question), 551
Man, toxicological investigation of acute alcoholism in, 411
Man, white, in West Africa, 411
Manchester: Black smoke tax in, 721—Radium Institute report, 745—College of Technology publishes pamphlet on economic questions of the day, 815
Mandible, ankylosis of, and its operative treatment (Gilbert Chubb), 256. (O)
Mange, psoroptic. *See* Psoroptic
Manicure infection, 376
MANSON-BAHR, Philip: Commoner complications of bacillary dysentery in military practice, 791. (O)
MARSH, Lieut.-Col. O. E. Bulwer, appointed J.P. for county of Monmouth, 525
MARSHALL, C. F.: Early diagnosis of syphilis, 486, 688
MARSHALL, Claude H.: Salvarsanized serum in sleeping sickness, 702. (O)
MARSHALL, F. H. A., elected Fellow of the Royal Society, 344
MARTIN, C. J. (and P. HARTLEY): Diphtheria bacilli in the throat, 796
MARTIN, T. Muirhead: *Pocket Notes on Nerves*, rev., 118
MARVEL, Emery, obituary notice of, 240
Mary Louisa Prentice Montgomery lectureship in ophthalmology, 241
Mary Putnam Jacobi Fellowship, 173, 205
MASON, Captain W. F.: Rupture of membranes not followed by natural evacuation of the uterus, 258
"Mass reflex," 104
Massage, cardiac, in asphyxia neonatorum (E. Ward), 257
Massage establishments (parliamentary question), 650
Masseurs, blind, 232, 624
Masseuses, army (parliamentary question), 306
Maternity benefit for suckling mothers in France, 12
Maternity and child welfare centres in England and Wales, number of, 379—Booklet issued by Ministry of Health, 379—In London, 687
Maternity and infant welfare in India, 483, 618
Maternity homes and hospitals, memorandum by Ministry of Health, 299, 847—Parliamentary questions, 305. *See also* Infant welfare
MATTHEW, D.: Forgetting, psychological repression, 201
MATTHEWS, J. S.: Treatment of psoroptic mange, 856
Maudsley lectures. *See* Lectures
Mauritius, epidemic diseases in, 298, 383
MAYOR, O. H.: Mode of quinine administration, 28
MAW, Henry T.: Anthrax infection by brushes, 25, 53
MAY, Otto: Prevention of venereal disease, 99
MAYER Leo: *Orthopaedic Treatment of Gunshot Injuries*, rev., 707
MAYLARD, A. Ernest: Partial pyloric obstruction, 626. (O)
MAYNARD, Lieut.-Colonel F. P.: Ophthalmic operations, 660
MAYO-ROBSON, Sir Arthur, elected honorary member of Royal Medical Society of Ghent, 241
MEAKINS, Jonathan C.: Therapeutic value of oxygen in pulmonary lesions, 324. (O)
MEARS, F. C.: New lamps for old in obstetrics, 128
Measles notification, a plea for, 278
Measles, public health administration in epidemics of (John Brownlee), 534. (O)
Mechanism of symptoms. *See* Symptoms
Mechano-therapy (Hedda Alstrom), 366
Medical ambassadors to the United States, 410
Medical Annual, 1920, rev., 738
Medical appeal boards for officers, 136
Medical appointments, whole-time, under the Worcestershire County Council, 654
Medical aspects of divorce laws. *See* Divorce
Medical assessors (parliamentary question), 583
Medical attendance on the Royal Irish Constabulary, 234
Medical barristers, 659
Medical bill (South Australia), 27
Medical boards, remuneration of (parliamentary question), 450. *See also* Pensions Ministry
Medical conditions of service in India (parliamentary question), 720
Medical Consultative Council. *See* Health Ministry
Medical Defence Union: Marks of appreciation, 35—The circumlocution office to day, 513—Special general meeting, 771
Medical Directory, accidental omission of a name from current issue, 242
Medical discovery, rewards for, 26—Correspondence on, 486, 519
Mental disease, incipient, treatment of, report of Medico-Psychological Association, 515
Medical education in America, mission from France and Great Britain to visit America to study system of, 525
Medical endowments in America, 342, 346. *See also* Scientific investigation
Medical examination for Government employment (parliamentary question), 583
Medical fees. *See* Fees
Medical grants under the Insurance Act (parliamentary question), 269. *See also* Insurance
Medical and surgical history of the war, Surgeon-General of United States Army asks for grant for the publication of, 623
Medical inspection of schools. *See* School
Medical inspection by women (India), 849
Medical institutions of Jaipur, 198
Medical Insurance Agency, 842
Medical investigation, the aeroplane in. *See* Aeroplane
Medical journals of Scandinavia, 55
Medical literature for Vienna, 484, 516
Medical magistrates, 35, 525, 557, 589, 785, 885
Medical members of Parliament, 27
Medical men and motor tax. *See* Motors
Medical mission reports (South Travancore), 822—(Kashmir), 881
Medical missions (Russell Wells), 623
Medical Museums Association, American and Canadian Section, annual meeting, 786
Medical officers, advertisements for (Colchester), 809
Medical officers of health, security of tenure of (leading article), 803
Medical officers of local authorities, salaries of, 230
Medical officers in Mesopotamia (parliamentary question), 450
Medical profession, opportunity of. *See* "Our opportunity"
Medical professional privilege, 135. *See also* Professional secrecy
Medical psychology. *See* Psychology

Medical radiology, diploma in, 55
Medical Register, 514, 786, 841—Registrable foreign degrees, 786—Change of address, 841
Medical research in India, 199

MEDICAL RESEARCH COMMITTEE:
Report to on the toxic effects of arsenobenzol preparations (Surgeon Lieutenant Commanders R. J. G. Parnell and P. Fildes), 51
Report on penetrating wounds of the chest, 91
Report to on probable proportion of enteric infections among undiagnosed febrile cases invalided from the Western Front since October, 1916 (W. W. C Topley, S. G. Plates, and C. G. Imrie), 372
Report to on the epidemiology of phthisis (John Brownlee), 444, 478
Expenditure of (parliamentary question), 482

MEDICAL RESEARCH COUNCIL, 447, 504
Provisions of the charter, 504
Constitution of, 504
Powers, 504
Leading article on, 510
Arranges to maintain a national collection of type cultures, 682
Sterilization of milk by electricity (J. Martin Beattie and F. C. Lewis), 682

Medical schools of America 481
Medical schools, clinical units in, 775
Medical Science: Abstracts and Reviews, rev., 88, 262, 331 503
Medical service pay (parliamentary question), 720
Medical services, future provision of, report of Medical Consultative Council for England, 739—Report of Welsh Consultative Council, 781—Lord Dawson on the report, 800—In Wales, 809—Correspondence on, 783, 812, 850, 882—The primary centres, 783—Provision of private wards in health centres, 783—Position of general practitioners, 784—Medicine and the State, 882
Medical services. *See also* Health services
Medical sickness assurance, 94
Medical societies. *See* Societies
Medical students, number of, 102—In the United States, 481—Proposal that first-year students should study nursing and dietetics, 525—Demobilization of (parliamentary question), 720
Medical Students' Register, 581

MEDICAL AND SURGICAL APPLIANCES AND PREPARATIONS:
Amibiasine, 190
Anti-vermin paste, 472
Head lamp, 472
Nujol, 709
Petroleum jellies, 190
Sedimentary cell for microscopical examination of cerebro-spinal and other fluids, 708
Tonsil bayonet, 472
Urethroscopic tube, 771

Medical terms in the *New English Dictionary*, 683
Medical treatment for fee paying pupils in London County Council secondary schools, 387
Medical women's dinner, 4 5
Medicine in Bolshevist Russia, 54
Medicine and the Government, 52, 56
Medicine in the House of Lords (leading article), 21
Medicine, indigenous (India), 618
Medicine and medical appliances not to be sold by unlicensed persons at Athens (New York) without a permit, 725
Medicine, review of books on, 502
Medicine and the State (Lord Dawson), 743

Medico-Legal:
Abortionist sentenced (Devi Dayal Sasun), 589 754
Drugless healer sentenced (Arthur Barker), 314
Drunkenness in murder case: House of Lords delivers judgement in the Beard case, 383
"Herbal specialist" (Charles C. Abbott, 659
Insanity and crime, 523
Liability under the Lunacy Act, 522
Medical professional privilege, 102, 135
Panel practitioner's action for slander, 454
Professional secrecy, 102, 135
Unqualified treatment of venereal disease, 63, 384
Venereal "professor" sentenced (A. S. Eastburn), 384

Melancholia, senile, 104
MELLANBY, E.: Alcohol as a food, 295—Accessory food factors in infant feeding, 328
MELLOR, J. E. M.: Treatment of psoroptic mange (*Psoroptes communis*, var. *cuniculi*), 316
Membranes, rupture of, not followed by natural evacuation of the uterus (Captain W. F. Mason), 258
Memorial to men who fell in the war. *See* British
Meninges, permeability of to arsenic, 785
Meningitis treated by intrathecal injections of the patient's blood (Rupert Waterhouse), 45. (O)
Meningitis, tuberculous, case of, with complete recovery (Hugh Barber), 601 (O)
Mental cases, early care of in South Wales, 348
Mental cases, uncertifiable, sanatoriums for (parliamentary question), 414—Hospitals for (parliamentary question), 649
Mental deficients, institutions for, 126
Mental disease and spiritualism, 660
Mental disorders, hyperglycaemia in, 193
Mental disorders, physical basis of, 415, 452. *See also* Nervous disorders
Mental disorders, treatment of, 741, 851
Mental hospitals *See* Hospitals
Mental treatment, early, and the rights of the subject, 689
Mentally defective, Birmingham scheme for (W. A. Potts), 472—Correspondence on, 554
Mentally defective, list of schools and institutions for, 809
Merchant seamen, proposed sanatorium for, 229
MERCIER, Charles, note on, 342
Mercurialism, sublimed sulphur in (Captain G. Irving), 149
Mercury and novarsenobillon, combined use of intravenously (Reginald Johnson), 436
Mesopotamia: Territorial and Special Reserve Officers R.A.M.C. in (parliamentary question), 345—Medical officers in (parliamentary question), 450—Sandfly fever in, 620
Metabolism, human, recent work on, 877
Mexican Board of Health quarantines all ships from Havana where there is an epidemic of meningitis, 755
MICHELIN brothers, note on, 458
Middle-ear. *See* Ear
MIDDLETON, A. G.: Forgetting, psychological repression, 274
MIDDLETON, James, presentation to, 103; obituary notice of, 884
MIDDLETON, W. J.: Value of counter-irritation, 856
Midwives (parliamentary question), 649
Midwives Board. *See* Board
MILES, W. Ernest: Diverticulitis, 115
Military medicine at the Imperial War Museum, 841
Military medical services in 1919, 134—Deaths, 134—Honours. 134—Recruiting for the R.A.M.C. and I.M.S., 134 *See also* Army, British
Military service civil liabilities claims, time extended (parliamentary question), 269
Military service and medical graduation (leading article), 445
Military service, compulsory, in Prussia, abolition of 289
Milk adulteration (parliamentary question), 583
Milk, bacteriology of (R. Stenhouse Williams), 365
Milk for children and mothers, 124
Milk, clean, production of, report on, 876
Milk, condensed, inter-departmental committee appointed to determine standard composition of, 423
Milk from Denmark (parliamentary question), 844
Milk, dried, and vitamines, 580
Milk, sweetened condensed (parliamentary question) 482, 720, 751
Milk and dairies legislation (parliamentary question), 269, 686
Milk, pure and clean, 336
Milk sterilized by electricity, 682, 722
MILLARD, C. Killick: Vaccinal conditions of small-pox carriers, 851
MILLS, Lieut.-Col. B. L.: The Tagliacotian doctrine, 174
MILNE, Robert, presentation to, 205
MILNE, Thomas, obituary notice of, 488
Mineral water resorts, foreign, 545
Miners, eyesight of. *See* Eyesight
Miners' nystagmus. *See* Nystagmus
Mines, illumination in, discussion on, 327
MITCHELL, C. A.: Finger-prints on documents, persistence of, 387
MITCHELL, Chalmers, to accompany aërial expedition from Cairo to the Cape, 230
MITCHELL, Captain George Alan, obituary notice of, 71
Mitral stenosis in soldiers (A. G. Auld), 13
MOCK, Harry E.: *Industrial Medicine and Surgery*, rev., 502
MOFFAT, R. U.: Mode of quinine administration, 60
MOFFET, Lieut.-Colonel Grenville Edwin, obituary notice of, 70
Mole, hydatidiform (F. J. Browne), 152
Monaco, congresses in, 283
Monkeys, effects of deficient dietaries on (Lieut.-Col. Robert McCarrison), 249. (O)
Monotypical serum in cerebro-spinal fever (W. T. Munro), 430. (O)
MONSARRAT, K. W.: Some clinical types of abdominal tuberculosis, 5. (O)—Massive calculous deposit in the urinary channels, 14
MOON, R. O.: Heart affections in relation to the labour market, 628. (O)
MOOR, Captain C. G.: Antivermin paste, 472
MOORE, Helen, obituary notice of, 276
MOORE, Sir John W.: Appreciation of Sir W. Osler, 68
MORANT, Sir Robert, obituary notice of, 419. 455
MORCOM-HARNEIS, T. W., presentation to, 518
MORELLI, Enrico, death of, 589
MORISON, Rutherford: Diverticulitis, 85—abdominal emergencies, 425. (O)
MORLEY, John: Duodenal ulcer and the hypertonic stomach, 655
Morphine acreage under cultivation (parliamentary question), 751
Morphine factories in Great Britain (parliamentary question), 720
Morphine, morphine salts and opium (parliamentary question), 345
MORRISON, G. E. (of Peking), obituary notice of, 781
MORRISON, Major J. T (and Colonel Seymour BARLING), *Manual of War Surgery* rev., 469
MORTON, John, obituary notice of, 523
Mosquitos, review of book on, 737
Mothercraft, rev., 368
MOTHERSOLE, R. D: Apparent spontaneous rupture of a normal spleen, 63
Motor accessories, 526
Motor ambulance. *See* Ambulance
Motor car of a doctor, obstruction of, 783
Motor cars, rise in price of Austin cars, 557—Establishment licences, 590
Motor deadlock, the Irish, 132
Motor notes for medical men (H. Massac Buist), 517, 543, 574—Taxation of cars, 555, 574, 648, 660 685, 808—Recommendations of Departmental Committee, 575 — Parliamentary questions, 808
Motors, water charges for car washing, 195, —Taxation of, 555, 574, 648, 660, 685, 686, 808, 844—Parliamentary question on taxation of, 685, 686, 808 844
MOTT, Clarence: Intratracheal chloroform, 13
MOTT, Sir Frederick W.: Early symptoms and diagnosis of diseases of the spinal cord, 857. (O)
MUIR, Robert: Appreciation of Alexander Ferguson, 621
MÜLLER: Origin of gastric pain, 162
MUMMERY, J. Howard: *The Microscopic Anatomy of the Teeth*, rev., 406
MUNRO, W. T.: Treatment of cerebro spinal fever by monotypical serum. 430 (O)
MURRAY, George R.: Appreciation of Sir W. Osler, 66—Life-history of the first case of myxoedema treated by thyroid extract, 359. (O)
MURRAY, Colonel Robert Davidson, obituary notice of, 204
MURRAY, W. A: Treatment of malaria, 235
Muscular work, physiological cost of (A. D Waller), 537. (O)
Museum. Imperial War: Naval medicine at, 807—Military medicine at, 841
MUSGRAVE, Cecil: Acute oedema of lungs, 468
Muzzling Order (parliamentary question), 414
MYERS, J. E. (and J. B. FIRTH): *Elementary Practical Chemistry*, rev., 190
MYLES, Wilfrid Leech, obituary notice of, 239
Mydriasis, Loewi's adrenalin, as a sign of pancreatic insufficiency (W. L. Cockcroft), 669. (O)
Myoclonic form of epidemic encephalitis (Piero Boveri), 570. (O)—*See also* Encephalitis
Myxoedema treated by thyroid extract, life-history of the first case of (George R. Murray), 359. (O)

N.

Nails, ringworm of, simple treatment of (Robert Craik), 185
Naples, physiological study at the Zoological Station, 241, 268
Narcotic addiction, review of books on, 573
Nasal drill in treatment of adenoids (Gertrude H. Hickling), 147. (O). *See also* Adenoids
Nasal hygiene or nasal drill, 487
National Health Week, 557
National Service Medical Board (parliamentary question), 378
National Union of Manufacturers (Incorporated), Descriptive and Classified Directory of Members, rev., 49
Naval Medical Memorial Fund *See* Fund
Naval medicine at the Imperial War Museum, 807
Naval officers, retired, pensions and income tax (parliamentary question), 305, 378
Navy, Royal, Medical Service of: Note on, 304—Promotions (parliamentary question), 345, 615—Income tax (parliamentary question), 345—Medical club dinner, 814—Retired surgeon commanders (parliamentary question), 378—Senior surgeon commanders R.N., 454—Surgeon rear-admirals, 615—Work of in the war, review of book on, 637—Sick berth ratings (parliamentary question), 650—Physical therapy in (Surgeon Commander A. K Smith-Shand) ,683—Prize money not applicable to hospital ships (parliamentary question), 686—Establishments and services (parliamentary question), 719
Needle in alimentary canal (Heywood Smith), 81—W. M. Feldman), 206. *See also* Alimentary canal

Needle for artificial pneumothorax, a new (Frederic C. Coley), 432. (O)
Needle, Roman netting, for winding a surgical thread, 458
Neo-natal death rate in Edinburgh, 270
Neoplasms, *x*-ray treatment of (G. E. Villandré), 215. (O)
Nephritis, abdominal haemorrhage, death (James E. Blomfield), 400
Nephritis, blood transfusion in (Jeffrey Ramsay), 766 (O)
Nephritis, chronic, prognosis and treatment of (J. O. Symes), 494. (O)
Nephritis, renal function in (J. B Leathes), 403
Nephritis, review of book on, 606
Nerve lesions, voluntary movements in, 684
Nerve strain, discharged soldiers with (parliamentary question), 751
Nerve symptoms in acute infections (Sir Thomas Horder), 404
Nerves, cervical, vagus, and sympathetic, a correction, 138
Nerves, effects of radium treatment on war injuries in the neighbourhood of (Captain Walter C. Stevenson), 862. (O)
Nervous and borderland cases (Helen Boyle), 438
Nervous disorders, acidosis in (B. H. Shaw), 635 (O)
Nervous disease, functional, hypothesis as to the organic basis of, 231
Nervous disorders, functional, modern treatment of (Bernard Hart), 207. (O)—Correspondence on, 415, 452. *See also* Mental disorders
Nervous system and the endocrine glands (Sibyl I. Welsh), 769
NETTER: Lethargic encephalitis, 193
Neuralgia, chronic paroxysmal trigeminal, and its treatment (Wilfred Harris), 693. (O)
Neuralgia, trigeminal, treatment of, 173
Neurological Board, Lancaster Gate, 379
Neurological jottings (James Taylor) 282. (O) *See also* Shingles, Varicella, Epilepsy, and the Weather
Neurological treatment of pensioners (parliamentary question), 879
Neuroses, war, 36
Neurosis, war, and the soldier's heart (Sir James Mackenzie), 491, 530. (O)
New lamps for old in obstetrics. *See* Obstetrics
NEWMAN, Sir George: Appreciation of Sir Robert Morant, 419 — Lady Priestley Memorial Lecture: Public opinion and preventive medicine, 646
NEWSHOLME, Sir Arthur, to publish his American addresses, 623

NEW SOUTH WALES:
Alien enemy practitioners, 233
Red Cross fields of labour, extension of, 811
Reformative treatment of soldier prisoners, 811
Roll of honour, University of Sydney, 233
Royal Prince Alfred Hospital 271
Stuart, the late Sir T. A., 811
Tuberculous soldiers, 271

New York: Report of State Hospital Commission, 165—Women's Medical Association of New York City and Mary Putnam Jacobi fellowship, 173, 205—Carnegie Corporation gives money to National Academy of Sciences and the National Research Council, 249—Medical men contribute to Vienna food fund, 619—*Handicapped Worker* issued by the Institute for Crippled and Disabled Men, 829
NEWILL, A. G.: Plea for the notification of measles, 278
NICOLL, James H.: Chronic pancreatitis, 132—Dyspepsia, 380
NIERENSTEIN, M.: Excretion of quinine in the faeces, 278—Permeability of the meninges to arsenic, 785
Nigeria, Northern, service in (parliamentary question), 615
Night blindness. *See* Hemeralopia
NIGHTINGALE, Florence: Some manuscript notes by, 679—Centenary of the birth of, 691—Medal awarded, 786
NIJHOFF, M., issues catalogue of books concerning Netherlands India, 315
NIOSI: Volvulus of stomach, 548
NIXON, J. A.: Appreciation of Sir W. Osler, 66—Malignant endocarditis in a war pensioner, 435
Nobel Medical Prize for 1919 not to be awarded, 241
NOGUCHI: Etiology of yellow fever, 375
Noise in main thoroughfares (parliamentary question), 615
NORMAN, Geo.: Ventrifixation before the menopause, 571
Nose, separation of tip of, with complete primary union, 72

Notes, Letters, Answers, etc.
Abortifacients and preventives, 242
Abortion, attempted, sudden death at, 624
Adjusting the matter, 278
Advertising's artful aid, 556
Alopecia, 138, 173
Anaesthesia in epileptics, 526, 556, 624
Anaphylaxis, severe: recovery, 72
Antiscorbutic lemon juice tablets, 624

Notes, Letters, Answers, etc. (*contd.*):
Antispiritualistic vaccine, 726
Apothecary poet's house (Keats), 526
Asphyxia from inhalation of tobacco smoke, 692
Beri-beri, prevention of, 72
Blind masseurs, 624
Calcium lactate, value of, 726
Camphor oil, subcutaneous injections of, 388, 424
Cervical vagus and sympathetic, 138
Chinese medicine, the founder of, 72
Coelum non animum, 278
Cold water and antipyretic drugs, 206
Copper alanin in inoperable cancer, 104, 174
Correction, 316
Counter-irritation, value of, 856
Cutaneous manifestations in a case of cervical fistula, 424
Dickens on the treatment of malaria, 756
Disclaimers, 138
Dupuytren's contraction, 242
Eggs dried, 856
Epilepsy, influence of atmospheric conditions on, 173
Erysipelas, 242, 277, 316, 352—A correction, 316
Establishment licences, 590
Evans's Analytical Notes, 786
Fetal movements, 71
Food and disease, 816
Foreign degrees, registrable, 786
Gestation, length of, 556
Good and bad jugs, 490
Granuloma of eyelid, 458
Grateful country, 316
Hay fever, 458, 490
Health work, co-operation in, 490
Improving us off the earth, 104
Income tax, 36, 71, 104, 138, 173, 242, 277, 316, 388, 424, 458, 490, 526, 556, 624, 660, 692, 726, 756, 786, 816, 856, 885
Influenza: Ocular conditions in, 72—Chameleon, 424 Prevention of, 886
Insomnia aggravated by noise, 424
Insular orthography, 174
Invalids, opportunity for, 786
Jamaica as a holiday resort, 590
Legumes in beri beri, 816
Light wines and heavy prices, 590
Lip reading 103
Local rating, 277
"Mass reflex," 104
Measles notification, a plea for, 278
Medical Directory, clerical error in, 242
Michelin Brothers, 458
Miner's nystagmus, 138
Motor accessories, 526
Motor cars: Establishment licences, 590; proposed taxation of, 660
Needle in the alimentary canal, 206
Neuralgia, trigeminal, 173
New lamps for old in obstetrics, 278
Night blindness in scurvy, 526
Obesity, adolescent, 138
Ophthalmic operations, 660
Orthography, insular, 174
Paraesthesia, 277
Pericranial effusion of blood, 206
Petrol, price of, 352
Pin in the alimentary canal, 242, 424
Pneumonia infection, 816
Potatoes, sunburnt, 886
Pregnancy during amenorrhoea, 278
Professional secrecy, 174
Pruritus, treatment of, 104
Psoriasis, treatment of, 756
Psoroptic mange (*Psoroptes communis* var. *cuniculi*), treatment of, 316, 856
Pulmonary oedema, acute, 490, 726
Quadruplets, 556
Quinine administration, mode of, 756
Quinine in the faeces, excretion of, 278
Rats and plague 816, 856
Reading by ear, 692
Record tramp, 692, 726
Roman netting needle for winding a surgical thread, 458
Sciatica, treatment of, 856
Senile melancholia, 104
Smith's visiting list, 36
Soft answer (story of Sir Samuel Wilks), 72
Span of life, 138
Speculum illuminator, simple, 174
Spiritualism and mental disease, 660
Surgical war honours, 352
Sweating, profuse, 206, 242
Syphilis, sites of inoculation lesions in, 388
Tagliacotian doctrine, 72, 104, 174, 352
Tertium quid, 206
T.F. and S R., 590, 624
Thyroid administration in hibernating dormice, 424
Trade teaching for feeble-minded youths, 556
Tuberculosis, pulmonary, duration of, 206
Unmusical swab 104
Venereal disease in the Portsmouth area, 726
Venereal disease prevention, 352
War honours, 352
War neuroses, 36
Warning, 316, 624
Wilks, Sir Samuel, story of (a soft answer), 72, 104

Notification fee. *See* Fee
Novarsenobenzol treatment followed by phagedaena of Hunterian chancre (H. M. Hanschell), 498. (O)
Novarsenobillon and mercury, combined use of intravenously (Reginald Johnson), 436
Nujol, 709
Nursery Schools, rev., 299
Nurses, alternative pensions for (parliamentary question), 879
Nurses, army (parliamentary question), 269
Nurses, disabled, treatment for, 385
Nurses in Malta (parliamentary question), 551
Nursing Council, General, appointment of, 616
Nursing Council for Scotland, 127, 584, 752—For Ireland, 271
Nursing, district, in London, annual meeting, 307, 348
Nursing organization in Wales, 233
Nursing service of the Ministry of Health (parliamentary question), 450
Nyctalopia or hemeralopia, 510 *See also* Hemeralopia
Nystagmus, miners', 138—Leading article on, 227—Double glauconia developing after, 424—Parliamentary questions, 482—Review of books on, 572

O.

OBATA: Nature of eclampsia, 479
Obesity, adolescent, 138
Obstetrics and gynaecology, vaccines in (Robert Robertson), 437
Obstetrics "new lamps for old" in, 59, 97, 127, 170, 202, 278
Obstruction due to adhesions of pelvic colon (Donald M. MacLeod), 867
Ocular conditions in influenza, 72
Oedema, acute, as a result of a prick by a dog-fish (H. Muir Evans), 287 (O)
Oedema, acute, of lungs (Stewart McNaughton), 293—(Herbert H. Brown), 435 Cecil Musgrave), 468—(H Cameron Kidd), 490—Kenneth Anderson), 571—(William S. Scott), 571—(John Brown), 726—(D. W. Samways), 726
Oedema, severe angio-neurotic (Reginald Alderson), 828
Oenanthe crocata. *See* Dropwort, water
Officers, disabled, treatment for, 385
Officers, invalided (India), assistance for (parliamentary question), 650
OGSTON, Sir Alexander: *Reminiscences of Three Campaigns*, rev. 87
OHDEDAR, Mohendra Nath, obituary notice of, 853
Oil of camphor, subcutaneous injections of, 388, 424, 828
Old age pensions. *See* Pensions
OLDFIELD, Carlton: Hydatid mole, 224
OLIVER, Colonel C. Pye, appointed J P. for county of Kent, 557
OLIVER, George Y.: Pregnancy during amenorrhoea, 278
O'MEARA, Lieut.-Col. E. J.: *Medical Guide for India and Book of Prescriptions*, rev., 471
O'MEARA, William Patrick, obituary notice of, 202
Ontario liquor prescriptions in, 725
Operations on pensioners, 482
Ophthalmia neonatorum and illegitimate births (Grace H. Giffen Dundas), 436
Ophthalmic operations, review of book on, 606—Correspondence on, 660
Ophthalmological Congress, the annual, 582, 647, 671
Ophthalmological Congress, Oxford, 351
Ophthalmological teaching (J. B. Story), 671
Ophthalmology, examination in (Ireland), 198
Ophthalmology and the public, 647
Ophthalmology, teaching of, discussion in *Archives of Ophthalmology* by Verhoeff, Wiener, and Duane, 341
Opium acreage in India (parliamentary question), 751
Opium question and the peace treaty (leading article), 339
Optical instruments, 230
Oral osmosis and dental caries. *See* Dental
Order of St. John. *See* St John
ORR, Lewis P.: Weight, height, and longevity 678
Orthography, insular, 174
Orthopaedic cases in Birmingham, difficulty in dealing with (parliamentary question), 650
Orthopaedics, military (Major R. W. Sutherland and Captain J. M. Christie), 762. (O)—Review of books on, 831
Oriental sore in Mesopotamia (Adam Patrick), 365
OSBURNE, Cecil A. P.: Forgetting, psychological repression, 169
OSLER Sir William: Leading article on, 21—Obituary notice of, 30—Appreciations of, 64 Note on, 121—Memorial service, 205—Oxford memorial to, 304, 369 374, 423—Donation from the Prince of Wales, 423—Eulogium at meeting of Vienna Medical Society, 315—At the Bodleian, 411—Presentation volumes for 70th birthday of, 457, 614—Biography of, 522—Tributes to the memory of, 525—Estate and bequests of, 685
Osteopaths to submit to State medical examination in South Carolina, 623
O'SULLIVAN, W. J.: A warning, 316
Our opportunity, 484, 520

Ovarian cyst. *See* Cyst
Ovarian insufficiency (Dr. Ashe), 48
Ovary, hypernephroma of, 133
OVEREND, Walker: *Radiography of the Chest*, rev., 798
Oxford memorial to Sir W. Osler. *See* Osler
Oxford University Press General Catalogue, 725
Oxygen in pulmonary lesions, therapeutic value of (Jonathan C. Meakins), 324. (O)
Oxygen therapy (J. Barcroft), 150—Discussion, 151

P.

Paddington Board of Guardians and clinical education at the infirmary, 92, 242
PAGET, Stephen: *Sir Victor Horsley: A Study of his Life and Work*, rev., 260
PAINE, Alexander, awarded Berraute prize, 457
PALMER, A. C.: Rupture of vagina, 602
Palsy, mixed functional and organic, 736
Pancreas, diagnosis of disease of (Sir Archibald E. Garrod), 459. (O)—Correspondence on, 553
Pancreatic insufficiency, Loewi's adrenalin mydriasis as a sign of (W. L. Cockcroft), 669 (O)
Pancreatitis, chronic, 62, 132, 238
Panel practitioner's action for slander (James Wylie), 454
Panel practitioners and vaccination, 883. *See also* Insurance
Pan-Hellenic Congress. *See* Congress
PANTIN, C. S.: Insular orthography, 174
Paper shortage in America, 659—Parliamentary questions, 686
Paraesthesia, 277
Paraffin wax for first-aid treatment of burns (J. R. Garrod), 539
Paralysis of left arm and leg (Dr. Spears), 736
Paralysis, right facial, due to mastoiditis and caries, treated by operation (Patel), 224
Paralysis, physiopathic, of the hand and its causation (R. G. Abercrombie), 764. (O)
Paris: Scheme for the improvement of the hospitals, 283—Salaries of professors of the Faculty of Medicine raised, 723—Institute of Hygiene in, 878. *See also* France
PARISOT, J.: Tuberculosis mortality in Germany and the Rhine provinces, 837
PARKER, Rushton: Rhinoplasty and cheiloplasty, 12. (O)—Gastric ulcer after gastro-jejunostomy, 47

Parliament, Medical Notes in:
Air raid claims, 808
Anaesthetics, administration of, 583
Antityphoid inoculation, 482
Army estimates, 269
Army masseuses, 306
Army Medical Services, 449
Army mental hospitals, treatment in, 306
Army nurses, 269
Army officers in India, 345
Army, R.A.M.C. officers due for foreign service, 720
Artificial limbs, provision of, 583
Asylums as military hospitals, 551
Austrian destitute orphans, hospitality for, 346
Bread, 615
British prisoners still unaccounted for, 650
British soldiers in France and Germany, 720
Budget, 582, 686—Direct taxation, 686
Blind persons for Advisory Blind Committees, 650
Blind Persons Bill, 751
Blind, pensions for, 615
Blind soldiers, 615
Blind, training of, 345, 413
Blind Welfare Committee, 879
Bovine tuberculosis, 414
Census, 305, 879
Central Research Institute, Hampstead, 751
Child labour restrictions, 414
Clothing for tuberculous patients, 482
Coal on a medical certificate, 720
Corporation tax, 650
Cost of living, 844
Criminal Law Amendment Bills, 414, 482, 879
Dairy inspection, 378
Dangerous Drugs Bill, 720, 843
Death rate of illegitimate infants, 378
Defective children in industrial schools, 269
Demobilization of medical students, 720
Dental legislation, proposed, 305
Dentists Act, revision of, 615
Dentists Bill, 686, 844
Direct representative, election to fill vacancy, 685, 719
Disabled ex-service men in training, 650
Disability partly due to military service, 345
Disability pensioners' rights, 482
Doctors and motor car taxation 685
Dogs' Protection Bill, 269, 305, 448
Drugs, dangerous, 650
Drunkenness statistics, 346
Dwellings, unoccupied, utilization of, 844
Eaton Hall Hospital for convalescent soldiers, 686
Employment of women after childbirth, 879

Parliament, Medical Notes in *(contd.)*:
Estimates, 413
Experiments on animals, 305
Fibroid phthisis, 482
Food Ministry, 686
General Medical Council Bill, 843
Government lymph, 378
Half-fare vouchers for men under treatment, 650
Health of the people, 583
Health Services Bill, 751
Homes of recovery, 650
Hospital provision in the future, 377
Hospitals in India, 306
Hospitals of London, financial position of, 685, 751, 844, 808
Hospitals for mental cases, 649
Income tax, 808, 879
India: Army officers in, 345—Pensions for widows, children, and dependants of deceased officers, 650—Assistance for invalided officers, 650—Medical conditions of service in, 720—Indian services, increase of pay, 751
Indian medical practitioners in East Africa, 482, 650
Infectious disease at British ports, 345
Influenza, precautions against, 305—Deaths, 514
Insanitary areas, 844
INSURANCE ACT:
Administration, 345
Amending Bill, 345, 450, 615, 686
Arbitration, 378
Expenses, 482
Finance, 306, 808
Medical grants under, 269
Practices, 378
Right of appeal, 717
Sanatorium treatment, 650
Tuberculosis sanatoriums, 719
Kantara Camp, conditions at, 879
King's Fund, administration of, 345
King's Speech, 232
London hospitals. *See* Hospitals
"Loss of both legs," 450
Lunacy statistics, 345
Massage establishments, 650
Maternity homes, 305
Medical assessors, 583
Medical Boards, remuneration, 450
Medical conditions of service in India, 720
Medical degrees in East Africa Protectorate, 650
Medical examination for Government employment, 583
Medical fees under the Workmen's Compensation Act, 879
Medical men and the motor car tax, 648
Medical officers in Mesopotamia, 450
Medical practitioners and motor cars. *See* Motor
Medical Research Committee, expenditure of 482
Medical service pay, 720
Medical students, demobilization of, 720
Medicine and mining administration, 843
Midwives, 649
Military service civil liabilities claims, time extended, 269
Milk adulteration, 583
Milk and Dairies Bill, 686
Milk and dairies legislation, 269
Milk from Denmark, 844
Milk, sweetened condensed, 482, 720, 751
Mineral waters, taxation of, 615
Miners' nystagmus, 482
Ministry of Health: Expenditure, 306, 649—Work of, 378—Nursing services, 450—Number of persons employed, 720—Medical staff of, 808—Administrative posts over £500 a year, 808—And utilization of unoccupied dwellings, 844
Minister of Pensions, new, 514
Morphine, manufacture of in England, 720
Morphine, morphine salts, and opium, 345
Morphine and opium, 751
Motor car taxation or petrol tax, 686; and medical practitioners 808 844
Municipal general hospitals, 583
National Service Medical Board, 378
Naval medical establishments and services, 719
Naval Medical Service promotions, 345
Naval officers' income tax, 345
Naval officers, retired, pensions and income tax, 305—Surgeon commanders, 378—Surgeon rear-admirals, 615
Naval prize money, 686
Navy, sick-berth ratings, 650
Nerve strain (discharged soldier's pension), 751
Neurological treatment of pensioners, 879
New session, 196
Nigeria, Northern, service in, 615
Noise in main thoroughfares 615
Nurses, alternative pensions for, 879
Nurses in Malta, 551
Officers' pensions. *See* Pensions
Old age pensions, 844
Opium and morphine, 751
Orthopaedic cases in Birmingham, difficulty in dealing with, 650
Paper supplies, 686
Parliamentary session, 750
Pensioners refused grants by Civil Liabilities Commissioners, 686
Pensioners, treatment allowances to, 583

Parliament, Medical Notes in *(contd.)*:
Pensions and pensioners, 808
PENSIONS:
Administration, 269
Discharged soldier with nerve strain, 751
Medical boards, remuneration, 450
Medical officers' recommendation, 306, 378
Medical referees, 269
Medical staff of, 583
New Minister, 514
Number of pensioners, 808; of officers' widows, 615; of officers on continued service, 345
Permanent rate, 450
Pre-war, and the cost of living, 414, 686
Regional directors for the Ministry, 269
Retired regular naval and military officers employed by, 650
Revised, 377
Select Committee, the new, 686
Treatment allowances to pensioners, 583
War Pensions Bill, 685
Poor Law children in receipt of relief, 650
Poor Law infirmaries, future of, 414
Professional training of ex-service men, 306
Quinine, cost of, 306
Quinine stores, sale of 686
Rabies in imported dogs, 808
Rabies, muzzling order, 414
Recruits, health conditions of, 720
Registrar-General's Department, 305
Retired surgeon commanders. *See* Naval officers
St. Luke's Hospital, Bradford, 551
Sanatorium treatment, 482—After-care of persons who have received sanatorium treatment 650
Sanatoriums for uncertifiable mental cases, 414
Service women's compensation, 306
"Shell shock," departmental inquiry on, 648
Small-pox, 450—In Germany, 346—In East London, 378—In Poplar, 414—At Bolton, 650
Small-pox carriers, vaccinal condition of, 751
Soldiers in hospital, number of, 808
Stamp duties on patent medicines, 482
State grants to universities, 879
Surgeons. *See* Naval officers
Syphilis, treatment of 346
Tax: Corporation, 650—"All trading profit," 650
Taxation of invalid chairs (motor driven), 346
Territorial army, new instructions, 879
Territorial and Special Reserve officers R.A.M.C. in Mesopotamia, 345
Theatres, insanitary conditions at, 346
Travelling facilities for men under treatment, 615, 720
Treatment allowances to ex-service men, 615, 720
Tuberculosis, institution accommodation for, 450
Tuberculous ex-service men, 450
Tuberculous soldiers, treatment of, 720
Typhoid fever, diagnosis of, 449
Typhus in Poland and Russia, 751
Typhus, threatened Western extension of, 879
Universities, State grants to, 879
University of London, proposed new site, 808
Vaccination: Statistics, 306—Public, cost of, 615—Value of, 720
Venereal disease in the British army, 751
Venereal disease treatment boards, 414
Ventilation of the House of Commons, 650—
Veterinary Surgeons Act Amendment Bill, 414, 844
War Pensions Bill, 685
Welsh Board of Health, 345
Whisky, imported, 650
Women and Children Employment Bill, 844

Parliamentary session (leading article), 22
PARNELL, Surgeon Lieutenant Commander R. J. G.: Toxic effects of arseno benzol preparations, 51
PARSONS, William M., 94th birthday of, 785
Paste, antivermin, 472
PATEL, M.: Right facial paralysis due to mastoiditis and caries treated by operation, 224
Patent medicine labels, revenue from, 589
Patent medicines, stamp duties on (parliamentary questions), 482
"Patent remedies" statistics, 49
Paternalism or Laisser Faire? (leading article), 52. *See also* Public health versus the State
PATERSON, A. Melville: *Anatomy of the Peripheral Nerves*, rev., 88
PATERSON, Surgeon-Major-General Henry Foljambe, obituary notice of, 724
PATERSON, William: General practitioner and the Health Services Bill, 753
Pathology, review of books on, 15
PATON, Noël: *Essentials of Human Physiology*, rev., 799
PATON, Stewart: *Education in War and Peace*, rev., 630
PATRICK, Adam: Multiple Oriental sore, 365
PATRICK, John: Syme the discoverer of waterproofing 521
Peace treaty and opium question, 339. *See also* Opium

Tuberculosis and Sexual Infections, Urethroscopy, and Cystoscopy, rev., 225
Pellagra in a refugee camp (near Port Said), 805
Pennsylvania: Tenth Annual Report of the Commissioner of Health for the Commonwealth of; rev., 831
Pensioners, operations on, 482—Treatment allowances, 583—Neurological treatment of (parliamentary question), 879
Pensioners' records 304
Pensioners' disability rights (parliamentary question), 482
Pensioners refused grants by the Civil Liabilities Commissioners (parliamentary question), 686
Pensions Bill, 685
Pensions, Greenwich Hospital, 203
Pensions handbook, 587

PENSIONS MINISTRY:
Administration, 269
Artificial limbs, provisional, 423
Blind men and pensions, 615
Disabled officers and nurses, treatment for, 385
Discharged soldier in institution for nerve strain, 751
Homes of recovery, 650
Local War Pensions Committees Handbook, 587
Medical appeal boards for officers, 136
Medical boards, remuneration of, 450
Medical officers' salaries, 378
Medical referees, 269
Medical staff of, 583
New Minister of, 514
New Select Committee on, 686
Number of pensioners, 808
Number of retired regular naval and military medical officers employed, 650
Officers' widows, 615
Parliamentary questions, 269, 306, 345, 378, 414, 450, 583, 615 650, 685, 751, 808
Pensioners' records, 304
Permanent rate, 450
Regional directors for, 269
Remuneration of officers, 306
Treatment allowances, 583, 615
War neuroses, 36

Pensions of officers on continued service (parliamentary question), 345
Pensions old age, 844
Pensions, pre-war, and the cost of living (parliamentary question), 414, 686
Pensions referee, work of a, 132
Pensions, revised service (parliamentary question), 377
Pensions of Senior Surgeon Commanders R.N., 269
Pensions, war, the bill, 685
Pensions of widows, children, and dependants of deceased officers of the Indian army (parliamentary question), 650
People, health of (parliamentary question), 583
Peptone treatment of asthma (A. G. Auld), 567. (O)
Pepys of Medicine (Sir D'Arcy Power), 674
PEREZ, George V., obituary notice of, 456
Peritonitis, septic, treatment of (F. J. Steward), 527. (O)—Correspondence on, 656
Peritonitis, treatment of (Crile), 376
PETERS, R. H.: Oxygen therapy, 152
PETERSON, Frederick (and Archibald CHURCH): *Nervous and Mental Diseases*, rev., 471
Petrol prices, inquiry into, 241, 276, 352—Board of Trade report, 352
Petroleum jellies, 190
PEYRON, Albert, awarded Berraute prize, 457
Phagedaena of Hunterian chancre following treatment with novarsenobenzol (H. M. Hanschell), 498. (O)
Pharmacopoeia French, additions to, 613
PHILIP, Sir R. W.: Tuberculosis as affected by the war, 585—Treatment of tuberculosis, 704
PHILLIPS, E. W. M. Hubert: Myoclonic type of epidemic encephalitis, 634
PHILLIPS, Miles H.: Adenomyoma of recto-vaginal septum, 224—Large cervical fibroid causing severe haemorrhage, 224—Unilateral pelvo-abdominal pain due to constriction of ureter, 540
Physical education (leading article), 338
Physical therapy in the navy (Surgeon Commander A. K. Smith-Shand), 683
Physical Training, Syllabus of, 77
Physically defective. *See* Mentally defective
Physicians and surgeons, proposed world congress of, 241
Physiological cost of muscular work (A. D. Waller), 537. (O)
Physiological study at the Naples Zoological Station, 268
Physiology, review of books on, 540, 572, 676, 799
Physique of British manhood (leading article), 339. *See also* Census
PICKARD, Colonel Ransom (and G. W. LLOYD): Early signs of scurvy, 329
PICKIN, Frederick H.: Prevention of venereal disease, 352
PIÉRON: Puerilism of war, 194
PIKE, Major-General William: Heat hyperpyrexia, 521
"Pilgrim's Books," rev., 870
PILON, H.: *The Coolidge Tube: Its Scientific Applications, Medical, and Industrial*, rev., 770
Pin in alimentary canal (H. B. Pope), 242—(A. B. Roberts), 424
PINARD, M.: Quadruplets, 558
PINKERTON, James, obituary notice of, 313
PIRIE, Dr.: Atropine in pylorospasm and pyloric hypertrophy, 551
"Pities of old surgeons" (leading article), 265
PITT, G. Newton: Appreciation of Samuel West, 386
Pituitrin administration followed by spontaneous rupture of uterus (A. W. Bourne), 829
Placenta praevia with concealed haemorrhage, Caesarean section for (R. Douglas Laurie), 220
Placenta praevia associated with sclerema neonatorum (A. E. Hodder), 634
Plague: Case of on ss. *Alps Maru*, 315—In Java, 589, 771—In Egypt, 815—In the United Provinces during 1918-19, 849—At Czernovitz, 855
Plague and rats, 816, 856
Plant response, 412, 512, 716
PLARR, Victor G.: Some manuscript notes by Florence Nightingale, 679
PLASS, E. D.: Rare diseases, 374
PLATES, S. G. (and others): Pyrexia of uncertain origin and enteric fever, 373
Pleura, pneumonic haemorrhagic effusion into (Hubert C. Bristowe), 500
Pneumococcus in Denmark, investigations on the various kinds of, 557
Pneumonia, infection in, 816
Pneumonia, lobar, etiology of (leading article), 875
Pneumonic haemorrhagic effusion into pleura (Hubert C. Bristowe), 500
Pneumothorax, artificial, discussion on, 737
Pneumothorax, artificial, note on, with description of a new needle (Frederic C. Coley), 432. (O)—Correspondence on, 522
Pneumothorax Therapeutique to be revived, 472
Poison of the spiny dog-fish (H. Muir Evans), 287. (O)
Poisoning by arsenobenzol compounds used in the treatment of syphilis (Alexander G. R. Foulerton), 864. (O)
Poisoning by arseniuretted hydrogen gas (Thomas H. Wignall), 826. (O)
Poisoning by potassium bichromate, 691
Poisoning by potassium nitrate, 885
Poisoning by veronal in a hysterical person, 691
Poisoning by water dropwort, case of fatal (T. Harvey Thomson), 795
Poland, typhus fever in, 122, 614, 751
Polarized light in detection of suture material embedded in tissues (M. J. Stewart), 663. (O)
Polio encephalitis, acute, compulsory notification of, 71
Poliomyelitis, acute, the portal for, 343
POLLARD, Reginald: Control of influenza, 258
Polymorphonuclear leucocytes, origin of, 93
Polypus of stomach (J. Lionel Stretton), 80. (O)
Poole, Surgeon-major George Kenneth, obituary notice of, 71
Poor Law children in receipt of institutional relief (parliamentary question), 650
Poor Law infirmaries and clinical education, 92—Decision of Paddington Guardians, 92
Poor Law infirmaries, future of (parliamentary question), 414
Poor Law institutions order, revival of Article 4, 489
Poor Law medical officers' salaries (Ireland), 234, 519—Meeting at Clones, 519
POPE, H. B.: Pin in alimentary canal, 242
Poplar Borough Dispensary for Prevention of Consumption: Report, 44
PORTER, Annie: *Survey of the Intestinal Entozoa, both Protozoal and Helminthic, observed among Natives of Johannesburg from June to November, 1917*, rev., 675
PORTER, W. G.: *Diseases of the Throat, Nose, and Ear*, rev., 830
Portsmouth area, venereal disease in (leading article), 680—A correction, 726
"Post-graduate" word coined in America, 525. *See also* Premedical
Post-graduate courses: At Birmingham, 103, 659—At Manchester, 126—At the West London Post-graduate College, 126—In London, 26, 161, 194, 580, 855—In Edinburgh, 349—in Leicester, 518—In Bath (Spa treatment), 589—In Great Britain, 715—In Glasgow, 721
Post-graduate courses in surgical tuberculosis, 457
Post-graduate course in venereal disease, 55, 103, 315, 589, 623
Post-graduate study, aims and methods of (Sir Humphry Rolleston), 77. (O)
Post nasal lymphoid and faucial tissue in children, chronic infection of (Percival W. Leathart), 217. (O)
Potassium bichromate, poisoning by, 691
Potassium nitrate, poisoning by, 885
Potatoes, sunburnt, 886
POTTER, Nathaniel B (and James C. WILSON) *Internal Medicine, a Work for Practising Physicians in Diagnosis and Treatment*, rev., 676
POTTS, W. A.: The Birmingham scheme for the mentally defective, 472
POWELL, Arthur: Professional secrecy, 174
POWELL, H. E., appointed librarian to Royal Society of Medicine, 623
POWER, Sir D'Arcy: The Rev. John Ward and Medicine, 674
Pregnancy during amenorrhoea, 278
Pregnancy, colour in (J. W. Ballantyne and F. J. Browne), 438
Pregnancy complicated by fibroids, hysterectomy, recovery (R. de S. Stawell), 498. (O)
Pregnancy, suppression of urine in (Robert Jardine and A. M. Kennedy), 767
Pregnancy, toxaemias of (Aleck W. Bourne), 727. (O)
Pregnancy, tumours complicating (Herbert R. Spencer), 179, 246, 320. (O)—Leading article on, 373
Premedical used in America instead of Post-graduate, 525
Presentations, 95, 103, 198, 205, 241, 270, 379, 489, 518, 691, 725, 752, 847, 848, 885
Preventive medicine and public opinion, 646
Preventive medicine, teaching and research (leading article), 159
PRICE, Frederick W. (and others): Ten thousand recruits with doubtful heart conditions, 730. (O)
PRINGLE, Seton: Early symptoms of cancer of colon, 768
Prisoners of war, British (parliamentary question), 650
Professional secrecy, 102, 135, 174—Mr. Justice McCardie's remarks on, 102, 135
Professional training of ex-service men. *See* Ex-service
Profit tax, all trading (parliamentary question), 650
Protein shock therapy, 228
Protein therapy, intravenous (A. E. Gow), 284. (O)—Correspondence on, 380
Proteins, foreign, susceptibility to (John Freeman), 188
Pruritus, treatment of, 104
Prussia: Abolition of compulsory military service, 289—Appointment of a commission to investigate value of Friedmann's remedy for tuberculosis, 315—And Baden decide to create a doctorate in dentistry, 589
Psoriasis, treatment of, 756
Psoroptic mange (*Psoroptes communis*, var. *cuniculi*), treatment of, 316, 856
Psychiatry courses, 268
Psychiatry, review of books on, 297
Psychological analysis (T. H. Pear), 776
Psychological repression. *See* Forgetting
Psychology, medical, Maudsley courses in, 376
Psychology and mental pathology (Pierre Janet), 774, 805
Psychology, review of books on, 154, 470
Psycho-neuroses, elements of (Henry Head), 389. (O)—Leading article on, 408
Psychopathology and dissociation (William Brown), 139. (O)
Psychosis, hallucinatory (R. Hunter Steen), 363
Public health in 1918-19, 164
Public Health Congress, Dutch, 438
Public health, federal control of (Australia), 881
Public health versus the State (Bertram G. M. Baskett), 40. (O)—Leading article, 52 Correspondence on, 90, 127, 167, 237, 308, 349, 382, 416, 454, 520, 586, 656
Public opinion and preventive medicine, 646
Public Vaccinators' Association. *See* Association
Public work, medical fees for (Ireland), 655
Puerilism of war, 194
Puerperal fever. *See* Fever
Puerperal sepsis (Berry Hart), 296
Puerperal suppression of urine. *See* Pregnancy *and* Urine
Pulmonary infection, mode of infection in (Thomas Campbell), 185
Pulmonary lesions, therapeutic value of oxygen in (Jonathan C. Meakins), 324. (O)
Pustule, malignant, case of in which the incubation period was known (H. J. McCurrich), 828
Pye's Elementary Bandaging and Surgical Dressings, rev., 190
Pyloric obstruction, partial (A. Ernest Maylard), 626. (O)
Pylorospasm and pyloric hypertrophy, atropine in, 551
Pyogenic infections, immunized donors in blood transfusion in (Captain H. J. B. Fry) 290. (O)
Pyrexia of uncertain origin and enteric fever (leading article), 373

Q.

Quadruplets, 558
Queen Alexandra's Fund. *See* Fund
Quinine administration, mode of, 28, 60, 163, 454, 756
Quinine excreted in the faeces, 278
Quinine, idiosyncrasy to, 258

Quinine, intramuscular injections of, 25, 99
Quinine in malaria. *See* Malaria
Quinine, price of 124, 173, 306—(Parliamentary questions), 306, 686
Quinine stores, sale of (parliamentary question), 686
Quinsy, antistreptococcic serum in (Noel C. Forsyth), 361. (O)
QUIRKE, Joseph, obituary notice of, 69

R.

R.A.M.C. as a career, 29. *See also* Army, British
Rabies in Holland, 525
Rabies in imported dogs (parliamentary question), 808
Rabies muzzling order (parliamentary question), 414
RACE, Joseph: *Chlorination of Water*, rev., 573
Radiography, review of books on, 405, 770, 798
Radiology, diploma in, 55—Scientific study of, 341
Radiology, war lessons for (C. Thurstan Holland), 353. (O)
Radio-therapy in cancer of uterus, 480
Radium Institute—Dublin: Annual report, 550—London: Annual report, 640; leading article on, 644—Manchester: Report, 745
Radium-therapy (Rupert Hallam), 736
Radium-therapy in advanced cancer of cervix, 806, 829, 850. *See also* Cancer
Radium treatment in war injuries in the neighbourhood of nerves, effects of (Captain Walter C. Stevenson), 862. (O)
Railway Clearing House on increase of rates, 489
RAINES, R.: Taxation of motors, 555
RAINS, Robert H., obituary notice of, 884
RAISON, Cyril A.: Ruptured malarial spleen, splenectomy, recovery, 827. (O)
RAMSAY, Jeffrey: Blood transfusion in nephritis, 766. (O)
Ramsgate, note on, 525
RANKEN, David: Labyrinthine reaction of experienced aviators, 860. (O)
Rare accidents. *See* Accidents
Rarity, 374
Rating, local, 277
Rats and plague, 816, 856
RATTRAY, Lieut.-Col. M. MacGregor, obituary notice of, 70
RAW, Nathan, appointed to assist in selection of village settlements for tuberculous men, 423—An attenuated tubercle vaccine, 538. (O)
RAYSON, H. Knights: Mode of quinine administration, 454
Reading by ear, 692
Record tramp? 692, 726. *See also* Tramp
Recruits, health conditions of (parliamentary question), 720
Red Cross, Armenian, continued appeal, 815
Red Cross, British, and Order of St. John: Total amount received by Joint Council, 36
Red Cross Committee, International, institutes the Florence Nightingale medal, 786
Red Cross Congress at Geneva, 377
Red Cross fields of labour, extension of (Australia), 811
Red Cross Society of China, 755
Red Cross Society, Polish, of Great Britain, 884
Red Cross Societies, League of, meeting of General Council, 71, 267, 337, 377, 547—Leading article on, 547
REDDING, J. Magnus: *Aids to Electro-therapeutics*, rev., 770
REECE, Richard J., appointed senior medical officer to the Ministry of Health, 173
REES, Ferdinand: Co-operation between hospitals, 418
Reformative treatment of soldier prisoners (Australia), 811
Refraction work, cycloplegia in routine (N. Bishop Harman), 598 (O)
Registrar - General's department (parliamentary question), 305
Registrar General's quarterly return, 457, 752—Annual report, 775, 802, 836, 874. *See also* Vital statistics
Regius Chair of Medicine at Oxford, 344
REID, G. Archdall: Prevention of venereal disease, 128
Renal disease (Charles R. Box), 356. (O)
Renal function in nephritis (J. B. Leathes), 403
Renal secretion, review of book on, 606
RENTON, J. Mill: Note on two cases of horseshoe kidney, 601
Reproductive organs and other glands of internal secretion, functional connexion between (Evelyn E. Hewer), 293. (O)
Research Institute for Aberdeen, proposed, 438
Research Institute, Central, Hampstead (parliamentary question), 751
Research Institute for all India, proposed, 344
Respiratory movements, antenatal, 877
Restaurants, non-alcoholic, increase of in Zurich, 443

Reviews of Books:
Advice to a Mother (Chavasse), 368
Altitude and Health (F. F. Roget), 298
American Frohse Life-size Anatomical Charts, 16
Anaesthesia, Art of (P. J. Flagg), 117
Anaesthetics, Handbook of (J. Stuart Ross), 117

Reviews of Books (*continued*):
Anatomy, Cunningham's Manual of (edited by Arthur Robinson), 367
Animal Parasites and Human Disease (Asa C. Chandler), 118
Ante-natal and Post-natal Child Physiology, Pure and Applied, Principles of (W. M. Feldman), 572
Asthma (Orville H. Brown), 869
Austrian Medicine: Wiener Archiv für Innere Medizin (W. Falta and K. F. Wenckebach), 574
Baby, The (E. A. Saunders), 368
Baby, Our: For Mothers and Nurses (Mrs. J. Langton Hewer), 368
Baby Welfare: A Guide to its Acquisition and Maintenance (W. E. Robinson), 368
Baby's Food (Isaac A. Abt), 368
Bacteria, Transmutation of (S. Gurney-Dixon), 297
Biological Chemistry. *See* Chemistry
Blood Pressure: La tension artérielle en clinique. Sa mesure, sa valeur séméiologique (L. Gallavardin), 503
Bodily Changes in Pain, Hunger, Fear, and Rage (Walter B. Cannon), 440
Breast, The: its Anomalies, its Diseases, and their Treatment (John B. Deaver and Joseph McFarland), 675
British Journal Photographic Almanac, 331
British Nurse in Bolshevik Russia (Margaret H. Barber), 799
Burdett's Hospitals and Charities, 1919, being the Year Book of Philanthropy and the Hospital Annual (Sir Henry Burdett), 49
Cambridge Note Book for Practical Biology [Zoology] (edited by J. Stanley Gardiner and L. A. Borradaile), 154
Card Test for Colour Blindness (F. W. Edridge-Green), 502
Cerebro-cranial Injuries: Traumatismes Cranio-Cérébraux (H. Duret), 830
Change of Life, its Difficulties and Dangers (Mary Scharlieb), 708
Charaka Club, Proceedings of, vol. v, 1919, 16
Chavasse's Advice to a Mother (edited by T. D. Lister), 368
Chemistry, Biological, Introduction to the Study of (S. B. Schryver), 154
Chemistry, Elementary Colloid, Laboratory Manual of (Emil Hatschek), 543
Chemistry, Elementary Practical (J. E. Myers and J. B. Firth), 190
Chemistry in Everyday Life (Ellwood Hendrick), 190
Chemistry, Legal, and Scientific Criminal Investigation (A. Lucas), 607
Chemistry, Industrial, Catalysis of (G. G. Henderson), 154
Chemistry: Praktikum der medizinischen Chemie (Sigmund Fränkel), 16
Chemistry for Public Health Students (E. Gabriel Jones), 543
Child Welfare and the Teachings of Certain Dentists, School Medical Officers, Medical Officers of Health, and other Medical Men (J. Sim Wallace), 607
Children's Diseases: Säuglingskrankheiten (Walter Birk), 771
Chlorination of Water (Joseph Race), 573
Christianity and Christian Science (M. Carta Sturge), 16
Concise Chronicle of Events of the Great War (R. P. P. Rowe), 738
Conservancy, Manual of (Jabar Lal Das), 471
Consumptives, Advice to: Home Treatment, After-Care, and Prevention (Noel Dean Bardswell), 708
Coolidge Tube: Its Scientific Applications, Medical and Industrial (H. Pilon), 770
Country Cousin at Cambridge (Lilian Clarke), 869
Crippen, Hawley Harvey, Trial of, 299
Critical Age of Women (Walter M. Gallichan), 708
Cystoscopy and Urethroscopy, Treatise on (Georges Luys), 541
Dental Caries in Relation to Oral Osmosis (Ragnar Eckerman), 189
Diathermy in Medical and Surgical Practice (Claude Saberton), 869
Dictionary, Popular Chemical, 226
Diet, Effect of on Endurance (Irving Fisher), 16
Diet in Health and Disease (Julius Friedenwald and John Ruhräh), 262
Diet Lists of the Presbyterian Hospital, New York City (Herbert S. Carter), 16
Diphtheria, Measles, Scarlatina: Lectures to Students on (Frank V. G. Scholes), 573
Domus Doloris (W. Compton Leith), 639
Education in War and Peace (Stewart Paton), 640
Electro-therapeutics, Aids to (J. Magnus Redding), 770
Electrolysis in Chemical Industry, Applications of (Arthur J. Hale), 154
Encyclopaedia Medica, vol. vi, 118
Engines of the Human Body (Arthur Keith), 638
Entomology for Medical Officers (A. Alcock), 707
Ergebnisse der gesamten Medizin (Th. Brugsch), 639
Evening Play Centres for Children (Janet Penrose Trevelyan), 262

Reviews of Books (*continued*):
Eyes Right (James M. Macphail), 441
Face, Plastic Surgery of, 543
Feminism and Sex-extinction (Arabella Kenealy), 676
Field Ambulance: With the 1/1st Lowland Field Ambulance in Gallipoli (Colonel G. H. Edington), 503
Fly (House), its Life-history and Practical Measures for its Suppression (Major E. E. Austen), 607
Food Poisoning and Food Infections (William G. Savage), 225
Fortnightly Review for May, 771
General Medical Council Minutes, 331
Genito-Urinary Surgery, an Outline of (G. G. Smith), 49
G.H.Q. [Montreuil-sur-Mer] ("G. S. O."), 117
Gonorrhoea and its Complications, Textbook of (Georges Luys), 441
Great War and the R.A.M.C. (Lieut.-Colonel F. S. Brereton), 48
Gynaecological Surgery, Textbook of (Comyns Berkeley and Victor Bonney), 708
Gynaecology in General Practice, Guide to (Comyns Berkeley and Victor Bonney), 770
Gynaecology, Handbook of (Bethel Solomons), 15
Gynaecology for Nurses and Gynaecological Nursing (Comyns Berkeley), 870
Gynaecology, Operative, Atlas of (Barton Cooke Hirst), 15
Gynaecology for Students and Practitioners (Thomas Watts Eden and Cuthbert Lockyer), 770
Half-past Twelve (George W. Gough), 771
Hazell Annual and Almanack for 1920, 49
Heat-stroke: Il Colpo di Calore (Salvatore Gangli), 89
Herman's Difficult Labour (revised by Carlton Oldfield), 606
Hernia, Inguinal: the Imperfectly Descended Testicle and Varicocele (Philip Turner), 15
Herschell's Textbook of Indigestion (revised by Adolph Abrahams), 573
Histology, Aids to (Alexander Goodall), 190
Hookworm Disease Controlled by the Intensive Method (H. H. Howard), 542
Horsley, Sir Victor: a Study of his Life and Work (Stephen Paget), 260
House-fly. *See* Fly
Hygiene, Aids to the Mathematics of (R. Bruce Ferguson), 708
Hygiene and Sanitation, Military (Colonel Frank R. Keefer), 88
Imitation of Christ, "Edith Cavell" edition, 407
India, Medical Guide to (Lieut.-Col. E. J. O'Meara), 471
Indigestion, Dr. G. Herschell's Textbook of (revised by Adolphe Abrahams), 573
Industrial Medicine and Surgery (Harry E. Mock), 502
Internal Medicine. *See* Medicine
Internal Secretions and the Nervous System (M. Laignel-Lavastine), 189
Intestinal Entozoa, Survey of, both Protozoal and Helminthic, observed among Natives in Johannesburg from June to November, 1917 (Annie Porter), 675
Journal of Neurology and Psycho-pathology, 870
Labour, Difficult, Herman's, 606
Legal Chemistry. *See* Chemistry
Letters of a Widowed Physician to his Daughter, 331
Man, Past and Present (A. H. Keane), 330
Mauritius, Epidemics of (Daniel E. Anderson), 298
Medical Annual for 1920, 738
Medical Guide for India and Book of Prescriptions (Lieut.-Col. E. J. O'Meara), 471
Medical History, Annals of, vol. ii, No. 1 226
Medical Society of London: Transactions vol. xlii, 407
Medical Science: Abstracts and Reviews, 88, 262, 331, 503
Medicine, Internal: A Work for Practising Physicians on Diagnosis and Treatment (Nathaniel B. Potter and James C. Wilson), 676
Military Hygiene and Sanitation, Textbook of Elementary (Frank R. Keefer), 88
Military Orthopaedics. *See* Orthopaedics
Milk: Le Lait Condensé (P. Lassablière), 88
Mind and its Disorders (W. H. B. Stoddart), 297
Miner's Nystagmus: La fatigue de l'appareil visuel chez les ouvriers mineurs (M. Stassen), 572
Minor Surgery and Bandaging (Heath, Pollard, Davis, and Williams), 226
Modern Science and Materialism (H. Elliot), 89
Moses, the Founder of Preventive Medicine (Percival Wood), 607
Mosquitos, British, Handbook of (W. D. Lang), 737
Mothercraft, 368
Music, Foundations of (Henry J. Watt), 407
Musings of an Idle Man (Col. H. R. Firth) 262
Narcotic Drug Problem (Ernest S. Bishop), 573
National Union of Manufacturers (Incorporated), Descriptive and Classified Directory of Members, 49

Reviews of Books (*continued*):
Naval Operations (Sir Julian S. Corbett), 637
Nerves, Pocket Notes on (T. Muirhead Martin), 118
Nervous and Mental Diseases (Archibald Church and Frederick Peterson), 471
Nose and Throat Diseases (Herbert Tilley), 830
Nose, Throat, and Ear Diseases (W. G. Porter), 830
Nursery School (Margaret Macmillan), 367
Nursery Schools: A Practical Handbook, 299
Nutrition of the Fetus (J. Morris Slemons), 470
Obesity: Grandes et Petites Obésités: Cure Radicale (Francis Heckel), 118
Open-air Schools: L'Ecole de Plein air et L'Ecole au Soleil (P. Armand-Delille and Ph. Wapler), 154
Ophthalmic Operations, Textbook of (Harold B. Grimsdale and E. Brewerton), 606
Orthopaedic Treatment of Gunshot Injuries (Leo. Mayer), 707
Orthopaedics, Military Physical: Part I—Gunshot Wound of Nerve (Lieut.-Colonel Arthur Stanley Herbert), 831
Oscar Montagu, Paranoiac (George Lincoln Walton), 471
Oto-Rhino-Laryngology (Georges Laurens), 830
Pennsylvania Tenth Annual Report of Commission of Health for Commonwealth of, 831
Peripheral Nerves, Anatomy of (A. Melville Paterson), 88
Peritoneum, The: Vol. I, Structure and Function in Relation to the Principles of Abdominal Surgery: Vol. II. Diseases and their Treatment (Arthur E. Hertzler), 15
Physical Diagnosis, Principles and Practice of (John C. Da Costa), 331
Physiology of the Central Nervous System and Special Senses, 870
Physiology, Human, Essentials of (D. Noël Paton), 799
Physiology, Human, Principles of (Ernest H. Starling), 676
Physiology: La Physiologie (Maurice Arthus), 540
Physiology: Lehrbuch der Physiologie des Menschen (Zuntz and Loewy), 154
Physiology of Vision (F. W. Edridge-Green), 502
Post-mortem Manual (Charles R. Box), 470
Prophylaxia Rural no Estado do Paranâ (Heraclides Cesar de Souza Araujo), 738
Psycho-analysis (Barbara Low), 640
Psychology and the Day's Work: A Study in the Application of Psychology to Daily Life (Edgar James Swift), 154
Psychology of the Normal and Subnormal (Henry Herbert Goddard), 470
Psychologies (Sir Ronald Ross), 262
Psychology from the Standpoint of a Behaviorist (John B. Watson), 771
Physiology in Surgical and General Practice, the New (A. Rendle Short), 738
Pye's Elementary Bandaging and Surgical Dressing (edited by V. Zachary Cope), 190
Quin, Henry, M.D., President and Fellow of the King and Queen's College of Physicians in Ireland and King's Professor of the Practice of Physic [1718-1791] (T. Percy C. Kirkpatrick), 407
Radiography of the Chest (Walker Overend), 798
Radiography in the Examination of the Liver, Gall Bladder, and Bile Ducts (Robert Knox), 405
Radiology: Éléments de radiologie (E. Albert Weil), 770
Rambling Recollections (A. D. Rockwell), 639
Recklinghausen's Disease: Il Morbo di Recklinghausen (Nina Samaja), 799
Reminiscences of Three Campaigns (Sir Alexander Ogston), 87
Renal Secretion: Physiologie normale et pathologique des reins (L. Amand), 606
Rest, Suggestion, and other Therapeutic Measures in Nervous and Mental Diseases (Francis X. Dercum), 367
Road to Endor (Lieut. E. H. Jones), 542
Salies de-Béarn: Quelques précisions rapides sur Salies-de-Béarn et le rôle de ses Eaux en Chirurgie (Dr. David), 831
Scientific Authority for Total Abstinence, Part II: Alcohol in Relation to the Nervous System, with special reference to its action on the brain (Courtenay C. Weeks), 503
Scottish Women's Hospitals, History of (edited by Eva Shaw), 153
Sexual Disabilities of Man, their Treatment and Prevention (Arthur Cooper), 771
Sexual Diseases: Die Geschlechtskrankheiten (Karl Zeiler), 870
Shell-shock and other Neuropsychiatric Problems (E. E. Southward), 574
Sight Testing Made Easy (W. Wright Hardwicke), 471. *See also* Vision
Skin Diseases, Handbook of (Frederick Gardiner), 676
Small-pox and Vaccination, Half a Century of (John C. McVail), 605
Spiritism, Modern (A. T. Schofield), 542
Reviews of Books (*continued*):
Stanford University Medical Publications, 738
Surgery of Egypt (Frank Cole Madden), 405
Surgery, Groundwork of (Arthur Cooke), 225
Surgery, Manual of [Rose and Carless] (Albert Carless), 769
Surgery, Minor, and Bandaging (Heath, Pollard, Davis and Gwynne Williams), 226
Surgical Operations: Textbook for Nurses (E. W. Hey Groves), 471
Surgery of the Temporal Bone (Sir Charles A. Ballance and Charles David Green), 798
Surgery, Textbook of (W. Q. Wood), 799
Sussex in Bygone Days (Nathaniel Paine Blaker), 226
Syphilis, Acquired, Atlas of the Primary and Acquired Lesions of in the Male (Charles F. White and W. Herbert Brown), 541
Syphilis in Childhood (Leonard Findlay), 366
Syphilis, Pulmonary: Anatomia patologica y patogenia de la sifilis pulmonar (Pedro I. Elizalde), 869
Syphilis, the Third Great Plague (John H. Stokes), 504
Teeth, Microscopic Anatomy of (J. Howard Mummery), 406
Third Great Plague (John H. Stokes), 504
Throat and Nose Diseases (Herbert Tilley), 830
Throat, Nose, and Ear Diseases (W. G. Porter), 830
Toasts, Rakes, and Cits, 870
Totem and Taboo, Resemblances between the Psychic Lives of Savages and Neurotics (Sigmund Freud), 502
Treatment, Physiological Principles in (W. Langdon Brown), 188
Tropical Diseases, Diagnostics and Treatment of (Rear Admiral E. R. Stitt), 299
Tuberculosis: Feststellung und Behandlung der Tuberkulösen Infektion mittels antitoxischer Heilkörper (Emanuel Wein), 16
Turner, Sir William, K.C.B., F.R.S. (A. Logan Turner), 439
Typhoid Fever (Frederick P. Gay), 88
Urethra, Male, Diseases of (Irvin S. Koll), 406
Urethroscope in the Diagnosis and Treatment of Urethritis, a Contribution to Urethroscopy (Major N. P. L. Lumb), 48
Urology, Modern (edited by Hugh Cabot), 470
Urology: Urologisches Praktikum (I. Cohn), 831
Urology, Textbook of, in Men, Women, and Children, including Urinary and Sexual Infections, Urethroscopy, and Cystoscopy (V. C. Pedersen), 225
Urology: Essai d'Urologie Pathologique des Pays Chauds (Joseph Khouri), 639
Venereal Disease, its Prevention, Symptoms, and Treatment (Hugh Wansey Bayly), 639
Venereal Diseases, Manual of (A. C. Magian), 331
Venereal Diseases for Students, Manual of (L. W. Harrison), 638
Venereal Problem (E. T. Burke), 190
Vision: Card Test for Colour-blindness (F. W. Edridge-Green), 502
Vision, Physiology of, with special reference to Colour-blindness (F. W. Edridge-Green), 502
War Diseases and Pensions (R. M. Wilson and W. M. T. Wilson), 504
War Nursing (Charles Richet), 504
War Surgery of the Face: Les fractures de guerre du maxillaire inférieur (A. Herpin), 543
War Surgery of the Face (John B. Roberts), 190
War Surgery, Manual of (Colonel Seymour Barling and Major J. T. Morrison), 469
War Surgery, Italian: Ferite del Capo e dell' Addome in un Ambulanza Chirurgica d'Armata (G. G. Forni), 541
Whitaker's Almanack for 1920, 49
Work of V.A.D. London 1 during the War (edited by Stanley Unwin), 574
Wounds and Injuries, After-Treatment of (R. C. Elmslie), 868
X-ray Observations for Foreign Bodies and their Localization (Captain Harold C. Gage), 153
X-ray Plates and Films, Systematic Development of (Lehman Wendell), 770
Yearbook of Pharmacy, 226

Revue Générale d'Ophtalmologie, reappearance of, 253
Revue de la Tuberculose, resumption of publication, 315
Rewards for medical discovery, 26
Reynolds and Branson, centenary of, 241
REYNOLDS, James Emerson, obituary notice of, 387
REYNOLDS, H. S.: Cold water and antipyretic drugs, 206
Rhinoplasty and cheiloplasty (Rushton Parker), 12. (O)
RIBBERT, Hugo: Origin of tumours, 53
RICE-OXLEY, Douglas George, appointed Surgeon-in-Ordinary to Princess Beatrice, 205—Holds a successful mayoral reception, 351
RICHARDS, Meredith, appointed to Head Quarters of Ministry of Health, 785
RICHET, Charles: *War Nursing*, rev., 504
RIGGALL, Robert M.: Forgetting, psychological repression, 131
Ringworm of nails, simple treatment of (Robert Craik), 185
Ringworm, treatment of (W. H. Elford), 867
Riviera, The, 24
RIVIERE, Clive: Artificial pneumothorax 522
RIXON, C. H. L.: Forgetting: psychologica repression, 201
ROAF, H. E.: Case of diphtheroid septicaemia, 13
ROBERTS, A. B.: Pin in alimentary canal, 424
ROBERTS, Lieut.-Col. Alfred Ernest, obituary notice of, 855
ROBERTS, John B.: *War Surgery of the Face*, rev., 190
ROBERTS, Richard Lumley, obituary notice of, 690
ROBERTSON, Robert: Vaccines in obstetrics and gynaecology, 437
ROBERTSON, R. K.: Treatment of malaria 199
ROBINSON, John: Prevention of venereal disease, 273
ROBINSON, Robert, elected Fellow of Royal Society, 344
ROBINSON, Sir William Arthur, appointed First Secretary to the Ministry of Health, 582
ROBINSON, W.: Taxation of motor cars, 576
ROBINSON, W. E.: *Baby Welfare: a Guide to its Acquisition and Maintenance*, rev., 368
Rockefeller benefactions, 24—New gift, 24—Gift to University College and Hospital, 799, 834, 838—Leading article, 838 - Correspondence on, 883
ROCKWELL, A. D.: *Rambling Recollections*, rev., 639
ROGERS, Kenneth: Two cases of hemiplegia, 220
ROGERS, Lieut.-Col. Sir Leonard: Further work on antimony intravenously in filariasis, 596. (O)
ROGET, F. F.: *Altitude and Health* rev., 298
ROLLESTON, Sir Humphry: Appreciation of Sir William Osler, 65—Aims and methods of graduate study, 77. (O)—Appendix and gall-bladder dyspepsia, 317. (O)—(and H. J. WARING): Graduate education in the United States, 833
Roman netting needle for winding a surgical thread, 458
ROOCROFT, Colonel W. Mitchell, appointed J.P. for County Palatine of Lancaster, 35
ROOD, Felix: Anaesthesia in throat operations 295
RORKE, Margaret: Gonorrhoeal vulvo-vaginitis in a newborn infant, 671
ROSS, J. Stuart: *Handbook of Anaesthetics*, rev., 117
ROSS, Sir Ronald: Mode of quinine administration, 130—*Psychologies*, rev., 262—Awards for medical discovery, 486
ROSS, Brigade Surgeon William George, obituary notice of, 71
ROTH, Paul Bernard: Fracture dislocations of the ankle, 62
ROUT, Ettie A.: Prophylaxis and venereal disease amongst the Anzacs, 202
ROUTH, Amand: Prevention of venereal disease, 98
ROWE, R. P. P.: *Concise Chronicle of Events of the Great War*, rev., 738
ROWLANDS, R. P.: Gall stones, 665. (O)
ROWNTREE, Cecil: Origin of tumours, 132—Spontaneous rupture of subclavian artery, 326
Royal Faculty of Physicians and Surgeons of Glasgow: Admission of Fellows, 385, 755, 854—Accepts case of surgical instruments used by Lord Lister, 385—Representative on General Medical Council, 588
Royal Institute of Public Health Congress. *See* Congress
Royal Irish Constabulary, medical attendance on, 234
Royal Mail Steam Packet Company, sailings, 103
Royal Medical Benevolent Fund. *See* Fund
Royal Sanitary Institute Congress, 438
Rubber Growers' Association offers prizes for new ideas on rubber, 855
RUHRÄH, John (and Julius FRIEDENWALD): *Diet in Health and Disease*, rev., 262
Rupture of membranes, *See* Membranes
RUSS, Sidney, appointed first incumbent of Joel chair of physics, 315
RUSSELL, Gladys J. C.: Case of cervical abortion 363
RUSSELL, Wilfred A.: Prevention of venereal disease, 62
Russia: Medicine in Bolshevist Russia, 54—Typhus fever in, 751
RUTHERFORD, A. H.: Ileo-caecal valve, 553
RUTHERFORD, Sir Ernest, delivers first Mackenzie Davidson Memorial Lecture, 581
RYLE, Dr.: Oxygen therapy, 152

S.

St. Andrews Institute for Clinical Research (leading article), 119. *See also* Clinical
St. John, Order of, 29, 171
St. Kilda, influenza in, 654
SABAWALA, B. P.: Volvulus of the whol jejuno-ileum, 221

SABERTON, Claude: *Diathermy in Medical and Surgical Practice*, rev., 869
"Safety first," 848
Salaries of medical officers of local authorities, 230; of school medical officers, 686, 847
Salaries of Poor Law medical officers, 234, 783
Sale of Food and Drugs Acts, duties of local authorities under, 173
Saline taste in mouth, remedy for, 660
Salvarsan, composition of (leading article), 804
Salvarsan injections, intracarotid, 162
Salvarsanized serum in sleeping sickness (Claude H. Marshall), 702. (O)
SAMAJA, Nina: *It Morbo di Recklinghausen*, rev., 799
SAMWAYS, D. W.: Chameleon influenza, 424—Acute pulmonary oedema, 726
Sanatorium hospital for the well-to-do, 883
Sanatorium superintendents decide to form a society, 351
Sanatorium treatment (parliamentary question), 482, 650—"After care," 650
Sanatoriums for tuberculosis: Proposed for merchant seamen, 229—For uncertifiable mental cases (parliamentary question), 414—Objections to proposed site of the Belfast sanatorium, 617, 783—Correspondence on, 619, 688
Sandfly fever. *See* Fever
Sanitary science research, Grocers' scholarships for, 489
Sarcoma, mammary, in old age (T. C. Graves), 81
Sarcoma, spindle-celled (W. W. King), 224
SARGENT, Percy: Surgical aspects of spinal tumours, 37. (O)
SASUN, Devi Dayal, trial of and sentence on, 589, 754
SAUGMAN: Thoracoplasty in pulmonary tuberculosis, 717
SAUNDERS, E. A.: *The Baby*, rev., 368
SAUNDERS, William, obituary notice of, 813
Saunders, W. B. and Co.: Catalogue of medical books, 885
SAVAGE, William G.: *Food Poisoning and Food Infections*, rev., 225
Sawyer and Co.'s catalogue of medical books, 148
SCALES, J. E.: Note on a tuberculous cow, 400
Scandinavian medical journals, 55
SCHARLIEB, Mary: *Change of Life, its Difficulties and Dangers*, rev., 708
SCHOFIELD, A. T.: *Modern Spiritism*, rev., 542
SCHOLES, Frank V. G.: *Lectures to Students on Diphtheria, Measles, Scarlatina*, rev., 573
School children, medical inspection and treatment of, Board of Education draft regulations, 481—London County Council's proposals, 483—Fees for treatment of, 883
School medical officers' salaries. *See* Salaries
Schools, elementary, medical examinations in (parliamentary question), 615
Schools, Metropolitan Medical, Conference, 885
Schools, secondary and continuation, local authorities to provide for medical inspection of, 241, 591, 855
SCHRYVER, S. B.: *An Introduction to the Study of Biological Chemistry*, rev., 154
SCHULLER, Walter Joseph, obituary notice of, 813
Sciatica, treatment of, 856
Scientific investigation, State grants for, deputation to Right. Hon. A. J. Balfour, 346—Note on, 342
Sclerema neonatorum associated with placenta praevia (A. E. Hodder), 634
Sclerodermia, remarks on (Frank H. Barendt), 44. (O)

Scotland:
Anatomy inspector, 617
British Orthopaedic Association, 687
Central Midwives Board for Scotland, 379
Colliery Surgeons' Committee, 27
Craigleith Military Hospital, 270
Diamond jubilee of a Scottish practitioner (George Banks), 127
East of Scotland Overseas Medical Club, 196
EDINBURGH:
Clinical meeting of Edinburgh Branch, 234, 348
Edinburgh Medical Journal, 127
Greater Edinburgh, 617
"Liberton," 810
Lister Memorial Institute, the proposed, 95
Morison lectures, 270
Neo-natal death rate, 270
Royal Infirmary, 234
Royal Maternity and Simpson Memorial Hospital, 809
Stillbirths rate in, 687
University report 27—Extensions at, 617. *See also* University
General Nursing Council for Scotland, 127, 584, 752
GLASGOW:
Limbless hospital (Erskine), 197
Post-graduate teaching in, 721
Radium in cancer, 483
Royal Infirmary, 270
Small-pox in, 483, 584, 617, 654, 687, 721, 782, 848, 881
Western Infirmary, 58
Grein, C. E., death of, 95
Highlands and Islands Medical Service, 848

Scotland (*continued*):
Hospitals and nursing services, 848, 880
Housing, 95
Influenza in St. Kilda, 654
Lethargic encephalitis, 452
Malaria in Scotland, 654
Obstruction of a doctor's car, 783
Radium in cancer, 483
School health administration, 518
Scottish Board of Health, 196—Consultative councils, 196, 452—Lethargic encephalitis, 452—School health administration, 518—Village settlements for tuberculous ex-service men, 654—Venereal diseases treatment, 752
Scottish Poor Law Medical Officers' Association, 166
Sir James Simpson's daughter, 167
Small-pox in Scotland, 483, 584, 617, 654, 687, 721, 782, 848, 881
Venereal diseases treatment, 752
Village settlements for tuberculous ex-service men, 654

Scotland, East of, Overseas Medical Club, 196
SCOTT, J. M. Duncan: Infection in pneumonia, 816
SCOTT, Surgeon-Major Ralph Robert, obituary notice of, 853
SCOTT, William S.: Acute oedema of lungs, 571
Scottish Board of Health: General Nursing Council for Scotland, 127, 752—Consultative Councils, 196, 418, 452—Election of officers, 418—Lethargic encephalitis, 452—Administration, 518—Village settlements for tuberculous ex service men, 654—Malaria in Scotland, 654—Treatment of venereal diseases, 752
Scottish colliery surgeons and the Miners' Union, 171, 239
Scottish Poor Law Medical Officers' Association, 166 *See also* Association
Scottish Women's Hospitals, History of, rev., 153
Scurvy, night blindness in, 526
Scurvy, treatment of (W. H. Willcox), 73. (O)
Sea sickness, atropine in, 23
SECRETAN, W. Bernard: Proposed taxation of motor cars, 660
SEMON, H. C.: *X*-ray treatment of acne vulgaris, 700. (O)
Senile melancholia, 104
Sepsis, puerperal (Berry Hart), 296
Septicaemia, diphtheroid (H. E. Roaf), 13
Serbia, Ministry of Social Welfare, Belgrade, invites co-operation with Serbian Relief Fund, London, 245
Serum, antistreptococcic, in quinsy (Noel C. Foresyth), 361. (O)
Serum, monotypical, in treatment of cerebro-spinal fever (W. T. Munro), 430. (O)
Service women's compensation (parliamentary question), 306
SHARP, A. C.: Simple paroxysmal tachycardia, 867
SHATTOCK, S. G.: Appendicular concretions, 635
SHAW, B. H.: Significance of acidosis in certain nervous disorders 695. (O)
SHAW, Eva (editor): *History of the Scottish Women's Hospitals*, rev., 153
SHAW, Fletcher: Advanced cancer of cervix rendered operable by radium therapy, 806, 829
SHAW, Lauriston E.: The machinery of the Association, 63
SHAW-MACKENZIE, J. A.: Copper alanine in inoperable cancer, 174
SHEAF, E. W.: Spontaneous rupture of malarial spleen, 767
SHEILL, Spencer: Circumcision, 768
Shell shock. *See* Shock
SHEPHERD, Flora: Infant welfare centres, 153
SHERA, A. G.: Local clinical laboratories, 59
SHERREN, Major Hugh Godwin, obituary notice of, 456
SHERRINGTON, C. S.: Appreciation of Sir W. Osler, 65
Shingles and chicken-pox (A. Ingram Cooke), 468
Shingles, varicella, epilepsy, and the weather, 487
SHIPLEY, Sir Arthur: Biting insects and children, 659
SHIRLAW, J. Thomson: New lamps for oid in obstetrics, 170
Shock, shell, departmental inquiry on, 648
Shock therapy, protein, 228 *See also* Immunity
SHORT, A. Rendle: *The New Physiology in Surgical and General Practice*, rev., 738
SHUFFLEBOTHAM, Dr.: Oxygen therapy, 152
SILLAR, Sir W. C.: Appreciation of Sir Thomas Fraser, 101
SIMPSON, Evelyn Blantyre, death of, 167
SIMPSON, Garry: Value of calcium lactate, 726
SINCLAIR, Major M.: Treatment of fractures, 198
SINGER, Charles: Magic and medicine, 612—Greek science and modern science, 748
SKERRETT, F. B.: Experimental induction of cancer, 850
SKEVINGTON, J.: Spontaneous rupture of a malarial spleen, 571
Skiagraphy of solid viscera (leading article), 511
Skin diseases, review of books on, 676
Skull, fractures of in civil life, lessons of the war in treatment of (C. M. Kennedy), 630 (O)
SLADDEN, Arthur F.: Epidemic encephalitis, 722
Sleeping sickness in Africa (Captain Basil Spence), 205
Sleeping sickness, salvarsanized serum in (Claude H. Marshall), 702. (O)
SLEMONS, J. Morris: *Nutrition of the Fetus*, rev., 470
Small-pox: In Germany (parliamentary question), 346—in East London (parliamentary question), 378—in Poplar (parliamentary question), 414—Parliamentary questions on, 346, 378, 414, 450, 650—In Glasgow, 483, 584, 617, 654, 687, 721, 782, 881—In Calcutta, 618—In Bolton (parliamentary question), 650—In Scotland, 654, 687, 721, 782, 785, 848, 881—In London, 660—In Bohemia, 725
Small-pox carriers, vaccinal condition of (parliamentary question), 751—Correspondence on, 851
Small-pox, its types and prevention (leading article), 778
Small-pox and vaccination, review of book on, 605
SMETHAM, Alfred, elected president of Society of Public Analysts, 241
SMITH, Edwin, appointed deputy coroner for Westminster and South-West London District, 137
SMITH, Gerard: Spiritualism and mental disease, 660
SMITH, G. G.: *An Outline of Genito-Urinary Surgery*, rev., 49
SMITH, Heywood: Needle in the alimentary canal, 81
SMITH, J. Barker: Chronic pancreatitis, 62, 238
SMITH, J. W.: Atony and prolapse of the large intestine, 243. (O)
SMITH, R. Eccles: Volvulus of caecum, double obstruction, 289. (O)
SMITH'S Visiting List, 36
SMITH-SHAND, Surgeon Commander A. K.: Physical therapy in the navy, 683
Smoke abatement, 303
Smoke, the black, tax 721
SMURTHWAITE, H.: Plea for early treatment of suppurative middle-ear disease, 467. (O)
SMYLY, Sir W.: Schultze's forceps, 48
SMYTH, F. C., obituary notice of, 884
SMYTH, Colonel J.: The Tagliacotian doctrine, 104, 352
SMYTH, J. A.: Acute suffocative catarrh, 670. (O)
SMYTH, Johnson: Sunburnt potatoes, 886
SNODGRASS, William: Appreciation of John Morton, 523
Société Belge de Médecine Mentale, fiftieth anniversary of its foundation, 881
Societies, Conjoint Board of Scientific, annual report, 725
Societies, medical, international organization of, 266—Correspondence on, 272
Society, Assurance Medical: Resolves not to be incorporated with the Royal Society of Medicine, 137—Presidential address, 366
Society, Bradford Medico-Chirurgical:—H. H. White: Brief review of venereal diseases, 469—W. Campbell: Diagnosis of syphilis, 469
Society, Bristol Medico-Chirurgical:—Carey Coombs: The irritable heart, 404
Society, Cardiff Medical:—Professor Emrys-Roberts: The Welsh Mobile Laboratory, 27—Herbert Evans: The urinary system and the *Bacillus coli communis*, 438
Society, Child Study:—Sir Arthur Shipley: Biting insects and children, 659
Society, Coroners': Annual meeting, 880
Society, Edinburgh Obstetrical:—F. J. Browne: Hydatidiform mole, 152—Berry Hart: Puerperal sepsis, 296—Robert Robertson: Value of vaccine treatment in obstetrics and gynaecology, 437—J. W. Ballantyne and F. J. Browne: Colour in pregnancy, 438—Robert Jardine and A. M. Kennedy: Puerperal suppression of urine, 767—Eardley Holland: Fetal intracranial haemorrhage during birth, 868
Society, Glasgow Royal Medico-Chirurgical:—Archibald Young: Intussusception of the appendix, 365—W. S. Syme: Malignant disease of larynx. 365—Adam Patrick: Multiple oriental sore, 365—W. F. Somerville: The Bergonié chair, 365—W. H. Brown: Plea for the early recognition of syphilis, 501
Society, Harveian: Annual meeting and conversazione, 329—Sir Thomas Horder: Nerve symptoms in acute infections, 404
Society, Hunterian:—John Adams: Antenatal and post-natal syphilis, 603
Society, Illuminating Engineering, discussion on illumination in mines, 327
Society, Italian, of Pediatrics: Next meeting September, 590
Society, Jenner, 842
Society, Lancaster Gate Medical, to be called in future the Psycho-Neurological Society, q.v.
Society, Linnean, to increase its subscription, 454
Society, London and Counties Medical Protection: Annual meeting, 475—Deputation *re* protection of medical officers of venereal disease clinics, 691

Society, Manchester Medical:—R. B. Wild: Some racial problems, social evils, and modern crusades, 234—T. H. Pear: Psychological analysis 736
Society, Medical, of London:—John Freeman: Susceptibility to foreign proteins, 188—H. Drinkwater: Naked eye diagnosis of throat infections, 259—W. H. Willcox and Leonard Hill: Heat hyperpyrexia, 401; Discussion, 401—Sir Charters Symonds: Surgery of the chest, 401—*Transactions*, vol. xlii, rev., 407—147th anniversary dinner, 447—Annual oration (Sir D'Arcy Power): The Rev. John Ward and Medicine 674
Society of Medical Officers of Health: Honorary Fellows, 305
Society of Medical Officers of Maternity and Child Welfare Centres, formation of, 315
Society, Medical Sickness, Annuity, and Life Assurance: Note on, 94—Annual meeting, 475—Proposed conversion into a company, 589
Society, Medico-Chirurgical, of Edinburgh:—Sir Robert Philip: Treatment of tuberculosis, 704—Discussion on, 704—Chalmers Watson: Enteroptosis and allied conditions, 797
Society, Midland Medical:—Heywood Smith: Needle in alimentary canal, 81
Society, North of England Obstetrical and Gynaecological:—J. W. Bride: Results of hysterectomy for fibroids, 14—Exhibition of cases, 14, 224—W. W. King: Diagnosis of gonorrhoea in the female, 364—W. Gough: Expectant treatment in eclampsia, 636
Society, Nottingham Medico-Chirurgical:—C. H. Cattle: Soldier's heart, 188
Society, Ophthalmological, of the United Kingdom: Annual Congress, 671, 707—J. B. Story: Ophthalmological teaching, 671—Papers, clinical meeting, visit to St. Margaret's Hospital, 707
Society, Psycho Neurological: Election of officers, 423—Clinical meeting, 605—Exhibition of cases, 605
Society of Public Analysts:—C. A. Mitchell: Persistence of finger-prints on documents, 387
Society for Relief of Widows and Orphans of Medical Men, 755—Annual meeting, 755
Society, Research Defence, attains its twelfth year, 121
Society, Royal: Election of Fellows, 344
Society, Royal of Arts: Leon Gaster: Industrial lighting and its relation to efficiency, 557
Society, Royal Edinburgh Physical:—Captain Basil Spence: Sleeping sickness in Africa, 205

SOCIETY, ROYAL OF MEDICINE:
A. D. Waller: Lecture on the measurement of emotion, 259
John Freeman: Toxic idiopathies, 403
Sir Jagadis Bose: Plant response, 412
Appoints representatives to the Federation of Medical and Allied Societies, 438
H. E. Powell appointed librarian, 623
Section of Anaesthetics.—Clarence Mott: Intratracheal chloroform, 13—Felix Rood: Anaesthesia in throat operations, 295—Discussion, 296—Mrs. Dickinson Berry: Anaesthesia for thyroid operations, 635
Section of Study of Children's Diseases.—Discussion on influence of vitamines in infant feeding, 328
Clinical Section.—Sir Anthony Bowlby: War methods in civil practice, 86
Section of Epidemiology and State Medicine.—F. G. Crookshank: First principles and epidemiology, 186—Matthew Young: Periodicity of epidemics of whooping-cough measured by the periodogram, 366—P. Hartley and C. J. Martin: Diphtheria bacilli in the throat, 796
Section of Laryngology.—Exhibition of cases, 116
Section of Medicine.—W. H. Willcox: Typhus and relapsing fever in Mesopotamia and Northern Persia, 222—Colonel Hansom Pickard and G. W. Lloyd: Early manifestations of scurvy, 329
Section of Obstetrics and Gynaecology.—Gorden Ley: Fifty consecutive cases of utero-placental apoplexy (accidental haemorrhage), 437—A. C. Palmer: Rupture of vagina, 602—Herbert Williamson: Blood transfusion before operation, 603—Lady Barrett: High ammonia coefficient, 603—Discussion on ante-partum haemorrhage (joint meeting with North of England and Midland Obstetrical and Gynaecological Societies), 672, 705—Discussion on rupture of Caesarean section scar, 705—Fletcher Shaw and Arthur Burrows: Advanced cancer of cervix rendered operable by radium therapy, 806, 829—Philip D. Turner: Traumatic rupture of pedicle of a subperitoneal fibroid 829—Ford Anderson: Rupture of uterus, 829—A. W. Bourne: Spontaneous rupture of uterus following pituitrin, 829
Section of Odontology.—S. F. St. J. Steadman: Dental sepsis in children, 186—Discussion on, 187
Section of Pathology.—Demonstration and papers, 366, 635—S. G. Shattock: Appendicular concretions, 635
Section of Surgery.—R. H. A. Whitelocke: Appendicectomy by a new route, 211, 223—Discussion, 223

SOCIETY, ROYAL, OF MEDICINE (*continued*):
Section of Therapeutics.—Discussion on oxygen therapy, 150—H. H. Dale: Value of alcohol as a therapeutic agent, 294—Discussion 295
Subsection of Proctology.—W. H. Maxwell Telling: Diverticulitis, 82—Discussion paper, 84, 115
War Section.—Sir Wilmot Herringham: Gas poisoning, 221; Discussion on, 222

Society, Royal Medico-Chirurgical, of Glasgow:—Walter W. Galbraith: Effusion into both knee-joints due to congenital syphilis, 636—Arch. Young: Volkmann's ischaemic contracture of forearm, 636
Society, Royal Statistical:—T. H. C. Stevenson: Class fertility in England and Wales, 604
Society, Royal, of Tropical Medicine and Hygiene 855
Society, Seamen's Hospital: Report, 458
Society, Sheffield Medico-Chirurgical:—J. B. Leathes: Renal function in nephritis, 403—Discussion on modes of anaesthesia, 539—Rupert Hallam: Therapeutic uses of radium, 736
Society of Superintendents of Tuberculosis Institutions: Election of members, 797—Leonard Hill: Ventilation and heating of tuberculosis institutions, 797
Society of Surgery, International: Next meeting Paris, 144, 305, 351
Society, Tuberculosis: Decides against affiliation with the British Federation of Medical and Allied Societies, 241—Conference, 737—Discussion on tuberculous ex-soldiers, 737—Discussion on artificial pneumothorax, 737
Society, Ulster Medical:—Major M. Sinclair: Treatment of fractures, 198—Examination in ophthalmology, 198—Papers and cases, 379—Reception, 618—Discussion on public health questions, 688—Annual meeting, 783
Society, United Services Medical: Decides to amalgamate with War Section of the Royal Society of Medicine, 771
Society, Venereal Disease Prevention: Mansion House meeting, 241—Annual meeting, 839 *See also* Venereal
Society, Vermin Repression: Dinner, 103
Society, West London Medico-Chirurgical: Discussion on drug idiosyncrasy, 405—Annual dinner, 647—Award of medals, 647
Society, Zoological:—F. Martin Duncan: Photomicrographs of acari, 276—Notice *re* condensation of papers, 691
Soft answer (Wilks on Audison), 72
Soldier prisoners, reformative treatment of (Australia), 811
Soldiers, blind, 615. *See also* Blind
Soldiers, disabled. *See* Disabled
Soldier's heart. *See* Heart
Soldiers in hospital in the United Kingdom (parliamentary question), 808
Soldiers, limbless, hospitals for, 197. *See also* Hospital
Soldiers, tuberculous (in Sydney), 271—Treatment of (parliamentary question), 720. *See also* Tuberculous ex-service men
Soldiers. *See also* Ex-service men
SOLOMONS, Bethel: *Handbook of Gynaecology*, rev., 15—Uterine cancer, 48
SOMERVILLE, W. F.: The Bergonié chair, 365
SOUPER, Captain H. R.: Metastatic staphylococcal infections of the kidney, 88. (O)
Southampton increases its donation to the Village Centres Council, 264
SOUTHARD, E. E.: *Shell Shock and other Neuropsychiatric Problems*, rev., 574
SOWRY, Dr.: Oxygen therapy, 152
Spain: Institute of biology and serumtherapy opened in Madrid, 241—Vaccination against small-pox and enteric fever made compulsory in Madrid, 586—Lethargic encephalitis in, 659—Physicians and surgeons of Madrid refuse to treat any but the poor without fee in hospitals and dispensaries, 766
Span of life, 138
SPEARS, Dr.: Paralysis of left arm and leg, 736
Speculum illuminator, simple, 174
Speech, a time for, 579
SPELMAN, the late Dr. A. P.: A moving appeal, 689, 721
SPENCE, Captain Basil: Sleeping sickness in Africa, 205
SPENCER, Herbert R.: Lettsomian lectures on tumours complicating pregnancy, labour, and the puerperium, 179, 246, 320, 452. (O)—Note on Charles Combe, 205—Appreciation of Ernst Wertheim, 455—Treatment of uterine cancer, 554—Fibroids complicating pregnancy, hysterectomy, recovery, 554
SPILSBURY, Captain Francis James, obituary notice of, 203
Spinal cord, early symptoms and diagnosis of diseases of (Sir F. W. Mott), 857. (O)
Spinal tumours. *See* Tumours
Spiritualism and mental disease, 660
Spirochaetes in bronchiectasis, 14
Spleen, ruptured malarial, splenectomy, recovery (Cyril A. Raison), 827. (O)
Spleen, malarial, spontaneous rupture of (Sir J. Skevington), 571—(E. W. Sheaf), 767
Spleen, normal, apparent spontaneous rupture of, 63
SPRIGGS, E. I.: Diverticulitis, 85—Surprises in diagnosis, 563. (O)

STALKER, James M.: Prevention of venereal disease, 129
Stamp duties on patent medicines (parliamentary questions), 482
Stanford University Medical Publications, rev., 738
STANGER, W., presentation to, 198
STANLEY, Sir Arthur: Future of the hospitals, 691—Civil motor ambulance service, 784
Staphylococcic infection of the kidney, metastatic (Captain H. R. Souper), 288. (O)
STAPLEY, Walter: Plea for the tonsils, 851
STARK, A. Campbell: "New lamps for old" in obstetrics, 59
STARKEY, W.: Treatment of delirium tremens, 47
STARLING, E. H.: Premature announcement about, 94—Goes to India on Government business, 557—*Principles of Human Physiology*, rev., 676
STASSEN, M.: *La fatigue de l'appareil visuel chez les ouvriers mineurs*, rev., 572
State grants for scientific investigation, 342, 346. *See also* Scientific *and* Universities
State medical service, whole-time, discussion at meeting of Marylebone Division, 158
State medical service in Ireland, the proposed, meeting in Belfast, 197
State and public health. *See* Public Health
State and venereal disease, 155 Policy of the Medical Women's Federation, 155
STAWELL, R. de S.: Fibroids complicating pregnancy, hysterectomy, recovery, 498. (O)
STEADMAN, S. F. St. J.: Dental sepsis in children, 186
STEEN, R. Hunter: Chronic hallucinatory psychosis, 363
STEPHENS, J. J. W., elected Fellow of Royal Society, 344
Sterility in the male (Kenneth Walker), 10. (O)—Correspondence on, 274, 349
Sterility, tubal (Hastings Tweedy), 604
STEVENS, W. Mitchell: Appreciation of Sir W. Osler, 67
STEVENSON, T. H. C.: Class fertility in England and Wales, 604
STEVENSON, Captain Walter C.: Effects of radium treatment on war injuries in the neighbourhood of nerves, 862 (O)
STEWARD, F. J.: Treatment of septic peritonitis, 527. (O)
STEWART, George C.: Work of a pensions referee, 132
STEWART, M. J.: Use of polarized light in detection of suture materials embedded in tissues, 663. (O)
STEWART, William, obituary notice of, 724
Stewart Prize, 748
Stillbirths in Edinburgh, 687
STITT, E. R.: *Diagnostics and Treatment of Tropical Diseases*, rev., 299
STODDART, W. H. B.: *Mind and its Disorders*, rev., 297
STOKES, John H.: *The Third Great Plague*, rev., 504
Stomach, hour-glass: gastric and pyloric ulcers (Donald M. MacLeod), 115
Stomach, volvulus of (leading article), 548
STORY, J. B.: Ophthalmological teaching, 671
Straits Settlements gold medal, 133
STRANGEWAYS, T. S. P.: Nutrition of articular cartilage, 661. (O)
Strasbourg, new courses of study at, 530
Street accidents in England and Wales in 1919, 457
STRETTON, J. Lionel: Three acute abdominal cases (polypus of stomach, large haemorrhage into wall of caecum, large ovarian cyst), 80. (O)—Fees for treatment of school children), 883
STRONG, Sir Thomas: Appreciation of Sir William Osler. 64
STUART, Sir Thomas Anderson, obituary notice of, 421, 811
STURGE, M. Carta: *Christianity and Christian Science*, rev., 16
Sugar for children under 2, extra ration of, 855
SULLIVAN, William C., appointed medical superintendent of Broadmoor Asylum, 351
Sulphur, sublimed, in mercurialism, 149
SUNDBERG, H.: Operation for arterial embolism, 805
Surgeon Rear Admirals, 615. *See also* Navy, Royal
Surgery, review of books on, 48, 225, 405, 469, 502, 541, 675, 769, 798
Surgery, uses of free transplants of the fascia lata in (G. Grey Turner), 79 (O)
Surgical instrument cases, historical, 54
Surgical war honours, 238
SUTHERLAND, Major R. W. (and Captain J. M. CHRISTIE): Military orthopaedics, 762. (O)
Suture material embedded in tissues, use of polarized light in detection of, 663. (O)
Swab, unmusical, 104
Swansea, opening of a pathological department, 722
Sweating, profuse, 242; in axillae, 242
Sweden, appoints Commission to report on compulsory insurance against sickness, 557—Tuberculosis conference in, 632
SWEET, W. Sidney: Treatment of pulmonary tuberculosis in private practice, 552
SWIFT, Edgar James: *Psychology and the Day's Work: A Study in the Application of Psychology to Daily Life*, rev., 154

SYLVESTER, Assistant Surgeon Henry Thomas, V.C., obituary notice of, 456
SYME the discoverer of waterproofing, 521
SYME, W. S.: Malignant disease of larynx, 365
SYMES, J. O.: Prognosis and treatment of chronic nephritis, 494. (O)
SYMONDS, Sir Charters: Surgery of the chest, 401
Symptoms, mechanism of (leading article), 547
Syphilis, ante-natal and post-natal, 603
Syphilis, arseno-benzol compounds in, comparison of two methods of administering (H. E. Gibson), 114. (O)
Syphilis, arseno-benzol compounds used in treatment of, causing poisoning, 864. (O)
Syphilis, complement fixation test in 877
Syphilis, diagnosis of (W. Campbell), 469
Syphilis, early diagnosis of (E. Harrison), 364—Correspondence on, 416, 486, 620, 688, 753
Syphilis, early recognition of (W. H. Brown), 501
Syphilis, inherited (Frederic H. Haynes), 765
Syphilis insontium (J. C. McWalter), 827. (O)
Syphilis in Western Australia, number of cases notified, 724
Syphilis, review of books on, 366 541, 869
Syphilis, sites of inoculation lesions in, 388
Syphilis, treatment of (parliamentary question), 346
Syphilis, trifling with, 613

T.

Tabes, visceral analgesia in, 480
Table waters, duty on (parliamentary question), 615
Tachycardia, simple paroxysmal, 867
Tagliacotian doctrine, 72, 104, 174, 352
Taxation, direct, 686. *See also* Budget
Taxation of invalid chairs [motor driven] (parliamentary question), 346
TAYLOR, Charles Louis, obituary notice of, 33, 101—Book presented to the Library of Roval College of Surgeons in memory of, 346—Elected a member of the French Medical History Society, 387
TAYLOR, C. R.: Sandfly fever in Mesopotamia, 620
TAYLOR, H. F Lechmere: An opportunity for invalids, 786
TAYLOR, J. A.: Routine treatment of malaria in Uganda, 113. (O)
TAYLOR, James: Neurological jottings, 282 (O)
TAYLOR, James, presentation to, 849
TELLING, W. H. Maxwell: Diverticulitis, 82
Territorial force. *See* Army, British
Territorial general hospital staffs, 238. *See also* Army, British
Tertium quid, 206
THANE, Sir George, proposed portrait of, 525
Theatres, insanitary conditions at, 346
THOMAS, J. Lewis: Clinical centres, 520
THOMPSON, G. S.: Circumcision—a barbarous and unnecessary mutilation, 436
THOMSON, Lieut.-Col. D. G., presentation to, 95
THOMSON, G.: Apparatus for a man without arms, 20
THOMSON, J. W.: An ectopic ovarian cyst, 437
THOMSON, Sir StClair, awarded the Médaille de la Reconnaissance Française, 691
THOMSON, T Harvey: Fatal poisoning by water dropwort (*Oenanthe crocata*), 795
Thoracoplasty in pulmonary tuberculosis, 717
THORNE, Charles Augustus, obituary notice of, 690
THORPE, Major Llewellyn Lancelot Graeme, obituary notice of, 690
Throat, diphtheria bacilli in, 796
Throat diseases, review of books on, 830
Throat infections, naked-eye diagnosis of (H. Drinkwater) 259
Throat operations, anaesthesia, 295
Thyroid administration in hibernating dormice, 424
Thyroid extract in myxoedema, life-history of the first case of, 359. (O)
Thyroid gland, papilliferous carcinoma of (Basil Hughes), 362. (O)—Correspondence on, 454
Thyroid operations, anaesthesia for, 635
TIBBLES, Sydney: Ocular conditions in influenza, 72
Ticks and relapsing fever, 97, 132, 200, 235, 273, 310
TILLEY, Herbert: *Diseases of Nose and Throat*, rev., 830
Time for speech. *See* Speech
Tinea, *x* rays and chrysophanic acid in treatment of (C. J Glasson), 219. (O)
Tissue, faucial and post-nasal lymphoid, in children, chronic infection of 217. (O)
Toasts, Rakes, and Cits, rev., 870
Tobacco smoke, asphyxia from inhalation of, 692
Tobacco smoke, experiments on the effect of on frogs, 178
TOMKINS, Harding H.: Circumcision—a barbarous and unnecessary mutilation, 621
Tonsil bayonet, 472
Tonsils, a plea for, 199, 722, 851
TOPLEY, W. W. C. (and others): Pyrexia of uncertain origin and enteric fever, 373
Toxic idiopathies (John Freeman), 403
Toxicological investigation of acute alcoholism in man, 411
Toxin of eclampsia, path of, 469
Toxins and antitoxins (leading article), 266
Tramp, a record, 692, 726
Travancore (South) Medical Mission, report, 822
Travelling facilities for men under treatment. *See* Ex-service
Treatment allowances. *See* Pensions Ministry
Treatment, review of books on, 188
TREVELYAN, Janet Penrose: *Evening Play Centres for Children*, rev., 262
TREVES, W. W.: Ticks and relapsing fever, 235
Trials, notable, publication of to be resumed, 173, 299
TRIBOULET, Henri, obituary notice of, 690
TRICOIRE: Epidemic of hemeralopia, 480
Trinidad: Report of Tuberculosis Prevention Association, 815
Tropical Diseases Bureau, new address, 122
Tropical Medicine, Calcutta School of, 550
Tropical Medicine, London School of: Pass lists, 34, 659—New building, 54 — Postgraduate teaching "elements," 194—Lectures, 717
Tropical medicine, review of books on, 639
Trophoneurosis, facial, with deformity of the hand (I H. Lloyd), 735
TROTTER, Wilfred (and Charles BOLTON): Jejuno-colic fistula following gastro-jejunostomy, 757. (O)
Tubal sterility. *See* Sterility
TUBB-THOMAS, J., presentation to, 241
Tubercle bacilli, direct cultivation of from tissues (G. Haswell Wilson), 146. (O)
Tubercle vaccine, an attenuated, 538. (O)
Tuberculosis, abdominal, some clinical types of (K. W. Monsarrat), 5 (O)
Tuberculosis as affected by the war, 585
Tuberculosis, bovine (parliamentary question), 414
Tuberculosis conference in Sweden, 632
Tuberculosis, deaths from in Boston in 1919, 213
Tuberculosis, epidemiology of (leading article), 444, 478 – (William Gordon), 594. (O)
Tuberculosis, fibroid, 482
Tuberculosis, Friedmann's remedy for, Prussian Committee of inquiry into, 315
Tuberculosis in Germany and the Rhine Provinces, 837
Tuberculosis, institution accommodation for (parliamentary question), 450
Tuberculosis institutions, ventilation and heating of (Leonard Hill), 797
Tuberculous prevention: Reports of Poplar Borough Dispensary, 44 — Experiment at Framlingham (Massachusetts), 206 — Proposed law for in Germany, 315—Appeal from National Association for, 423—In Trinidad, 815
Tuberculosis, pulmonary, duration of, 206
Tuberculosis, pulmonary, early diagnosis of (Thomas Beattie), 111. (O)—Correspondence on, 753
Tuberculosis, pulmonary: Experimental production of, 162; thoracoplasty in, 717; treatment of in private practice 552
Tuberculosis sanatoriums. *See* Sanatoriums
Tuberculosis settlements, village: Deputation to Minister of Health, 476—Correspondence on, 552—Circular letter from Scottish Board of Health, 654
Tuberculosis, surgical, post-graduate courses in, 457
Tuberculosis treatment in London, 782—Report of London Insurance Committee, 782
Tuberculosis, treatment of (Sir R. Philip), 704—Discussion, 704
Tuberculosis in workshops (A. Trimble), 737
Tuberculous cow (J. E. Scales), 400
Tuberculous ex-service men (parliamentary question), 450—Discussion on, 737
Tuberculous infection, mode of infection in (Thomas Campbell), 185
Tuberculous meningitis, with complete recovery (Hugh Barber), 601. (O)
Tuberculous patients, clothing for, 482
Tuberculous soldiers: In Sydney, 271—Treatment of, 720 - Discussion on, 737
TUFFIER, Professor: British honour for, 304, 413
TUKE, John Batty, obituary notice of, 588
Tumour, acoustic, familial form of, 496. (O)
Tumour, cerebellar, simulated by cervical caries (Richard R. Armstrong), 499. (O)
Tumours complicating pregnancy, labour, and the puerperium (Herbert R. Spencer), 179, 246, 320. (O)—Leading article on, 373
Tumours, origin of, 53, 132
Tumours of spine, surgical aspects of, 37. (O)
TURNBULL, Hubert M.: Report on hypernephroma of kidney, 133
TURNER, A. Logan: *Sir William Turner*, rev., 439
TURNER, Dawson, reappointed extra medical electrician to Edinburgh Royal Infirmary, 855
TURNER, E. B.: Prevention of venereal disease, 99
TURNER, G. Grey: Uses of free transplants of the fascia lata in surgery, 79. (O)
TURNER, John: Physical basis of mental disorders, 415
TURNER, J. G: Tuberculosis sanatoriums, 619
TURNER, Philip: *Inguinal Hernia; the Imperfectly-descended Testicle and Varicocele*, rev., 15
TURNER, Philip D.: Traumatic rupture of pedicle of a subperitoneal fibroid, 829
TURNER, Sir William, review of his life, 439
Turtle vaccine. *See* Vaccine
TWEEDY, Hastings: Tubal sterility, 604—Treatment of ante-partum haemorrhage, 672
TWEEDY, Sir John: Rats and plague, 856
TYSON, W. J.: Diagnosis and treatment, 619

U.

Uganda, routine treatment of malaria in (J. A. Taylor), 113. (O)
Ulcer, duodenal, acute perforation of: laparotomy: recovery (E. Huntley), 362. (O)
Ulcer, duodenal, new views on the pathology, diagnosis, and treatment of (Arthur F. Hurst), 559. (O)—Correspondence on, 655
Ulcer, duodenal, and the hypertonic stomach, 655, 688
Ulcer, gastric, after gastro-jejunostomy (F. Bolton Carter), 13—(Rushton Parker), 47
Ulcer, gastric, new views on the pathology, diagnosis, and treatment of, 559. (O)
Ulcer, gastric, ruptured, in an old man: laparotomy: recovery, 218. (O)
Ulcers, gastric and pyloric, and hour-glass stomach (Donald M. MacLeod), 115
Umberto I prize, 423

UNITED STATES OF AMERICA:
Alcoholic liquor, supply of to doctors, 623
American Hospital in London, progress of, 650, 779
American surgeons mentioned in British dispatches, 725
Army Medical Museum, 163
Athens (New York) requires a permit from local health officer before unlicensed people can sell medicines, etc., 725
Carnegie Corporation of New York intends to give five million dollars to National Academy of Sciences and the National Research Council, 249
"Chiropractors, osteopaths, and other healers" required to submit to State medical examination in South Carolina, 623
Dogs' bill in America, 512
Fees increased in Chicago, 725
Food, clothing, and medical aid for the countries devastated by the war, sum required, 46
Graduate education in (Sir Humphry Rolleston and H. J. Waring), 833
Handicapped Worker, 829
Mary Putnam Jacobi Fellowship, 173, 205
Medical ambassadors to, 410
Medical education, mission from France and Great Britain to visit America to study system of, 525
Medical endowments in, 342
Medical schools in, 481
New York State Hospital Commission report, 165
Paper shortage, 659
Pennsylvania, Tenth Annual Report of the Commissioner of Health for the Commonwealth of, rev , 831
Tuberculosis in Boston, deaths from in 1919, 213
Tuberculosis control, experiment in, 206

Universities, biochemistry in, 841
Universities, State grants to (parliamentary question), 879
University of Aberdeen: Appointments, 422—Degrees and pass lists, 312, 488—Honorary degrees, 312
University of Adelaide: Appointments, 526
University of Birmingham: Post-graduate courses on venereal diseases, 103
University of Bristol: Degrees and pass lists, 275
University of Brussels: Medals of honour awarded, 786
University of Cambridge: Chair of anatomy, 780—Biochemistry endowment, 815—Degrees and pass lists, 171, 203, 275, 312, 384, 422, 658, 724, 785, 854—Diploma of psychological medicine, 102, 814—Diploma in radiology and electrology, 456—Honorary degrees, 854—Honorary Fellows, 384—M.B. examinations, 240—War list, 240
University of Cologne: Number of students, 525
University of Dublin: Degrees and pass lists, 34, 422, 525—Honorary degrees, 422
University of Durham: *Calendar*, rev., 118—Degrees and pass lists, 488, 524
University of Edinburgh: Annual report, 27—Degrees and pass lists, 456—Extensions, 617—Honorary degrees, 456—"Liberton," 810—Spring term examinations, 456
University of Ghent: Proposed course of psychiatry at, 725
University of Glasgow: Accommodation for students, 456—Asher Asher medal awarded, 622 – Bellahouston medal awarded, 622—Degrees and pass lists, 488, 622, 724—Faulds Fellowships, 587—History of medicine prize, 587—Honorary degrees, 724—Medical curriculum, 658

University Grants Committee, 53—Total estimate, 608—Memorandum on clinical units in medical schools, 775
University of Ireland, the National, roll of honour, 234
University of La Plata, riot at, 725
University of Leeds, appeal, 613
University of Leyden, new buildings open to public, 885
University of Liége, proposed course of stomatology at, 725
University of Liverpool: Appeal, 446, 725—Degrees and pass lists, 456, 524—Diploma in public health, 102—School of Tropical Medicine, 524
University of London: Appointments, 63, 171, 315, 557, 854—Degrees and pass lists, 785—Examiners, 854 — Joel bequest, 275, 315 — Lectures, 422 — Matriculation passes, 387—Meeting of Senate, 63, 275, 422, 557, 854 — Military education, 488—M.S. degree, new branches, 524—Physiology, advanced lectures in, 658—Recognition of teachers, 63, 422, 854—Remuneration of professors and teachers, 275—Site offered, 754, 780, 808—Parliamentary questions, 808—University College, 488—University medal, 422—University studentship in physiology, 275—War memorial, 384
University of Louvain, reopening of, 557
University of Lyons: Appointments, 725
University of Manchester: Appeal, 549—Chair of physiology, 203—Degrees and pass lists, 488
University of Oxford: Appointments, 203—Biochemistry professorship, 658—Degrees and pass lists, 171, 275, 854—Gifts to, 658—Greek compulsory no longer, 351—Honorary degrees, 854—Philip Francis Walker studentship, 854—Radcliffe travelling fellowship, 488—Regius chair of medicine, 344
University of St. Andrews: Degrees and pass lists, 34, 785—Appointments, 658—Honorary degrees, 785
University of Sheffield: Clinical demonstrations, 34
University of South Australia: Appointments, 27
University of Sydney: Roll of honour, 233
University of Toronto: Calendar, 44
University units: At St Thomas's, 26—At University College Hospital, 26, 161—At London School of Tropical Medicine, 194—At St. Bartholomew's, 228
UNWIN, Stanley (editor): *The Work of V.A.D. London I during the War*, rev., 574
Ureter, constriction of (Miles H. Phillips), 540
Urethra, review of books on, 406, 541
Urethroscopic tube, 771
Urinary system and *Bacillus coli communis* (Herbert Evans), 438
Urine, puerperal suppression of (Robert Jardine and A. M. Kennedy), 767
Urology, review of books on, 225, 470
Utero-placental apoplexy. *See* Haemorrhage, accidental
Uterus, rupture of (Ford Anderson), 829
Uterus, spontaneous rupture of following pituitrin (A. W. Bourne), 829

V.

Vaccination and panel practitioners, 883
Vaccination, public, cost of (parliamentary question), 615
Vaccination against small-pox and enteric fever made compulsory in Madrid, 586
Vaccination statistics (parliamentary question), 306
Vaccination, value of (parliamentary question), 720
Vaccine, Friedmann's turtle, 94
Vaccine, tubercle (Nathan Raw), 538. (O)
Vaccines in gynaecology and obstetrics (Robert Robertson), 437
Vagasthenia (James A. W. Watts), 669. (O)—Correspondence on, 813
Vagina, rupture of (A. C. Palmer), 602
VAN BENEDEN of Liége, statue to, 781
VANGHETTI, Dr., awarded Riberi prize, 885
VAN SOMEREN, R.: Mode of quinine administration, 756
Varicella and herpes (Claude Wilson), 828
VAZIFDAR, N. J.: *Physiology of the Central Nervous System and Special Senses*, rev., 870
Venereal clinic, the needs of (leading article), 92—Legislation *re* professional secrecy for medical officers of, 691—Ministry of Health circular, 815
Venereal clinics in London, 414
Venereal disease (H. H. White), 469
Venereal Disease, National Council for Combating, annual meeting, 835
Venereal disease in the Portsmouth area (leading article), 680—Correction, 726—In the British army (parliamentary question), 751—In Scotland, treatment of, 752
Venereal disease, post-graduate course in, 55, 103, 315, 623. *See also* Post-graduate
Venereal disease, prevention of, 28, 61, 98, 128, 166, 241, 273, 311, 352, 623, 686, 725, 836, 837—Meeting at the Mansion House, 241—Deputation, 725—Letter from Society for Prevention of Venereal Disease to county councils, etc., 623—Report by A. Mearns Fraser, 686—Annual meeting of National Society for Combating, 835—Annual meeting of Society for Prevention of, 836
Venereal disease and prophylaxis amongst the Anzacs, 202
Venereal disease, review of books on, 190, 331, 638
Venereal disease and the State, 155—Policy of the Medical Women's Federation, 155
Venereal disease, tests of cure in, memorandum by Ministry of Health, 89—Leading article on, 92
Venereal disease treatment boards (parliamentary question), 414
Venereal disease, unqualified treatment of, 63
Venereal Diseases and their Treatment: How not to do it, 613
Venereal "Professor" sentenced (A. S. Eastburn), 384
Ventrifixation before the menopause (George Norman), 571
Ventilation and heating of tuberculosis institutions (Leonard Hill), 797
VERCO, Sir Joseph, 27
Vermin Repression Society. *See* Society
Veronal poisoning, case of, 691
VERRALL, Sir Jenner: Appreciation of Sir Robert Morant, 421
Veterinary Surgeons Act Amendment Bill (parliamentary question), 414, 844
VICKERMAN, Colonel P. S: Eusol in subtertian malaria, 303
Vienna: Distress in, 29—Deficiency diseases in (leading article) 477—Medical literature for, 484, 516—Influenza made notifiable, 589—American medical men's donations to Food Fund, 619—Decline of population, 885
Village Centres Council: Increased donation from town of Southampton, 264
Village tuberculosis settlements. *See* Tuberculosis
VILVANDRÉ, G E: *X*-ray treatment of neoplasms, 215 (O)
VINCENT, Thomas Swale, appointed to University chair of physiology at Middlesex Hospital Medical School, 163
Viscera, solid, skiagraphy of, 511
Visceral analgesia in tabes, 480
Vision, relief, an unrecognized factor in, 412
Vision, review of books on, 502
Vital statistics for England and Wales, 163, 457, 752, 775, 802, 836, 874
Voluntary hospitals. *See* Hospitals
Volvulus of caecum, double obstruction (R. Eccles Smith), 289 (O)
Volvulus of the whole jejuno-ileum (B. P. Sabawala), 221
Volvulus of stomach (leading article), 548
Vulvo-vaginitis in a newborn infant (Margaret Rorke), 671

W.

WALDO, Dr.: Inquests in the City of London and Southwark, 451
Wales: Early care of mental cases in, 348—Medical services in, future provision of, 781, 809 — National Medical Schools, inaugural meeting, 616—Nursing organization in, 233 — Pathological department opened at Swansea, 722—Welsh Board of Health, 345, 809—Welsh Consultative Council's report, 781, 809—Welsh mobile laboratory, 27
WALKER, Kenneth: Sterility in the male, 10. (O)—Letter on, 349
WALKER, Norman, appointed Inspector of Anatomy for Scotland, 617
WALLACE, G. D. H., called to the Bar, 659
WALLACE, J. Sim.: *Child Welfare and the Teachings of certain Dentists, School Medical Officers, Medical Officers of Health, and other Medical Men*, rev., 607
WALLER, A. D.: Measurement of emotion, 259—Physiological cost of muscular work, 537. (O)
WALTON, George Lincoln: *Oscar Montague, Paranoiac*, rev., 471
WAPIER, Ph. (and P. ARMAND-DELILLE): *L'Ecole de Plein air et L'Ecole au Soleil*, rev., 154
War Emergency Fund. *See* Fund, Royal Medical Benevolent
War, end of. *See* Fee, notification
War methods in civil practice (Sir Anthony Bowlby), 86
War neuroses, 36
War pensions. *See* Pensions
War rewards, 723
WARD, E.: Cardiac massage in asphyxia neonatorum, 257—Familial form of acoustic tumour, 496. (O)
Ward, Rev. John, and medicine (Sir D'Arcy Power), 674
WARING, H. J. (and Sir Humphry ROLLESTON): Graduate education in the United States, 833
Warning, 316, 624
Water charges for car washing, 195
Water, cold, and antipyretic drugs, 206
Water dropwort. *See* Dropwort
WATERHOUSE, Rupert: Meningitis treated by intrathecal injections of the patient's blood serum, 45 (O)
Waterproofing, the discoverer of, 521
WATSON, Captain Allan, obituary notice of, 314
WATSON, Chalmers: Enteroptosis and associated conditions, 797
WATSON, C. R., obituary notice of, 239
WATSON, H. Ferguson: The mentally defective, 554
WATSON, John B.: *Psychology from the Standpoint of the Behaviorist*, rev., 771
WATT, Henry J.: *The Foundation of Music*, rev., 407
WATTS, James A. W.: Vagasthenia, 669. (O)
WAUGH, John, obituary notice of, 102
WEBB, G. Lowell: Circumcision, a barbarous and unnecessary mutilation, 620
WEBB, Helen: Treatment of mental disorder, 851

Week:

Académie de Médecine, 161
Aeroplane in medical investigation, 230
Allbutt, Sir Clifford, 779—Presentation portrait of, 876
American hospital in London, 779
American medical schools, 481
Annual dinner, 645
Annual meeting at Cambridge, 340, 410, 511, 551, 579, 612, 645, 681, 714, 840, 843
Ante-natal respiratory movements, 877
Anthrax infection by brushes, 25, 53
Army Medical Department, services of, 807
Arterial embolism, operation for, 805
Association of Surgeons of Great Britain and Ireland, 445, 714
Asylum medical service, improvements in the, 550
Atropine in pylorospasm and pyloric hypertrophy, 551
Atropine in sea-sickness, 23
Auxiliary R.A.M.C. Fund, 685
Baths of old London, 807
Biochemistry in the universities, 841
Birthday honours, 805
Bland-Sutton, Sir John, 780
Blind masseurs, 232
British honour for Professor Tuffier, 304
British Medical Association lecture, 551
British Medical Association, President for 1921, 551
British Science Guild, 195
Bronze medico-chirurgical instruments, 268
Calcutta School of Tropical Medicine, 550
Cambridge, chair of anatomy at, 780
Cambridge Natural Science Club, 163
Cancer and chrome ulceration, 122
Cancer of cervix rendered operable by radium therapy, 806
Cavell monument, 413
Census, the next, 842
Cerebro-spinal fever, treatment of, 750
Chadwick lectures and medals, 305
Circumlocution office of to-day, 513
Clinical teaching "elements" at work, 161, 228. *See also* Post-graduate
Cocoa butter, 446
Complement fixation test in syphilis, 877
Coroner on what the soldier said, 716
Cremation, progress of, 513
Dentists' registration, future of, 549
Diploma in medical radiology and electrology, 55
Diplomas, special, 303
Dogs' Bill in America, 512
Dublin Radium Institute, 550
Encephalitis, epidemic, virus of, 646
Eusol in subtertian malaria, 303
Federations of brain workers, 229
Fellowship of Medicine, 779
French army medical school, 55
French pharmacopoeia, additions to, 613
Friedmann's turtle vaccine, 94
Fundus of the eye after death, 878
Gastric pain, origin of, 162
Geneva Red Cross Congress, 377
Government policy as to municipal general hospitals, 612, 647
Greek science and modern science, 748
Hard hit, 303
Health surveys, 267
Hemeralopia, epidemic of, 480
Historical surgical instrument cases, 54
Home ambulance service, 716
Honorary degrees at the annual meeting, 840
Hospital survey, 684
Hospital units, 161
Hours of labour, 446
Human metabolism, recent work on, 877
Hygiene institute in Paris, 878
Hyperglycaemia in mental disorders, 193
Hyperpyrexial heat-stroke, nature and treatment of, 343
Hypothesis as to the organic basis of functional nervous disease, 231
Income tax and service gratuities, 479
Indian Medical Service, temporary commissions in, 93
Influenza, 163, 232, 267, 342—Experimental production of, 267
Influenza, vaccinal prophylaxis of, 23
Insanity, prevention and treatment of, 749
International good fellowship, 779
International Society of Surgery, 305
Intracarotid salvarsan injections, 162
Intramuscular injections of quinine, 25
Jameson, 779
Jenner Society, 842
Joel chair of physics, 194
Johns Hopkins University, first superintendent of, 232
League of Red Cross Societies, 267

Week (*continued*):
Leicester University College, 715
Leprosy problem in India, 749
Lethargic encephalitis, 193, 481, 512
Leukaemia, acute, 231
Liverpool University, 446
Logie, Dr., centenary of, 717
London School of Tropical Medicine, 54, 717
Lymphocyte, biology of the, 123
MacAlister, Sir John, dinner to, 447
Mackenzie Davidson Memorial Fund, 341
Mackenzie Davidson Memorial Lecture, 581
Magic and medicine, 612
Makins, Sir George, dinner to, 684
Manchester University, 549
Manicure infection, 376
Maudsley courses in medical psychology 376
Medical ambassadors to United States, 410
Medical endowments in America, 342
Medical inspection in secondary and continuation schools, 581
Medical inspection and treatment of school children, 481
Medical Insurance Agency, 842
Medical Register, 514, 841 — Change of address, 841
Medical Research Council, 447
Medical sickness assurance, 94
Medical societies, international organization of, 266
Medical Society of London, 447
Medical Students' Register, 581
Medical terms in the *New English Dictionary*, 683
Medicine in Bolshevist Russia, 54
Medicine and government, 52
Mercier, Charles, 342
Middlesex Hospital, 580
Military medicine at the Imperial War Museum, 841
Milk for children and mothers, 124
Milk, clean, 876
Milk, dried, and vitamines, 580
Milk sterilized by electricity, 682
Morrison of Peking, 781
Naval Medical Service, 304
Naval medicine at the Imperial War Museum, 807
Nerve lesions, voluntary movements in, 684
New Year honours, 26
No 14 General Hospital, 195
Notification fee and the end of the war, 344
Nyctalopia or hemeralopia, 514
Ophthalmological Congress, annual, 582
Ophthalmology and the public, 647
Ophthalmology, teaching of, 340
Optical instruments, 230
Osler, Sir William, 121—Oxford memorial to, 304, 374—At the Bodleian, 411—Memorial volumes, 614
Oxford, Regius chair of medicine at, 344
Pellagra in a refugee camp, 805
Pensioners, operations on, 482
Pensioners' records, 304
Pensions for senior surgeon commanders, R.N., 269
Peritonitis, treatment of, 376
Physical therapy in the navy, 683
Physiological action of intravenous injections, 375
Physiological study at the Naples zoological station, 268
Plant response, 412, 512, 716
Poliomyelitis, acute, the portal for, 343
Polymorphonuclear leucocytes, origin of 93
Poor Law infirmaries and clinical education, 92
Post-graduate courses, 715
Post-graduate course in venereal disease, 55
Post-graduate education in London, 580
Post-graduate teaching "elements," 161, 194, 228
Psychiatry, courses in, 268
Psychology and mental pathology, 805
Public opinion and preventive medicine, 646
Puerilism of war, 194
Quinine, price of, 124
Radiology, teaching of, 341
Radio-therapy in cancer of uterus, 480
Rarity, 374
Red Cross Societies, League of, 267
Regius Chair of Medicine at Oxford, 344
Relief vision, an unrecognized factor in, 412
Research Defence Society, 121
Research institute, proposed all India, 344
Retrograde absorption by the kidney, 878
Rewards for medical discovery, 26
Riviera, the, 24
Rockefeller benefactions, 24
Royal Academy, 645
St. Thomas's Hospital, 123
Salaries of medical officers of local authorities, 230
Sanatorium for merchant seamen, proposed, 229
Scandinavian medical journals, 55
Sections. *See* Annual Meeting
Week (*continued*):
Smoke abatement, 303
Stewart prize, 748
Syphilis, trifling with, 613
Territorial army, 192
Thoracoplasty in pulmonary tuberculosis, 717
Time for speech, 579
Toxicological investigation of acute alcoholism in man, 411
Tropical Diseases Bureau, 122
Tuberculosis, pulmonary, experimental production of, 162
Tumours, origin of, 53
Type cultures, national collection of, 682
Typhus fever in Poland, 122, 614
United States Army Medical Museum, 163
University Grants Committee, 53
University of Leeds, 613
University quarter for London, 780
University unit: At St. Thomas's, 26—At University College Hospital, 26
Van Beneden of Liége, 781
Visceral analgesia in tabes, 480
Water charges for car washing, 195
Welch, Professor, of Baltimore, 514
West London Medico-Chirurgical Society, 647
What the soldier said, 716
White man in West Africa, 411
Yellow fever, etiology of, 375

WEEKS, Courtenay C.: *The Scientific Authority for Total Abstinence. Part II: Alcohol in Relation to the Nervous System, with Special Reference to its Action on the Brain*, rev., 503
Weight, height, and longevity, 678
WEIN, Emanuel: *Feststellung und Behandlung der Tuberkulösen, Infektion mittels Antitoxischer Heilkörper*, rev., 16
Weir Mitchell treatment, review of books on, 367
WELCH, W. H. (of Baltimore), 70th birthday of, 514
Wellcome Bureau of Scientific Research, new address of, 525
WELLS, Major Norman Septimus, obituary notice of, 622
WELLS, Russell: Medical missions, 623—(and others) Ten thousand recruits with doubtful heart conditions, 730. (O)
Welsh mobile laboratory. *See* Laboratory
Welsh. *See* Wales
WELSH, Sibyl I. The nervous system and the endocrine glands, 769
WENCKEBACH, K. F. (and W FALTA): *Wiener Archiv für Innere Medizin*, rev., 574
WENDELL, Lehman: *Systematic Development of X-ray Plates and Films*, rev., 770
WERTHEIM Ernst, obituary notice of, 455
WEST, Samuel, obituary notice of, 385
WESTCOTT, Wynn, resignation of, 885
Wexford County, meeting of practitioners, 783
WHARRY, H. G.: Jamaica as a holiday resort, 590
What the soldier said, 716 *See also* Coroner
WHEELER, Sir W. I. de C.: Compression of lower brachial trunk by first dorsal rib, 519—Arthroplasty of knee-joint, 768
Whisky, importation of (parliamentary question), 650
Whitaker's Almanack for 1920, rev., 49
WHITE, Charles F. (and W. Herbert BROWN): *Atlas of the Primary and Cutaneous Lesions of Acquired Syphilis in the Male*, rev., 541
WHITE, H. H.: Brief review of venereal disease, 469
WHITE, S. E.: Sterility, 274—Early mental treatment and the rights of the subject, 689
WHITEHEAD, Major E. C.: Case of acute yellow atrophy of liver, 400
WHITELOCKE, R. H. Anglin: Appendicectomy by a new route, 211, 223. (O)
Whooping-cough, investigation into the periodicity of epidemics of by the periodogram (Matthew Young), 366
WIGNALL, Thomas H.: Poisoning by arseniuretted hydrogen gas. 826. (O)
WILKINSON, A. G., 85th birthday of and presentation to, 691
WILKINSON, W. Camac: Preventive inoculation against influenza, 309—Proposed memorial to Sir Victor Horsley, 350
WILKS, Sir Samuel, story of (a soft answer), 72—More stories, 104
WILLCOX, W. H.: Mode of quinine administration, 28, 168—Treatment and management of diseases due to deficiency of diet, scurvy and beri-beri, 73. (O) Typhus and relapsing fever in Mesopotamia and Northern Persia, 222—Nature, prevention, and treatment of heat hyperpyrexia, 392 (O)
WILLEY, C. H.: Etiology of diverticulitis, 603. (O)
WILLIAMS, D. J., obituary notice of, 350
WILLIAMS, Evan, obituary notice of, 524
WILLIAMS, H. Lloyd, appointed J.P. for county of Middlesex, 785
WILLIAMS, Llewelyn, appointed medical member of the Welsh Board of Health, 785
WILLIAMS, Robert Morris, obituary notice of, 387
WILLIAMS, R. Stenhouse: Bacteriology of milk, 365—Production of clean milk, 876
WILLIAMS, W. J., obituary notice of, 386
WILLIAMSON, D J.: Village tuberculosis settlements, 552
WILLIAMSON, Herbert: Blood transfusion before operation, 603
WILLIAMSON, R. T.: Dietetic treatment of diabetes mellitus, 399. (O)
WILLOT, Joseph, bust erected at Roubaix, 704
WILLOUGHBY DE BROKE, Lord: Prevention of venereal disease, 61, 623
WILLS, E. F.: Value of legumes in beri-beri, 816
WILSON, Claude: Herpes and varicella, 828
WILSON, G. Haswell: Direct cultivation of tubercle bacilli from tissues, 146. (O)
WILSON, James C. (and Nathaniel B. POTTER): *Internal Medicine: a Work for Practising Physicians on Diagnosis and Treatment*, rev., 676
WILSON, R. M. (and W. M. T. WILSON): *War Diseases and Pensions*, rev., 504
WILSON, W. H.: Appreciation of Alexander Ferguson, 622
WILSON-SMITH, W. A.: Arsenic in lethargic encephalitis, 655
WINDSOR, C. W., appointed J.P. for County of Cambridge, 885
Wines, light and heavy prices, 590
Women and Children Employment Bill, 844
Women, employment of before and after childbirth (parliamentary question), 879
Women Sanitary Inspectors' Association. *See* Association
WOOD, Percival: *Moses the Founder of Preventive Medicine*, rev., 607
WOOD, W. Q.: *Textbook of Surgery*, rev., 799
WOODCOCK, H. M.: Ticks and relapsing fever, 310
WOODS, Hugh: Rare accidents presumed due to negligence, 554
Worcestershire, whole-time medical appointments in, 880
Worcestershire County Council. *See* Council
Workmen's Compensation Act, medical fees under (parliamentary question), 879
WORSTER-DROUGHT, C, exhibits series of cases, 605
WRIGHT, A. J.: Treatment of the running ear, 382
WRIGHT, Garnett: Diverticulitis, 86
WRIGHT, George Arthur, obituary notice of, 556
WRIGHT, J. Aldren: Treatment of psoriasis, 756
WÜRDEMANN: Fundus of the eye after death, 878
WYLIE, James, his action for slander, 454
WYNN, W. H.: Protective inoculation against influenza, 254. (O)

X.

X-ray prints, exhibition of, 138
X-ray treatment of acne vulgaris, 700. (O)
X-ray treatment of neoplasms, 215. (O)
X rays and chrysophanic acid in tinea, 219. (O)
X rays as immunity-raising agents before and after operation for cancer, 793. (O)
X rays, review of books on, 153

Y.

Yearbook of Pharmacy, rev., 226
Yellow fever. *See* Fever
YELLOWLEES, Henry: Acute suffocative catarrh, 257
YOUNG, Archibald: Intussusception of the appendix, 365—Ischaemic contracture of forearm, 636
YOUNG, Matthew: Investigation into the periodicity of epidemics of whooping-cough by means of the periodogram, 366
YOUNG, Ruth: *Maternity and Child Welfare*, 483

Z.

ZEILER, Karl: *Die Geschlechtskrankheiten. Ihr Wesen, Ihre Erkennung und Behandlung*, rev., 870
ZUNTZ and LOEWY: *Lehrbuch der Physiologie des Menschen*, rev., 154
Zurich, increase of non-alcoholic restaurants in, 443

For List of Illustrations see back of Title.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LONDON: SATURDAY, JANUARY 3RD, 1920.

An Address
ON
GUNSHOT FRACTURE OF THE FEMUR.

DELIVERED AT A MEETING OF THE AMERICAN COLLEGE OF SURGEONS IN NEW YORK, OCTOBER 8TH, 1919.

BY

SIR ANTHONY BOWLBY, K.C.B., K.C.M.G., K.C.V.O.,

SURGEON IN ORDINARY TO THE KING; CONSULTING SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

FRACTURE of the femur by bullets or shell fragments is one of the most dangerous injuries of war, but it must be realized at once that the danger is proportionate to the extent and nature of the injury of the soft tissues even more than to the extent of the bone lesion. Thus, it is well known that a spent bullet which glances off the femur and just breaks it may cause a minute entry and exit wound and a fracture which is much more like a simple fracture than a compound one. On the other hand, a large shell fragment may tear away the greater part of the hamstring muscles and the skin covering them, and may inflict so severe an injury that even if the femur is not fractured, the lesion of the soft parts alone may well prove fatal.

In the South African war of 1899–1902 it was the former class of fracture which predominated, for not only were there very few high explosive shells used, but the rifle bullets were generally fired at a range of over 1,000 yards, and were of a shape which caused the minimum of injury to the soft tissues and the very smallest wounds of entrance and exit. It thus happened that the majority of cases did well, and that the experience of fracture of the femur in the South African war was of but little help in 1914, although it did demonstrate very clearly the value of the "Hodgen" splint and its superiority to the time-honoured "long Liston."

In the recent war, on the other hand, fractures of the femur were generally inflicted either by wedge-like bullets fired at quite short range from machine guns or rifles, or else by fragments of high explosive shells, which were often very large, being parts of shells which themselves weighed from sixty to two hundred pounds or more. Extensive tearing of the muscles was therefore the rule, and in many cases the patient had other wounds in addition. In the early days of the war shrapnel shell was extensively used by the Germans, and it was much used by both the British and the French throughout the whole war. The lower velocity of its round bullets caused it to produce much less injury to bone and muscle than the rifle bullet fired at short range or than the fragments of high explosive shell.

Another very important factor to be considered in estimating the danger of fracture of the femur is the length of time that is often liable to elapse before the patient can be adequately treated. If in France a man were wounded in our own trenches or in billets there was very little delay, but, on the other hand, if he was wounded in an attack on the enemy's position it was often impossible to attempt to move him till nightfall, and he could not, of course, help himself to get to an aid post. The result was that before the patient could be treated he was often weakened by continued bleeding, by hunger and thirst, or by exposure to cold through lying out in mud and water, or through being soaked by heavy rain.

Conditions such as these will always cause a very high rate of mortality, whatever treatment is adopted.

TREATMENT.

The treatment of these fractures falls naturally into two divisions—treatment at the front and treatment at the general hospitals.

I. TREATMENT AT THE FRONT.

At the beginning of the war the splints supplied at the British front were very inefficient as well as very few, for the only splints available were long wooden splints of the Liston type, but both too thin and too narrow to be satisfactory. A rifle made a better splint. Within a few months I was able to obtain supplies of stouter splints made with a metal bracket 8 in. long so as to permit access to the wound, and these proved very serviceable, and were employed for nearly a year and a half at the aid posts and field ambulances. In 1915 Lieut.-Colonel Max Page devised a splint made of flexible metal and of the "Thomas" type, and by the end of the same year Sir Robert Jones's advocacy of the "Thomas knee splint" had resulted in its employment in many units. At about the same time Sir Cuthbert Wallace, in conjunction with Colonels Richards and Frankau, perfected the now well known "stretcher-suspension-bar," which enabled the patient to be carried on a stretcher with the lower extremity suspended. The use of the Thomas splint was soon adopted throughout the entire front, and was demonstrated to medical officers by the consulting surgeons in every field ambulance in the British army. The application of what came to be called the "Thomas outfit"—that is, Thomas knee splint and suspension bar—was also taught everywhere to all the field ambulance orderlies and regimental stretcher-bearers; and it was further ordered, on the suggestion of Captain Kenneth Walker, that when a man with a fractured femur was found on the battlefield the splint was always to be applied before the trousers were cut open or the wound dressed, and that the boot should also be left on the foot. The object in view was to immobilize the fracture before the limb was much handled, and also to apply the splint with as little loss of time as possible. A back splint or a kettle-holder splint was often applied in addition.

When the use of the "Thomas outfit" became general the transport of the patient to the casualty clearing station was very greatly simplified, for, as soon as the limb was fixed in extension and slung, pain was either altogether prevented or reduced to a minimum, bleeding was soon checked and the steadying of the fragments effectually prevented further injury to the soft tissues and the spread of sepsis. The consequence was that patients arrived in infinitely better condition than previously, and shock was no longer so serious. The value of this early splinting of fractures was unexpectedly demonstrated when, in May, 1918, several French divisions came to the Kemmel area. Their journey had been hurried, and efficient splints had not been provided, so that when fighting began many patients arrived in British casualty clearing stations with fractures of all kinds unsplinted. The condition of these men was an object lesson to those who had not been at the front in the earlier days of the war, for evidence of shock and loss of blood predominated in them, and

many died, whilst the cases arriving at the same casualty clearing stations from the British field ambulances were in good condition. The necessary splints were at once provided.

The method I have sketched of applying first aid treatment to cases of fractured femur was not materially altered in the British army during the last two and a half years of the war. It is of course very probable that further improvements will be developed, but it appeared to us when hostilities came to an end that for the time being we had developed a very efficient method of treating these fractures on the battlefield.

We found that the best means of applying traction on the field was by steel callipers fixed to the sole of the boot below the instep. In the absence of these a steel skewer may be passed through the boot leather, but has the disadvantage of spoiling the boot. Either a clove hitch bandage or a so-called "surgical spat" was liable to cause too much pressure on the thin skin of the dorsum of the foot and consequent sloughing if left on for long.

On arrival at the casualty clearing station the routine treatment was to anaesthetize the patient, then take off the splint and dressings and thoroughly remove with knife and forceps all damaged tissues and foreign bodies. Before this could be done it was often necessary to employ measures to combat shock or loss of blood, and in most cases gas and oxygen was the anaesthetic of choice.

After the operation was completed the Thomas splint was again applied, but this time the extension was fixed to the skin by strapping or glue. Then, as soon as the patient's condition permitted, he was removed to the ambulance train *en route* for the general hospital area.

Primary Amputation.

In a large number of cases of fracture of the femur primary amputation is absolutely necessary, and should be performed as soon as the state of the patient permits. In the latter half of the war the employment of improved methods of transport and of resuscitation enabled amputation to be performed on many more patients than in 1914–15.

The conditions which commonly necessitate early amputation may be briefly summed up as follows:

1. Complete smashing of a large area of bone.
2. Extensive comminution of the lower articular end of the femur.
3. Laceration of the femoral vessels.
4. Extensive destruction of muscles or skin.

It must be recognized that primary amputation for fracture of the femur is attended with a very much higher death-rate than is amputation in the thigh for injuries of leg, and also that the higher up the limb is removed the greater is the mortality. Primary amputation at the hip-joint is so uniformly fatal that it had better not be performed at all.

II. TREATMENT AT THE GENERAL HOSPITALS.

The first duty of the general hospital surgeons was to operate on those cases which had not been operated upon at the front; and for a short time at the end of March, 1918, when all the casualty clearing stations of the Third and Fifth Armies had been forced to retire, the bulk of the operating work fell to the lot of the general hospitals. If, however, thorough excision had been satisfactorily performed at the front in good time, as was usually the case, then the patient on arrival was put to bed and allowed to remain undisturbed for a day or two, to recover from all he had gone through. During this period many patients improved very rapidly in every way.

In many cases, after this period of rest, another apparatus was substituted for the Thomas splint, and in the putting up of these fractures an immense amount of ingenuity and skill was developed throughout the whole of the bases in France. The names of Major Sinclair and Major Pearson must be given a special place in this relation, because they were the earliest and most ingenious of the pioneers, but many other surgeons became equally deserving of distinction subsequently.

The detail of the methods employed have been so well described and illustrated by various surgeons that it would serve no good purpose if I were to follow in their footsteps. I will therefore only attempt to indicate the general principles which were common to most centres, merely premising that the greatest benefit and progress resulted when, at the end of 1917, certain hospitals in every area were specially selected and equipped for the treatment of fractures of the femur, and when the surgeons of these hospitals had acquired experience in the work.

PRINCIPLES OF TREATMENT.

1. The first general principle which was universally adopted was that the apparatus employed should be a skeleton metal splint, and that this should be used so as to enable traction to be applied either directly downwards or else in various degrees of abduction or flexion. This was the essential foundation upon which all else was based.

2. The direction of the traction and the amount of flexion or abduction required were guided throughout by frequent radiograms. These were always taken by a movable *x*-ray apparatus brought to the side of the bed, and by the aid of these the position of the fragments was altered, so as to obtain accurate apposition. Without the frequent use at the bedside of *x* rays it is not possible to obtain uniformly good results.

3. The length of the limb was at first measured daily and afterwards less frequently, and it was found most useful to keep a "chart of shortening" (or lengthening) over the patient's bed. It became the custom to apply extension until the injured limb was definitely longer than its fellow, as it was found that this gave the best end results. It is most important to bear in mind that even when the main fragments of bone are separated by an interval of as much as one or two inches the gap can be completely filled by new bone.

4. "Fixed" extension proved to be not so good as "continuous" extension. The traction can be employed either by fixing the foot, and then lifting the end of the bed and letting the weight of the patient act as the extending agent, or else by applying weight traction. On the whole, the use of the patient's own body weight was the method most in favour.

5. Movements of the knee-joint were begun early, and slight flexion of the knee was always preferred to traction on the fully extended limb. The early experience of the war had shown us that unless special precautions were taken a permanently partially stiff knee-joint was extremely common. This might be due to (*a*) mild sepsis; (*b*) fracture near the articulation; (*c*) scarring, shrinkage, and adhesion of muscles, tendons, and skin. Captain Watkin Williams devised a very simple metal apparatus, which was attached to the main splint, and enabled the knee to be freely moved or fixed at any angle of flexion. Colonel Besley, of the Chicago unit, gave great help by the callipers which he devised. These were fixed above the condyles of the femur, and were especially valuable for cases of fracture of the lower third of the femur, for their use completely overcame the flexion so common in these cases, and they also enabled the knee-joint to be freely moved without disturbing the traction on the femur. Many surgeons employed "calliper extension" for all their cases. It should be noted that if callipers are employed the following precautions are necessary: (*a*) rigorous asepsis; (*b*) avoidance of the synovial membrane; (*c*) avoidance of the thin articular bone of the condyles by fixing the callipers on the denser bone at the level of the adductor tubercle; (*d*) the use of any simple method for preventing the too deep penetration of the bone by the points of the callipers.

6. For fractures about the upper third and the neck the patient was placed either upon the hammock-like swing cradle invented and described by Major Sinclair, or else upon the special segmented mattress designed by Major Pearson. This latter was adopted late in 1918 by the Army Medical Department for the treatment of all cases of fracture of the femur under treatment in England, and has been fully figured and described by Major Pearson in his book *Fractured Femurs* (Pearson and Drummond, 1919).

7. When union was sufficiently advanced it was the custom to get patients out of bed while maintaining the length of the limb by the application of "walking calliper splints" fixed to the heel of the boot. If these were employed the use of the limb accelerated the formation of callus, but if they were not provided many limbs yielded and became bowed in attempts to walk.

8. The treatment of the wounds was on general principles, but in the year 1918 very great benefit resulted from early "delayed primary suture" or from "secondary suture." Cases so treated showed a more rapid union of the fracture and a great shortening of the period of pyrexia. They also were much less liable to late necrosis of fragments and to secondary abscess. The natural result was a decreased mortality in sutured cases as compared to those unsutured and a great diminution in the amputation rate. In cases which could not be sutured the period of suppuration was often shortened by the employment of Carrel's methods.

9. The question of the removal of bone was not entirely settled when the war ended. There was no doubt of the advisability of removing badly smashed fragments which had been completely separated. But, while most surgeons did not advocate the removal of more than this, some operators followed the advice of Leriche and practised subperiosteal removal of many of the partially detached fragments also. There seems no doubt that, on the one hand, the removal of all fragments which might necrose hastens the healing of the wound, whilst, on the other hand, this removal delays the union of the fracture, and, in the opinion of some very competent observers, has been responsible for permanent non-union in not a few instances.

RESULTS.

In the year 1917 a report by Lieut.-Colonel Max Page was read at a meeting of the Inter-Allied Conference in Paris. It was founded on an inquiry he had been commissioned to make in England as to the results of fracture of the femur; the report made it evident that in many cases the results were very unsatisfactory. A large percentage of the patients were suffering from one or more of the following conditions:

(*a*) Shortening of the limb of more than one inch, and sometimes of two or three inches.
(*b*) Union of the fragments in bad position.
(*c*) Stiffness of the knee-joint.
(*d*) Sinuses.

In a smaller number of cases there was stiffness of the hip-joint, necrosis of large fragments, or imperfect union. A large proportion of the patients walked very badly.

These results made it evident that the methods of surgical treatment and the conditions for the hospitalization of patients in 1914, 1915, and 1916 were not satisfactory, although before this inquiry made early in 1917 many improvements in splints had already been adopted in France.

The previous conditions and methods of treatment may be very briefly described. In the years 1914, 1915, and 1916 it had been necessary to send all patients to England as early as possible, owing to the fact that there was not, at the time, sufficient accommodation in France for the large numbers of the wounded; there is, however, no doubt that the journey was bad for the patients.

During the earlier part of the same period the splints most commonly employed, both in France and England, were long wooden splints of the type known in England as "Liston's." Towards the end of 1915 skeleton metal splints began to be used in France, and during the year 1916 the "Thomas" splint came into universal use at the casualty clearing stations. During this year also the "stretcher-suspension-bar" for use with the Thomas splint (so long as the patient remained on his stretcher) became a part of the regular equipment.

It was during the battle of the Somme in 1916 that, for the first time during heavy fighting, both these appliances were supplied to the field ambulances (of the Fourth and Fifth Armies). Subsequently both were sent up to the regimental aid posts of all armies, and were commonly applied as soon as the stretcher-bearers found the wounded man.

During the year 1917 the patients at the bases in France were generally treated by skeleton metal splints and extension by the methods demonstrated to the Paris Conference by Major Sinclair, but it became evident that better results could be obtained, and this object was achieved in 1918 by retaining patients in France as long as possible before the journey to England, and by the creation of special hospitals with specially trained staffs of surgeons and nurses. Special hospitals for fractured femurs were created in June, 1918, in England, and the effect of these various measures was that many lives and limbs were saved and that the limbs saved have shown very much less permanent disability than formerly.

Mortality.

The mortality at the front in the early days of the war cannot be directly compared with the mortality at the front in the year 1918, because the conditions were totally different. In the latter year and in 1917 all the worst cases were retained in the casualty clearing stations, and many died there, while in 1914 and 1915, whenever there was heavy fighting, practically all patients, however bad their condition, were at once sent to the base hospitals by ambulance trains, because the casualty clearing stations were far too few and too small to accommodate them; very large numbers of patients merely passed through these units on their way to the train. Yet, even then, it was found that not less than 16 per cent. of 1,000 consecutive cases died at the front, and it was estimated that the total mortality in France was at least 40 per cent., exclusive of those who subsequently died in England, so that the death rate was altogether not less than 40 to 50 per cent.

These figures are, however, rather misleading, for all cases of fractured femur are included in them, and amongst these not less than 20 or 30 per cent. had either such serious local complications as injury to the main vessels, extensive comminution into a joint, or widespread laceration and destruction of large masses of muscle, whilst many other patients had multiple wounds involving other limbs or the viscera of the thorax or abdomen. It is not always possible to distinguish between all these conditions, and it must be understood that the figures here given include all patients in whom the femur was fractured, whatever complications there might have been.

It has been found impossible to ascertain the results in all the field ambulances and casualty clearing stations in 1918 because of the difficulties encountered in the retreat of March and April, but sufficient records have been obtained to enable satisfactory conclusions to be drawn. The total mortality in the year 1918 may be estimated from the following figures:

I. *At the Front.*

Of 3,141 cases 550 died—that is, 17.5 per cent.

Of these cases approximately 21 per cent. were treated by amputation.

The mortality of the amputated cases was about 33 per cent. These are included in the total of 550 deaths recorded above.

It was estimated that in between 20 and 30 per cent. of the total number of 3,141, there were multiple wounds or such other serious complications as have been alluded to above. The mortality was very much higher in this class than in the remaining 70 cent.

II. *At the Base Hospitals.*

During the year 1918 there were treated in the general hospitals at the bases in France 5,025 patients; of these, 547 died, = 10.8 per cent.

Of these 5,025 cases, 513 were treated by amputation = 10.2 per cent.

The mortality of the amputated cases was about 33 per cent. All these are included in the figure of 547 given above.

III. *In England.*

Inquiry in England shows that the mortality in the special hospitals more recently created was very low, and generally 1 or 2 per cent. The reasons were, first, that in 1918 the majority of all the cases were kept in France till union had occurred and the wounds had healed; and second, that, even in times of stress, the worst cases were always retained in the special hospitals in France. For the same reasons amputations in England were few.

From a consideration of the above figures it may be concluded that during the year 1918 the total mortality of all cases of fracture of the femur (I) at the front, (II) at base hospitals in France, and (III) in England, amounted to, approximately, 30 per cent.

It must, however, be again pointed out that a very large proportion of the deaths occurred in men who had other serious injuries, and there is no doubt that in not a few of these death was not due to the fracture of the femur but to wounds of the viscera or to the shock caused by multiple injuries. My own impression is that the mortality of uncomplicated fractures of the femur due to "gunshot" wounds and treated throughout by the most modern

methods is not more than 15 to 20 per cent., and this conclusion has been reached after an examination of many statistics.

Amputations.

A very large number of the deaths followed amputation, and about 30 per cent. of all the patients with fracture of the femur lost the limb, either by primary or secondary amputation. It will be noted also that in one-third of all the amputations the operation failed to save life.

At the front the most common reason for amputation was that the extent and severity of the injury rendered it impossible to save the limb. In other cases laceration of the main vessels was the reason. In many cases the operation was performed for gas gangrene. Many lives were saved by the employment of blood transfusion and by the use of gas and oxygen as an anaesthetic.

At the base hospitals the presence of gas gangrene was almost as often the cause of amputation as at the front, but in a good many cases the development at a later stage of intractable sepsis called for the removal of the limb. It must, however, be remembered that in March and April, 1918, several hundred cases had to be sent to the base for operation which would ordinarily have been performed in the casualty clearing stations.

The following figures of one general hospital may be taken as examples. Out of 72 amputations gas gangrene caused 24; acute sepsis, 29; dry gangrene, 3; secondary haemorrhage, 9; osteomyelitis, etc., 6.

Final Results.

The final results obtained in the limbs that were saved show a very great improvement on those of the early part of the war. They may be briefly summarized as follows:

1. *Shortening.*

The methods of treatment of 1918 guarantee that unless there has been very extensive loss of bone *no shortening need occur*. It has been shown that even when one or two inches of the femur have been destroyed the gap can be filled by new bone, and that consequently there is no objection to maintaining the fractured ends in full extension.

It had formerly been the practice of some surgeons to allow the separated fragments to come together so as to promote union, but it is certain that this should not, in the future, be a regular practice.

Practical experience has also shown that it is more difficult to obtain a full-length limb in cases of simple fracture, such as occur commonly in civil practice, for the uninjured muscles offer far greater resistance than those in a limb wounded by shell or bullet, and more extension is consequently required. The amount of shortening following gunshot fractures is shown by the following figures to have steadily decreased in each year of the war; for the New Zealand figures we are indebted to Major Stout, N.Z.M.C.; they include every case of fractured femur in the New Zealand Corps:

New Zealand Figures.

1916	...	54 cases; average shortening	= 1.345 in.
1917	...	116 cases; ,, ,,	= 0.957 in.
1918	...	90 cases; ,, ,,	= 0.25 in.

Two Special British General Hospitals in France, 1918.

(*a*) 334 cases; average shortening = 0.2 in.
(*b*) 60 cases; average shortening = 0.2 in. Of these 60, 36 had no shortening.

A Special Hospital in England, 1918.

Major Pearson, S.A.M.C., has supplied the following figures:

Number of cases	...	...	...	... 68
No shortening in	...	...	...	... 39
Average shortening of the remaining 29 cases				= 0.5 in.

Other hospitals show similar results, and it will be seen that the majority of the patients recovered without any shortening, and that only in about 5 per cent. of all cases was there more than one inch of shortening. Thus, of the 90 New Zealand cases in 1918, only two had more than an inch of shortening, and both of these patients had lost a good deal of bone.

The records of the various special hospitals necessarily vary somewhat, but the figures quoted are sufficient to prove that the previous difficulties in obtaining limbs of good length after gunshot fractures of the femur have been completely overcome, and that equally good results should be generally obtained in civilian practice as well as in war.

2. *Malposition.*

The commonest displacement was a falling back of the lower fragment. The difficulties of correcting malposition almost disappeared in France as soon as a full length limb could be secured. A small percentage of the fractures near the knee and the hip recovered with some displacement remaining, but at least 80 per cent. of the whole of the cases recovered with good position.

In *fractures of the shaft* good position can practically always be secured, but it is most important thoroughly to support the bone at the site of fracture so that the natural anterior curve of the femur is either very fully maintained or even slightly exaggerated.

3. *Stiffness of Knee-joint.*

Major Pearson reports that, of 68 cases, 55 had a range of knee flexion over 90 degrees; 10 had a range of flexion of 60 to 90 degrees; and 3 had a range of flexion of 30 to 60 degrees. None had less than 30 degrees of movement at the knee.

Of the New Zealand cases Major Stout reports that the average range of flexion of the knee over the whole series was 43 degrees.

Many other hospitals showed similar results, and it is evident that the number of cases in which the knee was left permanently stiff was greatly diminished. There is no doubt that if suitable precautions are taken during treatment stiff knees in cases of fracture in the shaft of the femur should be very few.

4. *Stiffness of the Hip-joint.*

This has not been a frequent complication, and it should never occur except in cases where the fracture involves either the neck of the bone or the trochanters.

5. *Stiffness of Ankle-joint and Toes.*

This can always be avoided if care is taken not to keep the foot cramped by bandages, and to allow and encourage daily movement at the joints.

6. *Sinuses and Necrosis.*

Sinuses were seldom met with in the absence of necrosis; as it became the custom to remove sequestra earlier than in former years, the total number of patients with sinuses was greatly diminished.

7. *Non-union.*

This was decidedly rare, and did not occur in more than about 1 per cent. of the cases retained in France.

8. *Nerve Injuries.*

These were much more common than was generally appreciated. Out of a total of 297 cases of fractured femur observed by Major Stout, important nerve injuries were found in 12 per cent.—that is, in 36 patients. The injured nerves were—the sciatic in 13 cases; the internal popliteal in 3; and the external popliteal in 20.

The parasite *Filaria conjunctivae* has for its normal host the horse and ass, but occasionally, though rarely, it has been found in man. Forbes has now published, in the *Journal of the Royal Army Medical Corps*, two cases, apparently the same as he reported to the Society of Tropical Medicine in October, 1918. In his first case a small tumour was found firmly embedded in the subcutaneous tissue overlying the head of the radius and the sheath of the supinator longus muscle; in the other a small tense cystic swelling, not adherent to the skin, was present on the right side of the nose just below the right lacrymal sac. A male adult worm was found in the first, an immature female in the second. At first these tumours were supposed to be due to *Onchocerca volvulus*, a parasite which gives rise to such lesions on the West Coast of Africa, but when the worms were submitted to Dr. Leiper he decided that they were examples of *F. conjunctivae* (Addario). This would appear to be the first recorded instance of the male worm being found. No embryonic filariae were found in the peripheral blood, which was examined both by day and night. The old error of considering *Stegomyia fasciata* an intermediate host of *F. bancrofti* is perpetuated in Forbes's paper. The paper is illustrated, and the facts recorded may lead to the discovery of other examples.

Remarks
ON
SOME CLINICAL TYPES OF ABDOMINAL TUBERCULOSIS.*

BY
K. W. MONSARRAT, M.B., F.R.C.S.ED.,
LECTURER ON OPERATIVE SURGERY, UNIVERSITY OF LIVERPOOL, ETC.

MUCH has been written on the subject of tuberculous peritonitis, and the limitations of the usefulness of surgical interference in the condition are well known. It is rather with the accidents or complications which arise in connexion with abdominal tuberculosis that surgery finds itself concerned.

It has been established by clinical experience that tuberculous peritonitis associated with massive exudation is favourably influenced by simple evacuation of the fluid; this drainage of the inflammatory area being followed by a reaction which arrests if it does not cure the progress of the disease. Occasionally—very occasionally I think—in the course of this operation a primary focus of visceral disease is found and perhaps removed. This fortunate event has never happened to me, although I make it a practice to look for any obvious visceral disease in the abdomen and the pelvis. Of course, the bowel and mesentery can hardly be searched with any pretence to completeness. Clinical experience goes to show that the widespread exudative type of peritoneal infection is not commonly secondary to lesions of the bowel, mesentery, or tubes, at any rate not to gross disease in these situations; the probability is that it is in most cases primarily a blood-borne serous infection.

The Ileum.

The lower end of the ileum is the commonest site for the disease in the alimentary canal. Here the primary site is mucous, and necrosis and ulceration of the mucous membrane follow. Cases do not come to the notice of surgeons in the early stages of this type of the disease, and I should like confirmation or otherwise of the view that it is not often widespread; in other words, that tuberculous ulceration of the ileum usually concerns a small length of the bowel only, that it is a local disease, and rarely takes the form of a widespread florid infection.

The disease proceeds towards the peritoneal coat of the ileum, and a local tuberculous peritonitis results. Acute perforation is undoubtedly rare; I have met with one such case in a child of 4 years, admitted to hospital with acute peritoneal infection, in whom an ulcer in the ileum close to the caecum had perforated. It was associated with other ulcers in the ileum which *post-mortem* examination showed to be tuberculous.

The common event is a chronic penetration of the bowel wall by the disease, and following this a matting together of bowel surfaces occurs, which may be first revealed by obstruction.

The two following cases illustrate two alternative methods of dealing with the condition.

CASE I.—*Obstruction of Ileum: Lateral Anastomosis.*

A male patient, aged 15, was seized with acute general colicky pains on March 29th, 1911. He did not admit any symptoms of abdominal disease before this date. He vomited frequently during the night of onset, and these two symptoms—pain and vomiting—continued for three days until he was brought to hospital. He then had all the signs of acute intestinal obstruction, distended coils of bowel were plainly visible about the central part of the abdomen, the flanks being empty.

The abdomen was opened at the edge of the right rectus; distended ileum was traced to a matted mass of bowel covered with tuberculous deposit; the ileum beyond this mass was collapsed. A simple lateral anastomosis was made between bowel proximal and distal to the mass.

The further clinical progress was satisfactory, the temperature was apyrexic after the fourth day. The bowels acted naturally forty-eight hours after the operation.

This method simply avoids the disease and deals with the complication. A more direct way of dealing with both is illustrated by the following case.

CASE II.—*Obstruction of Ileum: Excision of Mass of Tuberculous Bowel.*

A female patient, aged 65, had had an umbilical hernia for eighteen years, and six years previously had had an operation for this. A week before admission to hospital she had an attack of acute pain in the night and vomited. The day following the bowels acted loosely four times. She did not vomit subsequently, but was nauseated. The bowels continued to act twice a day until the day of admission; on this day they did not act. A large ventral hernia was present in the situation of the operation scar. The part of this tumour to the right of the middle line was tense and tender, that to the left was soft and reducible.

An operation was performed on the day of admission. There were two distinct sacs, one on either side of the middle line: the small intestine occupying the left sac was healthy and reducible; the right sac was occupied by a matted mass of small bowel covered by tuberculous deposit. The sac wall was also infected. The whole mass was drawn forwards and removed between clamps. The intestinal ends were closed and invaginated and a lateral anastomosis performed. The hernial openings were repaired. This was a case of limited tuberculous ileal disease with obstruction in a hernial sac; there was no strangulation at the neck of the hernial sac.

The bowels acted naturally in thirty hours. Subsequently for a month she had some irregular pyrexia but her general condition remained good. The mass removed consisted of 2 ft. of small intestine, covered with tuberculous deposit, in part in the form of discrete tubercles but for the most part patches of coalesced tubercles matting the coils.

There was a mild degree of infection in the abdominal wound. Two months later an abscess formed under the scar which took eight weeks to heal. With this exception her recovery was satisfactory.

I do not think any law can be laid down as to whether exclusion or resection should be preferred in these cases of local ileal tuberculosis with obstruction, but obviously resection has great advantages over exclusion, in that it deals radically with the disease. The extent of bowel involved, the ease with which the mass can be isolated, will be guiding factors. The isolation of a mass which is not only matted by tuberculous disease but is also adherent to more or less distant coils is a precarious process. It is well known that separation of adhesions in a tuberculous abdomen is very liable to be followed by faecal fistula.

Caecum and Large Bowel.

The next most common seat of bowel tuberculosis is the caecum. Here, and at the other extremity of the colon, its pathological anatomy is different from the type in the ileum. Usually massive tumours are built up, the caecal wall becomes greatly thickened and infiltrated, and following, and in consequence of, this infiltration stenosis of the bowel lumen results.

Three cases, two of the caecum and one of the sigmoid colon, illustrate this type.

CASE III.—*Tuberculosis of Caecum and Adjacent Parts of Small and Large Bowel: Section of Mass: Colostomy: Death from Pulmonary Phthisis.*

A female patient, aged 36, was admitted to hospital complaining of pain in the right side of the abdomen. A tender swelling about the size of a kidney was to be felt in the right iliac region. She had a rigor on the day of admission. The pain had been present for three months, and was intermittent and associated with constipation. Two days after admission she had a severe attack of diarrhoea, the temperature rising to 102.°

On the fourth day the abdomen was opened and a mass exposed which involved the caecum, adjacent ascending colon, and six inches of the ileum. The whole mass was removed between clamps on the ileum and on the hepatic flexure of the colon and Paul's tubes fixed in each end of the gut. There was a good deal of shock, but she progressed fairly well, and a fortnight later an enterotome was fixed to break down the spur preparatory to closure.

The mass removed was tuberculous; there was extensive ulceration in the region of the ileo-caecal valve and terminal ileum, and of the caecum and about four inches of the ascending colon; there were also many tuberculous glands in the mesentery in the angle between ileum and caecum.

The operation was done on August 30th; on October 9th the artificial anus was closed under local anaesthesia, and the bowels acted through the natural channels next day. By this time, however, phthisis had been demonstrated in the left lung, and her general condition was bad. She died eighteen days later. *Post mortem* a large cavity surrounded by necrotic lung was found on the left side.

This operation of excision is severe, and in the presence of acute obstruction probably never advisable—certainly not if the patient is a child. The alternative is illustrated by the following case.

* A paper read to the Liverpool Medical Institution.

CASE IV.—*Tuberculosis of Caecum: Lateral Anastomosis: Death from Pulmonary Tuberculosis.*

A boy, aged 3, had been attacked every five days or so for several weeks before admission with vomiting and abdominal colic. The attacks were treated by enemata and aperients. The attack in consequence of which he was admitted was severe, the symptoms being again general abdominal pain, distension, and vomiting. He was in a medical ward at first, and was transferred later in consequence of the discovery of a tumour in the right iliac fossa.

On opening the abdomen the tumour was found to be caecum infiltrated with exudation due to active tuberculosis. A lateral anastomosis was made between ileum and transverse colon. The bowels moved with the aid of a simple enema on the fourth day.

The abdominal condition was relieved, but six weeks after his discharge from hospital he was readmitted with bronchopneumonia affecting the right lung. The condition spread from the right base to the whole of the lung, and was tuberculous. He died three months later from the pulmonary condition.

At the other end of the colon the disease also takes the form of a stenosing infiltration. In the following case, although the precise condition has not been demonstrated, I think there is no doubt as to the nature of the lesion.

CASE V.—*Recurrent Attacks of Obstruction: Expectant Treatment.*

A lady, aged about 40, was under treatment during 1913 for a tuberculous focus in the lung; the nature of the infection was demonstrated bacteriologically. In June of that year she was sent to me with the history that for the previous two months she had had several attacks of severe left-sided abdominal pain, the attacks being associated with vomiting and watery diarrhoea. They were intermittent, and for several days at a time she had no pain. The sigmoid colon in the left iliac fossa was palpable, tender, and infiltrated. She continued to have similar attacks, all associated with distension and vomiting; in the intervals mucus was often noticeable in the stools, but there was no history of any bloody discharge. Towards the end of the year chronic constipation became marked. During the early part of 1914 the attacks of definite intestinal obstruction continued; they lasted usually about twenty-four hours, and then subsided.

The question of operation was considered but not urged in consequence of her pulmonary condition. I have only recently seen her again. The condition of the colon appears to have become stationary; her general health is good, but she still suffers from recurrent attacks of obstruction, the severity of which, her friends say, she minimizes. They are all associated with vomiting, distension, and abdominal pain. There is still to be felt, just inside the left anterior superior spine, a swelling of the bowel about the size of the normal spleen, firm and moderately, not acutely, tender.

I think there is no doubt that in this case we have to do with a stenosing local tuberculous enteritis of the upper part of the sigmoid loop. A good result should be obtained by excision, but to this she will not at present agree.

Rectum.

In tuberculous disease of the rectum surgical treatment can do little; exclusion is impossible unless it takes the form of colostomy, and excision is out of the question. If the lesion goes on to abscess formation in the pelvis, as it not infrequently does, then the whole course of the disease may be favourably influenced by drainage. The following case is illustrative:

CASE VI.—*Rectal Tuberculosis: Pelvic Abscess: Laparotomy: Improvement.*

A young woman, aged 21, had been ill ten weeks before admission to hospital, the diagnosis being enteric fever. The symptoms throughout had been pain in the lower abdomen associated with diarrhoea. Occasionally the pain had been acute, and on two or three occasions she had vomited. For five weeks before admission she had had offensive vaginal discharge. The clinical course of the disease had therefore been subacute.

Five days after admission a sinus in the posterior fornix was demonstrated; it was enlarged with dressing forceps and a drainage tube inserted. There was considerable improvement after this, but diarrhoea persisted and also a nightly rise of temperature. For the next two months she remained in this condition, interrupted by a single rigor.

At the end of this time the abdomen was opened, and in the pelvis an abscess cavity with thick walls was demonstrated and drained. The discharge from this abscess persisted, and two months later the abdomen was reopened to the right of the sinus. After extensive dissection the abscess cavity was isolated, an adherent and damaged coil of small intestine being dealt with by suture. Scattered tuberculous deposits were present on the visceral and parietal peritoneum around. It was then clearly demonstrated that the primary focus of disease was rectal, and not tubal as had been thought probable. The cavity was scrubbed with iodoform paste and drained both above the pubis and through the vagina. The day after operation a faecal discharge came from the hypogastric wound, but the discharge was copious only for a short time. When she was discharged from hospital the house-surgeon's note says: "During the last few weeks patient's condition has improved considerably, and she has also begun to put on flesh. The fistula is almost healed, the wound only requires dressing once a day, and there is very little discharge."

Two and a half years later this patient came to hospital again with an abscess over the sacrum, which was opened. In the interval her health had been good, but recently the old sinus above the pubis had reopened, and there had also been some vaginal discharge. She complained of no pain except during the formation of the sacral abscess. There was some intermittent diarrhoea during her stay in hospital. Her later history I do not know.

Mesenteric Glands.

Without demonstrable intestinal lesions, the mesenteric glands are frequently the site of abdominal tuberculous disease. Frequently it is widespread; sometimes it is local, and when local it may be dealt with favourably by operation. A common site for a local deposit is the mesenteric angle between caecum and ileum. It happens to every one from time to time to meet with this condition, the diagnosis before operation being chronic appendicitis. Attacks of sharp darting pains, without any other symptom and with long intervals of freedom, associated with quite definite and localized tenderness about the caecum—these are the usual phenomena. It is good practice, I think, to remove such a gland group, but this means the most careful enucleation of the enlarged glands separately, and is both difficult and laborious. Before setting out on such a proceeding one should satisfy oneself that the disease is apparently local and capable of being dealt with completely. The alternative to enucleation is excision of a mesenteric segment with its glands together with the corresponding length of bowel.

CASE VII.—*Excision of Tuberculous Mesenteric Glands.*

A boy, aged 11, was admitted to hospital with the history that during the previous year he had had occasional attacks of colic, pain being about the centre of the abdomen. A week before admission he had had a severe attack, and again three days before, accompanied by vomiting. A tumour was at this time found in the abdomen; it measured 2 in. vertically and 3½ in. transversely and was situated just below and to the left of the umbilicus. It had irregular rounded margins and was freely movable with the hand.

Two days after admission the abdomen was opened in the middle line and the tumour was found to consist of a local mass of tuberculous mesenteric glands, the central part being a thick-walled abscess cavity to which omentum was adherent. The mass was removed entire together with 3 ft. of corresponding ileum and an end-to-end anastomosis was done. An attack of bronchitis complicated convalescence. The bowels acted forty-eight hours after operation. He was discharged five weeks later.

I have not included in this survey the simple stricture of the small intestine which results from the cicatrization of tuberculous ulceration for the reason that I have never met with a case demonstrably of this nature. Nor have I included the cases of intestinal obstruction due to strangulation by bands originating in tuberculous foci, because they are of fairly frequent occurrence and the problem is usually that of simple relief of the strangulation. I offer the following suggestions on the surgical treatment of the conditions described.

SUMMARY OF RECOMMENDATIONS.

1. When tuberculous disease, either of ileum or large bowel, is associated with definite intestinal obstruction, operation is always necessary, and the choice lies between exclusion by anastomosis and excision. If the obstruction is acute, exclusion by anastomosis is to be preferred; if the obstruction is subacute the exact local condition must decide: a mass that is easily isolated is better removed.

2. When such tuberculous bowel lesions are not associated with obstruction, or with an obstruction that is chronic and capable of relief by aperient, the advisability of operation will depend on whether the bowel disease is or is not the sole demonstrable lesion in the body. If the lung is also affected it will probably be wiser to decide against operation.

3. With regard to disease of the rectum I know of no actual evidence that a remedy is to be found in the establishment of an artificial anus. This has been recommended and practised on the ground that keeping the rectum empty affords a better prospect of resistance and recovery. I know at any rate of one instance in which this procedure added to the patient's discomfort without

obvious benefit to the rectal condition. Before recommending this method of treatment we should require a body of evidence that cure of the rectal disease can really be anticipated in a fair proportion of cases. When the rectum is affected above the peritoneal reflection, and is associated with abscess, evacuation of the abscess by the intraperitoneal route is to be recommended, but except for the treatment of this complication operation has no service to offer.

4. Lastly, in selected cases, operation gives good results in limited tuberculous disease of mesenteric glands. According to the extent and stage of the focus this will take the form either of enucleation or of excision of the mesentery involved, together with associated bowel.

SPHENOIDAL EMPYEMA AND EPIDEMIC CEREBRO-SPINAL FEVER.*

BY

DENNIS EMBLETON, M.A., M.B.,

BACTERIOLOGIST TO UNIVERSITY COLLEGE HOSPITAL.

THERE are four varieties of the clinical course taken by cerebro-spinal fever.

First, there is the type which, commencing as an acute illness, may then go on to recovery or may result in death.

There is, secondly, the type of case that, after having shown considerable improvement from the acute stage, suffers from a recrudescence, both in general symptoms and in the condition of the cerebro-spinal fluid. This usually occurs from the fifth to the twelfth day, and may subsequently lead to recovery or death.

Thirdly, there is the type of case that, after convalescence from the acute stage, still retains a tendency to suffer from malaise, headaches, and vomiting, which gradually become more pronounced. The patient becomes extremely emaciated and death occurs from hydrocephalus.

Fourthly, there is the case that, having entirely recovered from the preliminary attack, months later has a relapse which may prove fatal.

Thirty-four *post-mortem* examinations were made in the Netley district between 1915 and 1919, on cases of cerebro-spinal fever dying as a result of one of these four types of the disease. These are all grouped in the accompanying tables under three of these types:

A. Those dying during the acute illness ... 21 cases
B. Those dying during a recrudescence ... 6 ,,
C. Those dying from hydrocephalus during convalescence ... ... 7 ,,

One case only (22) died as a result of a relapse occurring months after the preliminary attack, but as he suffered from an apparently typical attack of the disease with a recrudescence he is grouped under heading B for convenience.

Of these 34 deaths only 11 occurred within the first week of illness. In this observation we differ from Rolleston,[1] who states that "more than half the fatal cases occur during the first week of the disease." A possible explanation of this difference is that at Netley we were fortunately able to insist that every case in which the least suspicion of cerebro-spinal fever was entertained should be immediately admitted to the isolation hospital. On admission, lumbar puncture was performed as a routine within a few minutes of arrival, antimeningococcic serum being administered there and then to cases showing turbid cerebro-spinal fluid. A bacteriological diagnosis was only waited for when there was middle-ear disease or a head wound. This very early administration of serum, often within an hour or two only of the suspicion of cerebro-spinal fever being present, probably saved many cases who would otherwise have died during the first week.

In a previous paper[2] it was shown that of 36 cases in which it was possible to obtain cultures from both the nose and the cerebro-spinal fluid, in 35 the types of meningococci in the two sites were identical, as proved by both agglutination and saturation tests. The irregularity shown by the remaining case has been discussed.

In no case was any inflammatory process discoverable about the cribriform plate of the ethmoid by naked-eye examination. The contents of the pituitary fossa showed

* A paper read before the Pathological Section of the Royal Society of Medicine.

TABLE I.—A. *Acute Cases.*

No. of Case.	Days from Onset to Death.	C.S.F. Type.	Nasal Type.	Sphenoidal Sinus.		Sphenoidal Bone.	
				Empyema.	Meningococci.	Inflammation.	Meningococci.
1	1	N.O.	N.O.	Serous effusion	Not found	Nil	—
2	1	II	N.O.	Yes	Not found	Yes	Not found
3	2	II	N.O.	Yes	II	Nil	—
4	2	II	II	Yes	II	Nil	—
5	3	Pos.	Pos.	Yes	Pos.	Yes	Pos.
6	3	Pos.	Pos.	Yes	Not found	Nil	—
7	3	II	N.O.	Serous effusion	II	Nil	—
8	3	I	I	Yes	Mening.	Yes	Not found
9	4	I	N.O.	Yes	Mening.	Nil	—
10	5	Pos.	N.O.	Yes	Not found	Nil	—
11	7	Pos.	N.O.	Yes	Not found	Nil	—
12	9	I	I	Yes	I	Nil	—
13	10	Pos.	Pos.	Yes	Not found	Yes	Not found
14	11	I	N.O.	Yes	Not found	Nil	—
15	16	II	II	Yes	Mening.	Yes	II
16	19	Pos.	N.O.	Yes	Mening.	Nil	—
17	27	III	N.O.	Normal	—	Nil	—
18	34	Pos.	Pos.	Yes	Pos.	Yes	Pos.
19	40	Pos.	N.O.	Yes	Not found	Nil	—
20	47	Pos.	Pos.	Yes	Not found	Nil	—
21	68	Pos.	N.O.	Yes	Mening.	Yes	Not found

N.O. = Culture not obtained. Roman numerals denote Gordon's four types of meningococcus as proved by serological tests. Pos. = Meningococcus grown, but serological tests not performed. Mening. = Organism having the morphological and staining characteristics of the meningococcus seen, but not grown.

TABLE II.—B. *Cases with Known Recrudescences.*

No. of Case.	No. of Days to		C. S. F. Type.	Nasal Type.	Sphenoidal Sinus.		Sphenoidal Bone.	
	R.	D.			Empyema.	Meningococci.	Inflammation.	Meningococci.
22	8	8	II	II	Yes	Mening.	Nil	—
23	5	9	I	I	Yes	I	Nil	—
24	9	14	I	I	Yes	I	Nil	—
25	12	16	III	I or III	Yes	Mening.	Nil	—
26	42	48	II	N.O.	Normal	—	Nil	—
27	Rr.	99	Pos.	Pos.	Yes	Mening.	Nil	—

R. = Recrudescence. Rr. = Repeated recrudescence. D. = Death.

TABLE III.—C. *Convalescent Cases Dying from Hydrocephalus.*

No. of Case.	Days from Onset to Death.	C. S. F. Type.	Nasal Type.	Sphenoidal Sinus.		Sphenoid Bone.	
				Empyema.	Meningococci.	Inflammation.	Meningococci.
28	87	Pos.	II	Yes	Not found	Nil	—
29	90	Pos.	Pos.	Yes	Mening.	Nil	—
30	93	II	II	Yes	II	Nil	—
31	109	Pos.	N.O.	Yes	Mening.	Nil	—
32	133	Pos.	I	Yes	I	Nil	—
33	147	Pos.	II	Yes	Not found	Nil	—
34	199	I	I	Yes	Not found	Nil	—

Note.—In no case was the cribriform plate of the ethmoid affected. The contents of the pituitary fossa were inflamed in every case. In Case 8 there was inflammation of the middle ear, and in Case 9 pus; in all other cases the ear was not affected.

inflammation in every case. The middle ear was seen to contain pus in one case, and there was congestion of the bone but no pus in another case.

There was an empyema of the sphenoidal sinus in

A. Acute case deaths	...	... 20 out of 21 cases
B. Recrudescence deaths		... 5 out of 6 ,,
C. Hydrocephalus deaths		... 7 out of 7 ,,

An empyema of the sphenoidal sinus is taken to mean a cavity filled with pus, muco-pus containing fresh and autolyzed pus cells, or glairy fluid showing pus cells, and the mucous membrane of the sinus showing congestion.

In 34 necropsies an empyema of the sphenoidal sinus was present in 32 cases. In the pus from the sphenoidal sinus—

Meningococci were proved serologically in	...	8 cases
Meningococci were cultured but were not tested serologically in	... ...	2 ,,
Meningococci were seen but not grown in	...	10 ,,
No meningococci were seen or grown in	...	12 ,,

Inflammation of the sphenoid bone over the empyematous sphenoidal sinus was not found at all in recrudescence and hydrocephalus deaths, but was found in 7 cases of deaths from the acute illness. In these 7 cases the meningococcus was only found three times, and the type of the meningococcus was only able to be proved once, but was in this case the same as that found in the nose and cerebro-spinal fluid.

The association of sphenoidal sinus inflammation with cerebro-spinal fever was first noticed by Westenhoeffer,[3] who only found it to occur in one-third of his twenty-nine necropsies. Other workers have also reported cases showing empyemata of the sphenoidal sinus, but have generally considered that this condition is not the cause of the disease, either because they have been unable to find an empyema in all cases or because they have been unable to trace the meningococcus in the walls of the sphenoidal sinus or in the body of the sphenoid bone. Very great improvements have recently been made by Mervyn Gordon in the culture medium for the propagation of the meningococcus, so that a meningococcus can now, under suitable circumstances be made to grow as rapidly and luxuriantly as a *Bacillus coli*. These improvements were not available for most of the workers in this connexion. In spite of these advantages the meningococcus was not demonstrated in the sphenoidal empyema in 12 of these cases. This was possibly due to the length of time that elapsed between death and the necropsy in many cases, and also to the chilling of the plates during transport from a distant camp to the laboratory in very cold weather. The majority of deaths occurred during cold weather, and meningococci are difficult to cultivate in primary culture unless precautions against chilling are taken.

Thus in 34 deaths from cerebro-spinal fever empyemata of the sphenoidal sinus were found 32 times; meningococci were found 20 times in the sinus and 3 times in the sphenoid bone. In no other diseases were empyemata of the sphenoidal sinus observed, except during the epidemic of "Spanish influenza," when empyemata of the sphenoidal sinus were frequently found.

The relationship between an empyema of the sphenoidal sinus and cerebro-spinal fever may now be considered. The primary site of a meningococcus infection in the human body is undoubtedly the nasopharynx. The meningococcus has been demonstrated in this position not only early in the acute attack, but also in the incubation period,[4] in carriers who never develop meningeal symptoms, in meningococcal pneumonia, etc. The infection is propagated from person to person, as is a common cold, from nose to nose. The frequency of the carrier condition and the relative infrequency of the disease is noteworthy. It is probable that the whole population of England has been a carrier at some time or other during the last five years, and yet the total number of cases is relatively small.

At the time when contacts to cases of cerebro-spinal fever were examined for the carrier condition, it was always noticed that the people under examination were suffering from coughs and "colds." Many of the contacts gave pure cultures of the meningococcus in the nasopharynx. This suggested that the "colds" were in some cases due to the meningococcus. Also several carriers, when first isolated, suffered from a profuse watery nasal discharge, from which only the meningococcus could be isolated. Chronic carriers nearly always had a gluey nasal discharge, which was apparent on examination of a nasal swab. It thus appears that the meningococcus can give rise to a nasal catarrh. It seems probable that this is the natural disease produced by this organism, and it is only when some other factor comes into play that meningitis or septicaemia results. This other factor does not seem always to be a rise in virulence of the meningococcus, for of the camp epidemics about Southampton and Winchester during the war it was only in one epidemic that all the cases of meningitis were due to one serological type of meningococcus. Usually two or three serological types of meningococcus were recognized in the cases of one epidemic, the carriers found in the camp corresponding with the serological types of meningococcus in the cases.

Thus, in the Winchester epidemic of the spring of 1917 there were 8 cases, 3 due to Gordon's Type I coccus, 2 due to Gordon's Type II, 2 due to Type IV, and one in which the type was not proved. The carriers found were all infected with one of these three types of meningococcus; no Type III carriers were found.

On another occasion two cases occurred in one ward in a hospital within four days of one another. If serological tests had not been performed, it would have been felt certain that either one case infected the other, or that both were infected from the same source. This was not so, as the first case was due to Gordon's Type II, and the second due to Gordon's Type I or III coccus.

Some epidemics in other parts may have been produced by a particularly virulent meningococcus of one serological type, but it is evident that this is by no means a necessary condition for the outbr ak of an epidemic.

The frequency of the appearance of a sphenoidal sinus empyema suggests that this might be the determining factor in the onset of the meningitic form of the disease at any rate. The empyema may be the result of an inflammatory reaction to the meningococcus on the part of the mucous membrane lining the ostia. The fact that the meningococcus was several times isolated in pure culture from the sinus suggests that for the inflammatory closure of the ostia a mixed infection is not necessary, although streptococci and staphylococci were also found on occasions to be present. Thus a sphenoidal empyema might be produced by a meningococcal infection of the nasal mucosa of an individual whose resistance to the meningococcus was such that the infection resulted in a vigorous inflammatory reaction. Anatomical or pathological peculiarities in this region might also favour the production of an empyema.

In cases dying from cerebro-spinal fever an empyema of the sphenoidal sinus was common, in only 2 cases (17 and 26) in this series, out of 34, was this condition not found. Both these cases died at a considerable number of days from the onset, 27 and 48 respectively; 47 completely recovered cases, on the other hand, were examined by rhinological experts, Dr. Peters and Dr. Bryant, who found that no sphenoidal empyemata were present. Chronic carriers[5] were also carefully examined bacteriologically, and no meningococcic infection of the sinus was found. Thus in dying cases an empyema was frequently found; in completely recovered cases no empyemata were discovered. A series of five cases showing symptoms of hydrocephalus were operated on for drainage of the sphenoidal sinus.[6] Of these cases all showed the presence of a sphenoidal empyema. The meningococcus was only cultivated and proved serologically in one of these cases from the sphenoidal pus obtained at the operation; a typical Gram-negative diplococcus was seen only, but not grown, in another case. But in two other cases, subsequent to the operation, the meningococcus reappeared in the throat in pure culture, after it had entirely disappeared for some weeks previously. Subsequent to the operations all cases appeared temporarily worse, three made complete recoveries, two died with typical hydrocephalus *post mortem*. Of the recovered cases one went through a typical relapse after the operation, with reappearance of the meningococcus and pus in the theca, subsequently completely recovering.

From this it would seem that if early and vigorous serum treatment be given, and if the sphenoidal empyema disappear, recovery will probably occur. If, however, the empyema persist, the case will, if it recover from the acute illness, either relapse or go on to hydrocephalus.

In order to see if draining the sphenoidal sinus during the acute stage of the illness would accelerate recovery, three cases of cerebro-spinal fever were operated on; a sphenoidal empyema was found in each case, but each case died. This discouraged further operative procedure during the acute stage.

The next point under consideration is, how do the meningococci get from the nasal mucosa to the meninges?

There are many possible routes:

1. The arachnoid prolongations round the olfactory nerves.
2. The perineural lymphatics.
3. Direct inflammatory extension.
4. The pituitary.
5. The systemic lymphatics.
6. The blood stream.
7. The middle ear.

1. *The Arachnoid Prolongations Round the Olfactory Nerves.*

This route is favoured by Netter and Debré and Flexner. Netter and Debré show that dyes, Indian ink, and meningococci can get from the cerebro-spinal fluid into the nose by this route, but they do not show that the reverse can take place. Their experiments show that the natural direction of the current is from the cerebro-spinal fluid to the lymphatics; it is thus difficult to see how the meningococci could progress against the stream to gain access to the meninges except by inflammatory extension. In none of this series of *post-mortem* examinations was there any naked-eye appearance of inflammation about the cribriform plate of the ethmoid.

2. *The Perineural Lymphatics.*

In papers by Orr and Rows,[7] Teale and Embleton,[8] it has been shown that not only dyes and toxins, if injected into a nerve, will travel up the perineural lymphatics to the cord, but also particulate material, such as washed spores. These spores can be traced up the perineural lymphatics into the substance of the cord itself. In this way it might be possible for the meningococci to travel up the perineural lymphatics to the brain substance. Cerebro-spinal fever does not, however, appear to start as an encephalitis, so, although this route would be a satisfactory one for polio-encephalitis, it does not seem suitable for cerebro-spinal meningitis, especially as it has been shown that neither toxins, dyes, nor particulate material, when passing up a perineural lymphatic, get into the cerebro-spinal fluid.

3. *Inflammatory Extension.*

It has been suggested that meningococci could gain access to the cerebro-spinal fluid by a process of inflammatory extension through the bone separating the nose and accessory sinuses from the meninges. In this series of necropsies there is evidence of direct spread from the sphenoidal sinus to the sphenoid bone, and so to the overlying meninges. In seven cases there was inflammation, and the meningococcus was found three times in the bone. In the other cases no evidence, as viewed by the naked eye, of inflammatory extension could be discovered.

4. *The Pituitary.*

An infection from Luschka's pharyngeal tonsil along a possibly patent connexion between this and the pituitary gland has been suggested. Luschka's tonsil is one of the sites in the nose most richly infected with the meningococcus. In this series of necropsies the pituitary body always showed infection, but it is obvious that this would certainly occur anyhow from its intimate relationship with the cerebro-spinal fluid.

5. *The Systemic Lymphatics.*

The ordinary flow of lymph from the nasal passages is away from the brain, and in connexions between the subarachnoid space and the lymphatic system the current is away from the meninges. If bacteria[9] are injected into the arachnoid space they rapidly appear in the lymphatics of the head and neck. If, however, a process occurs, such as an empyema of the sphenoidal sinus, the ordinary direction of lymph flow might be reversed, and bacteria be thus forced from the lymphatics of this neighbourhood towards the meninges, without showing any sign of inflammatory extension. In the case of a sphenoidal empyema large numbers of meningococci would get into the lymphatics, and by this means would also get into the blood stream. It would only be necessary for a sphenoidal empyema to exist for a very short time to produce these effects, possibly only for half an hour. If the sphenoidal empyema discharged at the end of a short time into the nose, and if the meningococci that had reached the meninges were destroyed, a recovery would ensue. If, however, the sphenoidal sinus empyema persisted, and kept on pouring fresh infection into the meninges, the case would probably die.

6. *The Blood Stream.*

Many workers have considered that the infection of the meninges occurs by way of the blood stream, the meningococci gaining access to the blood from the nasopharynx. This suggestion has been based partly upon the early appearance of the meningococci in the blood, and partly on those cases of meningococcal infection where no meningitis occurs. The blood stream, however, would receive meningococci very early in the infection of the nasal mucosa, at any rate as soon as an empyema of the sphenoidal sinus occurred. The meningococci would reach the blood stream from this region via the deep cervical lymphatic trunks, which join the thoracic duct just before it enters the venous system in the neck. Also, as soon as meningococci gained access to the cerebro-spinal fluid, they would appear[9] in the blood stream, both direct, via the Pacconian bodies, and also by way of the lymphatics, through their junctions with the subarachnoid space. The blood then would, from the very earliest stages of the disease, receive repeated and heavy showers of meningococci from the sphenoid region and the cerebro-spinal fluid. Thus it can be said that the early finding of the meningococcus in the blood stream is no indication that the meninges are primarily infected by this route.

In the recent outbreaks of "Spanish influenza" empyema of the sphenoidal sinus was a common finding in the fatal cases, but meningitis was rarely found. It is not necessary, then, that an empyema should be followed by meningitis. It is thus possible that the meningococci can gain access to the blood stream from a sphenoidal empyema, and so be carried round to the meninges and set up inflammation.

7. *The Middle Ear.*

Inflammation in this region was only found in two necropsies in this series. It is unlikely that this is the portal of entry of the meningococcus to the meninges.

Thus it would appear improbable that the meningococci gain access to the meninges through the arachnoid prolongations round the olfactory nerves, or by way of the perineural lymphatics. It is probable that the meningococci pass by way of the lymphatics from the sphenoidal sinus direct to the meninges, with or without naked-eye signs of inflammation. It is possible also that they can be conveyed to the meninges by the blood stream.

The relationship between a persistent sphenoidal empyema and hydrocephalus may now be considered.

In the seven deaths from this condition an empyema was found in each case. Five cases were operated on, and pus was found in the sphenoidal sinus each time; two of these cases died, and are grouped in with the *post-mortem* cases. There were thus a total of 10 cases of hydrocephalus, and in each case a sphenoidal empyema was found. The cerebro-spinal fluid in the ventricles of each of the cases which died contained pus cells. The cerebro-spinal fluid taken from the lumbar region was usually quite clear.

This suggests that there is a close relationship between empyema of the sphenoidal sinus and the hydrocephalus that develops after an attack of cerebro-spinal fever. The hydrocephalus develops as a result of a chronic infection about the foramina of Luschka and Magendie. This chronic infection also appears to exist in the ventricles. The exact path by which the meningococci in the sphenoidal sinus empyema reach the interior of the ventricles is not clear, unless it be by the blood stream. But there would appear to be some relationship between the two positions, inasmuch as the only three cases who recovered from the hydrocephalus condition did so after an operation for drainage of the sphenoidal sinus. It might be argued that these three cases who recovered were not examples of hydrocephalus at all. Against this it is urged that all five cases operated on were advanced cases with typical symptoms; the two that died showed typical necropsies, and all other cases showing these symptoms died with typical necropsies.

The course of events in a case after infection of the nasal mucous membrane with the meningococcus might be as follows:

1. A simple catarrh, followed either by recovery or a chronic infection.
2. A vigorous local reaction in the nasal mucosa followed by sphenoidal empyema. This may produce a general blood infection, with or without infection of the meninges.

If the sphenoidal empyema disappear, the body, with or without the aid of antiserum, may be able to deal with the meningococci that have gained access to it, or death may result. If the sphenoidal empyema persists, and very heavy discharges of meningococci are poured into the body, death will probably result. If, however, the empyema remains quiescent, improvement may occur, but at any time a recrudescence or a relapse may supervene. A quiescent empyema may also keep up a smouldering infection which will lead to hydrocephalus.

Operation on the sphenoidal empyema always produced an increase in general symptoms. During the acute stage of the disease this increase in symptoms appeared to accelerate, at any rate, a fatal termination. In hydrocephalus cases recovery did occur in three cases, though one case went through a severe relapse.

The author wishes to acknowledge his indebtedness to Miss Iris Harmer for her valuable work in connexion with this research.

Summary.

1. In thirty-four necropsies on persons dying from cerebro-spinal fever, empyema of the sphenoidal sinus was found thirty-two times.

2. In ten cases of hydrocephalus following cerebro-spinal fever an empyema of the sphenoidal sinus was found in every case.

3. In forty-seven completely recovered cases of cerebro-spinal fever no sphenoidal empyemata were present.

REFERENCES.

[1] Rolleston: Lumleian Lectures, *Lancet*, April 5th, 1919. [2] Embleton and Steven: Persistence of Cerebro-spinal Fever Cases as Carriers of the Meningococcus during Convalescence, *Lancet*, May 10th, 1919. [3] Westenhoeffer: *Berl. klin. Woch.*, 1905, lxii, 737. [4] Fildes: Report to the Medical Research Committee. [5] Embleton and Bryant: Site of Carrying in Chronic Meningococcus Carriers, *Lancet*, October 17th, 1919. [6] Peters: *Proc. Roy Soc. Med.*, vol. xii, No. 9, August, 1919. [7] Orr and Rows: *Edinburgh Medical Journal*, vol. xvii, 1916, pp. 78, 89. [8] Teale and Embleton: *Journal of Pathology*. In the Press. [9] Teale and Embleton: Infection Paths of Spread in Bacterial Infection, *Proc. Roy. Soc. Med.*, vol. vii, Path. Sect., 1914.

STERILITY IN THE MALE.

BY

KENNETH WALKER, F.R.C.S.,

LECTURER IN VENEREAL DISEASES AND OFFICER IN CHARGE OF VENEREAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL.

WHEN a marriage is infertile it is still sometimes too readily assumed that the woman is at fault, although all writers on the subject recognize that the defect may rest with the husband. The object of the following summary is to emphasize the fact that no operative procedures on the wife are justifiable until the male has been properly examined, and until it can be definitely stated that his semen contains live, healthy, and vigorous spermatozoa.

It is difficult to obtain reliable statistics as to the frequency with which the male is at fault in childless marriages. The figures given by different authorities show great discrepancies, but at any rate they indicate that the fault of the childless marriage lies far oftener with the man than is commonly supposed. Hubner, in his investigation of 129 childless marriages, discovered a male sterility of 59 per cent., and Kehrers, amongst 40 similar couples, one of 35 per cent. Gross, in figures collected from various authors, convicts the husband in 17 per cent. of childless marriages, whilst Vedder places it as high as 70 per cent. Barney, in investigating 40 childless unions, found 20 sterile husbands, and, what is still more suggestive, discovered that the wives of 4 of these (20 per cent.) had undergone more or less severe operations for sterility! Even if the lowest of the above percentages be taken as correct, it is sufficient to support the dictum that "the investigation of childlessness should begin not with the curettage of the wife, but with the microscopic examination of the husband's semen" (Belfield).

The investigation of sterility in the male necessitates no small amount of labour and skill. Such gross lesions as epispadias, hypospadias, cryptorchism, malignant disease, bilateral tuberculosis, and gummata of the testis, require no consideration beyond the noting of the fact that tuberculous epididymitis, even although it be unilateral, causes azoöspermia in 85 per cent. of cases. This fact depends on the frequent association of a unilateral tuberculous epididymitis with disease of the prostate. It is the case where no gross lesion of the male genitalia is present that calls for careful investigation.

Whereas with the female it is Nature that plays the chief rôle in producing sterility, with the male the condition is more often the legacy of disease. A careful history of previous illnesses is the first step in the investigation. The orchitis of mumps, especially when it occurs about the age of puberty, is, as a rule, followed by atrophy. Fortunately such an orchitis is generally unilateral. Alcoholism, exposure to *x* rays, debilitating diseases, and sexual excesses, whether from natural coitus or masturbation, produce an azoöspermia or oligospermia which is temporary in nature. Prolonged and absolute continence has been said to have a similar result (Barney). Non-venereal infections of the testicle and prostate, whether by typhoid, *Bacillus coli*, or staphylococci, may similarly result in azoöspermia, oligospermia, or necrospermia, as the case may be. In a few cases it would appear that the otherwise healthy testicle of a normally active and sexually vigorous man may be entirely unproductive of spermatozoa (Janet).

But although non-venereal causes may sometimes be responsible for sterility in the male, by far the commonest cause is a previous attack of gonorrhoea. When it is remembered that in many countries the incidence of this disease is from 50 to 75 per cent. of the total adult male population, its importance as a potential cause of sterility amongst males cannot be exaggerated. All authorities recognize the frequency with which the posterior urethra becomes implicated in gonorrhoea, and it is with posterior infections that sterility is usually associated.

The frequency with which gonorrhoea, and especially gonorrhoea affecting the posterior urethra, produces sterility is borne out by many observers. In this connexion figures published by Benzler (*Arch. f. Derm. und Syph.*, 1898, xlv) are especially interesting. This observer followed the history of German soldiers who had suffered from gonorrhoea and had been subsequently married for three years or over. Especial attention was paid to a previous history of epididymitis.

Of those who had escaped epididymitis ...	10.5% were childless.
Of those who had had unilateral epididymitis	23.4% were childless.
Of those with previous bilateral epididymitis	41.7% were childless.

Clinical observations on the husbands of childless women with normal genitalia support these figures. The majority of these, when sterile, will be found to have suffered from gonococcal prostatitis, with or without epididymitis. It is often the prostatitis rather than the epididymitis that is the determining factor, and, when the proximity of the ejaculatory ducts and their liability to occlusion is remembered, this is not surprising. Moreover, even when no mechanical obstruction has been produced, pathological changes in the prostatic fluid resulting from inflammation are alone capable of producing necrospermia or oligospermia. Even healthy spermatozoa lose their vigour in the presence of pus or blood, and when, in addition to this, the activating secretions of the prostate are deficient, necrospermia and asthenospermia are extremely probable.

The second step, therefore, in the investigation of a case of male sterility is a careful and complete examination of the genitalia and urethra for evidence of past or present gonococcal infection. This must invariably conclude with a urethroscopy of the posterior urethra, for it is in the presence of a prostatitis, a vesiculitis, or a colliculitis, that the explanation of sterility will often be found.

The final step in the examination includes a microscopic examination of the male secretions. As a preliminary the secretions expressed as a result of prostatic massage are subjected to examination. Attention is paid to the presence of pus cells, and the appearance of such spermatozoa as may be present is noted. This examination is, however, but a preliminary to the more detailed investigation of the seminal fluid obtained after coitus with a condom. This examination, although it gives valuable information, is unfortunately open to error. The condition of spermatozoa some hours after evacuation into a condom does not necessarily reflect their condition when deposited in the vagina. For this reason Wolbarst urges the advisability of examining the vaginal and cervical secretions at various intervals after coitus has taken place. Such an examination is not always obtainable, but when suitable arrangements can be made the results are invaluable. Details of the examination are beyond the scope of this article, but as a result of observation of the spermatozoa, with reference to their number, freedom from imperfect or degenerate forms, mobility, and vigour, the question of the fertility or non-fertility of the male can in the great majority of cases be put beyond doubt.

In the above summary no attempt has been made at completeness. The subject of sterility in the male is far beyond the limits of a brief note. What has been attempted is merely to emphasize two facts which, although they may be known, are apparently too often forgotten. The first of these is the relative frequency with which sterility occurs amongst males; the second is the lack of justification in subjecting any woman to operation for sterility unless her husband has undergone a careful preliminary examination.

BIBLIOGRAPHY.

Barney: *Boston Medical and Surgical Journal*, 1914.
Belfield: *Journal of the American Medical Association*, 1912.
Benzler: *Arch. f. Derm. u. Syph.*, 1898, xlv.
Janet: L'Assoc. Franc. d'Urologie.
Lier and Ascher: *Arch. f. Derm. u. Syph.*, 1910.
A. L. Wolbarst: *New York Medical Journal*, 1917.

THE SIGNIFICANCE OF THE POSITION OF A "CONTRACTION RING"

IN CASES OF EXTREME PELVIC CONTRACTION WITH VERTEX PRESENTATION.

BY

C. D. LOCHRANE, M.D., F.R.C.S.ED.,

SURGEON, DERBYSHIRE HOSPITAL FOR WOMEN, DERBY.

A RING of contracted uterine musculature is liable to form in the region of the junction of the upper and lower uterine segments in delayed labour.

One of the commonest conditions in which delay occurs is contracted pelvis. When, in addition to a marked degree of pelvic contraction, the fetus presents by the vertex, the site of this ring, in relation to the fetal parts, is of considerable importance, both from the point of view of etiology and of treatment.

In obstructed labour due to contracted pelvis with a vertex presentation it is at least doubtful if a true "retraction" (Bandl) ring can form before sufficient upper uterine segment retraction has occurred to elevate the site of the ring above the level of the fetal shoulders. But cases are occasionally seen in which the formation of a "ring" has become so marked before this stage, that it is found constricting the fetal neck more or less closely. The trunk and limbs of the fetus are then imprisoned above the ring in an unretracted, but often apparently tonically contracted, upper uterine segment. With a markedly contracted pelvis, the head, in these cases, is is held in purchase between the ring above and the pelvic brim below.

The most recent view is that a "ring" forming in this position under these circumstances does not merit the name of "retraction ring" (Bandl), but is rather of the nature of a "contraction ring" due to local spasm of the uterine muscle (with or without contraction—but without definite marked retraction—of the upper uterine segment). In the opinion of the adherents of this view the chief cause of this spasm, before marked retraction has taken place, is over-irritation of the uterus by excessive manipulations in efforts to deliver.

Though opinion is not even now unanimous on this point, there is undoubtedly much to be said in its favour. Budin,[1] Cheron,[2] and Demelin,[3] in 1898–9 (and more recently White[4]), have described a type of case in which such a ring occurs with apparently unretracted, and even flaccid, upper uterine segment. Berkeley, Russell, and Fairburn[5] speak of it as an established clinical entity. In Germany von Rosthorn[6] and Bumm[7] state that a "contraction" ring begins to be evident on the inner surface of the upper part of the lower uterine segment from the onset of uterine contractions in every labour—that is, before much retraction has occurred. On the other hand, Veit[8] denies the occurrence of rings of this type (and Williams agrees with him). He says in effect that all such rings are true retraction rings, and that the views of Budin and others are the result of faulty observation.

Jardine[9] (quoting four cases, apparently of this type) discusses the subject fully. He points out that retraction of the upper segment is always occurring *pari passu* with contraction. He speaks of the retraction (or Bandl's) ring varying in position with the degree of retraction which has occurred. But he speaks of it always as a retraction ring, wherever formed. In some of his quoted cases it is interesting to note that there was no obvious evidence—that is, no marked pelvic contraction—of obstructed labour.

Whatever the exact pathogenesis of the ring may be in these circumstances a very serious proposition is undoubtedly encountered when it develops in association with a markedly contracted pelvis.

I have had the opportunity of treating one case of this type and of observing the treatment of another. In both the conjugate diameter was so small that the indication was absolute for Caesarean section had the cases been seen at or before the onset of labour. There had, however, been much intrauterine manipulation in both during previous attempts to deliver. A ring in both cases tightly constricted the fetal neck (vertex presenting.) It appeared quite impossible that the head could be delivered upwards through the ring if Caesarean delivery were attempted. It appeared equally certain that, even were it possible to deliver the head *per vias naturales*, it would have been quite unsafe to attempt extraction of the trunk through the narrow ring, however extensive the previous embryulcia.

In the case I treated personally the upper uterine segment showed some evidence of thickening above the ring as compared with the part below, the fetal trunk being somewhat difficult to palpate distinctly. The ring sulcus was quite marked on external palpation, and indeed to the eye.

In such cases an unusually difficult situation is presented, the fetal head being absolutely fixed and impacted between the "ring" above and the true brim below. By the time the case reaches this stage the fetus is usually dead, owing to the cutting off of the maternal blood supply—the result of tonic uterine contraction. An accessory factor in one of the quoted cases was an unreplaced prolapsed cord, which, with premature rupture of membranes (both cases), is a not unusual occurrence in marked degrees of pelvic contraction.

In considering treatment of this condition it must be remembered that, while the usual death of the fetus gives the widest latitude in choice of procedure, the patient is generally in rather bad shape physically. There is danger in extensive or prolonged manipulations both of general collapse and of uterine rupture. The type of interference involving the least shock, and that capable of being performed most rapidly, is that to be chosen. The lines of treatment calling for consideration are the following:

1. Craniotomy alone.
2. Craniotomy with embryulcia.
3. Caesarean section alone.
4. Caesarean section after craniotomy.
5. Caesarean section after craniotomy and decapitation.

Craniotomy alone will not help for obvious reasons.

Craniotomy with embryulcia, under deep chloroform-morphine anaesthesia, to relax the uterus (morphine gr. $\frac{1}{3}$ to $\frac{1}{2}$ given at least half an hour before operation), might allow of delivery *per vias naturales* in cases with less than the most severe degrees of pelvic narrowing. Under unfavourable conditions for better forms of treatment (for example, unsuitable rooms for operations) this line of treatment might be tried, but it should only be considered under such conditions and then only in conjugates of $2\frac{1}{2}$ in. or more.

It is not the best treatment because, apart from the danger of deep chloroform anaesthesia in such poor subjects—

(*a*) Time may be lost in waiting and in the process of manipulations.

(*b*) Necessary manipulations may possibly cause recurrence of spasm.

(*c*) The danger of uterine rupture (now imminent) is great.

(*d*) I have reason to believe, from personal observation (see below), that relaxation of the ring is not always attained to a useful extent.

Caesarean section without preliminary craniotomy will not in the vast majority of cases allow of delivery, as the "ring" will rarely allow of extraction of an uncrushed head.

The best choice for the patient lies between craniotomy followed by Caesarean section, and craniotomy *plus* decapitation and Caesarean section. Preliminary craniotomy should be done in any case. Decapitation will be difficult, and not without danger in such cases. It will prolong the interference, though no doubt it removes the possibility of trouble in subsequent upward withdrawal of the crushed head through the retraction ring during Caesarean section. The former method is the better, as in any case the neck could be more rapidly divided from above if necessary, and the head extracted later in the unlikely event of its not being deliverable upwards through the ring.

All cases of this type which have been "handled" to any extent (as many will have been before coming under observation) are so likely to become septic that it will often be safest to do Caesarean hysterectomy (or, if preferred, the Porro operation). If supravaginal hysterectomy be the operation chosen the peritoneum over the cervical stump should alone be sutured, the stump itself being left open to secure better drainage of the parametria.

In the unlikely event of the fetus being alive, an effort must be made to save it, even at added risk to the mother.

Under suitable conditions immediate abdominal Caesarean section, with rapid incision of the ring internally, would be the correct treatment. The site of incision being under immediate control, the choice of immediate suture or hysterectomy would then be guided by the probability of previous septic infection.

The following is the type case, the story of the other (particulars of which I am not at liberty to publish) being almost exactly similar.

Mrs. M., 29 years, primipara, was seen in consultation in a nursing home. The doctor reported the patient twenty-four hours in labour, and that membranes ruptured early; the os was fully dilated. The head was quite above brim, marked overlapping, but held down firmly on to brim and not movable to any extent. The cord was prolapsed and pulsation absent.

The marked retraction ring was very palpable and visible above fetal head but below the shoulders. Fetal parts could not easily be made out by palpation. Tonic, slightly tender upper uterine segment. Forceps had been applied several times without result. (Blunt-hook traction under chin had been tried for some time, and the hook was still in position when I first saw the case.) The temperature was 99°, and the pulse 100. Pelvic mensuration showed: Interspinous diameter, 10 in.; intercristal, 10 in.; diagonal conjugate, 2¾ in. Markedly oblique rickety flat type of pelvis.

The indications were absolute for Caesarean section, but there had been much handling before I saw the case, and considerable laceration and oedema of the soft parts were present. It appeared certain that the patient must be extensively septic.

Operation.

I therefore hesitated to do abdominal Caesarean section at once and decided to give the patient another chance of delivery *per vaginam*. The head was first thoroughly broken up. Then, under deep chloroform-morphine anaesthesia (in the hope of relaxing the ring and thus of being able to get the shoulders past it and do an extensive embryulcia) steady traction of moderate force was tried for a short time. The ring showing no sign of relaxing, and the patient being in indifferent condition, it was decided to waste no more time, and abdominal Caesarean section was performed as quickly as possible. During the operation, though the anaesthesia was deep and the patient still under morphine, the fetal neck was still closely held in the ring, and the well-broken-up head was only extracted upwards through the ring with some difficulty. The ring did not appear very dilatable. The uterine wall appeared rather thicker than usual (not markedly so) during incision. Supravaginal hysterectomy was done. Both adnexa were left *in situ*.

Infection of an acute septicaemic type began on the third day of convalescence, and the patient had a stormy passage for three weeks, when the temperature subsided.

The patient was given *Streptococcus phylacogen* during the first week, and as this appeared to have no effect on the condition, she had two injections of a heterogeneous polyvalent streptococcic vaccine at intervals of a week. Continuous breast saline was given throughout.

I do not doubt that the removal of the uterus saved the patient from a still more violent sepsis and a worse fate.

In closing, it appears appropriate to point the moral that prevention is better than cure. A careful measurement of the most important diameters of the bony pelvis should be made in all primiparae, and in pluriparae with a history of previous difficulty in labour. Of more importance still is to note the position of the fetal head and its fit in the brim from ten to seven days before the expected date of labour. These should not nowadays be regarded as counsels of perfection. The necessary investigations are neither highly technical nor difficult, and are constantly practised by some practitioners (and they not the least busy). If they were carried out by all we should see far fewer of these "regrettable" cases than we do at present.

REFERENCES.

[1] Budin, *L'Obstétrique*, 1898, No. iii, p. 289 et seq. [2] Cheron, *Thèse de Paris*, 1899. [3] Demelin, *L'Obstétrique*, 1898, No. iii, p. 49 et seq. [4] Clifford White, *Proc. Roy. Soc. of Med.*, January, 1913. [5] Comyns Berkeley, *Midwifery by Ten Teachers* (Arnold), 1917. [6] Von Rosthorn, *Handbuch* (Winckel), Bd. i, Heft. i, p. 553. [7] Bumm, *Grundriss. z. Stud. der Geburtshülfe*. [8] Veit, *Monatsschr. für Geb. und Gyn.*, 1900, xi, p. 493 et seq. [9] Jardine, *Delayed and Complicated Labour*, chap. x, p. 137 et seq.

BY an Act dated October 20th, 1919, every Frenchwoman admitted to maternity benefit under the law will receive during the twelve months following delivery a supplementary allocation of 15 francs a month at the cost of the State. The allocation will be granted as long as the law relative to indemnity for the increased cost of living continues in force, on condition that the mother suckles her infant and takes proper hygienic care of herself and her child.

RHINOPLASTY AND CHEILOPLASTY.

BY

RUSHTON PARKER, M.B., B.S., F.R.C.S.,

PROFESSOR OF SURGERY IN THE UNIVERSITY OF LIVERPOOL; LIEUT.-COLONEL R.A.M.C.T., MERSEY DEFENCES.

AN intelligent apprentice engineer, aged 16, whose nasal cartilage and the skin over it had disappeared under the ulceration of lupus, and who had a patch of lupus still remaining, was taken under my care into the Liverpool Royal Infirmary, where I scraped away the small patch of disease on May 25th, 1887.

The result is shown in Fig. 1, where the upper lip is seen to be scarred, and so deficient as to leave his mouth almost permanently open. To remedy these defects I

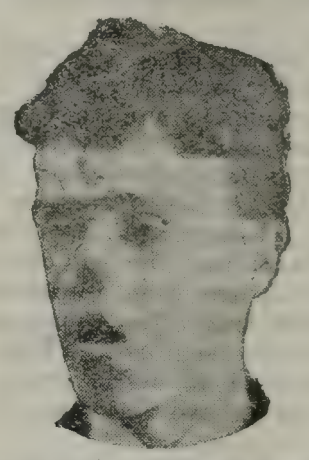


FIG. 1. — Taken in August, 1887. Showing defect of nose and upper lip; also the lines of incision in the plastic operation.



FIG. 2.—Taken in November, 1890. Showing final state of new nose and augmented upper lip, twenty-seven years before blindness occurred.

performed rhinoplasty and cheiloplasty on April 27th, 1888, the lines of incision being marked in the illustration, photographed on August 27th, 1887. To enlarge the upper lip the scab left between the nose and upper lip was cut out; the lip itself was freed somewhat to permit its depression to meet the lower lip, and the skin dissected off the nasal bones while remaining attached at both cheek ends to provide vascular pedicles, and stitched to the raw edge of the upper lip, thus making that lip wide and substantial, as shown in Fig. 2. A flap for the new nose was taken from the forehead over the right eye, and having a curved pedicle on the left to permit the flap to be turned down to cover the exposed nasal bones and the rest of the raw surface. Much care was taken to fashion the alae and septum, which gave quite a presentable shape to the new nose on the day of operation.

But this attempt at an approach to elegance failed, as the distant corners of the flap sloughed. All other attachments healed well, and the raw surface on the forehead granulated up quickly. Much trouble was also spent in trying to keep open the nostrils by means of rubber tubes, but this also failed, and the nostrils became permanently closed.

This, however, proved not to be inconvenient, and I found that, as no nasal mucus accumulated, there must have been little or none formed beyond what could easily escape unobserved into the pharynx, the absence of draught and attendant dust apparently keeping the mucous membrane quiescent.

Though the nose and augmented lip never became elegant they answered their purpose, and are well shown in Fig. 2, photographed in November, 1890. This young man became a skilled engineer, and volunteered for foreign service at Chatham Dockyard in 1900, serving as a marine engineer in Bermuda, Nova Scotia, and Newfoundland.

He married in 1905, and lived for a time in the south of England, coming several times to see me when visiting his father in Liverpool.

In September, 1916, he was second engineer in a tug patrolling the North Sea. In July, 1917, I met him in Liverpool, led about by his wife on account of permanent blindness due to glaucoma which had not been remedied by operation in time to save his sight. For this he has since been taken care of in St. Dunstan's, Regent's Park, by which he is enabled to make a living for himself, wife, and family. He has perseveringly served his country, which took him in hand until able to shift for himself, which he does in a country poultry farm.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF DIPHTHEROID SEPTICAEMIA.

THE following case is of interest, as it illustrates an unusual form of infection with a diphtheroid organism.

The patient was admitted to No. 36 Stationary Hospital, Palestine, with a temperature of 104.6° F. The sister on night duty took a blood film from his ear for examination for malaria. The slide was stained by Leishman's stain, and when it was examined many bipolar bacilli were seen. The leucocytes were not evenly distributed, but they were found in clumps with a very large number of bacilli amongst and around them. A second slide was stained by Neisser's method and the bacilli stained like typical diphtheroid bacilli.

I went immediately to the patient, but his temperature had fallen by crisis, and, although I made blood cultures and more blood films, I failed to find any more bacilli. The patient had a septic sore on the right hallux, and from it I obtained a few diphtheroid bacilli, but I failed to get them in pure culture.

There was no possibility of getting two slides contaminated with leucocytes and a *pure* culture of diphtheroid bacilli, the septic sore not yielding a pure culture. Therefore the bacilli must have been in the circulating blood.

This seems to have been a generalized infection with the diphtheroid bacilli of low virulence so common in Palestine. The slides were taken just when the bacilli were being overcome, as is indicated by the clumping of the bacilli with masses of leucocytes and by the fact that the temperature fell by crisis soon after the slides were taken.

H. E. ROAF, M.D., D.Sc.,
Lecturer on Physiology, St Mary's Hospital Medical School.

London, W.

GASTRIC ULCER AFTER GASTRO-JEJUNOSTOMY.

SIR BERKELEY MOYNIHAN, in his interesting paper on gastric ulcer, published in the BRITISH MEDICAL JOURNAL of December 13th, mentions the fact that he has operated on two cases where fresh ulcers have occurred in the stomach after gastro-jejunostomy, and he tells me that since he wrote the paper he has had a third. A few weeks ago I met with a similar case, where persistent and severe pain recurred a few years after gastro-jejunostomy for duodenal ulcer. On exploration, a large chronic ulcer was found surrounding the anastomosis but entirely confined to the stomach, the mucous membrane of the jejunum being quite healthy. I excised the ulcer freely and repaired the stoma.

Such cases as these prove that gastro-jejunostomy alone is not reliable in gastric ulcer, and that it is essential to combine it with excision of the ulcer, or, as Sir Berkeley Moynihan suggests, to perform a partial gastrectomy.

Leicester. F. BOLTON CARTER.

MITRAL STENOSIS IN SOLDIERS.

IN his illuminating paper on mitral stenosis in soldiers (p. 840) Dr. Cotton enumerates causes of breathlessness other than D.A.H. or cardiac failure. We may take it that in any case the exercise tolerance test will be found effective and reliable. No reference, however, is made to the condition of pulmonary emphysema, which, without any discoverable cardiac disability, gives rise to breathlessness after exercise proportionate to the degree of emphysema. I have over and over again noted the frequency with which a slight degree of emphysema is overlooked, especially if no pulmonary symptoms are complained of. In the case of the soldier this condition is far from infrequent, as may be readily understood, and either by itself produces breathlessness after the exercise test, or else makes a substantial contribution to it, when coexisting with D.A.H.

For purposes of accuracy, therefore, any signs of emphysema should be investigated, and the elasticity of the lungs tested.

London, W. A. G. AULD.

Reports of Societies.

INTRATRACHEAL CHLOROFORM.

A MEETING of the Section of Anaesthetics of the Royal Society of Medicine was held on December 4th, 1919, the President, Dr. LL. POWELL, being in the chair.

Mr. CLARENCE MOTT read a paper on intratracheal insufflation of chloroform, based upon 357 cases. He showed that the insufflation method might be expected to suit chloroform particularly well, and he had not been disappointed in his expectations. At first he had worked with varying properties of chloroform and ether together, using them both intrapharyngeally and by the trachea before he arrived at pure chloroform by the trachea. A Vernon Harcourt inhaler containing chloroform was placed between the motor and Kelly's intratracheal apparatus containing ether. Finally, Down Brothers added a second chamber to Kelly's apparatus. A flow-meter has since been added which gives readings up to 30 litres of air per minute, and, thanks to the great kindness of Dr. Waller, Mr. Drew and Mr. Mott have been able to grade the dial on the chloroform tap, showing the actual percentages of chloroform vapour when the motor is delivering 10, 20, 30, or 40 litres of air per minute, with 16 ounces of chloroform in the chamber. The majority of the cases had morphine and atropine, and the catheter was passed into the trachea, whilst anaesthesia was maintained by intrapharyngeal methods. When untoward symptoms supervened—and these were on rare occasions—increase or decrease of the chloroform, more frequent or longer reductions of the air stream to zero, alterations in the volume, or pressure of air stream, or slight withdrawal of the catheter, effected the desired improvement, and at any moment ether or oxygen could be added at will.

Regions.—Of the 357 cases there were 135 intraperitoneal (11 gastro-enterostomy, 10 gall bladder, 10 hysterectomy), 15 limbs, 12 haemorrhoids, 10 kidney, 10 breast amputations, 7 glands of neck, 7 thyroid, 3 bladder, 3 mouth.

Respiratory Complications.—307 cases had no complications; in 28 they were very slight; in 22 they were more serious. One patient contracted pneumonia, and died six days after an operation for hysterectomy; this patient had a cough before operation, which lasted an hour and a half.

Vomiting.—114 cases did not vomit at all; 129 vomited one to three times; 60 vomited four to six times. Children appeared to take the method as well as adults.

Deaths.—There were 8 deaths—none of these could be attributed to the anaesthetic; 2 died from haemorrhage, fourteen hours and six days after operation respectively; 2 from heart failure, thirty-six hours and three days later; 1 from peritonitis (perforated duodenal ulcer); 1 from intestinal obstruction, five days later; 1 from pulmonary embolism, four days later; 1 from pneumonia (mentioned above).

Mr. REGINALD ALCOCK said that complete relaxation was not so uniformly found with any other anaesthetic as it was with intratracheal chloroform. The excursions of the abdomen were almost absent, a great gain in such operations as gastro-jejunostomy. Also there was absence of congestion and of haemorrhagic oozing, and the anaesthetist and apparatus were conveniently distant from the operator in head and neck cases.

Mr. W. C. ALLARDICE had operated some hundred times with the method, the ages of the patients ranging from 9 to 65 years. He had come to value Mr. Mott's administration of chloroform very greatly, but regarded it as a method solely for the expert. Mr. Mott provided him with everything that a surgeon was entitled to ask of his anaesthetist.

Mr. NORMAN PATTERSON pointed out the great value which the method should have in the treatment of malignant disease of mouth and pharynx by diathermy.

Dr. BLOMFIELD regarded Mr. Mott's work as a most valuable confirmation of the work done upon animals to determine physiologically safe percentages of chloroform vapour. He deprecated any general comparison as to the relative safety of chloroform and of ether based upon these three hundred cases.

Dr. F. E. SHIPWAY pointed out that the post-operative results compared unfavourably with those due to intratracheal ether, and he asked where, except in the matter of abdominal stillness, was there any advantage in using chloroform, particularly in mouth cases. He did not

believe that it was a scientific procedure to procure complete muscular relaxation by general anaesthesia alone.

The paper was further discussed by the PRESIDENT, Mr. H. C. VANCE, Mr. ROOD, Dr. SILK, and Mr. C. T. W. HIRSCH. A collection of apparatus designed and used by the late Mr. J. T. Ord was exhibited to the meeting, and an appreciation of him written by Dr. Dudley Buxton was read by the PRESIDENT.

THE DIPHTHEROID GROUP.

AT a meeting of the Liverpool Medical Institution (Pathological Section) held on November 27th, 1919, with the President, Mr. THELWALL THOMAS, in the chair, Dr. J. G. ADAMI, F.R.S., read a paper on diphtheroids. He gave a historical sketch of the research work done towards classifying the diphtheroid group, and pointed out that we were still in a transitional state of knowledge as regards these, in common with the dysenteric, choleraic, meningococcic, coliform, and other groups. Differentiation by the old-fashioned method of staining after culture on Loeffler's blood serum was unsatisfactory; morphology did not safely differentiate the infinite range of variations found by other methods. So far as fermentation reactions could help it was best to employ only four or five (particularly dextrose, dextrin, saccharose, and lactose), but the results from these were suggestive and directive rather than definitive. The development of toxicity for guinea-pigs in a Dean's broth culture, more especially a haemorrhagic adrenal lesion, was the only accurate test, and was recommended for all doubtful cases. He detailed an investigation, directed by himself, of diphtheroid wound infection occurring among Canadian soldiers. Of 306 open and infected wounds, 2 showed true Klebs-Loeffler bacilli and 56 diphtheroids; 2 of these latter gave all the reactions of Klebs-Loeffler, except the virulence test. It was demonstrated that a wound might yield no membrane and yet harbour virulent diphtheria, or develop membrane and yet be merely diphtheroid. Dr. Adami considered it probable that true relationships would eventually be defined by complement fixation tests, and suggested, as a further method likely to clarify the field, the adoption of sensitization reactions, a weakly form being used to sensitize the guinea-pig to the inoculation at a later date of the strain under investigation.

Spirochaetes in Bronchiectasis.

At a subsequent meeting of the Section held on December 18th, with Dr. HUBERT ARMSTRONG, Vice-President, in the chair, Mr. KEITH MONSARRAT read a note on two cases of massive calculous deposit in the urinary channels, which had developed in soldiers while under treatment for fractures. Radiographs showed the development and retrogression of the calculi. The speaker was of the opinion that such cases did not belong to the domain of surgery, but could be cured by medical measures and exercise. Mr. NEWBOLT recounted a similar case where cure resulted after continuous treatment with potassium citrate. Professor E. E. GLYNN contributed a paper on the presence of spirochaetes in the sputum of a case of bronchiectasis. The sputum was airless and purulent, but not nummulated, and contained round yellow granules consisting of bacteria and spirochaetes, the latter sometimes in enormous numbers. It seemed clear that these granules were formed not in the mouth but in the lung, and formed an airless medium wherein spirochaetes could develop. It was suggested that they were a variety of Dittrich's plugs, which would probably be found to contain spirochaetes if examined with that possibility in view. Graphs of the morphological features of these spirochaetes, obtained by the measurement of large numbers of camera lucida drawings, were shown and compared with graphs of other spirochaetes. They supported the suggestion that the condition was not the chronic stage of a previously acute bronchial spirochaetosis, but was a secondary mouth infection. Professor Glynn was inclined to the view that the spirochaetes in the granules were pathogenic—at least to the extent of increasing the severity of the disease. A similar condition had been found in a second case of bronchiectasis.

CLINICAL DEMONSTRATION.

A CLINICAL meeting of the Portsmouth Division of the British Medical Association was held in the library of the Royal Portsmouth Hospital on December 3rd, 1919, with Dr. A. E. MARWOOD in the chair. Mr. C. P. CHILDE showed a case of excision of the hip-joint in a lad, done ten years ago, with excellent functional result; the lad is now about 18 years of age and can walk well—two miles easily. Also a case of congenital deformity of the wrist-joint due to paralysis of the extensor muscles of the forearm, treated by shortening the extensor tendons of the hand and fixing the wrist-joint in good position by excision of the joint. Mr. C. A. S. RIDOUT showed a case of sarcoma of the ethmoidal region for which both external operation through the orbit and internal operation through the nose had been performed with satisfactory result, the patient being in good health and at work again several months after operation. Also a case of acute frontal sinusitis treated by external operation preceded by submucous resection of septum nasi which was blocking the affected side. Radiographs of various affections of the nasal sinuses, with note on the value of radiography in diagnosis of sinusitis, were shown by Mr. RIDOUT and Mr. E. BEVERLEY BIRD, D.S.O. Dr. A. CAMBELL showed cases of (1) tabetic fractures, (2) gummatous synovitis of knee, (3) congenital specific periostitis combined with optic atrophy in a boy 12 years of age. Radiographs illustrating the foregoing cases were also shown. Dr. L. COLE-BAKER read the clinical notes of three cases of ectopic gestation presenting unusual features for diagnosis. Dr. R. J. LYTLE read notes on a case of pernicious anaemia treated by intravenous novarsenobenzol with most marked and rapid recovery. Dr. D. A. SHEAHAN read a note on a case of fracture of femur in a man aged 78. Lastly, Mr. DINNETT showed for Surgeon Admiral Eames the radiograph of a case of gunshot wound of spine followed by expectoration of bone fragments.

RESULTS OF HYSTERECTOMY FOR FIBROIDS.

AT a meeting of the North of England Obstetrical and Gynaecological Society held in Manchester on December 19th, 1919, Dr. J. W. BRIDE read a paper on the after-results of the removal of one or both appendages in hysterectomy for fibroids. Three hundred cases operated on at St. Mary's Hospital, Manchester, between the years 1909 to 1913 inclusive, for fibroids or, in a few instances, for chronic metritis, had been circularized. Dr. Bride based his paper on the 231 replies received. The questions put varied in importance, and included the following: General health, temperament, headaches, digestion, nervous stability, pain, capability for work, nutrition as regards fat, hot flushes, sexual inclination and comfort, and memory. The first six of these appeared to favour the radical operation, but, with the possible exception of pain, the distinction was not very marked. The replies to the next four questions, particularly as regards flushings and sexual inclination and comfort, suggested the advantage of a conservative operation. The last question put produced indeterminate replies. In general there appeared to be very little to choose between the two operations. It was noticeable that flushings, both immediate and remote, were complained of in a good number of cases where a conservative operation had been done. Drs. DONALD, GEMMELL, and FOTHERGILL instanced objections to a conservative operation, the last-named observing that, as the ovary after hysterectomy ceased to function at the end of two years, it did not seem worth while to conserve it for that short period. He suggested as a sound rule for all operations involving removal either to leave a "working set" or to make a clean sweep.

AN exhibition of radiographic prints by members of the Röntgen Society will be opened at the house of the Royal Photographic Society, 35, Russell Square, W.C.1, on January 6th. At 7 p.m. on that day Dr. George Rodman will give a lecture on "The *x* rays approached from the popular standpoint." The exhibition will be open daily from 11 to 5, and will close on February 7th. The Röntgen Society will hold its general meeting on January 13th, at 7 p.m., when the exhibition will be open in the evening and Major G. W. C. Kaye, D.Sc., will open a discussion on radiology and radiometallography. On February 26th the Society will hold a joint meeting with the Electro-Therapeutic Section of the Royal Society of Medicine to discuss electric apparatus in relation to *x* rays; the meeting, which will be held at the Institution of Electrical Engineers, will begin at 5 p.m. and conclude at 10, with an interval of an hour and a half for dinner. The Silvanus Thompson Memorial Lecture will be given by Professor W. H. Bragg, F.R.S., probably in March.

Reviews.

INGUINAL HERNIA.

MR. PHILIP TURNER'S small book upon *Inguinal Hernia; the Imperfectly-descended Testicle and Varicocele*,[1] aims at an improved technique in the now very commonly performed operations for these conditions.

His operation for inguinal hernia is based upon the generally accepted view that removal of the sac is the essence of cure. He points out, as has already been pointed out by Bird of Melbourne, and Chiene, that the sac can be dealt with—can in fact be completely removed—without division of the decussating fibres of the external oblique insertion; and that in suitable cases it is unnecessary to suture the conjoined tendon to Poupart's ligament. The method is probably more widely used than Mr. Turner seems to think, and, on the other hand, for a book with the primary title *Inguinal Hernia*, too little attention is paid to the large class of hernias for which such an operation is inadequate.

The section devoted to the imperfectly-descended testicle is written with judgement and lucidity, whilst the operation advocated is an ingenious attempt to overcome one of the commonest sources of failure—retraction of the organ up to, or towards the external ring. Mr. Turner's method is to displace the testicle through the scrotal septum into the opposite half, relying upon the elastic character of the septum to permit of passing the organ through a hole smaller than itself, and to exert, together with the weight of the other testicle if present, a continuing though slight strain upon the tense parts of the cord. Whilst the likelihood of success is greater in unilateral cases, it has been found effective in bilateral, the testicles being transposed.

The improvement he advocates in the performance of the varicocele operation is the substitution for the usual method of raising the testicle—namely, approximation of the divided ends of the ligated veins—of shortening of the sheath upon which the testicle normally depends for suspension. He does this very simply by suturing transversely the longitudinal incision made in the sheath for exposure.

In each section Mr. Turner devotes a chapter to results, early and late; although, as is generally the case, he has to lament an untraceable portion of each series, it is obvious that he has every right to be satisfied with the outcome of the technique he describes.

It is a good book, and its form so pleasant to the literary mind that perhaps the author will forgive a comment upon his unnatural fondness for the split infinitive.

THE PATHOLOGY OF THE PERITONEUM.

INTEREST in the peritoneum is still as lively as it was twenty years ago, and, although many of its functions are now definitely settled and the treatment of its diseases established, many matters concerning it remain debatable.

Dr. HERTZLER, of Halstead, Kansas, presents us with two large and profusely illustrated volumes, entitled *The Peritoneum*,[2] dedicated to its anatomy, physiology, and pathology. This vast subject would tax the resources of any man, and the author may be said to have emerged from the struggle with credit. The first volume is devoted to the histology, physiology, development, and gross anatomy of the peritoneum. Some parts of this are definitely good, notably the sections on the so-called "stigmata and stomata," the genesis of adhesions, and the functions of the omentum. Other parts, where clear direction from one so well acquainted with the literature would have been of the greatest value, go haltingly. In these places the reader is frequently tripped up by a series of proper names, many of which could have been left out without injustice, as a feature of both volumes is the bibliography, from which there are, however, curious omissions.

In Vol. II the clinical varieties of peritonitis are discussed first under a general heading and then as produced by diseases of various organs (appendix, gall bladder, tubes, and so on), concluding with a chapter on peritoneal tumours. All this is well enough done, differential diagnosis being very fully discussed. As might have been expected, the work is uneven in quality and the literary style at times obscure. This is particularly the case in the more academic portions where clear and interesting writing is so important and, be it said, so difficult. At other times Dr. Hertzler expresses himself racily and well. An innovation in this respect, which perhaps gives the key to the whole work, is the legend to Fig. 47, "Aeroplane view of the pelvis," this being the ordinary view from above. These volumes are, in a way, an aeroplane view of the author's subject. We do not get to grips but see it all float past us pleasantly enough, some prospects more arresting and more pleasing than others. We alight at the end of our journey with a widened outlook but without much detailed knowledge.

The book is well produced, furnished with an index, and clearly illustrated by Mr. Tom Jones, some of whose drawings are particularly satisfactory.

GYNAECOLOGY.

DR. BETHEL SOLOMONS has essayed a difficult task in his *Handbook of Gynaecology*[3]—namely, to write a short book for students which, without being a mere cram book, will help them in their examinations and be of some use to them in their earlier years in practice. It is easy to criticize such books in a superior way and to find fault with them, but the fact remains that they are a help and comfort to final year students; and that being so, it is satisfactory to find one clearly written and presenting such sound teaching as this. The early sections are devoted to a brief description of the special anatomy of the female pelvic organs. On the first page Dr. Solomons gravely points out that it is well for those who have not studied Latin to know that "labium" is the correct term when speaking of *one* of these parts. It is therefore a little unfortunate that, ten pages on, he himself should write of the "ligament*a* transversal*es* colli." Genders have their value as well as numbers! The description of the vaginal and bimanual examination postulates the use of a gynaecological chair, which is such a characteristic feature of Dublin practice. There are one or two points in regard to which improvements might be made. There is, for example, a list of prescriptions at the end of the chapter on menstrual disorders with no particular indication as to the special type of case in which each is useful—with, indeed, no direction but that the prescriptions should be given only after a diagnosis has been made! Again, the author teaches inflammation of the ovaries as a separate entity, and, not content with that, divides the acute form into the three varieties—cortical, interstitial, and parenchymatous. Does Dr. Solomons expect his students to make an intelligent diagnosis of, say, acute interstitial ovaritis, and if so, is the exact diagnosis of any practical advantage? We do not find that the differential diagnosis is explained in the text, and the wisdom of burdening the student with a piece of very doubtful information may be questioned. It is just the sort of thing that an unwary student would attempt to memorize. The book is freely illustrated and the figures are mostly good; it will certainly prove useful to students, and we hope to see it made still better in the subsequent editions which we prophesy for it.

Professor HIRST'S long experience as a gynaecologist, as a teacher, and as an author, have enabled him, with the adequate assistance of Mrs. Chase, his artist, to make his *Atlas of Operative Gynaecology*,[4] a most attractive volume, full of instruction for those making their first ventures into the field of gynaecological surgery. The publishers have done their share of the work equally well, and are to be congratulated upon the general appearance of the book. The opening chapters deal with such general matters as

[1] *Inguinal Hernia; the Imperfectly-descended Testicle and Varicocele.* By Philip Turner, M.S., F.R.C.S. London: J. and A. Churchill. 1919. (Med. 8vo, pp. viii + 104; 22 figures. 9s. 6d. net.)

[2] *The Peritoneum.* Vol. I: *Structure and Function in Relation to the Principles of Abdominal Surgery.* Vol. II: *Diseases and their Treatment.* By Arthur E. Hertzler, M.D., F.A.C.S., Surgeon to the Halstead Hospital, Halstead, Kansas. London: Henry Kimpton. 1919. (Med. 8vo, pp. 870; 230 figures. Two vols. 50s. net.)

[3] *A Handbook of Gynaecology.* For the Student and General Practitioner. By Bethel Solomons, B.A., M.D.Dub., F.R.C.P.I. London: Baillière, Tindall, and Cox. 1919. (Demy 8vo, pp. xii+236; 196 figures. 10s. 6d. net.)

[4] *An Atlas of Operative Gynaecology.* By Barton Cooke Hirst, M.D., Professor of Obstetrics, University of Pennsylvania. Philadelphia and London: J. B. Lippincott Company. 1919. (Med. 4to., pp. vi + 292; 164 plates; 46 figures. 30s. net.)

the operating room, the table, instruments, the preparation of the patient, and operative technique. The first subject is illustrated by a chart of the ground plan of the new operating clinic at the Maternity Hospital of the University of Pennsylvania, and will prove of great interest to those who are interested in schemes for the building or reconstruction of similar institutions. Then follow sections dealing with the operative treatment of diseases peculiar to women, and covering the whole field from operations on the breast to pubiotomy and an operation for anus vestibularis. Each operation is illustrated by a series of coloured drawings of the more important steps, and this graphic teaching is supplemented by a short running commentary in the text. On the book itself we would offer only two criticisms. One is that some of the drawings are unnecessarily complicated by forceps and threads. This is generally the result of trying to show in one figure what are really two steps in an operation. The second is that the restriction to methods of operating approved by and practised by the author must, with all respect to him, diminish in some degree the value of the volume in other schools. In no two schools are exactly the same methods followed, although the fundamental plans of the operations are the same. We are not familiar with any other atlas of a similar nature, except Liepmann's, and we cordially commend Professor Hirst's work to the notice of junior specialists and of those general surgeons whose work occasionally leads them into the recesses of the female pelvis.

A MEDICAL HISTORY CLUB.

THE fifth volume of the *Proceedings of the Charaka Club*,[5] which was founded in 1901, contains lists of the present members and of articles in the previous volumes showing that it is devoted to medical history and scholarship. The twenty-three present members are many of them well known to English readers: Professor Harvey Cushing, Dr. F. R. Packard, Dr. Fielding Garrison, and Dr. L. S. Pilcher being famous book collectors. Many of the titles in the earlier issues are attractive, such as "The Medicine of Horace" and "The Evil Spoken of Physicians," both by Dr. Dana, and some, notably Sir William Osler's "Frascatorius" and the late Dr. S. Weir Mitchell's "Books and the Man," are familiar favourites.

The opening article in the present volume, on "The Military Surgeon in the Middle Ages," contains three reproductions of the quaint drawing "the Wound Man," a figure showing the various wounds caused by the weapons of the time; the author, Dr. L. S. Pilcher, acknowledges his indebtedness to Sir D'Arcy Power and Mr. Stephen Paget for much of the interesting material he presents. Dr. C. L. Dana's contribution on "Military and Civil Surgery among the Ancient Romans" is well illustrated by figures of instruments from Pompeii and Herculaneum. Dr. Fielding Garrison's essay on "The Gods of the Underworld in Ancient Medicine" recalls his article on the "Greek Cult of the Dead and the Chthonian Deities" in *Annals of Medical History* (*vide* this JOURNAL, January 5th, 1918); from consideration of Hippocrates and of the debt of Beethoven, Brahms, and the great Russian composers for their emotional effects to the Lydian and Phrygian modes, he concludes that in nearly all the activities of the mind the Greeks are still our elders and our betters. There are two psychological studies: "The Confession," by Dr. Pearce Bailey, gives a tragic dialogue between an innocent girl and her lover, the belief of the lover that the girl committed a murder so convincing her that she stabs herself at the moment that her supposed victim turns up unhurt. The other, on "Magic Above and Below," by Dr. Ely Jelliffe, is based on Chesterton's well known play at the Little Theatre, and *inter alia* deals with repression. Dr. A. P. Gerster writes about the oldest known Latin version of Aristophanes and two academic curmudgeons; and the tastefully got up volume, which is somewhat unusual in being without a revealed editor, closes with Dr. Dana's "Eminent Physicians, a Statistical Study."

[5] *The Proceedings of the Charaka Club.* Vol. V, 1919. New York: Paul B. Hoeber. 500 copies published for members and their friends. (Roy. 8vo, pp. 101; 17 figures; 4 dollars net.) Copies of Volumes III and IV can still be obtained, at 4 dollars a volume.

NOTES ON BOOKS.

THE second edition of Dr. CARTER'S *Diet Lists of the Presbyterian Hospital*[6] provides the medical man with a first-rate guide for the feeding of patients and convalescents. Special diets for typhoid, enteric, nephritis, and many other diseases are set out, and special diets poor in purin or calcium are also described, with notes on special dishes. The book is well arranged and thoroughly practical, and the chapter on diets in diabetes has been thoroughly brought up to date. It may be recommended to the attention of not only hospital physicians, but also general practitioners of medicine and those who have to order the food and regimen of sick people.

The late Dr. E. WEIN'S book on the diagnosis and treatment of tuberculosis by antitoxins[7] deals with the use of Marmorek's antituberculosis serum and K. Spengler's "I.K." in all sorts of affections that he describes as primarily or secondarily tuberculous. The number of such affections he finds to be very large; he includes among them the malnutrition, sleeplessness, and maldevelopment—probably rickety?—of children, Basedow's disease in most instances, most cases of migraine, dysmenorrhoea, nocturnal enuresis, and so forth. The connexion between tuberculosis and these and other affections is proved, if Dr. Wein's argument be accepted, by the fact that patients suffering from them benefit or are cured by "I.K." treatment. Thus he records (p. 337) a family in which he treated with brilliant success a tuberculous mother, cured a father with chronic articular rheumatism, cured a grandmother who had absolute insomnia, and cured a daughter of nocturnal enuresis, all by "I.K." injections; it may be added that the treatment in the last case was continued for twenty-two months, with intermissions. The book is full of painstaking argumentation, repetition, and detail, but not, perhaps, entirely convincing.

Professor FRÄNKEL'S textbook of medical chemistry[8] gives an account of the chemistry of the substances met with in physiology, pathology, and forensic medicine, with methods for their preparation and estimation. The volume appears to be one for laboratory use by laboratory experts.

Professor FISHER of Yale has recently republished a little book[9] written twelve years ago, in which he related experiments showing, as he concludes, that slow mastication with a diet containing little protein increased bodily endurance. It may be read by all who are interested in food economy, and read with profit.

The *American Frohse Life-size Anatomical Charts*[10] are seven large well drawn and beautifully printed maps of the human anatomy, containing seventeen separate charts. These depict the skeleton, the muscles, the nervous and circulatory systems, the circulation, the viscera, and other important structures. They may be described as most successful in design and in achievement, and have been drawn or revised by MAX BRÖDEL, the well-known illustrator who is professor of anatomical drawing in the Johns Hopkins Medical School. Diagrams such as these are of the greatest service to all who have to teach the elements of anatomy and physiology to nurses or school children, and to such they may be confidently recommended.

In a little book on *Christianity and Christian Science*,[11] M. CARTA STURGE makes out as good a case for Mrs. Eddy's so-called Christian Science as can be made out, no doubt on the principle that it is unreasonable to throw away the child with the bath-water. As rescued from the flood the child is certainly a puny specimen.

[6] *Diet Lists of the Presbyterian Hospital, New York City.* Compiled, with notes, by Herbert S. Carter, A.M., M D., Consulting Physician to the Lincoln Hospital, etc. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company, Limited. 1919. (Post 8vo, pp. 165. 6s. net.)

[7] *Feststellung und Behandlung der Tuberkulösen Infektion mittels Antitoxischer Heilkörper.* By Dr. Emanuel Wein, Dozent an der Universität in Budapest. Berlin and Vienna: Urban and Schwarzenberg. (Cr 4to, pp. 608. M. 25.)

[8] *Praktikum der medizinischen Chemie.* By Dr. Sigmund Fränkel, Professor der medizinischen Chemie an der Universität in Wien. Berlin and Vienna: Urban and Schwarzenberg. (Med. 8vo, pp. 448; 38 figures, 2 plates. M. 18.)

[9] *The Effect of Diet on Endurance.* By Irving Fisher, Professor of Political Economy in Yale University, etc. New Haven: Yale University Press. London: H. Milford. (Cr. 8vo, pp. viii+55. 2s. 6d. net.)

[10] *The American Frohse Life-size Anatomical Charts.* With key. Chicago: A. J. Nystrom and Co.; Edinburgh: W. and A. K. Johnston, Ltd. (£11 net the set.)

[11] *Christianity and Christian Science: A Contrast.* By M. Carta Sturge. London and Edinburgh: T. C. and E. C. Jack, Ltd.; T. Nelson and Sons, Ltd. 1919. (Feap. 8vo, pp. 123. 1s. 3d. net.)



BACK OF KING'S AND CLARE COLLEGES.

EIGHTY-EIGHTH ANNUAL MEETING

of the

British Medical Association,

CAMBRIDGE, 1920.



GATE OF HONOUR, CAIUS COLLEGE.

THE eighty-eighth Annual Meeting of the British Medical Association will be held at Cambridge next summer, under the presidency of Sir Clifford Allbutt, K.C.B., F.R.S., Regius Professor of Physic in the University, who will deliver his address on the evening of Tuesday, June 29th. The sectional meetings for scientific and clinical work will be held on June 30th, July 1st, and July 2nd, the mornings being given up to discussions, and the afternoons to clinical and laboratory demonstrations. There will be twelve Sections, of which five will meet on each of the three days, and the remainder each on one day. The Annual Representative Meeting will begin on June 25th. The annual dinner has been fixed for July 1st, and on the evening of July 2nd Dr. G. S. Graham-Smith, F.R.S., will give the popular lecture. Saturday, July 3rd, the last day of the meeting, has been set apart for excursions to places of interest in the neighbourhood. We publish below the first of a series of historical and descriptive notes on Cambridge, which it is hoped will prove of interest to members of the Association.

ORIGIN OF THE TOWN AND UNIVERSITY.

In the minds of most people the idea of Cambridge is associated only with that of a university, and it is a surprise to them to learn that the university was a comparatively late development in a town which for centuries, even for ages, had been a centre of traffic and commerce. Its written history begins in Saxon times; but its existence as a centre of population in Roman, British, and prehistoric times is evident from the quantities of relics of all ages which have been and continue to be dug up in and around the town. It owed its origin and its importance in ancient times to the advantage of its site; for when the Fen-land was an impassable swamp, all the land traffic between Eastern Britain and the Midlands had to pass southward through Cambridge, where the ground was dry on both sides of the river. In addition, the navigable river Grant (now called the Cam) placed the town in communication with the sea and with the group of rivers that flow into the Wash.

Even now, though the fens are drained and are crossed by several roads, Cambridge is still an important centre of traffic; for four great railway systems meet here in a single station, from which the lines radiate to East Anglia, London, the Midlands, and the North.

The town probably originated as a fort on the north-west side of the river, where the ground rises rather steeply to an altitude of about 60 ft. above the valley. A road crossed the river at this point, doubtless by a ford at first, but later

by a bridge, the fort defending the passage of the river, and commanding a wide view of the approaches thereto. On the site of this fort William the Conqueror built a castle; and it was probably he who increased the height of the hill by raising upon it an artificial mound, which extended the view and also gave advantage to the defenders in case of an attack. The mound is still in existence, but the castle is replaced by a prison, the finest site in the town being thus foolishly sacrificed.

A second town arose on the opposite or south-east side of the river, where the ground is lower but nevertheless well raised above the bottom of the valley. This is the part in which the University arose, and which thenceforth became the centre of activity: the older and higher town is now so suburban that the majority of visitors to Cambridge never make acquaintance with it.

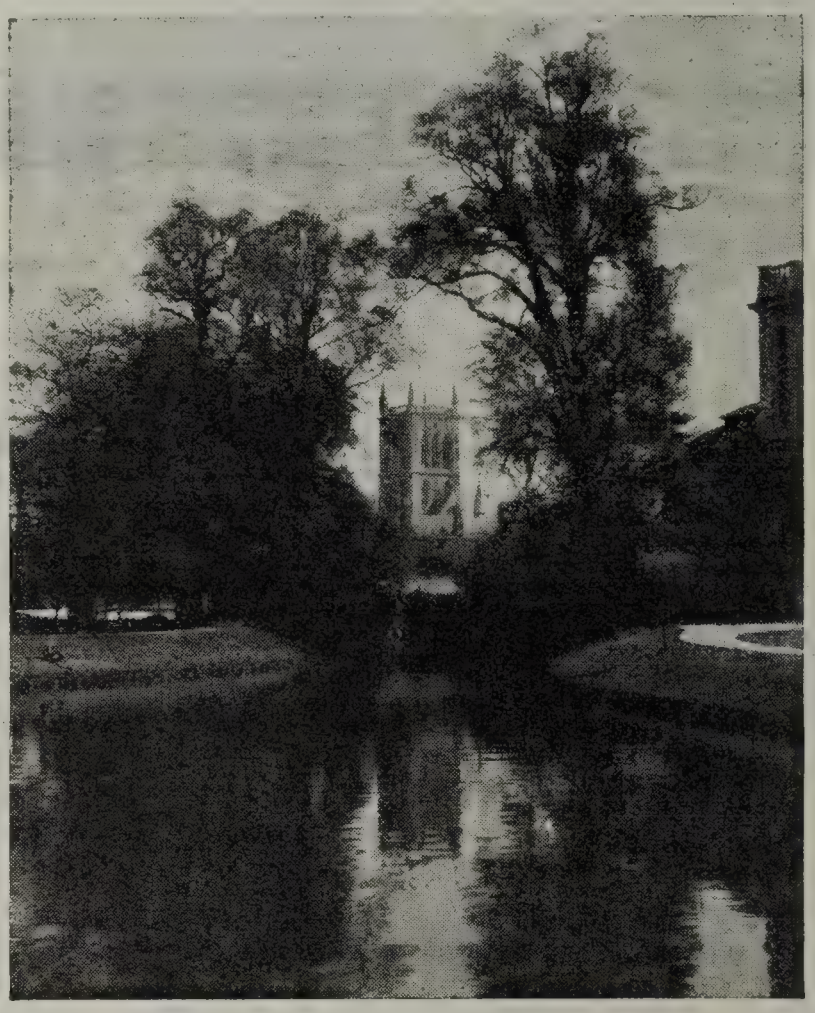
The name of the fort on the hill was in British times *Caer Grant*, that is, Fort by River Grant. In Saxon times this was translated as *Granta-ceaster* (spelt *Grantacaestir* in Beda's Ecclesiastical History).[1] In 875 the name *Grantabrygge*, that is, Granta-bridge, appears and from this time the history of the town is continuous. The change of name is taken to indicate that at some time between the seventh and ninth centuries the ford was replaced by a bridge.

In 1142 a remarkable change of name appears, the town being called *Cantebrugge*; from that time till 1400 the two names are used contemporaneously, with several minor varieties of spelling, such as *Grauntebrugge* and *Cauntebrigge*; after 1400 the forms with initial *C* alone survived, giving the form Canbrigge, then Cambryge, and lastly the present day spelling.

The history of the name is of exceptional interest, and has been very thoroughly discussed by Professor Skeat[2] and by Mr. Arthur Gray,[3] Master of Jesus College. The change from initial *Gr to C* is contrary to all precedent; so much so that Mr. Gray holds that the name *Cantebrugge* had an independent origin, being possibly the name of a second bridge over a collateral arm of the Granta, for it is known that the channel of the river was formerly subdivided.

The name "Cam" for the river is of modern invention, and is apparently a bit of university slang. It first appears, after 1500, as *Camus* in university Latin. The English form *Cam* does not appear until about 1600. Before that time the river was always known as the *Grant* or *Granta*. Thus the name of the river, like that of the town, is of peculiar philological interest.

So far as is known, learning was first represented in Cambridge by the monastic houses, of which a considerable number existed in the town. Four of them were founded before the middle of the twelfth century—namely, Barnwell Priory, 1092; the Nunnery of St. Radegund, 1133; the Hospital of St. John, 1135; and the Sturbridge Hospital for Lepers, about 1125. It may be noted that these houses provided the opportunities for the study of divinity and medicine (and may we add, for the education of women?), and in connexion with them, or under their influence, the University may have arisen.



THE RIVER AND ST. JOHN'S COLLEGE TOWER.

The nine other houses of later foundation may have been attracted by the University, but may have contributed also to its development. The evolution of the University seems to have been so gradual that its inception is not recorded; but in 1209 a large number of scholars seceded from Oxford to Cambridge, and by 1231 Cambridge had blossomed into a full-blown university with a chancellor of its own.[4] The word *universitas* in mediaeval times was applied to a body of men united for some particular purpose, and corresponded nearly to our present words *union*, *association*, and *club*. The University existed at Cambridge long before there were any colleges. The students and teachers were scattered in the town. The first college was founded in 1281 by Hugh de Balsham, Bishop of Ely, after the model of Walter de Merton's college, then recently founded at Oxford. It was for graduates only; its members were at first lodged in the Hospital of St. John, but three years later they were transferred to a building connected with St. Peter's Church, just outside the southern or Trumpington gate of the town. The college was hence called "Peter-house." The non-graduate members of the university still continued to lodge in the town, many of them in "hostels"—institutions in which the needs of students were specially provided for. Undergraduates were not generally received into colleges until the sixteenth century; then the hostels, which had been numerous, gradually ceased to exist, or were annexed to the colleges. The further development of the university and the colleges will be dealt with in a future number of the JOURNAL.

SITUATION AND CLIMATE OF CAMBRIDGE.

It is necessary to disabuse the visitor of the common misconception that Cambridge is situated in the fens. The town stands on a dry platform, which extends from the foot of the chalk downs on the south to the borders of the fen on the north. It is well raised above flood level—for example, the railway station is 30 ft. and the north-west town (or Castle end) 60 ft. above the river. Through the dry platform the river flows in the midst of a shallow depression of the land of varying width. In the town this depression is only a few yards wide: its deep peaty soil is favourable to the growth of trees, hence the splendid timber in the College Backs, which are laid out on the depression and its gently sloping banks. The river formerly meandered in multiple and changeable channels through this low ground, but in its present form it is canalized, widened, and straightened.

Below the bridge from which the town was named the aforesaid depression gradually widens towards the fens, but high ground occurs on one side or the other of the river at least as far as Fen Ditton, three miles north-east of Cambridge. From thence to Ely the fen occurs in patches divided by dry areas, and only beyond Ely does the open fenland begin. Thus the site of Cambridge is always dry; there is next to no floodland adjacent to it, and the fen does not begin until three or more miles to the north.

The immediate neighbourhood of the town is neither hilly nor level, but merely tame; its chief defect is not flatness but lack of trees, for the ground is kept clear for agricultural purposes, as it is some of the best wheat land in England. But where planted with trees or laid out in

[1] This name has been transferred in recent times to the village of Grantchester, formerly called *Granteseta*, two miles south of Cambridge.

[2] *Place-names of Cambridgeshire.* Published by Cambridge Antiquarian Society.

[3] *Dual Origin of the Town of Cambridge.* Same publishers.

[4] A. F. Leach, *Mediaeval Schools of England.*

gardens the tame country is beautiful for its fertility. Three miles to the south, east, and west of Cambridge the chalk downs begin, and though their altitude is very moderate (mostly under 300 ft., but occasionally exceeding 400 ft.) their scenery is pleasing and characteristic, consisting of a number of small steep hills bounding broad fertile valleys. Where there are no high hills a moderate elevation commands a wide view, and hence the extent and beauty of the panoramas are notable features of South Cambridgeshire.

Not only is the site of Cambridge dry, but the town is within the area of least rainfall in England, and it seldom suffers from fog. It has an abundant supply of pure water from the chalk downs, and its air is clean and free from factory smoke, except when the wind blows from London. It has thus the physical conditions required to make a healthy town, and the Registrar-General's returns show that its standard of health is high. And yet it is fashionable to speak of Cambridge as "relaxing," none being more prone than the university folk to cry stinking fish in this respect. But why should they do so? The explanation is that in a university town the work is abnormally concentrated during the terms. For a few weeks everybody does too much, whether in work, play, eating, drinking, smoking, or even domestic service or shopkeeping, so that by the end of term everybody feels done up, and blames the locality instead of the mode of life. Those inhabitants of Cambridge whose lives are not subject to university stress find the town very healthy and bracing. Even among the university men the rarity of serious illness is notable; and although at the beginning of each term the students pour into the town from thousands of homes, with as many contingencies for importation of infection, nevertheless infectious maladies are not prevalent among them. A tacit acknowledgement of the healthiness of Cambridge is its increasing popularity as a residential town, which is evident from the many good private houses which have recently been built in its suburbs.

PREVENTION OF INFLUENZA.

MEMORANDUM BY THE MINISTRY OF HEALTH.

IN view of the possibility of a further outbreak of influenza this winter the Ministry of Health has been studying the measures which should be taken to prevent the spread of infection and lessen mortality from the disease. The memorandum on the prevention of influenza which was issued by the Local Government Board in February last, and noticed in our issue of March 1st, p. 248, has accordingly been revised.[1] The introduction gives a brief account of the nature and extent of previous epidemics, together with a statistical note on the three waves of the epidemic of 1918–19. The difficulty in securing a continuous record of the occurrence of true influenza is given as one of the factors which have made it impossible to forecast with any confidence the arrival of the next epidemic wave. The Ministry has taken measures to obtain intelligence on the subject from various sources, and these data are constantly reviewed. There is at present, however, no sign of the emergence of a fourth wave to which serious importance can be attached. Nevertheless, past history suggests the need of being prepared for the possibility that a further definite epidemic wave period may before long be encountered.

Research into the causation of influenza, into its spread in epidemic form, its pathology and its remedy, has been energetically pursued by many workers in this and other countries. Steps have been taken by the Ministry of Health to keep in touch with the results of this research, and to take some part in epidemiological inquiries. The main difficulty, however, remains. As yet we do not know the nature of the living virus to which this highly infectious disease is due, and the laboratory has not yet furnished a specific form of treatment or of protection. Although in a period of world-wide prevalence exposure to infection can hardly be avoided, it is yet the duty of the individual, so far as in him lies, to do the best for himself in case of an attack and also to protect others. It is likewise the duty of public health authorities to take all possible steps during an epidemic to lessen the opportunities of infection, to assist in the treatment and nursing of individual cases, and to help to mitigate the hardships arising when several members of a household are attacked at one time. The memorandum accordingly restates for the information of the public some of the principal known facts regarding influenza, and reviews the experience gained by local authorities in their attempts to deal with the recent outbreaks.

With regard to causation, the memorandum shares the belief that Pfeiffer's bacillus (*B. influenzae*) cannot on present evidence be regarded as the essential causative organism of influenza, but for present purposes it is looked upon as an important secondary or coincident agent responsible for many of the fatal complications of influenza. Since infection is known to be conveyed by the secretions of the respiratory surfaces, overcrowding of every kind should obviously be avoided so far as this can be done. The evidence collected by the Ministry of Health tends to show that in civilian populations acute and temporary overcrowding in trains, trams, omnibuses, and places of entertainment is a more important factor in the spread of epidemic influenza than overcrowding in the home. The dangers of influenza are, of course, greatly increased by the complications, and the memorandum lays stress on the point that much can be done to avoid or to mitigate these: "Carefulness does undoubtedly decrease and carelessness increase both sickness and death." The advice as to throat gargles and nose douching is repeated. While the public are not advised to make general use of face masks, it is recommended that these should be worn by all attending the sick.

Vaccine Prophylaxis.

So long as the primary cause of influenza remains uncertain, it follows that no form of inoculation can be guaranteed to lessen materially the incidence of the disease; but something may perhaps be done to mitigate the severity of the infection and to diminish its mortality by raising the resistance of the body against the chief secondary invaders, including provisionally under this term the Pfeiffer bacillus. There appears to the Ministry to be some reason to believe that a standard polyvalent vaccine prepared from strains of Pfeiffer's bacillus, pneumococcus and streptococcus, does reduce very materially the liability to complications and the risk of death. It is therefore regarded as a measure of precaution which it would be unwise to neglect. The bacteriologists of the Medical Research Committee believe that in the previous Local Government Board vaccine the proportion of Pfeiffer's bacillus was too small, and that more favourable results might follow the use of a vaccine in which this micro-organism forms the dominant constituent, and of which a much larger dose is given. The Ministry has accordingly made arrangements for the preparation of a considerable quantity of prophylactic vaccine made from the new formula. This will be issued, in bottles of 25 c.cm. each, to medical officers of health for distribution on demand and free of charge to medical practitioners in their districts, who will be expected not to charge their patients for the vaccine used. Supplies of the vaccine should be available this week. It will be distributed from the Government Lymph Establishment, Colindale Avenue, The Hyde, London, N.W. 9; each bottle will be accompanied by a form on which certain desired particulars should be recorded by the doctor. The Ministry further proposes, where this seems possible, to arrange for the preparation of vaccines in selected localities from the strains of microbes associated with local cases of influenza.

The precautions to be taken by the individual when attacked are recapitulated: He or she should go to bed at once and remain there under medical advice until all fever has gone for two or three days. Recovery should be fully established before returning to work. "No drug has as yet been proved to have any specific curative effect on influenza, though some may be useful in guiding its course and mitigating its symptoms."

Action by Sanitary Authorities.

The prevention by quarantine of the importation of influenza from abroad is dismissed as impracticable. Health authorities should distribute information to the public by leaflets, posters, notices, and lectures; they are specially urged to make widely known full and exact information as to the local facilities provided in each

[1] Memo. 2 Med., shortly to be obtained through any bookseller, or from H.M. Stationery Office.

district. Details, for instance, should be given of how to apply for nursing assistance, special arrangements for providing domiciliary medical attendance, how to apply for home help for a stricken household, special arrangements for public kitchens and crèches, hospitals available for sudden or severe cases, ambulance or first aid service available.

After weighing all the considerations the Ministry has decided that it is not advisable to make influenza compulsorily notifiable throughout the country; but in some places it may be possible to arrange usefully with local practitioners for voluntary notification to the medical officer of health of all cases in which the aid of the local authority is needed, whether in the form of nursing, home help, or institutional treatment. Acute primary pneumonia and acute influenzal pneumonia are now compulsorily notifiable in all districts in England and Wales. The memorandum is cautious with regard to the value of such measures as closing schools, at least in populous centres. Permanent through ventilation of public vehicles, says the memorandum, should be generally advocated and adopted. The routine disinfection of premises and of articles used by patients is not called for, but the sickroom and its contents, as well as washable articles, bedding, or apparel, should be thoroughly cleansed. The practice of spraying halls and places of public resort is held to be of doubtful utility, tending only to create a false sense of security.

In Sheffield, during the last epidemic, a "pool" of unattached medical men was formed with good results, their services being placed at the disposal of practitioners as required. In the larger areas part of such a pool might be formed from the health authority's own staff. With regard to the provision of institutional treatment, a point that has to be borne in mind is that influenza patients with pulmonary complications often bear removal badly. Screening should be adopted in hospital wards, and the attendants should observe all the precautions usual in treating acutely infectious respiratory diseases. It is observed that the setting up of emergency hospitals in schools, halls, and large unoccupied private houses may effect much economy in the supply of doctors and nurses, especially the latter.

Forewarned is Forearmed.

The concluding section summarizes the lines of action that should be considered in advance by a sanitary authority. It is held that the most important services that can be rendered consist in the organization of the available nursing service and the provision of assistance to influenza-stricken households. Influenza waves come with such rapidity that action of this kind, to be efficacious, must be prompt, and should, therefore, be prearranged. The measures advocated include the setting up of a small emergency committee (acting with the medical officer of health, and given full powers of organization and expenditure), consultation and co-operation with the medical practitioners and voluntary health workers, and the division of a town or district into areas for domiciliary nursing purposes. The other recommendations have, for the most part, been referred to in the foregoing paragraphs.

In a circular issued to sanitary authorities, together with an advance copy of the memorandum, it is pointed out that any such authority can, with the sanction of the Ministry, provide medical (including nursing) assistance, for the poorer inhabitants of its district. The Ministry of Health sanctions, generally, the provision of this assistance for persons suffering from influenza, and such assistance may include free dispensing of doctors' prescriptions. The circular emphasizes the importance of planning out all arrangements with considerable detail in advance before any sign of an epidemic appears, so that the scheme may be ready to be put into immediate effective operation as soon as the necessity for it arises. The chief need is held to be an adequate number of nurses immediately available whenever and wherever required.

AN APPARATUS FOR A MAN WITHOUT ARMS.

THE lot of the man who has lost both arms and who has no stump long enough to be useful is most pitiable. He is far worse off than the blind man, who is able to employ his other senses in place of sight. The totally armless man is tantalized by the sight of things he would like to reach but cannot. Without help he might starve in the midst of plenty, and he is dependent upon others for every necessary attention to his person, however intimate it may be. He can have no privacy. Fortunately for mankind at large, but unfortunately for themselves, such cases are very few. As they are rare they attract little public notice, and as they offer no field for profitable commercial enterprise, only the philanthropic inventor is likely to try and help them.

Some two or three years ago Mr. C. A. Sheehan devised a table, and at the request of the Munitions Inventions Department a description of it, with a drawing, was published in our columns of May 5th, 1917, p. 583. In this contrivance a lever passed through the top of the table, to which it was fixed by a ball joint, and at its lower end bore a footpiece. By means of this machine the inventor demonstrated that a great many things could be done by the use of the feet alone, but we are not aware that the machine has been put to any practical use for armless pensioners.

Lately Mr. G. Thomson, a gasfitter of Edinburgh, who had already invented a writing machine for the blind, was struck by an appeal for help from an armless man which appeared in a newspaper. He set to work to devise an apparatus that could be worked by the feet, and succeeded in producing an ingenious machine which he submitted to Colonel Cathcart of the Edenhall Limb-fitting Hospital, who was so much impressed with the possibilities of the apparatus that he arranged that Mr. Thomson should exhibit it at the Pensions Ministry and also, with the co-operation of Sir James Cantlie, at the College of Ambulance in Queen Anne Street, where we recently had the opportunity of seeing a demonstration. Mr. Thomson, who had not heard of Mr. Sheehan's machine, fixes his apparatus to a small ordinary table and works it by the feet, but there all resemblance to the other invention ceases. The man sits at the table and works a set of levers with each foot independently. One of these is used to hold appliances while the other is generally used to steady objects, although it can also pick up such objects as a piece of paper. The upper lever of each set having its fulcrum at the back of the table can be brought down upon it and also rotated horizontally, thus giving an effective compound movement. The levers are rigid, but very light, and consequently little fatigue should be caused by prolonged use of the machine. At the edge of the table furthest from the patient are holders for the appliances, from any one of which the tool wanted can be picked up and replaced by the lever by means of a most ingenious but simple spring catch.

Mr. Thomson showed an interested audience how he could feed himself, write a letter, wash his face, and do many other things. To the looker-on there was something almost uncanny about the two levers which ministered with such speed and apparent ease to the wants of the man sitting in the chair, and they almost seemed to belong to a separate intelligent organism unconnected with the feet below the table. It is estimated that the cost of the table machine would be considerably less than that of some artificial arms; but in these rare cases cost is a secondary consideration.

Although it is possible to write quite well with this machine, Mr. Thomson has invented a special apparatus for those who have much writing to do, which he also showed to the meeting. In this the pen—a fountain one—remains stationary while the paper, which is held on an oscillating plate, is moved from side to side. Mr. Thomson devised before the war a writing machine for the blind, in which the writer traced large copy-book letters along a space bounded by raised edges with a style connected with a pantograph and another style acting on carbon paper, and thus producing writing of the ordinary size. This apparatus is quite portable and can be used on any ordinary desk. Two forms were shown, one of which, for the sake of simplicity and consequent cheapness, produces its lines and words radially, in the relative position of the spokes of a wheel. With all four machines, no matter whether as an armless or a blind man, Mr. Thomson rapidly produced clear and legible specimens of handwriting. We understand that his writing apparatus for the blind, which was unfortunately rejected by those to whom it had been submitted in Edinburgh before Colonel Cathcart saw it, has been approved by the St. Dunstan's authorities and is likely to be adopted by them. We consider it a most efficient and practical machine.

British Medical Journal.

SATURDAY, JANUARY 3RD, 1920.

WILLIAM OSLER.

THE death of Sir William Osler removes a great personality, a leader of international medicine. Though his influence and inspiration will live and will long be carried on by his followers, the blank created by the irreparable loss of their Master is for them difficult to realize. The man and his work were both exceptional, and his personal characteristics, which may perhaps be partially epitomized by the best definitions of charity, or, in the words he wrote once under his own portrait, "Write me as one that loves his fellow men," enabled him by his labours of the last forty-five years to advance scientific medicine and education to a degree his whole-hearted zeal deserved. At the moment his friends—and they include all those who have come within his wide circle—are mainly occupied with their own personal sense of bereavement, and are therefore reluctant to attempt an estimate of what his name will eventually represent in the history of medicine.

Osler was a humanist, and was convinced of the importance of the study of the humanities to members of his profession; he believed that the wider the view beyond the confines of professional technicalities the better a man was equipped to influence the current thought of his day, and the higher the respect he received from the men of other professions. His own interest in the history of medicine was the natural outcome of his way of looking on life, and he saw in it a means for the broadening of the culture of medical men, a door which opened every field of learning. It was natural, therefore, that he should warmly support the formation of the section of the Royal Society of Medicine founded for the study of the history of medicine, and continuously show his interest in its work.

His influence on medical education, especially in the American continent, can hardly be exaggerated, and the remarkable change that came over American medicine at the end of the last century must be mainly explained by the ideals radiating from the Johns Hopkins Hospital—itself a lasting memorial to him—by means of his former pupils who became professors and teachers in numerous universities and medical schools. His early pathological post in Montreal, supplemented even then by visits to the most active laboratories and clinics in Europe, rendered it natural that he should make the application of clinical pathology to practical medicine a prominent feature in his hospital work. By closely linking up clinical with laboratory research he stimulated widespread original investigation.

During his last fourteen years as Regius Professor of Medicine at Oxford British medicine has come more directly under his quiet and kindly guidance in innumerable and perhaps not always fully recognized ways, and it was therefore only natural that he became the obvious leader in new projects—thus he was the moving spirit in the establishment of the Association of Physicians of Great Britain and Ireland, and of the *Quarterly Journal of Medicine*, the President of the Fellowship of Medicine and Post-Graduate Association of London, the President of the Bibliographical Society, and an active member of many committees dealing with various aspects of medicine and its application to the public welfare.

His broad sympathies and extensive acquaintance with the profession in most countries, his delight in bringing men together, and his knowledge of the phases and methods of medicine, made him a wise and resourceful leader in all movements which commended themselves to his shrewd, yet tolerant, judgement.

MEDICINE IN THE HOUSE OF LORDS.

THE most striking announcement in the list of New Year Honours is that a peerage has been conferred on Sir Bertrand Dawson, G.C.V.O.; it is the first time this honour has been granted to a member of the profession actively engaged in hospital teaching and private practice. We make no doubt that the Prime Minister, in recommending Sir Bertrand Dawson for promotion to the House of Lords, was actuated less by the desire to confer a personal honour, however well deserved, than by the wish to ensure that the Upper House of the legislature shall, when matters affecting the health of the people come before it, have the advantage of the counsel of a member of the medical profession thoroughly sympathetic with the forward movement in science, practice, and organization. It is a practical recognition of the principle that medicine must henceforth take a larger part in the work of the body politic, and that its participation in public affairs is necessary for their effective conduct. A tendency has been increasingly shown of late years to add to the House of Lords men engaged in the varied intellectual activities which make up the life of the nation. The House has never been without representatives of the Church and of the law, and for generations it has included distinguished sailors and soldiers; more recently eminent members of the Civil Service have found a place in it, along with representatives of commerce, finance, engineering, and journalism. There is every reason why medicine should receive similar recognition, more especially at a time when big constructive changes in health policy are in contemplation.

The selection of Sir Bertrand Dawson gives us as a representative one who knows the needs and aspirations of the profession. During his long connexion with the London Hospital he has been through all the ranks of a large medical school—demonstrator of physiology, medical registrar, a pathologist, for five or six years assistant physician and lecturer on materia medica and therapeutics, and finally, some ten years ago, physician and lecturer on clinical medicine. He has now resumed his full duties in these capacities after the interruption of the war, during which he was Consulting Physician with the British Armies in France and a member of the Army Medical Advisory Council, a position he still holds. He is a member of the Council of the British Medical Association, and the reputation in which he is held by his fellow teachers appears from the fact that he is Dean of the Medical Faculty of the University of London. He is Physician-in-Ordinary to the King. He is known to the profession at large first for his writings on gastric ulcer and other abdominal diseases—his essay on infective jaundice contributed recently to our columns is probably the most complete study of that disease yet published, and his writings on paratyphoid fever have helped to clear up the diagnosis and treatment of a perplexing disease; and secondly he is known for the attention he has long given to

the better organization of medical services; in his Cavendish lectures a couple of years ago he set out the principles upon which he considered the problem should be approached. The subject is now under the consideration of the Medical Consultative Council of the Ministry of Health, of which he became chairman when it was constituted last October. It is a council which has direct access to the Minister and the power to initiate advice; it has been called into existence in order to bring to bear on the policy of the Ministry the considered opinion of the profession with regard to those social and scientific matters on which it is most competent to speak; it is designed also to bring a great profession into relation with the administrators in the Ministry of Health. Sir Bertrand Dawson stated recently that the Council would make a report to the Minister, and this report, it may be anticipated, will eventually form the basis of legislation. It will be a great satisfaction to the profession to know that during the discussions which must occupy the next few years it will have in the Upper House a man in the prime of life, actively engaged in hospital and private practice, and therefore well able to understand its needs and aspirations.

In many other countries—in France, Italy, and Spain—the Upper Chamber (the senate) contains many members of the medical profession, but in this country few have become members of the House of Lords, and in no previous case was the medical peer engaged in active practice. Lord Lister was the most distinguished surgeon of his day, but he had ceased to practise; he was a national possession, and his eminence as a man of science had caused him to be chosen President of the Royal Society. Sir Walter Foster, when he became Lord Ilkeston, had for some time relinquished his practice in Birmingham to pursue a political career in London. Lord Playfair was a graduate in medicine, but was occupied through the whole of his life in chemical research and teaching. Lord Finlay, recently Lord Chancellor, who now sits in the House of Lords as Viscount Nairn, graduated in medicine at the University of Edinburgh, but never practised, being called to the bar at the age of 25. Lord Cobham, in whose favour a barony created in 1313 was called out of abeyance in 1916, is, so far as we are aware, the only member of the medical profession who is a hereditary peer, but he has never taken any part in legislative work.

It has thus come about that the profession has had no one in that chamber qualified to present the medical view on health questions. That this want has now been made good is a matter upon which not only the profession but the legislature and the public may be heartily congratulated.

THE PARLIAMENTARY SESSION.

THERE are two standards by which the parliamentary session just closed may be judged—namely, by what the Government has done, and by what it has failed to do. The legislative achievements are amazingly numerous, and some of them are of far-reaching importance. On the other hand, bills of great moment have been modified, withdrawn, or postponed to an extent that has never happened before. The change in procedure, the pace, and the distractions of grave international considerations arising out of the Peace Conference have had much to do with both the successes and the disappointments. Under an experimental plan for saving time big proposals have been dealt with in Committee "upstairs" instead of being taken in Committee of the whole House of Commons; speed has also been deemed essential in the stages of deliberation in the House of Commons; and the feeling that home problems were secondary to those of resettling the world's affairs has both helped and hindered progress. The absence of a strong Opposition weakened the Government in making clear-cut definitions and the circumstances of Coalition have led to compromise where sometimes bolder lines would have been more effective. The policy has been one of quick decisions—to get on or to cut out. Thus there has been trouble over some large issues—such as housing, tariffs, and labour questions—but these have involved the revival of old-standing controversies, and they are not of such close interest to the medical profession as measures of domestic concern, in the passing of which the Government shows a good record.

From our own standpoint the principal event of the session has been the passing of the Act setting up the Ministry of Health. The new Ministry absorbs the functions of the Local Government Board in health matters, and it retains the Poor Law administration until this can be dealt with differently; it takes over the insurance services, which previously formed a large and sometimes overlapping department. It has also become responsible for the medical inspection and treatment of young children, while delegating its authority in this regard to the Education Board, which has hitherto had the duty. Further, it has taken over the powers of the Privy Council under the Midwives Act, and the powers for infant life protection which were vested in the Home Secretary. The bill, moreover, was wisely framed to enable further transfers to be made by Order in Council, so that as time and opportunity allow the operations of the Ministry of Health shall be really comprehensive and complete. Dr. Addison has been prompt in setting up Consultative Councils and in reorganizing administrative machinery, but the benefits of the change cannot be expected yet to be felt. Spring time and harvest do not come together.

A measure of considerable consequence, which was passed in a day near the end of the session, is that which raises old age pensions to a maximum of 10s. a week, and extends the scope of the concession so as to enlarge the number of recipients probably by about 25 per cent. Another small bill which attracted little notice because it was essentially financial in nature, enables the Treasury to enlarge its grants to local authorities for the treatment of mental deficiency, without restriction of the amount of grant, subject only to the provision that it shall be in the same proportion of contribution as before—namely, that 50 per cent. shall be provided by the local authorities. It is hoped that much benefit may result from this change. In another category, but yet not to be regarded as insignificant in value, is the Rats and Mice Act, which will apply compulsory powers for the extermination of these disease bearers, and at the same time, it is hoped, help materially in the preservation of corn crops. A word should be said here also as to the importance of the measure which will regulate the presence of undesirable aliens in our midst; the two subjects are not so utterly remote as might at first sight appear. The restriction is of national interest in several senses.

In regard to housing the Government has been less happy than in much of its other legislation. The first bill required local authorities to act on a guaranteed subsidy which was fixed to secure these authorities against loss for a period of seven years. The second bill, which is intended to be complementary rather than to supersede the other, will give

subsidies to builders at a rate of not more than £150 a house, and subject to the limitation of the Treasury grants to somewhere about 15 million sterling. At the same time power is taken to restrict luxury building, and Dr. Addision has been careful to make arrangements with builders to secure a guarantee of priority in construction of the small dwellings so greatly needed for the life of the nation. The problem is complicated by the unsatisfactory rates of production, even with higher wages, by skilled hands, and also by difficulties of transport. There is also the handicap that the number of hands available at best is much less than in pre-war days, through the toll of casualties.

Side by side with legislative action has gone administrative development. The enlargement of the scales of pensions for men of the fighting services and their dependants has been made with great care and judgement by Sir L. Worthington-Evans, the Pensions Minister. Criticisms of detail, and indeed of principle in some matters, have been inevitable, but on the whole his work has been highly appreciated. He is one of the few Ministers who have really made good in a new position in a short time. In one matter he and Dr. Addison, as Minister of Health, have a mutual responsibility. This is in regard to the provision to be made for tuberculous discharged soldiers and sailors. The report of the inter-departmental Committee over which Sir Montague Barlow presided recommended, amongst other things that a grant of a million sterling should be made to finance village settlements of a permanent kind. How far the Treasury will go remains to be ascertained, but an immediate additional grant of £10,000 for work that can be done within the present financial year was sanctioned just before Parliament rose.

A great many other subjects have been dealt with more or less partially. The scheme for establishing ex-soldiers on the land by the purchase of farms and holdings by county councils is being proceeded with under an Act passed early in the year. Here again the housing need affects the outlook, and to a lesser degree the problem of transport also comes into the matter, for, until the circulation of commerce and the easy distribution of agricultural products can be made to run smoothly, every interest and every trade is adversely affected. Better transport conditions are essential for the relief of food prices, though, of course, they are influenced to a much larger extent by the world shortage and by the necessarily slow restoration of shipping facilities to a full extent and at reasonable freights. By co-ordinating various branches of transport service the Government expects in the course of time to promote efficiency, and it is also hoped that the Board of Trade may be able in various ways to stimulate production, and thus to assist in the restoration of prosperity. The Anti-Profiteering Act, which Sir Auckland Geddes promoted, has had some value in checking greed for commercial gain, but it needs to be supplemented, and a further measure is to be submitted to the House of Commons early in the coming session.

There is no need here to dwell upon the significance of the Government of India Act, which is framed with the object of securing conditions of greater tranquillity in the Eastern empire, nor need anything be said as to the prospects of the Irish Bill which has been put forward so bravely in the determination to place Great Britain beyond the possibility of reproach by the Irish people in regard to the form of Government for the sister isle. It is unfortunate that greater approach to the settlement of labour controversies has not been made in the session now ended, inasmuch as the unrest and uncertainty tend to prejudice production. But it is hoped that as the grave financial situation of the country and its dependence upon exports for its stability are realized by the working classes they will more fully grasp the nature of their responsibility for the common good, and that they will respond to the call which is made upon them, certainly not less for their own interest than for the interest of those who with resources of capital have to yield such large proportions of their income to keep the country going. One encouraging sign is the increased output of coal under the new conditions, but unfortunately nearly all the labour problems which revolve round questions of nationalization, administration, and conditions of working still remain in a fluid state.

VACCINAL PROPHYLAXIS OF INFLUENZA.

As will be gathered from an announcement published elsewhere in this issue (page 19), the Ministry of Health has arranged to provide medical practitioners with anti-influenzal vaccine, and expresses its anticipation that they will be willing to keep records of their results. Since there are no present indications of a serious wave of influenza and the value of vaccines in the prophylaxis of the disease is uncertain, some may hesitate to take advantage of the offer. Actually both reasons for hesitation are the best possible grounds for recommending widespread use of the prophylaxis. One of the chief difficulties in accurately assessing the value of any prophylactic measure in combating an epidemic disease is that it is generally only used after an epidemic has begun. The consequence is that the scales are biassed in favour of the prophylactic and the statistics obtained are often of no value. That this must be so is obvious on a moment's consideration. Suppose that coincidently with the outbreak of the disease prophylactic inoculation is begun and that it is impossible—as it always will be—to inoculate the whole population within a few days; then a greater or smaller number of persons who pass through the first stages of the epidemic uninoculated, but are ultimately inoculated, will figure in the final summary of results as unattacked inoculated persons, no heed being given to the fact that during a period of possibly maximal infectivity they were exposed to risk in the uninoculated state. To allow for this bias is often difficult, so that to secure a valid control of the method it is necessary that, *before* the outbreak, a sample of the population shall have been inoculated. When, as in the present case, inoculation is unattended by personal risk, the desirability of vaccinating a large number of citizens mixing freely with the rest of the community is very great. On the other hand, to inoculate all members of an isolated community, such as a boarding school, will give no trustworthy evidence as to the efficacy of the vaccine; this can only be provided when an adequate control is secured. Naturally, if the value of the method were established, such action would be unjustifiable; but, in the present state of knowledge, a medical officer is not called upon to put pressure upon unwilling parents, and, without such pressure, the whimsicalities of the public are certain to provide an adequate control in any type of community whatsoever.

ATROPINE IN SEA-SICKNESS.

ALTHOUGH the war must have greatly increased the number of the victims of sea-sickness, there has not been any corresponding expansion of the literature on this familiar disorder. It has been said that at the commencement of his career every ship's doctor is confident of his ability to cure or prevent this *bête noire* of travellers, but that experience invariably shatters this belief. It is therefore interesting to have the experience of Dr. Pierre Cazamian,[1] of the French Navy, based on a close study of

[1] P. Cazamian, *Arch. de méd. et pharm. nav.*, Paris, 1919, cviii, 241–284.

sea-sickness for more than two years, first in a hospital ship, and then in a battleship. He first adds to the well known manifestations some that are new, and, after discussion of the pathogeny, explains the treatment by atropine which has proved successful in his hands. The systolic and diastolic blood pressures were taken in 50 cases, and it was found that at first the pressures are distinctly raised, but that after sea-sickness had lasted for twenty-four hours or more they were below normal; in both conditions the systolic and diastolic pressures varied together, so that the pulse pressure remained normal. These observations are new and important; for Naamé, relying on palpation of the pulse and the assumption that there was a fall of blood pressure, put forward the view that sea-sickness was due to a reflex inhibition of secretion of adrenalin, and accordingly treated it prophylactically and curatively by the oral administration of adrenalin, giving larger doses to remove the symptoms. He reported very good results, but Cazamian found that there were many failures and that the symptoms might even be aggravated. Another clinical observation is that the oculo-cardiac reflex is altered; normally pressure on one or both eyes causes a transient slowing of the pulse, but in sea-sick persons there is generally—in 38 out of 50 cases—a quickening of the pulse. Similarly, firm pressure in the epigastrium was followed by increase in the pulse rate instead of a fall, a reputed sign of irritation of the sympathetic. After discussing at length the various hypotheses as to the causation, Cazamian gives the following explanation: As a result of numerous impulses travelling from the sense organs, and especially from the viscera, to the medulla, both the autonomic and the sympathetic systems are upset. At first the sympathetic is overactive and the blood pressure is raised; later it becomes exhausted and the blood pressure falls; but coincidentally the autonomic system is affected, though the vagotonia is masked by effects of the disorder of the sympathetic nerves. He likens both the phenomena and explanation of sea-sickness to those of surgical shock. After mentioning most of the remedies that have been advocated, he describes his method of treatment; to cure the symptoms one hypodermic injection of atropine ($\frac{1}{50}$ to $\frac{1}{80}$ grain) is given, and it has rarely been necessary to give a second injection, but he has found it desirable in some cases to administer $\frac{1}{100}$ grain after twelve to twenty-four hours; in a late stage of sea-sickness with low blood pressure and prostration the combination of adrenalin with atropine had, he found, a very beneficial effect. As a means of preventing sea-sickness $\frac{1}{60}$ grain of atropine is injected hypodermically on embarking, and may be repeated for three days if the weather conditions are bad.

THE RIVIERA.

IT is now some years since medical men were enabled to recommend their patients to visit the Riviera with any hope of their getting there without difficulty, or remaining there in comfort. English visitors are now returning in greater numbers than formerly, and have so far been rewarded by ideal weather conditions, consequent on the autumnal rainy season having duly asserted itself. Dr. D. W. Samways of Mentone, writing from his own unfortunate recent experience, tells us that it is important that travellers should see to it that their luggage accompanies them throughout their journey. It should never be registered beyond Paris. It should be seen through the Customs at Paris, taken to the hotel, and finally to the Gare de Lyon, and there registered. It then comes through promptly. If these details be not followed the luggage may be delayed for weeks. The Riviera is now free from German-speaking and German-behaving visitors, and hotel managers are catering specially for the English. Prices may seem high, but considering the exchange they are generally reasonable. Thus a room, with pension, in an hotel at 22 francs per day, is only 10s., since the franc is worth less than 6d., and though 33 francs daily may seem a large sum, its equivalent 15s. would appear very moderate in England. It should be remembered by the medical profession that the Riviera in no way corresponds to the South of England watering places. The latter have a marine climate. The Riviera has a dry, fresh mountain climate. The air on the Riviera on practically all fine days, and almost invariably at night, sets from the land to the sea. It passes from the high background of mountains to the north southward to the sea. The textbook classification of the Riviera resorts among those having a marine climate is quite erroneous. As rivers flow to the sea so does the Riviera air, but the sea no more makes the Riviera climate on that account than it does the rivers. Hence the dryness and freshness of its mountain-born air. Hence also its influence on catarrhal conditions, whether respiratory or aural, on the appetite and debilitated states generally, and by its contrast of climate and scene on English persons requiring a change.

THE ROCKEFELLER BENEFACTIONS.

MR. JOHN D. ROCKEFELLER has added one hundred million dollars to the fund of the General Education Board and of the Rockefeller Foundation, raising the total amount of his gifts to over four hundred millions. Of the new gift, fifty million dollars are allotted to the General Education Board to increase the salaries of the teaching staffs of the colleges and universities of the United States, and the like amount to the Rockefeller Foundation. It has been recognized in America that the salaries of the teaching staffs of the universities and colleges ought to be increased to meet the great rise in the cost of living. Various universities have made special appeals to the public, and in anticipation of the result Harvard and some other universities have already nearly doubled the incomes of their professors. The General Education Board in making its allotment will proceed on the principle that an equivalent amount shall be raised by the institution. Mr. Rockefeller expressed the desire that a part of his gift should be used to promote medical education in Canada, and it is understood that the board intends to devote five million dollars to this purpose. The objects of the Rockefeller Foundation are defined to be the furtherance of the well-being of mankind throughout the world, and its report for 1918, which has just reached us, affords evidence that its activities extend from China to Brazil. Its work is mainly done through three boards—the International Health Board, the China Medical Board, and the Rockefeller Institute for Medical Research. The Health Board during 1918 has devoted its energies chiefly to yellow fever, ankylostomiasis, and malaria, but it assisted also in a campaign against tuberculosis in France, the course of which has been described in our columns from time to time. In July, 1918, a commission was sent to Guayaquil to study yellow fever and related infections likely to be confused with it. One of the members, Dr. H. Noguchi, succeeded in isolating an organism resembling the spirochaetes but presenting certain differences which led him to put it in a separate genus under the name *Leptospira icteroides*, along with the organism of infectious jaundice (*L. icterohaemorrhagiae*). The investigation[1] presented many difficulties, as the organism is very fragile and has, it is thought, a granular stage, in which it passes through filters of a certain fineness; the probability of its being the causal agent is very great. The administrative work, under the direction of Dr. White, of the U.S. Army Medical Corps, appears to have been very successful, as the disease was under control by September 19th and no cases occurred after December 2nd. A daily house-to-house inspection was made in each infected community; suspected cases

[1] BRITISH MEDICAL JOURNAL, July 12th, 1919, p. 48: August 30th, p. 283: December 13th, p. 792.

were isolated and their houses fumigated, and systematic work was carried out for the destruction or control of the breeding places of the stegomyia mosquito. Since then Dr. Connor, a member of the field staff of the International Health Board, has undertaken to direct measures for the extermination of the disease. The most extensive field work undertaken was in connexion with hookworm disease (ankylostomiasis). It was carried on in Ceylon, China, and other parts of the East, in British Guiana, St. Lucia, St. Vincent, and Trinidad, in various Central American states, and in Brazil. The disease is very prevalent in some of the southern of the United States, and stress is laid on the fact that it causes not only physical debility, but in children mental backwardness. In addition to prophylactic measures—in particular the erection of properly constructed latrines—the treatment of infested persons was carried on; the most effectual remedies were thymol and oil of chenopodium. The use of the latter has greatly increased, but its mode of action is not well understood. Very remarkable results in the control of malaria were obtained where the co-operation of the authorities and the people themselves was given. The policy of the Board in respect of both ankylostomiasis and malaria is to make a grant, start the work under the direction of trained workers, and continue an annual grant for a few years until the control has been so well established that it can be continued by local resources. We have already given accounts of the work of the China Medical Board, and conclude this short notice by reference to the work of the Rockefeller Institute for Medical Research. During 1918 its energies were entirely devoted to war work and the education of medical officers and nurses, especially in the use of the Carrel-Dakin treatment for infected wounds, a portable military hospital being set up in the grounds of the Institute for this purpose. Large quantities of serums for meningitis, pneumonia and dysentery were produced, and the method of manufacturing an anti-serum for the gas forming bacillus was far advanced when hostilities ceased. The capital fund at the disposal of the Rockefeller Foundation is now, in round numbers, 176 million dollars, the whole of which, with the exception of 26 million dollars, has been given by Mr. John D. Rockefeller. The income, including a special gift of one million dollars by Mr. Rockefeller for the American Red Cross and United War Work, was over 8½ million dollars, which was raised to 20 million dollars by the unspent balance from 1917. Altogether 15 million dollars were disbursed during the year, and another 2 million provided but not claimed. The amount allotted to the Institute for Medical Research appears to have been 265,000 dollars, but an additional sum of 350,000 dollars was disbursed for medical military work.

ANTHRAX INFECTION BY BRUSHES.

In the summer of 1917 the Local Government Board published a report by Dr. F. Coutts on an inquiry into cases of anthrax suspected to be caused by infected shaving brushes.[1] In almost every case the lesion was situated in the shaving area of the face and neck, and in some of the brushes examined living anthrax bacilli were found. Dr. Elworthy proved that in one of the earliest cases the infection was due to the use of a recently purchased cheap shaving brush of imitation badger hair. In this, and in several unused brushes of the same kind bought from the same shop, virulent anthrax spores were found. All the brushes were traced back to one wholesale dealer, and were found to have been manufactured in a single factory. Investigations carried out by Dr. Coutts and Dr. Collis showed that the bristles used in making these brushes consisted mainly of undisinfected Chinese horsehair. The hair from the same source which had not yet been manufactured into brushes was found to be heavily infected with anthrax spores. Four other cases of anthrax occurring about that time were traced to imported brushes of foreign make. We have now received a communication from Dr. Henry T. Maw, of the administrative committee of the National Union of Manufacturers, who wishes to draw attention to certain facts relating to the origin and prevalence of anthrax in various parts of the country at the present time. Early in 1919, he says, a consultative council was formed by the Board of Trade to advise on the restriction of imports, and a subcommittee of this council was appointed to inquire into the brush industry and the importation of foreign-made brushes. The consultative council sent up a strong recommendation to the Board of Trade against the importation of foreign-made (especially Japanese) brushes, because of the insanitary conditions under which they were manufactured; special reference being made to the brushes used for medical and toilet purposes, such as throat brushes, toothbrushes, and shaving brushes. It was pointed out that the hair used in Japan for soft brushes was pony hair, which, unless sterilized, was apt to be very infectious, and that samples of brushes then on the market which were submitted for bacteriological investigation to Professor W. Bulloch, M.D., had been reported on adversely. At a meeting of the Imports Consultative Council on June 2nd, the subcommittee recorded the opinion that it was necessary on hygienic grounds to limit the importation of the cheaper Japanese brooms and brushes, and suggested that before final settlement of this question the international agreement, so far as Japan was concerned, should be revised. Dr. Maw states that, in spite of these warnings and the recommendation of the Council not to allow medical and toilet brushes to be imported from Japan until the Ministry of Health had been consulted, the Board of Trade published, on June 5th, a decision on the importation of brushes entirely contrary to the advice of the Consultative Council. Our correspondent adds that the National Union of Manufacturers is taking up the matter with the Board of Trade, and invites members of the medical profession having information on the subject to communicate with the secretary, Mr. G. Cheesman, 6, Holborn Viaduct, London, E.C.1.

[1] BRITISH MEDICAL JOURNAL, June 30th, 1917, p. 882.

INTRAMUSCULAR INJECTIONS OF QUININE.

As recent papers and discussions have abundantly shown, the treatment of malaria is far less satisfactory than was formerly believed, and opinion is conspicuously divided on several points; there are many methods, some complicated but all with their advocates, and the result is, to say the least, confusing. This is particularly true of intramuscular injections of quininé, which has been widely recognized to be followed in some cases by troublesome necrotic ulcers. Some who report long series without any untoward effects have confidently ascribed these ulcers to neglect of proper asepsis. It has also been stated that concentrated solutions of quinine are precipitated in the tissues, whereas very dilute solutions are rapidly and completely absorbed. In order to throw further light on the effects of intramuscular injections of quinine, Dr. L. S. Dudgeon[1] has investigated the question both in man and experimentally in cast mules, rabbits, guinea-pigs, and frogs. That necrosis of the tissues always follows intramuscular or subcutaneous injections of quinine is not sufficiently realized; within ten minutes the muscular fibres are necrosed with oedema, agglutination, and haemolysis of the red blood cells. Although concentrated solutions produce more intense necrosis than dilute solutions do, injections of solutions so dilute as to avoid necrosis and oedema are not of any practical value. Vessels may be so necrosed that severe haemorrhage ensues, and necrosis in the neighbourhood of a nerve may produce complete degeneration and paralysis. During the years 1916 to 1918 the following complications of intramuscular injections of quinine were observed:

[1] L. S. Dudgeon, *Journ. Hyg.*, 1919, xviii, 317–336.

tetanus, gangrene, abscess, pyaemia, nerve palsies, haemorrhage from large vessels, sciatica, chronic muscular pain and deficient movement, and thrombosis in varicose veins. The bad effects were not obviated by the addition of olive oil or fat or by dissolving the quinine in alcohol or ether, whether in a concentrated or a dilute solution. Although quinine is a powerful haemolytic agent, the acid used to dissolve the alkaloid is much more powerful in this respect; and it appears that the red cells and tissues generally are more readily destroyed than the malarial parasites by solutions of quinine. The bad effects of intramuscular injections of quinine were not more prominent in animals rendered experimentally anaemic than in control animals. Analyses by Captain F. S. Hele show that quinine is not fixed in the tissues immediately after injection to any appreciable extent. Intramuscular injections of quinine should therefore be given only when emergency renders them necessary, should not be made in the vicinity of large vessels or nerves, and should not be repeated in the same area. But the superiority of intramuscular injection to the oral method in malignant malaria is, as Dr. W. H. Willcox (see p. 28) points out, so undoubted that its use as a measure of urgency should not be ruled out.

REWARDS FOR MEDICAL DISCOVERY.

AT the last meeting of the Joint Committee of the British Medical Association and the British Science Guild on awards for medical discoveries, a report by Sir Ronald Ross was adjusted and adopted. The report defined "medical discoveries" as "the ascertainment of new facts or theories on the human body in health, and the nature, prevention, cure, or mitigation of injuries and diseases of human beings." It was also held to include the invention of new methods or instruments for the improvement of sanitary, medical, and surgical practice, or of scientific and pathological work. The Committee intends to take steps to ensure proper rewards for medical discovery so as, on the one hand, to encourage medical investigation, and, on the other, to discharge a moral obligation incurred by the public through the advantage it takes of private effort. A sharp distinction is drawn between compensation and reward, the former being reimbursement of losses, the latter an act of grace in appreciation of services rendered. One of the principles laid down is that no medical discovery should entail financial loss upon the investigator, and it is suggested that the compensation or reward should be assessed as equal to the difference between the emoluments actually received and those that might reasonably have been expected if the investigator had devoted all his time to successful clinical practice. It is held, further, that it is proper for every civilized State, in addition to assisting investigations in progress, to remunerate those of its citizens who have already conferred upon it benefits through medical discovery. It is suggested that Parliament should revive the precedent of Edward Jenner, to whom it voted money both by way of compensation for losses incurred in achieving his discoveries, and as a reward for their value to mankind. The Committee is disposed to suggest that Parliament should provide an annual sum of, say, £15,000 for life pensions for those who have made medical discoveries, and to the widows of the discoverers after their death. It is thought that there might immediately be instituted ten pensions of £1,000 a year each, and ten of £500 a year. The intention, we understand, is to bring the views and arguments of which we have given an outline, to the notice of the Prime Minister at an early date.

THE NEW YEAR HONOURS.

IN addition to the peerage granted to Sir Bertrand Dawson, to which reference is made elsewhere, the New Year list includes the honour of knighthood conferred upon Dr. J. Court of Staveley, Chesterfield, who has made important researches into certain diseases of miners, especially miners' nystagmus and ankylostomiasis; on Dr. H. J. Gauvain, Medical Superintendent of the Hospital for Crippled Children at Alton, Hampshire, who has been active in advancing the treatment of tuberculous disease of the bones and joints, especially in children; and on Dr. Frederick Spencer Lister, Research Bacteriologist to the South African Institute for Medical Research, whose name is particularly associated with the bacteriology and vaccine treatment of pneumonia. The same honour is conferred on Mr. F. C. Danson, chairman of the Liverpool School of Tropical Medicine. The C.M.G. is conferred upon Lieut.-Colonel William Thomas Frederick Davies, M.D., D.S.O., a member of the House of Assembly, Union of South Africa. The Kaisar-i-Hind Medal (first class) is conferred upon Dr. William James Wanless, principal medical officer of the Mission Hospital at Miraj, and chief medical officer of the American Presbyterian Mission at Bombay; Dr. Kate Platt, principal of the Lady Hardinge Medical College for Women, Delhi; Dr. Margaret Ida Balfour, Joint Secretary to the Central Committee of the Countess of Dufferin's Fund; and Miss Ida Sophia Scudder, Doctor in charge of the Mary Taber Schell Hospital, Vellore, North Arcot District, Madras. The services rendered by Sir R. T. Glazebrook, F.R.S., in the organization of the National Physical Laboratory, of which, when he resigned last year, he had been director for twenty years, are acknowledged by the K.C.B., and a knighthood is conferred upon Professor Arthur Schuster, F.R.S., who recently ceased to be one of the Secretaries of the Royal Society.

THE UNIVERSITY UNIT AT ST. THOMAS'S.

WE understand that Dr. E. H. Starling, C.M.G., F.R.S., Jodrell Professor of Physiology, University College, London, has accepted an invitation to become the director of the medical element at St. Thomas's Hospital, and that arrangements are in progress for the appointment of assistant directors in pathology and clinical medicine to work with him in the new element. We announced some time ago that Sir Cuthbert Wallace, K.C.M.G., surgeon to the hospital, had become director of the surgical element, so that two-thirds of a university unit has now been formed at this great hospital and medical school. Dr. Starling has been concerned for the greater part of his life with physiology as an investigator and teacher, but he has always regarded it and taught it as one of the institutes of medicine. During the war he for a time undertook clinical work in military hospitals; afterwards, with the rank of Lieutenant-Colonel R.A.M.C., he became chemical adviser to the Salonica Force, and finally scientific adviser to the Ministry of Food. He is also British delegate on the Inter-Allied Scientific Food Commission. Early last year we published a report of his Oliver-Sharpey Lectures at the Royal College of Physicians on the feeding of nations, described as a study in applied physiology. He has been an inspiring influence to others, and has himself received many honours in recognition of the importance of his researches, especially with regard to hormones and the physiology of the heart, the subject of his Linacre Lecture at Cambridge in 1915. He was Croonian Lecturer at the Royal Society, with Professor Bayliss, in 1904, and received the Royal Medal of the Royal Society in 1913. He was Croonian Lecturer in 1905 at the Royal College of Physicians, of which he is a Fellow, when he dealt with the chemical correlation of the functions of the body; he received in 1907 the Baly Medal from the same College.

WE understand that arrangements are far advanced for the constitution of two elements of a hospital unit at University College Hospital and Medical School. We believe that as at present arranged Dr. T. R. Elliott, C.B.E., D.S.O., F.R.S., physician to the hospital, will become the director of the medical element, and that Mr. C. C. Choyce, C.M.G., C.B.E., F.R.C.S., will probably become the director of the surgical element.

THE ranks of the medical members of the House of Commons have been strengthened by the return of Lieut.-Colonel F. E. Fremantle, O.B.E., R.A.M.C.T., for the St. Albans Division. He received 9,621 votes as against 8,909 polled by the Labour candidate and 2,474 by the Liberal candidate. Colonel Fremantle is honorary consulting M.O.H. to the Herts County Council and served during the war as D.A.D.M.S. Mesopotamia. He graduated at Oxford M.B., B.Ch. in 1898 and M.A. and M.Ch. in 1903, and is a Fellow both of the Royal College of Physicians of London and of the Royal College of Surgeons of England.

South Australia.

MEDICO-POLITICAL.

ONCE more our hopes are being raised by the introduction of a Medical Bill into Parliament; it is based on that which passed the Upper House six years ago, but was dropped in the Lower. If it be passed now it will remove many of the anomalies of the present Act, which has not been altered for thirty years. Meanwhile the Government will conciliate mechanical opticians by introducing a bill for their registration, and is coquetting with a very dubious attempt to control and treat venereal diseases which would impose harassing restrictions upon the victims.

THE UNIVERSITY AND MEDICAL SCHOOL.

The death of Professor Sir Edward Stirling and the resignation of Professor Archibald Watson have created vacancies in the chairs of physiology and anatomy, which have been filled, in the case of the chair of physiology, by the appointment of the son-in-law of the previous incumbent—namely, Professor Brailsford Robertson, who made a great name for himself in San Francisco and at Toronto. The new professor of anatomy is Dr. F. Wood-Jones, who is well known in London and in Manchester for his anatomical, biological, and anthropological researches. It has been decided also that the much needed chair of pathology shall be instituted at the same time, and the applications for the position are now being considered. The lamented death of Dr. Archibald Magarey, who was long the acting secretary of the South Australian Branch, caused a vacancy in the post of demonstrator of anatomy and to this a returned soldier, Dr. Malcolm Scott, F.R.C.S., has been appointed. At the Adelaide Hospital several changes have occurred in the staff. Dr. De Crespigny becomes full physician, Drs. Cavenagh-Mainwaring, F.R.C.S., and Simpson Newland, F.R.C.S., have been promoted to be surgeons, Dr. Poulton having resigned that position.

SIR JOSEPH VERCO.

The knighthood conferred upon Dr. J. C. Verco has been approved as a most fitting honour both by the laity and the profession. Over thirty years ago Dr. Verco was recognized as the head of the profession in South Australia by being elected President of the First Intercolonial Medical Congress; only this year he retired altogether from practice. He seems likely to rival Sir Joseph Banks in this respect; he has already been President of the Royal Society of South Australia for at least a dozen consecutive years, his specialty in science being conchology. Freed from the engagement of medical work Sir Joseph Verco would appear to be a busier man than ever. He was elected President of the South Australian Branch for the fourth year in succession last June, but he immediately retired to make way for Lieut.-Colonel Simpson Newland, D.S.O. The honorary secretaryship has been filled by the appointment of Colonel H. A. Powell, C.M.G.

Scotland.

THE UNIVERSITY OF EDINBURGH.

THE annual report of the University of Edinburgh for 1918–19 was issued on December 24th, 1919. It recalls and summarizes a great multitude of facts, most of them already recorded from time to time in our columns. The total number of matriculated students was 3,554—2,719 men and 835 women; this was an increase on the previous session of 1,463 students; the increase was chiefly due to the influx of those who, on the conclusion of the armistice, were released from military duty, though in the spring and summer terms a large number of soldier students from overseas attended certain courses, some of them special courses, within the university. The grand total may be analysed in various ways—for instance, into faculties. Thus, in the faculty of medicine there were 1,683 students—nearly half of the total; arts came next with 1,019, and science third with 678. The total may also be analysed according to nationality; thus, in the medical faculty the nationalities were: Scotland 948, England and Wales 298, Ireland 42, India 53, Dominions and Dependencies 296, and foreign 46. The M.B. and B.S. degrees were conferred on 95 candidates, the M.D. on 30, the M.S. on one, and the diploma in tropical medicine on two. A diploma in public health has been established.

In the faculty of medicine three new chairs were founded—that of chemistry in relation to medicine, to which Dr. George Barger was appointed last April; that of therapeutics, the first holder of which is Dr. J. C. Meakins, formerly of McGill University, Montreal; and that of psychiatry, founded through a gift of £10,000 from the Royal Edinburgh Asylum for the Insane, to which Dr. G. M. Robertson, Superintendent of the Asylum, has been appointed. The university has lost the services of Dr. Harold Pringle, appointed Professor of Physiology in Trinity College, Dublin, and of Dr. John Tait, appointed Professor of Physiology in McGill University.

The unprecedented number of applicants for admission to the university, more especially in the faculties of science and medicine (some hundreds having had to be refused admission to the latter), has emphasized the urgent need for structural developments in a number of departments. Extensions to the existing buildings are in progress, by which it will be possible to secure much-needed additional accommodation for the departments of anatomy and physiology. A very important new departure has been made in the acquisition of over 100 acres of land on the south side of the city, where building operations have already been begun, to meet, in the first instance, the long overdue needs of the department of chemistry.

COLLIERY SURGEONS' COMMITTEE.

As a result of prolonged negotiations between the Scottish Colliery and Public Works' Surgeons' Committee and the National Union of Scottish Miners, a national agreement has been reached for a uniform flat rate in all areas. The rate has been fixed at 3½d. a week for each worker where no medicine is supplied, and 4½d. a week where medicine is supplied. It has been agreed that Joint Committees of representatives of doctors and mine workers shall be set up in each area to consider local grievances, in addition to a Central Joint Committee.

England and Wales.

THE WELSH MOBILE LABORATORY.

AT the last monthly meeting of the Cardiff Medical Society Professor Emrys-Roberts related his experience whilst in charge of the Welsh Mobile Bacteriological Laboratory presented to the Welsh Army Corps by Lady Lynn-Thomas in the beginning of 1915. The laboratory was attached to the Welsh Division during its training, and for a short time after its arrival in France, after which it was established as a unit in the First Army, having allotted to it a corps area including five casualty clearing stations. The work was varied and interesting, and Professor Emrys-Roberts described briefly what had been done, and indicated the value of a mobile laboratory not only on active service, but also as part and parcel of the equipment of a public health service. A hope has been expressed that in due time the laboratory will find its way back again to the Principality.

SCARLET FEVER AND DIPHTHERIA IN LONDON.

The Minister of Health stated, just before the prorogation, that on December 18th the number of cases of scarlet fever in the hospitals of the Metropolitan Asylums Board was 2,900. He said that in 1914 the Metropolitan Asylums Board had twelve institutions containing 7,065 beds for the treatment of infectious diseases, excluding institutions

reserved for small-pox. All the institutions taken over by the War Office as military hospitals have been returned, except two; one of these will be returned at the end of February, and one additional institution has been made available for infectious cases. The number of beds at present provided is 6,162, and the bulk of the patients admitted suffer from scarlet fever or diphtheria. In addition, there is a reserve hospital with 350 beds which could be used in the absence of an epidemic of small-pox. The number of cases of scarlet fever notified in London in the week ending December 20th, 1919, was 485, and of diphtheria 325, as compared with 443 and 272 respectively in the previous week.

Correspondence.

MODE OF QUININE ADMINISTRATION,

SIR,—In reply to the kindly criticism in your last issue by Sir Ronald Ross of my letter on the treatment of malaria (BRITISH MEDICAL JOURNAL, December 13th, 1919), let me say that the object of my communication was to emphasize the importance of intravenous and intramuscular administration of quinine in certain types of malaria which do not respond readily to oral administration. The types of malaria in which this method had been found of great value were quoted. It is well known that until comparatively recently the administration of quinine by intravenous or intramuscular methods has been disapproved of by the army authorities in India; and, indeed, an Order was issued some years ago forbidding its use in those ways.

The figures quoted in my letter were intended to give some approximate idea of the comparative values from a clinical point of view of the different methods of administration, and were not meant to be mathematical expressions based on scientific experiments.

The comparison of the therapeutic value of 5 grains of quinine bihydrochloride intravenously with 100 grains given by the mouth was not meant to suggest that doses of 100 grains should be given by the mouth or that the therapeutic value increased *pari passu* with the dose, but rather that a very much greater beneficial effect (something like twenty times) resulted from this method of administration.

In Northern Persia, in September, 1918, Major F. P. Mackie, I.M.S., and myself investigated an outbreak of malignant malaria in which the oral administration of quinine proved of little value either in effecting removal of the parasites from the blood stream, or in causing an improvement in the dangerous symptoms. When quinine was administered intravenously or intramuscularly marked beneficial results at once occurred associated with the disappearance of the parasites from the blood stream. Again in October and November, 1918, when the influenza epidemic spread to Northern Persia the majority of the cases amongst the troops were complicated by relapsing or malignant malaria, a combination causing most acute and dangerous symptoms. I saw in consultation a great number of these cases, and an exactly similar experience resulted as regards the very much greater benefit following intravenous and intramuscular methods as compared with the oral administration of quinine; the difference was most striking.

The administration of large doses of quinine by the mouth was not recommended in my letter, and the only reference to oral dosage was that which Sir Ronald Ross has himself officially advised and which I entirely accept. Indeed, the last part of my letter contained a caution against the administration of large doses by the mouth.—I am, etc.,

London, W., Dec. 29th, 1919. W. H. WILLCOX.

SIR,—The ratio of value suggested by Colonel Willcox (BRITISH MEDICAL JOURNAL, p. 792) recalls a rather dramatic demonstration which occurred in North Persia in the autumn of 1918.

The column operating in that area was assaulted by the influenza epidemic, complicated by tertian malaria (both relapsing and malignant), and a very large number of grave cases resulted. The attacks of malaria were obviously protracted by the influenzal element. The field hospital of which I had charge was staffed with a few field ambulance bearers, so it was not at first thought possible to do more than treat the cases by oral quinine solution given after the sweating stage had appeared. Doses from 30 to 120 grains a day were given over a week or more with literally no apparent effect.

We therefore gave (both to old and to fresh cases) quinine bihydrochloride by intramuscular injection in doses varying from three to fifteen grains. Rough notes taken at the time showed sudden improvement in almost every case, sometimes amounting to abo tio n of the attack after one dose. The effect appeared to be proportional to the size of the dose. The fact that some of the cases were heavily "under" quinine appeared to make little difference; and although as a matter of routine most of the patients were kept on 45 grains daily by the mouth, a few control cases suggested that this might have been dispensed with.

In the cases where the pyrexia, though diminished, was not abolished, 7½ grains of the bihydrochloride intravenously in a single dose often brought the temperature to a steady normal in the most rapid and striking fashion.

The following case may be interesting as a type of some hundreds, many of which cases were seen by Colonel Willcox in consultation with me:

Sgt. M., R.A.S.C.—Malignant tertian and influenza. Paroxysms; 105° to 106°, with remissions to about 101°. Solution by mouth for three days. Maniacal delirium; haemolysis, jaundice. Gr. x intramuscularly, given daily in addition to oral. Range about 102° to 99°. No delirium. Profound anaemia. Jaundice improved. Parasites still present. This persisted for twelve days without change. On the twelfth day gr. vii intravenously were given and repeated on the thirteenth. Temperature fell to normal on the evening of the thirteenth day, and convalescence proceeded normally with two mild relapses aborted by gr. x intramuscularly. Oral quinine gr. xxx was continued for a month at the end of which no parasites were observed, and anaemia had vanished.

I have not drawn a distinction between the relapsing and malignant cases, as clinically (with the influenzal complication) they were almost identical, and the results of treatment were exactly the same, irrespective of the type of case.—I am, etc.,

Glasgow, Dec. 27th, 1919. O. H. MAVOR, Late acting Major R.A.M.C.

PREVENTION OF VENEREAL DISEASE.

SIR,—On reading the correspondence relating to the prevention of venereal disease I note the stress that is being laid by some correspondents on the moral side of the question—that is, whether prophylaxis is morally right or wrong. I fail to see that as medical men we have any concern with the moral aspect of the matter. That had much better be left to others.

The medical profession has at hand certain facts, which are:

1. That gonorrhoea and syphilis are caused by two micro-organisms.
2. That certain chemical agents destroy these organisms.
3. That both diseases cause a great deal of illness and suffering.

Therefore, according to the traditions and practice of medicine, use should be made of the first two facts to diminish the third.

Some individuals—possibly the great majority, possibly a very small minority—among those exposed to venereal infection may apply the prophylaxis improperly, either owing to carelessness or owing to other circumstances, and so lose its full benefit. We shall, however, have done our duty if we impart to the public the truth that science has imparted to us.—I am, etc.,

W. HERBERT BUTCHER, M.A.Oxon., L.R.C.P.Lond., M.R.C.S.Eng.

Wark-on-Tyne, Dec. 24th, 1919.

SIR,—In view of the present epidemic of conflicting letters on this matter, do you not think the following quotation (from what has been written but not yet published elsewhere) presents fairly what ought to be the medical attitude towards prevention?

"All medical men, too, should be ready and willing to advise on prevention, without troubling themselves about whether action should be taken before or after the risk has been run, or whether it may be right to act in an hour's time but not now, and such-like absurd futilities. They should simply *prevent*, however, whenever and wherever they can and dam the consequences."

N.B. Dam does *not* mean damn.—I am, etc.,

December 26th, 1919. ARTHUR COOPER.

SIR,—We are being invited to become the devil's panders by making immorality safe and—insult added to injury—the devil's proctors by proclaiming it inevitable. The way to the pit used in old days to be paved with good resolutions: it is now to be macadamized with prophylactic packets.

Let a *thinking* profession recognize that no upward step would ever have been taken by the human race if it had been generally assumed and proclaimed that the downward path was inevitable, and let an *honourable* profession refuse with deep disdain the ignominious rôle of "procuress to the lords of hell."—I am, etc.,

Streatham, Dec. 20th, 1919. M.A., M.D.CANTAB.

THE R.A.M.C. AS A CAREER.

SIR,—I notice in the JOURNAL of December 20th a letter which, I presume, is intended to be an answer to mine of November 22nd.

It is obvious that the writer, who gives no clue to his own identity, is quite aware of mine, which, of course, I have no wish to disguise, but he appears to have overlooked the fact that "The R.A.M.C. as a Career" was supposed to be the subject under discussion and not the merits or demerits of my humble self.

Apparently I labour under the great misfortune of not being a *persona grata* to this anonymous correspondent, who, I fear, will not have the courage to come out of his shell and so give one the fair opportunity of replying in detail to a letter which is so irrelevant that it can only be concluded that its writing was prompted by personal "spleen."—I am, etc.,

Cardiff, Dec. 27th, 1919. W. M. S.

THE DISTRESS IN VIENNA.

SIR,—Many medical men who have studied or taken out post-graduate courses in Vienna in pre-war days, will have read of the present distress in that city with much regret. Though we may be very angry with Austria for commencing the war, and though we may be strongly opposed to the action of pro-German socialists and radicals in this country, I think most of us will desire to do something, however little it may be, to help to alleviate the distress of the city, where so many of us spent such happy days thirty years ago or more recently. The opportunity to help is given this week through the special appeals made in the newspapers and by the various churches.—I am, etc.,

December 29th, 1919. R. T. W.

THE ORDER OF ST. JOHN.

WE have received the following letter of inquiry:

"SIR,—I read with much interest your leading article on Red Cross work in peace. I have been connected with the educational problem with regard to first aid and home nursing for many years. I think your suggestion to have a report of the aims and objects of the two societies—the Red Cross and St. John Ambulance Association—an excellent one. As I am under the impression that the St. John Association is granting orders and decorations for work done for that society, could you inform me under what conditions these honours are given? Is there any truth in the report that payment has to be made for them?—I am, etc.,

December 19th, 1919. ONE INTERESTED."

We find that the Order of St. John was revived by the Knights of Malta after the fall of Napoleon and the restoration of the Bourbons in 1814. They obtained a Pontifical bull, which was issued by Pope Pius VII on August 10th, 1814. Through the exertions of Sir Robert Peat, D.D., Chaplain Extraordinary to George IV, the English *langue* was revived under the provisions of a statute of the 4th and 5th of Philip and Mary. The present order of St. John received a charter from Queen Victoria on May 14th, 1888, incorporating it under the style and title "The Grand Priory of the Order of the Hospital of St. John of Jerusalem in England." The St. John Ambulance Brigade had come into existence in 1877.

The various grades in the "Grand Priory of the Order of the Hospital of St. John of Jerusalem in England" are:

1. Knight of Justice.
2. Lady of Justice.
3. Chaplain.
4. Knight of Grace.
5. Lady of Grace.
6. Esquire.
7. Honorary Serving Brother.
8. Honorary Serving Sister.
9. Honorary Associate.

Honorary Associates, it would appear, are not necessarily members of the Order, but, like the members, are under the government and control of the Order, which is vested in the Chapter. This consists of the Knights of Justice, the Prelate and Sub-Prelates, certain selected members, and the executive officers (*ex officio*). The Charter lays it down that membership of the Order cannot be obtained by the mere fact of money contributions and subscriptions to hospitals or charitable work. Nor can membership be purchased by a mere monetary payment. The rules of the Order, we understand, require members down to and including the grade of Esquire to pay an entrance fee (called foundation payment) and an annual subscription (called annual oblation) as follows:

	Foundation Payment.	Annual Oblation
	£	£
Knight of Justice	30	5
Chaplain	15	2
Lady of Justice	20*	3
Knight of Grace	20	3
Lady of Grace	15*	2
Esquire	5	2

* Reduced in the case of a wife, sister, or daughter of a Knight.
Neither admission fees nor annual subscriptions are paid by lower grades.

There are, we believe, other higher grades open only to Knights of Justice. Every member and honorary associate is required to make the following solemn declaration:

That I will ever be faithful and obedient to the Order so far as is consistent with my duty to my Sovereign and Country, doing everything in my power to contribute to its glory, prosperity, and utility; that I will combat everything prejudicial to its wellbeing; that I will never act contrary to its dignity, but that I will conduct myself always as a good Christian and a man (woman) of honour.

An application for the various grades in the Order is, in the first instance, submitted to the Finance and General Purposes Committee and then to the Council and Chapter, after which it is submitted to the Grand Prior, H.R.H. the Duke of Connaught, for approval. The name is then balloted at the next chapter. The next stage is that the name is brought again before the Grand Prior for submission to the King for final sanction.

Members of the Order wear a badge suspended from a black watered riband, but the election to any of the grades of the Order or the privilege of wearing any of the badges is not to be deemed or construed to confer any rank, style, title, dignity, or appellation or social precedence whatever.

The objects of the Order are the encouragement of works of humanity and charity, aid to the sick poor, study of the needs of the poor in time of sickness, aid to the sick and wounded in war, and maintenance of the St. John Ambulance Association, the objects of which are instruction in first aid and in the elementary principles of nursing and hygiene, the manufacture and distribution by sale or gift of ambulance material, the formation of ambulance dépôts in centres of industry and traffic, and the organization of ambulance corps, invalid transport corps, and nursing corps.

A short article describing the circumstances attending the revival of the Order was published in our columns five years ago. A good account of the origin of the first hospital of St. John at Jerusalem is given in *The Military Religious Orders of the Middle Ages* (by F. C. Woodhouse, M.A.), one of the Home Library Series of the Society for Promoting Christian Knowledge. The present Order of St. John has retained from mediaeval times, in a modified form, the religious qualification required from candidates who aspire to be admitted to the various grades in the Order. One consequence would appear to be that subjects of the Crown who are not within the religious limitation laid down by the Order are not admissible, so that Unitarians, Mahommedans, and members of other religious communities within the Empire, are not eligible for admission to the Order.

So far as we are aware, the St. John is the only one of the eighteen Orders of Chivalry of the United Kingdom which retains a restriction on the ground of religion and requires payment of certain admission and annual fees.

Obituary.

SIR WILLIAM OSLER, BT., M.D., F.R.S., F.R.C.P.,

Regius Professor of Medicine in the University of Oxford.

THE death of Sir William Osler on December 29th—within six months of the celebration of his 70th birthday—has caused a deep sense of personal sorrow throughout the medical profession of two continents. He had been ill for more than two months, but the end came quickly.

William Osler was the sixth son of the Rev. Featherstone Lake Osler and Ellen Free, daughter of Thomas Pickton, of London. One of his brothers is Sir E. B. Osler, a member of the Dominion House of Commons and a director of the Canadian Pacific Railway, and another is Judge Osler, who was a justice of appeal, Ontario. The Oslers were a Falmouth family, shipowners and merchants, and the father was born there in 1803. Subsequently he went to Canada as a missionary, and eventually became Rector of Ancaster and Dundas, Ontario (1857–93).

Early Days.

William Osler was born at Bond Head, Ontario, on July 12th, 1849. He told us in his address on Sir Thomas Browne that it was his good fortune as a boy to come under the influence of a parish priest of the Gilbert White type, who followed the seasons of nature no less ardently than those of the Church, and whose excursions into science brought him into contact with physic and physicians. Father Johnson, as his friends loved to call him, founder and Warden of the Trinity College School, Weston, near Toronto, illustrated that angelical conjunction of medicine and divinity more common in the sixteenth century than in the nineteenth. It was he who first introduced William Osler to the *Religio Medici*, a copy of which acquired then, the second book he ever bought, was always the most precious in his library. From it came subtle influences which gave stability to character and helped to a sane outlook in the complex problems of life. The thoughts of Browne, and those also of Marcus Aurelius and Epictetus grew to be his thoughts; conscientious devotion to duty and deep human interest in human beings became his master thoughts thus early in life. William Arthur Johnson was one of the three teachers—Dr. James Bovell of Toronto and Dr. Palmer Howard of Montreal being the other two—to whom he dedicated his *Principles and Practice of Medicine*, and to whom he owed his success in life, if success means getting what you want and being satisfied with it. From school he went to Trinity College School of Medicine, and in 1870 to McGill University, Montreal, where he graduated in 1872.

In the summer of 1872, after a short tour—Dublin, Glasgow, and Edinburgh—he settled at the Physiological Laboratory, University College, with Professor Burdon-Sanderson, where he spent fifteen months working at histology and physiology. At the hospital he saw in full swing the "admirable" English system, with the ward work done by the student himself the essential feature, and though not a regular student of the hospital he had many opportunities of seeing William Jenner and Wilson Fox, and his notebooks contained many precepts of these "model clinicians." From Ringer, Bastian, and Tilbury Fox he learnt how attractive out-patient teaching could be made—Ringer he always felt had missed his generation, and suffered from living in advance of it. The autumn of 1873 was spent in Berlin, where he had his first introduction to the medical clinic on a large scale, on which he was to model his own clinic at Johns Hopkins Hospital. There he studied under Frerichs, Hoffmann, Riess, Ewald, and Traube. The last named made a great impression on him as an ideal physiological clinician. The first five months of 1874 were spent in Vienna in the clinics of Hebra, Bamberger, and Widerhoffer. In Bamberger he found another ideal clinician.

Montreal.

When he returned to Montreal in September, 1874, the Chair of the Institutes of Medicine was vacant, and he found that the Faculty had, with some hardihood, appointed him, a young and untried man, to it, instead of to the demonstratorship as he hoped. With the appointment he had the "ghastly task" of delivering four systematic lectures a week for the winter session, and from this period dated his ingrained hostility to this type of teaching. His colleagues at the Montreal General Hospital placed the *post-mortem* department at his disposal, and pathology became his chief interest. He then began that extensive experience of this subject which formed the basis of his future successful career as a physician and teacher. He was appointed physician to the small-pox wards of the Montreal General Hospital in 1875, and in 1878 honorary physician to the hospital. On the day of his election he left for London to take the Membership of the Royal College of Physicians and to work at clinical medicine. For three months he had a delightful clinical experience, attending the ward visits of several London physicians. Murchison he described as a model bedside teacher, Gee as one in whom were combined the spirit of Hippocrates and the method of Sydenham. Fred. Roberts showed how physical diagnosis could be taught. In the summer of 1879 he had his own first clinical class, working with his students through Gee's *Auscultation and Percussion*. The next five years passed in teaching physiology and pathology in the winter session and clinical medicine in the summer. In 1884 he spent four months in Germany, chiefly at Leipzig, working at pathology with Weigert and clinical medicine with Wagner.

Philadelphia.

His reputation as an inspiring, keen, and successful teacher, his character as a man, his attracting personality, and his enthusiasm for hard work, were known and appreciated far beyond Montreal, and after ten years there he was, in 1884, appointed to the chair of clinical medicine in the University of Pennsylvania, Philadelphia, then the premier medical school in the States, in succession to Dr. William Pepper. The invitation to the chair reached him whilst he was in Leipzig, and he treated it first as a practical joke, one in retaliation for similar efforts on his own part, and for a time did not reply. It was, however, serious enough, and he accepted it, leaving Montreal "a rich man, not in worldly goods, for such I have the misfortune—or the good fortune—lightly to esteem, but rich in the goods which neither rust nor moth have been able to corrupt—friendship, good fellowship, wider experience, and fuller knowledge."

Johns Hopkins.

At Philadelphia, as everywhere, teaching work was his first care, and hospitals and medical societies absorbed the greater part of his time; he lived the peaceful life of a student with students, who were the inspiration of his life and of his work. The teaching there was by lectures and the theatre clinic. Ward classes for physical diagnosis were held, but clinical clerks were unknown, and theoretical lectures occupied a large share of the student's time. Osler broke new ground there by starting a small clinical laboratory. After five years at Philadelphia he was elected to the chair of the Principles and Practice of Medicine in the Johns Hopkins University, Baltimore, and physician to the Johns Hopkins Hospital. That hospital was by the will of the founder to form part of the Medical School, and be an institution for the study as well as the cure of disease. Osler had been appointed early enough to take part in the organization of the clinical work and teaching, and thus had a leading share in establishing, for the first time in an English-speaking country, a hospital embodying the principle of hospital units, each in charge of a director. The day after he accepted office he met Dr. Gilman, President of the Johns Hopkins University, at the Fifth Avenue Hotel, New York, so that they could study the management of the hotel, there being, in Dr. Gilman's opinion, no great difference between the general management of a hotel and a hospital. They found that each department of the hotel had a responsible head, and over all a director; on this plan were modelled the arrangement and management of the hospital units. The university had not sufficient funds to open a medical school at the time, and so for several years post-graduate teaching alone was conducted there. Osler thought this a fortunate circumstance, for it gave time to complete its organization. There was nothing in his life in which he took greater pride than his connexion with the organization of the hospital, and with the introduction of English methods of practical instruction. He desired no other epitaph than the statement that he taught medical students in the wards. He firmly believed in the value to a university of the publication, even at a

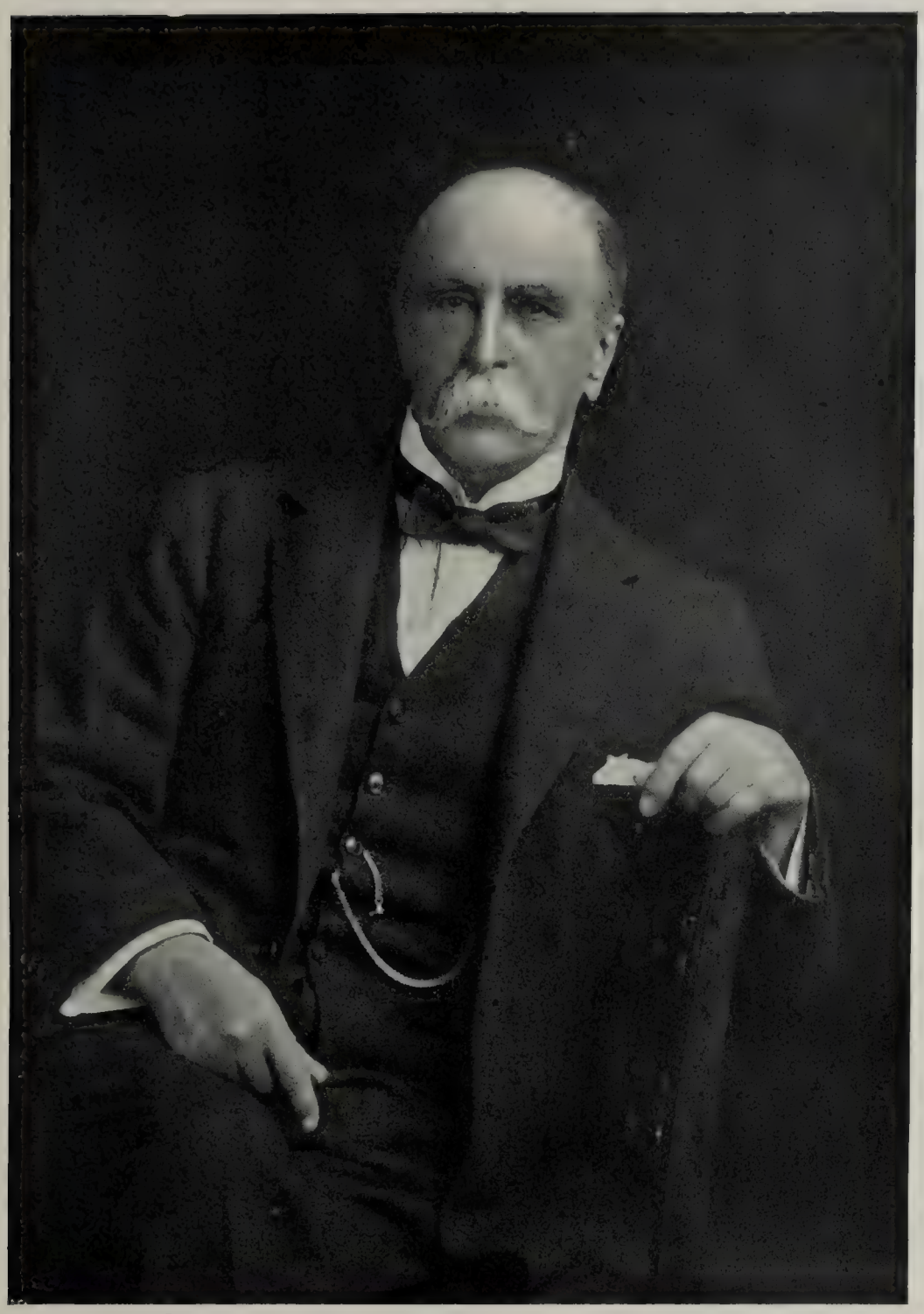


Photo. Elliott and Fry.

monetary loss to it, of original work carried out in its schools, and he used to say that the Johns Hopkins *Reports* and *Bulletin*, issued in connexion with its medical school, had amply repaid the university for the money and trouble expended on them. When he went to Johns Hopkins his ambition was to build up a great clinic where the professor should have an organized body of assistants and house-physicians, and where the student should be taught not by didactic lectures, but in the wards and the laboratory.

Influence on Medical Education.

He was never a whole-time professor, and even in 1914 he was not in favour of the whole-time clinical teacher, because his life had been largely spent in association with his professional brethren, participating in the many interests they had in common. At the same time he confessed that he mistrusted his own judgement on this point, as it was a problem for young men and for the future.

He described his own method of conducting clinical teaching before the Abernethian Society, St. Bartholomew's Hospital, in 1913. The detailed ramifications of his teaching are remarkable. An essential feature of it was that students were set tasks of seeking information on any point of interest that cropped up in the class, the teacher telling them in what books to look for it, and they had to report to the class at a subsequent meeting.

Osler was an excellent clinical observer, and he attributed most of his success in this to his thorough grounding in the results of disease which he gained as pathologist at Montreal. He did a great deal of original work himself, and he had the happy faculty of inspiring others with his own enthusiasm for original investigation, and his charming personality and manner attached to him in the course of his life hundreds of young men who thought it a great honour and gain to them to be allowed to work for or with him. He always gave proper credit for work done by others, whenever and wherever it was due, and never forgot his assistants.

He had three ideals: "To do the day's work well and not bother about to-morrow; to act on the Golden Rule towards his professional brethren and patients; and to cultivate a measure of equanimity to enable him to bear success with humility, affection of friends without pride, and to be ready when the day of sorrow and grief came to meet it with courage befitting a man." The first of these ideals he elaborated in his address to Yale students, 1913, and published in small pocket-book form as *A Way of Life*.

Oxford.

When Sir John Burdon-Sanderson, the Regius Professor of Medicine at Oxford, resigned in 1904 the graduates of the University met and expressed the opinion that the new occupant of the chair should be a physician representative of medicine in its widest sense. Dr. Burdon Sanderson had previously been Waynflete Professor of Physiology and apparently could not be described in the terms of the graduates' resolution, and when finally Dr. Osler accepted the chair (1905) it was universally agreed that Oxford had obtained such a man as it hoped for. It may be noted here that he had been elected a Fellow of the Royal College of Physicians in 1883 and a Fellow of the Royal Society in 1898.

The reasons why he gave up work into which he entered heart and soul were given by himself subsequently (BRITISH MEDICAL JOURNAL, January 3rd, 1914, p. 16):

> I know how hard it is "to serve God and Mammon," to try to do one's duty as a teacher and to live up to the responsibility of a large department, and at the same time to meet the outside demands of your brethren and of the public. And if added to this you have an active interest in medical societies, and in the multifarious local and general problems, the breaking-point may be reached. I had had thirty-one years of uninterrupted hard work. William Pepper, my predecessor in Philadelphia, died of angina at 55; John Musser, my successor, of the same disease at 53! After listening to my story you may wonder how it was possible to leave a place so gratifying to the ambitions of any clinical teacher: I had had a good innings and was glad to get away without a serious breakdown.

For the following estimate of Sir William Osler's influence in Oxford we are indebted to Dr. CHARLES SINGER:

"Perhaps only those who have known the medical school at Oxford both before and after Osler's arrival can estimate fully the change wrought by his personality, not only in the mechanism, but in the whole spirit. Among Osler's predecessors in the chair at Oxford have been men of the very highest scientific distinction, but few or none had that kind of knowledge which comes of a long life of clinical teaching and of a wide experience of a variety of medical schools. This was Osler's special asset, and it was associated in him with actual scientific attainments and humanistic sympathies that have probably not been found in combination to a like degree in any one medical teacher since the days of Boerhaave.

"When Osler first came to Oxford medicine was indeed recognized by the university both by reason of the antiquity of the endowments that existed to promote it and because it was generally allowed to be a part of the *organon* of knowledge. But the school was exiguous in dimensions and in many ways cut off from other departments of university activity. There was thus very little temptation to select Oxford in preference to other medical schools, and a large proportion of its students—and these among the most gifted—were men who came to medicine not as a first choice but after having completed a course in some other faculty. Excellent work was done in Oxford in those days under the most difficult conditions, but it is no injustice to a bygone system to say that in the nature of the case it could attract only the few.

"With the advent of Osler all this was changed. First, his own manifold attainments provided a natural link with other departments. His enthusiasm for learning was, from his first settling in Oxford until his last public utterance, exerted in the direction of bringing the great resources of medical history, in the widest sense, into relation with the general cultural stream. This movement, he clearly saw, could not fail to react on the status and attainments of medical men as a whole. He had himself been the witness of so many changes in the practice of medicine, and his own thoughts and education had been so deeply tinged with the reflections of the past, that it was natural, in the eventide of his life, that he should turn so largely to tempering visions of what might be with musings on what had been. This extraordinary range of intellectual interests it was that chiefly marked him out and gave him his supreme quality—judgement. It is for the degree to which he possessed this quality, rather than as a pioneer or investigator, that posterity will remember him, as it remembers his great prototype Boerhaave. Not that either of these men lacked scientific powers or failed of scientific achievement. But it was their power of judgement, drawn, on the one hand, from great stores of experience and, on the other hand, from great powers of vision, that gave them their quality as teachers and as inspirers of others, and their insight as physicians. It was certainly this that was the primary source of Osler's influence at Oxford.

"As soon as Osler came to Oxford he recognized the need of bringing the academic teaching of medicine there more fully into touch with the realities of practice. He not only threw all his weight into the adequate development of the departments of pathology and physiology, but he immediately discerned the need and the possibility of an extension there of clinical teaching. He saw that Oxford, a town of between 50,000 and 60,000 inhabitants, could not be a very great clinical school, but he knew from practical experience the special value that an academic atmosphere may give to clinical instruction and the value also that comes from an intensive study of material—a method either difficult or impossible in many busier centres. He thus succeeded in linking up scientific investigation and clinical experience. Nor will this method disappear with his direct influence, for he has inspired and left behind him a number of younger and distinguished exponents who will carry on his tradition.

"Osler was gifted with those peculiar qualities of heart as well as of head that made it always seem to those in his company that their own interests were his also; but the seeming was something more than a mere appearance—it was a reality. It may have seemed that in his later years his interests moved predominantly in the direction of literary and historical pursuits. This element in his character was, however, a new thing, and was a development that comes to many as experience grows in richness and variety. It arose in him, at least, from none of that failure of the forward looking power that goes with age, but rather from something that is almost its opposite. He seemed to have a great sense of continuity, and this

gave rise, on the one hand, to his love of antiquity, especially as expressed in the historical method, and, on the other hand, to his love of young people, and his constant desire to have active and moving minds around him. He was no mere antiquarian. It was the living past that appealed to him, the past that he traced in the present and foresaw in the future. For such a spirit Oxford was an ideal home: Oxford with its inexhaustible store of ancient memories and its young and progressive medical school, Oxford with the researches of its scholars and its scientists going on endlessly side by side. Into the heart of this complex place Osler did not creep but leapt, and became at once a part and parcel of it, influenced by it and loving it, but never losing his own rich and complex personality that had been moulded by other forces of which, as yet, Oxford knew but little.

"And so it came about that he retained in Oxford just those powers of making his surroundings react to him that had been discerned in him in other and less conservative environment. This was the secret of his power, and this it was which enabled him to raise the Medical School at Oxford to the position that it now occupies."

Mr. R. W. CHAPMAN, assistant secretary of the Clarendon Press, tells us that Sir William Osler became a Delegate of the Oxford University Press in 1905, and was recently made a Perpetual Delegate in the room of Dr. Sanday. "His immense knowledge," Mr. Chapman continues, "and great influence, his antiquarian tastes and bibliographical lore, made his help and counsel of great value to an institution which has its roots in the past and claims its place in the forefront of modern research. Osler's name will always be connected with the *Quarterly Journal of Medicine*, the publication of which by the University Press was due to his initiative. It is not so well known how much the series of Oxford Medical Publications, which began during his tenure of office, owed to his constant care and wise direction. The Press has in preparation *A Physician's Anthology*, a collection of verse made by some of his friends in his honour. All who are connected with the Press deplore that what was designed as a gift can now be no more than a memorial. His loss will be felt as a real blow, the more so as it follows immediately on the untimely death of Mr. Charles Cannan, who, as Secretary to the Delegates, had worked with Osler for many years."

Writings.

No attempt could be made here to enumerate his many writings, beginning in 1872 with reports in the *Canadian Medical and Surgical Journal* of cases in the wards of the Montreal General Hospital. The bibliography given in the July number of the *Johns Hopkins Hospital Bulletin*, which celebrated his 70th birthday, contained 730 titles of books and articles by him during the forty-nine years 1870–1919. His chief book, *The Principles and Practice of Medicine*, made its first appearance in 1892, and at once had an enormous success not only with students but with medical men in all English-speaking countries. Many editions were called for, and each was carefully revised to keep it abreast of the progress of knowledge. An eighth edition appeared in 1916. He was the editor, with Dr. Thomas McCrae, of a *System of Medicine* in several volumes. In 1889 he wrote on the cerebral palsies of children, and in 1897 on angina pectoris and allied states. In addition to his very numerous writings on clinical and pathological subjects, he from time to time delighted the profession by an address on some subject in the borderland of medicine and literature or science. In one of these he urged the student to allot a portion of each day to books not connected with medicine. "Before going to sleep read for half an hour, and in the morning have a book on your dressing table. You will be surprised to find how much can be accomplished in the course of a year." He himself found recreation in biography, and had a strong conviction of its value in education. He often chose a biography for the subject of an address, and a series were collected in the volume entitled the *Alabama Student and other Biographical Essays*, published in 1908. The subjects chosen for the biographies in this volume were nearly all medical men: John Keats, the apothecary poet, John Lock as a physician, Oliver Wendell Holmes, Sir Thomas Browne. Those who knew the boyish side of Osler's nature can realize the zest with which he hunted out the story of the buccaneering expedition in which Thomas Dover, physician and buccaneer, was third in command, an expedition which found Robinson Crusoe in 1710, and finally realized the enormous sum of £170,000. Osler's love of history came out even in his *Principles and Practice of Medicine*, where he gave an account of the origin and growth of knowledge of the various diseases, and mentioned the men who had pieced it together. Perhaps of his occasional addresses that which best revealed his learning and sense of fun was that on "The Old Humanities and the New Science," which he delivered to a meeting of the Classical Association at Oxford in May, 1919. Its publication in our columns on July 5th, 1919, gave great and abiding pleasure to thousands of readers.

Osler loved the society of young people, and knew well how to gain their confidence. His cheery optimism appealed to them, and when he visited a large hospital he delighted to get into the common room and chat about anything and everything—and there were few matters about which Osler did not know something. He would confess that he found this association with young men very helpful to a teacher, and that he believed that it not only enabled him to understand their ideas and difficulties, but kept the teacher himself from stereotyping his mind. He was, when the subject needed it, an impressive speaker, but his lighter utterances and after-dinner speeches were full of humour, wit, and broad fun.

Honours.

He received many honours. He was made a baronet at the time of the coronation of King George V; he was honorary professor of medicine in Johns Hopkins University; he received the honorary degree of D.Sc. from the universities of Oxford, Cambridge, Dublin, Liverpool, and Leeds, that of LL.D. from the universities of McGill, Toronto, Aberdeen, Edinburgh, Yale, Harvard, and Johns Hopkins, and the D.C.L. from the universities of Durham and Trinity, Toronto. He was a foreign associate of the Academy of Medicine, Paris, and received the honorary degree of M.D. from the university of Christiania. On July 11th, 1919—the day before his 70th birthday—he was presented, in the name of a large number of subscribers, with a collection of essays in two volumes, written by some 150 representative members of the profession on both sides of the Atlantic. The presentation was made by his "brother of Cambridge," who said that the occasion was one anniversary of many years of supreme service in two kindred nations and for the world. "But while thus," Sir Clifford Allbutt continued, "we celebrate your leadership in the relief of sickness and adversity, we are far from forgetting the sunnier theme—the debt, none the less, which we owe to you in other fields of thought. In you we see the fruitfulness of the marriage of science and letters, and the long inheritance of a culture which, amid the manifold forms of life, and through many a winter and summer, has survived to inspire and adorn a civilization which so lately has narrowly escaped the fury of the barbarian." In a moving reply, Sir William Osler spoke of himself "loving our profession and believing ardently in its future; I have been content to live in it and for it," and added characteristically, "Nothing in my career has moved me more, pleased me more, than to have received letters from men at a distance; men I have never seen in the flesh, who have written to me as a friend."

Sir William Osler married in 1892 the eldest daughter of the late John Revere of Massachusetts, and great grand-daughter of Paul Revere. Their only child, a son, who was born in 1896, died in France, 1917, from wounds received in battle.

The Last Years.

To Dr. ARTHUR THOMSON, Professor of Human Anatomy at Oxford, we are indebted for the following note of Osler's life and influence in Oxford, and of his death:

"In 1905 Osler came to Oxford with a great reputation. That he has lived up to it, and given us of his best, is attested by the affection which his memory invokes. After the strenuous hustle of American life, the rest and calm of Oxford appealed to him. It is pleasant to know that the years spent here were amongst the happiest of his life. The surroundings were such as he delighted in, the society

was congenial, and the duties of his office, not overburdensome, were such as to give him ample scope for his activities, and free play for his broad outlook on life.

"Gifted with a remarkable memory, and equipped with an almost limitless experience, he never seemed to forget anything he had either seen or read. He had a marvellous power of marshalling facts and getting at the essentials. Quick to realize the ever-changing needs of the times, he was always in the forefront of progress. There was a brightness and sparkle about his views which won approval and disarmed opposition. At a meeting, whenever Osler was in the chair, the proceedings were never dull, and business was usually expeditiously transacted. He had clear views as to what he wanted, and generally got his way, and, be it here recorded, his way was usually the best way.

"Of a nature most generous and kind, he was ever mindful of the trials and sorrows of others. Many will there be this day who remember with loving affection the comforting words with which he soothed their sore tried hearts. To those engaged in the struggle of life he was full of encouragement, wise counsel, and often substantial aid. Even of the failures in life he had always something good to say. With qualities such as these can it be wondered at that he endeared himself to all who were fortunate enough to be of his acquaintance. We in Oxford know it, and now cherish the memory of his sympathetic personality.

"His delight was in books; he was never happier than when showing some recently acquired treasure. Much of his leisure was spent in the Bodleian, of which he was a curator, and his expert advice was of invaluable service to the Delegates of the Clarendon Press.

"By virtue of his office he was Master of the quaint old almshouses at Ewelme, Oxfordshire. Nothing gave him greater pleasure than to whisk off by motor car a party of American visitors, there possibly for the first time, to introduce them to the beauties of this most picturesque of English villages; it remains as a lasting memory to many who were privileged to make the visit.

"Of his work in the Medical School what need be said that is not known? He cheered us by his breezy presence, and left us all the heartier with some quaint quip or jest. None the less, he was alert and observant, and oftentimes we benefited by some shrewd remark or friendly criticism. It was around the Radcliffe Infirmary that his activities mainly centred; he was largely instrumental in getting the new Clinical Laboratory built there, and much of his time was devoted to the introduction of appropriate clinics in that institution.

"The war told badly on Sir William. Like many others, he lost his only son; it hit him hard, but he never winced. As he said to me, 'Ours is a common sorrow; we must think of others as well as ourselves.' In consequence he immersed himself in duties innumerable, particularly in connexion with the hospitals under Canadian and American control. He was always responsive to the appeal of friends from abroad who were anxious to obtain news of their wounded sons. This often entailed long and tedious journeys, and the strain told on him; he was a worn and tired man.

"When peace came, bringing with it the brighter outlook, he began to pick up; and when, this autumn, he returned from a holiday in the Channel Islands, he was a new man, with all the old vitality back again; for it appears that under the genial influence of the Jersey climate, with boyish glee, he had been indulging in all sorts of acrobatic performances, such as standing on his head and turning cartwheels on the sands—wonderful feats for a man of 70. Accordingly we were all buoyed up by the hope that our Regius had still many years of active life before him.

"Called in consultation to Glasgow, he was caught by the railway strike; he managed to get as far south as Newcastle, and there he was held up. Anxious to get home, he undertook the long motor journey to Oxford. He arrived a sick man, and, despite the care and attention of those who tended him so lovingly and long, he passed away with the fading light on the afternoon of December 29th. 'Gone west' as he would have wished, for he often talked of the land of his birth and adoption."

Sir William Osler was a student (fellow) of Christ Church, and the funeral service was to be held at Christ Church Cathedral on the afternoon of New Year's day.

CHARLES LOUIS TAYLOR.

Formerly Assistant Editor of the BRITISH MEDICAL JOURNAL.

IT was a sad group that assembled at St. Mary's, Kensal Green, on the morning of Christmas Eve, when Charles Louis Taylor—who was for over thirty years on the staff of the BRITISH MEDICAL JOURNAL, and for twenty years Assistant Editor—was laid to rest. He died on Sunday, December 21st, aged 70.

He was the only child of Dr. Charles Taylor, of Peterhead, Aberdeenshire, who died at the age of 24 of cholera contracted when attending victims of the epidemic in the neighbouring village of Boddam. His widow went with her infant son to reside in France, and he first went to school at Noyon. At the age of 6, speaking only French, he returned to Scotland, and was sent as a pupil to the Reverend Dr. Kemp at Dufftown. At the age of 11 he was promoted to Blairs' College, Aberdeen, and during his four years there received a thorough grounding in the classics. He was transferred in 1864 to the Scots College, Valladolid, where he remained four or five years. He would sometimes speak of his experiences there—the rigid discipline, homely fare, and the continuous study of ancient learning, Latin being the colloquial language. It was during this period, however, that his acquaintance with English literature, which eventually became wide and deep, began. Finding that he had no vocation for the priesthood, he returned to this country with the intention of entering the Indian Civil Service, but when he applied was a few months over age. After a few years, during which he spent much time in France reviving his knowledge of French, he determined to follow his father's profession and entered the medical school of University College, London, in October, 1873. He was a good student, reserved, but greatly liked by his few intimates, as well as by those members of the staff who got to know him. He passed through the whole curriculum with credit, and held the usual students' appointments, but could never be induced to sit for an examination and never qualified. He acted as house surgeon to Mr. Berkeley Hill at University College Hospital for four or five months and held several other temporary appointments there. His upbringing had given him a colloquial command of French, Spanish, and Latin; he had a working knowledge of Greek, Italian, and Portuguese, and later on taught himself to read German. These linguistic attainments were to serve him well.

In 1880 he became secretary to Sir Morell Mackenzie, who had just published the first volume of his *Manual of Diseases of the Nose and Throat*. Taylor gave him much assistance in the preparation of the second volume, which was acknowledged in the preface, where the author expressed his "deep obligations to Mr. C. L. Taylor for his invaluable help." The second volume was not published until 1884; it is still, we believe, highly esteemed by laryngologists, and Taylor's share in giving to it the qualities as a book of reference which have caused it to survive was large.

Louis Taylor joined the editorial staff of the BRITISH MEDICAL JOURNAL in 1886, and became Assistant Editor in 1897, retaining that position until 1917, when ill health compelled him to resign. Thus for over thirty years he served the BRITISH MEDICAL JOURNAL, accepting increasing responsibilities, and faithfully fulfilling all obligations with unremitting diligence. A great deal of the work, as is inevitable in an editorial office, was of a routine kind, but his vigilance never slept, and from how many pitfalls, for the careless or unskilled, contributors were saved, few of them were aware. It was characteristic of him to detect an error in a name or title, or, with much expenditure of time and patience, to track down a wrong reference, and yet to content himself with an inquiry, half humorous, half sad, as to the reason why scientific writers were so prone to the sin of misquotation. Should, however, an error creep in—and this may happen even with the most vigilant of editorial staffs—he would acknowledge it with his customary good humour, and, in correcting it, perchance have a quiet dig at that chief of offenders, the printer's devil. In course of time he made himself a master of certain subjects which were recurring causes of public controversy. For example, he studied the literature of vaccination and grew familiar alike with every step by which Edward Jenner established his discovery, and with every phase of the controversy provoked by its modern opponents. One result of his

researches was seen in the Jenner Centenary Number of the BRITISH MEDICAL JOURNAL, published in 1896. He also followed closely and systematically the activities of the antivivisectionists, and was ever ready to meet their champions with facts and arguments. Here again his accurate habit of mind and a style which could be both polite and caustic served him well. Satire, and ridicule if necessary, were among the weapons he employed to confound his antagonists, and more than one "anti" this or "anti" that has been reduced to silence as his weapon found its mark. Later on he studied "Christian Science," and could have stood a cross-examination on the writings of Mrs. Eddy. He had the forensic faculty of getting up a case, combined with the power of retaining the story in memory and of reconstructing it in detail at short notice.

In the early days of his connexion with the BRITISH MEDICAL JOURNAL he did a certain amount of literary work in other directions. Thus, he assisted the late Mr. Marcus Beck in producing the ninth edition of Erichsen's *Science and Art of Surgery* in 1888; again, when the tenth edition was published in 1895, under the editorship of Mr. Raymond Johnson, his assistance was called in, and on both occasions its value was mentioned in the preface. He also helped in the translation of Gruber's textbook of *Diseases of the Ear* by Dr. Edward Law, who made a suitable acknowledgement in the preface. He was also for a time a frequent contributor to *Truth*, but his interest lay rather in historical research than topical discussion. His liking for biography made him accept with alacrity a request to edit a set of biographies with the general title, *Masters of Medicine*, planned by the late Mr. Ernest Hart. Eight volumes were published, and one on Vesalius by Taylor was announced. The series, however, was discontinued, and the book, preparations for which had occupied much leisure time, was never written.

After his appointment to be Assistant Editor he seldom wrote except for these pages. The interest shown in some of his casual notes on historical subjects led him to suggest the establishment of the series of articles which, under the general heading "Nova et Vetera," appeared at short intervals for many years. That they were much appreciated by many readers there was ample evidence. Taylor did not write them all, but he wrote the majority. Though he never signed his name the authorship became known to some of those interested in the history of medicine, and a few years ago, on the proposal of Sir William Osler, he was elected an honorary Member of the Section of the History of Medicine of the Royal Society of Medicine. He appreciated the courtesy but did not make much use of the opportunities it afforded. His close friend the late Lord Ilkeston persuaded him to join the Reform Club, but he did not long retain his membership. This might at first seem strange; with his genial manner and fund of anecdote he might have been considered the ideal clubman. He, however, was happiest when among his books in his "den," and, above all, in his home life. Public and official functions had no attractions for him.

During the illness of the Editor, consequent on an accident in July, 1910, Mr. Taylor was responsible for the conduct of the JOURNAL during the next four or five months, which included the Annual Meeting in London that year. Amidst the pressure of other duties he found time to edit the Guide Book issued in connexion with that meeting. For this he received the thanks of the Association.

His leaning to the study of the history of medicine found an outlet in several special issues of the BRITISH MEDICAL JOURNAL, in particular in the Jubilee Number published in 1897 on the occasion of the sixtieth anniversary of Queen Victoria's reign.

Though not of robust constitution—he had intermittent glycosuria for many years—he enjoyed good general health until between six and seven years ago, when he began to suffer from symptoms which, becoming suddenly exacerbated, necessitated an abdominal operation performed by his old fellow student, Mr. Bilton Pollard. Recovery was slow, but he was eventually able to return to his post for several years. Increasing infirmities compelled him to tender his resignation, which took effect in March, 1917. Since then he had lived in retirement. His last illness, due apparently to glycosuria, began about six weeks before his death.

Mr. Taylor was a man of genial and kindly temperament which endeared him to all those with whom he worked. He was a loyal colleague, and his fund of knowledge of the past and present of medicine which he was always ready to produce in conversation made him an interesting and stimulating companion. He will long be held in kindly remembrance at the office of the Association.

Mr. Taylor married in 1882 the daughter of Mr. James Goodman of Bletchley. He is survived by his widow, two daughters, and his son, Dr. C. J. G. Taylor of Nuneaton, who served throughout the war as Surgeon R.N.V.R.

Universities and Colleges.

UNIVERSITY OF SHEFFIELD.

CLINICAL DEMONSTRATIONS.

THE Faculty of Medicine has arranged for a series of clinical demonstrations on special subjects to be given at the Royal Hospital, West Street, during the next three months of the winter session, as follows:

Mondays at 3.30 p.m.: *X* rays in Diagnosis and Treatment, Dr. W. H. Nutt.

Tuesdays and Fridays at 4 p.m.: Diseases of the Eye, Dr. P. J. Hay.

Wednesdays at 3.30 p.m.: Diseases of the Ear, Nose, and Throat, Dr. G. Wilkinson.

Thursdays at 3.30 p.m.: Diseases of the Skin, Dr. E. F. Skinner.

The course will begin on Monday, January 19th, and will be continued each week until the end of March. The demonstrations are open to all qualified practitioners free of charge. It will facilitate arrangements if those wishing to attend any or all of the courses will send in their names and particulars to the Registrar, the University, Sheffield, on or before January 10th. A full syllabus and time table will be forwarded on application.

UNIVERSITY OF ST. ANDREWS.

THE following candidates have completed the Final Examination for the degrees of M.B., Ch.B.:

Mildred Clark, Andrewina Laird, Florence B. Mason.

UNIVERSITY OF DUBLIN.

TRINITY COLLEGE.

THE following candidates have been approved at the examinations indicated:

FINAL M.B.—*Part I, Materia Medica and Therapeutics; Medical Jurisprudence and Hygiene; Pathology:* *Daniel de Bruijn, *D. J. Browne, *Dorothy A. Daly, P. Jabkovitz, Rev. E. G. Campbell, J. C. Davis, Mary Horan, F. W. Pienaar, F. W. Shegog, P. Ryan, Nora Griffith, C. S. Wilson, R. R. Baker, Elinor D. Stopford. *Materia Medica and Therapeutics; Medical Jurisprudence and Hygiene:* J. D. Leahy, W. A. Murphy, R. H. J. M. Corbet, A. D. Ward, G. S. Moran, J. M. Semple, J. R. Wills, R. W. Power, A. J. Beckett. *Pathology (in completion):* J. C. Brennan, R. V. Dowse, H. A. Lavelle, C. W. Parr.

FINAL M.B., B.CH., B.A.O.—*Part II, Midwifery:* *E. H. C. Allen, *Olive Baile, W. de Vos Scholtz, Essie S. Smyth, J. H. B. Crosbie, J. P. de Villiers, W. B. J. Pemberton, S. L. Feldman, J. B. Maguire, E. H. Frazer, W. B. Fox, W. T. Micks, B. F. Haythornthwaite, C. E. McQuade, J. Hirschmann. *Surgery:* *L. Abrahamson, *J. G. Holmes, T. D. Gordon, C. J. de V. Shortt, H. A. Lavelle, Doris L. Graham, W. A. Byrn, R. E. Murphy, Jessie Gilbert, Johan F. Wicht, M. Nurock, R. W. Shaw, A. I. Steyn, S. J. Laverty, H. Cohen, A. Blagoff. *Medicine:* *L. Abrahamson, *F. W. Robertson, F. V. Small, J. G. Holmes, W. de Vos Scholtz, W. J. Hogan, T. D. Gordon, J. F. Wicht, H. A. Burridge, J. Hirschmann, R. W. Shaw, R. Counihan, Moira M. Brown, J. R. Waugh, W. A. Byrn, H. Cohen, C. J. de V. Shortt, F. W. Godbey, T. Madill.

D.P.H.—*Part I, Chemistry, Bacteriology, Physics, and Meteorology:* V. M. Synge, R. E. Wright, G. G. P. Beckett, N. H. H. Haskins, G. F. I. Harkness, W. H. Sutcliffe, J. S. Dockrill, G. O. F. Alley. *Part II, Sanitary Engineering, Hygiene, Epidemiology, Vital Statistics, Public Health Law, Sanitary Inspection and Report:* V. M. Synge, M. McKnight, R. E. Wright, G. G. P. Beckett, N. H. H. Haskins.

DIPLOMA IN GYNAECOLOGY AND OBSTETRICS.—R. W. Chambers.

* Passed on high marks.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE following candidates passed the examination of this school at the termination of the sixty-first session:

*J. T. Duncan, *W. G. Seymour, *M. E. Barnes, *C. C. Chesterman, *E. C. Girling, *M. Bequaert, *R. Calleja, *A. Kidd, *E. S. Johnson, *H. Lillie, *G. F. Scuddar, *W. Dawson, *W. F. Hume, *G. M. Heydon, L. N. Lee. A. N. Bose, G. Chesney, R. Chalmers, J. H. Thomson, W. R. Young, E. C. Spaar, H. M. Pope, A. G. Fergus, J. Boodoosingh, P. F. Nunan, H. W. Webb, R. C. Briscoe, A. J. Galustian, T. D. Nair, P. W. Barnden, D. P. Jarjasingha, J. L. A. Sorensen, N. Cheua.

* With distinction.

The Services.

INDIAN MEDICAL SERVICE.

TEMPORARY COMMISSIONS.

THE Secretary of State for India makes the following announcement:

Fully qualified European medical practitioners are required for temporary service with Indian troops on special rates of pay. Applicants must be British subjects of European descent, and should not be more than thirty-five years of age. If accepted for appointment they will be required to enter into a contract to serve for two years.

The rates of pay will be Rs. 700 per mensem for a lieutenant, Rs. 750 per mensem for a captain. Three or more years' service as a medical officer in the home, colonial, or Indian forces are necessary to qualify a candidate for the higher rate. Officers will be provided with free passages both ways. Wives and families will be sent out at Government expense in the autumn of 1920, provided that shipping is available. An outfit allowance of £50 will be granted except in the case of officers who have served under the War Office or the Government of India, to whom £20 only will be issued.

Further particulars and forms of application may be obtained from the Secretary, Military Department, Room 157, India Office, Whitehall, S.W.1. Envelopes should be clearly marked in the top left-hand corner "Temporary I.M.S."

*** It must be remembered, first, that the price of the rupee varies and that the exchange is hardly likely to be maintained at the present rate, and, secondly, that a large part of the officer's income must be spent in India, where the rupee is worth no more, but decidedly less, than it was worth before the recent rise in the exchange. This matter is referred to in a Current Note in this week's SUPPLEMENT.

AUXILIARY ROYAL ARMY MEDICAL CORPS FUNDS.

THE usual quarterly committee meeting was held on December 19th, 1919, at 11, Chandos Street, Cavendish Square, W.1. Three grants were made in the benevolent branch for officers, amounting to £290, and fourteen grants in the relief branch for the rank and file, amounting to £624.

These funds are for the relief of widows and orphans of commissioned officers and non-commissioned officers and men of the rank and file of the Royal Army Medical Corps, Special Reserve, Territorial Force, and New Armies, and also for the relief of the children of those who have been so severely damaged in the present war that they need help for the education of children.

Bequests for relief should be addressed to the Honorary Secretary, at the offices of the funds, at 11, Chandos Street, Cavendish Square, W.1.

HONOURS.

C.B.

Surgeon Commander D. W. Hewitt, C.M.G., R.N., has been appointed C.B. (Military Division) for valuable services as Senior Medical Officer on the staff of the Senior Naval Officer, White Sea.

C.B.E.

The distinction of C.B.E. (Civil Division) has been awarded to Dr. Cecil Henry Elmes, O.B.E., officiating health officer, Port of Calcutta, Bengal, in recognition of valuable services rendered in India in connexion with the war.

O.B.E.

The O.B.E. (Military Division) has been conferred upon Surgeon Lieut. Commander R. H. McGiffin, R.N., for valuable services rendered in the Archangel area of the White Sea; Surgeon Lieut. Commander A. A. Sanders, R.N., and Surgeon Lieut. Commander F. St. B. Wickham, R.N., for valuable services rendered in H.M.S. *Glory* and H.M.S. *Hyderabad* in Russia respectively.

Miss Ruth Balmer, M.B., honorary Captain R.A.F. Medical Service, and Flight Lieutenant Robert Lloyd Roe, M.B., R.A.M.C., have received the same distinction in recognition of distinguished services in North Russia and the Mediterranean area respectively during the war; and temporary Lieut.-Colonel Raghabendra Row, I.M.S., and Captain Dais Raj Ranjit Singh, I.M.S., Cecil Henning Lincoln, M.B.E., assistant surgeon I.M.D., and Dr. Samuel Arthur Powell, police surgeon, Bombay, in recognition of valuable services rendered in India in connexion with the war.

M.B.E.

Captain Arthur George Brown, I.M.S., has been appointed M.B.E. (Military Division), and Khan Bahadur Mir Diwan Ali, civil surgeon, Multan, Punjab, Dr. George Noble Coombes, chief medical and sanitary officer of the Cochin State, Madras, Mr. John David O'Donnell, F.R.C.S.Ed., chief medical officer, Kolar Gold Field, Mysore, and Randhir Singh, subassistant surgeon, General Hospital, Rangoon, Burma, M.B.E. (Civil Division), in recognition of valuable services rendered in India in connexion with the war.

Foreign Decoration.

The President of the French Republic has conferred the Croix d'Officier de la Légion d'Honneur upon Surgeon Captain O. W. Andrews, C.B.E., R.N., for distinguished services rendered during the war.

Medical News.

AN announcement appears at page 34 giving particulars of a series of clinical demonstrations on special subjects arranged by the Faculty of Medicine of the University of Sheffield. The course will be given at the Royal Hospital during the ensuing three months, beginning on January 19th. The demonstrations are open to all qualified practitioners free of charge. Those wishing to attend should communicate with the Registrar of the University, who will forward particulars.

COLONEL W. MITCHELL ROOCROFT, C.M.G., consulting surgeon to the Wigan Infirmary, and Dr. Luther Cooke, also of Wigan, have been appointed Justices of the Peace for the County Palatine of Lancaster.

DR. D. W. CARMALT-JONES, F.R.C.P., Physician to Westminster Hospital, late Colonel A.M.S. and Consulting Physician to the Egyptian Expeditionary Force, has been appointed to the Chair of Systematic Medicine in the University of Otago.

THE old students' dinner of St. Thomas's Hospital, postponed from October 1st on account of the railway strike, will take place at the Connaught Rooms, Great Queen Street, W.C., on Wednesday, January 14th, at 7 o'clock for 7.30, under the chairmanship of Sir George Makins, G.C.M.G., P.R.C.S.

THE annual dinner of past and present students of St. Mary's Hospital, which was postponed from October 1st, will take place at the Connaught Rooms, Great Queen Street, on Friday, January 9th, at 7 for 7.30 p.m. Sir Almroth Wright, K.B.E., C.B., will be in the chair.

THE Public and Secondary Schools' Red Cross Hospitals have handed over to the Village Centres Council, 51, Lincoln's Inn Fields, London, W.C.2, the balance of their funds, amounting to £3,500.

A COURSE of ten lectures and demonstrations has been arranged by the Royal Institute of Public Health on Thursdays, at 5 p.m., in the lecture room of the Institute, 37, Russell Square, W.C. The first lecture will be given on January 15th by Professor E. W. Hope, M.O.H. Liverpool, on schemes and methods in tuberculosis work. On January 22nd Dr. T. D. Lister will give a practical demonstration of the work of a tuberculosis department at the Poplar Dispensary for the Prevention of Consumption, 135, Bow Road, E. The course is open to medical men and women qualifying to become tuberculosis officers, and for general practitioners and others interested in the study of tuberculosis. The fee is two guineas.

THE opening address of the spring session of the North-East London Post-Graduate College—the first session since the beginning of the war—will be given by Sir Humphry Rolleston, K.C.B., M.D., chairman of the Fellowship of Medicine and Post-Graduate Medical Association, president of the Royal Society of Medicine. The subject of the address, which will be given on Tuesday, January 13th, at 4.30 p.m., at the Prince of Wales General Hospital, Tottenham, N.15, is the uses and methods of application of post-graduate teaching. Medical practitioners wishing to be present may receive a card of invitation on applying to the Dean.

A COURSE of instruction on the diseases of children will commence at the London Hospital Medical College on Saturday, January 10th. The course is open to post-graduates and students of the hospital. Dr. Hutchison will give a course of ten lectures on general diseases on Saturdays, at 10.15; and Dr. Theodore Thompson a course of eight lectures on organic and functional nervous diseases, meningitis, and mental deficiency on Mondays, at 9.15 a.m. A course of clinical demonstrations will be given in the out-patient department by Dr. Charles H. Miller, at 10 a.m. on Wednesdays.

AT the meeting of the Executive Committee of the Medical Defence Union on December 22nd, 1919, the General Secretary reported that three members had forwarded donations to the funds of the Union as a mark of their appreciation of the services rendered to them by the Union in cases in which they had recently had occasion

to apply for assistance. One of the members stated that the amount of his donation (which was substantial) was really no measure of his gratitude.

SIR ROBERT HUDSON, Chairman of the Joint War Finance Committee, has reported that the total amount received by the Joint Council of the British Red Cross and Order of St John since the outbreak of war has fallen little short of 19 millions. The balance remaining in hand is large; the primary purpose to which it must be devoted is to relieve the needs of men injured in the war, but an Act passed in 1918 provides that any surplus which, in the opinion of the Joint War Committee, cannot usefully be applied in this way, may be devoted to the general relief of sickness and suffering. Grants have already been made in this country, amounting approximately to £1,350,000, to hospitals, convalescent homes, nursing associations, and other kindred bodies capable of rendering help in the restoration to health of men injured in the war. The condition of the grants has been that wherever possible priority shall be given to the claims of ex-combatants and their dependants. Grants amounting approximately to £500,000 have been made, under similar conditions, to the Dominions, Colonies, and Protectorates. The Joint War Committee will delegate to the Joint Peace Council of the British Red Cross and the Order of St. John the duty of winding up the work of the War Committee, and it is anticipated that the new council will develop other activities proper to peace.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

CELSUS seeks the statistics (in children's hospitals) of polypus recti and fistula in ano as factors causing haemorrhage from the bowels in patients under 6 years of age.

INCOME TAX.

L. V. S. is in the Government Medical Service in Uganda. He was unable to obtain his six months' furlough when it became due, with the result that he is now on furlough for six months *plus* four months in respect of arrears, that is, ten months in all. He has been informed by the Inland Revenue authorities that as his stay in this country will exceed six months in the financial year 1919–20 he will for that year be liable to tax on his leave pay from the date of his arrival here.

*** The statement is correct in point of law. A person coming to his country for a temporary purpose only does not become liable to tax as a British resident unless his stay here amounts to a period of six months in any one financial year. If the six months period is reached liability to British income tax attaches, not from the expiration of that period but as from the date of coming to the British Isles—in other words the exemption in favour of temporary residents fails *in toto*. This certainly appears to involve our correspondent in some hardship, seeing that it was due to governmental action that his furlough was delayed and gave rise to a temporary residence here of more than six months. We are not aware of any concession which would cover such a case, and the legal position seems clear. We gather that no assessment for 1919–20 has yet been made. If such cases are dealt with by means of supplementary assessments made late in the financial year—and such a course would seem to be more or less inevitable seeing that the question of liability or exemption could not be answered at the earliest until October 5th, 1919, six months from the commencement of the financial year—we are inclined to suppose that an appreciable proportion of the legal liability is inoperative, because the person assessed would probably be outside the British tax jurisdiction by the time the tax becomes exigible.

F. A. A. asks for information as to the method of obtaining repayment of income tax deducted from army gratuities.

*** The Commissioners of Inland Revenue made an announcement last August with regard to the arrangements for repayment of income tax in respect of war gratuities under the Finance Act, 1919, which provides for the exemption of war gratuities as from August 4th, 1914. As the present addresses of the recipients of these gratuities are not available, application for repayment is necessary; it should be addressed to the Secretary, Inland Revenue (Claims Branch), Australia House, London, W.C.2, the envelope being marked "Gratuity."

LETTERS, NOTES, ETC.

WAR NEUROSES.

WE are asked by the Medical Services Division of the Ministry of Pensions to publish the following:

The advance which has been made as a result of experience gained during the war in the method of treatment for cases of neurasthenia, shell shock, and functional nervous disorders in general, is probably greater than in the case of any other form of medical disability. Moreover, medical men who have been brought directly into contact with cases of this nature, and whose duty it has been during the war to undertake the care of this class of patient, appreciate more fully than is possible to those members of the profession without similar opportunities, the dangers which attend delay in the provision of the special forms of treatment which experience has shown can alone ensure satisfactory results.

The Ministry of Pensions has established neurological hospitals for in-patients and psycho-therapy clinics for out-patients, and in both types of institution the most modern methods of treatment are applied.

The Medical Service Department of the Ministry of Pensions would be obliged if general practitioners, who have among their patients cases of war neuroses, would communicate with them at 14, Great Smith Street, Westminster, S.W.1, with regard to any case, even if the condition is not severe, which is not progressing rapidly towards recovery. In a severe case, in the interests of the patient, this should always be done. Where necessary, the Ministry will certainly arrange for treatment at one of its special institutions.

SMITH'S VISITING LIST.

WE have received from the publishers, Messrs. Hazell, Watson, and Viney, Ltd., of 52, Long Acre, W.C.2, a specimen copy of one of *Smith's Medical Visiting Lists* for 1920. This well-known annual publication has now reached its seventy-fourth year of issue, and its convenience has been tested by generations of medical practitioners. The visiting lists are made in two styles of binding and in five kinds of ruling and spacing. The prices range between 6s. and 12s. 6d.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 35, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 36 and 37.

THE following vacant appointments of certifying factory surgeons are announced: Canterbury (Kent), Colnbrook (Buckingham), Dewsbury (York, West Riding), Shanklin (Isle of Wight), Burnham Market (Norfolk), Gamlingay (Cambridge).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Clinical Lecture

ON

THE SURGICAL ASPECTS OF SPINAL TUMOURS.

DELIVERED AT THE NATIONAL HOSPITAL, QUEEN SQUARE.

BY

PERCY SARGENT, C.M.G., D.S.O., F.R.C.S.,

SURGEON TO ST. THOMAS'S HOSPITAL AND TO THE NATIONAL HOSPITAL, QUEEN SQUARE.

IN 1881 the late Mr. Frederick Page of Newcastle wrote as follows: "The operation of trephining the spine, proposed many years ago and adopted several times, has made no progress in surgery; nor is it likely to do so. It is an operation not within the range of practical surgery."[1] It was only a few years later that Sir Victor Horsley, in 1887, deliberately opened the spinal canal and removed a tumour from between the membranes and the cord. This operation gave the first effective impetus to the development of spinal surgery, and there is no single landmark in surgical history which stands out with greater distinctness.

This classical case, which marks the real beginning of the operative surgery of the spinal cord, may be briefly recalled. The patient was a man, under the care of Sir William Gowers, 42 years of age, who had suffered for three years from a peculiar pain localized to a spot beneath the lower part of the left scapula, increased by exertion and varying in severity from time to time, with intervals of freedom. Four months before the operation the left leg became weak, and a few weeks later the right leg became similarly affected. During the next two months sensation became impaired and urinary retention appeared. The condition was regarded by various physicians as aneurysm, intercostal neuralgia, or hysteria. At the time of the operation there was complete paraplegia, with loss of all forms of sensibility up to the level of the ensiform cartilage. Just above this level there was severe girdle pain, worse on the left side than on the right, and increased to agony on any movement. There was some diminution of tactile sensibility up to the fourth intercostal space. A diagnosis of tumour pressing upon the cord was made by Gowers, and in June, 1887, Horsley removed the arches of the first six thoracic vertebrae and exposed an almond-shaped tumour, of a dark bluish-red colour, resting upon and attached to the left fourth thoracic nerve, jammed between the dura mater and the spinal cord. The growth proved to be a fibromyxoma. A year later the patient was doing his full day's work, which necessitated much walking and standing about.[2]

Since that date not only have large numbers of similar tumours been successfully removed, but also intramedullary tumours have been enucleated, intramedullary cysts and the cavities of syringomyelia have been incised, and many other pathological conditions causing symptoms of compression of the spinal cord have been successfully dealt with through the opening afforded by the operation of laminectomy.

The following remarks are based upon a series of 27 cases which I have operated upon during the past ten years. These are all cases of true neoplasm of one sort or another associated with cord symptoms; all cases of syphilis, tuberculous disease, and cyst are excluded.

Of the various ways in which these tumours may be grouped I prefer to take the regional rather than the histological. On this basis they fall into three groups, according to whether they are (1) intrathecal but extramedullary, (2) intramedullary, and (3) extrathecal.

Intrathecal extramedullary tumours present themselves either as definitely encapsuled masses, which are almost invariably of a benign nature, or as diffuse masses of growth extending over a somewhat large area, whether of the cord itself or of the cauda equina, and histologically of a malignant character.

ENCAPSULED INTRATHECAL EXTRAMEDULLARY TUMOURS.

Fifteen of the twenty-seven cases belong to this class. They possess a certain similarity in size, appearance, encapsulation, and relationship to the cord. With a single exception ("fibrosarcoma") the histological characteristics* of this class are those of benign tumours, namely:

Neurofibroma	4
Endothelioma	3
Psammoma...	3
Fibroma	2
Fibromyxoma	2

Such tumours may be firmly attached to the inner aspect of the dura mater or to a nerve root. On the other hand, their connexions are sometimes so flimsy that they appear to lie almost free in the arachnoid, and they can be picked out without causing any haemorrhage, and without it being possible to determine their actual point of origin. At the level of the tumour the whole thecal lumen may be so filled up that the cerebro-spinal fluid above has little or no communication with that below. Hence pulsation is only to be seen above the tumour, and this may be a valuable topographical indication during an exploratory operation. When such a tumour has been removed, there remains a scaphoid depression in the cord which does not appreciably alter either in size or in depth during the time that the cord is exposed, despite the fact that the displaced cord usually moves so as to occupy more nearly its natural position. In some very long standing cases the cord appears to be flattened to a ribbon, so that one wonders how any impulses at all can be conducted through it.

The situation of these tumours in relation to the cord is most commonly postero-lateral—that is, the cord is displaced forwards and towards the opposite side (7 cases); it may be in the middle line posterior to the cord (2 cases); antero-laterally situated so as to push the cord backwards and towards the opposite side (4 cases); or anterior to the cord so as to be invisible until the cord is drawn aside (2 cases).

Segmental Level.

In neither of the fifteen cases under review was the tumour situated above the fifth cervical or below the eleventh thoracic segment. The actual situations were C.5, C.7, D.1, D.2 (3 cases), D.3, D.4, D.5 (2 cases), D.7 (2 cases), D.8, D.10, and D.11. In each case the segment quoted is the uppermost reached by the tumour.

SYMPTOMATOLOGY.

There does not appear to be any constant relationship between the position of the tumour, as regards the cord, and the incidence of the symptoms. The order in which these make their appearance is very variable.

Pain.

The most usual initial symptom is pain, referred to the area of distribution of one or more of the spinal nerve roots. This was the first symptom in eight of the fifteen cases. It may be very severe and persistent, or it may amount to nothing more than an unpleasant sense of constriction, and it may for many months or even years be the only cause of complaint.

This circumstance is sufficiently striking to suggest that in any case where severe and persistent pain, localized to the distribution of one or more nerve roots, cannot be satisfactorily accounted for, the possibility of a spinal tumour being present should be seriously considered.

Pain in the back is not a common occurrence in cases of spinal tumour of this class. When it has been present (in three of these fifteen cases) it has been the first symptom of which the patient has complained, has been unaccompanied at any time by root pain or girdle sensation, and has preceded the other symptoms by some months. In no case has any tenderness, rigidity, deformity, or abnormal radiographic appearance been noted.

A third type of pain of which these patients may complain is "pain in the legs." With tumours involving the cauda equina, such pains are naturally of the same character and causation as root pains elsewhere. But patients with tumours at a higher level sometimes complain of pain in the legs. Usually, on close questioning, it is obvious that these pains are associated with spastic involuntary contractions of the muscles, but in other instances this does not appear to be the explanation. It is possible that in some cases at least the pain is

* I am indebted to Dr. J. G. Greenfield for a recent re-examination of all these tumours.

dependent upon variations of pressure in the cerebro-spinal fluid. The thecal canal may be so fully occupied at the level of the tumour that the fluid pressures above and below may be different, and it is possible that in such circumstances a sudden exertion on the part of the patient may drive down a small quantity of fluid past the block so as suddenly to increase its tension to a point at which pain is produced. This seemed to be the explanation of the "sharp shooting pains down both hips and thighs" in one case, where the tumour was found to block the thecal canal at the level of the eighth thoracic segment.

In a recent case, not included in this series, pain in the left thigh and leg, of "sciatica" type, was for a long while the most prominent symptom, the tumour being a small hard encapsuled "psammoma" cupping the lateral aspect of the cord at the level of the eighth thoracic segment on the right side. This suggests direct pressure by the tumour upon the pain fibres in the antero-lateral column.

In a series of 33 cases of intramedullary tumour recorded by Horsley pain was the first symptom complained of in 21.

Paraesthesia.

"Numbness" in the legs is often complained of (9 cases), but always in association with weakness. Impairment of sensibility of a more definite character is sometimes noticed by the patient. Thus, one patient found that one leg was less sensitive to pain than the other; another that one leg always felt cold; another that "she could not feel the water on her legs in the bath."

Motor Symptoms.

Weakness of the legs had been present before operation in all the cases, and varied from slight impairment to complete loss of all voluntary movements. In three instances "stiffness," "jerking," or weakness was the first symptom noticed by the patient. In one of these cases the weakness preceded the onset of root pain by twelve months, and in the other two no root pain at all was complained of.

With a single exception the weak or paralysed legs were spastic, though never to an extreme degree. It is instructive to note that the one patient whose paralysed legs were stated to be "somewhat flaccid," had been unable to walk for seven years, and that no motor improvement had occurred more than five years after removal of the tumour.

Impairment of Sphincter Control.

It is a very striking fact that in eight of the fifteen cases there was no impairment of vesical function at any time, even though other symptoms had been present for periods varying from one to three years. In most of the other cases the impairment of function amounted to little more than precipitancy or hesitancy of micturition, usually the former. Very rarely is a catheter required. As would be expected, therefore, cystitis is an uncommon complication, and one that is comparatively easily dealt with if it does occur. This contrasts strongly with the gross impairment of function and the fulminating cystitis so common in cases of paraplegia of more rapid onset.

NEUROLOGICAL EXAMINATION.

The date at which sensibility first becomes affected cannot be ascertained, as the patients are often unaware of any impairment, unless it is of a particularly gross character. The greatest diversity of symptoms exists in this respect, as would naturally be expected from the variations in position of the tumours, the different degrees of pressure exerted by them, and the extreme slowness with which the compression advances. Frequently the upper limit of the sensory change is not abrupt, as it is in the case of a more sudden and severe lesion; and as in a certain proportion of cases (five out of fifteen) there are no root symptoms to afford a guide, it becomes a matter of the utmost importance, for localization, to examine carefully for the uppermost limit of even the slightest differences in appreciation of the various sensory stimuli. In this respect repeated examinations are necessary, as variations in the upper level of slight changes are met with from time to time.

The Brown-Séquard syndrome is frequently met with. In several of the cases it was well marked when the patients first came under observation. In the majority a definite history was obtained of one leg becoming affected before the other.

When the tumour is related to one of the lower thoracic segments the abdominal reflexes may afford a more valuable localizing sign than the level of sensory change.

CLINICAL COURSE AND PROGNOSIS.

The course pursued by a case of spinal tumour is characteristic. It is slow, but remorseless. There is rarely any appreciable halting, more rarely still any temporary amelioration, and gradually the symptoms progress to the inevitably fatal termination unless relief is afforded by operation. It is in this field that the science of neurology and the art of surgery combine to achieve one of their greatest triumphs.

Horsley stated the average total duration of the symptoms in these cases of simple tumour to be three and two-thirds years. In the present series of fifteen cases it was two years, despite the fact that one patient had had symptoms for no less then nine years. It is to be hoped that the future will show a still greater improvement in this respect, as the condition becomes recognized at an earlier date.

It would be expected that the rapidity and completeness of recovery after operation would be materially affected by the length of time during which the cord had been subjected to pressure. Whilst this cannot be denied, it is true only within wide limits. Whereas in the majority of cases in which a complete or practically complete recovery occurred weakness had been present for less than twelve months, yet in one instance the legs had been weak for nearly three years. On the other hand, one patient who had been virtually paralysed for eight years showed no sign of motor recovery five and a half years after removal of the tumour. The most striking immediate result of operation is the relief of pain. This may be confidently predicted whatever may have been its previous duration, and whether or not nerve roots are divided when the tumour is removed.

Power, as a rule, begins to return before sensation. In a favourable case a definite improvement in voluntary power may be observed to take place within a week of the operation. In one patient the weakness had been coming on gradually for nine months, and at the time of the operation the legs were spastic and no voluntary movements were possible; the sensory loss was complete. In ten days power began to return and in eight weeks he was beginning to walk, but no return of sensibility to pin-prick or to cotton-wool was detected for nine weeks. In another patient with nine months' history, where spastic weakness and partial loss to all forms of sensibility were present at the time of the operation, power was rapidly returning in three weeks, but sensation was unaltered. The sensory return takes place uniformly over the affected area, the original level remaining distinguishable throughout. In two cases, examined respectively five and six years after operation, although recovery was in all respects practically perfect, the old level could still be definitely ascertained by a distinct difference to pin-prick above and below.

Four cases operated upon between five and six years ago have recently been examined with a view to ascertaining the degree of the completeness of the recovery. The chief points may be very briefly summarized as follows:

Endothelioma at Level of Fourth Thoracic Segment.

Female, aged 71 (under the care of Dr. James Collier). Fifteen months' history. Extreme spasticity; slight voluntary movements in right lower limb, none in left; profound loss to all forms of sensation; no sphincter trouble; bedsores. Tumour completely removed.

Six years after operation, in perfect health. No ascertainable weakness of legs; deep reflexes normal; plantars flexor; position sense and localization perfect; no loss to cotton-wool; pin-prick well appreciated everywhere, but it "gets sharper" when old level is reached.

Neurofibroma at Level of Tenth Thoracic Segment.

Male, aged 35 (under the care of Dr. Tooth). Twelve months' history. Severe root pain; lower limbs extremely spastic; no voluntary movements; complete loss to all forms of sensation below level. Tumour completely removed.

Five and a half years after operation was doing full work as an agricultural labourer. Says left leg feels weaker than right. No difference in power detected; powerful muscular limbs; deep reflexes normal; abdominals absent; plantars extensor; no loss detected to touch, pin-prick, or localization; position sense in left foot very defective.

Fibromyxoma at Level of Seventh Cervical Segment.

Male, aged 32 (under the care of Dr. James Collier). Nine months' history. Before operation upper limbs weak and flaccid; intrinsic muscles of hands wasted; neuralgic pains in ulnar fingers; muscles of trunk and lower limbs very spastic; no voluntary movements in right lower limb; feeble in left; profound loss to all forms of sensation to level of C.7; dysuria. Tumour completely removed.

Five years after operation was doing full work as a letter sorter. No clumsiness or weakness in hands; no wasting; no pain; no sphincter trouble; deep reflexes somewhat brisk; abdominals present and plantars flexor; no sensory loss detected, but old level can still be mapped out by a slight dulling to pin-prick below.

In contrast to the foregoing the following may be related:

Psammoma at Level of Seventh Thoracic Segment.

Female, aged 32 (under the care of Dr. Tooth). Pain in back nine years and weakness of legs eight years before operation. On examination, complete loss to all forms of sensation; complete motor palsy with ankle clonus; plantars extensor; precipitancy of micturition.

Five and a half years after operation, no recovery of power whatever. Sphincter control normal; appreciates cotton-wool everywhere, but cannot localize; feels pin-prick and hot and cold tubes merely as unlocalizable touch.

Operative Technique.

The procedure adopted in all cases is practically the same as that employed by Horsley, except for the method of anaesthesia. Chloroform and intravenous hedonal, which Dr. Mennell administered for me in a few cases, have been discarded in favour of ether given by the intratracheal method. I do not believe that, provided cyanosis is avoided, the haemorrhage is any greater with ether than with chloroform; whilst the abolition of the respiratory movements, and in cervical cases the being able to have the neck flexed as acutely as may be desired, is of great assistance. The amount of blood lost depends more on the surgeon's technique and resource than upon the anaesthetist.

If the first stages of the operation are conducted rapidly under a stream of normal saline solution at 118° F., and if time is not wasted in endeavouring to seize individual bleeding points with forceps, the amount of blood lost need not be great. The spinous process corresponding to the position of the tumour is first marked by a transverse scratch on the skin, and then a median vertical incision is made with this mark as its centre. The muscles are rapidly stripped from the bones, and then at least five spinous processes are cut away at their bases with strong forceps. If now the large wound is packed tightly for a few minutes with gauze, it can be rendered remarkably dry, and the rest of the operation should be almost bloodless.

The laminal arches are next removed with Horsley's laminectomy forceps, exposing the layer of fat surrounding the theca. This has to be stripped off, and the theca can then be examined. Sometimes the tumour can be easily felt at this stage, or a difference of thecal pulsation above and below may indicate its position. I always endeavour to open the dura, by a median vertical incision, without wounding the arachnoid. In this manner a beautiful view of the tumour is obtained, seen through the transparent arachnoid, and its relations to the cord and nerve roots accurately ascertained. If the cerebro-spinal fluid is allowed to escape the posterior nerve roots, which normally float free, fall against the cord, so that their real relationship to it and to the tumour cannot be determined. I have several times seen the tumour, through the unopened arachnoid, moving up and down for a short distance, like a shuttle, with the pulsations of the cerebro-spinal fluid.

The arachnoid is next torn through and the tumour can then be gently lifted out of its bed with some small blunt instrument. If necessary a nerve root or a tooth of the ligamentum denticulatum must be divided. It should hardly be necessary to state that this part of the operation must be conducted slowly and with the utmost gentleness.

The theca should be sutured and the muscles brought accurately together, preferably in two separate layers, in order to avoid any chance of leakage.

Post-operative Dangers.

Leakage of cerebro-spinal fluid is a dangerous complication. It introduces the possibility of meningitis, and, apart from that, the patients usually suffer a good deal in general health, for the total amount of fluid lost may be enormous.

Two of my patients have died suddenly within forty-eight hours of the operation, the tumours having been removed from alongside the upper thoracic part of the cord.

Other occasional causes of serious symptoms, which may terminate fatally, are acute dilatation of the stomach, and paralytic ileus.

Results.

Of the 15 cases in this series, 11 may be described as in all respects satisfactory. Of these patients 6 are (or when last heard of were) doing their full ordinary work; another, 77 years of age, is in perfect health and vigour, and the other 4 are so far recovered that they may reasonably be regarded as successful cases. Of the 4 unsuccessful results 1 (whose paralysis had existed for nine years before operation) remains virtually *in statu quo* five and a half years after removal of the tumour. The remaining 3 patients died. They are instructive cases, and may be very briefly quoted:

Case I.

W. L., male, aged 47. After having suffered pain in the back for fifteen months, and increasing weakness in the legs for ten months, was admitted to the National Hospital under Dr. James Taylor. On admission he had spastic paraplegia, almost complete, with impairment of sphincter control, and almost total loss to all forms of sensibility up to the level of the eleventh thoracic segment.

A laminectomy was performed, and the cord exposed from the sixth thoracic to the first lumbar segments. No sign whatever of a tumour could be found. Seven weeks after this unsuccessful exploration he had voluntary movements at all joints of the lower limbs, less involuntary spasm, and much less complete sensory loss, together with considerable improvement in sphincter control. He left hospital much improved, but was readmitted two years later in practically the same condition as he had been prior to the first operation. It was decided to attempt to relieve the distressing muscular spasms, and accordingly another laminectomy was performed, and the posterior roots of the second, third, and fifth lumbar and the second sacral nerves were divided on both sides. Five days later he died from paralytic distension of the bowel.

Post mortem an endothelioma 2⅜ by 1¼ cm. was found, attached firmly to the dura, lying wholly in front of the eleventh thoracic segment, which was flattened to a ribbon over it. The particularly interesting points in the case are (1) that the tumour was in an unusual position and completely out of sight, (2) that at no time were any root pains experienced, (3) that pain in the back had existed for six months before the onset of any other symptoms, (4) that death after the second operation was due to paralytic ileus, and (5) that the mere relief of pressure afforded by the first operation was followed by a considerable degree of temporary improvement.

Case II.

Male, aged 59 (under the care of Dr. Risien Russell). When first admitted to the National Hospital he had suffered from girdle pain at the twelfth thoracic level for five months, and dragging first of one leg and then of the other for four months. He had no sphincter trouble; both legs were weak and spastic, the right more so than the left. The sensory loss was almost complete to all forms up to the twelfth thoracic level on the left side. Three weeks later, whilst the girdle sensation persisted at the same level, the level of sensory loss had moved upwards and spread to the opposite limb. Three months later there was sensory loss up to a definite level—that of the third thoracic segment. The legs were much worse and very spastic; slight hesitancy of micturition had appeared.

A fibroma, the size of a small marble, was removed from in front of the cord at the level of the third thoracic segment. The operation was easy and without untoward incident, and all went well until thirty hours later, when he died quite suddenly and without warning.

Post mortem nothing was found to account for his death.

Case III.

Female, aged 34 (under the care of Dr. James Taylor). Two years' history of stiffness and weakness in the legs, abdominal girdle pains, and loss of feeling in the legs. No sphincter trouble.

A firm tumour, attached to the right eighth cervical posterior root, was easily removed. It was pronounced microscopically to be a fibrosarcoma. All went well for nine days, when removal of the stitches was followed by leakage of cerebro-spinal fluid. This continued, and a month after the first operation the muscles were re-sutured. Meanwhile a considerable degree of improvement had occurred both as regards power and sensation, and the general condition had remained excellent. Some thirty hours after the closure of the wound she died quite suddenly.

Post mortem nothing was discovered to account for the death.

OTHER FORMS OF SPINAL TUMOUR.

Twelve cases of tumour causing cord symptoms, other than the encapsuled intrathecal extramedullary type, were encountered during the same period. They contrast strongly in many ways with the others. In the first place the tumours were, without exception, of a malignant

character, though their degree of malignancy, judged clinically, was extremely variable.

I classify these tumours, according to their probable point of origin with relation to the cord, into three groups: (1) Intrathecal extramedullary, (2) intramedullary, (3) extrathecal.

The membranes constitute an almost if not absolutely impermeable barrier to the spread of these growths, so that we rarely find any overlapping between these three groups. All tend to spread upwards or downwards in a direction parallel with the cord, confined within the limits of the pia or dura as the case may be. In only one case did an intradural tumour gain the exterior of the theca, and that was through the operative incision.

With the upward spread of the tumour mass there develops a gradual compression of the cord, which progressively reaches a higher level. Hence we find that with malignant tumours there is often a varying upper limit of sensory change, together with root pains spread over many segmental areas. These are important points in the diagnosis between diffuse malignant tumours on the one hand and the more definitely localized encapsulated tumours on the other.

Level and Symptoms.

In the three cases of non-encapsuled extramedullary intrathecal tumours, all sarcomatous, the tumour involved the cauda equina, and the nerve roots were surrounded by growth. Nevertheless, radiating pain was absent in two of them; in these two pain in the back was noticed early. Loss of sphincter control was an early and prominent symptom in two instances; in both of these the growth surrounded the conus medullaris.

The cases of intramedullary tumour contrast strongly with these extramedullary malignant ones, for in the former weakness and numbness in the limbs is the earliest symptom, though in one of the four radiating pains had occurred before any other symptom. Again, sphincter disturbance is slight or absent as a rule in the intramedullary cases.

If we compare the incidence of the symptoms in cases of extrathecal tumour due to malignant disease of the bones, whether primary or secondary, we find pain, either local or radiating, to be the first symptom, and usually it is of an extremely severe character and is increased on movement. Sphincter disturbances are not much in evidence in these cases.

Whilst *x*-ray examination has so far been uniformly negative in other forms of tumour, it usually gives valuable help in the cases of tumour arising in the bones. We cannot, however, in this manner distinguish between malignant disease and tuberculous caries; and even when exposed by operation the granulation mass, in some cases of tuberculosis, has so closely resembled tumour that only by microscopical examination has the true nature of the case been ascertained.

In none of the 12 cases of malignant growth in this series was the exact nature of the case diagnosed before operation. The fact that the cord was being subjected to an increasing degree of compression led in each instance to the performance of an exploratory laminectomy, and in all but one the diagnosis of "tumour" was made before operation (one was thought to be tuberculous caries); in all, too, the segmental level of the compression was correctly ascertained before operation. But in no instance could the exact position with relation to the cord and membranes, or the nature of the tumour be foretold. The operations were therefore primarily of an exploratory character.

Results.

Two patients—one with a high cervical intramedullary tumour, and the other with a sarcoma of bone in the upper dorsal region—died within a few hours of the operation. The rest may be briefly set out as follows:

A. *Diffuse Intrathecal Extramedullary Growths.*

Male, aged 49. Died, unimproved, ten months after exploratory laminectomy.

Female, aged 22. Left hospital, unimproved, two months after removal of tumour, and was lost sight of.

Male, aged 64. Improved so much after partial removal as to be able to return to business, but after six months relapsed, and died ten months after the operation.

B. *Intramedullary Tumours.*

Male, aged 33. Incision of cord over tumour. Improved considerably and lived six and a half years.

Male, aged 59. Enucleation of tumour. Improved greatly, then relapsed and died two years and two months later.

Female, aged 45. Incision of cord over tumour. Some improvement at the end of three months.

C. *Extrathecal Tumours.*

Male, aged 38. Decompression of theca and cord. Improved very greatly and lived seven years.

Female, aged 58. Decompression. No improvement after two months; lost sight of.

Female, aged 60. Decompression. Greatly improved at the end of ten months; lost sight of afterwards.

Male, aged 41. Decompression. Slight improvement after four months.

It might seem from a cursory glance at these facts that surgery has little to offer in such cases. It is not easy to put into words, still less into tabular form, what these patients do gain by surgical intervention. The most striking benefit is the relief of pain, a benefit which in most cases is in itself sufficiently great to justify the operation. This is a palliative measure of the first importance. In some cases sphincter control has been improved, but I would not lay much stress upon this point seeing that in general the cases which have done best have been those in which there was little or no disturbance of sphincter function before the operation.

In several cases power and sensation have so far been restored as to enable a bedridden patient to get about and even for a few months to attend to his business. But in estimating the value of operative treatment, the subject of compression paraplegia must be considered as a whole. The causes, other than tumour, are many, and the differential diagnosis is difficult. Loculated collections of fluid (the "meningitis circumscripta serosa" of Horsley), post-gummatous stricture, simple encapsuled tumours, and cold abscess, are conditions which can often be diagnosed with certainty by operation alone, and all these are lesions after removal of which, if the cord has not been too long subjected to pressure, recovery is to be expected.

CONCLUSION.

The chief lesson to be learnt from the study of a series of cases of compression of the cord is that early exploratory operation should be more frequently undertaken. Neither should a clear history of syphilis nor the existence of a positive Wassermann reaction be considered as a contra-indication for operation should improvement not rapidly follow the administration of antisyphilitic remedies. For persons with active syphilis may suffer from spinal neoplasms (three out of fifteen of my cases of simple extramedullary tumour), whilst a constriction of the cord by fibrosis following gummatous meningitis, incapable of being influenced by drugs, may be successfully dealt with by operation.

References.

[1] Quoted by Horsley, *Med. Chir. Trans.*, lxxi. [2] Ibid.

PUBLIC HEALTH VERSUS THE STATE.*

BY

BERTRAM G. M. BASKETT, M.B., B.Ch.Oxon.,

RAYLEIGH.

Nearly seven years ago I spoke at a meeting of this Division and prophesied that the sequel of the Insurance Act would inevitably be an increase in deaths from tubercle. I was called to order; it was ruled that any other aspect was irrelevant than that which had reference solely to the interests of medical men. I am here to-day not to say that my prophecy was true, for you all know that as well as I, but first to show the grounds on which my prophecy was founded, and secondly, to ask you to say that the ruling that such a topic was irrelevant was wrong, inasmuch as to have insisted from the first that the Act could not be in the interests of the public health would have averted the confusion of to-day, and completely frustrated the menace which now confronts the profession.

I may take it for granted that everyone will agree that it is a reproach to a civilized community that a preventable

* An address delivered before the South Essex Division, British Medical Association, October, 1919.

infective disease should be on the increase. It is bad enough if it is a newly discovered disease; the reproach becomes far worse in the case of an old disease, the way to check which has been discovered, and when the disease is increased by deliberate reversal of the process by which it has been checked. And when it is a disease which causes the death of some 1,500 persons per million, causes the disability of two or three for every one who dies in a given year, and is a disease whose cause is known, the reproach becomes a scandal.

This is what we have to say of tuberculosis in Great Britain. Its cause has long been known; it is an infective and preventable complaint; for fifty years it steadily and progressively decreased; and the decrease should have grown still more rapidly, so that by 1896 we had a right to expect, and did expect, the approaching extinction of tubercle as a serious factor in the national statistics. Instead of this we find that in 1896 the rate of decline reached its acme; that after this it became sensibly slower; that later it became stationary; and that in the end it began to rise again. Thus a rapid decline was interrupted by an increase, at first relative, then absolute; so that by 1915 the divergence between the two curves, namely, the actual curve, and that which continues the direction of the fall to 1896, amounted to 25,000 lives.

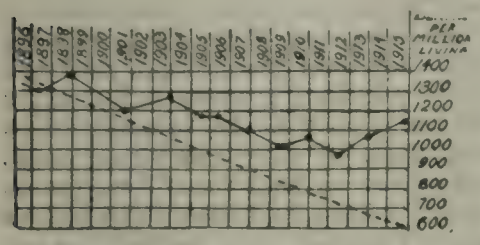


CHART I.—Tuberculosis, England and Wales: yearly rates. The broken line indicates the point which should have been reached if the old rate of fall had been continued.

I have designedly limited the inquiry to the end of 1915 because down to that date the war could have made little or no difference in the death rate of a disease lasting generally at least two and often three or more years. To test my theory I worked out as far as I could in 1916 what should be the result of the economic conditions then prevailing and promising to prevail. It was clear to me that among the civil population the artificial demand for labour was enabling, and would continue to enable, money wages to overtake the rise in prices; it seemed clear that the momentum of the previous increase before 1916 would only gradually cease to be operative, but that so the rise in the rate would cease. I felt indeed, and committed myself to the prophecy in writing, that there would probably be even a slight decrease in the rise in 1916, 1917, and 1918. About 1918 I do not yet know, but as to 1916 and 1917 I was right. The question is complicated after that time by the return of a number of soldiers to civil life, men of all ranks who have been exposed on service to the conditions which in less severe degree are the result of poverty in civil life, such as underfeeding, or feeding on materials lacking in vitamines, overcrowding, exposure to bad weather, depressing nervous strain, and the like. If that part of the population can be separated still, the result for a year or two more should probably be a still further but slight decrease. The question is highly complicated; one has to recollect that certain valuable foods were lacking in quantity, so that even raised wages could not purchase them towards the end. Probably no prophecy can be made with any confidence again till three or four years more have passed. If this theory is right, the rate must then necessarily increase again; or, if not the death rate, still tuberculosis must increase, and the more if expensive State measures continue to be passed. But we must note this very striking fact, that, on any orthodox theory, the tuberculous death rate should have been highest at the end of the war, as in Germany, Austria, France; what did happen here was that the increase was greatest at the beginning.

Of the official explanations of the rise, it is sufficient to state that all are different and none are satisfactory. The Registrar-General's explanation will not hold water for a minute. He insists that a rise in mortality of 12 per cent.—in women only—by the end of 1915 was the result of the rush to factory life before factory conditions were reasonably sanitary. But the rush did not begin until well on in that same year, and the mortality must have been due to disease contracted, on the average, two years previously. The Local Government Board explanation of influenza may be true for 1914 and 1915, but does not explain the fall before and after. And the worst epidemic of influenza in my experience was that in the early nineties, which conspicuously raised the tuberculous death rate for the time, but allowed the five yearly average to fall without apparent check. Such isolated facts as influenza will not explain a fall which, taken in five-yearly averages to avoid ephemeral phenomena, was constant for fifty years, and was succeeded for twenty more by a rise partly relative, partly absolute. Some common factor must be found which varies as the death rate has varied, or nothing has been explained. If such a factor is found; if nothing else will explain the mortality curve; if in addition to explaining the past, it makes it possible to forecast the future, then the conditions of a scientific proof have been fulfilled.

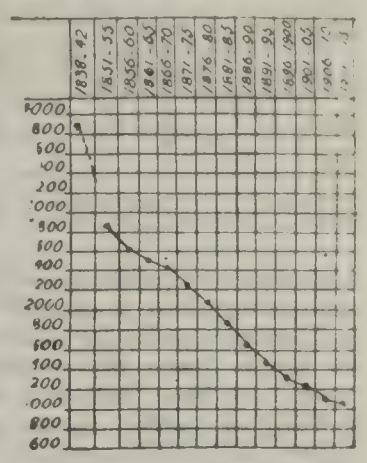


CHART II. — Tuberculosis, England and Wales, 1851–1915: five-yearly averages.

It is unfortunate that there is only one country, Great Britain, which has preserved quite reliable figures—with one break only early in the period—over so long a time as seventy years. Sweden has figures, with one important break from 1831–1860, reaching back to the decade 1751–1760; but as they were collected by the clergy I do not know how far they may be relied on. We have to find a theory which will account for the astonishing fall in the tuberculosis death-rate all over Europe, beginning in the forties with Great Britain, and extending till well on in the present century everywhere in Europe, with the exception of Ireland and Norway; and beyond the confines of Europe with the exception of Japan. We have to explain why a sparsely populated paradise like New Zealand, or a continent with a handful of population, the majority of whom lead the outdoor life, like Australia, should have higher death rates than a well populated country like Denmark; why a country like the German empire, with a most thorough state organization for stamping out tubercle, should have such disgraceful tuberculosis rates as 55 per 10,000 for Düsseldorf, 59 for Elberfeld, over 50 for Osnabrück and Cologne, and 50 for Munich; and why a continent like the United States, starting recently with a clean slate, and taking extraordinary precautions to exclude foreign-born tubercle, should now be involved in a desperate fight against the disease.

The conclusion that the more municipalities and the state have extended their sphere of benevolence the worse matters have become, is so contrary to our preconceived notions as to seem at first incredible. But if it be admitted, as I think it must, that poverty is the chief of many adverse factors, embracing nearly all these factors, producing national morbidity; and if it be recognized, as is the fact, that the distribution of wealth was steadily becoming more equable down to 1896, and that from 1896 to 1914 it steadily became less equable, then it must be allowed that my theory demands respectful consideration.

There is much to confirm it from foreign statistics. They are neither so long dated nor so trustworthy as ours; and of course it is exceedingly difficult to be sure of one's ground unless one can have the intimate knowledge of alien social conditions which one can have of one's own country. But from Koch's last paper on the subject I have been able to get several interesting charts which throw some confirmatory light on the question. He touches on most of the points to which I have referred, but oddly enough, though he repeatedly asks why there was the universal drop all over Europe (save in Ireland and Norway), and though he repeatedly emphasizes the importance of the environment of poverty, he never stops to ask whether economics have anything to do with it. As is natural with a German, the only solution which occurs to him is that more police are needed, though he is fain to confess that the best record comes from days before the disease was known to be infectious. Great Britain, he says, began in the race for improvement. A very little inquiry would have told him of the enormous improvement in real wages due to the introduction of free trade. The rest of Europe followed; he might easily have found

out that every considerable community in Europe lowered its tariff in response to Cobden's crusade. He might easily have found out that the wealth of Europe was enormously increased, partly through the development of steam and electricity, partly by reason of State policy, and found that the typical environment of poverty had been modified. As an object lesson of first magnitude he might have observed in his own charts of Hamburg, Berlin, and Prussia (as to which he says that it is the best of the confederate states) that during the Caprivi treaties, which were the German empire's nearest approach to free trade, the rates fell as never before, and that the Bülow tariff first altogether checked and then lowered the rate of fall. Comparing New York and Berlin, where in both the rate had fallen rapidly for some time and then slackened down, he might have remembered that similarly the Wilson tariff had been followed by the Dingley and then by a still higher tariff. In the same way in Massachusetts the fall under the Wilson tariff is distinctly checked after the higher Dingley tariff.

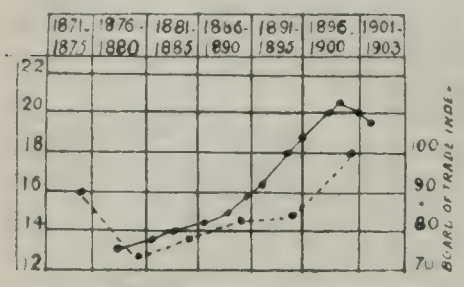


CHART III.—Tuberculosis, Norway. Death rate, after Koch.

I lay stress on the tariff as a factor because it is the one ready guide which a foreigner can have, except in such cases as the Massachusetts chart, where I was struck by a check to the fall in 1876 onwards, and looked up the history, to find that it was four years after the disastrous Boston fire, which was followed by a commercial crisis spreading over the whole state.

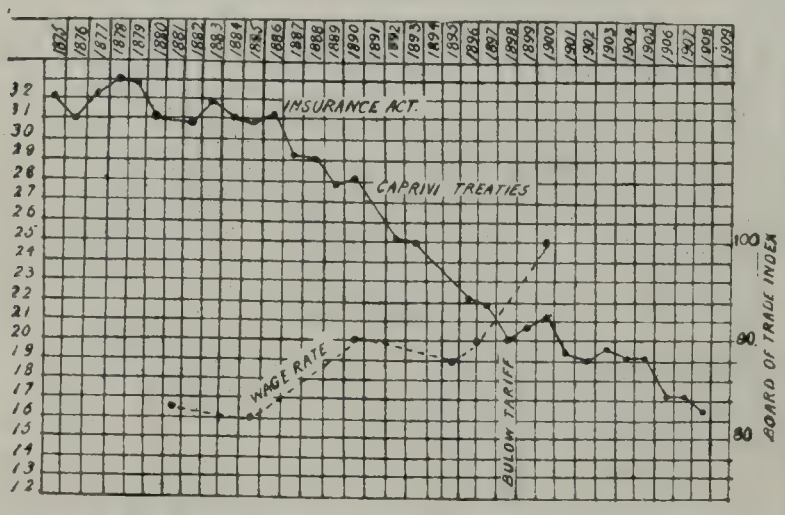


CHART IV.—Tuberculosis, Prussia. After Koch as regards death rate.

Clearly the fall all over Europe from the forties onward cannot be due to variable phenomena. It cannot be due to a biological or spontaneous variation such as occurs in other infective diseases, producing an autogenetic immunity, or leading, now to a virulent, now to a trifling, epidemic. On the contrary, we are all mournfully aware that in the individual case tubercle is as lethal as ever. Though probably far more cases are cured than used to be cured, we still have the residual cases and the more acute cases which seem at the end to have been hopeless from the start. It cannot be due to the increase of knowledge or of facilities for treatment, for the most startling diminution occurred before the cause was known or any politic means of treatment existed; and in Great Britain it remained for the most momentous increase in our records to occur after there had been a huge addition to both. Nor can it be simply that the tuberculous death rate has fallen because the general death rate has fallen; on the whole the fall of the latter has been much slower than that of the former. It is plain that some common factor must exist.

When, in devoting myself to free trade work, I had to study wage rates in various countries, and came to recognize the remarkable relation between a high tuberculous rate and a high tariff, it seemed to me that a flood of light had been thrown on the subject, and that poverty was at the root of the mischief on a national scale. Outside of military life during a war there is only one condition which connotes all the evils of bad environment, as insufficient or unfitting food, overcrowding, bad sanitary conditions, airless houses—namely, poverty. Every one who mentions the question of environment insists on the importance of poverty; and the Insurance Act took its stand, even in the case of so lukewarm a supporter as Mr. John Burns, on the importance of poverty.

Now, as all know, or should know, the "golden age" of the British working class was the fifty odd years from 1842–1896. The rise in money wages was enormous; there has been nothing quite like it in history, except once, for a shorter period, under the similar régime of Robert Walpole. From 1843 to 1834 the average income of a working-class family had risen in money from some £40 a year to £85 or £90; middle-class incomes under £1,000 had risen by a somewhat less, and large incomes over £1,000 by a very considerably less, percentage. All the time money was gradually purchasing more. But after 1896 the process began to be reversed. In money, wages have perhaps been rising, just as they are rising now. But prices have risen still more; so that "real" wages, as distinguished from "money" wages, had been falling from 1896 right up to the war. This fact was mournfully admitted by Radical ministers on every platform, although they were doing all they seemed to know to remedy the defect. The more they tried, the worse matters became.

The coincidence of the height of resistance to tubercle and the height of real wages must at once strike attention. If the yearly chart be closely looked into, indications will be noticed of the extraordinary sensitiveness of the tuberculous death rate as a gauge of real wages. The average case of phthisis may be taken as lasting two or three years; three or four years after political conditions which necessitate higher taxation, or cause distress and raised prices, it may be observed that the number of deaths, if not the death rate, rises for a time proportionate in length to the severity of the causative conditions. For instance, the revolutionary era in Europe is followed by a rise lasting till 1853; the Crimean war and the Indian mutiny are followed after three or four years by a rise in the number of deaths, though negligible in the rate. The American civil war is followed by a rise in the number of deaths which makes a perceptible difference in the rate. The Boer war is similarly followed by a rise.

But all these causes are trivial in degree compared with the rise in municipal rates and municipal debt which began in the nineties, to be followed later by the wildest extravagance on the part of the State; the excuse in both cases was the amelioration of the condition of the poor. By 1905 the municipal debt of Great Britain had come to rival the National Debt, and before the war the State revenue had come to exceed £200,000,000. The larger part of the money is obtained from the pockets of the poor, who, through higher prices, have to pay for State and municipal extravagances, not more in the shape of a protective tariff than in the shape of Workmen's Compensation, or of Old Age Pensions, or last, but not least, of Insurance Acts. In their blighting influence on the poor there is no difference between protection and State paternalism. It is indeed a significant fact that the very name in Australia for the highly developed system of the latter which it enjoys is "the new protection." The excuse in either case is that by benefiting chosen individuals at the cost of the community at large the community derives a benefit which more than compensates the cost. In Mr. Lloyd George's own phrases—to associations of employers—"Of course the consumer will pay; the producer will no more pay than he does under Mr. Chamberlain's Act. Where the consumer will gain is in increased efficiency." The effect, however, in either case is indirect taxation, which always hits the community, and hits hardest the poorest and most helpless portion. It does so by lowering "real" wages.

It will thus be seen that the inverse ratio of real wages and death rate is preserved right through the whole period. As wages rise—or, what is the same thing, as prices fall—the death rate falls; as wages fall off the fall in the death rate slackens; and the relation is so constant that the rise due to other causes—for example, epidemics of influenza—is absorbed and concealed by the five-yearly average of the falling rate prior to 1896. The momentum of the fall due to previous wages rise continues some time

after the cause has ceased to be operative in the previous degree. But after a time the new conditions show the effect clearly, and the Insurance Acts had an effect precisely similar to a big war or any other such economic calamity. This effect necessarily will be abiding; and if the Act remains on the Statute Book in its compulsory form its effect must slowly increase. As the result of increased taxation due to the war the death rate must necessarily increase again, the more so if expensive State measures continue to be passed. Out of many things which are doubtful one fact stands out indisputably and beyond cavil—namely, that the more municipalities and the State have extended their sphere of benevolence the worse matters have become. The conclusion is irresistible that the tuberculosis death rate ultimately depends on the cost of living to the poor more than on any other single factor. There are many others, but the one which has to be considered by the State is the problem of raising the "real" wage rate—in other words, of lowering prices. And let us be under no illusion. Economic *laisser faire* benefits all classes but it benefits the poor most.

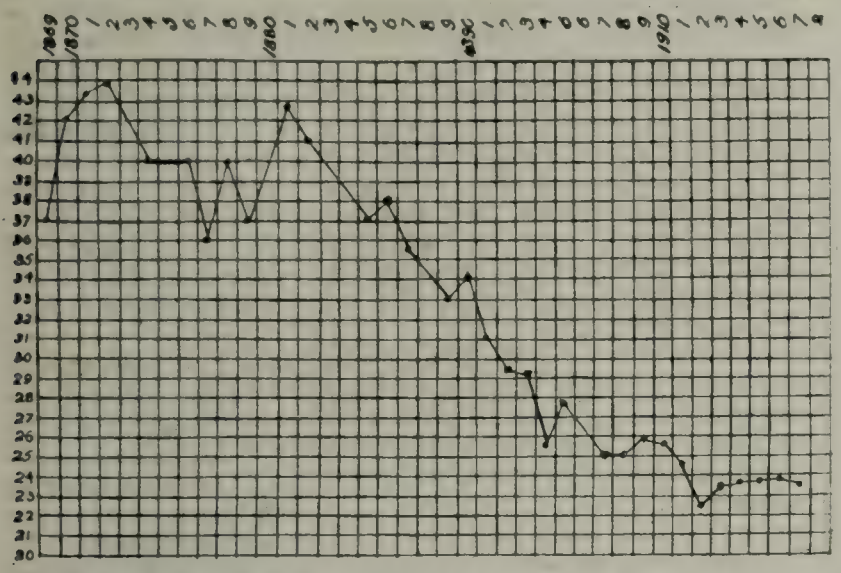


CHART V.—Tuberculosis, New York. After Koch. President Cleveland's Administration, 1885–90; McKinley Tariff, 1890; Wilson Tariff, 1893; Dingley Tariff, 1897.

To sum up: I have not found a case which contradicts the suggestion that if a government concentrates on the question of raising real wages it does more to eliminate tubercle than it can do by any other means. On the other hand, there are very distinct indications that when it sets itself by direct means, involving expense, to improve the conditions of the poor, the usual result is to encourage tuberculosis and raise its death rate, relatively if not absolutely. The Insurance Act enhances, and will go on enhancing increasingly, the cost of living to the very poor, and in this way will increase disease. A capital illustration of the absurdity of State regulation of wages was recorded in the press early in September. A master baker was forced to add 5s. a head a week to his five men's wages. He was allowed to charge ¼d. a lb. extra for his bread. He made £18 7s. 6d., and his men 5s. each, as the result of State interference. So it is always when you attempt to override natural law. Every statute to lower the rate of interest in usury has raised it. Governments tried deliberately for one hundred years after the Black Death to lower wages; they only succeeded in raising them. For six years before the war they tried directly to raise wages. They only succeeded in lowering them. They have passed laws to prevent the private employer paying in truck; and justly. But they are perpetually passing laws to pay men in Government truck, and Government truck has nothing to recommend it as against private truck. As a prominent Forester said at the friendly societies' meeting the other day: "We can give for 1d. what the State charges 1½d. for."

I submit that there is no possible doubt that the Insurance Act operates to lower the value of wages. I submit that the grounds on which a rise in the death rate from tubercle was predicted as a result of the Act were just, and that there is a strong prima facie case for an inquiry. Now I want to say a few words as to why an inquiry should be instituted by the British Medical Association.

In the first place, in the frenzy now raging for the extension of State activities, which has lately been the invariable sequel of a war, it will be long before you will prevail on any Government to inquire whether its activity is not in itself a mischief. The recent extensions of the franchise, however desirable in themselves, cannot but have the effect of attaching a factitious importance to Parliaments and Governments for a period, depending on the time it takes to disillusionize the great body of the electorate. For example, working men rarely use the telephone or telegraph for themselves; they are paying in raised prices in order that these conveniences may be at the call of people better off than themselves, yet I have never heard of a working man raising his voice for the resale of either to private hands. Government is a fetish with them, and, as they are the driving force for the moment, there is little chance of such an inquiry at the instance of the State.

Moreover, for such an investigation it is imperative to have men of science who have no prejudices, no preconceptions, who care only for truth. There should be no party politics in such a committee. Many men among our ranks, especially in high places, have been smitten by the prevailing mania for officialdom, but it would be easy to find medical men without bias who would decide for scientific truth, and that only.

Another decisive reason for an inquiry by medical men is that we best know the facts and could start free from the embarrassment of a load of fallacies which the layman would have to learn painfully to discard. It would, for example, be no use to tell medical men that the Act brings treatment within reach of the poor, in any way where the old individualist method failed to supply it. You and I know that it was not poverty *per se* that was the bar. I can say for myself—and I am sure for everyone here—that never in my life have I refused to attend any person on that ground; the few times I have refused have been where I had reason to know that he *would* not pay if he *could*, not because he could not pay. Nor will Mr. George's pathetic illusion that the admittedly too great cost to the poor will be compensated by greater efficiency on the part of the service bear a moment's scrutiny. It is obvious to us, and should be to the public, that a system which makes the pay the lower the more diligently you attend, and the higher the less, cannot tend to promote efficiency.

Again, we know better than any other class the moral deterioration which has begun to work. Is there any man here who has not more than once heard the remark: "Well, they make me pay; I shall take care to get my own back"? It is perhaps a pardonable, certainly a natural, feeling; as towards a State undertaking it is surely an appalling one. But it is there; and at this juncture it is a dreadful menace to have people feeling and saying, as a woman said to me the other day: "Well, the State is rich."

There are many other facts of this kind, of the utmost value in the appreciation of such a scheme, best known, perhaps solely known, to us. There is no other class, except perhaps the district nurse, which enjoys so intimate a knowledge, or the confidence in so full measure, of the poor.

But more than all is the fact that it is *right* to inquire. These overgrown children in Parliament and in Government offices are deciding the fate of a nation without thought, without caution, with a single eye to the benefit, not of the nation, but of individuals in the nation.

Under the old conditions it was often painful to insist on payment from the poor. But every thoughtful man knows that in the long run it was good for the community to do so, except, of course, in special cases. Just as Octavia Hill, by rigorous insistence on her rents and friendly intimacy with her tenants, showed the solution of the housing problem for all time, and transformed some of the worst characters in London into respectable hard-working people who never, in the worst winter on record, amid general clamours for State relief all over England, went without a day's work, so we know that we were raising the standard of living of the poor, and ultimately raising the market rate of wages. But under the insurance scheme and the extensions proposed that burden is transferred to the community in general, which means that ultimately the poor will pay relatively most. Can you bear that the cost of the raising should come out of the suffering

of those who are least able to bear it? You remember what Brutus says:

> By heaven, I would rather coin my heart to gold,
> And drop my blood in drachmas than to wring
> From the hard hands of peasants their vile trash
> By any indirection.

The railway strike might have been devised on purpose to drive the fact home. Individuals in the pay of the State were to suffer, perhaps are suffering, and the demand arises from their fellows that at the cost of the State their suffering should be relieved. Our latest convert, and a most valuable one, Mr. Lloyd George, pleads that he is trustee for the public funds and cannot accede to the demand without grave injury to the public. He has at last learnt that to relieve poverty out of the taxes is but to increase poverty; that so to relieve a handful of railwaymen would be to impose a heavy burden on every other poor man in the kingdom; and that it is the bounden duty of a Government to resist with all its power the imposition of every additional penny of taxation. The principle, if not the amount, is exactly the same in our case. We ought to have, and must have, more; Government ought not to give more. The position is an impossible one. There is only one course open honestly to the State—namely, to abandon interference and to return to the old system which cost the community nothing—that is, because it was paid by the individual.

In that great book of Sir H. Maine's, in which every man should pass a rigorous examination before he sits in Parliament, he lays down an axiom which has attained instant and permanent acknowledgement—namely, that the history of progress has been the history of advance from status to contract. No human being can deny that the Insurance Act abolishes contract in favour of status for a very large portion of the community. A man who by law cannot contract freely is in status, and the status is that of a slave or a child.

And so we come back to the old motto—

> All constraint,
> Except what wisdom lays on evil men,
> Is evil.

To find it is not a mere political platitude, but a natural law, a profound political truth. Compulsion is not good even for children, except very naughty children. For honest grown men it is not only a crime, but a blunder. Leave it for criminals.

At the conclusion of the address the following resolution was unanimously adopted:

> That this meeting calls attention to the slackening of the fall in tuberculosis mortality from 1896 onwards, culminating in an actual rise in the death rate after the Insurance Act; and resenting its enforced association with a measure which prima facie seems, and on strict investigation may be proved to be, prejudicial to the national health, urges the Council of the Association to institute an inquiry into the effect of the Act upon the nutrition of the poor.

THE Reports of the Borough of Poplar Dispensary for the Prevention of Consumption for the years 1916, 1917, and 1918 have been received. Statistical analyses of cases attending, arranged under different heads, open each report. Attendances at the dispensary for the three years totalled 28,217. Of 539 contacts examined, 71 were regarded as tuberculous. Patients discharged as cured numbered 165. New features include the adoption of "a dried milk of high nutritive value" in lieu of the more expensive ordinary milk. The need of an open-air school is emphasized. Another requirement—a new *x*-ray installation—has been met.

THE calendar of the Faculty of Medicine of the University of Toronto for the year 1919–1920, besides containing the lists of names and information as to examinations customary in such calendars, contains in the issue for 1919–1920 a special notice to the effect that "The senate of the university has determined that the increase in the length of the undergraduate course in medicine from five to six years will go into effect in the autumn of 1919." This notice will apply to all students entering on and after that date, with the exception of those who have been prevented from entering their course during the war on account of their having been on military service.

REMARKS ON SCLERODERMIA.*

BY

FRANK H. BARENDT, M.D.LOND., F.R.C.S.ENG.,

PHYSICIAN TO THE DEPARTMENT FOR DISEASES OF THE SKIN, SENIOR MEDICAL OFFICER, V.D. CLINIC, ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

UNLIKE the names of many skin diseases, the word sclerodermia is not of ancient lineage; its introduction is, indeed, well within the recollection of most of my hearers. The insertion of the "i" before the last letter is to emphasize the fact that we have a definite disease of the skin and not merely a change in structure and texture, which the word "scleroderma" implies. A similar alteration is illustrated in the terms "pachydermia," or elephantiasis, and in "xerodermia," and for exactly the same reason. Parenthetically, I may observe that these descriptive terms ending in "ia" are feminine substantives, whereas the original ones are neuter.

The earliest account of this disease was given by Dr. Curcio of Naples, who apparently did not even bestow a name upon it. Willan, the English dermatologist and great terminologist, called it "ichthyosis cornea." Later Thirial of Paris introduced the term "sclerema adultorum" to describe the disease, and variants — for example, dermato-sclerosis, scleriasis cutis, scleroderma—soon made their appearance in the writings of subsequent observers in different countries. Popularly it is known as the "hide-bound disease," and this Anglo-Saxon term alone and of itself is sufficient to proclaim its existence from time immemorial, even though the first medical record only dates back to 1752.

It is rather curious to note that many of the earlier observers, after the fashion of the schoolmen, seemed to be more intent upon linking up this disease sclerodermia with elephantiasis arabum—pachydermia—and seeking some subtle connexion between the two, than in endeavouring to elucidate its nature. Indeed, it is only in comparatively recent times that we have freed ourselves from the thraldom of tradition in medicine. It is well that it should be so; on the other hand, although, owing to our progress in science, we may justly differ from our forefathers in their views of disease, yet there is a real danger that in coining new terms we may be misled to regard them as new knowledge. A great advantage would accrue to us if a short course on the history of medicine were instituted in our university. Nosological nomenclature alone would play an interesting, not to say fascinating, part in such a subject.

Under sclerodermia two types are described, the diffuse and the circumscribed. One of the cases now reported shows both types, and the other illustrates the circumscribed type only. The circumscribed type was formerly known as, and is still called, morphoea. It has been well described by Erasmus Wilson, who regarded the disease "as a faint trace of a worn-out disease, leprosy," once endemic in these islands. Later Addison described this circumscribed type as "keloid," deriving his term from the Greek κηλίς, a mark such as left by a burn. Hence the combination "Addison's keloid." Addison was at pains to show that the disease he depicted was the true keloid, and quite different from Alibert's keloid. Addison was right, but apparently overlooked the fundamental terminological confusion introduced by the two words with the same initial letter. Alibert, owing to the exigencies of French pronunciation, transliterated the Greek "χ" as a "k." The name was derived from the Greek χηλή, signifying a crab's claw, to which a fancied resemblance can be detected.† Certainly if we are to dispense with the French dermatologist's name, cheloid should be so written—with "ch." This terminological confusion is now a matter of historic interest, especially as Addison's keloid has been definitely recognized by modern writers as a localized type of sclerodermia, and the term keloid is passing into desuetude. Sclerodermia is not a frequent disease. I can call to mind only four examples that have come under my direct observation, and two of these are here this evening for your inspection. It is more often seen in females (nearly 75 per cent.), but no abnormality of the sexual organs has been brought into causal relation.

---

* A paper read at the Liverpool Medical Institution.

† Cancroid, from the Latin "cancer," was also used as a synonym by French writers.

CASE I.

A schoolgirl, aged 12½, came to the Skin Department of the Royal Southern Hospital in February, 1919. She displayed at that time a white glistening ivory-like patch situated in the lower third of the left arm on its extensor surface. It was hard, and the skin could not be raised in folds; there was no itching, no pain, and no disturbance of sensation. There was impaired movement of the elbow, but the wrists and digits were freely movable and the skin in these regions apparently normal. A similar change in the skin was noticed in the left foot implicating the two outer toes and extending along the dorsum pedis to some four to five inches above the external malleolus.

Her mother stated that the child first noticed this condition during the summer holidays, July and August, 1918. She thought she had sprained her arm when playing with the maypole. The condition of the toes and outer margin of the foot and ankle was not noticed until November, 1918; but neither the patient nor mother can definitely state when or how the disease began, and these data are not therefore quite trustworthy. From February, 1919, to the present time sclerodermia has slowly extended, implicating the whole of the extensor region of the upper extremity. The flexor aspect of the limb is not involved, and over the biceps and flexors of the wrist and hand the skin is supple and apparently normal. The hand itself shows typical sclerodactyly. The scapular region is also involved, and here appeared slight ulceration, of which the cause could not be ascertained. This is now healed, leaving a scar like that of a burn. In April, 1919, two circumscribed patches, one in the left hypochondrium and the second in the umbilical region, were discovered, and have since undergone a certain degree of involution. This fact has been noted by various observers in the circumscribed type.

The present redness of the skin of the hand and fingers is referable to the cold weather, and does not suggest any connexion with Raynaud's disease, which some writers would appear to support. The morbid histology is briefly that of atrophy of the fibrous elements of the true skin and subcutaneous tissue. The elastic element is not involved. The blood vessels are atrophied, the result of interstitial inflammation of the walls. The glandular apparatus, as well as the hair follicles, show secondary atrophic changes. The epidermis is diminished in depth, but otherwise normal. I hope to show a microscopic specimen of these changes at a forthcoming pathological meeting.

The pathology of sclerodermia is unknown, and equally so its etiology. Of course, hypotheses are forthcoming, but no facts to support their validity. There is an angioneurotic hypothesis, a central nervous hypothesis, and an autotoxic hypothesis. I have no extra one to offer, and cannot explain sclerodermia. It cannot be referred to malnutrition, although the parents think that the food rationing in the early part of 1918 may have had something to do with its appearance. I have not read of any increase in sclerodermia among the inhabitants of Central Europe who have suffered immeasurably more from malnutrition than we.

Treatment locally and constitutionally has signally failed. It has not prevented the progress of the disease. Locally, linimentum potassii iodidi c̄ sapone, beloved of the surgeons, has been vigorously rubbed into the affected region for a month or so. This was followed by more stimulating liniments—turpentine and ammonia equal parts—for another month. Then successively the following ointments were used, but with no benefit: Unguentum acidi salicylici, unguentum hydrargyri compositum. At present, more from a massage standpoint of view, olive oil is being vigorously rubbed into the withered limb.

Internally fibrolysin was given hypodermically every week for three months. It made not the slightest impression. Fibrolysin is another name for thiosinamine, which is an organic derivative from oleum sinapis. It was introduced as a solvent or discutient of fibrous, and especially cicatricial, tissue in tuberculides and hypertrophic scars as a result of burns. In these cases, used as a plaster, I have noted great benefit. Since August, 1919, thyroid extract has been administered, 2½ grains thrice daily, and she is still taking this, but with no benefit as far as I can judge. The only point I can make is that during the last six months the disease has not extended. The withered condition of the left arm has become more striking owing to the atrophy of the muscles.

The blood has not been examined by the Wassermann test for syphilis; there is not the slightest clinical indication of inherited or acquired syphilis. Colonel Harrison returned the blood of a case of sclerodermia as positive; three other bacteriologists returned the same case as negative. According to Drs. Browning and Kennaway (bacteriological experts) the blood of every patient, no matter what the nature of the disease may be, should be submitted as a matter of routine to the Wassermann test. If this be a correct method of handling suffering humanity, then I plead guilty to this sin of omission. I have, however, serious intention of repairing the fault, for who of us knows nowadays that on a serological test he may not be declared to be possessed of latent syphilis which a Wassermann test has rendered patent! And, moreover, are not "606" and "914" potent remedies, and fit to be tried in diseases in which hitherto we have been impotent to cure? [A Wassermann test has since been made and reported negative.]

CASE II.

A woman aged 35, married twelve years, who has no children but gave birth to a premature child at seven months which died shortly after birth, shows a patch of circumscribed sclerodermia in the middle of the bicipital groove of the right arm, from which a band extends along the ulnar margin of the forearm. She has had it for six years, and has only recently complained of weakness and impaired movement. She was sent to the Royal Southern Hospital by Dr. Humphreys in October, 1919. I ordered compound mercurial ointment to be rubbed well into the affected region, and probably it is due to the vigorous rubbing that she states she is much better, and has freer movement. The disease, at any rate, has made no progress during the last six weeks as far as I can judge.

In conclusion, I can but regret the futility of every medicament that has been used. It would have added greatly to the interest had I been in a position to say how the disease can be ameliorated, let alone cured.

MENINGITIS TREATED BY INTRATHECAL INJECTIONS OF THE PATIENT'S BLOOD SERUM.*

BY

RUPERT WATERHOUSE, M.D., M.R.C.P.LOND.,

CONSULTING PATHOLOGIST TO THE ROYAL UNITED HOSPITAL, BATH; PHYSICIAN TO THE ROYAL MINERAL WATER AND ROYAL UNITED HOSPITALS, BATH.

THE clinical features and the characters of the cerebro-spinal fluid in the following case leave little room for doubt that the patient was suffering from cerebro-spinal fever. The cerebro-spinal fluid was not examined until the eighth day of illness, and absence of meningococci so late in the disease does not, I think, invalidate the diagnosis.

The patient, a man aged 30, had always enjoyed good health except that two years ago, whilst serving with the heavy artillery in France, he suffered from "boils." In his last camp before demobilization many of his comrades suffered from influenza, but he escaped. He was demobilized about the middle of April, and on April 28th entered a gentleman's service as valet. At this time he seemed somewhat dull and lacking in energy compared with his former self, but had no definite illness until May 30th, when he shivered and complained of headache. The headache was accompanied by fever (103° F.) and photophobia, and for the next few days was so severe as to require morphine for its relief. On June 4th he complained of stiffness of the neck, and on June 6th a crop of herpes appeared about the nose and lips.

On the following day he was admitted to the Royal United Hospital. At this time there was slight retraction of the head, the posterior cervical muscles were very stiff, and the head could not be bent forward. With the thighs flexed at a right angle to the trunk the legs could be extended only to an angle of 135 degrees with the thighs. All the reflexes were normal except that the right abdominal reflex was much brisker than the left. The plantar reflexes were of the flexor type. The temperature was 102.2° F., the pulse 100, and the respirations 22. There was no optic neuritis, and the membrana tympani were normal.

The cerebro-spinal fluid was under considerably increased pressure and about 50 c.cm. were removed by lumbar puncture without difficulty. The fluid was turbid, clotted on standing, and contained 3,000 leucocytes (91 per cent. polymorphonuclear) to the cubic millimetre. Exhaustive search failed to detect any micro-organisms in stained smears. The urine was alkaline, turbid from the presence of bacteria, and showed a white deposit consisting of phosphatic crystals, leucocytes, epithelial cells, and a few erythrocytes; the bacteria present comprised Gram-negative coliform bacilli, encapsulated Gram-positive diplococci, and a short Gram-positive bacillus.

On the following day culture tubes of human blood serum agar and of Loeffler's blood serum inoculated the day previous with the cerebro-spinal fluid were found to have remained sterile, and as the patient's condition showed no sign of

* A paper read to the Bath and Bristol Branch of the British Medical Association.

amelioration but rather the reverse, the headache, Kernig's sign, and retraction of the head all being more pronounced, it was decided to try the effect of intrathecal injections of the man's own blood serum, in the hope that antibacterial substances might be present in sufficient quantity favourably to influence the supposed infection of the meninges.

Accordingly about 50 c.cm. of blood were removed from a vein in the arm into a bottle which was then allowed to stand overnight in ice-cold water; 20 c.cm. of the resulting serum, after being warmed by placing the container in warm water, were then slowly injected into the subarachnoid space by lumbar puncture after removal of the same quantity of cerebro-spinal fluid. This proceeding was repeated on the three following days; only 12 c.cm. of serum, however, was injected each day as the cerebro-spinal fluid was under less tension and no more could be conveniently abstracted. A further 5 c.cm. were injected two days later (June 14th). From June 9th 10 grains of helmitol were given every four hours until June 14th, when the appearance of a considerable quantity of blood in the urine led to its being reduced to 5 grains every four hours. This haematuria quickly cleared up, and though the urine contained a trace of albumin until June 21st it was subsequently free; there was no evidence to the naked eye of bacteriuria, and the reaction was acid.

On admission to hospital the patient gave the impression of being desperately ill, and for the next two days the symptoms increased in severity. Headache was intense, there was delirium at night, the retraction of the head and Kernig's sign became more pronounced, and flesh was lost at a truly astounding rate. Improvement set in from the time of the first intrathecal injection, though headache was still sufficiently severe to require morphine hypodermically on the nights of June 9th, 11th, and 13th, and he continued to lose flesh. On June 15th and 16th there was incontinence of urine. From this time a striking feature of the case was the rapidity of convalescence.

After admission to hospital the temperature kept between about 100° and 102° until June 14th, when it fell by lysis, becoming normal on June 18th. There was a rise the following day, June 19th, to 101°, but subsequently, except for an evening rise to 99° on June 25th, 26th, and 27th, it remained normal till his discharge from hospital on August 3rd. In September he resumed work as a valet and has since remained perfectly well.

The failure to find micro-organisms in the fluid withdrawn by the first lumbar puncture was repeated in examinations, both by smears and cultures, of that withdrawn on subsequent occasions.

Had cultures been available of the four different groups into which the meningococci most commonly met with have been divided by Gordon, it would, perhaps, have been possible by the agglutinative reactions of the patient's blood serum to have determined which particular group was responsible for his illness and to have administered the appropriate antiserum. As they were not available, it was decided to proceed as above, and though it may be urged that the mere removal of the cerebro-spinal fluid or the administration of helmitol, which by some is claimed to exert a bactericidal action in the cerebro-spinal fluid when given by the mouth, may be factors in producing the favourable result, the recovery—and perhaps one might add the rapid recovery—of a case which at one time appeared to be hopeless is recorded in the hope that the measures adopted may be of use in similar cases where the exact nature of the infecting organism cannot be ascertained.

McKenzie and Martin [1] in 1908 reported twenty cases of cerebro-spinal fever treated by intrathecal injections of the patient's own serum or of serum from other patients convalescent from the disease. Of these four were chronic cases and all died. Of the sixteen acute cases ten recovered, and of these two were treated by injections of their own serum, though in what quantity is not stated.

In conclusion, my thanks are due to our president, Dr. King Martyn, for kindly supplying me with the details of the earlier period of the patient's illness.

REFERENCE.
[1] *Journ. Path. and Bact.*, 1908, xii, 539.

ACCORDING to the *Boston Medical and Surgical Journal*, it has been established that the sum of 15 million dollars must be raised throughout the country in order to carry out the work already begun in supplying food, clothing, and medical aid in countries devastated by the war and for continuing the health campaign.

MRS. H. M. PLAYER, of Redland Park, Bristol, who died in October last, has bequeathed £500 to the Bristol General Hospital and £250 each to the Bristol Eye Hospital and the Bristol Royal Hospital for Sick Women and Children. The Bristol Royal Infirmary is to receive the remainder of her estate after the various bequests enumerated in the will have been distributed.

FORGETTING: PSYCHOLOGICAL REPRESSION.

BY

ALFRED CARVER, M.A., M.D., D.P.M.CANTAB.,

DIRECTOR OF THE BIRMINGHAM PSYCHONEUROSIS CLINIC.

THOSE who devote themselves to the treatment of functional nervous disorders, especially so-called neurasthenia—which term as used by the services and the pensions boards really conceals various hysterical manifestations among which anxiety states predominate—are constantly confronted by the patient with the statement that doctors have advised him to pull himself together, exercise his will power, and forget all about the incidents which proved his undoing. Such an attitude was taken up by Sir William Hale-White,[1] who stated explicitly that "talk should never be about past war experiences," but the patient should be helped to forget them by the aid of easy games of cards, light reading, croquet playing, etc. It is unfortunate that, in spite of the experience gained during the war in the special military neurological hospitals, this attitude should be so prevalent. The forgetfulness thus advised is nothing other than repression, and psychological analysis invariably reveals the fact that the patient's anxiety condition is directly attributable to it. This is due to dissociation and displacement of the affect, which then tends to attach itself to suitably associated presentations.

The more successful he is in repressing the memory of his unbearable experiences the more severe become his symptoms. Roughly, one may note three grades of repression or forgetfulness.

First, there is the degree in which the idea of the original incident is so unbearable to the ego as to be immediately and completely repressed. In this case the patient attempts to defend himself by complete amnesia for the event, which amnesia often includes, as an additional security, a considerable lapse of time in which the unbearable event is contained. For example, a patient may remember nothing after an explosion until he "comes to life again" in hospital a month or so later. Such a patient has most effectively practised the method of forgetfulness, but his condition is pitiable in the extreme.

One such case recently under my care was discharged from the army in 1916 as permanently unfit. Instead, however, of improving with lapse of time, he became progressively worse and had to give up work altogether. Recovery of the amnesia showed the unbearable incident to be that while lying semi-concussed upon a stretcher he had been robbed, and when he had offered such feeble resistance as he was capable of had been struck on the jaw and told to lie still. The recovery of the amnesia—in August, 1919—produced a remarkably steadying effect upon the patient. Other apparently forgotten events were subsequently in a similar way revived and the patient's attitude towards them readjusted, with the result that he lost his anxiety symptoms and has been comfortably back on full work for the past two months.

The second degree of repression is that in which a patient remembers and is able to talk about most of the events in his military life, but has incompletely repressed certain of them on account of their highly disagreeable nature. Cases of this sort are particularly apt to deceive one and thus run a protracted course.

As an example I might mention the case of a man who had seen three years' service in France and to all outward appearance carried on satisfactorily until slightly wounded just before the armistice, after which he had to be invalided home with "neurasthenia." With a little encouragement the patient could discuss his military history apparently in detail. A good deal of perseverance was required to bring to light the pathogenic event. This proved to be the death by shooting, under tragic circumstances, of a close friend with whom he was constantly associated as a sniper.

The resistance which the analyst experiences in bringing such a repressed incident to light is considerable, as is also the emotional reaction of the patient at the moment, but the rapid recovery which follows is equally gratifying to both parties.

The third degree of repression is found among pensioners to be the most common and the most troublesome to deal with. In it there is no event of particular moment; the subjects of it deliberately try to exclude the whole of their military service from their minds, and desire to live as though the experiences contained in it had never been. In this group of patients especially one may notice a latent period intervening between the disagreeable experiences and the onset of the symptoms. Thus, a considerable

number of the men in this group make no claim upon demobilization, their symptoms having developed later and after they had resumed civilian employment. Analysis of these patients generally shows that their powers of adaptation were never good, and that prior to military life they had a marked tendency to expect external conditions to be made comfortable for them rather than strive to adjust themselves and to dominate their environment. As their environment naturally refuses to comply they endeavour to ignore everything which does not suit them. When confronted with their failures, they tend to explain these as due to lack of physical strength on their part or as due to the injustice of a system or of persons with whom they were brought in contact. Here again treatment resolves itself into getting the patient to face external reality, to remember and assess his past failures, disagreeable experiences, etc., at their true value. The success or otherwise of treatment depends very largely upon the intelligence of the patient.

It should be borne in mind that the making conscious of the forgotten—repressed—material is only a necessary first step, our ultimate aim being to readjust and re-educate the patient. This cannot be accomplished while his mind is refusing either consciously or unconsciously to deal with past unpleasant experiences, for these tend to cast a baneful influence over all the reactions of his subsequent life; hence the necessity for the removal of the resistance.

Limitation of space forbids my entering into the psychic mechanism involved in these cases, but I have dealt with this more fully elsewhere.[2]

In conclusion, I would say that the remarks here made apply with equal force to civilian psychoneurotics, though the latter are as a rule more difficult to deal with, and require of the doctor a greater experience in the preliminary bringing to light of the repressed material. I feel that, at the present time, when so large a number of these cases are demanding treatment, it would be a great advantage if the profession as a whole realized the pathogenic effects of repression. The task of those who are engaged in the treatment of the conditions above referred to is rendered all the more difficult if the patient is fortified by medical advice in his efforts to forget.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, August 23rd, 1919. [2] *Brit. Journ. Psychol.*, vol. x, Part I.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

GASTRIC ULCER AFTER GASTRO-JEJUNOSTOMY.

IN the BRITISH MEDICAL JOURNAL of November 29th, 1902, I made a brief reference, among other cases of gastric ulcer, to that of a man, aged 51, from Lancaster upon whom I performed pyloroplasty and gastro-jejunostomy on December 12th, 1901, on account of two ulcers; one near the pylorus I excised, and did pyloroplasty to widen the narrowed pylorus. The other ulcer, deep in the pylorus, could not be excised owing to complicated adhesions, but as an additional safeguard gastro-jejunostomy was performed at the large curvature of the stomach. A very good report was made in my hospital case-book by the dresser, Mr. A. B. Sykes, now of Formby, near Liverpool. The man made a good recovery and continued in good health and vigour nearly three years.

However, a report was made to me by Mr. C. W. Dean of Lancaster that the man had died on August 14th, 1904, having been admitted moribund into the (now Royal) Infirmary of that town. *Post-mortem* examination showed perforation of a fresh ulcer of the jejunum, where attached to the stomach. This last illness had lasted a couple of days, and the man might have had a chance if he had applied at first, when an operation would have been done, with good prospect of success, by the Lancaster surgeon.

The remarkable thing about this occurrence was the ulceration of the jejunum at its point of attachment to the stomach, and entirely away from the two gastric ulcers previously relieved.

RUSHTON PARKER.

Liverpool.

TREATMENT OF DELIRIUM TREMENS.

DR. F. WYATT-SMITH'S note in the BRITISH MEDICAL JOURNAL of December 6th, 1919, raises several interesting points. Before the war it was my lot in twenty years of asylum work to treat many cases of this disease, and I cannot recollect one that did not respond to the old mixture of potassium bromide 30 grains, chloral hydrate 20 grains, and tincture of digitalis 10 minims, every four hours, with a calomel and saline purge to start with; nor do I remember losing a case, unless complicated by pneumonia. But since whisky drinking has become expensive the disease has practically vanished.

Dr. Wyatt-Smith's remarks on hyoscine and sulphonal should not be allowed to pass without a warning. Hyoscine hydrobromide is the most reliable sedative in states of acute excitement, and in doses of $\frac{1}{100}$ grain, combined with $\frac{1}{3}$ to $\frac{1}{2}$ grain of morphine, is my sheet anchor in such cases. But I have notes of three cases in which hyoscine given over extended periods had a cumulative effect, ending fatally.

Dr. Wyatt-Smith says he never met anyone who had seen a case of haematoporphyrinuria the result of sulphonal. I have had three cases in my own experience, two ending fatally. One was in the early days of sulphonal, when it was boomed as an absolutely safe hypnotic, and occurred in the case of a strongly built girl the subject of chronic mania. She had sulphonal in 20 grain doses night and morning for some weeks, developed haematoporphyrinuria and died. The other fatal case arose in a young man after only two doses of 20 grains each, and was obviously due to an idiosyncrasy to the drug. I have also seen alarming coma result from a single dose of 20 grains in a woman. She was unconscious for twenty-four hours and needed strong stimulation with caffeine, etc., to bring her round.

I find veronal in doses of 7 to 10 grains preferable in every way to sulphonal and now rarely employ the latter drug. It is of the utmost importance, when prescribing any of these drugs over extended periods, to keep the bowels well open.

W. STARKEY, M.B., B.Ch.,
Medical Superintendent, Plymouth Borough Asylum.

Ivybridge, S. Devon.

CALCIUM CHLORIDE AS A HAEMOSTATIC.

A SHORT time ago (November 8th, 1919, p. 597) Dr. Gwillim Davies related a case in which he had used calcium chloride with success as a haemostatic. On the first occasion he injected from eight to ten grains of the salt in solution into the gluteus, and on the second four grains. He mentioned that he was indebted to Dr. W. R. Grove of St. Ives for a knowledge of the value of the drug in this respect. We have received a communication from Dr. Grove expressing the opinion that the doses given by Dr. Davies were unnecessarily large, and, in fact, bordering on the unsafe.

Dr. Grove described his method in the *Guy's Hospital Gazette* of May 18th, 1918. He uses a solution of fused calcium chloride made up 1 in 4. If, as is the case when hard water is used, there is a precipitate, this is shaken up. Four minims of the fluid are drawn into the syringe, and boiled hot water is drawn up afterwards to the 20 minim mark; this is injected deeply into the gluteal muscles. The injection is painless. Dr. Grove has sometimes made the injection in patients who have been going about; these got slight stiffness afterwards down the leg. No external signs remained. He states that some years ago, at a meeting of the Cambridge Medical Society, Professor Dixon pointed out that while the value of salts of lime for increasing the coagulability of the blood was well known, their absorption from the intestine was practically *nil*. He therefore suggested a hypodermic injection, and recommended a dose of 1 grain. The hypodermic injection, however, produced sloughing of the skin, and therefore it must be given intramuscularly. Dr. Grove states that he has used the drug in the dose and in the manner described not only in haemoptysis, but also in haematemesis, in a case which presented signs of peritoneal haemorhage after abdominal hysterectomy, and has found it useful also in certain cases of metrorrhagia. He states that it will be found of value in ruptured extrauterine pregnancy, before operation, and in typhoid haemorrhage. He also mentions having used it in a case of aortic aneurysm with apparent benefit. He points out that evidence as to the rate at which the salt is

excreted would be helpful; from clinical evidence he thinks that the blood soon returns to normal. Again, he asks whether, in old people with roughened arteries and a liability to thrombosis, it is safe to use the method. He also raises the point whether it would be better to use a still weaker solution.

Reports of Societies.

UTERINE CANCER.

AT the last meeting in 1919 of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, Dr. BETHEL SOLOMONS showed two specimens: (1) a carcinoma of the cervix; (2) a sarcoma of the uterus.

The uterus in the first case was removed by Wertheim's method from a woman of 31. She consulted him because of sterility. On examination he found a nodule in the cervix; he removed this, and the pathologist reported it to be an epithelioma. It was then necessary to decide between vaginal hysterectomy and Wertheim's operation. The disadvantage in the former was that the vagina was extremely narrow; the disadvantage in the latter was that the woman was very fat. After due consideration the abdominal operation was determined on, and after a Pfannensteil's incision the operation was speedily accomplished. He dwelt on the advantage of this incision in fat women, as the fat area was avoided.

The second specimen removed was from a woman of 60 who complained of a stinking discharge, wasting and cachexia. On examination a tumour about the size of a six months fetal head was found in the vagina. This was removed by morcellement, and on reaching the cervix it was found that the os uteri admitted two fingers and the uterus was filled with a fetid tumour. The latter was removed with the spoon forceps and the uterus curetted. There were several pounds of the tumour, and the pathological report was giant-celled sarcoma. On examination of the patient after the removal of the tumour it was found that the uterus was fixed and that the growth extended to the right pelvic wall and evidently involved the intestines. The disease was so advanced that no further operation was possible. The patient was greatly relieved and there was no discharge.

Sir WILLIAM SMYLY agreed that in cases where cancer of the cervix had been diagnosed with certainty, even where the disease was very limited in extent, the most radical method possible should be employed.

Ovarian Insufficiency.

Dr. ASHE read a paper on ovarian insufficiency as a probable cause of epilepsy. He advocated the administration of glandular extracts in suitable cases.

Dr. SOLOMONS said he thought hypodermic medication of glandular extracts was probably an improvement on oral administration. He had had great success with corpus luteum extract, also with some of the combined extracts—for example, hormotone and ovo mammoid. He still felt that endocrine therapy was rather "a shot in the dark," and he hoped investigation would soon put endocrinology on a sounder basis. He had met many cases of epilepsy in connexion with menstruation, and he had found that some were benefited by glandular extracts, others by ergot, and others by anti-anaemic and anti-constipation remedies.

Sir W. SMYLY remarked on the importance, in young women, of preserving both ovaries if possible, because though it might appear that one would suffice, yet subsequently, as in one of the cases mentioned, it also might have to be removed. As to treatment by glandular extracts, he thought there was more likelihood of obtaining definite knowledge by the hypodermic injection of one than by the simultaneous introduction of half a dozen into the stomach.

Schultze's Forceps.

Sir W. SMYLY gave an exhibit of Schultze's forceps. He maintained that Schultze's spoon forceps, though not now such an important instrument as it was when first introduced into practice upwards of a quarter of a century ago, was still one of the best means of removing submucous myomata, whether pedunculated or not.

Dr. BETHEL SOLOMONS said that he found the original Schultze's forceps a most useful instrument. The absence of the lock made morcellement, which was sometimes a tedious operation, a quick one. He saw the advantages in the increased weight and in the lock devised by Sir William Smyly, but so far he was satisfied with the lighter instrument without the lock.

Reviews.

THE GREAT WAR AND THE R.A.M.C.

THE first volume of the popular medical history of the war, or *The Great War and the R.A.M.C.*, by Lieut.-Colonel F. S. BRERETON,[1] deals with the narrative of events during the first two months of the war. As pointed out in a short preface by Lieut.-General Sir John Goodwin, the author has had access to official documents and diaries so as to ensure accuracy.

The first two chapters give a general account of the Army Medical Service, and show the improvements, such as the sanitary sections with specialists in the destruction of flies, that produced the phenomenal contrast between the toll of disease, especially enteric fever, in the South African war and in the years 1914–19. The organization and various units of the R.A.M.C. are described and illustrated by a diagram, and by tracing the sick or wounded man from the front trenches to England. The failure of horse transport, which rendered the field ambulances immobile in the retreat from Mons, led to the substitution of the motor ambulance with incalculable benefit to the wounded. It is sad that the parsimony of the Government and the narrow outlook of ignorant individuals had blocked the Director-General's recommendation for motor ambulances before the war. The casualty clearing station—a new unit—to which the field ambulances passed the sick and wounded, proved to be a vital link in the medical arrangements, and again and again justified its establishment. The great debt of gratitude to the British Red Cross Society under the guidance of Sir Arthur Stanley and to the Order of St. John of Jerusalem is graciously acknowledged.

After a brief but graphic description of mobilization in August, 1914, the detailed narrative starts. The cavalry field ambulances were naturally the first of the medical units to smell powder, about August 22nd, but the first casualty in the British Expeditionary Force was four days earlier, when two flying officers suffered disaster at Peronne on the Somme. The story of the terribly exhausting retreat from Mons gives a pathetic interest to an account of the hard and conscientious work of the R.A.M.C., crippled by the need for motor ambulances, which led to the capture of a number of medical officers who remained with the wounded; whereas the Germans, whose transport was similarly deficient, left their wounded exposed and unattended in the action of the Marne.

The reader passes with relief from the account of the retreat from Mons to the advance over the Marne after von Buelow and von Klück had been obliged to retrace their steps. The advance over the Marne showed practically for the first time the excellence of the British Field Ambulance, and during this week of rapid movement the scheme of evacuation so often practised on peace manœuvres was carried out successfully. The description of the operations of the Second Division at the crossing of the Aisne contains an account of the heroic deaths of Lieut.-Colonel O. Dalton, Captain H. S. Rankin, and Lieutenant Huggan. The appendices give the staff of Surgeon-General Sir T. P. Woodhouse, the D.M.S. in France, who sailed with the Expeditionary Force in August, 1914, and the official report to the British Government on the horrors of Wittenberg.

In conclusion, a running summary of the military events accompanies the account of the movements of the R.A.M.C., and provides a most interesting and clear description on which Lieut.-Colonel Brereton may be heartily congratulated.

GENITO-URINARY SURGERY.

DURING the last six months or so a great number of books on venereal disease have been published, but the majority, it must be said, have added little to our knowledge of that important subject. In Major N. P. L. LUMB's book, *The Urethroscope in the Diagnosis and Treatment of Urethritis*,[2]

[1] *The Great War and the R.A.M.C.* By Brevet Lieut.-Colonel F. S. Brereton, R.A.M.C. London: Constable and Co. 1919. (Pp. 300; 9 maps and 2 appendices. Price 12s. 6d.)

[2] *The Urethroscope in the Diagnosis and Treatment of Urethritis: A Contribution to Urethroscopy.* By Major N. P. L. Lumb, O.B.E. R.A.M.C.(T.C.). London: J. Bale, Sons, and Danielsson, Ltd. 1919. (Demy 8vo, pp. 63; 40 illustrations. 10s. 6d. net.)

we are glad to welcome a work that should prove of real use to those engaged in the treatment of gonorrhoea. It achieves its purpose, which is to furnish a practical guide to urethroscopy, and more especially a guide to the use of the urethroscope in the control of treatment. Instead of emphasizing, as has too often happened in previous works, the rarities encountered in the urethra, the author wisely directs attention to the lesions found in everyday practice. He also shows the changes in the appearance of these lesions after appropriate treatment, such as dilatation. The merit of a work on urethroscopy lies in the illustrations rather than in the letterpress, and both Major Lumb and his publishers are to be congratulated on the quality of the coloured plates in this work. One small criticism may, however, be made. While engaged in studying the letterpress the reader is compelled to do a considerable amount of turning over of pages in search of the appropriate illustration; some of this trouble might possibly have been avoided by a different method of arrangement. However, the interspacing of coloured plates is always a difficult task, and this minor inconvenience will not divert attention from the general excellence of Major Lumb's work. It may be commended to all who are on the look out for a practical guide to the diagnosis and treatment of urethritis by means of the urethroscope.

In writing his book, *An Outline of Genito-Urinary Surgery*,[8] Dr. G. G. SMITH has aimed at presenting to students and general practitioners a clear and concise summary of symptomatology, patho'ogy, and treatment. Genito-urinary surgery has made such great advances during the past two decades that it can have been no easy matter to have kept such a work within narrow limits. Nevertheless the author has covered the ground with remarkable completeness, and has brought together within a comparatively few pages a vast amount of useful information. A handbook of this kind, if it is to be kept within prescribed limits, must of necessity be written in a somewhat dogmatic style; the author cannot afford space for the presentation of alternative theories and views of treatment. It would be easy, therefore, in reviewing such a work to pick out statements that are open to criticism, but this would scarcely be fair when the object of the author is kept in mind. Although genito-urinary surgery as it affects the general practitioner is the main topic, enough detail has been given concerning the major surgery of this region to allow the reader to gain a very fair knowledge of its indications, its aims, and its dangers. For those who desire further information on any of the subjects under discussion the author has appended to each chapter a useful list of references. The illustrations and plates are of the high quality maintained by so many of the better American textbooks, and contribute in no small way to the value of the work. Altogether it should be most useful to all practitioners in search of a compact and readable outline of genito-urinary surgery.

NOTES ON BOOKS.

ANNUALS.

THE 1919 edition of that most useful reference book, *Burdett's Hospitals and Charities*,[4] appeared towards the close of the year; it contains some 250 pages more than its immediate predecessor, though the price is the same. The thirtieth year of issue of the work has been full of anxiety for the managers of voluntary hospitals and kindred institutions, and it is therefore natural that Sir HENRY BURDETT should devote a good deal of the introductory matter to the present and future of the voluntary system. He recognizes that in the period now approaching the field of charity must expect much reorganization and many modifications and changes. The first chapter discusses the volume of charity in the British Isles, with tables showing the income and expenditure for 1916 and 1917 of the hospitals, dispensaries, homes, and so forth, of which particulars are given in the subsequent sections. The opening chapters taken together give a full account of the financial position of the voluntary institutions in the British Isles, and of the general effect upon them of the war. The editor remains full of hope and confidence for the future of voluntary hospitals, but he is very contemptuous of the way in which the sponsors of the National Insurance Act failed to provide for the hospital requirements of the insured population. "British men and women entitled as insured persons to medical benefits under the Acts were thus placed in the humiliating position, which Germans of both sexes had refused to occupy, of being recipients of charitable relief, if and when they could obtain it, which in practice was seldom or never." This is a hard saying, and not quite easy to reconcile with his praise of the voluntary hospital system. The main body of the work—some 800 pages—provides the customary detailed directory of institutions, both at home and abroad. The volume, as a whole, is a mine of accurate yet condensed information.

That section of *Whitaker's Almanack* for 1920[5] which deals with foreign countries reflects the changes brought about by the Versailles Peace Congress, and also, as was inevitable, the confusions and uncertainties which still remain, especially with reference to Russia and Arabia. The information, however, is very complete and for the moment accurate, so far as we are able to judge, save that the maps with which it is most usefully illustrated do not appear to be in all cases quite consistent. The article on France has been revised and brought up to date, and we find new articles on Czecho-Slovakia and on Serbia, which appears with extended territory and under a new name as Yugo-Slavia. There is a new section on questions of the day touching on a great variety of subjects; they range from the Channel tunnel to the Trade Union Congress, and from the movement for the prohibition of alcohol to research associations, although we fail to find the Medical Research Committee either here or under the Ministry of Health, to which it is at present attached, nor under the Department of Scientific and Industrial Research, where we thought we might find it in a temporary resting place. The earlier part of the volume is arranged in the same way as before, and is as comprehensive and accurate as daily experience leads us to expect. We feel bound, however, once more to say that the table of medical fees is misleading, and has now become less accurate than ever it was. Nevertheless, the Almanack, taking it altogether, is an indispensable desk companion.

The New Hazell Annual and Almanack[6] for 1920 contains a great deal of current general information, clearly printed, and well arranged, though it is a little disconcerting to find the last page of the section on religious denominations rounded off with a tabular list of bankruptcies in 1918. The year-book is now edited by Mr. T. A. INGRAM, M.A., LL.D., and appears as one of the Oxford University Press Publications. The particulars with regard to education, pensions, honours, and aviation are especially full. The new articles in this edition include a summary of the peace treaties with Germany, Austria, and Bulgaria, and the text of the covenant of the League of Nations, and of Labour's charter under the League; sketch maps are given of the new Germany and the new Austria as fixed at Versailles. The volume forms a useful reference book and record of events.

We have received from the Incorporated National Union of Manufacturers a copy of their *Directory*,[7] in which will be found descriptive and classified lists of purely British manufacturers of commodities of every class. The book contains much information that should be of service to those who wish to promote British trade.

IN a report compiled by Jordan and Sons (Chancery Lane) of companies registered during the half-year just ended, it is stated that "patent remedies . . . do not appear to be in great request"; nevertheless, fifteen patent medicine companies, with an aggregated capital of nearly half a million, were registered. The activity of the publishing trade is shown by the fact that 115 companies were registered in London and twelve in Edinburgh or Dublin, with an aggregated capital of over two and three-quarter millions. Chemical companies registered—consisting, no doubt, chiefly of chemical manufacturing concerns—numbered 186, with a capital of nearly five millions.

---

[8] *An Outline of Genito-Urinary Surgery*. By G. G. Smith, M.D., F.R.C.S. Philadelphia and London: W. B. Saunders Co., Ltd. 1919. (Post 8vo, pp. 301; 71 figures. 12s. 6d. net.)

[4] *Burdett's Hospitals and Charities, 1919, being the Year Book of Philanthropy and the Hospital Annual*. By Sir Henry Burdett, K.C.B., K.C.V.O. Thirtieth year. London: The Scientific Press, Ltd. 1919. (Cr. 8vo, pp 1071. 12s. 6d.)

[5] *Whitaker's Almanack for 1920*. By J. Whitaker, F.S.A Lond. 1920. Fifty-second annual issue. (6s. net.)

[6] London: H. Frowde, and Hodder and Stoughton. 1920. Thirty-fifth year of publication. (Cr. 8vo, pp. 925. 6s. net.)

[7] *National Union of Manufacturers (Incorporated) Descriptive and Classified Directory of Members*. Compiled to July 1st, 1919. London: National Union of Manufacturers. (Cr. 8vo, pp. xii + 241. 5s. net.)

British Medical Journal.

SATURDAY, JANUARY 10TH, 1920.

LONDON'S OPPORTUNITY.

In discussing, a few weeks ago, the grievance which exists for the majority of London medical students in that they cannot obtain a medical degree, we recalled that Sir Alfred Keogh, in the article he wrote for the *Proceedings*[1] of the Special Clinical and Scientific Meeting of the British Medical Association held in London last April, claimed that the Imperial College of Science and Technology in South Kensington was in fact a three-faculty university, and asked whether there was not in the history of the Kensington movement an example which might well be followed by the London medical schools.

The Kensington movement went a little further forward when a deputation from the Imperial College had an interview with Mr. Balfour and Mr. H. A. L. Fisher last month, to point out the position of the students of the College with regard to university degrees. Lord Crewe, who headed the deputation, said that the students of the College suffered in competition with those holding degrees, and pointed out that there were three courses open. The one was that the Imperial College should be constituted a university, with faculties in science and technology but without other faculties usually found in a university; the second, that it should be empowered to grant its own degrees as a college; the third, that it should be enabled to award degrees of some other university, presumably the University of London, on the sole testimony of the College professors. Adoption of the third course would mean either that the College would cease to have the independence and elasticity with regard to the curriculum which it regarded as fundamentally important, or that the same degrees would be given for two entirely separate examinations; that course, therefore, it was hoped would not be adopted. He urged, on the other hand, that though the limitation of faculties in a university or the grant to a college of power to award degrees were novel in this country, they were not unprecedented. The College was not actuated by jealousy of the University of London, but was convinced that the present position was hampering the higher form of education with which it was entrusted. Greater London, with a population of $7\frac{1}{4}$ millions, was, he argued, as much entitled to two universities as Lancashire with $4\frac{3}{4}$ millions or the West Riding of Yorkshire with 3 millions. Mr. Balfour, as was to be expected, made a non-committal reply, but promised that both he and Mr. Fisher would give the fullest and most serious consideration to the matter.

Mr. Balfour was concerned in the matter because, as Lord President of the Council, he is the Minister responsible to Parliament not only for the grant of charters to universities, but also for the work and expenditure of the Department of Scientific and Industrial Research, and will, we hope, before long be similarly responsible for the Medical Research Committee. It is a happy circumstance that at this time Mr. Balfour should be the Minister on whom these responsibilities rest, for the bent of his mind enables him to appreciate the needs of science; his long experience in the greatest offices of the State has provided him with many instances of the immense services science can render to the nation, and there is no man in public life whose guidance in such matters will be more confidently accepted by public opinion—

> Statesman, yet friend of truth! of soul sincere,
> In action faithful, and in honour clear,
> Who broke no promise, serv'd no private end,
> Who gained no title, and who lost no friend.[2]

Already during the few weeks he has held his present office Mr. Balfour has taken several opportunities to show his sympathy with the aspirations of scientific men with regard to education and research.

Clearly there is a close parallelism between the position of the institutions which have combined to form the Imperial College and of their students on the one hand, and the position of the medical schools in London and their students on the other. The difference lies in the complete absence until quite recently of any financial support by Parliament for the medical schools. Even now the financial support given is on a very small scale. As early as 1858 the demand for scientific education had gathered force enough to induce the Government to establish a School of Mines; gradually there grew up in association with its special work, scientific teaching in other subjects; this was consolidated and systematized in the Normal School of Science, which eventually, in 1890, became the Royal College of Science, and was incorporated with the Royal School of Mines. Meanwhile the corporation and guilds of the City of London had established their Technical College; so that at South Kensington there existed three colleges—the Royal School of Mines, concerned to give a scientific and technical education to those intending to engage in the mining industry; the Royal College of Science, providing systematic instruction in the various parts of pure science; and the City and Guilds College, devoting its energies to applied science and technology, especially in relation to civil and electrical engineering. The charter of the Imperial College of Science and Technology was granted in July, 1907, and it has developed its activities in various directions. There are in the department of biology alone five professors, with staffs and laboratories, dealing respectively with botany, zoology, applied physiology and pathology, the technology of woods and fibres, and entomology. Arrangements have been made in all departments for special courses of advanced lectures of a post-graduate character, as well as for the extension of research facilities.[3] There is therefore a great deal of justice in the Rector's plea that the College is virtually a science university, since it provides the vocational training of men intended for the professions of chemistry, engineering, economic biology, and so on; and, as he said also, there is in the story of the history of the Imperial College a lesson and perhaps a model for medicine. "Combination, discipline, establishment of principles have carried Kensington as far as it has yet gone. Similar efforts in London medicine should lead to similar results." The Imperial College would, we make no doubt, prefer the first alternative Lord Crewe mentioned—namely, to be constituted a university. There are objections to such a plan, and they will no doubt have considerable weight with the Privy Council and

[1] Published by the British Medical Association, 429, Strand, W.C. 2. Price 3s.; members of the Association are entitled to a copy free.

[2] Said by Pope of the younger Craggs, and applied by Joseph Chamberlain to Mr. Balfour, October 15th, 1902.

[3] *Calendar of the Imperial College of Science and Technology, London, for 1919–20.* London: Eyre and Spottiswoode, or through any bookseller. 1s.

the Board of Education. Their force would be diminished if the medical schools in London were quickly to come together and put forward an appeal that, under the new conditions brought about by the establishment of university hospital units with the help of money voted by Parliament, they should be formed into the medical faculty of the university the Imperial College desires.

THE TOXIC EFFECTS OF ARSENO-BENZOL PREPARATIONS.

IN a recent publication of the Medical Research Committee's Special Report Series, Surgeon Lieutenant-Commande s R. J. G. Parnell and P. Fildes give a clinical study of the toxic reactions following the intravenous injection of novarsenobillon, or neokharsivan, into 1,250 men at the Royal Naval Hospital, Haslar, between October 18th, 1917, and June 30th, 1918.[1] The great majority of the men were suffering from the early stages of syphilis, and they were practically all treated on the same plan—that is to say, six doses of 0.45 gram were given by intravenous injection, with two clear days' interval between the doses. Toxic results ascribed to the drug alone occurred in 55, or 4 per cent., of the 1,250 men, of whom 23 had more than one reaction, so that there were 78 reactions, or about 1 per cent., among 6,588 injections. It appeared that these toxic symptoms were specially likely to occur with the administration of the third dose, and that if no reaction occurred then the probability of a subsequent reaction was considerably reduced; in other words, if the first three doses do not contain sufficient toxic material to produce symptoms, it is unlikely that the man will be susceptible to further doses. This observation militates against the commonly expressed view that the toxic reactions are due to accumulation of arsenic in the body from a too rapid succession of doses, for, if this were true, the later doses should be increasingly often followed by reactions.

The authors point out that two groups of symptoms following the intravenous injection of salvarsan preparations must be distinguished from those caused solely by the arsenic: these are the endotoxic reaction and "water fever." The first is almost certainly due to the sudden liberation of endotoxin from the spironemes by the destructive action of the drug; they are to a greater or less extent constant after the first, and are occasionally seen after the second, injection in cases of early untreated syphilis; there is pyrexia, usually starting six to ten hours after the injection, and there may be a chill or nausea or vomiting; but the temperature becomes normal in a few hours and there are not any further bad effects. The other form of reaction, known as "water fever," which at one time constantly occurred, is ascribed to the presence of protein derivatives from the bodies of bacteria in the water before sterilization. This reaction can be avoided by sterilizing the water immediately after distillation and using it within a short time of opening the sterile flask. The water fever starts very soon after the injection, often within half an hour, and when a large injection has been given there is often a rigor and there may be cyanosis and severe general symptoms. Analysis of the toxic symptoms due to the arsenic showed that fever occurred most frequently (in 85 per cent.), and varied in its onset and course; in one instance it persisted for fifteen days. Skin lesions, usually erythematous or macular, were noted in 69 per cent., headache in 60 per cent., suffusion of the eyes in 47 per cent., vomiting (usually associated with skin lesions) in 27 per cent., oedema and pains in various parts of the body each in 16 per cent., jaundice and albuminuria each in 3.6 per cent. No fatal case is recorded.

Before the introduction of salvarsan remedies benign jaundice was known to occur in the early stages of syphilis and had been estimated to supervene in 0.3 per cent. Recently the incidence of this jaundice has attracted more attention; thus, among 39,377 military cases of syphilis treated by salvarsan preparations, it was reported in 0.56 per cent.[2] Jaundice appearing after intravenous injections of salvarsan is usually ascribed to the effect of arsenic on the liver, but Milian[3] insists that the real cause is syphilitic hepatitis, and that for its cure the administration of mercury by the mouth, so that it may be absorbed from the alimentary canal and conveyed in considerable quantities to the liver, is much more satisfactory than intravenous injection of salvarsan. In the pre-salvarsan era acute atrophy of the liver was known to supervene on the early stage of syphilis, but it was extremely rare; in 1909 Dr. Parkes Weber collected 53 cases, and in some of these cases the condition was subacute rather than acute. Since the introduction of salvarsan remedies these fatalities have become less rare, and during 1918 a number of cases were reported by MacDonald, by Fenwick, Sweet and Lowe, by Veale and Wedd. More cases were recorded in 1919; thus Strathy and Gilchrist[4] observed seven cases confirmed by necropsy, and described a characteristic *x* ray picture, the upper surface of the liver being more dome-shaped than normal, so that the organ becomes pudding-shaped or helmet-shaped, and the angle formed by the junction of the shadows of the upper surface of the liver and the vertebral column acute instead of the normal right or obtuse angle. A case presenting some special features and giving rise to some interesting comments has recently been recorded by Stewart, Vining, and Bibby.[5] The patient, a young woman aged 21, received four injections of 0.45 gram each of galyl (tetraoxydiphosphaminodiarsenobenzene), and rather more than two weeks after the fourth dose was jaundiced for two days, looked ill, and was tremulous. Three months after the last dose of galyl she was given a general anaesthetic (ether) for the removal of labial condylomata, and died an hour later without recovering consciousness. The necropsy showed a large fleshy thymus weighing 17 grams, and, though this suggests that death may have been really due to lymphatism and not to the grave changes in the liver, the authors, while mentioning the notable enlargement of the Malpighian bodies in the spleen, state that no conspicuous lymphatic glandular enlargement was present, and, possibly wisely, do not adopt this view. The liver was small, weighed 38 oz., and showed typical red and yellow atrophy, the latter greatly predominating. There was evidence of much new formation of bile ducts, but none of regenerative hyperplasia of the liver cells. Chemically the liver contained an insignificant trace only of arsenic. The appearances closely resembled those seen in the fatal toxic jaundice due to trinitrotoluene, except that the

[1] Medical Research Committee. Special Report Series, No. 41. H.M. Stationery Office. To be obtained through any bookseller. Price 3s. 6d.

[2] Medical Research Committee. Special Report Series, No. 44. Report of the Special Committee upon the Manufacture, Biological Testing, etc., of Salvarsan and of its Substitutes, p. 35. 1919.

[3] Milian, *Bull. et mém. Soc. Méd. des Hôp. de Paris*, 1919, 3me sér., xliii, 821.

[4] G. G. Strathy and L. Gilchrist, *Bull. Canad. Army Med. Corps*. 1919 i, 120.

[5] M. J. Stewart, C. W. Vining, and J. P. Bibby, *Proc. Path. Soc. Great Britain and Ireland*, 1919, 120-2; *Journ. Path. and Bacteriol.*, Cambridge, 1919, xxiii.

fatty degeneration of the existing liver tissue was much more prominent and that there was no evidence of biliary stasis. The hepatic changes were regarded as directly due to the galyl, but it is noteworthy that jaundice was transient and that clinically there was no suspicion of hepatic disease. The authors incline to the view that the patient was on the way to recovery when the general anaesthetic produced such an effect on the already injured organ that death immediately ensued.

In connexion with the hepatotoxic action of galyl and other arseno-benzene preparations, emphasis is laid by Stewart, Vining, and Bibby on the clinical and pathological resemblance of these cases to the toxic jaundice due to poisoning by trinitrotoluene, dinitrobenzene, and trinitrophenol (picric acid); and, as the chemical group common to all these substances is benzene or one of its derivatives (toluene or phenol), it is suggested that this group is the essentially toxic factor as far as the liver is concerned.

PATERNALISM OR LAISSER FAIRE?

THE doctrine of "laisser faire" dates from Colbert, one of the greatest financiers who ever controlled the affairs of a big nation. Dr. Arthur Shadwell has recently given the reference to Colbert's words; they were: "La liberté est l'âme du commerce. Il faut laisser faire les hommes qui s'appliquent sans peine à ce qui convient le mieux."

The address given by Dr. Baskett, of Rayleigh, to the South Essex Division of the British Medical Association, published at page 40, is a disquisition on the application of Colbert's dictum to a particular case. His argument may be stated as follows: To ensure internal peace and prosperity in a nation real wages should be high. They are high under conditions of "laisser faire." Government paternalism is the antithesis of "laisser faire," and increases taxation, which is always passed on to the masses of the people. Thus any increase of taxation reduces real wages, for however much nominal wages are increased they are always in the position of trying to catch up the increase in the cost of living, which increase is magnified by any rise in taxation. Dr. Baskett then goes on to argue—supporting his argument by reference to history—that real wages are lowered by corn laws, by protection, and by Government schemes for bettering the lot of the poorer industrial classes, because all such legislation involves extra taxation. He believes that the Insurance Act was an example of such legislation, and that the bulk of the cost of the National Insurance scheme comes ultimately out of the pockets of the poorer industrial classes, and therefore lowers real wages. He takes tuberculosis as a typical "disease of poverty," which in one sense it is, since underfeeding undoubtedly appears to increase its incidence. His contention is that the statistics prove that tuberculosis mortality varies inversely with real wages. He shows that for the fifty years before 1896 the mortality from tuberculosis in this country fell steadily and progressively, and we think he is right in saying that it was expected that after 1896 the rate of decline would continue even more rapidly, and that the hope that tuberculosis would disappear as a serious factor in the national statistics did not then seem altogether unreasonable. This hope has not been fulfilled; the rate of decline was interrupted by an increase, at first relative, then absolute.

Dr. Baskett limits his inquiry to the end of 1915, so that the effect of the war, whatever it may prove to have been, is not a disturbing influence. It must, of course, be remembered that the effect of the increased incidence of tuberculosis is only seen in mortality statistics two years or so, on the average, after the rise in incidence really begins. Those persons who died of tuberculosis in 1915 must on the average have contracted the disease in 1913—that is to say, before the war. At the same time it must be remembered that those who died in 1913 must, on this showing, have contracted the disease in 1911—that is to say, before the Insurance Act was passed. Dr. Baskett, however, does not maintain that the Insurance Act was more than one of the causes of the diminution in the rate of decline of tuberculosis. He associates it with increased taxation generally, due to increase of State and municipal expenditure, of which part is traceable to Workmen's Compensation, Old Age Pensions, and the Insurance Acts. This paternal policy, he holds, has lowered real wages, depressed the standard of living, and thereby raised the incidence of tuberculosis, which is a "disease of poverty." He finds much to support his view in the experience of other countries, and arrives at the general conclusion that when the fiscal policy of a Government includes protection, or when it sets itself by direct means, involving expense, to improve the conditions of the poor, the usual result is to encourage tuberculosis and raise its death rate relatively, if not absolutely; he deduces the particular result that as the Insurance Act enhances the cost of living to the poor it must take a share in the increase of tuberculosis due to the lowering of real wages.

Dr. Baskett, it will be seen, has the courage of his opinions, and it is to be noted that in discussing economic questions he speaks as an expert. He was at one time secretary of the Cobden Club, which is the great defender of free trade principles. With some readers this circumstance may prejudice the argument he presents, but it must be treated with respect, for it is the result of lifelong study. He had no difficulty in convincing his fellow members, and the South Essex Division of the British Medical Association, before which the address was delivered, adopted a resolution to the effect that there was a prima facie case justifying the institution of an inquiry into the effect of the Insurance Act upon the nutrition of the poor.

MEDICINE AND GOVERNMENT.

THE article published at page 56 tells briefly, but for the first time, we believe, in a consecutive manner and with sufficient fullness, the truth about the early history of the Medical Department of the Local Government Board. It makes plain the handicap with which the department started, owing to the subordinate position into which it was thrust. It is perhaps unnecessary to point the moral of the story, which puts our boasted capacity for efficient administration in a rather melancholy light. We hope with confidence that a new spirit inspires the Ministry of Health, and that within it the broader needs of health will not be placed in an inferior position through the growth of any particular subdepartment, such as that now concerned with housing. The forty-eighth and last annual report of the Local Government Board calls attention to certain resemblances between the position now, and in 1871. The Act which established the Local Government Board was designed "to concentrate in one department of the Government . . . the supervision of the law relating to the public health, the relief of the poor, and local government." It is pertinently remarked that "an observer unacquainted with the domestic history of the intervening

period might have heard with surprise the speech in which a Ministry of Health Bill was commended to the House of Commons in February, 1919. The main object of this bill, the House was told, was to concentrate the more important responsibilities of central government in matters affecting the health of the people in the hands of a single Minister, and by doing so to create 'a necessary instrument,' 'a vital and essential instrument' for improving the health services of the country. Had not the same main object, it might have been asked, underlain the legislation of 1871? and what were the reasons, in spite of all that had been achieved since the central authority was then created, which necessitated the proposal of 1919?" The circumstances, it is said, do not afford an example of the circular motion of history, but "illustrate the tendency of English institutions to persist in growing with a freedom which necessitates periodical pruning and adjustment." It is this free growth that has made it necessary to recast the central administrative machinery so as to enable it to carry out the conceptions of 1871 in accordance with the rapidly growing needs and standards of to-day. The first Minister of Health is not likely to repeat the mistake of the first President of the Local Government Board; but we must hold fast to the principle that in a Ministry of Health medical opinion, founded on research, investigation, and experience, must have the determining influence. Medicine must be free to develop its powers for the benefit of the nation, not forgetting that "the price of liberty is eternal vigilance."

THE ORIGIN OF TUMOURS.

IN an earlier discussion on the constitution of mankind Professor Hugo Ribbert had propounded the view that, while no certain knowledge can be obtained of the mode of origin of inherited characters, we have no grounds for supposing that a hereditary abnormality could appear *de novo* in any single ancestor of a family group. From the nature of the process we are compelled rather to refer its origin back to still earlier progenitors. Pursuing this line of thought, he came to the conclusion that transmitted abnormalities, like normal properties, are a latent legacy to mankind in general, and that though recessive in most individuals, they are dominant in a few. Ribbert now (*Deut. med. Woch.*, November 13th, 1919, p. 1265) applies this view to the consideration of neoplastic growths. It is admitted that the extent to which tumours may be recognized to be hereditary varies greatly in different instances. In some—for example, neurofibromatosis or multiple chondromata—heredity is frequent and obvious: while with other types—ovarian cystoma and even carcinoma—it appears from time to time. Apart from such evidence of transmissibility, however, it appears certain that, of simple tumours, a large number can be derived only from a congenital abnormality. It is difficult to believe that a delimited, autonomous growth, composed of apparently normal fat cells, blood vessels, striated muscle fibres, or chromaffin cells of the suprarenal, can be produced by any form of irritant in the widest sense of the term, acting during adult or even during embryonic life. These tumours must find their origin in a germ composed of cells which during early development have become separated structurally and functionally from their natural sphere. Ribbert evidently believes that the isolation of these tumour germs is a hereditarily transmissible character which may be expressed to a greater or less degree by all tissues. In the application of this view he goes further than has generally been accepted regarding the relation of embryonic rests to tumour growth, as he maintains that unless an embryonic rest has been present in a part no tumour can develop. Even in relation to the carcinomata the same proposition is maintained, although it is admitted that frequently its applicability in this form of tumour is less obvious. In some carcinomas—for example, rodent ulcer or carcinoma developing from papilloma—it is a sufficiently probable view. A difficulty for the theory is presented particularly by carcinomas which arise at the site of action of some known irritant, such as *x* rays or in sweep's cancer; but it is pointed out that carcinoma is not an invariable sequel to these special forms of irritation, and that when it does develop it is generally from a single focus, and never as a general carcinomatosis of the whole affected area. The contention, therefore, is that it is only in certain spots that cells are present which have the faculty of cancerous growth in response to the irritant, and that in absence of such cell-groups no tumour appears. Possibly failure hitherto to produce cancers by continued irritation may thus be explained. The article crystallizes into a very definite and complete form a hypothesis which must have been entertained at one time or another, and in more or less fully developed fashion, by many investigators of the subject since the time of Colnheim, and it must be admitted that it contains at least as much probability as any other hypothesis that has been made regarding the etiology of tumours. As Ribbert himself points out, this view, if correct, leaves us no hope of being able to control or prevent tumour growth, except in so far as we can diminish the incidence of recognizably dangerous forms of irritation, and these, unfortunately, seem to account for the few and not for the majority of morbid growths.

ANTHRAX INFECTION BY BRUSHES.

WE published last week (p. 25) some information supplied to us by Dr. Henry T. Maw with regard to the origin and prevalence of anthrax in this country at the present time. Dr. Maw referred particularly to the danger due to the importation of foreign-made—especially Japanese—brushes used for medical and toilet purposes, such as throat brushes, toothbrushes, and shaving brushes. The Ministry of Health now announces that in the last few weeks several cases of anthrax have occurred in this country, two of which have been fatal, and that in a substantial proportion of these it has been found on inquiry that the infection was from new shaving brushes recently imported from Japan. In consequence of this, samples have been taken by the Ministry from several consignments of Japanese shaving brushes which have been found to be infected with anthrax germs. As several consignments of these brushes have now been distributed throughout the country, it is impossible for steps to be taken to discover them all, and no test of samples would provide adequate safeguards. Retailers and individual purchasers of shaving brushes are therefore advised to consult wholesalers or dealers as to whether an assurance can be given that the purchase is not one of a batch recently imported from Japan; without this assurance such brushes must be viewed with suspicion. The Government, it is added, is taking steps with regard to the further importation of shaving brushes.

UNIVERSITY GRANTS COMMITTEE.

IT will be remembered that last June the Treasury, in consultation with the President of the Board of Education, the Secretary for Scotland, and the Chief Secretary for Ireland, appointed a University Grants Committee "to inquire into the financial needs of university education in the United Kingdom and to advise the Government as to the application of any grants that may be made by Parliament towards meeting them." Sir William Osler accepted nomination to the Committee, but after further consideration resolved some months ago to retire. His place has been taken by Sir Wilmot Herringham, K.C.M.G., consulting physician to St. Bartholomew's Hospital. While the war was still in progress the Government had come to the conclusion that the existing provision for aiding university education must be increased and consolidated. A survey of the needs of the universities showed that a

considerable increase in the parliamentary grants was urgent, and that the allocation of the grants could best be determined on the advice of a single body which could consider the needs of university education throughout the United Kingdom. The intention is that the method of distribution shall be such as to give the individuality of each institution free play and safeguard the legitimate interests of university autonomy. In the estimates for this financial year—April, 1919, to March, 1920—the annual recurring vote for universities and colleges in the United Kingdom was raised to £1,000,000,[1] and a special non-recurring vote of £500,000 was made "for special grants in aid of certain universities, colleges, medical schools, etc., to assist them to re-establish their work on a basis of unimpaired efficiency" after the war. In these amounts the grants for agriculture and training of teachers are not included; they will continue to be made by the Board of Agriculture and the Board of Education respectively. The annual sums allocated to the different institutions will take the form of inclusive block grants to be expended at the discretion of the governing bodies, will remain fixed for a prescribed period of years, and will be reviewed at the end of those periods. The University Grants Committee, which will maintain contact with the other Government bodies concerned, will be directly responsible to the Treasury as the authority with financial jurisdiction extending over the whole of the United Kingdom. The grants will be paid by the Treasury. The Committee now consists of Sir William McCormick, LL.D., chairman; Dr. William Bateson, F.R.S., formerly Professor of Biology at Cambridge; Sir Dugald Clerk, K.B.E., F.R.S., until recently Director of Engineering Research to the Admiralty; Sir J. J. Dobbie, F.R.S., Principal of the Government Laboratories, London; Miss S. M. Fry; Sir Wilmot Herringham, K.C.M.G.; Sir F. G. Kenyon, K.C.B., Director and Principal Librarian of the British Museum; Sir Stanley Leathes, K.C.B., a Civil Service Commissioner; and Sir J. J. Thomson, O.M., F.R.S. President of the Royal Society.

THE LONDON SCHOOL OF TROPICAL MEDICINE.

THE London School of Tropical Medicine will, it is hoped, be able to begin work in its new central premises before the end of this week. The house is a lofty building of eight stories, at the south-west corner of Euston Square, and abuts at the back on a part of the buildings of University College. It is a new building, but it has already been used at various times as a nursing home, a hotel, and during the war as an officers' hospital. The upper stories are being arranged as wards, and a large number of small wards will be provided, which, it is believed, will be found very convenient for the special class of cases the hospital will receive. On the middle floors laboratories are being provided for the several departments of the School, and offices for the Tropical Diseases Bureau, which will shortly be removed there. The joint library of the Bureau and the School will be placed on the ground floor, with a book store in the basement, where also will be a common room.

MEDICINE IN BOLSHEVIST RUSSIA.

A CORRESPONDENT has published in the *Medizinische Klinik*, Berlin, for October 26th, an account of conditions in Russia as they affect the medical profession. It appears that, with other cultured classes, the doctors of Russia have suffered greatly since the outbreak of the Bolshevist revolution. They were numbered among the "bourgeois," and of the various accusations hurled at them the chief was that only the rich benefited by their treatment. The first doctors to suffer under the Bolshevist Government were those in public departments, such as prisons and factories. They lost their positions, and were supplanted by so-called medical assistants, or by army surgeons; between these there was naturally much friction. In private sanatoriums the lower members of the staff only demanded higher salaries, but in the Government hospitals, or in such military hospitals as still survived, more serious conflicts often arose, and doctors were daily attacked and imprisoned. The position of the doctors in military hospitals became dependent on the goodwill of their subordinates. The medical administration department ceased to act, and its office was usurped by a special medical commission in the local Soviet. The private practitioner suffered also; his fees were not raised, and the number of private patients grew very small. In the winter of 1918, for instance, doctors were found who still received only from two to three roubles for a visit. Well known professors were spared this distress, as they retained their high fees; later they were numbered by the Bolshevists as among the "grand bourgeoisie." The cultured classes as well as artisans refused to recognize any necessity for higher remuneration for medical work. With the gradual rise in the wages of workmen and officials came an increase of salary for the medical officers employed in public positions. This, together with increased food rations for medical men in official posts, attracted many doctors, including older members of the profession, to the Bolshevist government. In the spring of 1918 many of the cultured classes took part in communal affairs, and many doctors entered the newly formed Red army, in which no special declaration of solidarity was demanded of them. They were obliged only to declare themselves neutrals. The doctors were exempted from the wholesale arrests of the summer of 1918. The outbreak of cholera at this time obliged the Government to take various sanitary precautions, and these included an increase in the number of State medical officials. But the terrible scarcity of food, which drove the poor and hungry to search for something eatable even in the dust heaps, hindered and retarded any effective control of the disease. The Bolshevists and the doctors were able to combine peaceably in purely medical work; but disagreed when obliged to form joint committees. When the inhabitants of every town were classified, the Government placed the doctors in the third class, among such as were of little use to the community. They were thus placed on the same footing with lawyers and artists. The persons in this third class received a weekly food ration barely sufficient for one day. On this account the doctors were most thankful when allowed to receive their fees in kind. When, in October, 1918, the measure for lodging the proletariat in the houses of the rich was enforced, two rooms were allotted to each doctor for the pursuit of his calling.

HISTORICAL SURGICAL INSTRUMENT CASES.

As was announced in the JOURNAL of December 6th, 1919, Professor A. Keith has displayed in the museum of the College of Surgeons Dr. Livingstone's surgical instrument case brought back with his body from Africa; it will be on view till the end of January. Mr. Alban Doran, at Dr. Keith's suggestion, has arranged by its side several similar boxes of instruments, that have been on their travels with more or less illustrious surgeons and spent many years in inglorious retirement, forgotten, in the instrument room. Dr. Robert H. A. Hunter's army surgeon's case was used by him all through the first Afghan war; he marched in 1838–39 through the Bolan Pass to Cabul, returning by Quetta and Kelat. The case was recently presented to the College by its late owner's daughter, Miss Hunter. There is also in this group a navy amputating case once belonging to Joseph Bellot, who first saw service in H.M.S. *Pegasus* in 1789; his nephew gave it to the College in 1873. Beside it is the case of a French army surgeon who was killed in Egypt in 1801. It was presented to the College in 1811 by Surgeon-General Thomas Kent; Mr.

[1] The total includes £29,700 for intermediate education in Wales.

Clift, then Conservator, clearly suffered from the insular prejudices of his day, as in his note in the catalogue he speaks scornfully of the instruments, which show "the miserable state of hardware manufacture in Paris." Experts in surgeons' cutlery, however, have examined them recently and found that the steel is good and the workmanship excellent. Mungo Park's surgical pocket case is also on view; he lost his life in Africa in 1806, but before leaving England in the course of the previous year he gave the case to Sir Anthony Carlisle "for a professional memento"; Carlisle gave it in 1816 to Mr. Bartley, of Mitcham, Surrey, for his kind attentions to a sick relative. Mr. Bartley's daughter presented it to the College. Lastly comes a case containing a saw, knife, and catlin set in agate handles, and an ivory tourniquet, a beautiful sample of old-fashioned surgical cutlery; unfortunately, the name of neither its owner nor donor is recorded.

SCANDINAVIAN MEDICAL JOURNALS.

THE well known *Nordiskt medicinskt Arkiv*, first published by Axel Key of Stockholm in 1869, is appearing in a new guise. Henceforward the journal is to be divided into two parts, known respectively as *Acta medica Scandinavica* and as *Acta chirurgica Scandinavica*. The editors hope that by giving their papers a neutral, Latin, name they will make a wider appeal. Under the old title would-be readers have been put off by taking it for granted that the contents would be in a language quite unknown to them. They have thus missed a number of scientific contributions of the greatest value. The contents are in English, French, or German, according to the author's predilection or choice. The editors of *Acta* hope to be able to publish papers from foreigners in all countries, according as room may be found for them. The journals are therefore of interest to everyone, and, judging by the numbers which we have already seen, the standard of scientific work published is likely to be high. Norway, Sweden, Denmark, and Finland furnish assistant editors and committees. It is to be hoped that their desire to overcome their geographical isolation from the great English and French speaking nations will meet with the warm response which it deserves. Anyone who has travelled in Scandinavia will agree with us when we say that we have many temperamental characteristics in common with the peoples of those countries, and that nothing but good to all concerned can come from a closer scientific liaison between us. The editor of *Acta medica Scandinavica* is Professor I. Holmgren of Stockholm, of *Acta chirurgica Scandinavica* Professor Einar Key, also of Stockholm. The journals are published by P. A. Norstedt and Son of the same city in an attractive format; price 20 Swedish crowns, six numbers to the volume.

THE FRENCH ARMY MEDICAL SCHOOL.

THE French Army Medical School at Val de Grâce, the regular educational functions of which were suspended during the war, recently resumed its ordinary work. The returning students were welcomed by the director, Dr. Jacob, in the presence of a large assembly of distinguished members of the Paris Faculty. M. Jacob said that the medical service had lost between 4 and 5 per cent. of its personnel but it had achieved success. Typhoid fever, which was severe in 1914, was overcome during the early months of 1915 through antityphoid vaccination. The net result was that in this war the number of deaths from wounds was very much larger than the number of deaths from disease. M. Toubert related the history of the Abbaye of Val de Grâce, which was transformed into a military hospital in 1793, when France was menaced by enemies on all frontiers. The Military Governor of Paris, in bringing the ceremony to an end, said that the Army Medical Service had deserved well of the country by maintaining the number of effectives and keeping constantly in repair the weapon with which victory was achieved.

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.

THE growing importance of physical methods of treatment especially electro-therapeutics and the remedial use of *x* rays, is now generally recognized. This is shown by the movement to give full staff rank to the medical officer in charge of this department of hospitals. The subject indeed becomes more complex every day, and calls for the whole-time services of the worker. It is important, therefore, that this branch of medicine should be kept only in trained and competent hands. *The Archives of Radiology and Electro-therapy* for December, 1919, in describing the results of the work of the British Association of Radiology and Physiotherapy, announces the now accomplished fact that the University of Cambridge has instituted a diploma in medical radiology and electrology, the first examination for which will be held in July, 1920. The regulations for the diploma are printed in full, as is also the required course of study, the syllabus of subjects, the fees payable, etc. A course of instruction in physics and electro-technics begins at Cambridge on January 20th, and in electrology on the previous day, to be followed by a course of lectures on radiology beginning on April 26th. Most of the well known workers on these subjects are to take part in the teaching, at any rate during the first course of instruction, and arrangements are made for lectures to be given both at Cambridge and in London. The importance of this new departure is evident; it means that the whole subject of physical medicine shall take rank fitting to its importance in the domain of medicine, and appropriate to the research which has been made on the effect of radiations and of electric currents upon living things. It should also ensure a supply of well-equipped specialists for various hospital posts, and prevent men practising this branch of medicine without ample previous training. Full particulars can be obtained from the secretary to the university committee for the diploma, Dr. Shillington Scales, Medical Schools, Cambridge, and from Dr. Robert Knox, 38, Harley Street, London, W.1. The University of Cambridge is to be congratulated upon its foresight in instituting this diploma.

POST-GRADUATE COURSE IN VENEREAL DISEASE.

WE are asked by Mr. E. B. Turner, F.R.C.S., chairman of the Medical Committee of the National Council for Combating Venereal Diseases, to state that a post-graduate course of instruction in the diagnosis and treatment of venereal disease is being arranged by Mr. Kenneth Walker, F.R.C.S., officer in charge of the venereal department of St. Bartholomew's Hospital. The course will be given at the venereal centre established by the Corporation of the City of London, in Golden Lane, and medical men who wish to take advantage of the scheme are asked to forward their names to the Medical Secretary, National Council for Combating Venereal Diseases, 81, Avenue Chambers, Southampton Row, London, W.C.1. It is proposed to hold the course on Thursday afternoons, at 5.30, and to limit the number of those attending to fifteen. Should the scheme induce more practitioners to apply, the course will be repeated; thus the first fifteen names will be accepted, and other applicants will be referred to a future course. Illustrative cases from the various clinics will be shown. The first course, to be limited to male practitioners, will probably start towards the end of this month.

WE regret to learn that Sir Thomas Fraser, F.R.S., Emeritus Professor of Materia Medica and Clinical Medicine in the University of Edinburgh, died on January 4th. Sir Thomas Fraser, who would have attained the age of 79 next February, retired from the active work of his chair in the spring of 1918.

THE EARLY HISTORY OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

IN the recently issued forty-eighth and last annual report of the late Local Government Board is given a short account of the circumstances which led to the establishment of that Board in 1871. In this connexion it may be useful to recall some of the facts relating to the early days of the Medical Department of that body, and how the intention of those responsible for setting up a new Central Health Authority was defeated by the Board itself, and a great opportunity thus lost for improving the national health.

It is undeniable that this unhappy result was, to a large extent, due to the unfortunate combination of public health with the relief of the poor in the work assigned to the new Board. The old Poor Law Board furnished the Local Government Board's first president, secretary, and assistant secretaries; moreover, almost the whole clerical staff, along with the Poor Law inspectors, were transferred from the old to the new Board. The Local Government Board was thus, practically, the old Poor Law Board under a new name. The latter Board had had no medical department or medical adviser of its own, though it had been obvious for some time to competent observers that such a department was urgently required, if the interests of the sick poor were to receive due attention. The medical staff of the Privy Council, from 1858 to 1871 the central health authority for England and Wales, was transferred to the Local Government Board under Mr. (afterwards Sir John) Simon, its chief medical officer, of whom it may with truth be said that he did more than any other worker of the Victorian era to prevent disease and to prolong life. He had been medical officer of health for the City of London, and had been appointed later medical officer to the Central Board of Health, and, still later, to the Privy Council. For more than twenty years, therefore, before he came to the Local Government Board he had been busily engaged in sanitary administration and had acquired an unrivalled experience in preventive medicine. He brought with him to the Board in 1871 a brilliant group of nine devoted workers, each a specialist in some branch of public health. Among the best known were Seaton, Buchanan, Netten Radcliffe, Thorne, Ballard, Blaxall, and Dr. (afterwards Sir) Anthony Home, V.C. A little later William Henry Power joined them.

Simon himself was an F.R.S., and four others of his small band of medical inspectors subsequently received this blue riband of science. Three of them also ultimately succeeded, one after the other, to the office of medical officer to the Board, one receiving a knighthood and the other two the K.C.B. These facts show the high quality of the men who were the first members of the Board's Medical Department, and how deserving they were of confidence.

As far back as 1854 Simon had drawn up a scheme for the formation of a "Ministry of Health" in which investigation of industrial diseases and the supervision and regulation of unwholesome conditions of employment found a place along with other matters for improving the health of the nation. When the Local Government Board was established, the more thoughtful sanitary reformers of the time had misgivings as to the effects that might follow upon the conjunction of public health with the administration of the Poor Law. It was confidently expected, however, that separate secretaries would be appointed for each of the two branches of the work, that therefore the two interests would not clash, and that Mr. Simon would have the same liberty of action and powers of initiation in regard to the medical policy and work of the Board as he had when at the Privy Council. Unfortunately for public health the president concentrated the duties in the hands of one secretary, the previous Secretary of the Poor Law Board. By statute the new Board was empowered to delegate the exercise of its powers to its secretariat, and Mr. Simon was informed that his department was only to be used for consultation or for special inquiries, and that in all cases these inquiries would have first to be sanctioned by the secretary or by an assistant secretary. The effect of this was, practically, that Simon could take no action without the written permission of the secretariat. The groundwork of his plan for immediately improving the sanitary condition of the country was to make, by his medical staff, a survey of every district in England and Wales, and he asked for sanction to carry this out; also, in order to do the work without undue delay, he proposed the appointment of four or five additional medical inspectors. Most unfortunately for the country his proposals were rejected. All that he secured was permission to inspect, as occasion arose, certain districts in which a scandalous amount of disease was present, or where complaints had been made as to grave insanitary conditions. But the districts thus inspected formed but a fraction of the number that should have been visited, and the beneficial results were therefore comparatively small for the whole country. How great was the need at the time for this survey is shown by the following facts: There were no medical officers of health in office except in a few large cities such as London and Liverpool; what sanitary legislation existed was largely of the adoptive kind and seldom adopted; filth nuisances of the grossest sort were almost universal; the subsoil of many towns and villages was sodden with human excrement; midden privies stood in close proximity to shallow wells sunk in porous soil; sewerage and drainage were often defective or absent altogether; housing conditions were bad, and overcrowding was common; the so-called tenement houses of the poorer classes were "hotbeds of nuisance and disease"; the general death rate and the infantile mortality were excessive; statisticians of the day calculated that of about 500,000 deaths annually reported at least 125,000 were due to preventable causes. It may be added that in 1871 nearly 14,000 persons died of enteric fever and over 23,000 of small-pox; typhus and malignant scarlet fever were prevalent in many parts of England, and relapsing fever was appearing in London. At the same time cholera was epidemic on the Continent and had spread to ports in the Baltic, from which it had reached Hamburg, a place that often in the past had supplied the infection to England by means of shipping.

It is evident from all this that there was urgent need of a sanitary survey, but the Board's secretariat, obsessed apparently with the idea that the administration of the laws for the relief of the poor was the one thing needful, refused to listen to Simon or to allow his medical inspectors to rescue the nation from insanitation and filth diseases. This refusal was a bitter blow to Simon, with his great record of hitherto continuous progress. Unhappily another humiliation was awaiting him. In 1872 an Act had been passed making the appointment of medical officers of health and inspectors of nuisances compulsory in every sanitary district in England and Wales. In 1873 the Board decided to ascertain the sanitary state of the country and to advise local authorities as to these new appointments. It seems now incredible, but it is the fact that the Poor Law inspectors, now called "general" inspectors, were entrusted with this duty! These inspectors were gentlemen of good average education, well versed in the laws for the relief of the poor, but quite ignorant of public health or of sanitary administration. Simon had the humiliation of witnessing the harm these men were doing in dealing without expert advice with the formation of sanitary districts—mischief, it may be observed, from the results of which the sanitary service of the country is still suffering. The action of the Board can hardly be

explained by ignorance of the problems involved; it is more probable it was an aggravated instance of the antagonism which then prevailed among lay officials of the Board against the medical profession, an antagonism which is said still to linger in some Government departments. Other medical investigations which Simon wished to carry out were cut down or restricted, the Medical Department becoming more and more subordinate to the Poor Law work. Any medical inspector instructed to make an investigation was directed by the Board to write, before he began the work, to the Poor Law inspector of the district, intimating to him that it was proposed to make inquiry on such and such a date into epidemic disease or insanitary conditions, as the case might be. It was, we believe, very rare—at any rate in the earlier days—for any acknowledgement to be made of the medical inspector's letter, or for the Poor Law inspector to assist him in the investigation. There is no doubt the latter official resented what he regarded as the intrusion of a medical inspector into his district.

Another point which galled Simon was that correspondence with sanitary authorities, regarding matters arising, for instance, out of a medical inspection, had to be conducted by the clerks of the Board and the letters signed by a secretary. Letters drafted by the clerks of the Board often missed the point at issue, though the letters had passed through three or four hands. The obvious way to save time and labour would have been for the medical officer or his deputy to dictate in his own department the letter, which would then have been signed by him. Referring to this "circumlocution" method of the Board, Simon remarked in his *English Sanitary Institutions*: "Where medical officers of health were supposed to be advised on their official reports and on points of sanitary practice involved in them, not only does the signature of the secretary fail to add weight to the advice in the letter, but the advice may to some extent have had to adapt itself to the signature; for the common usages of professional life would hardly allow the central medical officer to express himself through a non-medical secretariat as freely as if he were writing in his own name. There would be difficulty in medical consultation correspondence on the treatment of disease if it were made similarly circuitous; if, for instance, a foremost London consultant, having to suggest to his professional brother in the country some different treatment for the squire's asthma or the lady's megrim, were not in direct correspondence with his fellow practitioner, but must have his medical suggestions adopted by the family solicitor and expressed to the distant doctor in the form of a lawyer's letter." Simon's position gradually became more and more untenable; and to him it was intolerably bitter to see great opportunities wasted or mismanaged by a hostile and sanitarily incompetent lay staff. He struggled on for five years, from 1871 to 1876, when he retired, a discouraged and disappointed man.

Considering the course of subsequent events it is impossible not to realize how much higher would be the present position of our national health, and how much higher also would be the status of the sanitary service of the country, if Simon's statesmanlike and practical proposals had received the attention they merited. It is a matter of notoriety that the brilliant work which he and his successors did at the Local Government Board was achieved in the face of official hostility and petty interferences; nevertheless many of the reports of the Medical Department under Simon are still regarded as classics in sanitary literature. Though somewhat late, Simon received ultimately some acknowledgement of his unselfish efforts on behalf of public health, for in 1887 he was decorated with the K.C.B. He died in 1904 at the age of 88. He was succeeded as Medical Officer of the Board by Dr. Seaton, whose name will always be honourably associated with the passing of various Vaccination Acts, and who will be remembered for his organization of public vaccination throughout this country. He, however, remained in office for only three years. His health was bad most of the time, and he died a month after his resignation in 1879. His successor was Dr. (afterwards Sir George) Buchanan, who continued the struggles of the Medical Department against the oppression of the Board's secretariat, striving for a proper recognition of the importance of the medical work, and for a freer hand in taking steps to improve the public health. He carried on, with varying success, until 1884, when cholera again became epidemic on the Continent and threatened to invade England. By this time public opinion as to the prevention of disease had so far developed as to hold the central health authority responsible for taking proper steps to protect the country. For this or some other reason, a proposal by Buchanan to start a sanitary survey of the country was favourably considered by the Board and finally sanctioned, permission being given to engage six temporary medical inspectors to assist the permanent staff. This survey led to most gratifying results. Many badly administered districts were placed in a proper condition, many scandalous nuisances suppressed, water supplies improved and protected, proper sewerage and drainage provided, and other conditions made wholesome and sanitary. The district councils as well as their officials were deeply grateful for the help and advice they had received from the medical inspectors during the survey. Even the unsympathetic officials of the Board could not deny the good work that had been done, and later agreed to a fresh sanitary survey and the appointment of additional medical inspectors in 1892, when cholera actually invaded England. In 1892 Buchanan, whose health was now unsatisfactory, resigned, but his death did not occur until 1894. Upon Buchanan, as well as upon Simon, fell the heaviest part of the great struggle against the injustice inflicted on the Board's Medical Department.

Sir Richard Thorne succeeded Buchanan in 1892, and under him the Medical Department came in time gradually to receive better treatment from the lay officials of the Board, and in consequence much excellent work was then accomplished. The improvement of the relations of the Medical Department with the Board after 1892 was due to a great extent, to the firm attitude assumed by Sir Richard Thorne, and to the exercise of his diplomatic abilities and tact, which helped to smooth over some of the difficulties that had previously existed. We have not space to discuss further events in the life of the Medical Department under the leadership of Thorne and his successor, Sir William Power, and later under Sir Arthur Newsholme. The attitude of the secretariat towards the Medical Department in the Board's latter period was greatly improved and their relations were more or less cordial; but it may be said that the seeds of evil planted in the early days of the Board left their inhibitory influence on the national health to the very end of that authority's existence.

THE annual congress of the Ophthalmological Society of the United Kingdom will be opened at the Royal Society of Medicine on the morning of Thursday, April 29th, when the president, Mr. J. B. Story, president of the Royal College of Surgeons of Ireland, will deliver an address. In the afternoon there will be a clinical meeting at Moorfields Hospital, and books, museum specimens, drawings, and portraits belonging to the hospital will be exhibited. On the morning of April 30th a discussion on diabetes in relation to diseases of the eye will be opened by Sir Archibald Garrod, Mr. R. Foster Moore, and Dr. E. Spriggs. Papers will be read in the afternoon. On the morning of Saturday, May 1st, a visit will be paid to the special hospital of the Metropolitan Asylums Board for cases of ophthalmia neonatorum, and a discussion on the prevention and treatment of that disease will be opened by Dr. Gibbon FitzGibbon, Master of the Rotunda Hospital, Dublin, and Mr. M. S. Mayou. The openers of discussions and the readers of papers are allowed twenty minutes, and subsequent speakers ten minutes. Further particulars can be obtained from Mr. F. A. Juler, 24, Cavendish Square, London, W.1. Notice is given that all communications must be typewritten.

Scotland.

WESTERN INFIRMARY, GLASGOW.

CHRISTMAS was celebrated at the Western Infirmary, Glasgow, by an informal meeting of its supporters. Lord Glenarthur, Chairman of the Board of Management, spoke of the great responsibility that fell on the medical superintendent, Colonel D. J. Mackintosh, C.B., and the matron, Miss Gregory Smith, in carrying on the work during the war, and heartily welcomed back those members of the staff who had been on naval and military service. The Scottish Branch of the Red Cross Society, he said, had made a grant of £10,000 to provide and equip a building for massage, medical electricity, and remedial exercises, and friends had given the university £5,000 to establish a lectureship in electrical diagnosis and therapeutics in connexion with the infirmary. It had been possible to give the nurses on day duty a fifty-six-hour week, but to make further progress the public must provide funds for an addition to the Nurses' Home. The Countess of Glasgow then presented the prizes to nurses successful at the half-yearly examinations. In moving a vote of thanks, Sir Hector Cameron expressed the hope that the whole body of the medical profession and of the nursing profession would resolutely set their faces against any perpetuation of amateur nurses, an opinion which was received with applause. Congratulating the nurses on the fact that they were within sight of a statutory register, he warned them that it would not guard and protect them like a trade union; it would protect the public just as the Medical Acts protected the public, by enabling them to distinguish between qualified and unqualified practitioners.

England and Wales.

COUNTY HEALTH ADMINSTRATION.

A REVIEW of health administration in Cheshire with reference to the Ministry of Health Act, 1919, communicated to the Cheshire Insurance Committee by its clerk, Mr. F. T. West, has been published in a pamphlet. It is stated that in the county of Cheshire there are now nearly 300 separate organizations, including public, voluntary and charitable bodies, and others carried on by private enterprise, all interested in health administration, but working for the most part without co-ordination. It is admitted that the desired co-ordination must be built up little by little, but it is suggested that the first step should be the establishment for each area, whether it be county or county borough, of a central health authority on which every interest shall be represented and which shall be directly responsible to the Ministry, with subordinate health authorities for subareas where required. On this authority ratepayers, insured and non-insured, the medical profession and pharmacists should have direct representatives. Among other matters with which this authority should deal are specially mentioned housing and town planning, food inspection, instruction in cookery, extended supervision of shops, warehouses, and offices, as well as of factories, infant mortality, medical examination and feeding of school children, sick nursing, education in personal hygiene, additional institutional provision for tuberculosis including after-care, training and convalescent colonies, and physical and recreational training. It is suggested that the whole financial burden of health administration should be directly borne by the Exchequer, and that the constitution proposed for the health authority would render it capable of preventing wasteful expenditure. This suggestion runs counter to general experience in this country, and may be expected to excite opposition. A detailed list of the various health organizations operating in Cheshire is given, and an elaborate chart of a proposed scheme of organization and co-ordination, starting from the Ministry of Health as the supreme authority, and allocating the relative positions which should be taken by each of the present organizations.

CENTRAL MIDWIVES BOARD.

A meeting of the Board was held on December 18th, with Sir Francis Champneys in the chair. Out of the four fresh cases heard three midwives were removed from the roll and the resignation of the other was accepted.

It was decided to comply with the request of the Ministry of Health to attend a conference on the question of approval as teaching centres of maternity homes established under the schemes of the Ministry of Health; the Chairman, Lady Mabelle Egerton, Dr. Fairbairn, Miss Paget, and Mr. Sangster to be the Board's representatives.

Dr. Fairbairn having drawn the attention of the Board to a case of difficulty on the part of a midwife in obtaining medical assistance at the fees allowed by the London County Council, it was decided that copies of the letter be forwarded to the London County Council and the British Medical Association.

Correspondence.

FORERUNNERS OF HARVEY IN ANTIQUITY.

SIR,—In his learned Harveian Oration Dr. Raymond Crawfurd makes no allusion to the contribution of the ancient Egyptians to medical knowledge. Of course, a great deal of nonsense is written from time to time concerning these people and their mythical medical proficiency; indeed, it has been gravely asserted recently by an acknowledged authority that we are but "poor imitators" of them, and that in Egypt, 3000 B.C., doctors had very much the same knowledge as we have, and "that one is really obliged to ask oneself whether the world has progressed since the days of Sesostris to those of Pasteur, or if humanity goes back a pace in one direction, when she advances in another."

However, as regards their anatomical knowledge, especially as concerns the circulation, I think they "suspected" a great deal, which probably at a much later period has been assigned to others. Anatomy was chiefly studied on animals, and human dissections were only allowed for a short period, about 300 B.C. in Alexandria. Anatomy occupies a sma l space in the pages of the Ebers papyrus and is confined to two very small and very ancient treatises, which are painfully obscure. One has the pretension to impart full knowledge of the heart, including its functions, and it is interesting to notice that the same word—moret — designated both arteries and veins. According to this ancient anatomist, there is, in the heart, the vessels that supply all the members. The physician, the magician, or the enchanter, who puts the fingers on the head, on the nape of the neck, on the hands, on the region of the heart, on the arms and legs, everywhere the motion of the heart touches him, coming through the vessels which permeates all the members. The pulse is evidently alluded to, and it appears to me that the action of the heart as a pump is here recognized. There are, it is stated, four vessels in the nostrils, of which two give the mucus and two give the blood. There are four in the interior of the temples which furnish the blood to the eyes and afterwards supply all the humours which lubricate the eyes. There are four vessels to the two ears, two to the right side and two to the left. There are six vessels to the legs, three to the right and three to the left, which reaches to the sole of the feet. There are two vessels to the testicles, which supply the sperm, two for the thighs, and four for the liver, which supply the water and spirit producing all the humours that purify the blood, and two the kidneys, producing the urine. When the heart is diseased its work is imperfectly performed, the vessels coming from it are inactive, so that they cannot be felt; they are full of air and water. When the heart is dilated the vessels proceeding from it contain effete matter. If a suppurative disease occurs in the body abscesses are formed in various parts, the heart causing (evidently the septic matter) to traverse the blood vessels, producing fever and inflammation of various kinds in the body. The heart is in a morbid state while the fever lasts. It is quite evident that the facts underlying the circulation were known, and that the action of the heart as a pump was recognized.

Incidentally, in the small treatise alluded to thoracic aneurysm (then very common, doubtless from the nature of the employment of the majority of the inhabitants) is accurately described.

If the aorta is made to project, to protrude, all the members degenerate, or become affected on account of the strain put on

the heart. If aneurysm is produced in the heart there is a sac at the confines of the stomach and liver. The orifices of the heart and its vessels are protruded, and after they become inflamed the sac bursts.

Some of the anatomical information quoted can be referred to a period about 6,000 years ago, while the greater part was written about 1600 B.C. During the intervening period it must be admitted that but little progress was made in anatomical knowledge.—I am, etc.,

T. GERALD GARRY, M.D.,
Consulting British Physician, Pistany (Pöstyén), Czecho-Slovak (in summer).

Cairo, Dec. 7th, 1919.

LOCAL CLINICAL LABORATORIES.

SIR,—I believe I shared the honour (together with Dr. Hugh Miller) of beginning the discussion on local clinical laboratories, so perhaps I may be allowed of your hospitality to reply.

All the evidence hitherto adduced has been in favour of many local laboratories and few central ones. The commercial laboratory has been shown to be undesirable for many reasons, the greatest of which is the absence of the pathologist at the bedside. "Clinical Pathologist" is a whole-hogger for the central laboratory, partly because there are only eight reliable histologists extant. I cannot resist a sly dig: Does he include himself? "Clinician" would have the pathologist out of the way as a competitor in practice. A pathologist might as fairly deprecate the handiwork of those general practitioners who do a little private pathology of their own. Abduction of patients, deplorable though it be, is not a peculiar attribute of the pathologist. I agree that if a patient is sent for an autogenous vaccine the doctor who sends him or her has the right to give the vaccine, but I am not by any means sure that this is always sound from the scientific point of view. Strictly speaking, the person with the greatest experience of vaccine therapy should administer vaccines.

It may be of interest to state that here in Eastbourne we have recently established a local clinical laboratory by our own initiative. The laboratory itself, with certain apparatus (about one-third), was provided by the generous foresight of the hospital authorities at my suggestion, backed by the Medical Committee. The rest of the apparatus, all materials and maintenance, are found by the pathologist who does therein both hospital and private work. Cleaning is done by a hospital servant, and the pathologist provides his assistant (one is at present sufficient). This scheme works well, and is fairer perhaps than when private work is allowed, assistants, salary, materials and maintenance are provided, as in some London hospitals. I think the Ministry of Health might easily adopt some even standard between these two extremes. If this were done, the problem of the local laboratory would be solved, for it need cost but little; it could be made self-supporting, and sound pathology could be made to cost less to the private patient.—I am, etc.,

A. G. SHERA.

Eastbourne, Dec. 29th, 1919.

"NEW LAMPS FOR OLD" IN OBSTETRICS.

SIR,—Dr. Shirlaw is under an entire misapprehension as to the objects and results of the system I am advocating. It is not a question whether the patient will not do well if she is left to nature. She may do so, but she will suffer a great deal of wholly unnecessary pain—pain, well described in the Old Testament as the "pains of hell,"—this suffering will be prolonged for hours, and she will often be left in a state of exhaustion and generally with a ruptured perineum.

All these evils are entirely obviated by the skilful use of forceps and chloroform. Since I have used Wagstaffe's instrument, I have *never* had a laceration of any kind; the time consumed, by the passage of the head, has been about five minutes, and the patient makes a rapid recovery.

In a consecutive series of a thousand labours there have been three cases of septicaemia.

The first had been left entirely to nature—not even an examination being made. She recovered.

The second had no lacerations of any kind. I was informed by a distinguished gynaecologist that she would certainly die. She made a complete recovery, and I subsequently found that she had attempted to procure abortion with a piece of wood.

The third case died, apparently of pulmonary embolism, on the fourth day of the fever. She had undergone a difficult craniotomy.

This gives a case incidence of 0.3 and a death rate of 0.1 per cent. There are hundreds of men in England who employ the same methods as I do whose experience is very much greater than mine and whose results are just as good.

To stigmatize such procedure as "a reign of force," or to draw comparisons with it and craniotomy or Caesarean section is, to say the least of it, ridiculous. Nor is it reasonable for anyone to condemn a system of which he has had no practical experience.

After all, this discussion is of little more than academic interest, for the future practice of midwifery depends neither on the theories of gynaecologists nor on the methods of general practitioners, but on the attitude of the general public. It is the expectant mother and her friends who will decide for us what line of treatment shall be adopted. The modern young woman is an enigma, but she knows her own mind on many things, and when she has to choose between being left to nature—already outraged by many thousand years of civilization—and the safe and speedy relief offered her by a skilful obstetrician, there can be little doubt what her decision will be.—I am, etc.,

A. CAMPBELL STARK.

London, E., Dec. 27th, 1919.

SIR,—I have read with interest Dr. Mears's reply to my letter in your issue of December 27th, 1919. While completely agreeing with him that the teaching of hospital obstetric physicians is not always sound, I see nothing in his arguments to make me alter my contention that *watchful* expectancy is sound midwifery and early interference on the slightest provocation is not—a contention in which, though only a general practitioner, I feel confident that I will be upheld by the majority of consultant obstetricians.

If we accept, as he evidently does, the modern view that labour is a pathological process, at least amongst civilized women, we must also accept the fact that any internal interference with its course is in the nature of a surgical operation. Given, for instance, a case of acute appendicitis, the surgeon will only operate in the patient's home when it is impossible to do otherwise. How much the more would he hesitate to remove an appendix under home conditions at the first sign of trouble in that region, or merely to prevent the development of such trouble! Yet an uncomplicated appendicectomy is no more difficult than forceps delivery or placental removal.

My reply to Dr. Mears's remark regarding the application of forceps twenty four hours after the child should have been born is contained in Barnes's adage: "We should *wait* to see what a woman can accomplish, not what she can endure." The italics are mine.

Dr. Mears first of all advocates prophylactic surgery, and then, to render his position tenable, would see us all specialists before being allowed to handle our instruments: which is a condition of things only to be hoped for at the millennium.—I am, etc.,

WILLIAM CORBET.

Blackheath, S.E., Dec. 27th, 1919.

SIR,—I notice that the chief argument brought by some of your correspondents against the frequent use of forceps in labour is the increased risk to the patient from (1) laceration of cervix, vagina, and perineum; (2) haemorrhage; (3) sepsis.

(1) I think every one agrees that forceps should not be applied until the cervix is completely dilated. With reasonable skill and care, therefore, laceration of the cervix should never be caused by forceps. My own experience is that tears of the vagina and perineum are more easily avoided when the head is completely under the operator's control, as it is when grasped by the forceps.

(2) Forceps should, of course, never be applied during secondary uterine inertia. If this rule be adhered to, I see no reason why haemorrhage should be more common with forceps than without. On the contrary, *post-partum* haemorrhage is more likely to occur in a case where the uterus is over-tired after a prolonged labour without assistance.

(3) With regard to sepsis; it should surely be possible nowadays to make reasonably certain of avoiding serious infection by hands or instruments.

Another argument we hear is that there is great risk of injury to the child's head when forceps are used. With reasonable care and skill there should be no risk of serious injury except in those very bad cases in which every one would agree that delivery could not take place without assistance. Personally I have used forceps in four or five hundred cases (40 to 50 per cent.), and do not remember among them any case of serious post-partum haemorrhage, sepsis, or injury to the child (beyond a few bruises and abrasions in some cases).

I apply forceps in every case when the second stage is unduly prolonged if the head is presenting. Of course, occipito-posterior presentations should be allowed a longer time than occipito-anterior, so that reduction may, if possible, take place. To my mind, everything depends upon the skill of the operator. With reasonable skill the use of forceps should not increase the risk either to mother or child—quite the contrary. Skill can only come from frequent practice. The man who only uses forceps in extreme cases—say, two or three times a year—cannot a quire the skill and self-confidence which are necessary in a difficult forceps case. Dr. Mears mentions Dr. Park, who attended 3,900 confinements and only used forceps twice. He speaks of the avoidable agony which must have been endured by at least half of these cases. I agree with him; but my sympathy goes out even more to the two unfortunate women (probably very difficult cases) who were delivered with forceps by a man with that amount of practice in their use.—I am, etc.,

Leicester, Dec. 28th, 1919. JOHN A. BARNES.

SIR,—The old controversy regarding the question of interference or non-interference in confinements which run a normal course—in other words, natural parturition—has again exhibited all the virulence of the past. I believe the last war of words upon this theme raged for several months in 1906, and since then I have heard or read nothing more confusing or enlightening.

The truth is, I believe, that it is quite impossible to lay down arbitrary rules that will suit all circumstances. Everyone attending an obstetric case should have a thorough knowledge of the technique underlying all operations and manipulations in the delivery of a woman, otherwise there is sure to be a certain percentage of bad results. And it is my opinion that the average medical practitioner who has been in practice for some years has acquired almost perforce skill and dexterity in the management of most obstetric cases. The maxims taught in the schools and laid down in textbooks are chiefly of value in guiding the tiro; after that much depends upon the experience, observation, and resolution of the practitioner. One of the oldest obstetric aphorisms is the soundest: "Meddlesome midwifery is bad midwifery." One correspondent advises us not to "stay with the patient until the cervix is dilated," even should "the baby be born before your next visit." That writer evidently has never practised in a wide country district like mine.

The percentage of operative interference of all kinds depends upon many factors. Possibly in dense industrial districts, with overworked women of poor physique, a conscientious practitioner may be compelled to use forceps and anaesthetics more frequently than I in a country district, where the women lead a healthy outdoor life and show few pelvic or other abnormalities. In towns the proportion of highly nervous women is much higher than here. These neurotic creatures frequently have their alarms increased by poring overy trashy literature of the "silent sleep" purveyor, who is out to harrow their feelings with vivid descriptions of tortures suffered by women at the hands of callous doctors of the old school. Scopolamine-morphine treatment has a certain value in such cases, and is a great boon to the practitioner, its chief disadvantage being the close and constant attendance it demands. I have used it in nearly fifty cases, and I consider it more suitable for institutional treatment than in general practice.

I may be utterly wrong, but I think many town practitioners, and possibly some country ones, resort to the use of forceps upon very slight provocation, chiefly for reasons of comfort or convenience. With a skilful manipulator no harm may be done; but it is not good practice to undertake a needless operation, no matter how skilfully performed. If a case is progressing steadily and favourably, even if slowly, and the patient's strength is well maintained, I consider it is taking an unjustifiable, if somewhat remote, risk to expedite or, worse still, hurry delivery; it is almost always bad treatment to attempt it before the end of the first stage of labour. With a little tact, or perhaps an assumed sternness, one can work wonders with most women. Fortunately most cases are quite normal, and patience, next to absolute cleanliness, is of the greatest importance.

I suppose all of us, early in our obstetric practice, employ forceps oftener than we do later after a more extended experience. The temptation comes most forcibly when we have acquired some skill in their use. Greater certainty in diagnosing the presenting part leads, in my opinion, to a less frequent resort to hastening delivery. The practice of examining women during pregnancy is an excellent safeguard, and it obviates many obstetrical catastrophes. A great deal of unnecessary traction is the result of ignorance; an occipito-posterior presentation detected early loses half its terrors, and, indeed, becomes as easy, in many cases, as a L O.A. Let it get impacted in in the cavity and the case is then of quite another complexion!

Much of the bad teaching of the schools has been responsible for bad midwifery. We can all remember the douching mania, not to mention the giving of ergot before the birth of the child, and the silly practice of completing the third stage in a panic of squeezing and kneading, with the inevitable danger of post-partum haemorrhage due to pieces of retained placenta. Even writers of textbooks taken different views. Whitridge Williams instructs us to search always for the posterior ear when applying the left blade of the forceps; Webster, another American writer, stigmatizes such teaching as being "unscientific and ridiculous," and states that the blades lie safely only in one position—namely, right and left as regards the pelvis.

The only percentages we should be anxious to maintain are the percentages of good results, with healthy mothers and vigorous babies. That sounds like a platitude; but it is not always kept steadily in view. Midwifery being to many of us the sole department of our profession where we are called upon to do "major" work, we should take every means in our power to excel in it. A rise in temperature should cause us seriously to overhaul our methods and review our technique, and a dead fully developed baby should be accounted a disaster.—I am, etc.,

Helmsley, Yorks, Jan. 4th. ALEXANDER BLAIR, M.D.

MODE OF QUININE ADMINISTRATION.

SIR,—In his letter in your issue of December 27th Sir Ronald Ross expresses a doubt "whether the therapeutic value of quinine always increases *pari passu* with the dosage," and in support of this view he states that in a series of cases 2 grains four times a day caused the parasites to disappear as quickly as 30 grains a day.

But is there not a fallacy working in the background of such reasoning? The amount of quinine which will cause the disappearance of parasites from the peripheral circulation is not an index-coefficient of cure, for a similar and as complete a disappearance will sometimes take place after an attack of untreated malaria. This fact serves to remind us that in administering quinine we are not curing the disease but only helping Nature to do so. The personal factor in each individual case is an "unknown x," and it is vain to imagine that we can lay down any hard and fast rules as to dosage. Many people have died as a result of having had too little quinine, but for myself I have never seen one who suffered from having had too much. Since whatever we do we may err, let it always be in the safe, and therefore right, direction.

In my humble opinion, experiments on dosage conducted in England have little practical value, for those who make them are necessarily dealing with the disease at a stage when it is too late to think of cure. He who would cure malaria must act quickly and drastically, for when once the relapsing stage has supervened Nature, with her handmaiden Time, alone can, and will, bring about the desired end. True we can still assist her with quinine, but the amount we give no longer affects the ultimate issue as it may in the first attacks. In this respect the analogy between malaria and syphilis is both interesting and instructive.—I am, etc.,

Farnham, Dec. 26th, 1919. R. U. MOFFAT, M.D.

SIR,—I hesitate to add to a lengthy correspondence, but there is a point which has not been mentioned by your correspondents. In many cases of malaria, whether benign tertian, malignant tertian, or quartan, quinine given by the mouth fails to affect the temperature. In a few cases, even when intercurrent disease can be excluded, intramuscular or intravenous injections of quinine have little effect upon the temperature. In the latter cases the drug should be administered both orally and by injection.

Colonel W. H. Willcox (BRITISH MEDICAL JOURNAL, December 13th, 1919, p. 796) states that in certain cases "courses of treatment should commence with from three to six intravenous or intramuscular injections of quinine, and treatment carried on afterwards by oral administration." My point is that in these cases quinine should be given by the mouth during the courses of injections as well as afterwards. The result is even more striking.

Quinine in malaria furnishes by no means the only example of the beneficial result of the administration of a drug by a dual method.—I am, etc.,

S. G. ASKEY, M.A., M.D.,
Late temporary Captain R.A.M.C.

Maidstone, Jan. 3rd.

CONTRACTION AND RETRACTION RINGS.

SIR,—The question of the contraction and retraction rings is one to be decided by experience, and it is perhaps fortunate that experience has not been sufficient to establish their precise relations.

The evidence we have tends, in my opinion, to show that the uterine muscle is apt to contract—in obstructive cases to retract—wherever there is a sulcus or room for a thickened piece of musculature to find a locus.

My object in writing, stimulated by Dr. Lochrane's article in the BRITISH MEDICAL JOURNAL of January 3rd, is to maintain that in labour one may meet with a contraction ring where there is no evidence of obstruction or exhaustion. I came to this conclusion in a case where a patient (multipara) gave birth to a fetus in the seventh month. There was no obstruction in the pelvis, there was a breech presentation, and in due course the membranes were ruptured. I expected delivery to follow rapidly, but it did not, and traction on the legs failed to cause any progress. Exploration of the uterus revealed a contraction ring round the neck, and under chloroform anaesthesia dilatation was sufficient to enable the head to be scooped out of the uterus, and so the labour was easily terminated. A contraction ring of this sort is obviously differentiated from a retraction ring, inasmuch as there was no obstruction, and, being a breech case, it was situated quite high up in the uterine cavity.—I am, etc.,

O. ECCLES.

London, W., Jan. 6th.

PREVENTION OF VENEREAL DISEASE.

SIR,—Our attention has been called to a letter in your number of December 27th, 1919, from Mr. E. B. Turner and Dr. Otto May, making some comments on a pamphlet issued by this society. These gentlemen are at perfect liberty to place any construction on this pamphlet they think proper. The names of those who are associated with our society furnish sufficient contradiction to the imputation that we are animated by a desire to promote promiscuous sexual intercourse.

Our policy was clearly expressed in an address given by our treasurer, Sir William Arbuthnot Lane, at a meeting held at the Central Hall, Westminster, on December 16th, copies of which can be obtained on application to the honorary secretary.

For the information of your readers we enclose a general statement of our aims and objects, which we should be obliged if you would publish.—We are, etc.,

WILLOUGHBY DE BROKE,
President.
H. WANSEY BAYLY,
Honorary Secretary.

143, Harley Street, W. 1, Jan. 7th.

*** The document enclosed states the aims and objects of the society as follows:

It is obvious that the best way of avoiding venereal disease is to abstain from promiscuous sexual intercourse. It is, however, certain that a large number of persons continue, in spite of moral teaching, to expose themselves to risk, and so to incur and spread disease among the community, the chief sufferers being women and children. Venereal disease is accountable for a large proportion of cases of insanity, nervous diseases, loss of sight, and sterility. These diseases have become a menace to national health and prosperity, and infection can be prevented by means of self-disinfection, if properly applied, immediately after exposure to risk. It is therefore necessary:

I. To instruct the public as to (*a*) the vital importance of self-disinfection at the time of exposure to risk as a preventive of venereal disease; and (*b*) the methods of application.
II. To advocate such further steps for the prevention and ultimate eradication of venereal disease as may be deemed advisable.

SIR,—I was surprised to read the objections of "Surgeon Commander R.N." to the letter of Drs. Mary D. Sturge and Rose Lynch Molloy, which was a valuable reminder that the prophylactic scheme has its limitations, especially with women. It is indeed a serious error to state that "such diseases are very easily prevented." The world was not made for man alone, but also for woman, and the latter will be very seriously misled if she accepts the statement at its face value.

Moreover "Surgeon Commander R.N." will not find all his colleagues of his opinion. As a temporary surgeon lieutenant during the war I made it my business to collect opinions on the results of prophylactic treatment in the navy from as many "permanent" senior medical officers as possible. Their opinions varied, and none were as dogmatic as his. Most of them "thought it did a good deal of good," but would go no further than that. One stated that he could vouch for an instance where he knew definitely that prophylactic nargol and mercury ointment had been thoroughly applied at the time, and nevertheless failed.

What is "Surgeon Commander's" method of ascertaining if prophylaxis has been properly carried out? In many cases how can he know? Any one inclined to be dogmatic can easily say that because the prophylaxis has failed it cannot have been carried out properly. The psychology of the patient enters largely into the character of the reply he will give when asked whether he used prophylactic measures. He may falsely answer "Yes" merely to put himself in the right, especially if he knows that the medical officer holds strong opinions on the subject. Again, he may falsely answer "No," fearing to prejudice the diagnosis.

Lastly, "Surgeon Commander" apparently attributes any failure of the men to adopt effective prophylaxis to the medical officers "largely drawn from civil life." I and many other temporary medical officers have explained the benefits and methods of prophylaxis to the men many times, and supervised the supply of the necessary disinfectants, but have been handicapped in some instances by the lukewarm support or even apathy shown by some of our senior medical officers. The last surgeon commander under whom I worked was in charge of a big naval shore station, but he did not have one address given to the men, nor see that the necessary arrangements were made for them to obtain disinfectants.—I am, etc.,

HEAR BOTH SIDES.

December 22nd, 1919.

SIR,—In your issue of December 20th, 1919, there is a letter under this heading signed by "Surgeon Commander R.N." Much as we appreciate the motives of the writer in promulgating his experiences for the public good, we, on the contrary, greatly deprecate his insolent attitude towards temporary medical officers to whose negligence and stupidity he attributes many of the failures in venereal prophylaxis in the services. These medical officers are alleged to "damn what he and others consider the incalculable and almost certain benefit of prophylaxis." Truly a most remarkable observation!

We would humbly suggest that these sweeping remarks are scarcely accurate when including the large body of men who turned out to supplement the medical services; we protest against the low morale assigned to temporary officers by this critic.

Many of us were experienced in the science of venereal prophylaxis, many were actually "eminent," the remainder were surely sufficiently well versed in modern hygienic science to appreciate and to advise against this venereal scourge. We would be loath to think that we were the demoralized faddists that this correspondent suggests. As "Surgeon Commander" now informs us, the correct way to preach venereal prophylaxis is "by stealth." I fear that the measure of "stealth" employed by a large

proportion of permanent officers of the rank of "Surgeon Commander R.N." is too insignificant to be appreciated. Should they first attempt to put their own house in order probably they might allot some of their failures to their own permanent officers, who maybe are "too tired" to preach the doctrines of preventive medicine, or who may conveniently call to their aid the other formulated excuses with which "Surgeon Commander R.N." seems familiar.

As late temporary medical officers we have preached and practised prophylactic medicine to much advantage before joining the services and in the services, and so have a great many more of us who were "drawn from civil life." We maintain that the percentage is small of those temporary officers to whom it is imputed that they damn the progress of venereal prophylaxis by holding such views as "the punishment fits the crime" or "who have little faith from lack of experience, or conscientious objections to lecturing on the subject," or are even "too tired."

It was imprudent on the part of "Surgeon Commander" to assume so much, and improper of him to cast such aspersions upon a worthy section of an honourable profession.—I am, etc.,

December 31st, 1919. "LATE TEMPORARY SURGEON."

SIR,—Dr. Herbert Butcher (January 3rd, p. 28) makes the following statement: "I fail to see that as medical men we have any concern with the moral aspect of the matter. That had much better be left to others."

This is a comfortable but entirely false doctrine, look at it from what point of view we will, whether moral or medical. It is as though one said of the treatment of tuberculosis: "We as medical men have no concern with the causes of the disease—bad housing, overcrowding, insufficient and unsuitable food, etc.; the treatment of the causes had much better be left to others; our business is to treat the disease as it arises."

In the matter of venereal disease we are faced with a symptom of a moral disorder, and we shall be guilty of malpractice if we are content merely to attack the symptom and do not "treat the cause." It would seem that the only effectual method of treating the cause lies in giving our children a better sex education than we ourselves received. Now, it is a firm belief among those who lay stress on the moral side of this question that the distribution of literature on prophylaxis and the issuing of "preventive packets" is going to neutralize that better education we so urgently desire for our children.

If there is any truth in this belief, is it not our duty to give to the views propounded by the "moralists" our most careful attention?—I am, etc.,

WILFRED A. RUSSELL.

Surrey County Asylum, Brookwood, Jan. 5th.

*** We have received a number of letters from readers in various parts of the country, repeating in different words the argument, already put forward by other correspondents, that the moral aspect of this question is one that closely concerns the medical profession.

CHRONIC PANCREATITIS.

SIR,—The letters on chronic pancreatitis concern my daily work, and I should like to ask for myself and others that the discussion should be brought within the reach of the general practitioner, who certainly would rarely make a section of the pancreas for microscopical inspection even if he suspected pancreatic disease. We come, then, to the urine, and most of those who examine urine regularly have noticed, when using the copper test, the greenish-yellow reaction, which thirty years ago was regarded as of sinister prognosis.

Those who have examined urine carefully and found no sugar have yet been obliged to conclude 4 per cent. sugar shortly afterwards. This occurred to a patient quite recently. Feeling ill, and suffering from epiphora, the tears coming to her lips she found were sweet instead of salt. Such facts as have been brought forward by your correspondents force upon us the necessity of recognizing the dextrinous precession of diabetes. How far, then, is dextrine in the urine of the same importance as microscopical examination of the pancreas? Again, what is the exact character and differentiation of the dextrine? for the dextrines I have examined are sensitive to the iodine test—say 1 gram to 4 litres. Neither Professor Cushny's *The Secretion of Urine* nor the recent edition of *Practical Physiological Chemistry* of Professor Cole give us data. In the test which I have called the "carbohydrate test"—saturated permanganate solution 4 c.cm., dilute sulphuric acid 1 c.cm., and 1 c.cm. urine; elevation of temperature during ten minutes or more—would, I showed in the BRITISH MEDICAL JOURNAL some years ago, estimate lactic acid. I find that the oxidizables are in ratio to the specific gravity, the same as other constituents. So, taking 100 samples of non-diabetic urine, multiplying the temperature from 1° to 2.2° F. by 100, and dividing by the two last terminals of the specific gravity, we obtain a number of, say, 8. Although I suspect that dextrine, like alcohol, glucose, mannite, lactose, would alter that number, I am unable to say in the absence of experiment. If we could get dextrine amongst the suspects of the carbohydrates, or oxidizables, it would be a gain secured by this simple test. The carbohydrates offer wide divergencies as regards time of action, and dextrine, like the others, might be marked by its gravamen. Certainly the importance of the dextrine period of diabetes is urgent. Does the absence of dextrine precede the advent of sugar? Does the urine which normally converts or destroys small quantities of cane sugar, when recently passed, proved by my carbohydrate test, indicate similar conditions as the dextrine when this power is increased? Who can tell us?—I am, etc.,

London, S.E., Dec. 14th, 1919. J. BARKER SMITH.

FRACTURE DISLOCATIONS OF THE ANKLE.

SIR,—If Sir Arbuthnot Lane's views on the best methods of treating these fractures needed any further support, it could be obtained by a consideration of the difficulties met with by Mr. Rowlands[1] in using any other method. The case upon which Mr. Rowlands operated (Fig. 2) was an "abduction" fracture, and the easy way to get a perfect result would have been to expose the internal malleolus, the bone displaced *towards* the centre of the foot, disengage it from its position under the lower end of the tibia, adduct the foot and bring the fragment into correct apposition with the surface of the tibia from which it had been torn, and finally fix it there with a small plate.

But Mr. Rowlands operated on the fibula, on the bone displaced *away from* the centre of the foot, and in spite of dividing the tendo Achillis and peroneus brevis, seems to have met with very considerable difficulty before he was able, by introducing a long screw, to reduce the deformity and fix the bones in perfect position. The cause of his difficulty is at once seen on examining the radiogram (Fig. 2). What is keeping the external malleolus and astragalus from slipping back into position is not the tendo Achillis or the peroneus brevis, or anything inherent in the first named bone, but the presence of the fractured internal malleolus jammed beneath the tibia, and occupying the space which should be filled by the astragalus. In the easy operation of Lane this fragment is got out of the way at once and back the astragalus slips, bearing with it the attached portion of fibula. Indeed, Mr. Rowlands was lucky to get the parts back without any further injury, for if the misplaced internal malleolus had proved obstinate, it is probable that the onward thrust of his screw, penetrating deeper and deeper into the tibia and failing to draw after it the fibula fragment, would have snapped the latter in two. Fortunately, this did not occur, and he obtained an excellent cure.

To some of us the attempt to fix the lower ends of the tibia and fibula together by a rigid screw and subsequent bony ankylosis may appear a questionable proceeding, but Mr. Rowlands is able to tell us of a case perfectly well after seven years, so probably everything is quite all right.

Perhaps a word may be permitted on the nomenclature. Mr. Rowlands quotes Pott, but fails to quote Dupuytren. An inquiry at the library of the Royal Society of Medicine revealed that there were three copies of Dupuytren's works, but all uncut! On turning to his lecture on Fracture of the Fibula,[2] we find a perfectly clear definition of the rare fracture which is called by his name. "It involves not only fracture of the fibula, but also laceration of the strong tibio-peroneal ligaments, which generally

[1] BRITISH MEDICAL JOURNAL, December 6th, 1919, pp. 735–737.

[2] *Injuries and Diseases of Bones.* By Baron Dupuytren. Translated and edited by F. Le Gros Clark. London: Sydenham Society. 1847. Part I, p. 282.

esist a force to which the osseous tissue yields." This is ollowed by an account of the only case he had met with in nearly 200 cases of fractured fibula," entitled "Fracture f the fibula and rupture of ligaments, with dislocation of he foot outwards and upwards."

It follows from this that Mr. Rowlands's definition of Dupuytren's fracture as one in which "there are the esions already described under Pott's fracture, and in ddition either the inferior tibio-fibular ligaments are torn or there is a vertical fracture in the tibia just mesial to the ibio-fibular articulation," is not the true one.

After all, what matters in treatment is to make a clear livision of all fracture-dislocations of the ankle into two, lepending on their manner of production — namely, 'abduction" fractures and "adduction" fractures. In he former, if an operation is required, the tibia is the one to operate on, and in the latter the fibula; then, in recent cases, it will be rare indeed to meet with any difficulty. The later cases form a special class, and Mr. Rowlands is to be sincerely congratulated on the splend d result he obtained by transverse osteotomy in the case shown in Figs. 8, 9, and 10.—I am, etc.,

London, W., Dec. 11th, 1919. PAUL BERNARD ROTH.

APPARENT SPONTANEOUS RUPTURE OF A NORMAL SPLEEN.

SIR,—In Major Shorten's interes ing account of rupture of a normal spleen (BRITISH MEDICAL JOURNAL, December 27th, 1919, p. 844), two points call for comment:

1. Is spontaneous rupture (that is, without the application of force external to the organ) of the spleen possible, except as the result of effusion of blood or other fluid into the spleen itself? I should say "No." Some force is required, and there is none available. It is true that the fall was a slight one to rupture a normal spleen, but the organ may have been displaced by the previous accident, and so rendered more vulnerable. Here we have to choose between an improbability and an impossibility, so need not hesitate which view to take.

2. The state of the gall bladder was quite consistent with an attack of biliary colic.

It is time textbooks taught, what most surgeons know, namely, that the great majority of gall stone attacks are due to plugging of the neck of the gall bladder, and not to the passage of a stone along the ducts.—I am, etc.,

Bolton, Dec. 28th, 1919. R. D. MOTHERSOLE.

THE MACHINERY OF THE ASSOCIATION.

SIR,—I note in the SUPPLEMENT for December 13th an invitation to members of the Association to submit to a special committee, which is considering the subject, suggestions as to desirable modifications in the machinery of the Association. Doubtless many suggestions will be submitted. I hope to send some myself. But serious consideration should be given by the committee and those sending suggestions as to the essential functions which the Association is intended to perform by means of its modified and, we will hope, perfected machinery.

It would be well, I think, if those interested would carefully study a series of supplements to the *New Statesman*, issued a year or so ago on professional organization. I do not suppose that all medical men would agree as to the accuracy of the history of organization of the medical profession set out in the special supplement dealing with our profession. But there are valuable lessons to be learnt from it and from the particulars given of efforts made by other professions to secure adequate organization. Particularly valuable, I thought, was the classification of the objects to be obtained by professional organization. The writer or writers of these supplements seemed to incline to the ideal of a single body constructed so as to be able to secure the fulfilment of all the objects that should properly be aimed at by professional organization.

My own personal experience of organization as applied to the medical profession leads me to doubt the feasibility of any attempt to reach this ideal so far as medicine is concerned, and nothing that I read at the time in the various supplements convinced me that it was any more likely to be successful in other professions. If I am wrong and it is possible and desirable for a single body to do the necessary work, and the Association decides to endeavour to occupy this position of great responsibility, its machinery must be adapted to this end. But if, as I hope, the Association intends to play a less ambitious part, it must define either the work it wishes to do or the work it wishes to leave to other bodies, and secure a constitution adapted to its task limited in this positive or negative manner.

The three divisions of the work of professional organization, if I remember aright, laid down in the article to which I have referred above are as follows:

(1) The control of admission into, and continuance within, the profession.
(2) The development of the knowledge which forms the basis of the profession's work.
(3) The maintenance of the standard of professional work and conduct, and the safeguarding of the social and economic interests of its members.

If this classification is accepted it will be for the committee to advise the Association as to the changes, if any, in its machinery which are desirable to enable it to carry out all or any of these classes of work.

Personally I believe it would be wise for the Association to confine its energies to (3), leaving (1) and (2) to the General Medical Council and the Royal Society of Medicine respectively. For this limited though still considerable and highly important work the Association would be best equipped by completing the good work begun chiefly by Horsley of democratizing its constitution, in the light of the experience now being gained with some pain and difficulty in respect to representative government in industry.

I hope that any members who may agree with me that more complete democratization of the Association is desirable will send to the committee suggestions as to the best means of carrying it out.—I am, etc.,

London, W., Dec. 15th, 1919. LAURISTON E. SHAW.

Universities and Colleges.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on December 17th, 1919.

The following were recognized as teachers of the university in the subjects at the institutions indicated:

Guy's Hospital Medical School.—Mr. T. B. Layton (Aural Surgery), Mr. William M. Mollison (Laryngology), Dr. Nathan Mutch (Clinical Medicine).

London School of Medicine for Women.—Mrs. Mary F. L. Keene (Anatomy).

Hospital for Sick Children.—Mr. L. E. Barrington-Ward (Diseases of Children).

Professor A. E. Boycott, F.R.S., having relinquished his military duties, has resumed the appointment of Director of Research under the Graham Legacy Committee.

The Vice-Chancellor, Sir Cooper Perry, in view of his appointment to be Principal Officer, has from February 1st, 1920, resigned his office, and Dr. Sydney Russell Wells was elected Vice-Chancellor for the remainder of the year 1920. Dr. Russell Wells was also elected chairman of the Brown Animal Sanatory Institution Committee.

An additional first examination for medical degrees will begin on March 22nd. Forms of entry, to be obtained on application to the Academic Registrar, must be returned, accompanied by the proper fee, by February 23rd.

Dr. W. L. Symes will give a course of eight lectures in the Physiological Laboratory of the university on physiological balanced solutions on Tuesdays at 5 p.m., beginning on January 27th. Dr. J. W. Trevan will deliver at St. Bartholomew's Hospital a course of eight lectures on the reaction of the blood and acidosis on Wednesdays at 4.30 p.m., beginning on January 28th. Dr. Pembrey and Mr. J. H. Ryffel are giving a course of eight lectures at Guy's Hospital on the regulation of respiration on Thursdays at 4.30 p.m., beginning on January 8th. These courses, which are free, are recognized as advanced lectures which a candidate at the B.Sc. Honours examination may name for part of his examination.

Medico-Legal.

UNQUALIFIED TREATMENT OF VENEREAL DISEASE.

HEAVY fines were imposed at the Newcastle-on-Tyne Police Court on December 16th for infractions of Section 1 of the Venereal Disease Act, 1917; the charges were of having (not being duly qualified medical practitioners) unlawfully for reward prescribed a remedy for venereal disease and given certain advice. Mr. V. B. Bateson, the deputy town clerk, who conducted the prosecution, stated that the Act was directed to getting rid of backstairs shops, where persons suffering from the disease received inexpert and inadequate treatment. He mentioned that in Newcastle a scheme had been established whereby any person suffering, or believed to be suffering, from such disease might have the highest measure of medical skill free of charge, and with absolute secrecy. In one of the cases heard, in which there were four informations, the bench imposed a penalty of £50 in each (£200 in all). In another case there were two informations against each of two defendants, and the penalty in each case was £50 on each summons. In a third case the bench imposed a penalty of £50 in respect of each of two summonses, or £100 in all.

SIR WILLIAM OSLER.

WE published last week a biography of Sir William Osler in which the main incidents of his career were briefly set out. We are now able to publish tributes from many of the University medical schools in the United Kingdom, written in response to our request.

The two Regius Professors of Oxford and Cambridge worked together in union and with constant exchange of ideas. "I was," Sir Clifford Allbutt tells us, "rarely a week without a little affectionate postcard or a letter." Much good has come to English medicine during the last fifteen years through this close union of two great leaders. When Osler's pupils and friends on both sides of the Atlantic determined to offer him a Collection of Essays in celebration of his seventieth birthday, it was natural that his "brother Regius" should make the presentation. In doing so Sir Clifford Allbutt expressed in a few sympathetic sentences the feelings of respect and affection by which all the givers were inspired. His words were reported at the time,[1] but we have permission to reproduce here a dedicatory letter written last March:

My dear Colleague,

The stealthy foot of time carries us from youth to age so imperceptibly that we are hardly aware of the change; insensibly we shorten our arms, husband our strength, and are willing to think our prowess undiminished. Yet men have not refrained from marking the lapse of time by signal days, and months, and years; often by celebration of those whose lives have been devoted to the good of their kind, often by memorials of joy and achievement, or again of bitter and unforgotten sorrow.

And, as for the nation or the race, so in his own life, are there for each of us memorable days of sympathy in joy and sorrow. One day of sympathy in joy was that in the summer of 1904 when some of us were gathered around the hospitable hearth of Sir John and Lady Burdon-Sanderson, and, as suddenly, I believe, to you as to the others of us, like a flash of light the thought was born, how one scarcely knew, that you might surrender your great functions at Baltimore to enter upon a new life at Oxford.

Ever in the heart of the folk of the New World lies warm and deep the kinship with the old home; thus, almost with the rapidity of thought, between Canada, the United States, and Great Britain, an academic link threefold was forged. In no person so well as in your own could this unity have been so happily consummated; you arrived indeed from overseas, but as a pilgrim child of Oxford. In you the literary and historical tradition of the beautiful city was united with the zeal and adventure of the New World; so that in winning you for Oxford, and for Cambridge and Great Britain, we did no robbery to Baltimore and Montreal.

Since that day we have shared, in our degrees, your happiness and your sadness; we have rejoiced in your honours, and on this day when you reach the limit that the men of old regarded as the last ripeness of a man's life, I, your brother Regius Professor, am permitted to offer you as a tribute of our admiration and affection from both worlds, our little horn, if not of plenty, yet the best of our garden. Your "radical humours contain more than sufficient Oyl for seventy years"; oyl enough to keep your lamp trimmed and bright till the Old World, now tardily procreant, be brought again to the birth. Meanwhile in good days or evil you can thankfully say after our great example, "My Father works hitherto and I work."

Affectionately yours,
C. A.

The volumes arrived in Oxford two days before Osler's death—he never saw them.

Sir Clifford Allbutt has, as President of the British Medical Association, expressed the feeling of all its members in an appreciation contributed to the larger world of science through the columns of our contemporary, *Nature*. In it he speaks of Osler going to Oxford, "bringing with him, as gifts from the New World, an openness and simplicity of mind and conversation, a frankness and generosity of temper, a freedom from the frost and weight of custom, and a pioneer's command of affairs which made him as delightful a fellow worker as he was clear-sighted and effectual. . . . Oxford took him to her heart as her own; there as one of her own he rested. And if Osler had not also to capture Great Britain, as he captured Oxford, it was because Great Britain was already his mistress. Indeed, there was not a school of medicine in the Old World where his presence was not almost as well known, and his friendship as precious, as in the New. It was characteristic of him that a few years later he obtained leave from Oxford to spend some months in Paris, during which period he regularly attended the clinics of the great hospitals at 7.30 a.m., like an ordinary student."

Sir Clifford Allbutt continues:

A quality which made Osler so fascinating a companion, his teaching so vivid and telling, and his parts in debate often so lively, was his wit and humour; the sharpness of the wit tempered by the sweetness of the humour. Indeed, much of his playfulness and whimsical mystifications were, in naturalist's phrase, a protective colouring to cover deep sensibilities.

Of Osler's contributions to knowledge it is as hard to make a list as it would be for Socrates. They were many, no doubt, but consisted even more in his insemination of other minds, in personal teaching and influence upon his disciples. His great textbook, for many years, and still, the guide of every English-speaking student, had many and almost singular merits. Although within its compass no particular subject could be dealt with at large—for every subject had to be kept in subordination to the whole—yet in the successive editions it was always helpful in any quest to turn to "Osler," because, if it were but in a word, or the turn of a sentence, one perceived that the latest and best researches, if not presented in detail, were known to the author. Thus the work was not a provider only, but also to the wise an indicator. The reader feels as he reads that both whole and parts were being continually readapted to the developing phases of knowledge. Perhaps the author's most original and valuable researches were in the field of the diseases of the spleen and blood; but he made eminent contributions also to the study of infections of the heart, of angina pectoris, of malaria, and of many minor maladies. But, the most modest of men, his conversation was always of the good work of others, silent on his own.

Osler's work for others was so incessant, and his hospitality so unbounded, that one always wondered when and where he amassed and made use of his learning; learning which, in particular, would discover itself, as it were, by accident, unless, indeed, his companions were expert enough to see it under the surface of his talk. Somehow or other he put himself not only in sympathy with various subjects of study other than medicine, especially with literary pursuits, but he was able also to converse on something like equal terms with the masters of them.

OXFORD.

The DEAN OF CHRIST CHURCH:

In a private letter from which he permits us to quote the Dean of Christ Church (the Very Reverend Sir Thomas Strong, G.B.E.) recalls that the first time he met Osler was during the annual meeting of the British Medical Association in Oxford in July, 1904, when Osler was still professor of medicine at Johns Hopkins. "He was to have been my guest, but at the last moment went to Sir John Burdon-Sanderson. In the course of the proceedings he called to apologize for having broken from my party. When, a little later, he was made Regius Professor of Medicine, having made his acquaintance and heard something of his fame, I took counsel with other members of the governing body here, with the result that I was instructed to cable out to him and offer him a Studentship (that is, a place on our governing body). I remember that when he called in 1904 he talked to me about John Locke and Richard Burton; but I did not know how great a devotion he had to these great men. In his letter accepting our offer, he told me that nothing could have pleased him more than to hold the position of Student here, which had been held by both his

[1] BRITISH MEDICAL JOURNAL, July 19th, 1919, p. 80.

rophets, Locke and Burton. It is interesting that on the ight, in the interval between the service on Thursday fternoon (January 1st) and the journey to London on the norning of January 2nd, his body rested in the Cathedral lose by the monument of Richard Burton. The article n the last issue of the JOURNAL has helped me to under-tand what always rather puzzled me, and that was the normous range of Osler's knowledge. After he had been ere a little time he sent me a copy of his big book, *The 'ractice of Medicine*, saying he thought the head of his ollege ought to know the sort of things he was after. Of ourse, it was not a thing I should read through; but turned over the pages, and my eye was caught from time o time by phrases such as this: 'In a case which I saw n such-and-such a place': and it seemed to me that he nust have had extraordinary opportunities of seeing cases f various ailments, and that his book really depended pon this very wide experience. But I did not know at il how he had got it, and this your article to a large extent xplains.

"It was a very great gain to us to have him as a member f the governing body. Socially, of course, no one could ave been more delightful. But apart from that, though e was rather irregular at our meetings, he took a real nterest in the business of the college; and he had so many aried subjects of interest that he could help us in a variety f unexpected ways. I remember that very shortly after e came here there was a question of accommodation in ur library; our books were increasing upon us and we were anxious to find space. The question was raised whether we should move, or perhaps get rid of a part of, n old collection of scientific books, all long since out of ate. We asked Osler to go through them. There were, of course, some that were of no importance, but large number of them had come to us as a single ollection from the library of Lord Orrery; and though they were now of no use from the point of view of scientific eaching, Osler was enormously impressed to find a more or ess complete library of a man interested in science in the arly eighteenth century. He made a careful statement t a subsequent meeting about them and their value from the point of view of the history of science. From the same source we have a collection of scientific instruments, f which Mr. Gunther of Magdalen has been writing recently; and these were a great interest to Osler. I think that one of the great grounds of distinction in his outlook was his habit of co-ordinating the present and the past without, so far as I can understand, being behind in the movement of science at the present time. It will easily be understood what a power in a university, where literature occupies such a large place, this characteristic gave him of mutual understanding and friendship. I came across him also on the delegacy of the University Press and in the management of the Bodleian, of which I was a curator during my time as Vice-Chancellor. He had the greatest interest in the Bodleian and always was forward in promoting its interests—the Bodleian Record owes almost its existence to him."

Dr. C. S. SHERRINGTON, F.R.S., Waynflete Professor of Physiology, Oxford:

Many traits of Osler will be adverted to, and by those better competent than I to do them justice. To my own thinking, among the characteristics which endeared Osler to his friends none was perhaps more striking than his combination of an intense affection for the past, and not least for the antique past, with an enthusiastic receptivity for the new, a sort of open-arms embracing of the future. To run his eye backward and forward along the historic continuity of Medicine seemed with him a daily and hourly habit. No man, I think, was ever less open to the misconception of the present as a moment apart, a thing that was stopping still to be looked into, and was intelligible by itself alone. Akin to his optimistic welcome of the new was his genial sympathy with the young; there was never a greater believer in the young generation than Osler, or a more generous encourager of it.

LONDON.

Sir HUMPHRY ROLLESTON, President of the Royal Society of Medicine:

It is difficult to find the right words to describe such a many-sided man, the like of whom we shall not look upon again. It is the more difficult because so many others must feel that the guide, philosopher, and true friend, to whom in the event of trouble they could confidently look for help, has been taken. It is indeed hard to believe that never again shall we see that familiar figure and that the voice of that blithe spirit with its humorous and kindly touches is for ever silent.

Perhaps the most remarkable of his many gifts was that of rapidly making and then permanently retaining friendships. To see, speak to, and place at his ease as naturally his equal a young man, somewhat in awe of a famous leader of his profession, seemed an easy matter in his hands, and no doubt was the outcome of a wonderful sympathy that never failed, and at the same time was never obtrusive or other than natural in a very human man. This made him the same age as his companion, and indeed much as he loved old men, he delighted in meeting the young; with children he was a romping companion; to a mother in terrible distress for a son lost in the war the gentlest of comforters; and it was inevitable that in spite of his bravery he was never quite the same after his only son was killed on August 30th, 1917. There was no trace of the wall between the generations that the years so often build up, and probably few ever realized how strange this really was. His encouraging and stimulating attitude to young men made Oxford a Mecca to which there was a constant flow of pilgrims, especially from Canada and the United States, all certain of a welcome. Annoyance, irritability, or personal feeling of any kind was impossible to imagine in connexion with his sunny temperament: that this was part of his philosophy of life is obvious in his charming address "Aequanimitas," and his attitude to his professional brethren finds expression in another address in the same volume on "Unity, Peace, and Concord." Though a shrewd judge of character, neither his opinion nor the reason for it, if unfavourable, was given unless there was some urgent reason, and then the man's surroundings were blamed or a semi-humorous phrase settled the question without further affecting reputation; what he did not say in such circumstances was often very significant of his charity to poor human nature. There was a close resemblance between his personality and the written message conveyed in his charming addresses; the serious *motif* was always clear, but it was worked in with such a light hand that there was none of the solemnity or tedium almost inseparable from even a lay sermon. All his life he had been a lover of old authors and old books; Sir Thomas Browne being undoubtedly his favourite and his prototype in life's philosophy; thus it was that he did much to attract others to medical history and bibliography by weekly meetings during term at his house, at which the advances in medicine were sketched and early editions of the corresponding epoch-making works passed round. His literary style was epigrammatic, with apt illustrations, attractive from its classical flavour, and with the distinction conferred by his easily discernible personal touch. This was a feature of his popular textbook, so remarkable for its up-to-date picture of our science; a new edition was busily occupying his thoughts when his fatal illness began. His output was enormous, and it was a puzzle how, with innumerable engagements outside and an open house very rarely without its complement of visitors, he found time to read and work. To see him examine a case was a lesson in thorough clinical observation, and not least because the patient's interest was not forgotten in that of the case. His energies were freely given to campaigns in the public interest, such as tuberculosis, venereal disease, medical education, and the financial needs of the universities. As a result of an unrivalled clinical experience, a peculiarly retentive memory, and a habit of systematic work, his name will be always connected with a number of clinical syndromes, such as chronic splenic anaemia, polycythaemia rubra (Osler-Vaquez's disease), and the painful erythematous swellings in the skin of the hands and feet in malignant endocarditis (Osler's sign). But these are of comparatively little importance in comparison with the rest of his work in general medicine.

To those who knew Osler well the simple lines written by Sorley about a V.C. who fell in the war, will not appear unsuitable:

> We know the glory that is his,
> A glory that can never die.

Dr. ARNOLD CHAPLIN, Harveian Librarian, Royal College of Physicians, London:

Although full justice has been done to the great merits of Sir William Osler as a man and as a physician, there is one aspect of his influence in medicine upon which insistence should be laid. It may be doubted if the annals of medical history contain another example of a physician uniting so completely in his intellect a whole hearted veneration for the past in medicine and the keenest enthusiasm for modern medical methods and knowledge. The history of our profession teems with the names of those who initiated new ideas, developed new theories, and forced the advance of medical knowledge against all opposition. It also contains the names of many who feared to embrace new doctrines because they clashed with the traditions of a departed age, and were contrary to the teaching of so called authority. Both classes of thinkers had their limitations, and each would have accomplished more could it have borrowed from the other. But Sir William Osler's intellect was so fashioned that, while essentially modern in thought and action, it possessed, nevertheless, a deep and abiding sympathy with the past. When approaching any problem connected with medicine he invariably used the historical method, and while he was bold in deduction, his conclusions were all the more reliable, since they had been checked and tested by an appeal to the work of those who had gone before. Eager to advance along the untrodden path, he never neglected to scan the road left behind for any indications as to the course to be pursued. These were the methods employed by the great clinicians, and in the hands of Sir William Osler they produced those results which raised him to such a commanding position in the art of medicine.

The introduction of the knowledge of Greek in the last years of the fifteenth century, the so-called "new learning," gave the death-blow to the intellectual monstrosities produced by centuries of scholasticism. It softened the hard intellectual processes; it widened human sympathy, and acted on knowledge generally in the same way that the principles of equity adjusted the rigours of the common law. Sir William Osler applied the same principles to medicine. Widely read, with deep human sympathies, his conception of the ideal physician was not merely that of a man fully equipped with medical and scientific knowledge to contend with the problems of his art, but one possessed of a wide culture designed to increase his influence in the practice of his profession. He was fully conscious of the fact that while every day more and more time is being bestowed upon the superstructure of special medical knowledge, less and less time can be devoted to the foundation, and he threw all the weight of his influence into the appeal for a wider knowledge in the medical man, and, therefore, a wider sympathy with thought and action in human affairs. He knew full well that time sets a limit to the acquirement of general knowledge, and that a medical student is peculiarly handicapped in this respect. But he gave splendid encouragement to the study of the history of medicine, a subject easily within the reach of the medical man, and closely allied to the serious purpose of his life. Probably he would have agreed that no better subject could engage the attention of the busy practitioner during the few leisure hours at his disposal, for it embraces considerations of history, biography, philosophy, mediaevalism, and the classics—in fact, most of the activities that have occupied the human mind. No better monument to his efforts in this direction can be found than the new school for the study of the history of medicine and science at Oxford, which owes its inspiration almost entirely to Sir William Osler's powerful advocacy. He did not expect or desire to see medical men devoting much of their time to the study of the humanities, for he knew the arduous nature of a life devoted to medicine, but he felt that, by broadening the mental range, clearer and wiser perceptions would be sure to follow. The physician cannot afford to neglect the "humanities," and while it is not to be expected that all can take rank with Arbuthnot, Freind, Mead, and Baker, yet their cultivation will bring to all increased influence and usefulness. To these principles Sir William Osler was faithful to the end of his life.

MANCHESTER.

Dr. GEORGE R. MURRAY, Professor of Medicine in the University of Manchester:

While we are still in the shadow of so great a loss to medicine it is difficult to express at all adequately a proper appreciation of Sir William Osler's great qualities. Two of the most remarkable features of his genius were his ability to take a wide outlook and to form a sound judgement in all departments of medicine. Possessed of a unique experience of medical men and affairs in two continents, he was able to take a lofty and impartial view of medicine, not only of the present but also of the past and of the future, and to impart to others the results of his survey in clear and striking language. He was always in touch with the growing borders of medicine, and took the warmest interest in the endeavours of younger and less experienced men to expand them by observation and research. He had the capacity of assessing the true value of new developments and was able to recognize the gold and reject the dross more rapidly than others. This power rendered his teaching valuable to both students and graduates and enabled him to produce and maintain his *Principles and Practice of Medicine*, which has been so helpful to students and teachers alike. In these times of unrest and reconstruction we shall greatly miss his wisdom and guidance, which would have been of such inestimable worth to all who are interested in the development of medical education in the immediate future.

BRISTOL.

Dr. J. A. NIXON, C.M.G., lately consulting physician with the British armies in France and on the Rhine; physician to the Bristol Royal Infirmary:

Sir William Osler's public appearances in Bristol were all too few. He was present at the British Medical Association meeting in 1894, when he took part in a discussion on the use of antipyretic drugs. His attitude made a considerable impression, since he condemned freely the use of the drugs which were then almost universally in vogue in the treatment of fevers, and spoke as the staunch advocate of cold baths, especially in the routine treatment of typhoid fever. In 1905 Osler distributed the prizes to the students in the Faculty of Medicine at the University College. His speech on that occasion acted as a great stimulus to the foundation of a university in Bristol. Before his visit a few voices had been raised, almost timidly, hinting that a university was an ideal to be aimed at. His speech put courage into the pioneers, and carried the proposal at one bound from a pious hope to an insistent demand. This was another example of his marvellous gift of encouragement and emboldenment of innovators. On the same occasion he attended the annual dinner of the Bristol Medical School as the guest of the evening, when he made a memorable speech. One phrase from that speech still lingers in our minds, where he described himself as having been "born with the woolly side out," and hence had always been able to rub along with his fellow-practitioners. His enthusiastic admiration for some of the Bristol men of medicine almost surprised his audience, many of whom were less aware than he of the achievements of Prichard (in jurisprudence), Budd (in hygiene), and Symonds (in medicine). But when all was said and done, his chief interest in Bristol was focussed on Thomas Dover, buccaneer, inventor of "Dover's powder," and finder of Alexander Selkirk. Osler followed with eager attention every fresh discovery of Dover's life and parentage. In 1911 Osler again came to Bristol to attend the inaugural meeting of the Bristol Medical History Club. Here he gave no formal address, but wished the club all success, with many wise hints as to lines of progress. He showed his incomparable collection of Sir Thomas Browne's works, and talked of the old Norwich physician almost as a personal friend. On this visit he made the acquaintance of the City Library, principally to do homage to the Duke of Bedford's MS. of Guy de Chauliac. Characteristically he found other treasures to admire; all the *incunabula* had to be brought for his inspection before he could drag himself away. His love of books surely came next after his love of men.

Perhaps the following anecdote, which he related to the writer in 1912, may be new; it is at any rate illustrative of these two aspects of his character finely blended.

Osler was once called from Baltimore to see one of his students ill with typhoid fever. He found his way to a

planter's house in Virginia. It was an old derelict shadow of its former splendour, with broken shutters and gates off their hinges. The grandfather (for the boy was an orphan) turned every convertible thing into drink. After seeing the lad Osler had to wait all day for the night train back to Baltimore. So he found his way to the library and browsed round the shelves. Presently the granddaughter, a charming intelligent girl of eighteen, came in and said: "If you're interested in old books, we've got some much older than these in the attics." There he found stuffed into barrels priceless first editions, including Byron, Shelley, and Keats (*Endymion* and *Lamia* "in blue wrappers"). The volumes comprised practically the whole early history of the house of John Murray. These were the yearly consignments of books which wealthy planters were wont to order from England. Osler told the girl of their great value. She, with tears in her eyes, begged him to say nothing to the grandfather, as he would sell them for drink. Eventually, through Osler's good offices, Putnam's bought the books at so fair a price that the old home was restored and the family fortunes comfortably re-established.

EDINBURGH.

Dr. G. LOVELL GULLAND, Professor of Medicine in the University of Edinburgh:

Osler has been for so many years the outstanding figure in British medicine that we feel lost and fatherless without him. I leave it to others to talk of his medical and literary triumphs, for to me the man has been even greater than his work, fine and enduring though that is. I saw him just before his last illness, when he was full of life and energy and of plans for his own work and for others and full of hope—plans and hope, alas! not to be realized. He was greatly interested in all that we are doing and aiming at in the University of Edinburgh, because so much of it is along the lines which he regarded as the ideal in medical education, and he greatly encouraged us. When, indeed, did he ever fail to encourage anyone who was trying to do good work? There must be thousands who have been helped along a thorny path by his words of cheer. Many years ago, at our first meeting, he gave me criticism, encouragement, and advice which were invaluable, and from that day I loved and revered him. To countless others his helping hand has brought success when failure seemed imminent, and with me to-day they mourn the man and not the great physician and teacher. He loved youth for itself and young people for the promise that is in them, and was far happier when playing with a child than when discussing serious questions with his peers. He would always have young people about him, and his keen sympathy and affection enabled him to enter into their joys and sorrows, and kept him young in defiance of his years. In every man he saw and desired to see only what was best, and so brought out the best in those with whom he had to deal. One left him with a sense of moral uplift, and a desire to be more worthy of his confidence and esteem. To his friends he was always the same. I don't know what he was to his enemies—I doubt if he ever had one.

It is now an old regret that he did not take the Chair of Medicine in Edinburgh. The calmer air of Oxford was perhaps better suited to the full ripening of his genius, and there he had the time and leisure for his literary tastes and work, which would have been denied to him among the strenuous Scots. But what a fount of inspiration he would have been, and to how many more of the young men whom he loved! He gained, and Oxford gained, but I think medicine lost. Valuable though his writings are, one would rather have had an hour's talk with Osler than all his books. It was his personality and his personal radiation which gave him the immense power for good which he possessed. He seemed to exercise it only half-consciously; he was too humble-minded to value himself as we valued him. Welcomed wherever he went, he walked among us giving help and kindliness with both hands, and the example of a blameless and worthy life.

ABERDEEN.

Dr. ASHLEY W. MACKINTOSH, Professor of Medicine in the University of Aberdeen:

It is significant that, when one read of the death of Sir William Osler, one thought mainly not of the loss to scientific medicine—although this is great and almost irreparable; one felt stunned as by the sense of a great personal sorrow. His was indeed a wonderful personality—full of charm as of compelling power, lovable, unselfish, ever kind and helpful. I met him first at the Oxford meeting of the British Medical Association, and as a secretary of a section I was much impressed by the quiet courtesy and kindness shown by him in our official relations. Later, his letter to me—personally unknown to him—on my appointment to a chair of medicine, addressed to "Dear Brother Regius," was characteristic of the man, and has always been a real inspiration and encouragement to try to be worthy of such a "brother." How many must have had a similar experience! During the annual meeting of the British Medical Association at Aberdeen in 1914—so nearly clashing with the outbreak of the Great War, which was to bring him such a terrible sorrow—I had the privilege and honour of having him as my guest: the happy memory of those days will remain for ever. Great as is our debt to Osler for his contributions to the progress of medicine, the man himself was greater than his works, and I learnt to love him as I have loved few men.

WALES.

Dr. W. MITCHELL STEVENS, senior physician to King Edward VII Hospital, Cardiff:

By the passing of Sir William Osler gallant little Wales loses one of her best friends. When Osler first visited Cardiff, many years ago, his reputation had, of course, preceded him, and many expected to see a more or less typical American of the Anglo-Saxon type, but we were delighted to find him a true and warm-hearted Celt, and in a very short time he was a great favourite among medical men and others in all parts of the principality. On his first visit to Cardiff he noted our incomplete medical school, and also our large rapidly growing hospital, and he expressed his surprise that Wales should be obliged to send her medical students to other parts of the United Kingdom to complete their education, seeing that she had no lack of splendid clinical material.

Osler recognized that there were no better medical students than the Welsh, and that even the poorest Welsh parents were only too pleased to deny themselves in order to educate their sons to a profession. It is therefore not surprising that a man with such warm sympathies as Osler took a very keen interest in the proposed establishment of a Welsh National School of Medicine. He met in the late Colonel Bruce Vaughan a man with ideals similar to his own, and in every effort these two were closely associated, and we have to regret that both these workers for humanity have been taken from us; but their influence will remain.

Osler perceived that our medical school would not be hampered by preconceived ideas or old traditions, and that a virgin soil was presented for establishing a great medical school on the newest lines. In May, 1908, he opened the new out-patient department of the King Edward VII Hospital in Cardiff, and the address he gave on that occasion made a deep impression upon every one present, and served to stimulate both medical and lay interest in the proposed completion of the medical school. In August, 1905, he was present at the laying of the foundation stone of the new medical school buildings, the cost of the erection of which, amounting to £100,000, was to be defrayed by the princely gift of Sir W. J. Thomas. On account of the war these buildings have been delayed to such an extent as to cause great dissatisfaction in Wales, and it is much to be deplored that Osler should not have been able to open them.

In June, 1916, a Royal Commission, of which Osler was a most distinguished member, was appointed to inquire into the subject of Welsh University education in general, and this Commission made certain recommendations regarding the proposed medical school. In March, 1918, Osler came with other visitors to Cardiff under the conditions of the trust deed of the Mansel-Talbot Chair of Preventive Medicine; he inspired such confidence that he was asked to nominate a committee of experts to submit a scheme to the trustees, and when the scheme was approved, to proceed at once to the appointment of a professor. He visited Cardiff and other parts of Wales on many occasions, and was always most willing to give us his advice, and to use his influence on our behalf.

Alas he has passed away, but his memory will ever be held dear, his example will always be a daily stimulus, and his love for his fellow men a lesson to us all.

IRELAND.

Sir JOHN W. MOORE, Representative of the Royal College of Physicians of Ireland on the General Medical Council:

The President of the Royal College of Physicians of Ireland (Dr. James Craig) has intimated to me that you would welcome a tribute to the memory of a great man, the late Sir William Osler, Bt., F.R.S.—a tribute in this case from one who had the privilege of counting Sir William among his close personal friends for wellnigh thirty years.

It was shortly after the appearance of the first edition of his classical work on the *Principles and Practice of Medicine* that Dr. Osler entered into communication with me relative to the subject of fevers and their prevalence in Ireland. As the years passed by he corresponded with me from time to time on that and cognate subjects. The formal superscription in his letters gradually gave way, titles were dropped, and the letters began "Dear Moore," "My dear Moore," and at last, under date September 14th, 1917, came this touching note: "Thanks, dear Moore, for your kind message of sympathy in our sorrow. You know how hard it is—but one must bear these blows bravely. Sincerely yours, Wm. Osler." Five short weeks before, on August 7th, 1917, he had written: "I am grieved to hear that you have lost the boy. How terribly the profession has suffered in this war! Our boy is in the thick of it in France in the R.F.A. Ever yours, Wm. Osler." Many years before, in 1905, Sir William had been asked to open the winter session of the Meath Hospital and County Dublin Infirmary. Owing to press of work he was obliged to decline. He wrote: "It is really a great regret to me to feel that I could not comply with your request, as both Graves and Stokes are among my special professional 'friends.'"

Of Osler's outstanding attainments as an orator, a classical writer, and an accomplished man of affairs there is no need for me to write. His great talents—and they were very many—were at all times and in all circumstances devoted to the benefit of mankind and to the relief of the sick and suffering. His humility, devotion to duty, and the sympathetic spell with which he attracted friends to his side gained for him the title, worn by his forerunner, St. Luke, of the "Beloved Physician."

WILLIAM OSLER had a genius for friendship. The congregation in Christ Church Cathedral on the afternoon of New Year's Day was witness to it. He was a senior to whom had come all the honours, but those who went to do him the last honour were of all ages and ranks, and of many callings. It was a cool grey afternoon, and Oxford was in a mood of sadness as the great bell tolled, and the soft wintry light fell on the towers and spires he had learnt to love for their tranquil beauty and for all that they symbolized—the continuity of thought, the life of the spirit reaching back beyond Erasmus, with whom in temperament and width of learning and in a certain cosmopolitan way of thought, covering serious purpose in light even mocking words, he had affinity.

The Editor of this JOURNAL recalls, still vividly, the first meeting with him many crowded years ago, in the old laboratory in University College, London, where he was at work with Sir E. Sharpey-Schafer—the small wiry frame, the quick gesture, the steady eyes that seemed to read one's inmost thoughts, the swift smile, and hearty friendly greeting—from the first intimate; and, with many incidents between, the last and happy memory of him on a not far past summer afternoon, in the garden of Exeter College, under the great window of the Bodleian Library, as he passed from group to group, a little quieter, perhaps, as though the past were casting its shadow on the future, but saying the right word to each, entering into each man's thoughts, and friendly, always friendly, for he had a genius for friendship. How many of us feel that we have indeed lost not a teacher and a guide only, but a friend.

Here is a little picture of how he struck one member of our profession whose particular vocation might seem far as the poles apart from Osler's:

> The leaders of thought in medical science and literature will hasten to pay their last homage to the memory of the late Sir William Osler. Their words of appreciation and farewell will be read with heartfelt interest by the countless admirers of a very great man. May I venture to add a few words on the personal side, because I think they will appeal to not a few of his friends? Many of us have had reason to think with gratitude of Sir William in times of sorrow, but it is remarkable that his magnetic personality often intruded itself on our thoughts in moments of great happiness, when his bodily presence was far distant. Particularly I think was this the case in lonely but lovely surroundings in the country. Personally, I have thought of him often in times of great enjoyment—watching the sun set on the banks of Loch Lomond, whilst waiting for the evening flight of wildfowl; fishing on the river Spey, and on lonely Highland lochs; admiring the sunset effects on the lovely Cromdale hills and the beautiful shores of Loch Ard. I think his open, generous, kindly disposition, transparent goodness, and unaffected manners created a sort of atmosphere about him that reminded one of the country, so that thoughts of him came without volition in happy scenes such as those I have ventured to describe. Two other great men of equally attractive personality—the late Sir William Power and Sir William Ramsay—produced in me the same effect. The world has lost a wonderful man, but even death cannot rob his friends of their memories of a personality so magnetic as to be almost without parallel. I should not have ventured to write these few halting words did I not feel that I am voicing, however imperfectly, the sentiments of many of those who were fortunate enough to know him, and who have felt, as I have, the indefinable charm which could steal into our happiest moments at the mere thought of him.

To the feeling here expressed others might give different expression, but the impression A. C. H. conveys—the sense of the vivid, sympathetic, friendly soul in Osler—is the impression all who knew him retain. Those who were grateful were a great multitude, some of whom did not know him save by his writings. He said in acknowledging the presentation on his seventieth birthday last July: "To a larger circle of men with whom my contact has been through the written word—to the general practitioners of the English-speaking world—I should like to say how deeply their loyal support has been appreciated. Nothing in my career has moved me more, pleased me more, than to have received letters from men at a distance—men I have never seen in the flesh—who have written to me as a friend."

The funeral service on January 1st was conducted by the Dean of Christ Church, and among the congregation were representatives of Oxford, of medicine, and of the many other interests which entered into Sir William Osler's life.

University of Cambridge: Professor G. H. F. Nuttall, F.R.S. University of Edinburgh: Professor J. Arthur Thomson. University of London: Professor W. M. Bayliss, F.R.S. University of Liverpool: Dr. J. G. Adami, F.R.S. (Vice-Chancellor). University of Oxford: The Vice-Chancellor, the Senior and Junior Proctors, the Master of Balliol, the Warden of All Souls, the Director of Exeter, the Principal of Mansfield, Professor H. H. Turner and Mr. F. A. Bellamy (Radcliffe Observatory). Rev. G. B. Cronshaw (Radcliffe Infirmary, Oxford). Royal College of Physicians of London: Sir Norman Moore, Bt., President, and Dr. J. A. Ormerod, Registrar. Royal College of Surgeons of England: Sir George Makins, G.C.M.G., C.B., President. The British Medical Association: Sir T. Clifford Allbutt, F.R.S., President (who also represented the Faculty of Medicine of the University of Cambridge); Dr. William Collier, ex-President; Dr. Dawson Williams (Editor of the JOURNAL), and Dr. A. W. Neil (Oxford and Reading Branch). Royal Society of Medicine: Sir Humphry Rolleston, K.C.B., President; and its Section of the History of Medicine, Sir D'Arcy Power, K.B.E. Medical Research Committee: Sir Walter Fletcher, K.B.E. Ministry of Health: Dr. A. S. MacNalty. Lister Institute of Preventive Medicine: Professor C. J. Martin, F.R.S. Canada: Sir George Perley, High Commissioner, and Colonel Chisholm, C.A.M.C. Association of American Physicians: Dr. E. J. Wood. Toronto: Lieut.-Colonel G. W. Badgerow (Trinity University, University of Toronto, and Academy of Medicine). Fellowship of Medicine and Post-Graduate Association: Dr. A. F. Hurst and Mr. C. H. Fagge. Oxford Graduates Medical Club: Dr. R. C. Jewesbury. London School of Medicine for Women: Dr. Aldrich-Blake. Classical Association: Professor G. Murray. Director-General Army Medical Service: Colonel D. Harvey, C.M.G. Among others present were Lord and Lady Harcourt, Sir Frederick Treves, Bt., G.C.V.O., Sir William Church, Bt., K.C.B., Sir Archibald Garrod, Sir William Hale-White, and Sir Charles Ballance.

The cremation took place privately at Golders Green on January 2nd.

Obituary.

JOSEPH QUIRKE, M.D.,

Birmingham.

By the death of Dr. Joseph Quirke, of Endwood Court, Handsworth Wood, the profession in Birmingham has lost one of its oldest and most respected members.

Dr. Quirke was born in 1846, the fifth son of the late Dr. John Quirke, of Tullamore, King's County, and it was as a pupil of his father that he laid the foundations of the shrewd clinical judgement and sound knowledge of pharmacology and therapeutics which distinguished his after career. He received a sound classical education at Tullabeg and Clongowes, and completed his medical studies at the Catholic University School, Dublin, where he gained many honours. At the early age of 21 he qualified, married, and settled in the Handsworth district.

Although an entire stranger and handicapped (in those days) by the circumstances of nationality and religion, his attainments were quickly recognized, and he soon built up a most successful general practice, which was relinquished only some few months before his death, after more than fifty years of strenuous work.

Dr. Quirke was an accomplished obstetrician, and owed a good deal of his success in practice to his skill in that branch of his profession. In addition, his unfailing cheerfulness invariably inspired his patients with hope and confidence, and it was a common saying among them that his presence in the sick room was in itself a guarantee of recovery. In lighter moments his ready wit and inexhaustible fund of anecdote and quotation did much to brighten the patient's outlook.

Leading so busy a professional life—for one period of eleven years he took no holiday—and with the responsibility of a large family on his shoulders, Dr. Quirke found little time for interests outside his work, and took no active part in political or municipal affairs. In 1879 he became a member of the Royal College of Physicians, Edinburgh, by examination, and in 1915 the National University of Ireland conferred on him the degree of M.D. (*honoris causâ*) as a distinguished student of the old Catholic University School, which had not the power of granting degrees in the days when Dr. Quirke qualified.

He was an old member of the British Medical Association, a Fellow of the Royal Society of Medicine (Obstetrical Section), and had filled the offices of President of the Midland Medical Society in 1905–6 and Vice-President of the Birmingham Medical Benevolent Society. In 1887 he was Examiner for the Ingleby Prize in Midwifery at Queen's College, Birmingham. Dr. Quirke was made a Justice of the Peace for the county of Stafford in 1894, being the first Irish Catholic so appointed since the Reformation, and on the absorption of Handsworth into Greater Birmingham was included amongst the city magistracy also.

As in so many other instances among the older members of the profession, the war was primarily responsible for Dr. Quirke's breakdown in health. For a time he carried on unaided his own practice and most of that of his son, Dr. H. C. Quirke, while the latter was serving with the forces abroad, but he was terribly overworked during the influenza epidemic of 1918, when he could not bring himself to refuse to see his old patients. The strain proved too great, his heart failed, and though for some months he appeared to improve, he became gradually worse during the summer and died on August 19th, in his seventy-fourth year.

Dr. Quirke is survived by his widow (whose health unfortunately broke down completely shortly before his death) and a family of four sons and five daughters. Three sons are in the practice of the medical profession, as also is one of his sons-in-law, Dr. F. Rowland, who was released from military service after the armistice to relieve Dr. Quirke in the practice, but, unfortunately, the mischief was already done. Major M. J. Quirke, I.M.S., arrived home from India a few days after the burial, which took place in the grounds of St. Thomas's Abbey, Erdington, after a very largely attended Requiem Mass at the Church of St. Francis, Handsworth, which the deceased had attended since its completion.

ARTHUR RIEUSSETT LITTELJOHN, M.R.C.S., L.R.C.P., D.P.H.,

Medical Officer in the Ministry of Health.

WE regret to have to record the death of Arthur Rieussett Litteljohn, M.R.C.S., L.R.C.P., D.P.H., M.R.C.V.S., Medical Officer in the Ministry of Health, which took place at a nursing home in London on December 8th at the early age of 38. He was a son of the late Dr. Saltern George Littel john and was educated at St. Paul's School and at the Royal Veterinary College and St. Mary's Hospital. He was for some time tutor in veterinary medicine at the Royal Veterinary College and made a number of contributions to scientific journals on veterinary matters of special medical interest. He was the author of a well arranged and very useful handbook on meat and its inspection. In 1911, when Dr. Litteljohn was appointed to the medical staff of the Local Government Board, he had already made a close study of the many important points at which veterinary and human medicine touch in their bearing on public health. He had added to these a sound knowledge and practical experience of public health administration gained in the course of several municipal appointments which he had held, and with this somewhat rare and valuable equipment he speedily found scope in the Food Department of the Local Government Board for the practical application of his knowledge and fine judgement. The war interrupted progress in the special work in which he was engaged and the Food Department immediately became immersed in the task which it undertook for the War Office, of organizing and controlling arrangements for securing that the army's food supplies were manufactured and prepared under proper sanitary conditions.

With those of his colleagues to whom military service was denied, he threw himself with characteristic zeal into this work. Early in 1915 the Local Government Board was asked by the War Office to provide inspectors to undertake supervision of the preparation and packing of the vast quantities of food materials which were being manufactured in North and South America for our armies. Litteljohn was entrusted with this mission in the United States and Canada, and laboured without a break in his extremely arduous and responsible task from the spring of 1915 till the autumn of 1918, when he returned to England much impaired in health, but with the satisfaction of knowing that his work in America had contributed in no small degree to the welfare and efficiency of our troops in the field. His correspondence during this time shows how capable he was of dealing with a big problem in a big way. In spite of the great distances which he had to cover in the United States and Canada, his arrangements enabled him to maintain effective control in all the packing houses engaged on British contracts. The reputation which he had gained at home for sound knowledge of his subject, reliable judgement, and prompt and fair decision was quickly established amongst the American and Canadian packing firms. Many representatives of these firms have since testified their respect and admiration for his gifts in this direction, and the helpful and stimulating spirit in which he invariably dealt with the many difficult problems with which they were faced. It is no exaggeration to say that one of the chief factors which went towards securing the extraordinarily uniform and consistently good quality of the food supplied to our troops during this unprecedented war was the high character of Litteljohn's work, and the respect which his courage and ability inspired in those with whom he had to deal.

After a brief rest in England, during which his health seemed to improve somewhat, he undertook a mission of a similar kind for the War Office in Australia, where he remained for a few months. He had barely completed his work there when his health broke down and he returned to England in July last. Since then he gradually became worse, but his fortitude never deserted him throughout his long and painful illness. For his services and sacrifices during these strenuous years he was mentioned in War Office dispatches.

"A. R." Litteljohn was well known generally as a fine athlete and first-class right-hand slow bowler. He played cricket for Middlesex for a number of years, and he and his brother, "E. S.," also a medical man, on many occasions did brilliant things for the county eleven. His loss will be keenly felt by all his numerous friends, both in the Ministry

of Health, where his ability and high character were fully recognized, and in the world of sport, where he was so well known and loved.

WE regret to record the death on December 2nd, 1919, at the age of 59, of DR. WILLIAM CAMPBELL DOWNS of Motherwell, after an operation for duodenal ulcer. In 1888 he graduated M.B., C.M. at Glasgow University, and after some experience as assistant in Hamilton he started general practice at Uddingston. During the two years he was there he took the D.P.H. at Cambridge and then bought a practice in Motherwell, where during the last twenty-five years he established a large connexion, ultimately having two partners. In the early stage of this practice he was lecturer on public health at Anderson's College, Glasgow. Although over the age limit, when the war broke out he would, had he been allowed, have devoted his whole time to the army, and actually did serve a year with the R.A.M.C. Dr. Downs had many qualities which attracted and held his friends. Not only was he fond of music and literature, but he had much grit, a quaint turn of humour, and at all times an unaffected manner, which was but the reflex of a genuine and sincere character.

DR. WALTER B. HASTINGS, medical officer Parish of Sleat, Isle of Skye, was accidentally killed on Sunday, December 21st, 1919, owing to the overturning of his car while going to attend a patient. He graduated M.B., C.M.Glasg. in 1892, and settled at Sleat nineteen years ago. Owing to the scarcity of medical men caused by the war he undertook the work of medical officer for the parish of Strath in addition to his work in Sleat, and carried on the duties of medical officer of health for the whole of the island of Skye as well. Dr. Hastings was of the very best type of Highland medical practitioner, capable, and thoroughly reliable. No matter the hour, day or night, he never failed to answer a call, and cheerfully faced often very long journeys under very trying weather conditions. His kindness and courtesy endeared him to all, and he is greatly mourned, especially in the parishes of Sleat and Strath, where his work mostly lay.

DR. ALEXANDER DAVID CRAWFORD, of Stanton Hill, Skegby, Notts, died recently, at the age of 60. He studied medicine at the University of Glasgow, and graduated M.B., C.M. in 1886. He was medical officer of the Marston Green Cottage Home, and served as a lieutenant in the R.A.M.C. during the war. He had long practised at Skegby, and was held in high esteem by his patients and colleagues. He was a member of the Nottingham Division of the British Medical Association. Dr. Crawford was at work on December 15th, and appeared to be in his usual health, but the next day he had an attack of cerebral haemorrhage. He was attended by his friend Dr. Tweedie, of Sutton, but died in the early morning of December 18th. He was buried at Stanton Hill, where the miners who followed the remains and carried them to their last resting place filled the church. Dr. Crawford had three sons, one of whom was killed in France during the war.

DR. CHARLES ROBERT LEADER died from syncope on December 14th, 1919, aged 57 years, at the Old Hall, Wem, Salop. He had been at work up to late the night before his death. He was the son of Henry Leader of Clonmoyle, co. Cork, and was educated at Repton and Queen's College, Cork. He had been in practice at Wem for over twenty years, and was very popular there with all classes of people.

MAJOR-GENERAL JAMES GAUSSEN MACNEECE, C.B., Army Medical Staff (retired), died suddenly at Southsea on December 13th, 1919, aged 63. He was born at Arboe, County Tyrone, on February 27th, 1856, the son of the Rev. James MacNeece, M.A., of Clonfeacle Rectory, Moy, and of Mulnagar Lodge, Dungannon, County Tyrone. After taking the diplomas of L.R.C.S.I. and L.K.Q.C.P.I. in 1877, he entered the army as surgeon on August 4th, 1878, becoming surgeon-major on August 4th, 1890, lieutenant-colonel on August 4th, 1898, colonel on June 4th, 1905, and surgeon-general on April 23rd, 1910, and retiring on December 28th, 1917. He served as P.M.O. at Malta in 1905–9, of the Lucknow Division in 1910–11, and of the Southern Command, England, in 1912–14, till appointed Director of Medical Services in India in 1915. His war services comprise the Afghan war of 1878–80, the siege of Kandahar, and battle of September 1st, for which he received the medal; the Bozdar campaign of 1881, and the Zhob Valley expedition of 1884, on the North-West Frontier of India. In South Africa, 1900–1, he was in charge of a general hospital, with temporary rank of colonel, from January, 1900, to November, 1901, and took part in operations in Natal, March to June, 1900, and in the Transvaal, January to November, 1901. He was mentioned in dispatches, and received the Queen's medal with three clasps. In 1908 the King of Italy bestowed on him the decoration of Commander of the Order of St. Maurice and St. Lazarus for services in connexion with the Messina earthquake of that year, and he received the C.B. at the Coronation on June 19th, 1911.

LIEUT.-COLONEL M. MACGREGOR RATTRAY, D.S.O., died suddenly at Basra, Mesopotamia, on November 27th. He was born at Portobello, Midlothian, in 1869, being the second son of the late A. M. T. Rattray, M.D. He graduated M.B. and C.M. at the University of Edinburgh in 1893, and four years afterwards entered the R.A.M.C. as surgeon-lieutenant. He became lieutenant-colonel in 1915 and temporary colonel the following year. He took part in the South African war of 1900–2, receiving the Queen's medal with three clasps, and the King's medal with two clasps. He served for over four years in the late war, until he was invalided home early in 1919. He received the D.S.O. in 1917, and was twice mentioned in dispatches. Colonel Rattray leaves a sister and two brothers, one of whom is a brigadier-general in the Indian Army and the other Dr. A. M. Rattray of Treharris, Glamorgan.

LIEUTENANT-COLONEL GRENVILLE EDWIN MOFFET, R.A.M.C.(ret.), died at Brechin, Forfarshire, on December 14th, 1919, aged 63. He was born on December 10th, 1856, and educated at the Universities of Calcutta, where he was Duff scholar in 1874, and Aberdeen, where he graduated M.B. and C.M. in 1883. Entering the R.A.M.C. as surgeon in January, 1885, he became lieutenant-colonel on January 31st, 1905, retiring on October 21st, 1905. After retirement he was employed at Perth as medical inspector of recruits from 1905 to 1910, and was also inspecting medical officer of school children. He served in South Africa from 1899 to 1901, took part in operations in the Orange River Colony, and received the Queen's medal with a clasp; he rejoined for service in the recent war, from March 23rd, 1915, and served under the Ministry of National Service until the present year.

MAJOR RICHARD JAMES BRADLEY, Indian Medical Service, was reported as having died on service, in a casualty list published on December 31st, 1919, aged 43. He was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1901. He entered the I.M.S. in 1902, and attained the rank of major in 1913. He was medical officer of the 1/4th Gurkha Rifles, with which he served in the North-West Frontier of India campaign of 1908, receiving the Frontier medal with a clasp; he served also in the late war. He was decorated with the White Eagle of Servia, Fourth Class, in February, 1917.

STAFF SURGEON SAMUEL GROSE, R.N.(ret.), died at Bishop's Teignton, on December 12th, 1919. He was educated at St. Thomas's Hospital, and took the diplomas of M.R.C.S. and L.S.A. in 1859, entering the navy soon after, and retiring with the rank of staff surgeon, which he reached on August 19th, 1870. He also took the diploma of F.R.C.S.Eng. in 1868, and the degree of M.D. St. Andrews in 1878. After retirement he held the post of honorary medical officer of Melksham Cottage Hospital for twenty-two years. He was a member of the Torquay Natural History Society, of the Devon Association for the Advancement of Science, and of the Wiltshire Archaeological Society.

BRIGADE SURGEON WILLIAM GEORGE ROSS, R.A.M.C. (retired), died at Thornton Heath, Surrey, on December 25th, 1919, aged 79. He was educated at Edinburgh University, where he graduated M.D. in 1862, and entered the army as assistant surgeon on October 1st, 1862. He retired with the rank of brigade-surgeon in 1885. In the regimental days he served in the King's Liverpool Regiment (the 8th Foot).

SURGEON-MAJOR GEORGE KENNETH POOLE, Bengal Medical Service (retired), died at Upper Norwood on December 19th, 1919. He was born in March, 1832, the son of the Rev. John Poole of Kensington. He received his medical education at the London Hospital, and took the diploma of M.R.C.S. in 1855 and the degree of M.D. at Erlangen in 1863. He entered the I.M.S. as assistant surgeon on March 14th, 1855, being nominated by Mr. W. T. Prinsep, and was one of the last to receive his commission by nomination, after the introduction of competitive examination in January, 1855, getting a vacancy caused by Assistant Surgeon T. F. Clarke, nominated in December, 1854, not joining. He became surgeon in 1867, and surgeon-major in 1873, retiring on May 7th, 1876, forty-three years ago. After his retirement he was consulting surgeon to the Dalrymple Home for Inebriates, and surgeon-major of the Lambeth National Reserve.

CAPTAIN GEORGE ALAN MITCHELL, R.A.M.C.(S.R.), was reported as having died on service, in a casualty list published on December 29th, 1919. He was educated at Liverpool University, where he graduated M.B. and Ch.B. in 1918, took a commission as lieutenant in the Special Reserve of the R.A.M.C. the same year, and was promoted to captain after a year's service.

Medical News.

A POST-GRADUATE course in neurology will be given at the National Hospital for the Paralysed and Epileptic, Queen Square, W.C.2, during January, February, and March, beginning on Monday, January 19th. The fee for the course is seven guineas; further particulars can be obtained from the Dean of the Medical School. A course of practical pathology, the fee for which will be five guineas, will be given by Dr. J. G. Greenfield if there is a sufficient number of entries.

A COURSE on the diagnosis and treatment of the nervous disorders due to war will be given in the clinique of Professor Gilbert at the Hotel-Dieu, Paris, beginning on January 26th. It has been organized by Professor Maurice Villaret with the co-operation of ten other lecturers who have given particular attention to neurology, and will include demonstrations on orthopaedics and treatment by exercises. The course will extend over three weeks and will occupy both mornings and afternoons. It will be essentially practical and clinical. The fee for the course, which is open to foreign doctors, is 150 francs, payable to the Secrétariat de la Faculté de Médecine, Paris.

THE National Association for the Prevention of Infant Mortality and for the Welfare of Infancy has arranged for two courses of advanced lectures on infant care. One is intended for crêche nurses and probationers, and the other for teachers, infant welfare workers, mothers, etc. The first course is being given at the Essex Hall, Essex Street, Strand, W.C., on Thursdays, from 7.30 to 8.30 p.m., commencing on January 8th; the fee is 10s. for the course, or 1s. for any individual lecture. The second course will be given at the Morley Hall, George Street, Hanover Square, W.1, on Mondays, from 5.30 to 6.30 p.m., commencing on January 12th, the fee for which is 5s. for the course, or 1s. for any particular lecture.

PROFESSOR ARTHUR KEITH will give six lectures on John Hunter's observations and discoveries in anatomy and surgery, at the Royal College of Surgeons of England, on Mondays, Wednesdays, and Fridays during the last two weeks of this month. The lectures will be given at 5 p.m., and the first, on January 19th, will deal with Hunter's contributions to our knowledge of the heart and blood vessels.

PROFESSOR G. ELLIOT SMITH will begin a course of lectures on fine art anatomy at University College, London, on January 15th, at 5 p.m.

THE address by Sir Humphry Rolleston on the uses and methods of application of post-graduate teaching will be given on Tuesday next, at 4.30 p.m., at the Prince of Wales's General Hospital. Members of the profession are invited to attend.

MR. JOSEPH WATSON of Wetherby has presented the sum of £50,000 to the Leeds General Infirmary as a new year's gift, stipulating that £10,000 shall be invested for the benefit of a nurses' pension fund.

THE offices of Epsom College have been transferred from 37, Soho Square, W., to 49, Bedford Square, W.C.1.

AN order has been issued by the Ministry of Health continuing the regulations for the compulsory notification of acute encephalitis lethargica and acute polio-encephalitis until further notice.

DR. ROBERT DONALDSON, M.A., F.R.C.S., D.P.H., has been appointed Pathologist and Curator of the museum at St. George's Hospital. The appointment was held by the late Dr. R. Salusbury Trevor; since he died the work of the curator has been carried on by Miss Helen Ingleby, M.R.C.P., and Sir Humphry Rolleston, K.C.B., has been supervising the pathological laboratory honorarily.

THE League of Red Cross Societies has informed the presidents of the twenty-eight National Red Cross Societies, members of the League, that a meeting of the General Council will be held at Geneva on March 2nd, 1920. The business of the meeting will be the appointment of additional governors, the discussion of the progress of the League on the lines indicated at the Cannes conference, and of future development in general.

DR. GEIKIE COBB'S book, *The Organs of Internal Secretion*, of which the second edition was noticed in our columns last March, has been translated into Spanish by Drs. De La Poza and Toutain and into Italian by Professors Belfanti and Valagussa.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*: telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

FETAL MOVEMENTS.

A CORRESPONDENT raises the question whether it is possible to deduce any facts as to a child's future size, physical development, and sex from the violence of the fetal movements in utero at the seventh month.

*** The answer, so far as we are aware or can ascertain, is a general negative. It would not be unreasonable to expect that a child that was particularly lively in utero at the seventh month and subsequently, would prove at birth to be healthy and well developed; but nothing could with any safety be deduced as to sex or other particulars. There are other factors to be considered besides the fetus—for example, the nervous susceptibility of the mother, the thickness or thinness of the uterus and abdominal walls, the presence or absence of the placenta anteriorly, the quantity of liquor amnii, and so forth.

INCOME TAX.

E. E. F. inquires whether a local assessment charging 1s. 9d. in the £ on his military pay for service in the Egyptian Expeditionary Force is correct.

*** The rate, 1s. 9d. in the £, is the correct rate for the years mentioned provided that the amount of the total income

for each year exceeded £500 but did not exceed £1,000. Normally the tax is deducted by the army pay agents, but we understand that local assessments have been made in some cases where an insufficient amount of tax was deducted by the agents. We suggest that "E. E. F." ascertains from Holt and Co. exactly what tax was deducted by them, and that he then compares those figures *plus* the amount of tax charged locally with the tax calculated at 1s. 9d. in the £ on the amount of the pay for each year. If our surmise as to the origin of the local charge is correct, the local inspector of taxes should be able to explain the matter in detail.

LETTERS, NOTES, ETC.

THE PREVENTION OF BERI-BERI.

DR. ALFRED S. GUBB (Algiers) writes: The cause of beri-beri having been traced to the use of polished or over-milled rice as food, we are comforted with the assurance that the disease can be cured by administering an extract of rice polishings to the sufferers. But why in the name of logic and common sense do the authorities not prohibit the placing of polished rice in the market—at any rate, in the market whence the afflicted populations derive their supplies? It may be, of course, that for some inscrutable reason this measure does not fall within the compass of practical politics, but if not, why not? It has been drummed into our ears so long that "prevention is better than cure," that the above suggestion obtrudes itself on one's attention.

SEVERE ANAPHYLAXIS: RECOVERY.

DR. G. C. GARRATT (Chichester) writes: I am sure we shall all be ready, with Dr. A. Estcourt-Oswald (December 27th, 1919, p. 868), to congratulate Captain Munro on his "prompt and plucky treatment" which achieved such success (BRITISH MEDICAL JOURNAL, November 22nd, 1919, p. 668). Nevertheless one is tempted to wonder whether the remedies used were the best possible. He injected adrenalin, used chloroform inhalation under conditions which for a time precluded satisfactory anaesthesia, and forcibly compressed the chest. Was there not grave risk of inducing fatal ventricular fibrillation? It would be very useful to know whether the good results obtained could have been achieved by the chloroform without the adrenalin, or the latter without the chloroform, or whether the atropine also given prevented injurious action by a combination generally regarded as so risky as adrenalin and chloroform. As such a case might occur in the practice of any one, the answer to these questions assumes real importance, and I hope it may be forthcoming from some source or other.

OCULAR CONDITIONS IN INFLUENZA.

MR. SYDNEY TIBBLES (London, W.) writes with reference to paragraph 242, p. 41, of Epitome, December 13th, 1919: A doctor's sister asked me, on visiting, in 1913, to see her cat, which had had influenza, and was being treated by a veterinary surgeon. It had mydriasis of both eyes and some limitation of movement of the external ocular muscles, and also, apparently, peripheral neuritis of one leg. A week later violent iridocyclitis set in with much keratitis profunda. In spite of atropine locally, extensive iritic adhesions formed, and the cat became half blind, and was destroyed. It was impossible to obtain an eye for sectioning, but so long as it was possible to see the fundus there were no further complications. Veterinary surgeons have told me that iridocyclitis is fairly common after influenza in cats, but I do not know whether that is so or not.

THE FOUNDER OF CHINESE MEDICINE.

SHEN NUNG (B.C. 2733–2697) is generally regarded as the founder, or rather the first patron, of medicine in China. He ruled as an emperor first in Shensi and later in Shantung, with Yenchowfu as his capital. His name has been handed down by tradition as the founder of agriculture, trade by exchange of commodities, and medicine by the use of various kinds of herbs for the relief of pain, and by distinguishing medicinal from poisonous plants. The image of Shen Nung is often found in temples dedicated to agriculture. The *National Medical Journal of China* for June publishes a photograph taken from a figure shrined in a special temple in the famous Imperial Granary established at Peking by the Ming emperors, where for centuries the tribute rice from various provinces was stored. This granary has now been demolished, and its site is occupied by the new Army Medical College, transferred from Tientsin, and now under the direction of Surgeon-General Chuan Shao Ching.

THE TAGLIACOTIAN DOCTRINE.

A CORRESPONDENT writes with reference to Sir J. O. Skevington's note on "Separation of the tip of the nose with complete primary union" (BRITISH MEDICAL JOURNAL, September 27th, 1919) to recall certain passages in John Bell's *Principles of Surgery*, vol. i, published in 1801. In discussing the "Talicotian doctrine of adhesion," Bell says that the vulgar credulity of Garengeot is responsible for the following: "A young fellow, says he, a soldier, reeling out of a tavern drunk along with some of his companions, got into a quarrel in which one of them bit his nose off, threw it into the gutter and trod it under foot. He picked up his nose, flung it into Mr. Gallin's, an apothecary's shop, ran after the fellow who had done it, and when he returned Mr. Gallin washed the nose at the well, stuck it with plaster in its place, and in two days after it was firmly united; and Mr. Garengeot four days after dressed the nose with his own hands." The Taliacotian doctrine of adhesion, says Bell, is unquestionably true but not to this extent; "I hold it possible to preserve every flap of skin, though almost entirely insulated! though left hanging by a tag merely! but those parts which are entirely separat d are entirely and irrecoverably dead."

Bell emphasizes his scepticism by quoting Rabelais's burlesque story of the setting on of a head: "Having gone out to search the field for Episthemon, they found him stark dead, with his head between his arms all bloody. But Panurge said, my dear bullies all, weep not one drop more, for he being yet all hot I will make him as sound as ever he was. In saying this he took the head, and held it warm fore-against his cod-piece, that the air might not enter into it, and other two carried the body. Leave off crying, quothe Panurge and help me. Then cleansed he the neck very thoroughly with white wine, afterwards he annointed it with I know not what ointment, and set it on very just, vein against vein, sinew against sinew, and spondyle against spondyle, that he might not be wry necked. This done he gave it round about, some fifteen or sixteen stitches with the needle. Suddenly Episthemon began to breathe, then opened his eyes, yawned, sneezed . . . ; now certainly quothe Panurge, he is healed, and so he was finely, only that he was somewhat hoarse for about three weeks together." Rabelais may have had in mind the story of the Laconian woman named Avata who suffered from a dropsy. Her mother made a pilgrimage for her to the sanctuary of Aesculapius at Epidaurus, and there dreamed that the god cut off Avata's head, and hung the body up neck downwards till all the water had run out; he then took down the body and clapped on the head. On the mother's return to Lacedaemon she found her daughter perfectly cured (Frazer's *Folk Lore in the Old Testament*, vol. ii, p. 48.)

A SOFT ANSWER.

SIR SAMUEL WILKS was severe in his judgement of contemporaries and was apt occasionally to express his opinion in caus ic phrases his victim did not easily forget. It may have been a resolution to be more careful in an official position that led him unexpectedly to get up at an informal dinner on the evening of the day of his election to be President of the Royal College of Physicians and make a little speech on the text, "A soft answer turneth away wrath." As an illustration of the advantage of acting in this spirit he told a story of Addison, who had been his teacher at Guy's. The story, so far as we are aware, has not hitherto appeared in print, although it may be well known, since we were reminded of it some years ago by a correspondent. When Addison was establishing the nature of the disease which bears his name Dr. George Harley, who lived in a house near Addison's, took to meetings of the Pathological Society cats which had apparently remained in good health after removal of the adrenals, proving, as Harley contended, that these organs were of no vital importance and that disease of them did not cause the symptoms described by Addison. At one meeting of the Society he brought a dissection of a cat apparently perfectly healthy, which nevertheless had diseased adrenals. Addison did not argue the matter, but asked Harley what was the colour of the cat. "An ordinary tortoiseshell cat," Harley replied. "Ah!" said Addison "I knew that cat. Six months ago it was a white cat."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 45, 46, 47, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 43, 44, and 45.

THE following appointments of certifying factory surgeons are vacant: Kidwelly (Carmarthen), Kirklisten (Linlithgow), Lerwick (Shetland), Mold (Flint).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE TREATMENT AND MANAGEMENT OF DISEASES DUE TO DEFICIENCY OF DIET:

*SCURVY AND BERI-BERI.**

BY

W. H. WILLCOX, C.B., C.M.G., M.D., F.R.C.P.,
COLONEL A.M.S.,
CONSULTING PHYSICIAN TO THE MESOPOTAMIAN EXPEDITIONARY FORCE (1916–1919).

AMONG the many fascinating and interesting medical problems which presented themselves during the campaign in Mesopotamia those connected with scurvy and beri-beri occupied the foremost place. These two deficiency diseases occurred to a greater extent in Mesopotamia than in any theatre of war.

The enormous wastage caused by scurvy in that campaign can be realized from the statistics available; thus, 11,445 cases occurred in the last six months of 1916. These cases were almost all evacuated to India, since they were quite unfit to undergo the hardships of active service in the field.

The careful investigations made in connexion with these diseases in Mesopotamia, and the results of the management—that is, the scientific rationing—of the troops, have most conclusively established that both scurvy and beri-beri are essentially deficiency diseases and are due to a deficiency in the respective vitamines in the dietary associated with their causation.

From the beginning of May, 1916, until the end of January, 1919, as senior consulting physician to the Mesopotamian Expeditionary Force, I made a special study of scurvy and beri-beri from their clinical aspects and from the point of view of prevention and treatment, and acted as special adviser with regard to deficiency diseases. I would take this opportunity of expressing my thanks to the Directors of the Medical Service, Major-General Sir Francis Treherne, K.C.M.G., and Major-General A. P. Blenkinsop, C.B., C.M.G., for the help and encouragement always given me in this work.

In order to understand clearly the problems which presented themselves in the Mesopotamian campaign in connexion with the management of scurvy and beri-beri it is necessary to pass in review the circumstances which effected the rationing of the troops in so far as they related to the occurrence of scurvy and beri-beri.

The Mesopotamian campaign commenced on November 6th, 1914, when troops under General Delamain landed at Fao; on November 22nd, 1914, when General Sir Arthur Barrett was in command, Basrah was occupied. The force pushed its way up the Tigris, and after a series of brilliant military successes Kut was captured on September 28th, 1915.

From the beginning of the operations until 1916 the Mesopotamian Force was under the control of the Indian Government, and the system of rationing troops was based on the field service scale of rations laid down in War Establishments, India.†

It may be stated now that scurvy in Mesopotamia was practically limited to Indian troops. A few isolated cases occurred amongst British troops; their causation could be traced to inadequate dietary owing to some other diseases occurring in the individual patient.

TABLE I.—*Field Ration of British Troops.*

Bread	1 lb.	Sugar	2½ oz.
Fresh meat	1 lb.	Salt	½ oz.
Bacon	3 oz.	Pepper	1/32 oz.
Potatoes	1 lb.	Fuel	3 lb.
Tea	1 oz.		

TABLE II.—*Field Ration of Indian Troops and Followers.*

Atta	1½ lb.	Ginger	¼ oz.
Fresh meat	4 oz.	Chillies	¼ oz.
Dhall	4 oz.	Turmeric	¼ oz.
Ghi	2 oz.	Garlic	¼ oz.
Gur	1 oz.	Salt	½ oz.
Potatoes	2 oz.	Fuel	1½ lb.
Tea	⅓ oz.		

Beri-beri, on the other hand, was limited to British troops; practically no cases occurred amongst Indians. Some cases occurred amongst the Chinese Labour Corps at Basrah in 1918, and also amongst the crews on board ships arriving at Basrah. Both of these epidemics were traceable to polished rice as the etiological factor.

A review of the ration scales shows that as regards deficiency disease the ration for British troops was fairly satisfactory. Attention will be called later to the deficiency as regards the anti-beri-beri factor under the conditions of service at the front. For Indian troops the field service ration was very deficient as regards anti-scorbutic vitamines, the only anti-scorbutics being 2 oz. of potatoes and 4 oz. of fresh meat. This deficiency became much accentuated owing to the conditions of service at the front.

The great cause of the wastage in the Indian troops of the Mesopotamian force up to the end of 1916 was scurvy. To understand this thoroughly it is necessary to explain the system of rationing of Indian troops in India prior to 1917. An allowance was made to each soldier equivalent to the cost of the items in the field service ration. He bought his ration from the bunniah or food contractor of his unit. The Indian has the instinct of saving money for his family very firmly implanted in his mind, and under the old system of rationing Indian troops in India there was no guarantee that the Indian soldier bought and consumed even the field service ration. He no doubt often starved himself to save a few annas.

As a consequence of this system the Indian troops arriving from India in Mesopotamia in many cases showed a considerable percentage of men anaemic and debilitated, and suffering from pyorrhoea; they had little balance in the bank, so to say, against the onset of the deficiency disease scurvy, and their latent period would be short were dietetic hardships imposed on them. My colleague the late Colonel H. C. Melville, I.M.S., paid special attention to the examination of Indian troops arriving from India during the latter half of 1916, and he found at this time a considerable percentage of men on arrival to be anaemic, debilitated, and suffering from pyorrhoea. These men were not actually suffering from scurvy, but they were in a condition which strongly predisposed them to it.

The British soldier, on the other hand, came out to Mesopotamia well nourished and with a good balance in his bank against deficiency disease, and if he developed this his latent period would be a long one.

A glance at the map of Mesopotamia shows the military situation up to February 23rd, 1917, when the Tigris was crossed at Shumram and the Turks retreated towards Baghdad. From December 11th, 1915, down to this date the operations of the Mesopotamian Force were directed towards the relief of Kut and the advance onwards to Baghdad.

Basrah and Amara were centres of local production of fresh fruit and vegetables and the incidence of scurvy was very slight amongst the troops stationed there. Beyond Amara there were no centres of local production of fruit or vegetables and troops had to rely entirely on the river transport for supplies of these articles.

Attempts were made by the army to grow vegetables for the troops, but it was impossible to do this in sufficient quantity since in Mesopotamia irrigation is essential for cultivation and a scheme for growing vegetables for the army on a large scale would have taken a very long time to carry out. To grow fruit and vegetables successfully involved a long and intimate experience of local conditions, and it was found that this could be much more economically and satisfactorily carried out by the native Arabs under our supervision; the produce was purchased from them by the army.

During 1915 and 1916 the river transport was taxed to its utmost in conveying troops and supplies and in carrying sick and wounded downstream. No special provision for the transport of fresh fruit or vegetables or fresh meat was available until towards the end of 1916. The climatic conditions of Mesopotamia were such that vegetables and fruit sent by river from Basrah arrived generally in a damaged condition unsuitable for issue.

It is thus obvious that the troops in the front area from December, 1915, to February, 1917, obtained few supplies of fresh vegetables or fruit; this explains the fact that up to February, 1917, there was an enormous incidence of scurvy amongst Indian troops in the front area in Mesopotamia.

* A paper read before the Section of Therapeutics and Pharmacology of the Royal Society of Medicine.

† Pages 10 and 11: Table 1, British rations; Table 2, Indian rations.

Alterations of Rations.

The incidence and causation of deficiency diseases in Mesopotamia was thoroughly appreciated, and steps were taken to put the ration scales on a scientific basis in this respect. The army commander, Sir Percy Lake, in 1916 with this object sanctioned the ration scales of July 4th, 1916, which were a great improvement as regards the protection from deficiency diseases.

TABLE III.—RATIONS, JULY 4TH, 1916.

A. *Field Rations of British Troops.*

Bread	1 lb.	Condensed milk	2 oz.
Fresh meat	¾ lb.	Salt	½ oz.
Bacon	3 oz.	Pepper	1/36 oz.
Potatoes	1 lb.	Wood	3 lb.
Tea	1 oz.	Oatmeal	4 oz.
Sugar	2½ oz.	Condensed milk	2 oz.
Cheese	3 oz.	Tobacco (weekly)	2 oz.
Rice	3 oz.	Matches (boxes weekly)	2
Jam	3 oz.		

Extras.

Chocolate	1 oz.	Dates	4 oz.
Bread	4 oz.	Fresh fruit	4 oz.
Lime juice	½ fl. oz.	Dry lentils	2 oz.
Sugar	½ oz.	Curry powder	⅛ oz.
Rum	4 fl. oz.	Limes (per man)	3

B. *Field Rations of Indian Troops.*

Atta	1½ lb.	Tea	1/36 oz.
Fresh meat	4 oz.	Ginger	1/36 oz.
Dhall	4 oz.	Chillies	1/36 oz.
Ghi	2 oz.	Turmeric	1/36 oz.
Gur	2 oz.	Garlic	1/36 oz.
Potatoes	2 oz.	Salt	½ oz.
Fresh fruit	2 oz.	Fuel	1½ lb.
Tobacco (weekly)	2 oz.	(Substitutes same as per British troops.)	
Matches (boxes weekly)	2		
Condensed milk	2 oz.		

Extras.

Atta	½ lb.	Fresh fruit	4 oz.
Ghi, 1 oz., or Gur	2 oz.	Tamarind	2 oz.
Fresh meat	2 oz.	Rum (25 per cent. under proof)	2 fl. oz.
Fresh vegetables	4 oz.		

Later the rations were further improved, and the army commander, General Sir Stanley Maude, who took a very great interest in the prevention of scurvy and beri-beri, sanctioned the ration scales of October 31st, 1916.

TABLE IV.—RATIONS, OCTOBER 31ST, 1916.

A. *British Troops.*

Daily:	
Bread	1 lb.
Or biscuit when bread not available	12 oz.
Fresh meat	1 lb.
Or preserved when fresh not available	12 oz.
Pickles when preserved meat is issued	1 oz.
Bacon	3 oz.
Potatoes or fresh vegetables	12 oz.
Or dried vegetables when fresh not available	3 oz.
Tea	¾ oz.
Cheese (not in summer)	3 oz.
Sugar	3 oz.
Jam or golden syrup	3 oz.
Tinned milk	2 oz.
Salt	½ oz.
Fresh fruit	2 oz.
Or tinned fruit 2 oz., or dried fruit 1 oz., when fresh fruit not available	
Soup or oxo (not in summer)	2 oz.
Fuel (coal 1 lb., wood 1 lb.)	2 lb.
Weekly:	
Pepper	1/36 oz.
Mustard	1/7 oz.
Tobacco	2 oz.
Or cigarettes No. 40, or sweets	4 oz.
Matches (boxes)	2
Twice weekly:	
Marmite (Monday and Thursdays; not in summer)	½ oz.
Thrice weekly:	
Oatmeal (Mondays, Wednesdays and Fridays)	3 oz.
Tinned milk (Mondays, Wednesdays, and Fridays)	1 oz.
Rice (Tuesdays, Thursdays, and Saturdays)	2 oz.
Curry powder (Tuesdays, Thursdays, and Saturdays)	⅛ oz.
Butter (Mondays, Wednesdays, Fridays; not in summer)	2 oz.
Lime juice (Tuesdays, Thursdays, Saturdays; not in winter)	½ oz.

B. *Indian Troops.*

Daily:	
Atta or rice	1½ lb.
Fresh meat	6 oz.
Gur when fresh meat not available	2 oz.
Dhall	4 oz.
Gur	2 oz.
Ghi	2 oz.
Potatoes or fresh vegetables	6 oz.
Dried vegetables when fresh not available	2 oz.
Fresh fruit	2 oz.
Tinned fruit 2 oz., or dried fruit 1 oz., when fresh fruit not available	
Tea	1/36 oz.
Milk, tinned	2 oz.
Daily (*cont.*):	
Condiments (ginger, chillies, garlic, turmeric)	¾ oz.
Salt	½ oz.
Tamarind or cocum	2 oz.
Fuel (wood)	2 lb.
Thrice weekly:	
Ghi (Mondays, Wednesdays, Fridays)	2 oz.
Lime juice (Tuesdays, Thursdays and Saturdays; not in winter)	½ fl. oz.
Weekly:	
Tobacco (Sundays)	2 oz.
Or cigarettes No. 40, or sweets	4 oz.
Matches (boxes)	2

Reviewing the ration scales of October 31st, 1916, we find that as regards protection against scurvy the Indian ration contained:

Potatoes or fresh vegetables—for example, onions	6 oz.
Fresh fruit (limes, etc.)	2 oz.
Fresh meat	6 oz.
Tamarind or cocum	2 oz.
Lime juice (three times a week)	½ oz.

The only difficulty was to convey this ration to the troops. The fierce heat of Mesopotamia rendered it impossible to carry perishable articles, such as vegetables, fruit, and fresh meat, up the 300 mile journey on the Tigris without special provision as regards transport. Down to the later part of 1916 transport was inadequate both on river and land to cope with this great problem. Towards the end of 1916 the transport was much improved, and the refrigerator barges which arrived, with cold storage chambers for fresh meat, were of great value.

Major-General Sir G. MacMunn, K.C.B., Inspector General of Communications, took a great interest in the problem of conveying antiscorbutics to the troops on the front, and devised crates for the carrying of fresh vegetables and fruit which were of great value in protecting them from damage during transport.

Fresh Meat.

The evidence from the Mesopotamian campaign proved that fresh meat has important antiscorbutic value. During 1916, when the troops at the front, both British and Indian, were unable to get fresh vegetables or fruit for long periods, the only protection that the British had above that of the Indians was the fresh meat allowance of 1 lb. daily. Usually two or three issues were obtained from local supplies of Arab sheep; on other days tinned beef was issued. The Indian troops did not care for meat, and usually had only one or two rations of 6 oz. a week. On other days, owing to their class prejudices, tinned meat could not be issued.

Further evidence of the value of fresh meat was obtained by investigations carried out by Major Marjoribanks, I.M.S., on Indian patients suffering from scurvy, in 1916 at Nos. 9 and 10 Indian General Hospitals. Two parallel groups of scurvy cases were treated on identical lines as regards diet, except that one group was given a daily ration of fresh meat juice; they improved much more rapidly than the other patients. I saw these patients several times in consultation, and can testify to the striking antiscorbutic value of raw meat juice.

The climatic condition of Mesopotamia and the risk of parasitic infection prohibited the general use of raw meat juice in the treatment and prophylaxis of scurvy, but in the treatment of cases of scurvy in hospital the beneficial effect of a liberal allowance of fresh meat was very striking.

Tamarind.

In all probability the tamarind has antiscorbutic properties. It was taken by the Indian troops either as chutney with stewed meat or, as an infusion with sugar, formed a palatable acid drink. Cocum is a sort of dried plum, which appeared to have no antiscorbutic value. It has had a reputation in India as an antiscorbutic, but was not liked by the Indian troops, and was little used in Mesopotamia.

Lime Juice.

The ration lime juice up to the end of 1916 had no antiscorbutic value, and produced no beneficial effect on patients suffering from scurvy. It usually arrived in Mesopotamia after a long journey overseas, and was probably six months or more old before issued. At my suggestion, in August, 1916, fresh lime juice was prepared in India from fresh limes, a small quantity of alcohol (5 per cent.) and salicylic acid (2 grains to the pint) being added as a preservative. This was sent to Mesopotamia in special casks with the date of preparation marked on it, and gave better results as regards antiscorbutic properties; it was used in the treatment of patients suffering from scurvy as well as for issue to troops.

Lime juice as a prophylactic against scurvy is of uncertain value, since it is difficult to ensure its delivery to an army in the field within three months of its preparation, and after that time much of its antiscorbutic value is lost. Undoubtedly when fresh it has important antiscorbutic properties, as I saw demonstrated on many occasions in patients suffering from scurvy. After the occupation of

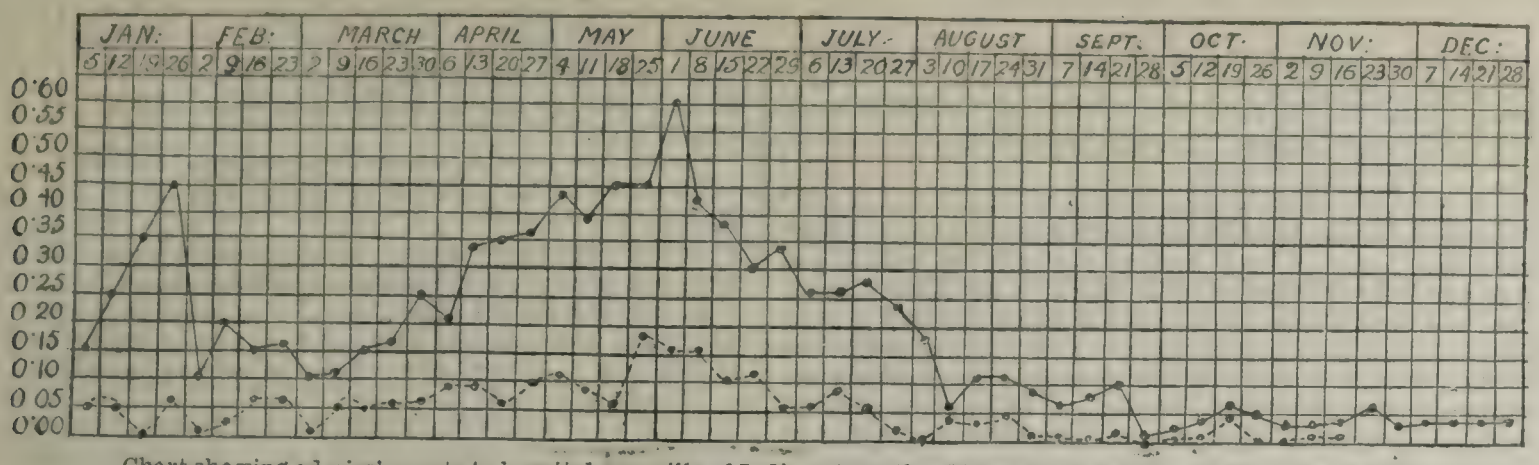


Chart showing admission rate to hospital per mille of Indian strength. Upper curve = 1917. Lower curve = 1918.

Baghdad lime juice was prepared from limes and bitter oranges obtained locally; preservative was added as above described. It was issued to troops with as little delay as possible, and had undoubted value as an antiscorbutic. The recent work of Miss Chick and Miss Hume showing the superior value of lemon juice to lime juice is of great value and interest.

During the deficiency of fresh vegetables and fruit in 1916, owing to the great incidence of scurvy among Indian troops, an order was issued that they should have the first call on the fresh vegetables and fruit available.

Beri-beri in Relation to the Ration Scales.

Indian.—This ration is highly protective as regards antiscorbutic vitamines. Atta, the usual issue to Indian troops, although rice was an alternative, is a wheat flour containing the germ and some of the aleurone layer of the grain, so that it is rich in anti-beri-beri vitamines. Dhall contains the coat and germ of the lentil, and is also rich in anti-beri-beri vitamines.

British.—In 1915 over 300 cases of beri-beri occurred amongst British troops. The India field service British ration was protective against beri-beri, but owing to the inadequacy of transport and the long distances from the base, fresh meat and vegetables were not available for the troops at the front, so that the basis of the ration was tinned beef, bread or biscuits, jam and tea. The British bread and biscuits were made of white flour from which the germ and aleurone layer had been removed, thus depriving them entirely of anti-beri-beri vitamines. The British soldier as regards this became liable to beri-beri, and in many cases became a victim to the disease.

In the July, 1916, ration, oatmeal 4 oz. and dhall 2 oz. were added to the British ration to supplement the British vitamine deficiency. In October, 1916, marmite ¼ oz. three times weekly was added to the ration.

Beri-beri cases occurred in the Dardanelles; I saw practically all of them, and at the suggestion of Colonel C. J. Martin advised the treatment with yeast, which gave satisfactory results.

In February, 1916,[1] I suggested to the Sanitary Committee of the War Office the advisability of an extract of yeast being issued to the troops as a prophylactic against beri-beri. Experiments instituted by Major-General Sir William Horrocks, K.C.M.G., were carried out by Professor Starling, F.R.S., Dr. S. M. Copeman, and their co-workers, who showed that extract of yeast was a prophylactic against beri-beri, and a preparation known as marmite was issued to British troops in Mesopotamia in October, 1916. Marmite can be mixed with warm water and taken like bovril or be added to a stew after cooking. It was undoubtedly of great value as a prophylactic against beri-beri in Mesopotamia, and it was a valuable remedy in the treatment of cases that occurred. It kept well in Mesopotamia, and no difficulty was experienced in its issue as a ration to troops.

In February, 1917, at my request experiments were carried out at Amara to determine the practicability of issuing to British troops bread made with a certain proportion of atta in the flour. Loaves were made with flour containing 100 per cent., 75 per cent., 50 per cent., and 25 per cent. respectively of atta. The bread was very palatable, but the addition of much atta caused some difficulty in the rising of the dough so that the bread was somewhat heavy. Bread made with 25 per cent. of atta was quite as palatable, and differed little except in the slightly brownish colour from ordinary bread. It was issued to several units at Amara with satisfactory results, and later on a general issue to the army on three days a week was sanctioned by the General Officer Commanding in Chief. The issue to British troops of bread rich in anti-beri-beri vitamines was undoubtedly an important factor in the reduction of beri-beri among them.

Rice.

As a causal factor of beri-beri amongst the troops rice did not attract much attention, because atta was almost entirely issued in its place to Indian troops. But in 1918 a Chinese Labour Corps arrived at Basrah, and the men of this unit refused to eat any rice except the polished variety; in consequence a number of cases of beri-beri occurred amongst them. The difficulty was overcome by the issue of atta in place of a portion of the rice ration; the outbreak of beri-beri then subsided.

After the occupation of Baghdad on March 11th, 1917, local supplies of fresh vegetables and fruit and fresh meat became available in ample quantity. General Dickson, C.M.G., C.B.E., Director of the Department of Local Resources, took the greatest pains in ensuring the issue of these articles to the troops throughout the advanced area. It was owing to the adequate supply of fresh vegetables, fruit, and fresh meat that deficiency diseases were stamped out from the Mesopotamian Expeditionary Force after March, 1917.

Statistics.

Scurvy in Indian troops and beri-beri in British troops were very prevalent up to July 1st, 1916, but correct statistics were not available. From July 1st, 1916, scurvy and beri-beri were made notifiable diseases in the army. From July 1st to December 31st, 1916, 11,445 cases of scurvy occurred in Indian troops. In 1917, 2,199 cases occurred, and in 1918 only 825, although the force in 1917 and 1918 had been largely increased.

TABLE V.—*Scurvy in Indian Troops, and Beri-beri in British Troops.*

Year.	Scurvy (Indians).	Beri-beri (British).
1916 (July 1st to December 31st) ...	11,445	104
1917	2,199	84
1918	825	51

The chart shows for 1917 and 1918 the incidence of scurvy, the maximum being in May and June.

As regards beri-beri, records are available showing that 335 cases occurred among British troops to the end of February, 1916, and 104 in the last six months of 1916. In 1917 only 84 cases occurred, and in 1918 only 51 occurred.

ETIOLOGY.

Undoubtedly the prime causes of scurvy and beri-beri are vitamine deficiencies; other factors, however, play a part as predisposing causes.

The Climatic Influences.

The maximum incidence of scurvy was in the hot months of May, June, and July, while beri-beri attained its maximum in November and December.

Mental Depression.

This is mentioned by Osler as a predisposing cause in scurvy, and undoubtedly in Mesopotamia the depressing influences associated with the campaign in 1916 were factors in the causation of the high incidence.

Intercurrent Diseases.

Patients suffering from such diseases as dysentery, those of the enteric group, and epidemic jaundice, which required careful dieting, would rapidly develop scurvy unless care were taken that antiscorbutics formed a part of the dietary. It was remarkable how quickly scorbutic symptoms would develop in Mesopotamia in patients on a dietary devoid of antiscorbutics. I have seen several cases develop typical scorbutic gums within six weeks of admission to hospital. It became a rule, therefore, to add to the diet of all patients in hospital a sufficiency of antiscorbutics—for example, lemons, limes, oranges, etc.—to prevent the development of scurvy.

In the Dardanelles campaign I called attention to the occurrence of beri-beri in patients recovering from an attack of epidemic jaundice. The absence of anti-beri-beri vitamines in the dietary prescribed for the jaundice was undoubtedly the cause.

A few cases of scurvy occurred among British troops in Mesopotamia in men with very carious teeth, who, on account of the difficulty of mastication, avoided eating any fresh fruit or vegetables. I saw one case in a man who had an intense dislike to fruit or vegetables of any kind.

Starvation *per se* does not cause scurvy or beri-beri. In May, 1916, I examined a large number of sick who had been in Kut during the period of its siege (December 11th, 1915, to April 29th, 1917). Many of them showed signs of acute starvation, but symptoms of beri-beri and scurvy were not usually manifest.

TREATMENT.

In order to obtain effective control of the diseases special hospitals for scurvy and beri-beri were established in June, 1917, at Baghdad, Amara, and Basrah—an Indian hospital for scurvy and a British hospital for beri-beri. A special medical officer was attached to each of these hospitals, and special registers were kept in which all the cases of scurvy and beri-beri were fully recorded. In this way the occurrence of either in any unit was at once recognized, and moreover uniformity of diagnosis and treatment was ensured.

Scurvy.

The symptoms of scurvy exhibited by the individual called for special lines of treatment. Anaemia and debility were the early symptoms.

Mouth.—The hyperplastic condition of the gums with characteristic red buds between the teeth, often shown best on the buccal aspect, was the most common symptom. In some cases the gums were so swollen as to present an appearance resembling a new growth. Pyorrhoea, which is quite a distinct disease from scurvy, often accompanied it, and no doubt by its presence tended to accentuate the symptoms of scurvy. Petechiae or patches of haemorrhage occurred in the soft and hard palate; if old they had a pigmented appearance, also a characteristic dark crimson or purplish area of discoloration commonly extended from the inner aspect of the molar teeth upwards towards the palate. This sign was very common, and a very valuable early indication of scurvy. The palate itself was usually pale, owing to the marked anaemia present.

Muscle haemorrhages occurred in about 30 per cent. of the cases, usually in the calf or thigh muscles or around the popliteal spaces or anterior tibial region, forming a hard brawny swelling hot to the touch and tender on pressure.

Oedema.—Scorbutic oedema of a firm brawny type occurred in the legs and feet and around the tendo Achillis; it was of quite a different type from cardiac or renal dropsy, and was often tender. It was too firm to pit readily.

Subperiosteal swellings—for example, along the ulna or tibia—were fairly common.

Effusion into the joints of a haemorrhagic type sometimes occurred.

Skin.—In Indians skin manifestations were very difficult to determine owing to the natural pigmentation of the skin. In white races purpuric patches were very common, and frequently the skin had a general earthy or bluish appearance.

Subconjunctival haemorrhages occurred in a few cases.

Haemorrhagic pleural effusion was seen by me in six cases.

Bowel.—In some cases haemorrhage from the bowel required careful differentiation from dysentery.

Dilatation of the heart, usually accompanied by haemic murmurs, was generally present in severe cases, and was an important indication for a period of rest in bed.

Rules for Treatment of Scurvy.

Captain A. J. Stevenson, M.C., R.A.M.C., who was appointed M.O. in charge of the scurvy wards in the special scurvy hospital at Baghdad, did valuable work. The following scheme of treatment for scurvy in Indians was drawn up by us:

Rest in bed was essential as long as the anaemia or cardiac dilatation persisted; also the presence of muscle haemorrhage, oedema, periosteal or joint haemorrhages, or other severe haemorrhagic symptoms, demanded complete rest in bed.

Local Treatment of the Mouth and Gums.—A solution of ½ per cent. salicylic acid in alcohol was applied to the gums twice daily. A mouth wash of alum and carbolic acid was used frequently; also dental treatment, such as scraping the teeth to remove tartar and removal of carious teeth, was carried out.

Anaemia.—A mixture of iron and arsenic was given for this in addition to the other measures.

Diet.—The diet table was:

6 a.m. Tea and biscuits and 2 oz. fruit.
8 a.m. ½ oz. fresh lime juice.
10.30 a.m. Chappatié or rice with 8 oz. vegetables and two pints fresh milk.
12 a.m. ½ oz. fresh lime juice.
2 p.m. 10 oz. fresh fruit.
7 p.m. Meat 14 oz., vegetables 8 oz.

Tomatoes, cucumbers, and onions were given raw; other vegetables were boiled for twenty minutes.

The accompanying tables show the selection of fruit and vegetables obtainable in the Baghdad area.

TABLE VI.—*Vegetables obtainable in Baghdad Area.*

A. Summer planting commencing from the month of February.		B. Winter planting commencing from the month of September.	
Onions	Tomatoes	Cabbage	Turnips
French beans	Cucumber	Beans	Radish
Haricot beans	Pumpkin	Spinach	Cauliflower
Brinjals	Melons	Beetroot	Lettuce
Lady's finger	Water melons	Carrots	Purslane

TABLE VII.—*Fresh Fruits obtainable in the Baghdad Area.*

A. Fruit produced during the summer locally.		B. Fruit produced during the winter locally.	
Apricots	Figs	Oranges	Limes
Apples	Dates	Tangerine oranges	Quince
Peaches	Pears	Sour oranges	Pomegranates
Plums	Mulberry	Lemons	Citron
Grapes			

One of the most effectual remedies for scurvy is a salad made by cutting raw potatoes into very fine slices, and adding slices of onion and a little vinegar. Captain A. L. Shepherd, I.M.S., at my suggestion tested this in 1916 on cases in the scurvy camp at the front area. He found that it gave a better result than any of the antiscorbutics he was then using.

Physical exercises were given for twenty minutes twice a day to those patients who were sufficiently well.

In a few isolated cases the muscle haemorrhages suppurated and required surgical treatment, incision, etc. The cases of scorbutic haemothorax required treatment by aspiration, in addition to the other treatment of scurvy.

Germinated Dhall.—The discovery in 1917 by Miss Chick and Miss Hume of the value of germinated dhall as an antiscorbutic gives to forces in the field where no fresh vegetables or fruit are available a very valuable antiscorbutic prophylactic. Unfortunately during the trying periods of 1915 and 1916 in Mesopotamia, when antiscorbutics were not available for the troops at the front, this discovery had not been made. After May, 1917, germinated dhall was used in outlying districts in Mesopotamia as a ration when fresh vegetables or fruit could not be supplied. It was used also in hospitals for the treatment of scurvy, but it had no advantage over the use

of fresh fruit and vegetables, and was less palatable. The great value of germinated dhall is that it can be used as a good substitute for fresh fruit and vegetables when these are not available; it is not meant to take their place.

Beri-beri.

In a country like Mesopotamia where toxic influences causing multiple neuritis were present most careful examination was necessary to exclude such causes of multiple neuritis as dysentery, enteric or paratyphoid fever, heat, malaria, sand-fly fever, and diphtheria.

The early signs of beri-beri were those of cardiac weakness accompanied by symptoms of multiple neuritis. A valuable early diagnostic test for troops was the squatting test which I described in 1916.[2] In Mesopotamia the cases were treated on similar lines to those described, the only difference being that marmite was used in place of yeast; it was given thrice a day.

CONCLUSION.

The experiences of the war, specially in distant countries such as Mesopotamia, called for special attention to the scientific rationing of troops. The old idea of sufficiency of calories, or of proteins, fat, and carbohydrates, is quite inadequate. A dietary to be satisfactory must contain proteins, fat, and carbohydrates in the proper amount, and must satisfy the calorie requirements, but it is essential that, in addition, it should be adequate as regards vitamine content—for example, it must be protective against scurvy, beri-beri, and other deficiency diseases.

Too often financial considerations predominate, and I cannot let this opportunity pass without calling attention to the action of the Indian Government in the matter of the rationing of the Indian soldiers serving in India. On February 17th, 1917, a ration was sanctioned by the Indian Government for Indian troops in India. This ration repeats the field service ration which was responsible for the enormous outbreak of scurvy in the Indian troops in Mesopotamia; and, indeed, it is inferior as regards antiscorbutic value, for it entirely lacks any fresh meat allowance. Under a ration of this kind scurvy is likely to be prevalent amongst Indian troops in India, and if at any time they are called upon for active service there is bound to be a great wastage owing to the incidence of scurvy. Rationing of this kind may appear to those without special knowledge economical, but to those who have studied the subject it is a false economy. It seems incomprehensible that after the tragic experiences of Mesopotamia the same mistakes should be repeated.

Since the rationing of troops or of a civil population is carried out usually by the laity not possessing special medical knowledge, the education of the lay mind in the scientific principles which form the basis of a sound dietary is of the utmost importance. For this purpose in Mesopotamia the "Official Memoranda" on scurvy and beri-beri which had been carefully drawn up were circulated not only to all the medical units, but to the commanding officers of all combatant units in the force. The education of the fighting forces in the principles of rationing as regards protection from the deficiency diseases—scurvy and beri-beri—was of great value, for the commanding officers took the greatest care to see that their troops received those articles of dietary which were essential for their protection.

REFERENCES.
[1] *Lancet*, March 11th, 1916. [2] Ibid.

THE Board of Education has issued a new edition of the *Syllabus of Physical Training*. The general suitability of the syllabus issued in 1909 has been established, but experience has shown that certain modifications and developments are desirable. They have been made on the advice of a committee, after hearing suggestions made by a number of experienced gymnastic teachers. The syllabus has been made less formal; the arrangement of the lessons has been retained, but a considerable amount of free movement has been introduced and "breaks," rather than rests, between the exercises have been recommended, and also that half the lessons should be given to general activity exercises, including games. The exercises and games are classified according to age, and there are appendices dealing with school dress, general activity exercises and games, dancing and swimming.

THE AIMS AND METHODS OF GRADUATE STUDY.*

BY SIR HUMPHRY ROLLESTON, K.C.B., M.D., F.R.C.P.,
PRESIDENT OF THE ROYAL SOCIETY OF MEDICINE; EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL.

THE universal process of reconstruction has led to much discussion on medical education, as the writings of Sir Clifford Allbutt, Dr. Fortescue-Brickdale, Sir James Mackenzie, Sir George Makins, Mr. Thelwall Thomas, Sir George Newman, and others testify, and the present moment affords an opportunity to review some of the problems in connexion with graduate, usually and perhaps unnecessarily called post-graduate, education and teaching.

It is often said, especially in introductory addresses, that we remain students all our days, and this of course should be true; but, in assuming that we are industrious students, possibly some of us flatter ourselves—as an unconscious compensation for the apparently modest admission—for in the face of many distractions it is not so easy to carry this ideal into practical effect as it may seem at first sight. It is natural, by glancing at the weekly journals, to keep more or less in the fashion, so as to be familiar with new names and thus avoid being too obviously out of date, but more than this may be difficult for want of a definite stimulus; the bogey of examination has been safely left behind, and it is only in the naval and military services that the earlier steps of promotion are accompanied by study leave and an examination test. Without some such incentive it is only too easy to stagnate in a gradually narrowing groove, and to remain satisfied with the same outlook and the methods that held the field at the time of qualification, but have become obsolete. The advance of medical science is so rapid that without knowing it—and he seldom does—a man easily becomes a medical Rip Van Winkle. In 1911 the late Dr. J. B. Murphy[4] of Chicago suggested that the licence to practise should be granted only for a certain number of years, five or ten, and that at the expiration of this period practitioners should be required to pass an examination or take a prescribed course of study. The idea of a temporary diploma with a renewal contingent on an examination is not likely to meet with an enthusiastic reception.

But a less drastic step towards the same end would be the grant of some kind of a higher diploma, or even of a degree after a series of yearly courses or after a single prolonged course. This addition would perhaps be analogous to the bar to the D.S.O. or the Military Cross. It might be suggested that whereas an M.B. degree is the crown of undergraduate work, the M.D. now awarded for a thesis or by examination should be given after proof of graduate education. If such a scheme were general the habit of graduate education would in time become almost obligatory instead of optional, and would enable the graduate course to be standardized just as that demanded for qualification has long been. At first sight this may seem a revolutionary proposal, but the principle has long been acted upon in the diplomas in public health and other special branches; and in America certificates, which vary in their value and the standard required, because many post-graduate institutions are proprietary, are given after a course. Certificates were, indeed, given after the Emergency Post-graduate Course of the Fellowship of Medicine. At Harvard, where the minimum time qualifying for a certificate is four months of work occupying the whole day, the question of these degrees was under discussion as long ago as 1913; and though the matter was postponed, the personal opinion of the Dean of the Graduate School[1] was in favour of their ultimate establishment, and to the effect that a systematic course of at least eight months should be required.

Immediate Need of Organization.

The need for organization of graduate teaching on a large scale is urgent because, owing to the reluctance of English-speaking nations and their allies to go to Berlin, Vienna, Munich, and other medical centres of the Central Empires, there is a great opening for efficient and complete

* The opening address of the session at the North-East London Post-Graduate College, Prince of Wales's Hospital, Tottenham.

graduate facilities in this country, and especially in London. That the need exists has been thoroughly realized both in America and in France, where extensive preparations are being made to obviate the necessity formerly felt for a journey elsewhere to acquire the desired facilities. London's unrivalled wealth in clinical material obviously indicates that it should be the leading centre of graduate teaching. Yet though there have been various post-graduate colleges since 1890, when the first scheme under the late Sir Jonathan Hutchinson was inaugurated, it must be admitted that they have not successfully competed with those abroad. During 1919 the Fellowship of Medicine, a body originally formed to promote friendly relations among our brethren of the Dominions and Allies, organized emergency courses, mainly attended by the medical officers of the Dominion Forces and the U.S.A. Medical Corps, who were authorized by their Governments to avail themselves of graduate instruction before they returned home. Similar courses were held elsewhere—for example, in Edinburgh, Glasgow, Manchester, and Birmingham. Courses on the same lines are now going on under the amalgamated Fellowship of Medicine and the London Post-Graduate Association; Edinburgh, Glasgow, Bristol, and Norwich are also engaged in this work. It is sincerely to be hoped that this scheme will be so expanded that a permanent Imperial graduate institution will be organized in London to attract men from the Dominions, India, Egypt, America, and abroad, as well as from this country, in the same way as Berlin and Vienna used to attract them in the past. This matter will be referred to later.

The Organization Needed.

Organized graduate instruction may be divided into three distinct forms from the point of view of time:

FORMS OF GRADUATE INSTRUCTION REQUIRED.

I. The continuation of education immediately after qualification:
   - A. Classes for higher examinations and special diplomas.
   - B. Training for general practice.
   - C. Training for clinical and pathological research.

II. The continuous education of the general practitioner: local hospitals and clinics.

III. Periodic refresher courses.

I.

The continuation of education directly after qualification; this again is of various kinds, and to some extent depends on what branch of the profession the newly qualified man intends to adopt—general practice, public health, the naval, military, or colonial services, specialist or consultant practice, or laboratory research. In any event a resident post as house-physician or house-surgeon is advisable, and in most branches absolutely essential. Quite recently I heard a very distinguished physician ask the pertinent question, "Have you ever known a man recover from the handicap of not having held a resident appointment?"

(A) A brief reference should be made to advanced classes for higher examinations, such as the M.D., M.S., M.Ch., F.R.C.S., and the diplomas of Public Health, Tropical Medicine, Ophthalmology, and other special branches. The first four have usually been taken at the graduate's original hospital comparatively soon after qualification; but the character of the instruction in all of them is obviously so different from that of undergraduate schools that it might with advantage be included in a well organized graduate scheme, and this specially applies in the case of older men who, after some years in practice, are anxious to take a higher degree. The work for the diplomas of Ophthalmology, Psychiatry, and Tropical Medicine can obviously be most efficiently carried out at special hospitals; and instruction in industrial medicine —namely, the care of the health of factory workers, a branch of public health and preventive medicine destined to be of the greatest importance—must be given in the neighbourhood of manufacturing centres.

(B) Before qualification few men realize that there will be much more to learn when once the portal is safely passed; when, however, this has been negotiated, they soon begin to see that, like the preliminary subjects of the so-called ancillary sciences, the hospital knowledge of their professional subjects is only a further though more complete preliminary to the efficient practice of the healing art. Hospital and ordinary practice essentially deal with different aspects and stages of disease; hospital patients are usually acutely ill or well advanced in chronic disease, and mainly require curative or merely palliative treatment, whereas ordinary practice is largely concerned with minor ailments, especially dyspepsia, and the early stages of disease, and should, accordingly, be largely preventive. There is therefore a new aspect of medicine before the recently qualified medical man, even after he has had the great advantage of a resident appointment. When launched into practice he finds that he is at sea, and often the landmarks of definite organic disease on which he has been accustomed to rely in hospital work fail him. This is much more marked now than in the old days of apprenticeship, when a medical student began his career as an unqualified assistant and then did his hospital work before going up for his examinations. A return to this plan is impossible; is there any substitute? Possibly Sir James Mackenzie's idea of the appointment to teaching hospitals of one or more physicians who have spent ten or more years of their professional life in general practice might in some degree meet this need, especially if in connexion with the out-patient department there was an outdoor visiting department, as in some dispensaries, under the supervision of this new type of hospital physician.

(C) Graduates who after holding resident appointments have decided to aim at a consulting and hospital career require further opportunities for clinico pathological work; a certain number in the past have managed to obtain it, largely on their own initiative, by holding posts such as registrars at hospitals or assistants in the pathological or physiological laboratories, or university studentships. Beit fellowships and grants from various scientific bodies have also enabled men to devote themselves to various lines of research. More opportunities for this line of work will, it may be expected, now become available in connexion with the whole-time directors of clinical units, where help and inspiration might also be given to men from a distance. This is the period for the training in systematic investigation of the future teacher in medicine, who should thereby learn how to direct others in his turn, and with them to advance the science of medicine.

II.

The continuous education of the general practitioner. A continuous process of self-education depending on reading the medical periodicals and textbooks and by keeping careful notes of cases, aided to some extent by attendance at the local medical society, is, of course, possible. Many men no doubt carry out the ideal so appropriate to England, which has been called "the land of individual effort," but the difficulties are great, and it is not to be wondered at that the good resolutions made at the outset fail in the face of adverse circumstances, such as overwork and want of urgent stimulus, to maintain this high ideal. Some men, more fortunately placed by being able to use opportunities in connexion with a local hospital, find the way easier. Local hospitals are a comparatively untapped source for organized graduate instruction, and there should not be any difficulty in arranging demonstrations and a more extended system of clinical assistantships; and in the future the Ministry of Health may multiply these facilities, among which attendance at venereal, tuberculous, psychiatric, and other clinics may play a part. The benefit to the teachers would also be considerable; this was well put more than a hundred years ago by Lyman Spalding[3] to a colleague who proposed to resign his professorship: "Look at the Princes or rather the Fathers of Physic. . . . What has put them at the head of the profession? Nothing but their being compelled to labour, and annually to review their profession, and incorporate with their old stock all the new improvements. Show me a man in private practice who does this annually. He is not to be found. But your friends say that you can do this, yet stay at home. I acknowledge this, but tell me honourably, will you do it? No, Sir, you have no inducement."

III.

Periodic courses of instruction so as to keep practitioners, particularly those isolated in country districts, up to date in recent methods of diagnosis and treatment. They thus learn what can be expected from expert pathological investigation, and gain a broader outlook from contact with other minds and men. These refresher courses should be taken every five years or oftener, and should be

both general and special in character, dealing with clinical medicine, surgery, and gynaecology, and also with the special branches, such as ophthalmology, laryngology, orthopaedics, and radiology. The latter should be so arranged in series that a man could either get a good elementary course in a comparatively short time or by taking more elaborate courses and devoting himself entirely to the subject could eventually become qualified for this special branch of work. The instruction should be essentially practical rather than didactic, with demonstrations in preference to set lectures. Too much stress can hardly be laid on the importance of providing ample facilities for clinical work, particularly in the special courses in which clinical assistantships should when possible be available, so that the technique of diagnosis and treatment can be thoroughly mastered.

A Graduate Hospital School.

The graduate instruction should be centred in a large hospital with which neighbouring special hospitals may be affiliated, and the organization of the extensive facilities available in London should be carried on at a central bureau. The graduate schools in the provinces should also be co-ordinated with the central organization, which may most conveniently have its home in London. Centralization, especially in London, where much time is necessarily spent in going from one hospital to another, is important. The hospital should be entirely devoted to graduate teaching, for general experience proves that undergraduate and graduate instruction cannot be satisfactorily carried out at the same time and in the same institution. Such a hospital, fully equipped with modern laboratories, would take a long time to build under present conditions; and as it is most important that such a hospital should be in working order at the earliest possible moment, it has been suggested that some teaching undergraduate hospital should be given up to graduate instruction. The teaching staff of the graduate hospital and school raises some difficult points; its members should be well known for their teaching ability and in the full tide of their energies. Such men would of course be engaged elsewhere, and in order to obtain their services some plan by which they could be seconded from their existing chairs without losing them would be necessary. A period of years—five or more—has been suggested, but this would make it very difficult to keep their permanent posts open, and it would be better that they should take service at the graduate hospital for short terms of a few months in each year. If the graduate hospital is started *de novo* there would be much less difficulty than in the event of a teaching hospital with its staff being taken over for graduate instruction. In the latter case some of the original staff would necessarily have to make room for the temporary service of outside teachers, and, unless an alternating service, such as obtains in some American hospitals, be adopted, the question of providing an equivalent position would have to be faced.

The duration of these courses also requires consideration, as a man can rarely spend many weeks away from his practice and is then naturally disinclined to sacrifice the whole of his hard-earned holiday. Time is money, and though time thus expended is a good investment, the available capital is too often small. As a result the courses in this country for general practitioners have usually been short and intensive—lasting two or three weeks—such as those at St. Bartholomew's Hospital before the war, which were held in the summer vacation as most convenient both for the general practitioners and from the point of view of the undergraduate school. In 1909, at the International Congress at Buda-Pesth, the opinion was definitely expressed that the State should provide these courses free of charge, and, according to Abraham Flexner,[2] the Central Committee for post-graduate education, with its head quarters in Berlin, had in 1912 organized gratuitous courses for practitioners in forty-eight of the larger cities of the German empire. In this country as the State, through the University Grants Committee with the concurrence of the Board of Education, now subsidizes undergraduate teaching, it is only logical that it should also assist in graduate instruction, and there is reason to believe that it would adopt a sympathetic attitude to this proposal. If in the future a general medical service subsidized by the State comes into being, as seems not improbable, the duty of the Government to provide medical men engaged in such work with periodic study leave would be a natural corollary, so as to correspond to the condition of service in the navy and army. In such conditions a course of three or more months would be practicable and appropriate, especially if some step in promotion, a higher diploma or degree, depended upon attending and showing evidence of having benefited by a somewhat prolonged course.

REFERENCES.
[1] H. D. Arnold, *Boston Med. and Surg. Journ.*, 1913, clviii, 265. [2] A. Flexner, *Medical Education in Europe*, 318, 1912. [3] Vide H. M. Hurd, *Johns Hopkins Hosp. Bull.*, Baltimore, 1919, xxx, 125. [4] J. B. Murphy, *Journ. Amer. Med. Assoc.*, Chicago, 1911, lvii, 5.

THE USES OF FREE TRANSPLANTS OF THE FASCIA LATA IN SURGERY.

BY
G. GREY TURNER, M.S.DURH., F.R.C.S.ENG., F.A.C.S.(HON.),
ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

IN using the term "free transplants" I refer to a portion of fascia lata removed from the thigh of the patient for use in some remote part of his own body. I am not able to state with certainty who first introduced this valuable method to the notice of surgeons, but I believe that it is to Murphy of Chicago that we owe its more general application, for he popularized its use in his work on arthroplasty.

I have personally used this method in arthroplasty in the elbow and in the jaw joint with very satisfactory results, but I want to briefly draw attention to its uses under other circumstances which are perhaps less well known.

I.

It is valuable for protecting the deeper structures, such as sutured nerves or tendons during the slow healing of a wound by granulation, or when the superficial tissues are so much damaged that their recovery after suture is likely to be attended with sloughing. For instance, in a man who had a lacerated wound over the dorsum of the right thumb, with complete division of the tendons, it was necessary to protect the latter after suture, because the skin was so much damaged that it was difficult to get it together, and the likelihood of subsequent sloughing rendered sepsis and healing by granulation extremely probable. Under these circumstances, I carefully repaired the tendons with catgut, and then laid a piece of fascia lata about $1\frac{1}{2}$ in. long by 1 in. broad over the line of union, and fixed it in such a way that it extended beyond the area of damaged tissue, thus forming a covering for the tendons, and an effective barrier between them and the skin. The latter was carefully sutured, but part of it was so much crushed that, as was anticipated, sloughing occurred, leaving an area $\frac{3}{4}$ in. by $\frac{1}{2}$ in. directly over the site of tendon suture to heal by granulation. The floor of this area was formed by the fascia lata which at the first dressing was seen looking white and lifeless, as though it also was about to slough. However, it was not interfered with, and healing by granulation proceeded satisfactorily and completely, with no evidence that the transplant was disturbed. The man made a perfect recovery, and within three months was able to use the tendons, the complete usefulness of the thumb being restored.

Fascial transplants can similarly be used for the protection of sutured nerves, and I have seen it applied in a case of aneurysm of a large artery, where rupture of the sac, following ligature of the main trunk, appeared to be a possibility to be especially guarded against.

II.

It is also exceedingly useful for the replacement of lost tendons, and I have used it with success in war surgery under these circumstances. One patient lost a considerable length of the extensor tendons of his right forefinger. After the wound had soundly healed and had been tested against latent sepsis by exposure to radiant heat, the retracted ends of the tendon were exposed and separated from the scar tissue in which they lay, leaving a gap of about $1\frac{1}{2}$ inches. [No attempt was made to deal separately with the extensor communis and extensor indicis, but it might have been done with the expenditure of a good deal

more time and care.] A transplant of the fascia lata was cut ½ in. longer than the gap which was to be bridged, and sufficiently broad to allow of its being rolled into a tube. It was laid beneath the ends of the tendon, to which it was carefully sutured with fine catgut, and the sides of the transplant were then wrapped round the tendon ends, and so held by further sutures that it had the appearance of a rolled cigarette, with the remains of the tendon at either end resembling the tobacco. In this case a skin covering could not be provided, and the area had to be covered by a pedicled flap cut from the thigh. The pedicle was divided at the end of a fortnight, and a week later the patient was allowed to make a little movement, but this was not encouraged until six weeks following operation. The usefulness of the finger was completely restored.

III.

Transplants are also useful to cover the exposed brain, where the membranes are deficient, thus preventing it becoming adherent to the scalp.

In one case a patient suffered from severe Jacksonian epilepsy, with almost daily fits, following a gunshot wound of the head, which had already been trephined. On turning back the skin flap it was found to be adherent to the unprotected brain over an area as large as half a crown, and after separation this area presented the appearance of lacerated brain tissue, with a small old blood clot in the centre. The trephine opening was 2½ in. in diameter. A flap of fascia lata was cut ½ in. larger than this opening, and, after separation of the dura from the margins of the bony aperture, the edges of the fascial flap were tucked in so as to form a complete covering for the exposed brain, and a light curtain over the aperture in the skull. The skin flap was then reapplied and carefully sutured without drainage. The patient made a complete recovery, and had no further fits up to the time that I last saw him, some three or four months after operation. It is intended at a later date to close the opening in the skull by bone grafting, now that an efficient background has been provided.

IV.

Similarly, fascia lata may be used for repairing the urethra. I used it in the case of a large fistula which had been operated upon four times without success. I found a rounded opening in the penis, just in front of the scrotum, which would admit the end of a lead pencil. The skin was tucked in, and was adherent to the edges of the urethral mucous membrane. The parts were carefully exposed, using a median incision, and the skin and the urethra were very thoroughly separated. By using a flap cut from the side of the channel which had been established between the urethra and the surface I was able to close the latter without appreciably narrowing its lumen. This looked as if it might of itself have been efficient, but previous operations on these lines having failed, I felt that I must reinforce the union if success was to follow. I therefore covered the area with a flap of fascia lata about 1½ in. long by ¾ in. broad. This was closely fixed over the sutured urethra with fine catgut, and the skin was very carefully drawn together over the fascia and sutured. At the same time a perineal drain was introduced and kept *in situ* for a fortnight. This patient made a complete recovery. There was never any leakage or any suggestion of subsequent stricture, and seven months after the operation I was able to pass a No. 10 rubber catheter without the slightest difficulty.

I have been surprised at the behaviour of the transplants in the presence of active infection. In one case of arthroplasty of the elbow, which I recorded in the *Edinburgh Medical Journal* (May, 1914), there was a severe outburst of suppuration, but in spite of that the large flap of fascia lata which had been used did not slough, and the result as regards movement was excellent.

Similarly, in one of the cases in which the fascia was used to repair a tendon, there was the recrudescence of sepsis which is so familiar in connexion with war wounds. After the discharge of pus the edges of the skin wound separated, exposing what looked like a big yellow slough, but actually the fascial tendon. It was not interfered with, and in a remarkably short time the wound healed by granulation, and the process of repair of the tendon was evidently not interrupted, for the patient regained movement in the terminal joint of the thumb.

These are illustrations of a few of the uses of fascial transplants. Ingenuity and necessity will suggest many more, and my experience leads me to believe that it can be freely used wherever it will fulfil the indications in view.

I have had no trouble associated with the area from which the flap is cut. I always expose it through a vertical incision on the outer side of the thigh, and, except where the transplant has been a very small one, I do not resuture the fascia, and I have seen no trouble from the break in the covering of the thigh muscles, though the patients sometimes complain of soreness and aching in that area for a time.

THREE ACUTE ABDOMINAL CASES.

BY

J. LIONEL STRETTON,

SENIOR SURGEON, KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

THE three cases here reported have occurred since July, 1919, and are all of sufficient rarity to justify their publication. I have never seen a polypus of the stomach before, and I have never found an extensive haemorrhage between the walls of the intestine. The ovarian tumour is rare because of its size. The largest one I had removed previously contained four gallons. In these days it is seldom indeed that they are allowed to reach such dimensions.

CASE I.—*Polypus of Stomach.*

In July, 1919, I was asked to see a man aged 59, in consultation with Dr. Emrys-Jones, who was acting as locumtenent for Dr. Askey Wood. The patient had been suffering for six months from intermittent pains in the abdomen, which were thought to be biliary or renal colic. I ascertained that the pain came on about fifteen minutes after food of any description, but it was more severe after solid than liquid food. If the patient was lying in bed upon his back the pain did not occur, but if he was sitting up it always came on. There was no vomiting. The bowels were constipated. He had lost flesh (1 st.). The conjunctivae had an icteric tinge and he appeared to be ill. The abdomen was too rigid to make a full examination, but there was tenderness two inches above and to the right of the umbilicus.

Operation.—I advised an exploratory operation, and the patient was admitted to the infirmary on July 21st, 1919. On July 22nd, under ether and chloroform administered by Dr. W. Miles, the abdomen was opened by a vertical incision through the right rectus muscle. The liver and gall bladder seemed to be normal. There was no dilatation of the stomach, and its appearance was natural. On manipulating the pylorus with my fingers and thumbs I could feel a substance which slipped from side to side within the stomach, and which appeared to be pedunculated. A transverse incision was made over this "substance." On exposure it proved to be a pedunculated polypus about 1½ in. long and ¾ in. broad. The pedicle was attached to the posterior wall of the stomach about an inch inside the pyloric orifice. It was ligatured and removed. The stomach and abdominal wounds were closed in layers.

Description of Polypus.—The specimen removed was sent to Birmingham University for examination. Dr. Ball reported as follows:

"*Polypus of Stomach.* The growth is a simple adenoma consisting of gland spaces lined by a columnar epithelium. The epithelium shows degenerative and proliferative changes, and is frequently desquamated into the lumen of the acinus, but is everywhere contained within the basement membrane, and is, I think, without malignancy. Some of the acini are enlarged to form cysts, the contents being derived from degeneration of the lining cells."

After-History.—The patient made an uneventful recovery. The abdominal wound was healed on July 30th and the sutures were removed from it. He was able to take food without pain, and was discharged from the infirmary on August 18th. I saw him on October 2nd. He was then well, had gained 6 lb. in weight, and could take solid food without discomfort.

The diagnosis in this case appeared doubtful, but had we appreciated the importance of the history we might have suspected such a condition. The fact that the patient was free from pain when lying on his back was certainly significant when considered with the condition revealed at the operation—namely, "a pedunculated polypus . . . attached to the posterior wall of the stomach about an inch inside the pyloric orifice."

CASE II.—*Large Haemorrhage into Wall of Caecum.*

On October 4th, 1919, I was asked to see, with Dr. Brocket of Stourport, an unmarried lady, aged 22. She had been seized with sudden pain in the right iliac region the previous evening, when she vomited. The temperature was 101° and the pulse

120. The abdomen was too tender to palpate. There appeared to be a mass in the right iliac fossa. She was removed to my nursing home.

Operation.—Ether and chloroform were administered by Dr. Craig, and Dr. Brocket assisted me. The abdomen was opened by a vertical incision through the right rectus muscle. Some serous fluid escaped, and a large cystic mass was seen. It was about eight inches by four inches, and extended down into the pelvis. When it was delivered it was found to be the caput caeci. The appendix was inflamed. It was removed and the stump inverted with a purse-string suture. During the manipulation the cyst burst, and a pint and a half to two pints of blood escaped. The collapsed cyst wall appeared to be composed of peritoneum and the muscular wall of the caecum. There had, in fact, been a haemorrhage between the muscular and mucous coats of the caecum. The bowel was returned to the abdomen and a drainage tube left in the lower angle of the abdominal wound.

After-History.—The following day the patient's condition was unsatisfactory; her pulse and temperature were still up, and there was some abdominal distension. She was again placed under chloroform and ether by Dr. Craig, and I opened up the wound. Nothing further was discovered; the caecum had a more normal appearance, as the collapsed sac wall had contracted. The drainage tube was left in. The patient gradually improved. The tube was removed on October 10th; the stitches were taken out on October 15th. The wound had healed, except the sinus where the tube had been. She was discharged on November 8th.

I do not think the inflammation of the appendix was sufficient to account for this haemorrhage. It appears to me more probable that it was due to a strain received by the patient during the afternoon of October 3rd, when, in her capacity of lady gardener, she was moving a number of chrysanthemums in pots.

CASE III.—*Large Ovarian Cyst.*

A married woman, aged 61, was sent to me by Dr. Crawford Newland, suffering from a large abdominal tumour. She stated that she had been aware of it for three years, but that it had increased in size more rapidly during the last six months. The girth at the umbilicus was 56 in. From the ensiform cartilage to the pubes was 25 in. The tumour was freely movable and fluctuating. On November 4th, 1919, under chloroform and ether administered by Dr. W. Miles, the abdomen was opened by a vertical incision through the right rectus. The cyst was tapped and the fluid withdrawn. The cyst wall was ligatured and removed. It was a cyst of the right ovary. The fluid measured 6¼ gallons, and the solid weighed 3 lb. 2 oz.

The patient made an uneventful recovery. The wound was healed and the stitches were taken out on November 12th.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A NEEDLE IN THE ALIMENTARY CANAL.

AT a meeting of the Midland Medical Society held at Birmingham on November 12th, 1919, Mr. Christopher Martin showed a specimen of a concretion formed around a pin in the appendix. I think the narration of the following case may prove interesting.

After a rather long walk (August, 1913) a lady complained of severe pain in the region of the anus. I saw her soon after, and on examination felt what I at first took to be a hairpin fixed across the bowel close to the anus. After some difficulty I managed to remove it. It proved to be a darning needle $1\frac{1}{16}$ in. long, quite black and dull. The patient had no idea how it came there. It must presumably have been swallowed, possibly in soup.

The history of the case as given by the patient herself is remarkable, indicating that, in the course of perhaps nearly twenty years, the needle travelled the whole length of the alimentary tract without producing a fatal result, although it apparently came near doing so. In 1897 the patient suffered from indigestion and what was diagnosed as gastritis, and was allowed only fluid food. In 1907 she had a violent attack of haematemesis, bringing up about 2 pints of pure blood, and she nearly died; the haemorrhage ceased within forty-eight hours, after treatment including rectal feeding, ice, and albumin water. Subsequently she suffered from occasional recurrences of acute epigastric pain. In July, 1913, about a month before the needle was found, she had an attack of acute pain in the region of the duodenum, which a medical man whom she consulted in London thought might be appendicitis, but when he heard the story of the needle he concluded it was due to that. With regard to the severe haemorrhage in 1907, it is probable that the needle pierced some blood vessel in the neighbourhood of the stomach. Altogether I consider the passage of the needle during all those years through the whole alimentary tract very remarkable, and the patient is to be congratulated on its successful termination. She has had no recurrence of any symptom of gastritis since the discovery of the needle.

Chichester. HEYWOOD SMITH.

MAMMARY SARCOMA IN OLD AGE.

AN interesting pathological curiosity is presented in the following case:

Mary N., admitted May 7th, 1902, for senile dementia, died on October 11th, 1919, at the age of 98, from sarcoma of the breast with pulmonary metastases.

Three and a half months earlier attention was drawn to the right breast by the fact that during routine bathing she shielded the organ with her hand. There was no sign of trauma nor had there been any history of injury or previous indication of any new growth.

The breast did not appear to be enlarged, but seemed to be painful, as she resented the slightest interference. The nipple was not displaced; several hard small masses were scattered through the substance of the gland; their outlines were indefinite, and they did not appear to be attached to the skin, the nipple, or the pectoral muscle. The axillary lymphatic glands were not enlarged; owing to her senile state operation was not undertaken.

The breast rapidly increased in volume and soon attained the size of a football. The skin became stretched and shiny, the veins enlarged in size, and increased in number. The whole organ pulsated visibly and palpably, and in places appeared to be cystic. The skin eventually gave way over the upper and outer part of the mass, but the patient died before a fungating mass could form. On one occasion during the last month the patient coughed up a small clot of blood, but apart from this the symptoms and signs were localized to the right breast.

Pathological Characters.

The right breast with some remnants of pectoral muscle weighed 11 lb. 14 oz. The growth had infiltrated the pectoralis major but had not extended to the chest wall. Beneath the skin were plexuses of dilated veins and numerous haemorrhages. On section an irregularly shaped central cavity holding about half a pint of dark brown fluid and blood clot was found. The surface of the walls of the cyst were roughened by clot deposit and tissue torn by haemorrhages. The tumour cut toughly and varied in appearance, in some parts white, in others intensely vascular and spotted with numerous haemorrhages of varying size. The associated axillary and clavicular lymphatic glands were not enlarged. The left breast showed no abnormality. The right lung weighed 21 oz., the left 18 oz. Scattered through the substance of both lungs, but more particularly just below and on the surface of the visceral pleura, were numerous metastases, varying in size from small well defined pea-like nodules to one the size of a turkey's egg, forming a sessile tumour at the base of the right lung in the mid-axillary line, its pleural surface having contracted recent adhesions with the parietal pleura. The smaller nodules on the pleural surface had a white smooth button-like appearance, their sessile character being due to collapse of the adjoining lung tissue. The metastases on section presented a similar appearance and density to the original growth, the smaller were white and fleshy and the larger strewn with numerous haemorrhagic points. The pulmonary tissue intervening between the metastases showed no gross abnormality. The pleural cavity and parietal pleura were otherwise normal. The heart and liver showed senile degenerative changes. The brain was atrophied, especially the frontal convolutions where the thickness of grey matter was much reduced.

The kidneys weighed, right 4 oz., and left 3 oz.; on section the cortex was indistinguishable from medulla; both were paler and tougher than normal, and the capsules stripped with difficulty, tearing away portions of the adherent renal tissue. The vessels were arterio-sclerotic.

Microscopic sections were made from the breast growth and from one of the pulmonary metastases by the paraffin method. Both showed similar microscopic characters, the only difference being that the section from the secondary deposit appeared more vascular than that from the parent growth. The cells were large spindles; the intervening matrix was slightly fibrillated, and the vessels lined by cells similar to those of the rest of the tumour. Glandular acini were not observed in the section either of the parent growth or the secondary deposit.

T. C. GRAVES, M.D., B.Sc.Lond., F.R.C.S.Eng.,
Medical Superintendent, the Hereford County and City Mental Hospital.

THE late Mr. William Carnelley, of Fallowfield, has bequeathed £2,000 to the Beckett Hospital and Dispensary, Barnsley, for the endowment of two William Carnelley beds, £1,000 to the Manchester Royal Infirmary and Dispensary, £400 to St. Bartholomew's Hospital, London, and £300 to Guy's Hospital, London.

Reports of Societies.

DIVERTICULITIS.

A DISCUSSION on diverticulitis was held on January 7th by the Subsection of Proctology of the Royal Society of Medicine. Mr. LOCKHART-MUMMERY, president of the subsection, was in the chair. An excellent collection of pathological specimens, drawings, and radiograms illustrative of the subject under discussion was on view before the meeting, and was available for inspection at the Royal Society of Medicine until the conclusion of the adjourned discussion on Wednesday, January 14th.

INTRODUCTION.

The discussion was opened by Dr. W. H. MAXWELL TELLING (Leeds), who directed his remarks to the broad lines of the subject, and mainly to its clinical aspects. The situation to-day, he said, was the same as in 1917, when in reviewing the subject, he wrote:[1]

> Diverticulitis is a condition which has now passed out of the realm of doubt and uncertainty into that of proved and accepted fact. It has an important place in medical literature, and in the experience of every operating surgeon of large practice. This last statement is not as yet true of all clinicians, some of whom are still apparently unaware of the condition, and not a few of its frequency and clinical importance. Not until a morbid condition is described in all the ordinary students' textbooks[2] of medicine and surgery can it be said to have attained complete recognition, and this is not yet the case with diverticulitis.

He continued:

Diverticulitis means any inflammatory change in any diverticulum or series of diverticula. In practice, however, usage has restricted the term to the inflammatory changes and secondary pathologic processes generally occurring in or in connexion with a *certain type of diverticulum*. This type is the secondary, acquired, multiple, false diverticula of the *large* bowel, particularly and nearly always found in the sigmoid flexure. The diverticula occur mainly in the lower part of this structure, in small or great numbers, but may be found elsewhere, as in the descending colon, the other flexures, the caecum, the rectum, or throughout the entire large bowel. They may be limited to these special positions, though when in them are more usually associated with sigmoid lesions as well; if so limited they may give rise to puzzling and anomalous symptoms. The caecal cases especially are of considerable interest, and merit much more attention and investigation than they have hitherto received. Occasionally there is a widespread tendency to diverticulum formation throughout the whole intestine. For convenience, however, I shall confine my remarks to the typical lesion as it occurs in the sigmoid flexure.

Historically, diverticulitis may fairly be said to be a new subject. Odd specimens had been described from time to time during last century, but such descriptions were "buried" and isolated, and the clinical aspects of the lesion were for all practical purposes unknown.

Peridiverticulitis.—In 1898 Graser[3] described examples associated with fibrous hyperplasia, causing stenosing tumour formation—peridiverticulitis. Similar cases were then described in America, and Patel,[4] in France, drew particular attention to the more acute inflammatory lesions—sigmoiditis and peritonitis. I observed my first case in 1899, and finding nothing about it in the literature, or even anyone who was familiar with the condition, I thence onwards made it a practice to examine almost every sigmoid flexure personally at the autopsies I made. The result was the accumulation of a considerable amount of material.

Classification of Cases.

In 1907 Moynihan[5] published the first case in England of the Graser-tumour type, and this induced me to analyse and classify my cases. This I did in 1908,[6] and this was the first time the subject had been treated as a whole and the various pathological findings and clinical symptoms correlated, or that any complete arrangement and classification had been attempted. That classification has been in essentials accepted by almost all subsequent writers and observers, and writing now twelve years later, when a very considerable number of cases has been observed and recorded, I have no important modification to offer.

The reason that this early "stabilization" of the subject was possible is this—given the occurrence of a tendency to the formation of multiple, hernial outpushings of the mucosa in the sigmoid flexure, every secondary process that does in fact occur may be logically deduced *a priori* by general pathological comparison and study. I am not proposing to deal with the vexed question of *why* these diverticula occur in the first place, except that there is no doubt that they are largely, if not entirely, due to increased pressure from within the bowel. Constipation, therefore, plays an important part, but I feel convinced that flatulent distension, often, of course, coexisting, plays a part that cannot be overlooked and needs more study.

Pathological Anatomy.

A knowledge of the anatomy of these diverticula is of the first importance in understanding the secondary pathologic processes, and also in detecting them at all, either in the deadhouse or at operation. At this point the inquiry is pertinent as to how it comes about that the condition has for so long escaped practical recognition, having regard to the large number of cases recorded—not a tithe of those observed—since 1898. The answer is, I think, to be found in three facts: Firstly, the majority of demonstrators of morbid anatomy fail to devote special and personal attention to the sigmoid flexure and perhaps to those surgical autopsies in which, from their point of view, the surgeon has "spoiled" the abdomen generally, and a specimen in particular, by his manipulations, particularly when the structures operated on have been more or less inflamed, adherent, and "mixed up." Secondly, the diverticula themselves are "adepts" at concealment; to this I will return later. Thirdly, the secondary pathologic processes are liable to be so extensive and disproportionate to the comparatively insignificant diverticula as to hide the true nature of the case from any but patient and skilled observers. This must be the general experience of all who have studied a series of specimens *in situ*.

The second of these points—the "self-concealment"—turns upon the anatomy of the diverticula. Firstly, they are small, varying from minuteness up to the size of the last joint of the little finger; more commonly they are one-third to one-fifth of this size. Their apertures are often minute, from one-sixteenth to one-third of an inch in diameter, and these apertures usually occur in two rows, mostly opposite the appendices epiploicae, and often completely concealed by the rugose mucous membrane. On the outside of the gut the diverticula are seldom observed except by the trained eye, because (1) they mainly enter the appendices epiploicae as stated, and (2) the gut in which they occur is very frequently fat-laden, necessitating careful dissection to discover them at all. The occurrence of adhesion to other structures, and of peridiverticular hyperplasia, tends still further to conceal and almost to obliterate their presence. Even so, that isolated observation on them for over a century should have failed to lead to complete recognition is a little remarkable, but none the less a fact. These anatomical points must be fully appreciated by every operating surgeon if he hopes to recognize the condition at the time of the operation.

Secondary Processes.

Once the diverticula are "in being" the whole series of possible consequences depends upon the following three facts: (1) Being formed by pressure from within they tend to enlarge; (2) they tend to harbour faecal or other harmful contents; and (3) as a consequence they tend to undergo various secondary pathologic processes. In their enlargement they become flask-shaped, with a bottle-neck; this bottle-neck may greatly elongate, its lumen remaining very narrow. This elongation is brought about by peridiverticular hyperplasia, which often pushes the "flask" to its circumference, where it "sits" on the surface of the tumour and works special mischief of other kinds, such as adhesion, perforation, and fistulous communication.

---

[1] *British Journal of Surgery*, vol. iv, No. 17. To this article reference may be made for a detailed study, with analysis of cases.
[2] A small paragraph first appeared in the 1910 edition of Osler's *Medicine*.
[3] *Centralbl. f. Chir.*, 1898.
[4] *Lyon Chir.*, 1911, vi.
[5] *Edin. Med. Journ.*, 1907, xxi, p. 228.
[6] *Lancet*, 1908, i, p. 843.

The narrow mouths tend to promote the *retention of faecal contents*, soft, or forming actual concretions. Here analogy with appendicitis will largely help us to prophesy results, except in regard to the remarkable hyperplastic peridiverticulitis. The faecal contents form a bacterial *nidus*, a reservoir of toxins and a source of mechanical irritation. As a result secondary changes supervene; if not, the condition remains a harmless pathologic curiosity, and gives rise to no symptoms or trouble. Perhaps the large majority of instances are largely or entirely innocuous. The main secondary processes which occur, separately or variously combined, are:

1. Ulceration of the mucosa of the diverticula.
2. Perforation as a consequence.
3. Adhesion to other structures, which, when combined with (2) leads to fistulous communication.
4. Peridiverticular fibrous hyperplasia, leading to tumour formation and, as a sequential result, stenosis of the bowel.

Confining our attention to these main and usual secondary processes, which, as has been stated, may be variously combined, a few moments' consideration will show how protean and puzzling the resulting clinical manifestations may be. In the first place, mucosal ulceration will weaken the wall of the sac. This will facilitate perforation, and a concretion will be specially liable to be driven through at any time of increased pressure or violent effort, causing a local or general peritonitis. In quite a number of cases this has actually happened.

The mucosal ulceration also sets up inflammation on the outer surface of the diverticulum, leading to adhesions. These may produce no important results, but may produce vesical or pelvic syndromes, or an acute intestinal obstruction by band or kink. Adhesions *plus* perforation lead either to local abscess, with its varied symptoms, signs and sequential risks and possibilities, or to fistulous communication with other viscera, of which that with the bladder is the commonest, most interesting, and surgically the most important instance.

The culminating interest is reached, however, in the production of the fourth type of lesion, the *peridiverticular hyperplasia*. This may exist with mucosal ulceration of the diverticulum, but not infrequently occurs without it, and is a common and characteristic result — the one which first led to a systematic investigation. It is undoubtedly due to a chronic leakage of toxins or bacteria, or both, through the sac walls, producing a hyperplastic fibrous tissue formation somewhat similar to that found in a hyperplastic tuberculosis of the caecum, or more closely resembling a scirrhous cancer. Because of the hyperplasia, which may amount to an inch or more in thickness on section, a tumour is produced; because it is fibrous the tumour contracts and stenoses the bowel, tending towards chronic intestinal obstruction. This thickening and stenosis may be so local as to make an annular stricture, and it will be realized thereby how close may be the mimicry of carcinoma. In this way doubtless many of the cases of so-called "cured" cancer in this region may be explained, as well as the placing on museum shelves of examples of peridiverticulitis labelled cancer. Others besides myself have found them.

Relation to Carcinoma.

There is, however, a very special relation of the condition to true carcinoma. A simple peridiverticular stenosis (or possibly other diverticular lesion) may develop carcinoma secondarily, as in the case of a chronic gastric ulcer. A small number of cases have now been put on record, and since my last records were published in 1917 I have had a further case. The patient was riding and felt a sudden pain in the left iliac fossa, followed by temperature and signs of inflammation. I made a diagnosis of perforative diverticulitis, and Sir Berkeley Moynihan operated and confirmed, finding multiple diverticula, one of which had perforated and set up general peritonitis. There was also some thickening and stenosis, but no naked-eye evidence of malignancy. A year later a second surgical inspection was made and malignant disease was then obvious and inoperable.

It is not too much to say, therefore, that no surgeon ought to decide about or operate on a supposed carcinoma of the sigmoid flexure without an accurate knowledge of what may be termed "diverticular possibilities," nor ought any such tumour removed by operation to lack a systematic examination for the presence of a diverticulum. It was only by this means that Moynihan detected and recorded the first of such cases in the English literature.

Grouping of Secondary Processes.

We can usefully divide the secondary processes into two groups: (*a*) *Mechanical* (mainly), and (*b*) *inflammatory* (mainly). Both processes may go on in the same case, just as there may be present together varying types of inflammatory reaction.

A. *Mechanical:*
1. Formation of faecal concretions in the diverticula.
2. Torsion of the diverticulum.
3. Lodgement of foreign bodies within the diverticular sac.
4. Perforation.

B. *Inflammatory:*
1. Diverticulitis: (i) Gangrenous, (ii) acute, (iii) subacute, (iv) chronic, (v) latent.
2. Passage of organisms without perforation.
3. Peridiverticulitis—chronic proliferative inflammation with tendency to stenosis of the bowel.
4. Perforation of the diverticula, giving rise in particular to: (i) General peritonitis, (ii) local abscess, (iii) fistula, especially into the bladder, (iv) suppuration in a hernial sac.
5. The formation of adhesions, especially to (i) the small intestine, (ii) the bladder, (iii) the female genitalia.
6. Chronic peritonitis, local.
7. Chronic mesenteritis of the sigmoid loop.
8. Metastatic suppuration.
9. The secondary development of carcinoma.

Symptoms.

By the aid of this pathologic series it is not difficult to forecast the main clinical symptoms and also to surmise that they will be liable to be variable, complex and puzzling. This is so in fact, as a study of case records abundantly proves. At the same time the majority of cases conform more or less to the following types:

1. Inflammatory trouble or tumour in the left lower quadrant of the abdomen;
2. General peritonitis;
3. Vesico-colic fistula;
4. Pelvic syndromes;
5. Intestinal obstruction;
6. Mimicry of carcinoma.

The frequency of tumour or abscess formation in association with any or all of these is considerable (about 30 per cent.), and one may say that any case from the age of 30 onwards presenting these symptoms calls for a mental reservation as to the possibility of a diverticular origin, and in some instances the diagnosis can and has been made with certainty and accuracy. As general clinical points, it must be remembered that cases occur mostly at or after middle age (though a few cases in early life have been noted), in males more frequently than females, usually with a history of constipation, and very seldom causing blood in the stools. A few comments are called for on some of the foregoing clinical types of case.

Inflammatory Trouble, more or less Acute, in the Left Lower Quadrant of the Abdomen.—Cases of this type constitute by far the largest group. Erdmann has gone so far as to say that the occurrence of left-sided pain, with mass or not, but with tenderness and rigidity, is practically pathognomonic of diverticulitis. This is the extreme view, favoured by the main supporters of the almost exclusive rôle of diverticula in inflammatory troubles in this quadrant. Fitz in 1912 said that the cases comprised in this "inflammatory" group made a fairly complete picture of what must be recognized as a new disease of the lower abdomen —diverticulitis of the left quadrant, analogous to appendicitis of the right quadrant. Various subtypes of the inflammatory group may be distinguished, and a useful clinical classification is as follows:

1. *Acute and Fulminant* (gangrenous). — Symptoms practically identical with acute right-sided appendicitis.

2. *Recurrent.*—Acute or subacute attacks over a long period.

3. Cases ending in *spontaneous recovery.*

4. *Protracted Cases.*—Those which continue till the clinical picture is changed by one or other of the following developments: (*a*) Simulation of carcinoma, (*b*) intestinal obstruction (acute or chronic), (*c*) bladder perforation, (*d*) general peritonitis, (*e*) incidence of pelvic symptoms.

Trauma.—The mode of onset of many of the acute cases is of interest as showing the great part which trauma of various kinds may play. It has a definite diagnostic value when diverticulitis is under suspicion and acts as an exciting cause of, at any rate, the acute manifestations. These have occurred while straining at stool, during the administration of an enema, following a dose of castor oil, jolting in a motor car, following a heavy meal, while lifting a weight, jumping or hunting, while at work, and during an abdominal operation. In this group pain of one kind or another (often recurrent and colicky) and tenderness are very frequent. Tumour formation has been noted in 30 per cent. of the cases, and the tumour is not infrequently and then characteristically variable. Abscess formation is very frequent; consequently fever and leucocytosis are often present. Bladder and pelvic symptoms are not uncommon. Apart from actual fistulous communication with the bladder, which constitutes a separate clinical group, there are frequently symptoms of bladder irritability, probably due to the nearness of inflammatory foci or to actual adhesion. Pelvic symptoms are of some frequency, and sometimes make the clinical picture.

Vesico-colic Fistula and Bladder Symptoms Generally.—In a recent review[7] Bryan has stated that "diverticulitis" is the most frequent cause of sigmo-vesical fistula. Moynihan was the first observer in England to emphasize this fact. He wrote in 1907:

> The formation of a vesico-intestinal fistula seems to be one of the tendencies of a perforated false diverticulum; a search through the literature has shown that it is far more common than was supposed. In cases where a hard growth in the intestine is accompanied by the passage of flatus and faeces by the urethra, a diagnosis of carcinoma seems irresistible; yet the *probability* is that "the growth" would be simple, and that the cause of the fistula would be a false diverticulum, which had burrowed its way through all the coats of the bowel, and thence through the wall of the bladder which had become adherent.

Experience has abundantly confirmed the truth of this statement, and its recognition has been followed by some brilliantly successful cases at Leeds cured by operation after long periods of suffering.

Pelvic Syndromes.—Much has been written in recent years about the close pathologic relationship between the sigmoid flexure and the other pelvic viscera. Much of it has been written without any or a very extensive knowledge of the rôle of the diverticulum. It is therefore not surprising to find diverticulitis increasingly important in the practice of gynaecological surgeons. Pelvic symptoms of one kind or another existed in 7 per cent. of my collected cases, and a number of examples have been placed on record in which the symptoms were entirely pelvic, bowel symptoms being absent. There is no doubt that Shoemaker[8] strikes the right note in saying that in any suspected case of pelvic or utero-ovarian disease a routine and thorough examination of the recto-sigmoidal bowel and its functions is just as important as a vaginal and uterine examination.

Diagnosis.

This can only be made after a careful consideration of all the facts of the case. Inflammatory trouble in the left lower quadrant in a person of middle or advanced age carries with it a strong *prima facie* possibility of a diverticulitis being the cause, but beyond this exact diagnosis is often difficult, and all special aids to diagnosis may have to be requisitioned. These include: (1) The sigmoidoscope, which has been disappointing in the main in this condition, though perhaps some members may have had more fortunate experience; (2) the cystoscope, which has been of particular value in a small number of cases; and (3) examination by *x* rays. This last procedure holds out most promise, and has been greatly developed during the last few years. As may be expected, the technique is not of the easiest, and there are many fallacies in the appearances noted, but there is no doubt of the general diagnostic value.

The outstanding condition calling for differential diagnosis is carcinoma. It may be, and often is, impossible, not only before operation, but at operation. The following summary of the chief points differentiating diverticulitis from carcinoma may be of use.

[7] *Ann. Surg.*, 1916, lxiii, 353.
[8] Ibid., 1914, lix, 422

Summary as to Diagnosis from Carcinoma.

1. The absence of the "shadows of malignancy" from the general picture.
2. Tendency to obesity, and maintenance of good nutrition generally.
3. Long history of attacks of abdominal pain in the left lower quadrant.
4. History of tumour formation with subsequent disappearance.
5. Absence of blood (visible to naked eye) in stools over a prolonged period.
6. Presence of a vesical fistula, in which malignancy can be excluded by cystoscopy.
7. Negative sigmoidoscopy as regards malignant disease.
8. *X*-ray demonstration of diverticula.
9. Pyrexial attacks.
10. Examination of blood, the presence of neutrophilic leucocytosis, and the absence of the specific nuclear changes characteristic of cancer.

In carcinoma of the sigmoid loss of flesh is early, pain and tenderness are late, and are often preceded by tumour.

Certain other conditions which have to be considered in arriving at a differential diagnosis are: (*a*) Sigmoiditis, (*b*) hyperplastic tuberculosis, (*c*) actinomycosis, (*d*) syphilis, (*e*) pelvic conditions generally.

Treatment.

This is comprised in a single word—surgery—unless operative interference is specially contraindicated. As a physician I shall not venture to discuss particular surgical procedure, but confine myself to a few general points.

In view of the potentiality for mischief of diverticula, all diverticulum-bearing gut should be removed. At operation search should be made, whenever possible, for further diverticula. Recurrence after operation has occurred, presumably from neglect of this point. There seems to be a special liability to post-operative peritonitis, possibly due to the chronic infection of the inflamed tissues in some cases.

Care should be taken in handling the gut, as at least one instance has occurred of rupture of a diverticulum by surgical traumatism. The good results already obtained in certain bladder fistulae should stimulate surgeons to deal with such cases. In at least one very successful case the possibility of successful intervention had been negatived by several surgeons of eminence.

Lastly, no case of supposed carcinoma of the lower bowel must in future be regarded as inoperable, either before or at laparotomy, unless diverticulitis has been remembered fully considered and systematically investigated.

DISCUSSION.

Difficulties in Diagnosis.

Sir JOHN BLAND-SUTTON said that thirty years ago colic sacculi were mainly regarded as pathological curiosities and our knowledge of their potentialities for evil was a direct result of surgical enterprise. His interest in them was aroused when trying to find an explanation of the phenomenon known as "spontaneous disappearance of abdominal tumours." This matter was discussed in the Royal Medical and Chirurgical Society in 1894 by Mr. Greig Smith, and increasing experience in abdominal surgery enabled Sir John Bland-Sutton to learn the part played by colic sacculi in producing localized swellings in the belly, which sometimes disappeared by expectant treatment, and the phrase "spontaneous disappearance of abdominal tumours" also disappeared from surgical phraseology when surgeons learnt that acute and chronic diverticulitis, or sacculitis (names as ugly and cacophanous as appendicitis), mimicked many important lesions, especially acute and chronic appendicitis, cholecystitis, tumours of the stomach, subdiaphragmatic abscess, perigastric abscess, splenic abscess, tubal infections, ovarian abscess, cancer of the uterus, and infected uterine fibroids. The extraordinary feature of sacculitis (or pericolitis) was its mimicry of cancer of the colon. In 1901 he excised the sigmoid flexure of a spinster, aged 60, under the impression that it was cancerous. After the operation critical examination of the tumour proved that the supposed cancerous mass was a pericolic mass due to infection of a sacculus caused by a piece of straw. The patient recovered. This, with a case of epiploic abscess, was described before the Medico-Chirurgical Society of Nottingham in 1904, and full details were published in the *Lancet*, 1903, ii, 1148. Since that date Sir John Bland-Sutton had seen and

operated on many similar cases, and it was clear that in the past patients had submitted to colotomy and colostomy under the belief that they were suffering from colic cancer; subsequently the lump disappeared and the patients survived the operation many years, and at death there had been no evidence of tumour. This admitted of no doubt. Also cases were not uncommon in which a swelling was detected in connexion with the large gut; a diagnosis of cancer was made, and the patient was advised to submit to an operation, but he obstinately refused, and in due course the swelling disappeared in spite of the gloomiest prognostications of physicians and surgeons of great experience and repute, and the patient lived to mock at his advisers. The disappearance of the mass was due to pus or the exudate finding a channel of escape. During the last ten years acute diverticulitis, especially in the lower abdomen, had been recognized with the same certainty as acute and chronic appendicitis. The disquieting feature of these new things in abdominal surgery was the fact that as we grew older colic sacculi tended to increase in number, and as many as 200 had been counted on a colon. Thus diverticulitis was a newly discovered "bane of elders." As prevention was better than cure, it would be the duty of the family medical attendant to encourage men and women after middle life to have efficient sets of teeth, and warn them against gobbling indigestible food or bolting hot and unpalatable morsels.

Radiography.

Dr. E. I. SPRIGGS referred to some of the earlier papers on the subject of diverticulitis, amongst others to Dr. Maxwell Telling and Dr. Gruner's monograph, and to the paper published by Dudley Roberts on 22 radiograms of diverticulitis. He then gave the results of a series of a thousand cases radiographed at Duff House. In only six of these had there been *x*-ray evidence of diverticulitis. It had to be borne in mind, however, that radiography would fail to show the presence of diverticula if they did not stand out in profile, but were behind or in front of the main bismuth mass. Again, the bismuth might easily fail to enter the diverticulum if it were filled with faecal material. In his opinion bismuth meals were preferable to bismuth enemata for the demonstration of diverticula. After showing radiograms of the six cases of diverticulitis, including an excellent example of diverticulum of the duodenum, Dr. Spriggs expressed the opinion that the disease was due to weakness of the bowel wall at the regions of greatest internal pressure—namely, towards the termination of the small and the large intestines. The cases he had illustrated were of special interest because they were early cases in which no symptoms had yet appeared.

Surgical Treatment.

Mr. MCADAM ECCLES expressed the opinion that diverticulitis was commoner than was ordinarily supposed. It affected most commonly the large bowel, and was usually multiple. It was by no means rare to find the diverticula running out into masses of fat, or into actual appendices epiploicae. The acute variety of diverticulitis, when occurring in the pelvic colon, might result in suppuration and a condition erroneously termed left-sided appendicitis. He had on several occasions opened abscesses in the left iliac fossa which he had little doubt were due to perforation of diverticula. The chronic form was of great interest in that it simulated carcinoma. The lesion occurred more frequently in men, and after middle life, giving rise to constipation and flatulence. A tumour formed, and then, with some emaciation, nearly every sign and symptom of malignant disease, with the important exception of haemorrhage, was present. The speaker concluded by showing an excellent pathological specimen removed from an old gentleman of 74 in 1913. Resection of a portion of the pelvic colon was performed for what was believed to be a malignant stricture, but turned out to be diverticulitis. The patient was now 80 years old and in good health. A drawing of a calculus lying in a diverticulum was also exhibited.

Mr. GREY TURNER, after mentioning some of the early papers on diverticulitis, described three cases he had encountered in his own experience. The first of these was a lady of 30, whose condition simulated that of appendicitis accompanied by extensive thickening of the caecum. The second was a male admitted for retention of urine. Catheterization had been attempted and had failed. As signs of peritonitis were present the abdomen had been opened and a large mass in the descending colon suggesting carcinoma had been found. A gall stone was lying in Douglas's pouch and fistula had formed between the gall bladder and the duodenum. The case, which proved fatal, on later examination proved to be one of perforation of a diverticulum. The third case was also that of a man who had died from perforation. It had been remarkable in that only two diverticula were present. In the speaker's opinion the condition of diverticulitis was essentially congenital in origin. If the histories of these cases were carefully taken it would be found that as a rule symptoms had been present for some considerable period, often for several years. It was true that sigmoidoscopy had been disappointing, but, on the other hand, a negative finding as regards the presence of malignant disease was suggestive. If instead of a single large bismuth meal several meals were given at short intervals radiography might be still more serviceable. It was all very well to say that surgery was the only remedy, but when the knowledge of the existence of diverticulitis became generally known the surgeons would be overwhelmed. It would be impossible to perform wholesale resections, and it would be necessary to come to an agreement as to what surgical measures were necessary. He had treated one case of diverticulitis by inversion and suture, and so far the result had been satisfactory.

Mr. ROWLAND described eight cases of diverticulitis of the colon and one of diverticulitis of the duodenum upon which he had operated. The complications that had brought them to the theatre were in three instances for peritonitis, and in five for intestinal obstruction. One case simulating carcinoma was unsuitable for resection, and short-circuiting had been performed. For early cases the speaker recommended resection with end-to-end anastomosis. For late cases, and cases complicated by vesico-colic fistula, a preliminary colostomy was advisable. In a few instances some form of short-circuiting operation was indicated.

Misleading Term.

Professor RUTHERFORD MORISON being unable to be present, Mr. HAMILTON DRUMMOND read his paper. In it Professor Morison strongly objected to the term "diverticulitis." It was a misnomer, and was liable to cause confusion between the condition under discussion and the congenital sac termed "Meckel's diverticulum." Normal sacculations must be distinguished from acquired. The acquired sacculations were multiple, had no special blood supply, were found in elderly people, and were common to all hollow viscera. The only similarity between congenital and acquired sacculation lay in the liability to similar complications—gangrene, perforation, etc. The sooner the term "diverticulitis" was replaced by that of "sacculitis" the better it would be.

Morbid Anatomy.

Mr. HAMILTON DRUMMOND then gave the results of his own observations during the course of 500 *post-mortem* examinations of patients who had not died as the result of intestinal lesions. In this series 22 instances of pathological sacculation of the large bowel were found. In four of these a similar condition of the small intestine was present, and in one a diverticulum of the bladder. Careful dissections and microscopical examinations were made, and the results had suggested that the condition was due to a general weakness—perhaps congenital—of the unstriped muscle throughout the body. The presence of venous congestion had been suggested as a cause, but the fact that sacculations were not found in cases dying of morbus cordis did not bear this out. The common site of origin of these sacculations was between the mesocolic and lateral longitudinal bands at the spot where the blood vessels pierced the muscular coat of the bowel. This, like the inguinal canal, was a weak spot. A most excellent series of preparations illustrating the pathological anatomy of the condition was thrown on the screen. It showed the tendency of the sacculations to work backwards towards the mesentery, and the accompanying atrophy of all the coats except the peritoneum.

Appendix Epiploica.

Mr. GARNETT WRIGHT reported a case on which he had operated in 1911. The patient was a male who had suffered for years from gonorrhoea, and had finally developed signs of cystitis and difficulty in micturition. He had been treated by catheterization until his condition had become so bad that further advice had been sought. Faeces were passed by the urethra, and a diagnosis of recto-vesical fistula was made. At operation a single appendix epiploica was found adherent to the posterior surface of the bladder. This was excised and the openings closed. The condition recurred, and at a subsequent operation, in addition to excising the fistulous tract, the sigmoid was anchored down to the iliac fossa. No further trouble had occurred.

WAR METHODS IN CIVIL PRACTICE.

AT a meeting of the Clinical Section of the Royal Society of Medicine, held on January 9th, the President, Sir ANTHONY BOWLBY, gave an address on the application of war methods to civil practice.

Shock.

He said that the most striking danger to the man wounded in war was shock, a condition which was met with in a far higher percentage of men wounded in war than in those correspondingly wounded in the occupations of peace. This was due to the fact that the man injured in war was suffering from want of sleep, want of water and of food; he was exhausted by physical strain and mental excitement; he was often thoroughly chilled after his injury through lying out in the cold, wet, or even freezing weather. His shock was therefore out of proportion to the severity of his wounds. The most important of all the remedies for shock was warmth, and nothing could take its place. Much of the wound shock could be obviated by sufficient care, first in the early application of suitable splints, which should be employed in all severe injuries and not reserved for fracture cases alone; and secondly, by the supply of well hung and well warmed ambulance cars. By these methods the condition of the wounded man was greatly improved during the war, and it would be by the application in civil life of the knowledge that had been gained that a like improvement would be obtained in peace. He had been so convinced of the importance of care in the transport of injured men that, with the aid of the Army Medical Service and of the British Red Cross Society, he had arranged for the equipment with suitable splints of the motor ambulances which had been supplied to various parts of Great Britain, and arrangements were now being made to see that the ambulance drivers and orderlies were as thoroughly trained in the use of the "Thomas outfit" for fractured extremities as were our orderlies at the front in France. In every county arrangements should be made to teach how badly wounded men might be taken even for great distances without further injury being inflicted upon them by the transit.

With regard to the treatment of shock he said that, as the principal phenomena were loss of blood volume and fall of blood pressure, the obvious aim should be to restore these. The simplest method was to administer fluids by the mouth, or, in cases of severe shock when the patient was unable to keep down any fluid, by the rectum. He considered that both blood pressure and blood volume were more likely to be permanently improved by gastric or rectal absorption of fluid than by the intravenous administration of the same quantity. In many cases of severe shock, however, when delay might mean disaster, it was often necessary to perform intravenous infusion as soon as the patient had been warmed and rested. For this normal saline was useless, but Bayliss's solution of 6.0 per cent. gum arabic in normal saline was often of the greatest benefit in raising the blood pressure for long enough to carry the patient over the danger period. In proportion as the shock conditions were due to excessive bleeding immediate infusion of blood was better than gum arabic solution and was undoubtedly indicated; not less than a pint should be given. Sir Anthony Bowlby suggested that in future sterilized gum solutions should be kept ready for use by operating surgeons and by all civil hospitals, and also that test serums for donors of blood should be regularly stocked, so that no delay might arise in the choice of a donor. If such treatment was necessary at all there would be no time to waste; the experience of war had shown that if blood was transfused too late it was quite useless.

Choice of Anaesthetic.

With regard to the choice of an anaesthetic he thought that for all slight operations on patients in good condition "open ether" was often quite satisfactory. In wintry or wet weather, when many of the wounded were suffering from bronchial catarrh, ether was very liable to cause grave pulmonary complications, and it was not until the "Shipway apparatus" for warming the ether vapour was introduced that it could be safely administered in such cases. He strongly advocated that in future warm ether vapour should be systematically employed as the better routine method where ether was used in civil practice; it was not only less irritating to the lungs, but it was less likely to cause severe vomiting. In cases of shock neither ether nor chloroform was safe, for after the operation there was often, with these anaesthetics, a reactionary fall of blood pressure and death. Ether might be very injurious also by causing nausea and vomiting in men who needed every ounce of fluid nourishment that could be given, for if this sickness continued for some hours it would destroy the last chance of recovery for the shocked men. The intrathecal administration of stovaine proved to be very dangerous owing to the sudden fall of blood pressure which it produced to the shocked man, and it was not so good as novocain. The value of nitrous oxide and oxygen in shock had been conclusively proved by Major Geoffrey Marshall in 1916, and his observations showed that extensive operations could be performed without any immediate or subsequent fall of blood pressure. He believed that the combination of gas and oxygen with local anaesthesia was the very best anaesthetic agent for a number of the abdominal operations of civil life and for many others also, for it caused no fall of blood pressure, it eliminated anaesthetic shock, and it abolished post-anaesthetic vomiting and all its attendant troubles. He urged that gas and oxygen should be supplied, together with suitable apparatus for all the army medical services in the future. It was not always a satisfactory anaesthetic, however, for vigorous and muscular people on whom a prolonged operation was to be done; its administration was lengthy, and required both experience and a special apparatus.

Treatment of Fractures.

The fractures in France during the last half of the war were treated by "extension and suspension," so that the circulation and mobility of the injured limb were maintained throughout as far as possible, and wasting of muscles and stiffness of joints had been thereby largely prevented. All hospitals and medical schools should arrange for much more systematic teaching of how to deal with fractured limbs, so that all young surgeons would in future realize that the so-called "setting" of the fracture was the beginning and not the end of surgical treatment. It would be necessary, therefore, for some at least of the fracture cases in general hospitals to be collected in "special fracture wards" equipped with the necessary apparatus for "extension and suspension," and supplied also with a mobile *x*-ray outfit, for there were many cases where a good result could only be obtained by frequent radiography.

Wound Infections.

Tetanus was prevented by prophylactic injections so successfully that its incidence immediately fell 90 per cent. as soon as the antitoxin could be supplied in sufficient quantities. If success were to be obtained in civil practice, it must be remembered that the injections should be given within a few hours of injury. No similar success had followed the employment of prophylactic injections for "gas gangrene," but time and experience had shown that the proper treatment was the excision of all devitalized tissue, and the careful and thorough mechanical cleansing of the wound. Lister had realized the uselessness of attempting to sterilize a grossly infected wound by the single application of a powerful chemical agent. After thorough cleansing, the wound was closed by "primary" or by "delayed primary" suture. The

results of suture were not materially influenced by the use of any antiseptic agent, and it was found that wounds could heal well and firmly even though they contained considerable numbers of micro-organisms so long as the latter did not include virulent streptococci. It was evident that tissue cells could destroy the less virulent bacteria provided the latter were surrounded by healthy living tissues, and by closure of the wound the advent of fresh infection was effectually prevented. Not only were many lives and limbs saved by wound closure, but compound fractures healed more rapidly and with much less necrosis, joints were saved from acute arthritis, suppuration of wounds became rare, septic infection with its fever and emaciation diminished, and convalescence was infinitely more rapid. He believed that there was a wide field for the application of war methods to the treatment of the injuries of civil life, but he wished to emphasize that in suturing wounds after the interval of a day or two, it was essential for success to recognize that no further wound toilet was permissible. The packing should be removed as gently as possible, and the sutures inserted and tied.

It was found that not more than 15 per cent. of recent wounds were infected by haemolytic streptococci when examined at the operating theatres or the casualty clearing stations at the front, but bacteriologists at the different bases said that within a week of arrival there over 90 per cent. were infected. Shortly before the war ended an Anglo-American Committee was appointed to investigate the whole question of streptococcal infection. Complete sterilization of hands and instruments after each examination was obviously difficult when the wounded were numbered by the thousand, but instruments being more easily sterilized than the hands it was clearly desirable that the wound or dressing should only be touched by instruments. An investigation was made to ascertain whether many of the medical officers, nurses, or orderlies at the bases were acting as carriers, and 8,000 examinations were made in the American army of their throats, with the result that it was reported at the last meeting of the committee that carriers of haemolytic streptococci had been found at different bases to number from 15 to 25 per cent. of all the hospital personnel. Experience of the general hospitals in France showed the danger of wound infection spreading when large numbers of streptococcal infected wounds were accumulated under war conditions, and explained why the closure of wounds by suture was of such great benefit to the wounded soldier. He suggested that these investigations already begun were worth pursuing in hospital wards given over to the treatment of cellulitis and erysipelas. With regard to the treatment of suppurating wounds two things had been learnt: First, that it was more often possible to suture than was thought; and, secondly, that Carrel's method was often a very great improvement on the drainage tube and the daily syringing. Concerning the first, it was found that many wounds could be successfully sutured even if they were suppurating. Speaking of the second, he said that he believed that where surgeons had had an unsatisfactory experience of Carrel's method this had been largely due to imperfect technique. He considered that the method of irrigation was more important than the particular solution. In civil surgery it was as efficacious in the treatment of an empyema or pelvic suppuration. He had seen excellent results from its use in large appendix abscesses and in suppurating joints. In future he had no doubt that the civilian surgeon would work even more with the bacteriologist than he did before the war, for it had been by collaboration and experiment that many of our advances had been maintained without risk to the patients.

Mr. REGINALD VICK said that he had had an opportunity in Salonica of practising primary suture on compound fractures for a period of eighteen months while at a general hospital on the Seres road, to which large numbers of transport accidents were admitted. The invariable practice was to do primary suture on these cases, and the results were so uniformly satisfactory as to convince him that this method of treatment was as ideal as anything human could be and as successful. The essentials for success were present: facilities for immediate treatment, a good theatre, and no reason for moving the patient until the wound and bones were healed. Since his return to England he had had the opportunity, while working under Mr. Gask in a surgical unit, of treating all compound fractures admitted during their tour of duty. Primary suture had been performed in these cases, and, where complete closure of the wound was impossible, secondary suture had usually been required at a later stage. In cases of compound fracture of the skull with the dura unopened the end results were excellent. It was important that operation should be performed at once, with complete removal of *all* damaged tissue, and perfect splinting, with subsequent immobility until healing was complete in cases of fractures of long bones. He had usually used ether in the final stages before closing the wound.

Sir CUTHBERT WALLACE remarked upon the difficulty in applying the Thomas splint in the case of women on account of their clothing. In fractures in civil life there was much more extensive injury to surrounding tissues than occurred in fractures under war conditions.

Mr. W. GIRLING BALL said that much had been done during the war in the bacteriological examination of wounds. In a series of 100 cases at the front treated by delayed primary suture, 80 per cent. healed by first intention. Since his return he had endeavoured to carry out the same method of treatment. In the home hospitals cases were too often left to the inexperienced for treatment. This was difficult to avoid unless the house-surgeon had been taught by someone who had actually carried out the method. He thought that large wounds such as were so often met with in civil practice were very amenable to treatment by primary suture.

Sir CHARTERS SYMONDS said that he had begun his war work in London, where men were arriving from the Aisne in a highly infected condition. In the case of severe fractures he kept the part in complete rest by putting it up in plaster-of-Paris. When the general inflammation had subsided, in from four to seven days, he removed the plaster. The wounds were generally found full of pus, but this seemed to act as an effective dressing. In the summer of 1916 he had employed first continuous, and later intermittent, irrigation. On his return to England he saw the cases from France and noted the excellent results which followed primary suture. If the wounds were dry and free from pus, it was possible to suture at once. He agreed that failure in the Carrel-Dakin method was due to defective technique. Asepsis should be perfect and the wound should never be touched by the hands.

Mr. A. SHEEN said that in India cases had been received from Mesopotamia ten days after wounding. The wounds did not seem to be so infected as those in France, probably on account of the dryness of the climate and the non-cultivation of the soil. Improvements were needed in organization as well as in treatment. In mines, works, and factories, there was little organization for immediate treatment.

Reviews.

THREE CAMPAIGNS.

SIR ALEXANDER OGSTON'S *Reminiscences of Three Campaigns*[1] appears at the request of friends who knew that he had kept journals of his experiences in the Egyptian, South African, and European wars. After the fall of Khartoum the autobiographer left London on February 25th, 1885, and was present at the battle of Tamai. He was invalided home on April 15th with a desire to do something to assist the Army Medical Service, and in 1899, in the course of the address in surgery at the British Medical Association at Portsmouth, delivered "a heavy indictment of the system on which our services were then conducted." Soon afterwards he volunteered to go to South Africa; with Queen Victoria's support he overcame the impediments placed in his way and left England in December, 1899. After various experiences, including typhoid fever at Bloemfontein, he was again invalided, and reached England on July 27th, 1900. There is an interesting

[1] *Reminiscences of Three Campaigns.* By Sir Alexander Ogston, K.C.V.O., LL.D., Surgeon in Ordinary to the King in Scotland. London: Hodder and Stoughton. 1919. (Demy 8vo, pp. viii + 335; 6 figures. 16s. net.)

account of his delirium, describing the separation of mind and body and his wanderings through "silent fields of Asphodel."

The third section, on Serbia (1915), is shorter and of relatively much less interest than the fourth, which relates the author's experience in Italy; he arrived at the head quarters of the British Red Cross Ambulance in August, 1916, and when surgical work was not pressing made several trips in different directions, so that he traversed nearly the whole of the Italian front. Like all others who visited the mountain lines, he is enthusiastic in praise of the wonders achieved by the Italian engineers, and he speaks well of the way in which the officers of the Italian Medical Corps made efficient ambulance stations and advanced operation contres on unpromising sites and under circumstances of great difficulty. Sometimes they had to rely on their own enterprise and ingenuity; sometimes they were helped by the engineers as in what Sir Alexander says must have been the strangest field hospital in the world, about a mile to the south of Plava.

> There the cliffs of friable limestone on the roadside had been drilled by an electric (?) drill, or scooped out, until a cave six or seven feet broad and forty or fifty in length was formed, so as to run parallel to the roadway; it was lined with bunks like those in a steamer's cabins, in tiers about ten feet high along one side; it was lit by acetylene, and in cold weather warmed by hot-water pipes. One chamber served for an operation theatre, and the drill was at work preparing a larger and better one. It was quite dry and comfortable.

The book, however, is much more than a record of observations and opinions on medical matters; the indomitable energy of the Emeritus Professor of Surgery in the University of Aberdeen, whose portrait forms the frontispiece, led him in the interval of his strictly medical duties to contrive to see a good deal of the actual military operations in all the three campaigns. He has provided some good illustrations, a map of South Africa, and a bird's-eye view of the Italian Isonzo front.

THE PERIPHERAL NERVES.

THE last piece of work done by the late Professor MELVILLE PATERSON, of Liverpool, was to prepare a book entitled *The Anatomy of the Peripheral Nerves*.[2] His object was to provide a brief account of these nerves for the use of students and surgeons, particularly those engaged in military orthopaedic work. He included an account of the cranial nerves, and of the sympathetic, because of its intimate relation with the peripheral nervous system. The book is divided into four chapters, dealing respectively with the anatomy of the peripheral nerves, the distribution of the spinal nerves, the sympathetic system, and the cranial nerves. It contains a number of illustrations, most of which are very good, though some contain so much detail as to be rather bewildering. The schemes giving the positions of origin of the branches of the limb nerves have been compiled from dissections made by Mr. D. H. Richards; others are borrowed from Cunningham's *Textbook of Anatomy*. Professor Paterson gave a warning with regard to the precise point of origin of any branch of a limb nerve, pointing out that it may be incorporated with the parent trunk for a different distance in different cases. The book will not, of course, enable surgeons to dispense with the larger volumes on anatomy and neurology, but as a summary of anatomical facts it will often be of great use for rapid reference.

TYPHOID FEVER.

THE amount of work dealing with various aspects of typhoid and paratyphoid infections which has been published during the past twenty years is so great that it is difficult for the non-specialist medical reader to keep abreast of the stream. There is an effective demand for a summarizing treatise dealing with the subject as a whole, and Professor GAY of California was well advised to attempt to meet the demand in a volume entitled *Typhoid Fever*.[3] In it he has brought together within the compass of less than 300 pages a great deal of information the value of which is enhanced by an extensive bibliography. Professor Gay's expert knowledge of laboratory methods enables him to explain clearly the very difficult problems arising in connexion with the study of immunity. His observations respecting the difference between the durable immunity due to passage through a natural attack of the disease and the more transitory consequences of vaccination are of interest. The suggestion made is that the former is a cellular and the latter a humoral immunity, and that the possible existence of cellular antibodies in the tissues of those who have passed through a natural attack needs consideration.

It is, however, to be remarked that the exact measure of the protection conferred by an attack of typhoid fever is still to be determined. That second attacks are uncommon does not prove nor even create a strong presumption in favour of immunity. What is needed is a comparison of the incidence of typhoid upon persons of the same age, some of whom had, and others had not, been previously attacked, allowance being made for the differential death rate, since the proportion of persons aged 20 attacked by typhoid fever who will survive to age 21 will probably be smaller than the proportion of those of the same age not attacked. The statistical problem is very complex, and there are the further practical difficulties of securing a materially accurate record. We mention the point since Professor Gay's work is less adequate with respect to statistical and epidemiological questions than in other respects.

To summarize so much and still to retain a pleasing literary form is a task for a giant, and it would not be true to say that Professor Gay's book is altogether easy reading. But its practical value is great, and the author has put many medical men under an obligation to him.

[2] *Anatomy of the Peripheral Nerves.* By Professor A. Melville Paterson, M.D., F.R.C.S. London: H. Frowde, and Hodder and Stoughton. 1919. (Demy 8vo, pp. xi + 165; 64 figures. 12s. 6d. net.)

[3] *Typhoid Fever.* By Frederick P. Gay. New York: The Macmillan Co. 1918. (Med. 8vo, pp. xi+286. 12s. 6d. net.)

NOTES ON BOOKS.

THE new number of *Medical Science: Abstracts and Reviews*[4] gives a good deal of space to reviews of recent publications on tuberculosis and syphilis. Under the former head reference is made to scepticism as to the specific properties of tuberculin, a scepticism almost as old as tuberculin itself. The investigations made during the last few years by Schmidt and Kraus at the German medical clinic at Prague appear to show that injection of milk evokes responses closely resembling those produced by tuberculin. The injections are made every three or four days for three weeks; the milk is sterilized by boiling in a water-bath for ten minutes; if it causes excessive pain when injected hypodermically it is injected into the muscles. Reference is made in the same article to Abbott's recommendation to treat broken down tuberculous glands by aspiration, the cavity being then filled with cinnamon 1 part, benzoin 3 parts, and corn starch 10 parts, insufflated through a tube if possible, but, if not, mixed with a little water and injected. Among the surgical papers is one on prostatectomy, giving a history of the subject, with notes on methods at present in use.

Condensed milk, apparently first invented by Newton, and in a modified form first used for infant feeding by Liebig in 1867, has been more and more employed for the latter purpose during the last two or three decades. A careful study of its manufacture, composition, and value in the feeding of infants and invalids has recently been published by Dr. LASSABLIÈRE.[5] The book is short, but gives a satisfactory account of the subject so far as it goes. The author is under no misapprehension as to the limitations of infant feeding by condensed milk; as Professor Richet says in his preface to the work, for infants all diets except breast-feeding are detestable; all foods but mother's milk are sufficiently villainous drugs.

The second edition of Colonel KEEFER'S *Elementary Military Hygiene and Sanitation*[6] contains an account of the subject useful to soldiers and sailors alike. It is short, clearly written, and well provided with illustrations. It may be recommended to all in search of a manual of field hygiene.

[4] Annual subscription, 21s.; a single number, 2s.

[5] *Le Lait Condensé.* By Dr. P. Lassablière, Chef de Laboratoire à la Faculté de Médecine de Paris. Paris: A. Maloine et Fils. 1919. (Cr. 8vo, pp. 108.)

[6] *A Textbook of Elementary Military Hygiene and Sanitation.* By Frank R. Keefer, A.M., M.D., Colonel Medical Corps, United States Army. Second edition, reset. Philadelphia and London: W. B. Saunders Co. (Post 8vo, pp. 340; 55 figures. 7s. 6d. net.)

While it is not the province of a medical journal to accept or deny the conclusions reached by Mr. HUGH ELLIOT in his philosophical essay (or series of essays) entitled *Modern Science and Materialism*,[7] we may be allowed to compliment him upon his rare lucidity of exposition, upon the range of his knowledge in diverse fields of science, and upon the steadiness of his grasp as he takes up one after another aspect of the universe and examines it by the clear cold light of reason. If the first 203 pages should seem rather bloodless and destructive, the reader will perhaps find some slight comfort in the last two paragraphs of the concluding chapter headed "Idealism." "Let us see to it then above all other things," says the author here, "that our philosophy of life is true. Passion is the master: Faith and Reason will for ever regulate the conduct of mankind." After all that has gone before these words may come as a surprise. Yet, despite the note on which he ends, some who have followed unwillingly the author's remorseless argument for a wholly materialistic concept of the world within and of the world without may feel disposed to deny that "there is grandeur in this view of life." The last quotation, we should add, is not from the book under review, but from the final sentence of the *Origin of Species*. But we would not be misunderstood: this work contains a challenge that will be relished by strong minds.

TO review Dr. S. GANGI'S massive compilation on heatstroke[8] in mid-winter may be held to argue a certain lack of sensitiveness, or even propriety, in the reviewer so far as times and seasons are concerned. This, however, is not really the case; the book, though published as long ago as 1915, has only recently come to hand, and so demands instant attention. The subject is one with regard to which scientific clinical observation and scientific histopathological investigation are still urgently called for. Captain Gangi's pages show that isolated observations of interest and theoretical speculations of less interest than ingenuity abound in the literature of heatstroke. But it is not yet possible to set out any clear picture of the mechanism whereby heatstroke arises, or of the histology of its often recorded morbid anatomy, or of the avenues along which its treatment on truly scientific lines should be approached. The book is full of quotations from other authors, many of them British, and should be of interest to medical men in hot countries. It contains an ample bibliography.

[7] *Modern Science and Materialism* By H. Elliot. London, New York, Bombay, Calcutta, and Madras: Longmans, Green and Co. 1919. (Demy 8vo, pp. 211. 7s. 6d.)
[8] *Il Colpo di Calore*. By Dr Salvatore Gangi, Capitano Medico. Catania: Officina Tipografica V. Giannotta. 1915. (Roy. 8vo, pp. 293.)

TESTS OF CURE IN VENEREAL DISEASE.

THE Ministry of Health has issued a memorandum containing suggestions as to the tests which should be applied before patients who have been under treatment for syphilis or gonorrhoea are regarded as cured and "discharged after completion of treatment and observation." Attached to the memorandum is a form (V.R. 6) for the annual return rendered by all the venereal treatment centres. The documents are accompanied by two covering letters—one addressed to medical officers in charge of venereal disease treatment centres, and the other to county councils, county borough councils, and the authorities of approved treatment centres.

The Memorandum (V. 21) contains matter of special interest, and we welcome the fact that the Ministry of Health is drawing attention to the importance of subjecting those who have suffered from venereal disease to certain definite tests before discharging them as cured. Venereal disease is being spread at the present time by thousands of individuals who believe themselves to be free from infection merely because they are free from symptoms. In many instances, it is true, these men and women have not taken the trouble to obtain medical sanction before returning to their ordinary mode of life. This, however, is by no means always the case. A great many of these contaminators of society, when reproached for their want of consideration to others, will indignantly reply that they had been examined by their doctor and told that they were free from disease. Anything, therefore, which assists in drawing the attention of the profession to this state of affairs and to the importance of employing stringent bacteriological and chemical tests before discharging such patients as cured is thrice welcome.

Gonorrhoea.

It is unfortunate that, although the gravity of syphilis is generally realized, infection with gonorrhoea is still regarded by perhaps the majority of mankind as a trivial complaint. Yet at the present moment it is gonorrhoea and its sequelae rather than syphilis that constitute the greater danger to the national health. No exact figures are available, but it would be no exaggeration to say that 40 per cent. of the patients attending the gynaecological out-patient departments of our hospitals are suffering from gonorrhoea or from the legacies it leaves. Moreover, it is with gonorrhoea rather than with syphilis that the greater difficulty is found in establishing trustworthy tests of cure. Latent gonorrhoea is no easy matter to detect, and it is only by the conscientious employment of the most exact bacteriological tests that anything approaching accuracy can be obtained. The Wassermann reaction is a more delicate test in syphilis than any available for the detection of latent gonorrhoea, for up to the present the complement fixation test in the latter has proved only of limited value.

The Memorandum circulated by the Ministry of Health has been based on suggestions made to it by various medical officers in charge of venereal disease treatment centres as well as by the Medical Committee of the National Council for Combating Venereal Disease. The examination advised is both bacteriological and clinical. Included in the latter is a careful search by means of the urethroscope for signs of disease in the urethral walls. Whilst under examination the patient resumes his ordinary mode of life, sexual abstinence alone being exacted. On three separate occasions, at intervals of a week, the patient comes up for the test. Films are prepared from any moisture obtainable from the urethra, from secretions expressed from the prostate and seminal vesicles, and from the centrifugalized urine. On at least one occasion the examination of films is supplemented by the taking of cultures, and when possible a complement fixation test is performed on the serum. In order to provoke a urethral discharge the patient is encouraged to resume his usual habits as regards alcoholic stimulants, pickles, curries, spices, and so forth. For the same purpose full-sized bougies are passed, instillations of silver nitrate made, or a provocative injection of gonococcal vaccine given. If the results of all these tests are negative, the patient is provisionally discharged as cured, but is warned to return should he subsequently notice anything of a suspicious nature.

The difficulty of being certain that a cure has been effected is even greater in the case of the female than in that of the male. The tests are in this case most profitably made immediately before or after the menstrual period. Provocative treatment is carried out by the application of silver nitrate solution (15 per cent.) to the cervical canal, or by the use of injections of vaccine. Films and cultures are prepared from the cervical canal and the urethra. The additional use of culture methods is in the case of the female essential, owing to the difficulties of finding the gonococcus in films. Whenever possible the complement fixation test should likewise be employed.

Syphilis.

When dealing with patients who have suffered from syphilis the time factor is of great importance. When more than four years have elapsed since the original infection the risk of conveying the disease to another individual is minimal. The routine recommended in the Memorandum is that until this period has elapsed the patient should report for examination at intervals of one month during the first year and of three months during the second. The examination includes the application of the Wassermann reaction, and the routine inspection of all surfaces of the skin and mucous membrane. At the end of the first and second years of this course of probation a small provocative dose of an arseno-benzol compound is administered, the Wassermann test being performed a week later. If four years have elapsed since infection the patient is regarded for all practical purposes as non-infectious. He is advised, however, in his own interest, to continue under observation until it becomes reasonably probable that the disease has been eradicated.

Copies of the memorandum can be obtained on application to the Venereal Diseases Department, Ministry of Health, Whitehall, S.W.1.

British Medical Journal.

SATURDAY, JANUARY 17TH, 1920.

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND.

AN Association of Surgeons of Great Britain and Ireland was formally constituted on January 8th at a meeting at the Royal College of Surgeons of England, over which Sir Rickman Godlee presided. The suggestion to establish such a society originated with Sir Berkeley Moynihan, who, after some preliminary conversations, addressed a letter to Sir Rickman Godlee, then President of the Royal College of Surgeons, on March 30th, 1914. A meeting of surgeons was held at the Royal College of Surgeons of England on the 26th of the following May, and the suggestion to form a society of the kind was generally approved. It was felt that there had never been the debates on surgery and the freedom of debate which was needed. Not to put too fine a point upon the matter, "freedom of debate" means absence not of criticism but of reporters; it is easy, when the meeting is tiled, to criticize boldly and directly; the tone of the speaker, the attitude of the audience, and the atmosphere of comradeship draw the sting which the same words in the solemnity of print might convey. Opportunity for such outspoken debates has hitherto been scanty, nor has there been any ready means of communication between surgeons on hospital staffs; they have lived a life of too great isolation, comparing themselves too little with other men also actively engaged in surgical practice, and knowing neither the character nor the methods of their fellows.

The establishment of the Association of Surgeons will, it is confidently hoped, raise the standard of the practice of surgery. Its annual meetings in various cities will bring together the active surgeons of England, Wales, Scotland, and Ireland. There they will study the work of the surgeons of that medical school; and the effect of having to operate before a large audience, which if sympathetic to difficulties will be critical of methods, must be to impel the operators to take care that their work shall be good enough to satisfy their critics—in fact, first rate. Some years before the war a little chirurgical club, founded by Sir Berkeley Moynihan, paid visits two or three times a year to various centres. The effect on hosts and guests alike was admirable. In the words of one of its members, "When you see an expert doing his own work exceedingly well, you find it impossible to be satisfied with doing your own work indifferently." The success of this informal experiment naturally encouraged those who had in mind an association of active hospital surgeons, in London as well as the provinces, to persevere, and with the return of conditions of peace the opportunity came.

At the meeting in May, 1914, a committee was appointed to draw up rules for the proposed association and to communicate with members of the surgical staff of teaching hospitals; the intention then was to summon a meeting of those who responded, but the outbreak of war caused the project to be put on the shelf. The interval, however, was not altogether wasted, for the draft rules were at various times revised, and were brought before the meeting last week in a form which enabled them to be adopted as the constitution of the new association. Its objects are defined to be "the advancement of the science and art of surgery, and the promotion of intercourse and friendship among the surgeons of the United Kingdom." The two principles underlying the rules are, first, that the fellows of the new association should be actively engaged in practice and limited in number, and, secondly, that discussions at the meeting should be free. It was decided to limit the number of fellows to 250, and that they should all be engaged in purely surgical practice, in the teaching of surgery, or in surgical research. On ceasing to be a member of the staff of his hospital the fellow would become a senior fellow, enjoying the privileges but not exercising the rights of active fellows; that is, he would not vote nor be eligible to hold office, and would not be required to pay any subscription. In addition it was determined to elect a certain number of honorary fellows from among the eminent surgeons outside Great Britain and Ireland, the number not to exceed twenty-five. It was decided that the president should hold office for one year and be ineligible for re-election; and that the secretary and treasurer should hold office for one year, but be eligible for re-election. The business of the association will be conducted by a council consisting of twelve members in addition to the officers already mentioned. Each division of the United Kingdom must be represented on the council, and not more than four members of the Council may be resident in any one town.

Sir John Bland-Sutton was elected the first president and Mr. Herbert Pendlebury secretary. A general meeting of the association will be held once a year, in May, in towns in any part of the United Kingdom where there is a university or medical school. It was arranged that the first meeting, and subsequently at least every third meeting, should be held in London. To carry out the second principle, it has been enacted that scientific communications shall be spoken, not read, that no communication shall last for more than fifteen minutes, that no reporters shall be present, and that no report of the meetings shall be sent to the journals or newspapers. A fellow will be at liberty to publish his communication when and where he pleases. *The British Journal of Surgery*, hitherto managed by a committee of surgeons, will be taken over by the association, and receipt of this journal will be included among the privileges of each active member, who will subscribe three guineas a year. There is also an entrance fee of three guineas. A rulé, interesting as showing the spirit in which the association has been founded, is that an active fellow absent from three consecutive general meetings thereby ceases to be a member, though the council may on receiving a satisfactory explanation reinstate him. The rules provide for the appointment of a local secretary to be responsible for the local arrangements needful for the ensuing general meeting; he is to be elected not later than six months before the date of meeting by the members of the association resident in the town where the meeting is to be held.

The new association appears to be constituted on lines closely resembling those of the Association of Physicians and Surgeons of Great Britain and Ireland, which was established twelve years ago largely through the influence of Sir William Osler. It publishes a *Quarterly Journal of Medicine*, does not permit its proceedings to be reported, but publishes brief minutes in its journal. Its meetings have been exceedingly interesting and useful, and the privilege of attending them is highly prized. We can wish the Association of Surgeons nothing better than to attain an equal success.

PENETRATING WOUNDS OF THE CHEST.

AMONG the subjects discussed at the Clinical Meeting of the British Medical Association last April that of penetrating wounds of the chest aroused great interest, because it showed that in what is almost a new surgical field advances had been made during the war which may well prove to be of great value in civilian practice. A statistical report issued recently by the Medical Research Committee,[1] in which some of the surgical results obtained in France are collated and summarized, is therefore of more than passing value, for, in addition to the statistics there tabulated and now made available for general reference, indications for surgical interference are clearly enunciated and the limitations of active treatment are defined.

Though the credit for first advocating systematic surgical treatment of chest wounds by operation must be ascribed to the French surgeons, and notably Duval and his immediate colleagues, the methods advocated were probably more generally accepted and received wider application in the British armies, largely owing to the pioneer work of Gask, Gray, and Lockwood. There was, perhaps, at first a tendency for zeal to outrun discretion, as is apt to happen when a new method employed by an expert with due consideration of all the factors involved is hailed by the many as an essential practice in all cases. The first six months of 1917 saw this swing of the pendulum—from expectant treatment, which had been almost the universal rule, to an enthusiasm for interference not always according to knowledge. This fault was quickly corrected as experience grew; the Memorandum drawn up at a meeting of Consulting Physicians and Surgeons, and issued by the Director-General in July, 1917, laid down clearly the types of case in which operation was indicated as a routine measure. As this memorandum, which outlined the principles governing the surgery of the chest wound, remained in force for the remainder of the war, its main recommendations will be read with interest. They were as follows: "(1) An open pneumothorax should be temporarily closed by suture at the earliest opportunity, either at the field ambulance or at the casualty clearing station. If for any reason suturing is impossible, the wound should be packed and strapped, so as to render it airtight. (2) Extensive parietal wounds, including the above, should be treated as any other large wound. The operation should include the removal of comminuted rib fragments. (3) Where a foreign body is retained, and careful *x*-ray localization shows it to be accessible and of large size (not a small fragment or bullet), it may be removed, and the parietes closed after evacuation of the haemothorax. (4) Aspiration should be done in the case of any large haemothorax associated with persistent respiratory distress. This is best done after the lapse of about forty-eight hours. (5) Gross infections of the pleural cavity should be treated by rib resection and drainage. Where the infection is mild it is justifiable to resect, thoroughly cleanse the cavity, and close the pleura and parietes, as secondary drainage can easily be established later if necessary. (6) Set operations, for removal of foreign bodies, etc., should not be performed until the initial collapse has passed off. (7) Whenever the thorax is opened for operation the opportunity should be taken to close any wound of the diaphragm. This is especially important on the left side in order to prevent subsequent hernia. (8) Where open operations have been performed the case should be retained for ten days after the operation. (9) Reliable *x*-ray plant, and also immediate access to a bacteriological laboratory, are essential to successful chest surgery."

The first section of the report now issued deals with statistics of 600 cases furnished by Major W. L. Mann, C.A.M.C., and is of great value because he personally treated each case and followed it up from the records of the base and home hospitals. The results he obtained were admitted to be strikingly good and may be accepted as indicating a standard of what sound judgement and skilled surgery in combination can effect. The second section deals with a large series of cases which occurred in the autumn fighting of 1917, on the Passchendaele Ridge. The investigation was undertaken to determine the total mortality from chest wounds and to ascertain statistically the result of operation as contrasted with expectant treatment. Colonel Soltau collected the records of 3,521 cases in the Army area, and as most of the cases were transferred to the Boulogne and Etaples bases, Colonel Elliott was able to trace their after-history there. At the time when this investigation was undertaken the principles of chest surgery were firmly established, and, owing to the circumstance that casualty clearing stations were stationary, could be employed to the full. In consequence, however, of the bad weather and of the great depth of the crater-zone across which casualties had to be conveyed the severity of the wounds was considerably aggravated.

It is inevitable that the mortality of chest wounds should be high, for the structural damage likely to be sustained is severe and the liability to infection of the pleural cavity great. In field ambulances the death rate was 7 per cent. and was entirely due to gross damage. In the casualty clearing stations it was 17.18 per cent. in this series, which, after deduction of the 7 per cent. who died in the field ambulance, would give 15.9 deaths in the remaining 93 cases. Of these about one-third were caused by sepsis, the remainder were due to structural injuries or shock At the base the death rate was 6 per cent. of admissions, which would give 4.6 deaths on the 77 survivors from the original 100. This death rate was entirely due to sepsis. Hence the total mortality at this period was 27.5 per cent. (at the field ambulance 7 per cent., at the casualty clearing stations 15.9 per cent., and at the base 4.6 per cent.).

In the total of 3,521 cases about 38 per cent. were operated on, and this figure may be taken as representing fairly accurately the proportionate number of cases actually requiring operation in war. The tables show in detail the scope of the operation performed, the mortality, and the end result until transit to England. The third section deals with a series of tables compiled at the bases by Colonel Pasteur and Colonel Elliott during the autumn of 1918, when the condition of warfare had altered from close to open fighting, and the fourth section contains tables comparing the results in 1916, 1917, and 1918.

The practice of operating on chest wounds was introduced with the two-fold object of reducing sepsis and of saving life where gross damage was so considerable as to render recovery impossible or unlikely if no assistance were given. It was quickly seen that to operate merely because a foreign body was present was not necessarily justifiable, since so many cases recovered completely with fragments retained. How far were the two objects attained? To argue entirely from figures is fallacious, but to ignore their lessons is foolish. Statistically, sepsis does not appear to have been materially reduced, and it is probable that, on

[1] Medical Research Committee, Statistical Reports, No. 5. Statistical Reports from the British Forces in France on Penetrating Wounds of the Chest. H.M. Stationery Office, through any bookseller, 1s. 6d. net.

the whole, infection of the wounded chest is not obviated by early operation. On the other hand, it is certain that many lives were saved by operating: more particularly in case of open pneumothorax, the "stove-in" chest, and a wound with multiple comminution of ribs. In the early years of the war these cases almost invariably died, whilst in 1917 over 50 per cent. survived when operated on.

The war has taught us certain broad principles of chest surgery. We have learnt that the thorax may be opened with comparative impunity, and without the necessity for special pressure chambers and other devices to prevent collapse of the lung. The technique has been simplified so that few special instruments are required, and the resection of four inches of one rib has been shown to be sufficient to give access to any part of the pleural cavity. It has been shown, too, that in injuries causing an open pneumothorax or extensive rib injury operation is essential. Many lessons as to the treatment of the infected pleura have been learnt, not the least important being that infection with organisms other than streptococci may often be satisfactorily treated by repeated aspiration, or by opening, cleansing, and then closing the cavity and trusting to subsequent aspiration. This should have an important bearing on the treatment of empyemata, where the slow progress to recovery under drainage, and the resulting lack of expansion, are so frequently a source of anxiety and disappointment. Finally, the results of operating for the late results of infection are full of promise for the future. The operative methods introduced by Tuffier to deal with a collapsed lung bound down by adhesions and thickened pleura have in his hands resulted in restoration to function of a completely useless lung, and may be expected to fructify in a rich harvest of brilliant results.

In civil practice a careful application of these lessons will lead to increasing enterprise in dealing surgically with intrathoracic conditions, whilst the military surgeon of the future will find the procedure he must follow firmly established, thanks to the pioneer work of the French and British surgeons in the war. The Statistical Record, evidently compiled with great care by officers with an unrivalled opportunity for collecting figures, and for drawing inferences from them, and also for observation of the actual work performed, will be a valuable guide for the future; and the Medical Research Committee has in it produced a work of lasting utility.

THE NEEDS OF THE VENEREAL CLINIC.

MUCH has lately been written on the duty of the medical profession to impress upon the public the importance of the prevention of venereal disease. In the dust of controversy the other duty of the medical profession has, perhaps, been a little obscured—the duty to treat efficiently to a conclusion those cases of venereal disease which neither chemical prophylaxis nor education and moral suasion have availed to prevent. The documents on treatment issued by the Ministry of Health appear at an opportune moment and include an excellent memorandum (an analysis of which is published at p. 89) containing suggestions as to the tests that ought to be applied before patients who have been under treatment for syphilis or gonorrhoea are regarded and classified as "discharged after completion of treatment and observation." The primary purpose of the memorandum is indicated in its title, and the difficulties in the way of certainly determining when the individual has ceased to be infective are not minimized.

If this work, so vitally important to national health, is to be efficiently carried out, every facility for doing it thoroughly must be given to medical officers in charge of treatment centres. The ordinary routine treatment of the crowds of patients attending these centres has already taxed their resources severely. The number of men and women applying for treatment is increasing every month, yet many of these clinics are attempting to carry on their work in premises that have long become inadequate, and with a staff that is quite insufficient. The elaborate and difficult technique required for the conduct of the necessary tests will severely strain the pathological resources of the clinics. All who have worked at this subject agree as to the importance of bacteriology in the diagnosis and treatment of venereal disease; in no branch of medicine or surgery is the practitioner more dependent on the results of the bacteriologist's investigations than in dealing with gonorrhoea and syphilis. For this reason we would strongly urge the vital necessity of providing both experienced bacteriologists and properly equipped laboratories in connexion with venereal disease clinics. The technique of venereal bacteriology is difficult in the extreme, and if trustworthy results are to be obtained, highly trained and adequately paid workers will be needed. On the result of what we still docilely call a Wassermann test, or the report of a culture, great issues may hang, and an attempt to carry on work with an improvised laboratory and an improvised pathologist can only end in disaster. Pathological reports, if they are to be of any value at all, must be beyond suspicion.

That it is the intention of the responsible authorities to afford every facility for carrying out the excellent suggestions made in Memorandum V. 21 we have little doubt. Some of the larger special treatment centres have already instituted testing departments, through which patients must pass before they are discharged as cured. Their value to preventive medicine has already been proved. The issue of this memorandum ought speedily to result in the formation of similar departments in other clinics, and we look forward to the day when no one who has suffered from venereal disease will be authorized to return to ordinary ways of life until it has been established that he or she has ceased to be a potential danger to others. Much work will be required, and great changes will have to be effected in the mental attitude towards venereal disease, both of the medical profession and of the public, before this end can be attained. That the end can be attained and that Memorandum V. 21 is a step in this direction we are confident.

POOR LAW INFIRMARIES AND CLINICAL EDUCATION.

AN important decision was taken at a meeting of the Paddington Board of Guardians on January 7th. The Hospital Committee reported that it had considered a letter from the chairman of the Board of Management of St. Mary's Hospital asking the guardians to co-operate by allowing students to help in the wards of the Paddington Infirmary, under the supervision of Dr. A. G. Stewart, the medical superintendent. The letter began by stating the Medical Committee's belief that for any advance in the care and treatment of sick people something more than legislation was necessary; the foundation of such an advance must be laid by raising the standard of undergraduate teaching. The Board of St. Mary's Hospital had therefore decided on a scheme of reorganization for training students, to include the appointment of four members of the staff, who would devote their time to teaching, and not, as hitherto, mainly to private

practice. After outlining the proposal for co-operation, the letter went on to record the Medical Committee's conviction that the attendance of students in the wards of the Paddington Infirmary, so far from being detrimental to the welfare of the patients, would contribute towards increased efficiency in treatment. In considering this proposal the Hospital Committee of the board of guardians sought the opinion of Dr. Stewart, who indicated various ways in which the infirmary would gain under such an arrangement. Thus, the students would assist as clerks or dressers in the wards, facilities would be afforded for having the help of the pathological and other special departments of St. Mary's Hospital, and the advice of the hospital staff would be available. Dr. Stewart went on to point out that the publicity and inspection of work would stimulate all concerned and so benefit the patients, and finally that, in the public interest, the teaching opportunities of the infirmary should not be wasted. The committee accordingly recommended the board of guardians to approve the proposal for St. Mary's students to attend at the infirmary, at times arranged by the medical superintendent, on the understanding (*a*) that the ordinary work of the infirmary is not interfered with; (*b*) that the working conditions are under the medical superintendent's control; and (*c*) that the scheme may be terminated at will by the guardians. This recommendation was unanimously approved by the board. It is very plain to us that the advantages of such a scheme must flow both ways. The gain to the infirmary has been ably sketched by Dr. Stewart. The students for their part will gain by seeing cases that seldom stay long in a general hospital, but yet figure largely in general practice. The pathological and bacteriological department of the hospital must benefit, too, by the widening of its field of investigation. Should the plan prove a success in its working in Paddington, other teaching hospitals and infirmaries will almost certainly follow suit. The Paddington Guardians and the Board of St. Mary's Hospital are to be congratulated. On their own initiative they have done what certain reformers have for long advocated, for it is a commonplace that the Poor Law infirmaries can, with advantage to their patients, afford opportunities for the clinical training of medical students hitherto almost entirely wasted. That the need for making better use of Poor Law institutions is grasped by the Ministry of Health may be judged from the remarks made by Sir Robert Morant during the discussion on the teaching of obstetrics and gynaecology at the Royal Society of Medicine six weeks ago.[1] Much thought, he said, was being given in the Ministry to the serious and urgent problem of the provision of hospitals, but first of all the whole ground must be systematically surveyed. If the Poor Law was to be reformed, the existing institutions and the infectious disease hospitals of the Metropolitan Asylums Board must all be brought into the survey and every part of the problem considered in its relation to the whole.

TEMPORARY COMMISSIONS, I.M.S.

ONE of the representations made by the British Medical Association to the Secretary of State for India, when it was discussing with him the future of the Indian Medical Service, was that immediate steps of a temporary nature should be taken to meet the hard case of officers of the service who have served continuously for many years in India without obtaining the leave to which they are by regulation entitled. We publish at p. 96 a letter from the chairman of the Naval and Military Committee, Colonel R. H. Elliot, I.M.S. (retired), asking young medical men who have not yet embarked in civil practice at home to consider the terms of the offer now made. Applications are invited from British subjects of European descent, not more than 35 years of age, to take temporary commissions in the Indian Medical Service under a contract to serve for two years. An officer who has served for three or more years in the Home, Colonial, or Indian forces will be given a commission as captain and will receive pay at the rate of 750 rupees a month. An officer who has not had this experience will receive a commission as lieutenant and pay at the rate of 700 rupees a month. Free passages will be provided both ways, and if the officer is married his wife and family will be sent out at Government expense in the autumn of 1920 provided shipping is available. No mention is made of return passage in this case; Colonel Elliot assumes that this is an oversight, but the matter is being taken up with the India Office. We endorse the opinion of the chairman of the Naval and Military Committee that the terms offered are good. We are advised that an officer without wife and family should be able to live on 400 rupees a month in India. This would leave a balance of 300 rupees a month, which at the present high rate of the rupee in this country (2s. 4d.) would be equal to £420 a year. Taking the expenditure in India at the rate of 15 rupees to the £1 the annual pay may be reckoned as equivalent to £740. This is one side of the matter. The other is that during his term of service in India the officer will have the opportunity of obtaining clinical experience in medicine as well as surgery, more extensive and intensive than he could well hope to gain within the same time in this country. To many a man the opportunity of seeing new countries and new people will be attractive, and, while he will know that he is not bound for more than two years, we make no doubt that, should a good man determine to remain in India, he will encounter no difficulty in obtaining a permanent commission. We may note that the Secretary of State for India is also prepared to give permanent commissions to 136 Europeans. The appointments will be made by nomination, and candidates must be under 32 years of age. The terms and conditions were stated in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of September 13th, 1919, p. 69.

[1] BRITISH MEDICAL JOURNAL, December 20th, 1919, p. 814.

THE ORIGIN OF POLYMORPHONUCLEAR LEUCOCYTES.

IT is generally believed that the white blood corpuscles of mammals come from two distinct sources, the lymphocytes and mononuclears from the spleen and lymphatic glands, and the granular leucocytes from the bone marrow. Ehrlich was probably the first to bring into prominence this dualistic theory, but sceptics have not been wanting. Some interesting experiments bearing on the point have recently been published by De Laet[1] from Professor Bordet's laboratory in Brussels. The research was suggested by certain observations by Gay and Claypole, who in 1913 found that if living typhoid bacilli were injected into the circulation of an untreated rabbit there was, first, transitory leucopenia; this was quickly followed by hyperleucocytosis, which in sixteen to twenty-eight hours after inoculation reached a maximum of 34,000 to 56,000 per cubic millimetre; but if the experiments were repeated on rabbits previously immunized against the typhoid bacillus, the leucopenia was of shorter duration and the hyperleucocytosis very quickly reached a maximum of 80,000 to 274,000 per cubic millimetre. Their conclusion was that the immunizing serum played an active part in exciting the production of the leucocytes. De Laet injected into the internal jugular of guinea-pigs 1 c.cm. of an emulsion of typhoid bacilli killed by heat. The animal was killed twenty-four hours afterwards and its spleen was removed aseptically, cut up into fragments not exceeding one or two millimetres in diameter, and placed in sterile Ringer's solution maintained at a temperature of 38° C. These fragments were removed to sterile tubes by means of pipettes and, by sloping the tubes, were made to adhere to the walls. They were then covered with a

[1] *Annales de l'Institut Pasteur*, November, 1919.

mixture consisting of four parts of fresh guinea-pig serum to one part of a 2 per cent. solution of agar in physiological saline; the mixture was kept at 42° till it was required. The tubes were covered with an indiarubber cap and placed in a sloping position in the incubator. Controls were made in a similar fashion with untreated guinea-pig's spleen. On the third or fourth day of cultivation a characteristic whitish, somewhat opaque, zone was noticed around the fragments of the "typhoid" spleen, as marked in the case of the larger fragments as in the most minute, reaching its maximum breadth in eighty to ninety-six hours. The untreated spleen, on the other hand, showed merely scarcely visible prolongations from the periphery of the most minute fragments. When these zones were examined microscopically by making films from them a strange appearance was seen. In the case of the "typhoid" spleen enormous quantities of neutrophile polymorphonuclear leucocytes were observed so that the preparation resembled a film of pus. Sections showed that some of these leucocytes by virtue of their amoeboid properties had travelled for almost a centimetre from their focus of origin. This phenomenon did not occur in the case of the untreated spleen. Nor was any such effect produced when the tissues of the bone marrow or lymphatic glands of treated animals were cultivated. It would thus seem that the supposed action of the bone marrow in dispatching leucocytes to the spleen can be ruled out, and that the thorough lavage to which the splenic fragments are subjected during preparation deprives them of any considerable number of myeloblasts and myelocytes. Confirmatory experiments with other bacteria would go far to substantiate the conclusions drawn, namely, that the spleen can itself produce granular leucocytes.

FRIEDMANN'S TURTLE VACCINE.

IN the December number of *Tubercle*, a new monthly journal devoted to all aspects of tuberculosis, a critical review is given of the switchback career of Friedmann's turtle vaccine. The review deals with the literature of this subject up to the end of August, 1919, and is not, therefore, quite up to date, as barely a week passes without the publication of a new crop of puffs and counterblasts in the German medical journals. A Gilbertian touch has been added to the controversy by the appointment of Friedmann to a special professorship in tuberculosis, not only without the advice and consent of the faculty of medicine in Berlin, but even against its emphatic protests. Another means of popularizing Friedmann's vaccine has been devised by Professor Dührssen, who has published a *Festschrift* to commemorate Friedmann's achievements. As a professor of gynaecology, he has been reminded by his colleagues that the cobbler who sticks to his last sets an example that scientists should strictly follow; but this hint has not deterred him from supplementing his *Festschrift* by much polemical writing and speaking. His advocacy, addressed rather to the general public than to the medical profession, has served the useful purpose of drawing from Professor Kirchner some curious facts. Friedmann, it is stated, was advised by Kirchner in February, 1913, to submit his remedy to Ehrlich's examination. The latter agreed to test it, stipulating that nine to twelve months' investigation would be required before any verdict could be given. He was accordingly astonished a few days afterwards by a request for an immediate opinion, and, three months later, by a cable from America soliciting a testimonial as to the harmlessness of the remedy in guinea-pigs. Both these requests were refused. By January, 1914, he had ascertained that 10 out of 18 guinea-pigs had died in eight to eighteen days after an injection, with signs of rapid wasting and severe cachexia, for which no explanation could be found after death. In none of the 20 guinea-pigs inoculated with tubercle bacilli did the simultaneous, and sometimes repeated, injection of the vaccine prevent the development of fatal generalized tuberculosis. But many of the reports published in 1918 and 1919 deal with cases of arrest of previously severe and progressive disease in patients for whom the outlook before the institution of this treatment was exceedingly black. In a recent number of *Zeitschrift für Tuberkulose* Professor Orth, in the course of a lengthy paper on workmen's compensation and tuberculosis, refers incidentally to investigations by himself showing Friedmann's vaccine to confer on guinea-pigs a considerable degree of immunity from tuberculosis.

MEDICAL SICKNESS ASSURANCE.

THE Medical Sickness, Annuity, and Life Assurance Friendly Society, which was founded in 1884, has done much useful work for the profession, has shown a readiness to adapt itself to needs as they arose or were disclosed, and is continuing its excellent work, which might be more beneficial to the profession if a larger number of medical practitioners availed themselves of the advantages it offers. Besides the usual life assurances in the form of endowment assurances, annuities, etc., the special feature of the work of the Society is the sickness insurance scheme framed to meet the particular requirements of medical men. It is in the nature of a permanent contract, extending to 65 years of age, for the insurance of a weekly sum payable in full for the first twenty-six weeks of incapacity, and of half the full amount thereafter so long as the incapacity continues down to the age of 65. It is important to note that the contract is renewable or terminable at the option of the insured and not of the company; the policy, therefore, provides not only for temporary illness, but also against prolonged breakdown. Many cases have occurred within the experience of the Society in which men have been compelled to draw the weekly sum for many years, and even down to the limiting age. The rates charged are materially lower than those required for similar benefits by certain other societies; this is possible because the Society does not pay commission and does not employ agents; the saving may, we believe, be estimated at about 25 per cent. on the premiums paid. There can be no doubt at all of the importance to medical practitioners of making provision against sickness, for there is no profession in which prolonged withdrawal from work has so disastrous an effect. The Society was founded by medical men and has been continuously conducted in the interests of its policy holders, who are all members of the medical profession. Its position is financially sound, and it is remarkable, considering the advantages it is enabled to offer, that it has at the present time no more than 3,500 policy holders. Particulars of the terms and conditions offered can be obtained from Mr. Bertram Sutton, Secretary, Medical Sickness, Annuity, and Life Assurance Friendly Society, at 300, High Holborn, W.C.1.

WE are informed that the announcement made a fortnight ago to the effect that Professor E. H. Starling had definitely accepted an invitation to become Director of the medical element of the University Unit at St. Thomas's Hospital was premature. Such an appointment was contemplated, but depended on the fulfilment of certain conditions, which it has not been found possible to realize.

A SPECIAL general meeting of the Royal Society will be held on Thursday next, January 22nd, at 3.30 p.m., when H.R.H. the Prince of Wales will attend to be admitted to the Society. Afterwards there will be an ordinary meeting, at which papers, chiefly on physics, will be read. A meeting for discussion will be held on February 5th, when a debate on the theory of relativity will be opened by Mr. Jeans and continued by Professor Eddington, the Astronomer Royal, and others.

Scotland.

PROPOSED LISTER MEMORIAL INSTITUTE IN EDINBURGH.

THE project originated shortly before the war, and described in our columns of March 13th, 1914, for the establishment in Edinburgh of a permanent memorial to the late Lord Lister, has been revived. The University of Edinburgh, the Royal College of Physicians, and the Royal College of Surgeons of Edinburgh have come to the conclusion that the most suitable form for such a memorial will be an institute in which the scientific investigation of disease in any of its forms can be undertaken, and in which the principal sciences concerned can be adequately taught. It was in Edinburgh that Lister elaborated and consolidated his system, and it is appropriate that the scientific spirit which animated him and the methods of research he developed should be commemorated and continued in that city. Lister's work in the wards of the Royal Infirmary would have been fruitless—could not indeed have been carried out—had he not first tested his theories in the laboratory. It was in and through research that his system of treatment came to fruition. Research was the keynote of his work, and it is to research and the teaching of the results of research that the proposed memorial is to be dedicated. The need for such a centralized teaching and research institute in Edinburgh, it is said, is pressing. At the present time the burden of such work is borne by the University Department of Pathology and the Laboratory of the Royal College of Physicians. Of these, the former, built and equipped thirty-five years ago, is now inadequate, and the resources of the latter, particularly as regards the accommodation of the workers, are entirely insufficient, even for present needs. There is as yet no permanent memorial to Lister in Edinburgh, and it is felt that the rapid development of pathology, of bacteriology, of clinical pathology, of pathological chemistry, and of other cognate branches of knowledge has widened the field to such an extent as to render it necessary that the building erected to his memory shall be modern in design and equipment, and sufficiently large to house all the departments enumerated. The proposed new institute will be managed by a board on which the University and the two Royal Colleges will be represented.

A committee has been formed to make an appeal for £250,000 to pay for the site, to erect and equip the necessary buildings, and to provide for maintenance, apart from remuneration to research workers. A site, described as extensive and extremely suitable, has been secured close to the Edinburgh Royal Infirmary and the Medical School of the University at a cost of over £50,000. The President of the committee is the Right Hon. A. J. Balfour, M.P., Chancellor of the University, and the Vice-Presidents are the Duke of Atholl, the Earl of Rosebery, Earl Beatty, Lord Glenconner, Lord Leverhulme, and Sir J. Lorne MacLeod. An appeal has been issued, signed by Sir J. A. Ewing, Principal of the University, Sir R. W. Philip, President of the Royal College of Physicians of Edinburgh, and Dr. George Mackay, President of the Royal College of Surgeons of Edinburgh. The University has given £10,000, the College of Physicians £10,000, and the College of Surgeons £5,000.

MR. C. E. GREEN, PUBLISHER, OF EDINBURGH.

Mr. Charles E. Green, who died after only three or four days' illness on January 6th, was passing through the medical classes in Edinburgh with the career of a medical missionary in full view when the early death of his father threw him into business. Out of the permutation thus effected in his life grew in time the well known firm of law publishers called William Green and Son, with many fine series of works coming from its presses; but the desire to do something in medicine was only diverted. Mr. Green soon added to his various legal publications, including the world known Scots and English Law Reports (45 and 180 vols. respectively), and such periodicals as the *Scots Law Times* and the *Juridical Review*, various medical publications, including the *Encyclopaedia Medica*, *Green's Encyclopaedia and Dictionary of Medicine and Surgery*, the *Veterinary Review*, and a goodly number of separate works, such as Noël Paton's *Physiology*, Barbour and Watson's *Gynaecological Diagnosis and Pathology*, Walker's *Dermatology*, Fothergill's *Midwifery*, Ballantyne's *Manual of Antenatal Pathology and Hygiene*, and others. But more, Mr. Green himself ventured into the arena of medical literature with a work on the *Cancer Problem*, which excited admiration for the great number of observations it contained lying behind it, and of the variety of technical matters (outside of what may be called conventional medicine) embraced in it. He could write a good tale, too, as his *Lives in a Lowland Parish* proved, and he had fresh powers of description, as his county *History of East Lothian* showed. He never lost his admiration of the life of the medical missionary; for many years he paid the salary of one of the medical men working abroad under the Edinburgh Medical Missionary Society—of which he was one of the directors and a trustee—and his help made it possible for more than one medical student training for the foreign field to pass through the medical curriculum with greater comfort. In his later years he was much attracted by mother and child welfare work; he was an extraordinary director of the Edinburgh Royal Maternity Hospital, and took a great interest in the antenatal department of that institution. He will be sorely missed in Edinburgh and in the county, where his historically interesting home (Gracemount) was ever open to his many friends and neighbours, and his comparatively early death—he was 53—will be widely mourned; he could yet have accomplished still greater things in publishing, and might have, at any rate, seen several large works brought to completion under his own supervising mind. Mr. Green was elected a Fellow of the Edinburgh Royal Society some years ago; he was a fluent and effective speaker at meetings for patriotic and charitable purposes. Another side of his activities was farming; he farmed his own land. Indeed, he brought enthusiasm and nearly always success into whatever his hand found to do.

HOUSING.

A gloomy picture of the pre-war and present state of housing conditions in Scotland is drawn by Sir George M'Crae, D.S.O., in his *Summary of the Report by the Commission on Housing in Scotland*.[1] At the end of 1913, he says, 474 cases of pulmonary tuberculosis were being treated in houses of one apartment in Glasgow, and 1,589 cases in houses of two apartments, to quote a single example of monstrous overcrowding. The *Summary* is short and well written, and should be of value to all who have any direct interest in the subject with which it deals.

England and Wales.

PRESENTATIONS TO LIEUT.-COLONEL D. G. THOMSON.

A PRESENTATION was recently made by the permanent heads of departments of the Norfolk War Hospital to the Commanding Officer, Lieut.-Colonel D. G. Thomson, C.B.E., in recognition of the successful war work carried on by him during four and a half years, when 45,000 sick and wounded soldiers passed through the wards. The presentation consisted of an illuminated address and a barometer, together with a bouquet for Mrs. Thomson. Warm tributes to Colonel Thomson were paid by the Matron, Miss Hamer, R.R.C., and the hospital architect, Mr. George Smith. A presentation of silver plate has also been made to Colonel Thomson by the medical staff on the demobilization of the hospital. The plate, which was presented by Major Charles Noon, F.R.C.S., on behalf of some twenty colleagues, took the form of a handsome silver salver, inscribed: "From the Medical and Surgical Officers of the Norfolk War Hospital, Thorpe, Norwich, to Lieut.-Colonel D. G. Thomson, R.A.M.C., C.B.E., M.D., commanding the Norfolk War Hospital, 1915–1919."

PRESENTATION TO DR. A. E. LARKING.

A short time ago Dr. A. E. Larking, who has accepted the appointment of medical school inspector in the Chesham district, Buckinghamshire, was the recipient, on the occasion of his retirement from practice in Buckingham, of a valuable testimonial, consisting of a wallet with £50

[1] *Summary of the Report by the Royal Commission on Housing in Scotland*. Edited by Archibald Stalker. With Foreword by Sir George M'Crae, D.S.O. London and Edinburgh: W. and R. Chambers, Ltd. (Cr. 8vo, pp. 78. 1s. net.)

in Treasury notes and an album containing an illuminated address and the names of 700 subscribers. The address expressed the esteem felt for Dr. Larking's great and devoted services to all classes during his residence in Buckingham for thirteen years. The ceremony took place at the Town Hall; Alderman Osborne presided and the Vicar made the presentation. Dr. Larking, in acknowledging the gift, spoke of the regret with which he had decided, on account of his wife's illness and his own uncertain health, to retire from practice in Buckingham. Dr. Larking is honorary secretary of the Buckinghamshire Division of the British Medical Association and of the Buckinghamshire Local Medical and Panel Committee.

Correspondence.

TEMPORARY COMMISSIONS, I.M.S.

SIR,—Will you allow me to help to clear up the question of the suitability of the terms offered by the Secretary of State for India to temporary officers, with a view to relieving those members of the I.M.S. whose leave from India is long overdue?

The matter was gone into very carefully and at length by the Naval and Military Committee, and the terms fixed by that body were communicated to the Secretary of State. They were:

1. That a two years' contract be offered.
2. That the salary offered be Rs. 650 per mensem.
3. That a free passage out and home should be given.
4. That those appointed should be allowed the option of joining the I.M.S. during or on the completion of their contract, if they desired to do so and if they are found suitable.

In reply to this letter the Secretary of State has offered terms which include the first three of the above provisos; and he has gone even further, since he has offered a salary of Rs. 700 per mensem to a lieutenant and Rs. 750 to a captain. He has not made it clear that the fourth proviso is granted, but this is probably an oversight; the matter is being taken up with him.

With regard to the terms for permanent men I have nothing to say in this letter except to remark that opinion in the British Medical Association is hardening, that the terms mentioned in the letter under review represent the minimum possible. That is, however, a question which I need not deal with for the moment. What I do desire is to impress on young medical men the advantages of these terms for temporary commissions which the Secretary of State has offered them at the instance of the Association. The Naval and Military Committee took pains to name conditions which would be both fair and advantageous to the young doctor, and it would be a thousand pities if the unfortunate mistake, probably a mere oversight, of the India Office in communicating that offer to the public press before it made it known to the Association were allowed in any way to prejudice the case. The utter inaccuracy of the estimate of the pay offered, as computed by a daily paper, should not be permitted to blind us to the facts of the case. I agree with everything that the JOURNAL said on those very misleading figures, and, indeed, had already pointed out its mistake to the paper in question, but it has taken no action to put the matter right.

To look at these terms a little closer. The young man who has taken his qualifications, and has done a certain amount of practice but who feels that he wants more experience, will find an unrivalled field in India, be his bent what it may. At a time when in England his responsibilities would be very small, he will get the chance of doing really big work as a surgeon, as a physician, or as a specialist. He will come back from the East a very different and a very much more capable and self-reliant man than he went out. Apart from professional advantages, he will acquire the larger outlook on life which travel and contact with other peoples bring.

The pay offered him is liberal; he can live on it, and if he is single he can save if disposed to do so, or have a really good time if he prefers. His passage is paid both ways. His wife and family are to be sent out in the autumn of 1920 at Government expense, provided that shipping is available. It is not stated that they will be sent back at Government expense, and this point must be cleared up, but it would be difficult to believe that any other course could be contemplated.

Another question the young man should ask is whether he is to be allowed the advantage of the fourth condition suggested by the Association in its letter referred to above. If he is, then his position is a very fortunate one, for he will be free, after two years of practical experience, to make up his mind whether he really wishes to decide for permanent Indian service or not. By that time, too, the conditions which are to be offered to the Indian Medical Service will be known and established.

I am convinced that the terms the Secretary of State is offering are well worth the consideration of young doctors, and I know that the same opinion is held by the members of the Naval and Military Committee. My plea is that young men should give consideration to a fair and a good offer made to try and surmount the present great difficulties in the grant of leave to I.M.S. officers, who badly need it.—I am, etc.,

R. H. ELLIOT,
Lieut.-Colonel I.M.S. ret.,
Chairman, Naval and Military Committee,
British Medical Association.

London, W., Jan. 13th.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—I have been immensely amused at reading Mr. Baskett's address (January 10th, p. 41). We are all agreed that a plentiful food supply would have the effect of improving health, but the price of bread did not fall consequent on the abolition of the Corn Laws.

From 1820–1829 the price of wheat was	...	59s.	10d.
From 1830–1839	,,	,,	,,	...	56s.	9d.
From 1840–1849	,,	,,	,,	...	55s.	11d.

The fall from 1830–1839 was 3s. 1d., while from 1840–1849 the fall was 10d. The price remained over 50s. until the eighties, forty years after the repeal of the Corn Laws, when it fell with a bump.

If it was free trade which made the death rate from tuberculosis come down in England, it should have made it come down in Ireland. I will challenge Mr. Baskett to promulgate this on any Sinn Fein platform. I would advise him, however, to insure his life first.

In New York the rapid fall in the death rate after the McKinley tariff of 1890 proves the very opposite of what he sets out to demonstrate. As to Prussia, he is quite wrong when he speaks of the Caprivi treaties being Germany's nearest approach to free trade. During the first eight years of the empire they practically had free trade. The duties on wheat and rye were trebled in 1885, and immediately the death rate from tuberculosis fell (see Mr. Baskett's Chart IV). The merest tiro knows that the prosperity of the German working classes dates from the adoption of the protective policy of List in 1879.

His paper would be all right for the Cobden Club, but is unworthy of being laid before scientific men. I was brought up as a Liberal at the feet of John Bright; but for four years I was a Poor Law medical officer in Birmingham, where I found men starving as a result of unemployment through our system of *laisser faire*. This led me to study the matter at first hand, and the conclusion I came to was that the Chartist leader was right when he said: "'Cheap bread,' they [the Free Traders] cry, but they mean *low wages*."—I am, etc.,

SIDNEY BARWISE, M.D., B.Sc.Birm.

Derby, Jan. 13th.

SIR,—It must not be overlooked or forgotten that during the latter part of the period surveyed by Dr. Baskett in his address on Public Health *versus* the State, owing to increased facilities and improved methods for arriving at a correct diagnosis which then obtained, and also to a lesser degree to the disease being then a notifiable one, many deaths were certified as being due to tuberculosis which previously were not so certified. These factors played a vastly greater part in the maintenance of a high mortality rate from tuberculosis than any possible increase of poverty due to the passing of the Insurance Act.

Since the moneys expended on the notification of tuberculosis and on the provision of scientific means for correct diagnosis come out of the public funds, perhaps these matters might also be conveniently considered along with the Insurance Act at the inquiry (should such be held) into its effects upon the nutrition of the poor.—I am, etc.,

H. W. FREER, M.R.C.S.Eng.,
L.R.C.P.Lond.

Colwyn Bay, Jan. 10th

"NEW LAMPS FOR OLD" IN OBSTETRICS.

SIR,—In the correspondence that is now going on with regard to the question of using forceps unnecessarily in midwifery cases may I give my experience? I was a pupil from January 1st, 1867, for five years with an expert in midwifery, and his advice was—Wait on Nature, and do not be in a hurry to use instruments. After my pupilage was over and I had qualified, I remained on as assistant for a further five years, and during the ten years I attended over 2,000 cases, instrumental cases being rarities.

In 1877 I commenced practice for myself in quite a different part—a manufacturing town—and have been actively engaged and still am so engaged in attending midwifery cases. This district is noted for two things: first, a tendency to narrowing of the brim of the pelvis by prominence of sacrum; and, secondly—and this is more frequent—that is, since midwives have been trained there is a great deal of impatience amongst parturient women against waiting for Nature to complete the case, and a great cry out either for twilight sleep or for chloroform and instruments; patients will not wait. The cases mostly now met with are those in which the midwife sends for help. In the fifty-three years I have been attending on midwifery I have helped at over 10,500 cases, and of later years these have been mostly instrumental or operative or craniotomy or version. I have had one case of Caesarean section and seen many cases of eclampsia where operative help has been required. There have been very few deaths amongst my patients and very few cases of serious post-partum haemorrhage. Craniotomy for deformed pelvis has been resorted to in first cases; later pregnancies of these women have been by induction of labour at seven and a half months, with resulting living children.

Summing up from the work I have done, I come to the conclusion that, rightly used and in the right kind of cases, instruments and chloroform are a boon to parturient women, relieving them of the intense pain of the last stage before birth. It is impossible to lay down any definite axiom that it is wrong to use instruments. Given fully dilated cervix and head well down, then our duty is to conserve the strength of the patient, to save all needless suffering, and to give the help that is required carefully. Districts differ in the build of women, and where the chief employment is of a character requiring the women to sit all day at work this may be a reason for either deformity or loss of power to bear pain; and, lastly, the trend amongst women of the present generation is to resent the fad that they have to suffer the pains of becoming a mother, and to do all they can to reduce their sufferings to a minimum. This is partly due to the teaching of "twilight sleep" and also to the emancipation of women and raising them to an equality in work with the opposite sex.—I am, etc.,

January 11th. A GENERAL PRACTITIONER.

SIR,—I am concerned lest the thesis of my paper read before the Obstetric Section of the Royal Society of Medicine last May, and which your leading article of November 22nd epitomized under the heading "'New lamps for old' in obstetrics," should be lost sight of in the orgy of controversy provoked by Dr. J. Fairbairn's letter of November 29th.

I urged that the teaching of midwifery should be invested with the surgical attitude of thought and its practice safeguarded by all those circumstances of environment, assistance, and asepsis which are accepted *sine qua non* in every department of recognized surgery. In short, that the art should be taught, practised, and recognized as a branch of surgery.

Dr. Fairbairn's letter has drawn a red herring across this line of thought. My paper was not concerned with whether midwifery should be more "operative" or less "operative"; it argued that it should be more "surgical," which is quite another and much larger thing. When we have secured for midwifery those requirements which are elementary in all other departments of surgery, it will be time enough to discuss the percentage of cases requiring operation. Until then such controversy obscures the more important issue.—I am, etc.,

London, W., Jan. 10th. VICTOR BONNEY.

TICKS AND RELAPSING FEVER.

SIR,—I was interested in the paper on "Tick Fever in Palestine," by Dr. Nicholson, which appeared in the BRITISH MEDICAL JOURNAL of December 20th, 1919 (p. 811), but he is in error when he states that I found that the Miana fever of Persia was a form of relapsing fever transmitted by the tick *Argas persicus*. Since his paper appeared I have been trying to discover how his error arose, and have been looking through the literature on the subject, and papers of my own on spirochaetosis which might possibly contain some reference to the disease in Persia. In all probability Dr. Nicholson was led astray by a note on p. 246 of the sixth edition of Sir Patrick Manson's *Tropical Diseases*, where I find my name is bracketed along with the spirochaete of Miana disease. I may say that my only visit to Persia was paid during the war, when I spent a short time at Ahwaz on the Karun River and in Shuster, but I saw nothing of relapsing fever at that time, and had no opportunity of making inquiries regarding it.

I cannot discover that I have anywhere stated that Miana disease was due to a spirochaete carried by *Argas persicus*, nor do I recollect ever making any such statement. I find I once said that *A. persicus* was stated in Persia to bite men, but beyond this guarded utterance I do not seem to have dealt with the question at all, although it is possible some reference may have escaped my attention. As a matter of fact our knowledge as regards Miana



Rock tombs or caves in Palestine.

disease seems to rest much where it was when Nuttall wrote his paper, "On the rôle of insects, arachnids, and myriapods as carriers in the spread of bacterial and parasitic diseases of man and animals: a critical and historical study," in the *Johns Hopkins Hospital Reports*, October, 1899, vol. viii. So far as I know we have no definite evidence that *A. persicus* can transmit any human spironema, and although Dr. Nicholson's observations are interesting they are by no means conclusive, as it is impossible to say whether lice were absolutely excluded as vectors. There seems, however, to be a very general belief that in Palestine *A. persicus* is a transmitter of the infection of relapsing fever. I remember that when on the road north of Jaffa in July, 1918, I was shown certain rock tombs or caves in which it was said men had slept and had there acquired relapsing fever from the bites of ticks which lived in these miniature caverns (Fig.). At the same time this belief does not appear to have been founded on any sound scientific basis.

In Cilicia and northern Syria, Schneider in 1912 described (*Archiv für Schiffs- und Tropen-Hygiene*, vol. xvi) a form of relapsing fever which he attributed to ticks (species not determined), but he advances no conclusive proof in favour of his hypothesis, and does not consider the question of lice being the carriers. Until careful experimental work is carried out on the subject it is inadvisable to attribute either the Cilician or the Syrian type of relapsing fever to *A. persicus*, although we may note that, according to Boyd, the disease in Palestine differs in some respects from that found in Egypt, where it is undoubtedly carried by lice.

I find that under the heading "Relapsing Fever" in the

"Memoranda of Medical Diseases in the Tropical and Subtropical War Areas" I wrote as follows:

"There is some evidence to show that in Palestine, apart from lice-borne relapsing fever, there is a form, possibly like that described in Cilicia and Persia, where the infection is conveyed by the fowl tick, *Argas persicus*."

This, however, is not intended to mean that the disease in Cilicia and Persia is carried by *Argas persicus*, but merely that, clinically, the relapsing fevers of these countries may resemble that seen in Palestine. I admit, however, that if read hastily it might possibly convey a wrong impression.—I am, etc.,

ANDREW BALFOUR.

Wellcome Bureau of Scientific Research,
10, Henrietta Street, London, W., Jan. 5th.

FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—All questions relating to the mind are elusive and evasive, and many theories have of late been propounded to account for the cure of functional mental and nervous conditions, many of these views expressed with more haste than deliberation and consideration.

I have been much interested in the able remarks of Dr. Alfred Carver in the BRITISH MEDICAL JOURNAL of January 10th, and I venture to think that he and others have animadverted without reasonable or adequate cause, certainly without justification, upon the advice given by Sir William Hale-White in his paper on August 23rd, to encourage the "neurasthenic"—to use the term in its widest sense—to forget his war experiences by the practice of mental diversion of various kinds.

I am not so impertinent as to attempt to defend Sir William Hale-White; he is fully capable of demonstrating to the younger school of psycho-neurologists that during the great war the path of progress has been paved with many abandoned theories. There has been a strong tendency to offer some plausible explanation—often very grotesque and inconsequent—of sudden recovery in functional mental and nervous states. Patients suffering from these states are all in a most receptive and susceptible mental condition, and some of them immediately accept any suggestion made to them as to the motives for their strange conduct and actions or as to the origin of their symptoms, which may disappear by suggestion as if by magic and which in many instances return equally without reason or notice.

The unconscious mind is believed to be a great twentieth century discovery, and to this is attributed not only the ordinary phenomena of mental life but also the vagaries of the psycho-neurotic, and this source—variously described as the *élan vital* (Bergson), the horme (Jung), the libido of Freud, or the craving for life, love, or action—is regarded as the prime mover of all action.

I have never been able to accept this endopsychic censor as the mysterious unseen power that has until recently escaped detection, although with others I have long realized the great influence of the unconscious mind and its teleological trend, for it helps to perpetuate the individual, to enable him to carry out perfunctorily the everyday routine duties by saving him the necessity of endless repetitions. It has to ignore and "forget," but I doubt the reasonableness in treatment of bringing to the surface and rekindling with emotion what has been usefully and purposely ignored, and I doubt if the unconscious mind has to seek for immediate satisfaction in some other activity, or that this is of necessity sexual.

I question whether it is possible to "forget" by an act of volition or to abolish actively any painful memory from consciousness, or, in other words, whether it is possible to repress what is intolerable, except in so far as this can be attained by bringing in new thoughts, ideas, or impressions to occupy the field of attention and thus build up new associative links, and so help to form new habits. Pain and hurt and danger are not ignored and forgotten because they are unpleasant or intolerable. If this were not so, self-preservation would be impossible, therefore I question whether it is practicable to forget by an act of volition directly.

From a not inconsiderable experience of the war neuroses in the London Command, and from a very long experience of the mild and severe forms of psychoses in civilians, I am of opinion that it is not orthodox mental therapeutics to lay down an axiom—as is done, if I rightly interpret Dr. Carver, and I quote his own words—that the necessary first step in the cure of mental and nervous states is the making conscious of the forgotten, the bringing to the surface of what is repressed, and the transference of memories by what has been weirdly designated as "ab-reaction." If any claim is made to a cure by recalling war experience, then the investigator must himself possess an absolute and true photographic record of the actual battle scenes, otherwise the effect is purely that of suggestion.

In these cases, as in all mental and nervous states, much must depend upon the nature, and the temperament, and the mental "make up" of the individual patient. For some distracted persons it is possible that the "cathartic" effect of getting rid of unpleasant thoughts by "ab-reaction" may be appropriate treatment, and may tend towards recovery, but to others the opposite would undoubtedly occur. Would any psychiatrist suggest that a woman suffering from one of the functional anxiety psychoses, described as acute restless mental depression, would be cured or relieved by reminding her luridly of the bare home, the cruelties of a drunken husband, or the death of her children through neglect? Is it mental therapeutics to remind the disappointed girl who has become a mental and moral wreck of the broken promises of her faithless lover? Is it rational treatment to remind the first offender, who is endeavouring to reconstruct his life in a new environment, of the crime to which he yielded in a moment of temptation? Does the nervous actor regain his lost confidence if he is reminded of his first-night stage fright; or would he be happier and less nervous if the horrors of the occasion were again represented to him by his candid friends? or would the sensitive musician be able to play better through being reminded of the piece he had forgotten and the fiasco that ensued? Similarly in the case of many a soldier hero who may have broken down, is it sound treatment to bring before his conscious mind the horrors he has seen, the terrifying sounds he has heard, and the awful experience he has gone through, and to have all these unpleasant and forgotten memories brought to the surface, and then "to attach them to suitably associated presentations"? If, as in some instances, an immediate and temporary recovery has taken place, this has more probably been caused by the sudden element of surprise, the emotional shock acting by suggestion from the person who exercises over his patient what has been described as a dominating personality; and the same applies to the sudden cure of obsessions, such as the one recorded of an immediate recovery from "claustrophobia," the patient being relieved, it was said at once, by bringing to the memory the bite from a dog in a narrow passage long forgotten, this also being an example of "suggestion."

The psychoses and neuroses are Nature's means of defence, and I venture to believe they are best relieved by helping Nature to obtain a complete rest and some mental diversion, by providing pleasant memories, new ideas and new inspirations which will enable the patient to bury in the unconscious mind the forgotten sources of his failure. If Nature's methods of restoration are jerkily hastened there will be an inevitable risk of a relapse.

No saner advice was given than by Frances Power Cobbe, who compared the unconscious mind to the faithful private secretary who performed his work silently and in his own way and best when not disturbed, and that the same treatment should be meted to it.—I am, etc.,

ROBERT ARMSTRONG-JONES, M.D., F.R.C.P.
(Lately Consulting Physician in Mental Diseases to the London Military Command and temporary Lieutenant-Colonel R.A.M.C.).

London, W., Jan. 13th.

PREVENTION OF VENEREAL DISEASE.

SIR,—The letter in your issue of January 10th from the President and Honorary Secretary of the Society for the Prevention of Venereal Diseases seems to require comment.

By invitation I attended the conference held by the society on December 16th, 1919, and in the discussion I joined others in making strong protests that in the printed answers sent to inquirers, and in the "Aims and Objects" of the society, copies of which had been sent to me, and were also distributed at the meeting, there was not a single word of advice or warning against incontinence. The only

subject named in the advice to inquirers was "the prevention of venereal disease by immediate self-disinfection."

As a preamble to the "Directions for men," it was stated that "venereal disease can be prevented with almost complete certainty if the right precautions be taken in time." I urged that the omission of any reference to the need for premarital continence, and the unduly optimistic assurance of "almost complete certainty" of protection from infection, might have the *effect* of leading many young inquirers to believe that there was no alternative to fornication, and that the risks associated with it could be very largely eliminated. This belief was not of course the intention of the society, but would naturally follow the reading of the "directions" when they stood alone in the pamphlet.

In your issue of January 10th there is a letter from the President and Honorary Secretary of the Society enclosing a copy of what is clearly a second edition of their "Aims and Objects." This now begins with the following new sentence: "It is obvious that the best way of avoiding venereal disease is to abstain from promiscuous sexual intercourse." This important sentence did not appear in either of the pamphlets issued at the date of the conference (December 16th), and has evidently been now inserted as a result of criticism at the conference and in the subsequent correspondence in your JOURNAL.

The words are satisfactory so far as they go, and perhaps in the next edition of their "Aims and Objects" the Council of the Society will be still more explicit as to the value and practicability of continence before marriage, and will tell their inquirers that sexual intercourse ("promiscuous" or otherwise) is not essential to maintain mental and physical health, and that there is no real difficulty in such continence if the mind and body are actively occupied in other directions, and if sexual stimuli are carefully avoided.

The Society is realizing the difficulty of trying to preach clean living and prophylactics together, but on the other hand, there cannot be, and must not be, any divorce between morals and medicine.

Apart from national continence in men, prostitution, whether amateur or professional, cannot cease, and no real opportunity can arise for relieving the women from their dreadful occupation, and no successful effort can be made to redeem their misspent lives.—I am, etc.,

AMAND ROUTH, M.D., F.R.C.P.

P.S.—I enclose printed copies of the "Directions for Men" and of the "Aims and Objects" of the Society as issued at the date of the conference on December 16th, 1919.

A. R.

London, W., Jan. 12th.

SIR,—Lord Willoughby de Broke and Mr. Wansey Bayly may rest assured that we do not for a moment believe that any member of their society, as an individual, would deliberately incite youth to acts of immorality. But we strongly hold the opinion that the leaflet of instructions to men issued by that society, which contains no single word in favour of continence, does so incite, and of this we have evidence in our possession.

We have read the paragraph—published in the last issue of the BRITISH MEDICAL JOURNAL—which has been added to the pamphlet setting forth the aims and objects of the society since the meeting at Westminster on December 16th, 1919. We welcome this substantial advance towards the broader and more comprehensive policy of the National Council for Combating Venereal Diseases, and trust that in a short time all those of our profession who, whatever opinion they may hold on the vexed question of prophylaxis, are at one in their wish to diminish the incidence of this disease, will concentrate their energies on fighting the mischief rather than wasting them in controversy about a "packet."—We are, etc.,

E. B. TURNER.

London, W.C. 1, Jan. 12th. OTTO MAY.

SIR,—Does "M.A., M.D.Cantab.'s" letter (January 3rd) not apply as much to treatment as to prophylaxis of venereal disease? And would we become heavenly guides by making immorality as dangerous as possible by refusing to alleviate its consequences?—I am, etc.,

Pau, Basse Pyrenees, Jan. 6th. F. LEONARD BROWN, M.D.

INTRAMUSCULAR INJECTION OF QUININE.

SIR,—The clinical results of intramuscular injections of quinine in severe cases of malaria are so good that it is to be hoped that a contemplation of the list of possible evil effects of the procedure, and of the results of experiments on animals, which are recorded in your issue of January 3rd, will not deter any medical man from using this method of exhibiting the drug when necessary. If ordinary care is taken in regard to sterilization of syringe, of solution, and of skin, if the vicinity of large vessels and nerves is avoided, and if injections are not repeated in the same area, the probability of any bad effect following this method of administration is small.

I speak from a large experience in India, Aden, China, and Macedonia, and have found intramuscular injection so effective that I consider that any medical man who allows a patient to die, or even to become seriously ill, from malaria, without having used this (or the intravenous) method of introducing quinine into him, should be held to be gravely at fault.—I am, etc.,

Brighton, Jan. 12th. S. F. CLARK, Colonel A.M.S.(ret.).

The Services.

HONOURS.

MENTIONED IN DISPATCHES.

A SPECIAL Supplement to the *London Gazette*, dated January 12th, gives a further list of those mentioned for distinguished and gallant service and devotion to duty in different spheres of the war. The following medical officers are included:

Hospital Ships.

Lieut.-Colonel H. A. Williams, D.S.O., I.M.S., Surgeon-Major R. Pares, C.M.G., D.S.O., Royal Horse Guards; Majors E. L. D. Dewdney, R.A.M.C.(T.F.), and C. L. Dunn, I.M.S.; temporary Majors J. G. Heath, R. T. Meadows, D.S.O., P. J. A. Seccombe, T. Walcot, and A. W. Wilcox, R.A.M.C.; Captains I. M. Byers and J. W. Grice, R.A.M.C.; temporary Captains (acting Majors) W. A. Clayton, H. McIntyre, and H. H. O'Heffernan, R.A.M.C.; temporary Captains H. B. Emerson, J. H. Glover, W. R. G. Hamilton, T. Heywood, W. P. Jones, H. A. Lane, J. M. Lazenby, G. W. P. Maitland, and R. E. Smith, R.A.M.C.; Lieutenant (acting Captain) E. H. Rainey, R.A.M.C.

France.

Colonel N. Faichnie, M.B. (late R.A.M.C.); Major J. H. Gurley, R.A.M.C.; Captain D. C. Scott, R.A.M.C.(T.F.); temporary Captain H. Body, R.A.M.C.

East Africa.

Major H. W. Illius, I.M.S.

Egypt.

Lieut.-Colonel (acting Colonel) C. Garner, C.B.E. (R.P.); Lieut.-Colonel P. S. Lelean, C.B.; Captain (acting Major) A. E. Richmond, R.A.M.C.; Captains R. H. Maingot and P. P. J. Stewart; temporary Captains W. I. Adams, T. L. Clark, W. E. R. Dimond, F. W. Grant, F. A. L'Estrange, T. D. Miller, G. C. Ramsay, S. M. Vassallo, M. J. T. Wallis, and H. G. E. Williams, R.A.M.C.; Lieutenant (temporary Captain) Wm. Cameron, R.A.M.C.; Captains D. R. Hennessy and P. W. Ransom, R.A.M.C.(S.R.); Captain (acting Lieut.-Colonel) J. Blackwood, R.A.M.C.(T.F.); Captains S. A. Mann, C. H. Welsh, and R. Willan, R.A.M.C.(T.F.).

Lieut.-Colonel C. B. Blackburn, O.B.E., A.A.M.C.; Majors (temporary Lieut.-Colonels) J. R. McN. Beith, and M. W. Cave, A.A.M.C.; Majors E. K. Parry, M.C., and H. Sutton, A.A.M.C.; Captains F. A. Comins (Dental Corps), C. R. Hodgson, and W. G. H. Tregear, A.A.M.C.

Lieut.-Colonel R. H. Walton, N.Z.M.C.; Major (acting Lieut.-Colonel) J. McC. A. Macmillan, I.M.S.; Captain (temporary Major) R. F. D. MacGregor, M.C., I.M.S.; Captain (acting Major) G. L. Duncan, I.M.S.; Captains A. W. Duncan and A. Seddon, I.M.S.; temporary Captain C. M. Ganapathy; temporary Lieutenants G. A. Hildreth and D. S. Otto, I.M.S.

Italy.

Temporary Captains (acting Majors) J. C. L. Day and H. E. Gamlen, R.A.M.C.; Lieutenant W. R. McLinden, R.A.M.C.(S.R.)

Mesopotamia.

Lieut.-Colonel A. R. O'Flaherty, R.A.M.C.; Captains (temporary Majors) T. J. Hallinan and H. G. Robertson, R.A.M.C.; Captain (acting Major) J. F. Grant, R.A.M.C.; Captain A. B. Preston, R.A.M.C.; temporary Captain (acting Lieut.-Colonel) T. H. Martin, R.A.M.C.; temporary Captains G. A. Back, B. E. A. Batt, N. G. Braham, M.C., L. D. Callender, A. L. Candler, H. Findlay, N. Gray, J. N. Lyons, M. D. Mackenzie, B. T. Saunders, R. G. Smith, P. Talbot, and G. S. Woodman, R.A.M.C.; temporary Lieutenant W. B. Vaile, R.A.M.C.; Captains (acting Majors) E. Butler and J. W. Cannon, R.A.M.C.(S.R.); Captains A. B. Black, I. Brawn, R. Colley, W. H. Dye, J. Le M. Kneebone, C. K. Mowll, and R. Rodger, R.A.M.C.(S.R.); Lieutenants W. M. Jones and L. K. Ledger, R.A.M.C.(S.R.); Captains (acting Majors) C. E. W. McDonald and A. Wilson, R.A.M.C.(T.F.); Captain J. S. Hopwood, R.A.M.C.(T.F.); Lieut.-Colonel (temporary Colonel) E. V. Hugo, C.M.G., V.H.S., and Lieut.-Colonel A. E. Berry, I.M.S.; Majors (acting Lieut.-Colonels) E. W. C. Bradfield, O.B.E., and M. J. Quirke, I.M.S.; Captains (acting Majors) R. A. Chambers, P. D. Chopra, E. W. O'G. Kirwan, I.M.S.; Captain J. C. De, I.M.S.; temporary Captains B. R. Chandorkar, S. B. Gothaskar, J. G. Mukharji, I.M.S.; Assistant Surgeons B. St. S. F. Lynsdale, A. E. Mathews, and S. C. Vanderwart, I.M.D. (Assistant Surgeon Branch).

Salonica.

Major (acting Lieut.-Colonel) W. L. Harnett, I.M.S.; Captain (acting Major) D. G. Stoute, R.A.M.C.(S.R.); temporary Captains W. D. Cruickshank, J. R. Davies, and A. C. Sturrock, R.A.M.C.; Captain (acting Major) I. Jones, R.A.M.C.(T.F.); Captains L. B. Clarke, G. Hardwike, P. Seymour-Price, and C. G. Skinner, R.A.M.C.(T.F.).

Obituary.

SIR THOMAS RICHARD FRASER, M.D., F.R.S.,

LL.D.Aberd., Glasg., Edin., Sc.D.Camb., etc.,

Emeritus Professor of Materia Medica and Clinical Medicine in the University of Edinburgh.

Of the distinguished quinquevirate who presided over clinical medicine (on the university side) in the Edinburgh Royal Infirmary in the early eighties of the past century, Sir Thomas Fraser has been the last to pass away. Sir Douglas Maclagan resigned in 1897, Sir Thomas Grainger Stewart died in 1900, Sir Alexander Simpson resigned in 1905 and died in 1916, Professor Greenfield passed away in 1919, and now the last of the "Big Five" has gone to his rest full of years and honour. All these were professors of one other subject in addition to clinical medicine, a fact which in itself marks the gliding of the years and the changes in university teaching and infirmary practice, for the tendency now is no longer to burden the clinical staff with such things as medical jurisprudence, pathology, gynaecology, and materia medica, but to leave it free to develop along its own lines. Probably none but the most persistent *laudatores temporis acti* would wish it otherwise; but assuredly the five professors named rose brilliantly to the heights of success in their double task, and the subjects they taught suffered no abatement in their capable hands.

Thomas Richard Fraser, who died early in the morning of Sunday, January 4th, was born at Calcutta in February, 1841, and so had reached the ripe age of nearly 79 years. He was educated at public schools in Scotland and at the University of Edinburgh, and the keynote of his whole life was struck when at his graduation as M.D. in 1862 he gained a gold medal for his thesis on the characters, actions, and therapeutic uses of the ordeal bean of Calabar (*Physostigma venenosum*, Balfour), published in the *Edinburgh Medical Journal* for 1863–4. Another event at this time had its determining influence on Dr. Fraser's life, and that was his appointment by Sir Robert Christison as his assistant in the Materia Medica Department in the University of Edinburgh. Two other determining steps in his career were his appointment as assistant physician to the Royal Infirmary in 1869, a post which he held till 1874, and his launching out as a lecturer on materia medica in the extra-mural school in 1870. Meanwhile he had been busy with pharmacological research, and in 1864 had written on "The moth of the esere or ordeal bean of Old Calabar," and in 1867 had published "A preliminary notice of the Akazga ordeal of West Africa and of its active principle." These papers were soon followed by the more important essays on "The antagonism between the actions of physostigma and atropia" (read before the Edinburgh Royal Society), and in 1873 on "The kombé arrow poison" (*Strophanthus hispidus*, D.C.) of Africa in the *Journal of Anatomy and Physiology*). In 1874 Dr. Fraser resigned his infirmary and extramural appointments to become medical officer of health for Mid-Cheshire, and during the following three years he performed the duties of that office, at the same time retaining his connexion with materia medica by acting as examiner in that subject in the Universities of London and Edinburgh. In 1877, however, his incursion into public health terminated, and henceforth he gave his whole energies to the subject of his first choice, materia medica, and especially pharmacology.

The way for this decision was opened up by the resignation of his revered and highly distinguished teacher and chief, Sir Robert Christison; Dr. Fraser's appointment to the vacant chair (1877), and to the post of physician to the Royal Infirmary (1878), were fortunate choices, both from the point of view of the new Professor and of the institutions he was thus called upon to serve for so many fruitful years. That his fame was already known outside the limits of Scotland was proved by his appointment (1877) by the Lords of the Admiralty as one of the two medical members of the committee to inquire into the outbreak of scurvy in Sir George Nares's Arctic expedition.

During the following forty years (1877–1917) Professor Fraser was teaching materia medica in the university and clinical medicine in the Royal Infirmary to thousands of medical students. In the classroom he had to deal with a somewhat dry subject, but it lived in his lectures, and took on an unexpected interest and even fascination, especially when he was considering tobacco, alcohol, and the arrow poisons and ordeal beans. There was always (and this applies to his clinical work as well, and to his speaking in public) a note of distinction in what he said, and an unerring instinct for *le mot juste* which held his hearers and never failed to win their applause. He was in the very front rank as a clinician, and in the Infirmary had a following which always included many of the best men of the year. In the laboratory he was in his element, and the wide world benefited by the work done there by Professor Fraser and his assistants, Professor Matthew Hay, the late Dr. Tillie, Dr. Sillar, and others.

But the forty years of which we are speaking held many other things for Professor Fraser. Thus he was Dean of the Faculty of Medicine for many years; he was a member of the University Court between 1904 and 1913; from 1905 he represented the University on the General Medical Council. He was President of the Royal College of Physicians of Edinburgh in 1900–02; of the Medico-Chirurgical Society of Edinburgh in 1901–03; of the Section of Materia Medica and Pharmacology in the International Medical Congress held in London in 1881; and of the Association of Physicians of Great Britain and Ireland in 1908–09. He acted also as medical adviser to H.M. Prison Commission in Scotland and was consulting physician to the Standard Life Assurance Company. But perhaps the most outstanding event of the forty years in these, so to say, subsidiary activities was Professor Fraser's selection (in 1898) to be Chairman of the Indian Plague Commission which was investigating that fatal scourge in our great Eastern Dependency. This necessitated absence from Edinburgh, but with the aid of Principal Sir William Turner, who made interim arrangements, and of Professor Simpson, who acted as Dean of the Medical Faculty, Professor Fraser was set free to do a piece of real national service and also to add very considerably to our knowledge of the dissemination of plague and of the best means to check its ravages. On returning from India Professor Fraser received (in 1902) the honour of knighthood from his Majesty King Edward.

In his later years honours multiplied upon Sir Thomas Fraser. He was already a Fellow of the Royal Societies of London and Edinburgh, and on the death of Sir William Gairdner in 1907 he was appointed Honorary Physician-in-Ordinary to the King in Scotland. The Universities of Aberdeen and Glasgow conferred upon him their honorary degree of Doctor of Laws; he was a laureate of the Institute of France; Cambridge gave him its honorary Sc.D., and Dublin its honorary M.D.; and on his retirement from his chair in 1918 his Alma Mater showed its appreciation by the gift of the honorary LL.D., whilst his many friends presented him with his portrait.

Something has been said of the beginnings of Sir Thomas Fraser's scientific and literary work; but the accession to the duties of his professorship did not check his labours in research, and results continued to flow from his laboratory. An interesting investigation was that which he carried through in conjunction with Emeritus Professor Crum Brown on the chemical constitution and physiological action of poisons, and for which the Royal Society of Edinburgh awarded them the Macdougall-Brisbane prize. He was also Keith prizeman (Royal Society of Edinburgh), and Cameron prizeman in therapeutics (University of Edinburgh). More than one communication came from his pen on strophanthus (1886, 1891, 1895), and he did much to establish its position in cardiac affections, and it is unnecessary to do more than mention the use of physostigmine in ophthalmology. So, too, his work on serpent's venom, on the limitations to the antidotal power of antitoxins, on immunization against serpent's venom, and on the antivenomous properties of the bile of serpents was of high interest and great practical value. He wrote, with the late Dr. Alexander Bruce, on diabetic neuritis, and, with the late Dr. Joseph Tillie, on the arrow-poison of the Wa Nyika and other tribes of East Equatorial Africa. Outside these, which may be called the distinctive subjects of his work, Sir Thomas Fraser wrote (always instructively) on the salicyl compounds in acute rheumatism; on the nitrites in the dyspnoea of asthma and bronchitis; on bone marrow in pernicious anaemia; on opium, morphine, and codeine in diabetes mellitus; and on potassium bichromate in gastric affections. In all these writings there is to be observed the same note of distinction



SIR THOMAS FRASER, M.D., F.R.S.

Photo A. Swan Watson, Edinburgh.

which characterized his speaking; but, more than this, some of them at least will permanently benefit mankind by reducing disease and suffering.

His recreations were fishing, shooting, golf, and photography, all of which he enjoyed to the full at his country home at Druimbeg, Acharacle, Argyllshire, but recently a bronchial affection seriously hampered him in these pursuits.

Some seven years ago Sir Thomas Fraser met with an accident near the door of his own house in Drumsheugh Gardens, which resulted in fracture of the thigh, and it was feared that this might mean retirement from active work, but his marvellous vitality came to his aid and, reinforcing the assiduous care of his surgeon and physician, placed him once more in harness for all his duties. Of late years, however, the bronchial affection referred to sorely handicapped him, and since he retired from his professorship in 1918 he has laboured under considerable physical disability. About a fortnight before his death he was reported to be seriously ill, but he revived again, only to lose ground once more.

Sir Thomas married in 1874 a daughter of the late Rev. R. Duncan, and Lady Fraser survives her husband. They had seven children; but of these one son was lost in a submarine early in the war, another was killed in France, yet another was wounded there, and a son-in law was killed. Their fourth son, a doctor in America, went to France and holds an important post with the Army of the Rhine. There were three daughters, one of whom is the wife of Lieut.-Colonel Kenneth Dingwall, D.S.O.

After a service in the Cathedral Church of St. Mary, the funeral took place to the Dean Cemetery on January 8th, and was attended by representatives of the University, the Royal Colleges, the Royal Infirmary, and other public bodies. Sir Alexander Ogston was present representing the King.

Sir JAMES O. AFFLECK, Consulting Physician, Edinburgh Royal Infirmary, writes:

By the death of Sir Thomas Fraser another outstanding figure has been removed from our ranks. He had only recently retired from his position as Professor of Materia Medica and of Clinical Medicine in Edinburgh University, but during his long tenure of these offices his work had gained for him a foremost place in the world of medicine as an investigator and a physician. His researches, begun from an early period in his career, and continued throughout his whole life, were fruitful in providing the profession with many potent therapeutic agents of proved efficacy with which his name will ever stand associated.

When called to succeed his great master Christison every one felt that the right man had been chosen for the chair. In the affairs of the university and especially its medical faculty he took a leading part, and proved a strong and trusted counsellor.

In the Royal Infirmary, with which his connexion as a physician extended over forty years, he carried on clinical teaching greatly to the advantage of the men who were privileged to act as his students and clerks. His standard was high, and he exacted a like degree from them, inspiring them with the spirit of earnestness and accuracy which characterized his own work. Indeed, the dominant feature in Fraser's whole career was his earnestness in doing the work his hand found to do and in searching for the truth. His personal influence in this direction could not fail to tell upon the lives and the practice of the thousands of pupils who had been under his instruction and guidance.

In the manifold positions he was called to occupy Fraser ever gave the impression of a man of power, while his dignified and kindly bearing won for him the respect even of those who might chance to differ from him. In the later years, although suffering from considerable physical disablement the result of an accident, he showed no lessening of his vigorous mental powers, nor of his interest in all that related to the advance of scientific medicine.

When called a few months ago to receive the degree of LL.D. from his Alma Mater, the enthusiasm which his presence evoked bore emphatic testimony to the academic and the public appreciation of his highly distinguished and honourable career.

Dr. W. C. SILLAR, Lecturer on Experimental Pharmacology in the University of Edinburgh, writes:

With the passing of Sir Thomas Fraser there has disappeared one of the most outstanding personalities of the Edinburgh Medical School and certainly one who has left his impress most deeply on the generations of students who came under his influence. Perhaps the most conspicuous features of his method of teaching were, on the one hand, a power of criticism which exposed unsparingly the weaknesses in the intellectual armour of his pupils, and, on the other, an insistence on accuracy both of observation and of recording which to some may have appeared meticulous, but which was invaluable to those capable of appreciating its value. He was one of the earliest, if not the first, among pharmacologists to aim at the accurate expression of dosage in terms of body weight and to analyse pharmacological action into its component parts, advances which gave to pharmacology a claim to be considered among the exact sciences. Ambiguity and slovenliness of expression were hateful to him. There was no possibility of misunderstanding that which he wished to express clearly, nor were his statements with regard to those facts which he observed himself subsequently found to be erroneous.

His courage and persistence in the face of grave physical difficulties compelled the admiration even of those who feared his undertaking work for which he was no longer physically fit; and those who opposed his opinions could not but be impressed by the ability with which he maintained his point of view, and by the laborious pains with which he collected and marshalled his facts and arguments. His work was characterized by thoroughness and completeness, and many of his observations obtained publicity only in his lectures on materia medica and on clinical medicine. His pioneer work on antagonism earned for him a world-wide reputation, and there have been few names associated with one school alone which have added more to the reputation of that school than has the name of Fraser of Edinburgh. As an authority on medical education, from his twofold experience as laboratory investigator and clinician, he always maintained the importance of a philosophical and scientific training preliminary to and accompanying the study of the professional medical subjects, and ascribed the eminence of the best Edinburgh graduates to the insistence upon and emphasis laid on this aspect of education. He was a powerful advocate of the advancement of knowledge by investigation, and constantly deplored the encroachments made on the time available for this which the teaching demanded of him necessitated. His keen glance and polished diction will long be remembered by the successive years of students who listened to his lectures in the theatres of the Materia Medica department and of the Royal Infirmary.

THE LATE CHARLES LOUIS TAYLOR.

WE have received the following kindly note on our late colleague from the President of the British Medical Association:

The debt of the British Medical Association and of its JOURNAL to Charles Louis Taylor is so great, and yet perhaps so little recognized, that I desire, if I may, to add to the obituary notices of him.

Many years ago, when Mr. Hart was editor of the JOURNAL, I had some conversation on business matters with Mr. Taylor, and a little later we happened to travel together abroad for a short time. During this time unfortunately Taylor fell ill, and I was privileged to render him some little professional assistance, assistance which, after his manner, he appreciated too generously. Thenceforward our friendship became a closer intimacy. We corresponded not infrequently, sometimes on professional matters, more often on literary and general subjects. When I visited at the offices of the Association I generally took occasion also to call upon Taylor. It was one of our little games to test the correctness of my identification of his anonymous articles. These were usually so acute, learned, and witty, that although every now and then one of them would escape my notice, I was very rarely wrong in my positive attributions.

Taylor was a delightful writer, erudite in many ways, general and particular, but especially in historical subjects.

He took pleasure in some by-ways of scientific history on which, and other such matters, he contributed much to the contents, and not a little to the gaiety, of the JOURNAL.

Taylor's wit and keen sense of humour were always entertaining, often brilliant and effective. Many of his paragraphs—fugitive alas!—were in their ironical and humorous vein singularly happy. Moreover, his wit was always barbed with point and precision. No inaccuracy escaped him, and he would smilingly pin the error to the counter, or dismiss it with a whimsical allusion. Sometimes he permitted himself to draw a sharper arrow, when folly and presumption had to smart; but he was too kind-hearted to use the weapon unless the gravity of the occasion required it.

It seemed a pity that so learned and accomplished a man, and so finished and sprightly a writer, should have lived so much in seclusion; but he seemed happiest in his privacy with many books and the few friends who sympathized with his thoughts and studies. I dare say he knew how great and indeed exceptional a power for good his position gave him, both in life and literature, and was content to do it by stealth.

Men of his kind are not turned out in "mass production"; after each one the mould is broken. On Taylor's retirement the Staff of the JOURNAL lost a brilliant colleague; but happily in this world there are diversities of gifts and many kinds of voices, and none of them without significance.

C. A.

WE regret to record the death of Dr. JOHN WAUGH of Toddington, Bedfordshire, on December 30th. He was born in 1850 at Clonakilty, co. Cork, and received his medical education at Trinity College, Dublin, where he graduated M.B., M.Ch. in 1871, proceeding to the B.A. and M.D. in 1882. Dr. Waugh settled at Toddington forty-eight years ago and practised there with conspicuous success. He was highly esteemed by his professional brethren. He was president of the Bedford Medical Society in 1901 and of the Bedfordshire Division of the British Medical Association for three successive years during the war. At the time of his death he was Chairman of the Bedfordshire Medical Committee, a post to which he had been elected in 1912. He had been a J.P. for the Woburn Division of Beds since 1898 and Chairman of Woburn Bench since 1909. He was for many years a member of the Bedfordshire County Council, was a member of the Education and Sanatorium Committees, and chairman of the Maternity and Child Welfare Committee, which, during his term of office, established a service of health visitors throughout the country. He did much to improve the nursing of the sick poor in the agricultural district in which he lived and for the benefit of the maternity and nursing service in the rural areas. Dr. Waugh was a member of the County Insurance Committee and chairman of the Toddington Parish Council. For many years he did most of his visiting on horseback. Some years ago he suffered a severe riding accident from which he never altogether recovered. He was a man of firm conviction, but of much charm of manner, which endeared him to the people among whom he worked so long.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

DIPLOMA OF PSYCHOLOGICAL MEDICINE.

THE Committee of Management of the Cambridge University Diploma of Psychological Medicine announce that examinations for the Diploma will be held, for Part I in October, 1920, and for Part II in December, 1920. A course in preparation for these examinations will be held at the Cambridge Psychological Laboratory from July 19th to August 29th inclusive, and will be conducted as follows:

Part I: Psychology with Practical Work, J. P. Towson, M.A., M.D.; Anatomy and Physiology of the Nervous System, with Practical Work, E. D. Adrian, M.A., M.D.

Part II: Abnormal Psychology, J. F. E. Prideaux, M.D.; Psychiatry, Lunacy Law and Asylum Administration, M. A. Archdale, M.D., Superintendent of the Cambridge County Asylum.

The fees are for Part I £5 5s., and for Part II £4 4s. Further information may be obtained from the Director of the Psychological Laboratory, Cambridge.

UNIVERSITY OF LIVERPOOL.

THE Diploma in Public Health has been awarded to the following: A. J. W. Cunningham, R. W. Gemmell, D. S. A. O'Keeffe.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on January 8th, when Sir George H. Makins was in the chair.

The President reported that Mr. John Murray's term of office on the Court of Examiners would expire on February 11th, and that the vacancy would be filled up at the Council meeting on February 12th. Mr. Murray is re-eligible.

The Hunterian Oration will be delivered by Sir Charters J. Symonds in 1921.

The Secretary reported that no essay had been received on the investigation and treatment of injuries of the thorax received in war, the Jacksonian Prize subject for the past year.

Sir Charters J. Symonds was re-elected to represent the College on the council of Queen Victoria's Jubilee Institute for Nurses for a period of three years from March 1st, 1920.

As arising out of the resolutions passed at the meeting of Fellows and Members on November 27th, 1919 (BRITISH MEDICAL JOURNAL, December 6th, p. 760), it was decided to appoint a committee to consider the question of the representation of Members on the Council.

THE NUMBER OF MEDICAL AND DENTAL STUDENTS.

WE are indebted to the Registrar of the General Medical Council for the following particulars with regard to the number of medical and dental students, respectively, registered during 1919 and the seven preceding years. It may be pointed out that as registration of students is not enforced by all the licensing authorities the totals probable fall short of the actual number of students.

Medical Students.

1912	... ...	1397	1916	... ...	1875
1913	... ...	1480	1917	... ...	2150
1914	... ...	1600	1918	... ...	2253
1915	... ...	1918	1919	... ...	3393

Dental Students.

1912	... ...	336	1916	... ...	158
1913	... ...	361	1917	... ...	143
1914	... ...	294	1918	... ...	161
1915	... ...	217	1919	... ...	612

Medico-Legal.

PROFESSIONAL SECRECY.

DURING the hearing of an undefended suit for divorce on January 13th, Mr. Justice McCardie made some observations on professional secrecy.

The petitioner was the wife and adultery by the respondent was proved; the cruelty consisted of the communication of syphilis by the respondent to the petitioner. Dr. Salomon Kadinsky, Medical Officer of the Venereal Department, Westminster Hospital, was called to prove that the petitioner was suffering from syphilis. Before being sworn he handed a letter to the Judge from the Chairman of the House Committee, stating that the Westminster Hospital had adopted the national scheme for dealing with venereal disease, and calling attention to the statutory regulations, one of which enjoined secrecy. The regulation referred to is contained in the Public Health (Venereal Diseases) Regulations, 1916, and is as follows:

Article II (2). All information obtained in regard to any person treated under a scheme approved in pursuance of this Article shall be regarded as confidential.

Mr. Justice McCardie made the following observations, as reported by *The Times*: "The doctor [of the venereal centre] was one of those who were desirous of assisting the scheme for treating venereal diseases in every way, and for the purpose he wished loyally to maintain the secrecy which rightly rested upon him. But the witness would appreciate that in a court of justice there were even higher considerations than those which prevailed with regard to the position of medical men. He wished to say that, apart from the obligations which might be imposed on medical men by the order of His Majesty's judges, it was desirable that there should be the most loyal observance of the confidence which was reposed in them by patients. He was glad to say that the history of the medical profession was most honourable, and it was to be hoped that its members would always retain the confidence placed in them."

Dr. Kadinsky was then sworn and gave evidence.

The observations of the judge raise a matter of considerable medical interest, with which are involved legal considerations of some complexity. We propose to refer to the matter more at length in our next issue.

Medical News.

UNDER the auspices of the Fellowship of Medicine and Post-Graduate Medical Association, the British Association of Radiology and Physiotherapy has arranged a series of lectures in radiology and electrology, qualifying for the Cambridge diploma (see BRITISH MEDICAL JOURNAL, January 10th, 1920, p. 55). They will be given at the house of the Royal Society of Medicine, 1, Wimpole Street, London, every Monday and Wednesday, at 5.30 p.m., commencing February 2nd, 1920. The opening lecture will be given by Dr. Turrell of Oxford, who will deal with the history of electrotherapeutics. For those wishing to take the diploma the fee for the course is £15 15s., with the additional enrolment fee of 10s. 6d. to the Fellowship of Medicine and Post-Graduate Medical Association; but members of the Fellowship Post-Graduate Course are invited to attend any of the lectures advertised. A detailed syllabus will be issued shortly and all information can be obtained from Miss M. A. Willis, secretary to the Fellowship of Medicine and Post-Graduate Association, 1, Wimpole Street, London, W.1.

A SUCCESSFUL reunion dinner of the medical men of Cheltenham and district who had served with the R.A.M.C. was held on January 10th at the Lansdown Hotel. A most enjoyable evening was passed, and interesting reminiscences were exchanged, as those present had between them seen service in all parts of the globe. Dr. J. Rupert Collins was chairman, and there were present Drs. Braine-Hartnell, Barret Cardew, Sanderson Clow, D. Clow, Conder, Cox, Lidderdale, Longridge, Macfie, Meyrick-Jones, Moore, O'Leary, Park, Peake, Pearson, Allman Powell, H. Powell, Curtis Webb. The usual toasts were duly honoured, and it was unanimously decided that the dinner should be made an annual one.

A DINNER was held at the Connaught Rooms, London, on January 9th, by the Vermin Repression Society to celebrate the enactment of the Rats and Mice Destruction Bill, introduced last year into the House of Lords by Lord Aberconway on behalf of the society. The chair was taken by Lord Aberconway, and Sir Arthur Griffith-Boscawen, M.P., Parliamentary Secretary to the Ministry of Agriculture, attended and spoke appreciatively on behalf of the Government. The other speakers included Dr. Andrew Balfour and Dr. Louis Sambon, who each made interesting observations on the medical aspects of the campaign against rats and other vermin.

THE annual general meeting of the Harveian Society will be held at the rooms of the Medical Society of London, 11, Chandos Street, on Thursday, January 22nd, at 8.15 p.m.

AT the annual meeting of the Royal Microscopical Society on Wednesday next, at 8 p.m., the president, Mr. J. E. Barnard, will deliver an address on the present status of microscopy.

A MEETING to further the objects of the Peoples' League of Health will be held at Claridge's Hotel, W.1, on January 20th, when Lord Burnham will take the chair at 3 p.m. Among the speakers will be Miss Olga Nethersole, the founder of the League, Sir Alfred Fripp, K.C.V.O., F.R.C.S., and Mr. E. B. Turner, F.R.C.S., Chairman of the Medical Committee of the National Council for Combating Venereal Disease.

SIR ROBERT ARMSTRONG-JONES will begin a course of four lectures on physic at Gresham College, Basinghall Street, E.C., on Tuesday next, January 20th, at 6 p.m. The subject of the course is "The animal parasites affecting man, and the diseases caused by them." Admission to the lectures is free.

A COURSE of eight lectures on psychopathology will be delivered by Dr. William Brown, Reader in Psychology in the University of London, at King's College, Strand, W.C.2, on Mondays, at 5.30 p.m., beginning on Monday, January 26th. Although not open to the general public, they will be open to medical students and qualified medical practitioners without fee or ticket.

THE King of Italy has conferred the Cross of Chevalier of the Order of the Crown of Italy on Sir Donald MacAlister, K.C.B., President of the General Medical Council, for services in the war; and permission to wear the decoration in this country has been granted by Royal Warrant to the president.

OWING to the unstable nature of hydrogen peroxide solution, the difficulty of obtaining suitable containers and their cost, the excessive loss by bursting and leakage, the great bulk of the liquid, and the high cost of transport, the Army Council has issued an instruction limiting the supply to very special cases which cannot be satisfactorily treated by some other antiseptic.

DR. ADDISON will receive on January 23rd a deputation from the British Federation of Medical and Allied Societies, which will place before him its views on certain aspects of the larger questions of the provision of efficient medical services for the community.

DR. JAMES MIDDLETON, who recently retired after practising in Peterhead for thirty years, has been presented by his friends and patients with a silver tea and coffee service, a silver salver suitably inscribed, a revolving bookcase, and a travelling rug.

A COURSE of lectures on syphilis will begin at King's College Hospital on Friday, January 30th, at 9.15 p.m. The lectures will be given in the Medical School, and will be continued on succeeding Fridays to June 18th. They will be illustrated as far as possible by cases, demonstrations of technique, and by the epidiascope. Each branch will be dealt with by a member of the staff with special experience of the subject, and it is hoped that a complete presentment of modern teaching on syphilis, and especially of those aspects which are of interest to practitioners, will be given. Gentlemen taking the course can also attend, by arrangement, for clinical teaching and practical instruction. The fee for the course is £3 3s.; further information can be obtained from the Secretary of the Medical School, Denmark Hill, S.E.5.

THE Faculty of Medicine of the University of Birmingham has instituted this year a course of post-graduate lectures on venereal disease to medical practitioners. Three lectures have already been given by Dr. Douglas Heath on syphilis and soft sore. Mr. Bernard Ward will lecture on gonorrhoea in the male, on January 21st and 28th, and February 4th; Mr. Beckwith Whitehouse will lecture on gonorrhoea in the female, and on syphilis in relation to pregnancy, on February 11th, 18th, and 25th; and Dr. Eric Assinder will lecture on the pathological aspect of venereal disease, on March 3rd. The lectures are given in the anatomical theatre, Edmund Street, at 4.15 p.m. There will also be clinical demonstrations at the General Hospital and Queen's Hospital on dates to be fixed at the end of each section of lectures. Admission to the lectures is free. For the full course of demonstrations a fee of two guineas is charged.

THE Royal Mail Steam Packet Company, in announcing that the *Almonzora* has been put on the service to Brazil and the River Plate, states that the *Asturias*, which worked for three years as a hospital ship, was not sunk as has been generally supposed. She escaped a first torpedo attack but was badly damaged in a second. She is being repaired, and will shortly be working as a mail boat again.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*: telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

LIP READING.

"I" asks where and how instruction in lip reading can be obtained by a deaf person.

*** Dr. Dundas Grant informs us that all necessary information can be obtained from Mr. W. Nelson, Royal School for the Deaf, Old Trafford, Manchester; Mr. S. Coward, Council School for the Deaf, Crown Street, Liverpool; or Mr. Jno. Brown, Institution for the Deaf, Edgbaston, Birmingham.

INCOME TAX.

"E. M. S. S." entered on an appointment on May 1st, 1919, at £350 a year; there have been no previous earnings. What is his income tax liability?

*** Income tax liability must be reckoned as for the Government financial year, and "E. M. S. S." is assessable for the year ending April 5th, 1920, on, approximately, ten-twelfths of £350, say £292, less any appropriate allowances—for example, £120 abatement, life assurance premiums, etc.

"MASS REFLEX."

"W. H. C."—The term "mass reflex" was introduced by Dr. Riddoch to denote a generalized defensive reflex that takes place when the inhibitory action of the proprioceptive system has been removed owing to a lesion of the spinal cord. Thus, if in a case with total interruption of the spinal tracts but with a return of reflex activity in the lower limbs; an appropriate stimulus be applied, say to a foot, both legs are defensively flexed at the hip and knee-joint; the abdominal and pelvic muscles may also contract. The reflex then spreads to the visceral nervous system, the bladder and rectum may be evacuated, and vasomotor changes take place. A similar reflex may be elicited from a very young baby whose spinal inhibitory system is not yet developed.

TREATMENT OF PRURITUS.

"M. B." writes: On November 22nd, 1919, "Subscriber" asked for advice in the treatment of obstinate pruritus. May I suggest that possibly the cause may be an excessive carbohydrate diet and due also in part to an excess of protein in the diet as well? I first made this discovery in my own case after I had long been a sufferer from pruritus and had literally spent half the night, sometimes, in scratching myself. I find that if ever I over-indulge in sweet things invariably within a few hours I get a marked itching of the scalp and whole body, while so long as I abstain from sweets, except in strict moderation, I am entirely free from any suspicion of pruritus.

LETTERS, NOTES, ETC.

COPPER ALANIN IN INOPERABLE CANCER.

DR. JAMES DONELAN, London, W.1, showed at the meeting of the Section of Laryngology of the Royal Society of Medicine on November 1st a case of lingual cancer in which the patient had derived considerable comfort from intravenous injections of copper amiuoproprionate (copper alanin). Although the advance of the disease would appear to be arrested, microscopic sections taken during the treatment showed that histologically the epithelioma was unaltered; particulars will be given in the *Proceedings*. The credit for suggesting this substance, amongst other forms of treatment, as a palliative for inoperable cancer, is, Dr. Donelan states, due to Dr. Shaw-Mackenzie. Intravenous administration of a 1 per cent. solution in doses of from 1 to 2.5 c.cm. has been attended with benefit, shown in a remarkable improvement in the general condition of the patients after one or two injections. The treatment appears to retard the advance of the disease, but the experience so far obtained does not allow it to be regarded as more than palliative. As long as the injections are continued from once to three times a week the apparent arrest is maintained, but if they are omitted even for a week a fresh advance can always be noted. It would, however, appear from this that the intravenous injection of this copper salt has some influence on the growth of cancer. Messrs. Boots, Station Street, Nottingham, inform us that the price of solid copper alanin is 30s. an ounce, and of the solution, 1 per cent., 6d. an ounce (without bottles).

THE UNMUSICAL SWAB.

G. P. B. writes: Here's one for your amusement column. The Clinical Research Association telegraphed the result of a throat swab I had sent for examination, no doubt stating "Organism not found." It was telephoned from the post office "Organist not found." My wife replied, "You mean *Organism*." They replied, "*Organist* is on the telegram."

THE TAGLIACOTIAN DOCTRINE.

COLONEL J. SMYTH, I.M.S.(ret.) (Clifton, Bristol), writes: With reference to the note at page 72 of the BRITISH MEDICAL JOURNAL, January 10th, on "The Tagliacotian Doctrine," Hindu mythology goes one better, for we read that Ganesha, having lost his head in battle, his followers stitched on an elephant's head quite successfully. It does not appear that he suffered subsequently even from the hoarseness experienced by Rabelais's patient.

WILKSIANA.

DR. S. D. CLIPPINGDALE (London, W.) writes: To the amusing story you relate of that witty physician the late Sir Samuel Wilks, you may, perhaps, care to add two others:

1. At the banquet given to celebrate his baronetcy Sir Samuel, commenting adversely upon his Christian name, said only three persons bearing the name Samuel had ever obtained eminence. These were the prophet, the writer of the dictionary, and the younger Mr. Weller.

2. Sir Samuel, who was a hater of fads and faddists, once said to a patient, "When your doctor tells you that your lunch ought to contain so many grains of carbon, so many atoms of hydrogen, and so many molecules of water, all you have to do is to send for a nice mutton chop."

IMPROVING US OFF THE EARTH.

AN account was given in *The Times* of January 7th of another grandiose scheme for improving the Charing Cross area. From the sketch plan it appears that Charing Cross monument is all that the architect, Mr. John Murray, proposes to leave behind. There is a certain Prussian thoroughness about the scheme of demolition, and the vast "monumental buildings that might be erected" are the sort of things the Kaiser would have approved after London had been entered in triumph and rebuilt in the best Berlin style. We are pained, however, to observe that the proposed Imperial Way, joining up Leicester Square and the Strand "through property of minor value at present," deletes No. 429, Strand, from the map. This office narrowly escaped demolition when the German bomb fell in Agar Street in September, 1917; we hope to be spared, too, the frightfulness of the new architecture.

SENILE MELANCHOLIA.

IT is an interesting if somewhat melancholy undertaking to watch the dulling effect on cerebral energy of the circulatory changes incidental to the advance of years, from the time when the rich copious blood supply of youth invests the world with a multi-coloured halo, the "clouds of glory" referred to by Wordsworth, till, as the pulse slows down and the arteries become narrowed, these "fade into the light of common day." The outlook on the world has changed. The sun shines as brightly as ever, the lark sings as loud and as long as of yore, but dulled senses perceive only "as through a glass darkly." Still later the diminished blood supply determines a state of physiological misery which may merge into melancholia, a state which is vividly portrayed by a poem of Sydney Dobell's called "Tommy's Dead." The old man, fast approaching dissolution, takes a despairing view of life and things in general:

> The ground is cold to my tread,
> The hills are wizen and thin,
> The sky is shrivelled and shred.
> * * * * *
> The rat and the mouse have fled,
> And the summer's empty and cold
> Over valley and wold.

Appetite and digestion have gone by the board, so he finds

> There's something wrong i' the cup, boys,
> There's something ill wi' the bread.

In fact, wherever he turns,

> There's a mildew and a mould,
> And the sun's going out overhead.

With such a dismal perception of his environment the aged man's confidence in the future is undermined, and he betrays a feeling of apprehension which is common enough at the sixth and seventh ages of man:

> You may give over the plough, boys,
> You may take the gear to the stead;
> All the sweat of your brow, boys,
> Will never get beer and bread.

A feeling that finds ultimate expression in the ejaculation that "'Tis time to go to sleep, boys," for "Tommy's dead."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36, 37, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 34, 35, and 36.

THE following vacant appointments of certifying factory surgeons are announced: Abergele (Denbigh), Buckie (Banff), Castle Hedingham (Essex), Clogher (Tyrone), Hastings (Sussex), Hoylake (Chester), Leicester, East (Leicester), Leyland (Lancashire), Nelson (Glamorgan), Northallerton (Yorks, North Riding), Okehampton (Devon), Wakefield (Yorks, West Riding).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
CLINICAL RESEARCH.

DELIVERED AT THE OPENING OF THE ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH,
BY
SIR JAMES MACKENZIE, M.D., F.R.S., ETC.,
DIRECTOR OF THE INSTITUTE.

INTRODUCTION.

IN proposing to start an Institute for Medical Research we have to answer the inquiry, "Is there need for such an institute?" In all civilized countries there have been institutes established specially devoted to medical research, some of them endowed financially with great liberality, furnished with all the appliances of the most recent scientific discovery, and directed by men of distinction specially trained for the purpose of investigation. There are, moreover, the teaching schools in which research is carried on in innumerable laboratories and hospital wards. What justification can there be for starting an institute in an out of the way place like St. Andrews, seemingly deficient alike in equipment and material for observation?

Certainly our enterprise needs justification, and it is my purpose to-day to give you the reasons for an enterprise of the sort we are about to start, and to show to you how a place like St. Andrews is specially suited for this purpose.

THE SCIENCE OF MEDICINE.

There have been many stumbling-blocks in the path of medical progress. They are mainly due to the lack of understanding of the distinctive character of the science of medicine. The knowledge of disease is so incomplete that we do not yet even know what steps should be taken to advance our knowledge. It has been assumed that the methods which are suitable for various branches of science —as chemistry and physics—should be applied to medical investigation, but the methods of these sciences are not applicable to the investigation of the most important phenomena of disease. The methods which have helped some sections of medicine—as physiology and bacteriology —are not applicable by themselves to the wider fields of clinical medicine.

The present-day conception takes too narrow a view of the field with which medical science has to deal. It assumes that instrumental methods are of necessity the only scientific methods. It has been assumed that because recording and measuring instruments and other methods have greatly advanced such limited fields of medicine as physiology, bacteriology, and chemistry, that therefore clinical medicine should adopt the same methods. In medicine there are phenomena which the scientific instruments of to-day, however delicate, can neither register nor measure, and there are methods necessary for the investigation of disease which no laboratory experience can supply.

As an outcome of this misunderstanding, large fields for investigation which are essential to the progress of medicine have been ignored, methods and principles have been unrecognized or imperfectly applied, while the appropriate investigator has been neither trained nor encouraged to do the work which he alone has the opportunity to perform. Our scheme is not antagonistic to the investigation in other fields of research, nor do we wish to substitute our scheme for others. What we contend is that there are fields essential to the progress of medicine which have been neglected, and it is to some of these fields we intend to devote ourselves, and to use the methods which are suitable for the purpose.

THE AIM OF MEDICAL RESEARCH.

In undertaking any enterprise the first essential is to grasp clearly the objects at which we aim. In medical research the object is mainly the prevention and cure of disease. While that is the chief claim of the medical profession for its existence, much of its endeavour is, however, diverted to the relief of suffering, which is not quite the same thing.

The immediate call for the relief of suffering is so urgent that it absorbs the great bulk of the time and endeavour of the profession, not only in the attempt to give relief, but also in the search for means to afford relief. Our object indirectly aims at the same result, but by a different method—that is, in the prevention of disease and therefore of suffering.

We must, from the outset, keep clearly in view that the goal of our endeavour is the prevention and cure of disease. This aim is, no doubt, the chief motive in all medical research institutes, but its accomplishment has been hampered because research has hitherto been restricted by the limited experience of the investigator, so that the opportunity has been wanting for that broad outlook which is necessary to see the subject as a whole. The bacteriologist, for instance, has undoubtedly greatly increased our knowledge of the tubercle bacillus, but his work does not help in the discovery of those signs of phthisis which reveal the early stages of the disease when the possibility of recovery is at its best. I am in no sense ignoring or depreciating the great advances that have been made by the different sections of medicine, and our institute is in no sense to be considered either as a rival to these or as a substitute for them. Our work is to be supplementary, and we will employ their methods and discoveries, as well as those that are peculiar to our special needs.

THE BASIS OF OUR SCHEME.

We must grasp the principles we should employ to achieve our object. Common sense as well as worldly experience tell us that if we should try to solve a difficult problem the first step should be to make ourselves familiar with all its aspects. The means for solving a problem or overcoming a difficulty can best be found by knowing what the difficulty is and so coming to understand its nature. Applying this principle to our contemplated endeavour, we find that our problem being the prevention of disease, we require a complete knowledge of disease in all its aspects before we can take steps to prevent its occurrence.

The first principle I wish to lay down is that as *disease is made manifest to us only by the symptoms it produces, it is imperative that the first step should be to understand the nature and significance of symptoms.*

It may be helpful if we consider shortly the stage which the study of symptoms has reached, so that by understanding clearly where our knowledge is defective, we may obtain a direction which will guide us to a subject for profitable investigation. Medicine as a science is slowly emerging from a confused state, and has attained a certain degree of precision with the development of knowledge of structure (anatomy) and with the knowledge of function (physiology). To these have been added more precise knowledge of morbid structure and disordered function (pathology). The knowledge acquired from these branches has been assimilated and put into practice by the physician, who recognizes in the living gross changes due to altered structure and function by what is called "physical signs." The later development of bacteriology has revealed the causes of a great many diseases, and its discoveries have been so striking that for the time being it dominates the field of medical research. Its power for good is greatly restricted, however, by the fact that the attention given to the study of bacteria as they behave in the laboratory has diverted attention from their reaction in the human body—that is, in their production of symptoms.

It is obvious that the stage of disease when it has caused structural damage has been fairly well studied, and in the pathological institutes and hospital wards the damaged tissues have received due attention, while the study of the microbes of disease outside the human body is well provided for.

What of the early stages of disease, the symptoms first provoked by the derangement of function or by the entrance of the microbe into the body? This is the stage where there are no gross physical signs, for the structure of the organs has not been damaged, and consequently no mechanical aid to diagnosis can reveal them. What of the stage that precedes the onset of the disease when the patient is rendered vulnerable by some inherent defect or by the condition of his environment? It is manifest that the surroundings in which research is carried on to-day in laboratories or hospital wards do not provide the opportunities for discovering either the early stage or the predisposing stage of disease.

If, then, we desire to prevent or cure disease, it is

essential that the investigation should be carried on in those places where the early stages can be seen and the conditions that predispose to disease can be detected. That, shortly, is the object of our institute and the justification for our enterprise.

THE EARLY STAGE OF DISEASE.

The question arises, Are there not symptoms provoked before damage is done? We who have had experience in general practice know quite well that the vast majority of patients complain of ill health long before there is any physical sign or signs detectable by mechanical aids. Chief among these symptoms are the feelings of the patients—a consciousness of ill-being produced by some sensations, or by the absence of the indefinable sense of well-being, or by the presence of symptoms perceptible only to the unaided senses of the doctor.

Health may be defined as the harmonious working of all the organs. Ill health occurs when there is some discord in the working of the organs. Disease upsets the harmonious working of the organs and gives rise to the consciousness of ill health. The first symptoms, then, of invasion by disease is invariably a consciousness of some impairment, and the vast majority of patients are conscious of something that tells them all is not well. Now, while this consciousness of ill health or absence of well-being—however it may be described—is often the first sign of invasion by disease, as is admitted on all hands, it is universally supposed to be of such an indeterminate nature as to be of little value in the detection of the disease. Certainly to the superficial observer the patient's description often lends colour to this supposition, but if we seek to analyse the sensations produced by ill health it is remarkable how much information can be gleaned when we are trained to obtain from the patient a description of his sensations. But this is a point I want to impress upon you: it requires a long training to enable you to ask the appropriate questions, and a long experience before you can interpret the answers.

NATURE OF THE PREDISPOSING CONDITIONS.

Medical knowledge has advanced so far as to recognize that a great many diseases which impair the health are secondary diseases—that is, they are grafted on a body which has been weakened by some other diseases of slighter virulence. A great many people suffer from slightly impaired health due to some seemingly trivial cause, from which there is no danger to life, but this impaired health lowers the normal resistant powers of the body so that it is rendered vulnerable to more virulent diseases.

The condition that lowers this resistance may not be disease, but be due to the environment, deficient nourishment, the kind of work, or other circumstances.

It is manifest that, to find out these predisposing conditions, opportunity must be had of seeing the patient while these conditions are in operation, and before the onset of the more virulent disease. The period at which the early symptoms are recognized being nearer the time of onset naturally gives a better opportunity for finding out the predisposing conditions than the study of the later stages, when the time of onset may be forgotten.

The investigator must therefore be one who has the opportunity for seeing the early stages, for seeing the patient when still only affected by the predisposing disease, and for finding out the circumstances of his life.

THE NEGLECT OF SYMPTOMS.

As the basis of our scheme is to obtain a thorough knowledge of disease by the study of the symptoms it produces, it is essential you should clearly realize the necessity for such a study, for it is manifest that if you do not, you will fail to understand the methods necessary for the successful pursuit of our object.

While we are all aware that there are defects in medical knowledge, it is not easy to understand what they are. Yet it is manifest that before we attempt to make good the defect we must realize where the defect lies. When I say we must begin with the study of symptoms, it will be said that this subject has been studied by every physician and surgeon from time immemorial. Indeed, it is stated by some authorities that the study has reached a stage where all the knowledge to be got from symptoms has already been acquired, and if any further knowledge is to be gained it must be by the use of methods not yet invented.

So far from that being the case, it can be said that the knowledge which symptoms can yield is so far from having been acquired that the kind of knowledge which they yield is not recognized, and in consequence the steps necessary to obtain this knowledge cannot be undertaken.

In making this statement I am not reflecting upon the intelligence of the physicians and surgeons in the past, any more than that it would be a reflection on the great surgeons before Lister's day to say that they did not know how to find out the cause of suppuration in wounds. It merely shows that medical knowledge has not advanced so far as to reveal its defects. A clear perception of the defect is the first step to make the defect good.

While I could illustrate this point from the study of almost any symptom, let me give some illustrations from our recent war experiences, where the defect has been demonstrated in a striking manner, but where the demonstration has passed unrecognized.

During the war large numbers of healthy men were rejected for the army because the examining doctors detected a murmur in the heart. Why was that? Because there is a widespread belief that a heart with a murmur is an impaired heart, and although it is also recognized that many murmurs are not of serious moment, yet the absence of a knowledge of which murmurs are serious and which are innocent has not been recognized. In other words, the knowledge of how to assess the value of murmurs is lacking.

Here, then, is a matter essential to the knowledge of symptoms which was found lacking, and this defect of our knowledge gravely affected the interests of the State at a time of crisis; yet the conception of medical knowledge by our military and educational authorities did not permit them to recognize the nature of the defect. To take another example—life insurance examiners, whose duty it is to assess the value of symptoms, have not yet awakened to the fact that the methods they employ are but a species of guesswork, and they have not yet realized that accurate knowledge of this kind is absolutely necessary to the progress of medicine.

Deplorable as was the effects of a lack of knowledge of the significance of a murmur during the war, it was nothing to be compared with the results of a similar defect in regard to other symptoms.

When the stress upon the nation became greater and it was found necessary to introduce conscription, those with impaired health and of older age were called up for military duty. The authorities recognized that many of the recruits would be unfit for full military work, and they set themselves the task of devising some method by which the impaired could be given work equal to their strength. They produced the scheme of placing men in different categories, grading them according to the amount of physical work they were supposed to be fit for. On paper this scheme seemed all right, provided that there was the knowledge necessary to recognize the man's degree of impairment. This, every one will recognize, is an essential requirement to the success of such a scheme, and this is just where it broke down—no one possessed this knowledge. It meant that the ordinary doctor should not only be able to recognize the signs of disease, but able to say how much work a man with a given impairment should be able to perform. This is a kind of knowledge which nowhere exists.

It is not necessary to dwell at length on the complete failure which followed the introduction of this method. While many healthy people were rejected, large numbers of people with impaired health were placed in categories which required of them effort for which they were unfitted, with the result that many broke down, some died, others were crippled and spent most of their time, while in the army, in hospital. So great was the outcry that Parliament had to intervene, and attempts were made to mitigate the evil effects of the system.

The reason I call attention to this is that here, before the eyes of the world, was a revelation of great significance of a defect in our knowledge of symptoms, and yet so backward is the state of medicine that the real cause of the failure is unrecognized.

THE TEST OF EXPERIENCE.

The path of medical progress is strewn with derelict schemes and projects. What reason is there for assuming that our endeavours shall not share this unkindly fate?

While it would be ungracious to dwell upon the unhappy lot of many attempts, for each represents a laudable idea followed by energy wasted and hopes unfulfilled, yet a consideration of their procedures may throw a light which will warn us of the dangers ahead. Without going into details one can see that the failures resulted from the fact that the nature of the problem had not been clearly realized, so that the steps taken to solve it were inadequate for the purpose. One of the great causes of failure has been that the lines which guided the attempts were based upon theoretical considerations, and were not the outcome of experience. If one turns to those instances where research has been rewarded, as in the discovery of the cause of suppuration and of certain microbic diseases, it will be seen what long and careful study, with testing of methods and training of the observers, preceded the successful issue. The principles on which antiseptic surgery is based seem now so simple that the younger students have no difficulty in comprehending them. When Lister began his researches the state of medical knowledge was so backward that he had to spend strenuous years in acquiring a knowledge that would qualify him for the pursuit of his quest. After that there were many years full of trials and failures to be endured before success at last crowned his efforts.

A hundred years ago no one man nor body of men understood the principles which should guide to the discovery of the cause of suppuration. Before Lister could make headway he had, with much toil, to discover those principles. Once these were discovered progress was comparatively easy.

That which hampered Lister at the outset of his investigations hampers medical research to-day—mainly an absence of a knowledge of the principles that should guide research. We must recognize that the principles which may guide research to a successful issue in certain limited fields of medicine are not applicable to the wider field which is to be the object of our endeavours. Before we enter upon our enterprise we must be satisfied that our methods have been tested. For that purpose I cite a few experiences which, when you have grasped their significance, will be a justification for our proposal.

I have referred to certain experiences during the war which revealed like a flash of lightning certain defects in medical knowledge. One of these was the inability to assess the value of murmurs or their prognostic significance. This defect was forced upon me early in my career as a general practitioner, as I was constantly being called upon to decide whether the presence of murmurs called for treatment, or rendered the patient unfit for work that entailed effort, or made him unsuitable for life insurance. A study of textbooks gave no light on the subject, and I slowly realized that the knowledge did not exist. Here was a matter essential to intelligent practice which required clearing up, and I resolved to try my "prentice hand" at its solution. For a long time I did not know how to proceed, and, looking back now, I perceive that the principles of clinical research were so imperfectly understood that though the lack of knowledge was manifest to everyone who gave the matter consideration—no one understood how to set about acquiring the knowledge. You will see in such an instance what a short distance medicine had travelled on the road to become a science when a matter of such urgent importance was looked upon as insoluble. Thus Sir William Gairdner, one of the most capable physicians, about this time frankly confessed that the basis on which such signs as murmurs and irregularities were assessed for life insurance was a matter of guesswork—the insurance examiners had no clear conception of any principle to guide them. It occurred to me that the only method was to follow the individuals through life to see what became of those who had murmurs. I started to keep records of my patients and watch their behaviour through the varied circumstances of life—the behaviour of the heart when the patient led a strenuous life, during illness, and in women during the pregnant state and all that it involved.

But I was soon held up by the consciousness that I did not know what to watch. I spent some years noting the different modifications of sounds and the regions into which murmurs were propagated. But I found this led nowhere; and, indeed, when you look back upon the history of auscultation, you will realize that it has not advanced during the last fifty years, simply because it has never been understood how to make use of the method for the advancement of medicine. Time and energy has been wasted in meticulous study of the sounds and their modifications, or in modifying the stethoscope.

Recognizing that my path was blocked, I tried many ways to get a better insight into the problem till it occurred to me to ask the question, What is there to be afraid of in the detection of a murmur? After consideration I found the reply was "Heart failure." What did I know of heart failure and what were its symptoms? Put in this way I had to confess my ignorance, except when heart failure had advanced so far as to produce dropsy and dyspnœa. Again I turned to my textbook, but found that neither physician, pathologist, nor physiologist could explain heart failure nor give the symptoms except in the extreme degrees.

It was evident, then, that I could not hope to assess the value of murmurs until I understood the symptoms of heart failure and how they were brought about. I therefore set about educating myself by watching the onset and progress of heart failure in my patients, and after some years at last acquired a sufficient knowledge to permit me carrying on the inquiry into the significance of murmurs. I achieved a measure of success so that it was possible to lay down certain principles of a simple and easily understood kind, which guide to a sure prognosis in the great majority of cases. There are still some murmurs (as those due to aortic regurgitation) which require further study, as there are factors present in the production of heart failure in aortic regurgitation which I do not yet understand.

Turning to another field of clinical research—the discovery of conditions that lead to ill health. Those who have followed intelligently the more recent developments of cardiology acknowledge that the recognition of the condition now called auricular fibrillation and all the phenomena connected with it has altered the outlook of the profession towards many forms of dangerous heart failure. The manner in which this condition was discovered arose in this way: There had been long recognized, in a confused sort of way, a class of patient with extreme heart failure with an irregular heart. But there was no accurate knowledge as to its significance, nor were its symptoms clearly defined to separate it from other conditions. In my investigations into irregular action of the heart I had recognized this peculiar condition, but for a long time was unable to account for its occurrence and its relation to heart failure. As it was frequently associated with a history of rheumatic fever I followed for years cases with mitral stenosis, taking note of all associated phenomena. One patient whom I had watched for seventeen years suddenly became ill from heart failure, and I found that this coincided with the disappearance of all signs of auricular activity, with the onset of a rapid and irregular action of the heart. The clue being thus given I was able to detect the phenomena peculiar to the condition, and to recognize it as a distinct clinical entity; and by the study of thousands of cases to demonstrate that at least 80 per cent. of all cases with extreme heart failure, as shown by dropsy and orthopnœa, were either due to this abnormal rhythm or had the heart failure greatly aggravated by its occurrence. Moreover, with this knowledge I studied the treatment of these cases, and found certain principles which helped to the discovery of a very satisfactory method, which is now being recognized and generally adopted.

Take a third field of clinical research, that of remedies. In my examination of patients generally, and in those with heart failure in particular, in noting their symptoms I also kept a note of the effect of drugs in modifying the symptoms or in producing new symptoms. In this way I discovered that the action of cardiac drugs could be studied with a fullness and a precision obtainable in no other way. After many years' observation I was able to show that the action of digitalis was not the same on healthy hearts as on diseased hearts, and that of diseased hearts there were many on which it had no effect, while it acted differently in different forms of disease. After much study I was able to lay down principles for the administration of this drug, and to show clearly the cases in which it could safely be given and with benefit, and the cases in which it was of no use. While this subject is far from exhausted, both clinical and experimental

investigation in the action of cardiac remedies are now directed by these observations.

My purpose in citing a few of the results of the application of the principles peculiar to clinical medicine is not to exaggerate their importance, but to demonstrate the principles which achieved such a limited success, so that we may have a guide in our prosecution of medical research. These principles I shall describe to you, and you will see that they are of such a simple and self-evident kind that you will not be surprised that many people consider that they have been recognized and practised from time immemorial. Indeed, you will find them embodied in many eloquent addresses dealing with medical knowledge. But though they are simple and self-evident, no one has thought of putting them into practice with that systematic application which is necessary for the discovery of their real value. For instance, those who have given consideration to my work recognize that the prognosis of heart murmurs has been laid on a sound basis, that the application of these principles was the means of detecting clinically the condition now called auricular fibrillation, with its chief symptoms and its susceptibility to digitalis, long before it was experimentally demonstrated to be due to fibrillation of the auricles. The application of these principles also led to the recognition of the principles of digitalis reaction on the diseased human heart.

When you reflect that these objects had been studied and investigated by great numbers of physicians, as well as physiologists and pharmacologists, who had every conceivable means of assistance, yet their discovery was effected by a general practitioner untrained in methods and lacking in all the accessories supposed to be necessary for research, you naturally wonder how it came about. A little consideration will reveal that it was due to nothing more nor less than the putting into systematic practice certain principles which are essential and peculiar to clinical medicine.

When I place before you the principles on which our scheme of research is based you will see nothing original in them. Indeed, you will recognize them as those which guided the research of the great physicians and surgeons who have done so much in bringing to light the knowledge of disease as it is recognized to-day. You will find, for instance, that these principles were used by the greatest of all clinical investigators—John Hunter. He made himself familiar with the symptoms of the diseased condition, and then by experiment sought the solution. He not only did not restrict himself to the bedside or the laboratory, but he used both, being trained first as a clinical observer before he attempted research. Moreover, he did not restrict himself to a speciality; though called a surgeon, he was in reality a general practitioner, and his writings to-day are as instructive to the physician as to the surgeon. He was the first, for instance, to describe that peculiar form of breathing which later Cheyne and Stokes described, and which now goes by their name.

The great physician of the past had not that restricted experience which the physician of to-day has perforce to put up with. They were all practically general practitioners, many of them also pathologists and physiologists, so that they had that wide outlook upon medicine which to-day is only to be found in the ranks of the general practitioner. The difference between our work and theirs is that, benefiting by their experience, we can now see clearly the principles by which they made progress, and we can now organize research by the systematic application of these principles. To them we owe the methods for finding out the morbid conditions which caused the physical signs of disease and the knowledge of the later stages of disease. We, strengthened by the knowledge they have given us, turn the other way and look towards the origin of disease by the study of its earliest signs.

The Choice of the General Practitioner as Investigator.

During the past year at the hospital we have been having weekly meetings, and I have demonstrated to you the presence of symptoms usually overlooked or misunderstood, and have shown how little we know of the essential matters connected with symptoms. This was done for the purpose of impressing you with a particular defect in our knowledge, so that you might value the need for an investigation into disease in a manner not yet systematically pursued.

One of the greatest difficulties I have had in getting physicians and other medical men to understand what I am driving at is, that I have been looking at the subject for thirty years from a point of view they have never seen; for the investigation of disease as it presents itself to the general practitioner has led me to see the symptoms of disease from an aspect different from investigators in other fields. The elementary principles of research in disease have therefore, to me, a meaning different from that which is usually accepted.

Before I recognized this fact I felt somewhat disappointed at the neglect of the work I had done and the misunderstanding of my results. Moreover, I found that the young qualified men, many of whom had been trained in laboratories, could not understand the principles which guided me, and I found in later years, when they recorded their own observations, that they had not grasped the significance of my teaching.

I now recognize that my ideas were the result of over thirty years' observation and study; and while they seemed to me clear and simple, yet those who had not a similar experience could not grasp my point of view. Recognizing this, I saw that I must look for assistance to those who had undergone experiences similar to my own, and it is for this reason I seek the help of the general practitioner in this research.

The reason, therefore, I have asked you to join in the investigation is because you have the opportunity of seeing disease in the human subject in all its phases. As family doctors you have the opportunity of knowing the individuals before they become stricken with disease, of seeing their surroundings and their mode of life. You are consulted at the first appearance of ill health, and you see the patient through the whole course of his illness.

You have from experience had forced upon you the great defect in medical knowledge, and you have gained some experience in the significance of symptoms. You have therefore taken the first step to qualify yourselves as investigators in that you have recognized that there is a problem to be solved. Your vocation as general practitioners has been to solve the problem, and in your attempt to do so you have been faced with the difficulties that lie in the way of solution. Your experience has given you some insight, so that you can appreciate ways and methods which hold out a reasonable expectation for accomplishing the object of medical research. This is a matter of very great importance, because to-day investigators do not see the problem as you see it, and therefore do not take the steps which will lead to a solution.

The Training of the Observer.

I want you to grasp fully what is required of a trained clinical observer, because to-day the essential qualities to a great extent have been lost sight of. This has arisen through an imperfect concepton of the requirements for clinical observation. Methods that have been found suitable and necessary for other sciences have been introduced, and have been substituted for those that are essential and peculiar to clinical medicine. Men are now recommended to go into laboratories devoted to one or other of the branches into which medicine is split up, and are trained in methods that are supposed to be more exact and scientific than the clinical methods. This view is the one dominant to-day, so that we find preference given to men trained in this way in all matters concerned with research, and even in the teaching of medicine. This practice is based upon a misunderstanding of what clinical observation requires and what clinical research means, and it leads directly to incompetence of the laboratory trained man as a clinical observer and as a clinical investigator.

A very brief consideration will render this apparent. Take the physiological laboratory, which is assumed to be the most scientific of all our branches. An experiment is performed which produces a reaction which an instrument can record. This record is carefully studied, and certain conclusions—it may be of value—are drawn. From a great many experiments of this kind a large increase of valuable knowledge has been obtained. The success and usefulness of this method is undoubted, but its success has blinded people to its limitations as a method to be applied in clinical medicine. Each of these experiments produced a great many more reactions than the one recorded, but as

these reactions were not capable of being recorded by an instrument, they were ignored. The result is that a laboratory-trained observer cannot recognize any sign except those of a grosser kind, while the subtler and more elusive signs pass unrecognized. It therefore happens that the result of every experiment is only partly recognized. The clinical observer is like the physiologist in this respect, that both are searching for a reaction to a stimulus. In physiology the stimulus is artificial, in clinical medicine it is natural or the result of disease. In both cases a variety of reactions follow the stimulus. The grosser reactions are only noted by the physiologist, and he has no means of detecting the subtler. In clinical medicine the grosser kinds have also to be detected, and the laboratory-trained observer can detect them, but his training has not enabled him to detect the subtler reactions, and hence he fails to attain that skill in observation which is essential to the clinician.

I have already referred to the fact that the bulk of the most instructive phenomena produced by disease are incapable of detection by mechanical aids. Many valuable signs are only perceptible to the trained eye or the trained ear or the trained finger. Still more valuable signs are only revealed by the sensations experienced by the patient. To interpret these requires a training that can only be acquired by many years of patient observation, during which the mind is stored by the experiences of the past, by methods which are peculiar to medicine. These methods can never be acquired by a laboratory-trained observer, and it is because of this that men trained in the laboratory fail as clinical investigators, however distinguished they may be as physiologists, chemists, or bacteriologists.

Before we can make progress towards the solution of any problem there are certain preliminary steps to be taken. The first is the perfecting of the instruments to be used. Before a man shaves he first sharpens his razor. Before we undertake an investigation we must see we have the appropriate implements. One implement essential to the success of our enterprise is a trained observer. It is scarcely realized what a difference there is between a doctor who has systematically trained himself to observe, and another who has perfunctorily examined his patients without attempting to improve his powers of observation. This can be shown in a simple matter like the feeling of the pulse. Many experienced doctors fail to detect irregularities except when very marked. Some physicians will recognize every beat in an irregular pulse; others will fail to detect a large proportion of the beats. Indeed, so common is the inability to count the beats in certain cases that I view many observations with a good deal of suspicion. Certain steps are necessary to train an observer so that he can acquire the ability to detect the peculiarities of the pulse, and to recognize their significance. He must, for instance, have seen a large number of cases, and studied them with great care, so as to correlate the sensations of his fingers with the result of observations made by his other senses. Thus he must correlate the pulse peculiarities with the sounds of the heart, with the movements of the apex and of the jugular veins, and with the character of the sphygmogram. The significance of the pulse can only be recognized by watching the patient for long periods to ascertain what happens to him, and the variations that take place in the pulse and in the other symptoms as the case progresses have to be observed.

The same methods are necessary to train the other senses. A glance at the face will often reveal a great amount of information to the trained observer. Consider the years of study and observation that has been necessary to acquire that knowledge—a kind of knowledge essential to medical investigation, and impossible to acquire by the use of instruments however scientific.

I have referred to the well recognized fact that the symptoms provoked in the early stages of disease are mainly subjective. There are a number of these sensations, and it is evident that, if the early stages of disease are ever to be recognized, the nature and significance of these sensations will have to be understood. There is, unfortunately, a widespread belief that all the information that the patients can yield is easily acquired, and it is generally supposed that the information is often so misleading as to be of little value. Moreover, the belief has obtained that abnormal signs revealed by an examination of the patient, especially by the use of an instrument, are of much greater importance, so that practically all the instruction at the schools is devoted to the study of physical signs. This is a great mistake, and is the chief reason the knowledge of the early stages of disease is so defective.

To bring this aspect of medicine before you, consider for a moment some of the sensations which indicate the onset of disease. Most patients, when they fall into ill health, become conscious of it by the fact that they are easily exhausted—exertion which they used to undertake with ease and comfort now renders them tired. The questions that arise are: "What is exhaustion? and what is the mechanism of its production?" Put in that way you will recognize at once how little we know of this important symptom. An inquiry which I have been making for a number of years has led to a limited knowledge, and I can recognize that this sensation can arise from a number of causes, and where the condition of the patient is carefully investigated it will be found that this sensation of exhaustion can be divided into a number of different kinds.

The same careful training is necessary for the investigation of the most clamant of all symptoms, that of pain. To understand the full significance of pain in any case, we have to know a great many matters which are still hidden from us. The tissues capable of producing pain, the nerves in whose distribution the pain is felt, the manner in which the pain spreads, and the laws governing the spread of pain; the character of the pain itself; the manner of its onset and its variations, and the phenomena with which it is associated, are all matters which it is necessary to understand before we are qualified to undertake an investigation into disease. So with all other sensations.

It is manifest that before a patient's sensations are understood the doctor must have a knowledge of the mechanism of their production and of their significance. As a rule, the patient is merely concerned with detailing the sensation which troubles him most. It rests with the doctor to obtain by means of judicious questions the particulars of the different sensations. But the doctor cannot ask the proper questions unless he has sufficient experience and a knowledge of the nature of the sensations.

You will gather from this that the physician who would undertake the investigation of the early stages of disease must not only be a man of very wide experience, but must have trained himself to observe on lines that have hitherto received little attention. The training, amongst other things, must have included the watching of patients for long periods to see the outcome of the complaint. If you grasp my meaning you will understand how vain it is to expect the early stages to be revealed in hospitals, where the custom is to hand the out-patient department over to the junior physician, who lacks that experience which should make him a competent examiner. I have for many years been calling attention to this error in education and showing how it hampers practice and research.

To qualify a man to be a skilled investigator in bacteriology, in physiology, and in chemistry, many years of special training are necessary. If it be realized that before a man is qualified to undertake on the lines laid down an investigation for the prevention and cure of disease—the real object of medical research—he must have a knowledge of symptoms, it will be seen that a training is required which is bound to take a great many years. It is curious that men see the necessity for this in bacteriological, physiological, and chemical research, and will undergo the training, but so far the necessity has not been recognized for such a training before undertaking research in clinical medicine.

I dwell upon this so that we may recognize that to make ourselves competent observers we must ever be learning. When we are face to face with our patients and are unable to detect the nature of their ill health, we must not say to ourselves that the disease is not capable of recognition, but rather say that the signs of disease are there, but we are incapable of detecting or understanding them. This is a humiliating confession but a salutary one, and its recognition will direct attention to the sources of failure.

PRINCIPLES OF INVESTIGATION.

While the methods hitherto used in the examination of patients will be employed, other methods which are peculiar to clinical medicine, but which have been imperfectly

understood and only partially used, will be systematically employed. These methods will include certain simple principles which I have found useful in conducting observations on disease. These principles are but provisional, but they will be our guide until the knowledge they reveal is exhausted, by which time we will have gained such an insight into research and what is wanted that they will either be added to or supplanted. We must all recognize that in this work we are but learners, and while the steps we are taking to-day may seem very important and our discoveries may bulk largely in our visions, as time goes on their place in the perspective may be very small. First steps are always feeble and uncertain, but they are a necessary prelude to the vigour of full achievement.

As I have said, the principles that I am about to place before you have been in use during the whole history of medicine, only they have been so imperfectly appreciated and applied that their significance has been overlooked.

These principles are, first, the clear differentiation of symptoms; second, the classification of symptoms; third, the employment of the recognition of a new fact as a foothold for further advance (the law of progression); and fourth, the search for other symptoms (the law of associated phenomena).

Differentiation.

Having detected a symptom, whether subjective or objective, it is necessary to separate it clearly from all others that it resembles. This proposition is so self-evident that it seems unnecessary to dwell upon it, yet its significance has not been appreciated. The importance of this step was forced upon me many years ago when I began an inquiry into the significance of irregular heart action. I had not gone far in the study of the subject before I recognized that there were different kinds of irregularity, and though others had also, no doubt, recognized this, no one had attempted to differentiate them with any degree of accuracy on a rational basis. This inquiry I undertook, and was able to found a differentiation based upon the mechanism of their production.

But in this inquiry I found that differentiation means more than the mere recognition of the mechanism of production. A differentiation based on the mechanism rarely leads to a recognition of the significance of a symptom. We know, for instance, that physicians have for long differentiated the murmurs of the heart on the basis of the mechanism of their production, but not knowing how to carry the inquiry further they left the matter there, and a misunderstanding of the significance of the murmurs has resulted. We know to-day how widespread is the misinterpretation of the significance of murmurs, and what injury has been and is being done to the individual patients and to the progress of medicine because of this limited differentiation.

Medicine calls imperatively for a further differentiation—one based upon the significance of the sign in its relation to the progress of the disease that produces it. A murmur may be differentiated according to the valve orifice at which it arises, but it is necessary that it should also be differentiated by the effect its cause has upon the functional efficiency of the heart. This you will at once see is of the first importance, not only in the practice of medicine but also in the pursuit of all kinds of research in which the heart is concerned.

Some years after I had begun the investigation of irregular heart action, other investigators took the matter up and helped greatly to determine the mechanism by which they were produced; but I was struck by the fact that they all stopped there, and practically no one but myself undertook the far more difficult task of differentiating them so as to determine their significance. This could only be done by applying certain principles of investigation which are essential to medical research; I will describe them to you later.

It is necessary to insist that we should always keep in mind that not only have we to detect the symptoms of disease, but we must differentiate them clearly on two principles—one on the basis of the mechanism of their production, the other on the bearing they have on the patient's future.

Classification.

The accumulation of symptoms is so bewildering in their numbers and complexity that it seems impossible to obtain a clear and simple comprehension of their significance. So long as what is called research is but the addition of new symptoms and of new methods for their detection, it can safely be said that little progress will be made in our knowledge of the fundamental principles of research.

A classification based upon nature's laws tends towards simplicity and a fuller understanding. Such a classification I have attempted, and although I am far from stating that it fulfils all the requirements, it is nevertheless of distinct practical use, and as it is based upon natural laws it leads us to clearer understanding of symptoms. In this classification, symptoms can be divided into three groups according to the mechanism of their production, namely:

1. A *Structural group*, shown by a physical sign the result of a structural change in the tissues.
2. A *Functional group*, due to the disturbance of function.
3. A *Reflex group*, arising from a stimulation of the central nervous system.

I pointed out in dealing with differentiation that, in addition to a differentiation due to the mechanism of a symptom, another sort of differentiation is required showing the significance of the symptom. For instance, when we recognize a sign due to a structural alteration, whether it be a change in the size or shape of the organ or a modified sound of the heart due to a deformed valve, it should be recognized that the knowledge obtained from the mere recognition is extremely limited. What it is required to know is what effect has the cause of the sign upon the patient's future? This question, which can be applied to the consideration of every symptom, cannot be answered by the study of the symptom, so we look for other signs, being guided in our search by the natural question, whether the functional efficiency of the organ is affected. Thus we are guided to seek for evidence of the second group of symptoms.

There are a great many diseases in which we fail to detect any structural sign or any functional impairment, yet we can recognize the disease with great accuracy. Most cases of gastric ulcer are recognized by such signs as pain, tenderness of the skin of the epigastrium, and hardness of the upper part of the recti muscles. There may be no structural sign nor sign of functional disturbance. Such symptoms are produced by an irritation of a limited portion of the central nervous system in a reflex manner, the source of irritation being in the ulcer.

While these groups form the basis of a classification, there are combinations of symptoms which give occasion for further grouping and subdivision, which we will discover in the course of our inquiry.

Law of Progression.

For many years no advance has been made in the use of many methods, such as the thermometer or the stethoscope. These and many other instruments are of the greatest use in clinical medicine, but it has been assumed that the limits of their usefulness have been reached. As a matter of fact, the clinical significance of the information which they yield has only been partially understood.

This restricted use has arisen because the laws governing research have not been understood. There has been a desire to improve a method, but it has not been recognized how it could be done. This has usually taken the form of modifying the instrument, as in the different forms of stethoscope that have been evolved. No doubt much benefit has resulted by perfecting the *x*-ray methods and laboratory methods generally, but the progress has rarely been commensurate to the time and trouble spent, because it has not been guided by an understanding of the principles of clinical investigation.

The discovery of a new fact or a new method must not be the end of the inquiry which has revealed it. Rather must it be looked upon as a means to an end, a stepping-stone to help a further advance. Medicine has failed fully to appreciate this aspect, chiefly because it was not understood how progress should be made. If the path had been clearly indicated, a forward movement would have been made in many instances where our knowledge has stood still, as in the signs discovered by the stethoscope.

The chief causes that have hampered progress are the failure to recognize the necessity for understanding the prognostic significance of symptoms, and the lack of understanding of the principles of investigation.

The Law of Associated Phenomena.

One principle of supreme importance for the advance of medicine is the law of associated phenomena. This law is based on the fact that ill health is always accompanied by a number of symptoms, and in every case it is incumbent upon us to search for other symptoms besides those which are most prominent. When, for instance, we detect a structural symptom, we must recognize the limited knowledge it reveals and we must extend our observation and seek for signs of functional derangement. If we detect a sign and recognize it as the product of reflex stimulation, we are at once given a suggestion for further inquiry, and we must search for other signs which will lead us to the area of stimulation. The discovery of this area will lead us to the organ at fault, and it may be to the nature of the condition that provokes the reflex, and thus we get nearer the actual disease.

A very little study will soon bring conviction of the necessity for constantly keeping this law in mind. From the simplest complaint, a headache or a cough, to the most obvious physical sign indicating gross changes, the due appreciation of the case will depend on the application of this law.

The Significance of Symptoms (Prognosis).

The law of associated phenomena is necessary to the understanding of another of our main objectives. We intend to find out the effect the cause of a symptom has on the patient's future—that is, we intend to study prognosis, a part of medical science which lies at the foundation of the intelligent practice of medicine. To do this we must keep in contact with the patient, and follow him during the remainder of his life or for the duration of his ill health, and in doing this we must ever be on the look-out for the modification of the symptom and the development of new symptoms—that is, by the detection of all associated phenomena. This, indeed, is a necessary part of our work, and we must formulate a plan by which it can be carried out. We will have from time to time, as experience ripens our judgement, to alter or modify such a plan.

It is by this part of our work that we hope to detect the early stages of disease. At first we may have no true conception of the cause of a symptom we may detect in an individual, but in course of time, as the disease develops, we may be able to recognize it. By referring back to our notes we will see how the symptoms were developed, and thus acquire a knowledge of the early stages. By finding similar symptoms in other patients later we may be able to detect the disease earlier, and so back to the beginning.

The Use of Laboratory Methods.

The principle on which we will work is that we recognize the symptoms of disease, then endeavour to find out the agents producing the disease. Many of the symptoms will not be recognizable by the unaided senses, so in applying the law of associated phenomena we will use mechanical and other laboratory methods to assist us. We start with a chemical laboratory and an x-ray department, and we will continually resort to these departments for assistance.

So many diseases arise from bacterial invasion that no method of research into the cause of disease would be complete without a skilled bacteriologist, and we have arranged for a bacteriological department. At the outset our endeavour will be to find out the nature of the symptom provoked by the different bacteria. We recognize by the clinical symptoms the occurrence of a great many infectious diseases, where the specific microbe has been discovered, as typhoid fever and pneumonia. The recognition of other diseases is dependent entirely on the clinical symptoms, as measles and scarlet fever. We infer that the symptoms produced by other infections may give rise to specific symptoms, and we will use this idea as a guide in one field of research. It is manifest that bacteriology must be greatly hampered until the symptoms of invasion are related to the infective agent causing the ill health.

The Class of Patients.

It may seem to you that St. Andrews with its population of about 10,000 people is too small a centre for the purpose of research, and that large towns would afford greater opportunities, not only in numbers but in variety. There are various reasons why a town of small size is better adapted for our purpose. As a rule the inhabitants are less migratory, and we can more easily keep in contact with them and so have the opportunity of acquiring a knowledge of the significance of symptoms. We can acquaint ourselves more readily with their environment and with the conditions that preceded their ill health.

Thus we have the opportunity for this particular kind of research. It is not our intention to inquire into the rarer forms of disease, but to study those that are most common, and as St. Andrews is far from exempt we will have plenty of material of the sort we want. Indeed, I must warn you against attempting too much. Far more knowledge is to be acquired by the thorough study of a few than by noting the more prominent symptoms of a large number of patients. We hope by this method gradually to lay the basis of a symptomatology that will be available for those who have perforce to see a large number of patients, and who have not the time and opportunity which will be afforded us.

The class of patient we propose to study, while including patients with different kinds of disease at all stages, will chiefly be those at the very earliest stage of their illness. For this purpose the patients that come to you in your ordinary practice complaining of ill health with no definite physical signs will receive our special consideration. Not only will careful note be taken of their complaints, but we will endeavour, as far as possible, to discover the cause and the mechanism by which their symptoms are produced, while special arrangements will be made for finding the outcome of their ill health.

Expectation of Results.

I must warn you against any immediate expectation of achieving the chief aim in medicine, the prevention and cure of disease. A long and weary road has to be travelled, and many of us will fall out before that is achieved. As I have said, we have first to train ourselves in the detection of symptoms. Our immediate object, after training ourselves, is to find out the nature of the symptoms of disease, on the lines I have indicated, by discovering their mechanism, and by watching individuals to see what happens. It may be we may detect in this way the onset of some diseases. After that we will have to search for those who show the early signs of a particular disease, and recognizing these signs, seek then for the cause and the factors that favour its onset.

Such a contemplation of our work seems discouraging, for we all like to see the fruits of our endeavours. But it must be borne in mind that all great enterprises are based on work that has been done by individuals whose part is lost in oblivion. Someone has to do the obscure but necessary work of digging a foundation, and if it falls to our part we must be content with the knowledge that we are playing a necessary part in a great enterprise.

POINTS IN THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

BY

THOMAS BEATTIE, M.D., F.R.C.P.,

PROFESSOR OF THERAPEUTICS, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE; SENIOR PHYSICIAN, ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

I MAY remind you first of all of a few generalizations concerning pulmonary tuberculosis. Nature is curing tuberculosis of the lungs daily all around you, and the pathological statistics of the world reveal the startling fact that 65 per cent. of the population, especially those of large cities, have definite evidence of having had tuberculous infection of the lung. Some of them, even in advanced stages, become arrested and they die from some entirely fortuitous cause. You must be prepared to find on physical examination tuberculous cicatrices, fibrosed areas, scars, tubercle that has long since been arrested and is no longer active. To put it in another way, more than every second person you meet has to your knowledge tubercle in his lungs which has become arrested, and you therefore may find in some of your patients evidences of arrested tuberculous foci and may be misled into advocating active remedial measures where nothing more was necessary

* Lecture given at the December meeting of the North of England Branch of the British Medical Association.

than general directions concerning choice of occupation, mode of life, etc. It is important, then, to distinguish arrested from active tuberculous lesions.

Family History.

I would emphasize the value or otherwise of family history. When you have discovered signs of pulmonary tuberculosis you are familiar with the constant cry and pleading that there is no history of any such condition in the family. Let me assess the value of that for you. A family history of tuberculosis which has involved several members of a family and in a large proportion of those involved there has been constant retrogression, and, finally, fatal termination—that is a bad family history, indicating that the soil in that family is fertile for the growth of tubercle. In a family history in which there is much tubercle—pulmonary, glandular, articular—but in which the majority of the cases have recovered and are still well after many years—that is a good family history, showing that the soil in that family is not fertile for the growth of tubercle. Where there is no family history of tubercle that history is usually bad. It is certainly exceedingly doubtful at best. It is virgin soil which has never been sown and is more apt to prove fertile than not. Such is the Arab coming from the desert into the city, and succumbing rapidly to tubercle when once infected with it.

Previous History.

There are two points of extreme value. The first is a previous history of pleurisy, concerning which inquiry should always be made. The second is a history of haemoptysis. It may be that after the occurrence of one or other of these events the patient took sufficient rest or put himself under sufficiently good conditions to bring about arrest of the tuberculous condition at the time. Then at a subsequent date, sometimes remote, conditions of work or of living—or even trauma—may have lowered the general or local resistance and caused a quiescent focus or foci to assume activity.

Subjective Symptoms.

A person who comes complaining of gradual loss of flesh or of constantly increasing languor, lassitude, tiredness, inaptitude for his work, is to be regarded with suspicion. The person who complains of indigestion, dyspepsia, retching, etc., should have his chest examined as a routine practice. Never forget that many a case is passed over and treated with stomachic mixtures for many months before being recognized as one of pulmonary tuberculosis. Other symptoms are anaemia, slight evening pyrexia, feeling dull and tired in the evenings; if the temperature were regularly taken for a week and a slight evening rise demonstrated, these evidences should arouse your grave suspicion.

Objective Signs.

There is no physical sign in the whole range of pulmonary examination that has not been advanced at one time or other as being a sign of pulmonary tuberculosis, and perhaps properly so, because pulmonary tuberculosis is exceedingly variable in its locality and in the pathological changes which it effects in the lung. *Deficient expansion* in itself as a single witness is not of much value and may indicate nothing more than a lateral curvature of the spine, an asymmetrical thorax or an old cicatrix, long since quiescent and arrested. *Impaired resonance on percussion* is of extreme value if taken in conjunction with other signs, but alone is not sufficient to justify so serious a diagnosis. *Cogwheel respiration;* you will find that exactly corresponds to the heart-beats, and is simply interrupted breathing of cardio-respiratory origin. Prolonged expiration merely denotes emphysema and harsh breath sounds may be nothing more than puerile.

The early signs of greatest import are: Slight impairment of percussion resonance in conjunction with enfeeblement of breath sounds and localized areae of crepitations. The most important of these is the localized areae of crepitations. The crepitations may be so slight as to be properly described as rustling or crumpling crepitus. It is sometimes difficult to determine whether they are pleuritic or alveolar in origin. These crepitations when heard over a localized area are highly suspicious of tuberculous deposit at that site. Their method of elicitation may be remarked upon. You sometimes hear them with normal respiration, you will hear them more readily with deep forced respiration. You will hear them best by what is termed the post-tussive method.

Post-tussive Crepitations. — Get the patient to take a deep breath, fully exhale, and at the end of expiration to cough one single cough followed by a full inspiration. Crepitations which were previously doubtful may be brought out to their maximum audibility by this method. Quite frequently I have found that the crepitations are not on the side of impaired percussion, but on that side which appears to be the more resonant.

Locality.—Do not be satisfied with having examined the apices. Tubercle may be deposited at any site in the lungs. You must therefore examine not only the apices, especially behind in the supraspinous regions, but also the margins of the lungs and the lines of the interlobar sulci. You must examine the apices of the lower lobes in the interscapular regions and also the bases. You must bear in mind that you may have either scattered foci or localized masses of tubercle at any site in the lungs.

Varieties of Pulmonary Tuberculosis.

There are certain special types of tuberculosis to which I should like to draw your attention. The ordinary tuberculous deposit may occur at any site, as I have indicated. There are also the subpleuritic and the peribronchial varieties and hilus tubercle.

Hilus tubercle starts in the mediastinal lymphatic glands and extends along the peribronchial lymphatics. It gives rise in the early stages to no definite signs other than those of emphysema and bronchitis. If you find that your patient is not responding to treatment in the way that a case of emphysema and bronchitis should, then your suspicions should be aroused, and you must carry the matter further.

Examination of Sputum.

Too much consideration is laid by many upon the examining of sputum. Of course it is an exceedingly valuable piece of evidence if positive, but in the majority of instances the man who cannot diagnose pulmonary tuberculosis until he has found tubercle in the sputum misses a very large number of early cases. If you do find tubercle in the sputum, it means that the tubercle in the lung has been there for a sufficient length of time to have eroded and ulcerated a way out, and to have been capable of discharge through the bronchi—that is to say, the tubercle is now of the open variety, and long before it had ulcerated a way out it was present in the lung. You can have much tubercle present in the lung with no tubercle present in the sputum. A negative sputum report is of no value whatever; a positive sputum report is of great value.

X-ray examination does assist you very materially in diagnosing tubercle of the lung, particularly the hilus variety, which is difficult to recognize by any other method.

Tuberculin Diagnostic Test.

The last point in determining a diagnosis of suspected tubercle is by the tuberculin test. I no longer use the methods of von Pirquet, Morro, or Calmette, for the reason that a local reaction in itself does not distinguish between an old arrested focus and a recent active lesion. I prefer to use Koch's T.A.—1 in 1,000 dilution. Give 1 c.cm. hypodermically, and, if the reaction be positive, you will witness not only a local reaction at the site of inoculation—and a general reaction indicated by some elevation of temperature, which should be taken every two hours—but also, and most important of all, a focal reaction indicated by increased audibility of crepitations at the site suspected.

SOME time ago an Interdepartmental Committee on the Production and Utilization of Alcohol for Power and Traction Purposes recommended the establishment of a small permanent organization under the Department of Scientific and Industrial Research, to continue investigations into the problem. The Fuel Research Board of the Council has now appointed Sir Frederic Nathan to be Power Alcohol Investigation Officer. After making a survey of the present position he will submit proposals to the Board for such experiments and research as may appear to be necessary.

THE ROUTINE TREATMENT OF MALARIA IN UGANDA.

BY

J. A. TAYLOR, M.B.EDIN., D.T.M.LIVERPOOL,

MEDICAL OFFICER, UGANDA PROTECTORATE.

AFTER more than ten years' experience of the treatment of many thousands of cases of malaria in Uganda, the results I have obtained with small doses of quinine have led me to conclusions so different from those expressed recently in your columns that I hope they may be worth recording.

Most of the cases of malaria met with in Uganda are simple subtertian without complications, and the routine treatment I adopted for these was as follows:

1. Calomel, in an average dose for an adult of not less than 5 grains, followed in some hours by a saline. This usually meant that the calomel was given last thing at night, and the salts at 6 a.m., or when the patient awoke the next morning; but if there were any signs of the calomel acting during the night the salts were given at once.

2. Quinine, 5 grains of the hydrochloride by mouth one hour after the saline. This was usually about 7 a.m., and between this time and noon three more doses of 5 grains each were given at more or less regular intervals—for example, 8.30 a.m., 10 a.m., and noon. On subsequent days, until the temperature had remained normal for twenty-four hours, 20 grains were given daily in the same manner, the first dose at 6 a.m., or as soon as the patient was awake, and the last dose at noon. After the temperature had been normal for twenty-four hours the quinine was reduced to 15 grains daily—5 grains before the morning, mid-day, and evening meals. This was continued for one week and then reduced to 10 grains daily—5 grains morning and evening. Ten grains daily were continued for a fortnight, and then only 5 grains each evening for two months.

3. Phenacetin in 5-grain doses up to 15 grains daily for headache alone, or aspirin in the same doses if complaint were also made of pains in the limbs and body.

Under this treatment the temperature usually remained normal after the third day, but occasionally, especially if a first attack, after four or five days; no complications occurred in any of my cases from the effects of the quinine or malaria, there were no recurrences of the fever during the three months' treatment, and attacks only occurred later when some definite fresh infection had taken place.

In the most typical cases all the quinine was given before noon while the temperature was little if at all above normal, and there was thus better absorption and little likelihood of vomiting. In the less typical but not uncommon cases in which the temperature had not fallen in the morning, my practice was to give only one or two of the 5-grain doses of quinine at three or four hours' interval in the morning and the remainder of the 20 grains during the afternoon and evening. If the quinine was vomited or the temperature rose above 104° F. before at least 15 grains of the quinine had been taken, an intramuscular injection was usually given. Intramuscular injections, however, were required in less than 1 per cent. of my cases, and usually on not more than one occasion. If the patient made no objection I gave the quinine in solution, but I cannot say I found this more satisfactory than in the compressed form. A very great objection on the part of the patient to taking quinine in solution—and the majority of one's patients have a very great objection—in my experience reacts on the stomach, the absorption is retarded instead of hastened, and vomiting sometimes ensues, whereas tablets would be retained and absorbed.

My remarks apply to subtertian malaria. I have met with no cases of pure quartan. Pure tertian was also uncommon in Uganda before the war, but during the war there was a considerable increase in the number of cases, no doubt brought about chiefly by the troops from India. In tertian I have carried out the same treatment as described for subtertian, but have waited until the temperature has remained normal for two clear days before reducing the dose to 15 grains.

With larger doses of quinine daily I have been unable to obtain results as satisfactory. Nor have I found the method of giving 10 grains of quinine two or three times a day satisfactory. By the time the evening, and sometimes the mid-day, dose is given, the temperature may have already risen and the quinine may be vomited or only partly absorbed. Also, after an evening dose of 10 grains, the headache and general discomfort are increased, with a restless and sleepless night as a result. Even an intramuscular injection when the temperature is high does not produce the same effect as a smaller dose by mouth when the temperature is low.

I do not think too much emphasis can be laid on the importance of giving the calomel is not less than a 5-grain dose, both in malaria and blackwater fever. The one or two grains sometimes given usually causes severe pain, griping and numerous visits to stool with slow and little result, whereas 5 grains causes little discomfort and acts only once or twice with very good and quick result.

As compared with other purgatives, a dose of calomel (5 grains) at the commencement of an attack of malaria appears to have an almost specific action in preparing the way for the quinine, and to it I attribute to a very large extent the absence of complications and quick response to quinine.

With blackwater fever my experience is that if the 5 grains of calomel can be given immediately an attack begins no serious complications arise, and, with careful general treatment, blackwater fever is removed from the category of the most dangerous diseases. I have had only two deaths among my patients from blackwater fever. In each case I was able to see the patient for the first time only on the third day of the attack; one patient had taken 2 grains of calomel, and had been on and off the stool all night with great pain and discomfort, but with so little result that several soap and water enemata were needed before a saline injection could be made into the rectum. In the second fatal case no purgative at all had been given. Blackwater fever, however, is, in my opinion, a complication of malaria which should rarely if ever occur. It appears to be the result of a final and drastic effort on the part of nature to eliminate the parasites from the body, usually after several untreated or insufficiently treated attacks of malaria. I have seen no case of blackwater fever occur during the treatment of malaria if both calomel and quinine had been given, but I have seen cases, usually slight, after quinine alone. In these, to my mind, the question has not been whether the quinine brought on the attack, but how much more serious the attack would have been if no quinine had been given.

With regard to large doses of quinine it may be of interest to record that during the war several cases of malaria were sent up to Uganda from Mombasa to try the effects of a change of air. Some of these whom I saw at Entebbe informed me that they had been taking 40 to 60 grains of quinine daily for several weeks without the temperature remaining normal for twenty-four hours. With most of these complete stoppage of the quinine brought the temperature to normal within three days. In one case the temperature came to normal and remained normal until the eighth day, when it again went up to 103° F. Subtertian parasites were then found in the blood, and treatment with calomel and quinine as described above was commenced. In three days the temperature was again normal, and there had been no recurrence of the fever when I last heard of the patient three weeks later.

I have had no experience of the treatment of malaria elsewhere than in the Uganda Protectorate. It is possible, although I have not seen this point discussed, that the effect of the altitude of Uganda—more than 3,000 feet above the sea level—upon the blood may help the action of quinine. In Uganda, also, I usually had to deal with only single infections, and earlier treatment was perhaps more often possible. Whatever may be the explanation there would appear to be a great difference between the doses and manner of administration required in other localities as compared with Uganda.

I cannot help thinking that too much quinine, especially too much in a single dose, can be given as well as too little. One grain of calomel given to many Uganda natives will cause intense salivation and other alarming symptoms of mercurial poisoning, while a larger dose given to the same person may have only a purgative action. Some analogous action may occur in the case of quinine. It is possible that too large a dose may, in some as yet undetermined manner, prevent the necessary action.

When giving more than five grains of quinine daily

I have always used the hydrochloride if obtainable, but if only five grains daily, the cheaper salts are just as satisfactory.

As soon as the patient can get about, some combination of arsenic in increasing doses and iron in small doses has proved most useful.

A COMPARISON OF TWO METHODS OF ADMINISTERING ARSENO-BENZOL COMPOUNDS IN SYPHILIS.

BY

H. E. GIBSON, M.D.OXON.,

LONDON.

A COMPARISON of the two following courses of antisyphilitic treatment may be of interest.

In the first series of cases treatment consisted of one dose of 0.3 gram of kharsivan, followed at weekly intervals by doses of 0.6 gram, until a total of 2.7 grams had been given, but an interval of fourteen days was allowed between the third and fourth doses. This course was thus completed in five or six weeks. For want of a better term it may be termed a "concentrated course" of treatment. If further treatment was necessary owing to the Wassermann reaction being still positive, potassium iodide was given for fourteen days, and then two more injections of 0.6 gram, with one week's interval between them. All the above was given intravenously by the gravity method.

In the second series of cases, which may be termed a "prolonged course" of treatment, three injections of 0.3 gram were given, then two of 0.4 gram, and two of 0.5 gram, all at weekly intervals, except for a fortnight's rest between the third and fourth injections, as in the other series. This course lasted about eight weeks, and the drug was given intravenously as in the "concentrated course." Further treatment, if necessary, consisted as a rule of intramuscular injections of novarsenobillon, at weekly intervals, generally one of 0.3 gram and one of 0.6 gram. Occasionally there were slight variations in the above prolonged course, as, for example, by substituting a dose of 0.5 gram for the second dose of 0.4, or a dose of 0.6 for the last 0.5 gram.

The criterion of cure was a negative Wassermann reaction.

The total amount of arseno-benzol compounds given to any one case was limited to 4 grams, the first course, at the end of which the Wassermann reaction was tested, consisting of a total of 2.6 to 2.8 grams; the second, or "follow up" course, before a second Wassermann test was made, bringing the total to an average of 3.9 grams in the concentrated course, and 3.6 in the prolonged series.

It will be seen from the table that, although the percentage of primary cases which showed a negative Wassermann reaction after the first course is slightly higher in the "concentrated" series, the results are completely changed when we consider the cases showing secondary symptoms.

Cases Treated with a Concentrated Course.

No. of Cases.	Negative with up to 3 grams.	Negative with up to 4 grams.	Positive after 4 grams.	Doubtful after 4 grams.
Total cases ... 89	47=52.80%	14=15.73%	23=25.84%	5=5.61%
Primary ... 34	28=82.35%	3= 8.82%	2= 5.88%	1=2.94%
Secondary ... 52	17=32.69%	10=19.23%	21=40.32%	4=7.68%
No symptoms ... 1	0	1=100%	—	—
Previous treatment 2	2=100%	—	—	—

Cases Treated with a Prolonged Course.

No. of Cases.	Negative under 3 grams.	Negative under 4 grams.	Positive after 4 grams.
Total cases ... 100	68=68%	38=38%	4=4%
Primary 65	52=80%	12=18.46%	1=1.53%
Secondary ... 35	16=45.71%	16=45.71%	3=8.57%

All cases also received 1 grain of mercury, given intramuscularly, at weekly intervals.

Apart from the question of cure, one great disadvantage of the short concentrated course is that the reactions are much more pronounced than in the prolonged course. These include diarrhoea, vomiting, and sometimes a violent and immediate vaso-dilator effect, in which the patient's face becomes "blown up," and the pulse weak and irregular; this is most alarming when seen for the first time, but apparently it always passes off without active treatment. Opinions differ as to the benefits of adrenalin in this condition.

Although slight reactions, such as diarrhoea, vomiting, and headache, may occur with the prolonged course, they are not so marked as in the other, and I have so far not had a single instance of the vaso-dilator phenomenon.

It has been impossible to follow up these cases to see what percentage of relapses, if any, occurred in the two series.

Conclusions.

Advantage seems to lie with the prolonged course, partly owing to the lesser incidence and violence of reactions, and partly because the total results are better than with the concentrated course; this especially applies to secondary cases.

Should a patient showing only a primary sore have urgent reasons for wanting a short course, the concentrated course may be given, but otherwise it is better to spread the treatment out over a longer period.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF DELIRIUM TREMENS.

DR. STARKEY has sounded a note of warning, in the BRITISH MEDICAL JOURNAL of January 10th, with regard to Dr. Wyatt-Smith's remarks, under the above heading, in the JOURNAL of December 6th, 1919, which I must support. Prior to the war I made extensive observations on the action of various hypnotic drugs with a view to forming some ideas as to their selection in different types of mental disease. My results were published in the *Journal of Mental Science* (July, 1914), but I feel that it may be of some interest if I record here some of my observations on the drugs mentioned.

Hyoscine.—My opinion is that this drug is a very powerful cardiac depressant and that it ought not to be prescribed in patients who suffer from "heart disease." I laid considerable emphasis on this in my article referred to above and expressed the view that it should not be given to anyone who was not in robust physical condition. In states of extreme maniacal excitement, in strong healthy people, however, when one wishes to obtain the influence of a hypnotic as quickly as possible, it is a most useful drug, and given by hypodermic injection it is very rapid in its action. I have frequently given doses of gr. $\frac{1}{50}$ with benefit; in fact, large doses must be given in these cases and in this way the repetition may be avoided. I have found it especially useful in cases of delirium tremens, as Dr. Wyatt-Smith states, and especially so if combined with atropine and morphine. In milder cases it is of some use in doses of gr. $\frac{1}{100}$ three times a day, but I prefer not to use it for repeated administration, and the warning given by Dr. Starkey is fully justified from the experience I have had of the drug.

Sulphonal.—Most of those who have done service in mental hospitals have considerable experience of the use of this drug, and although Dr. Wyatt-Smith states that he has not yet met anyone who had seen a case of sulphonal poisoning, I must add my name to the list, with Dr. Starkey, of those having had this experience. I have, however, only seen one case in fourteen years' asylum work. It is usually associated with vomiting, diarrhoea, and abdominal pains, and the patient slowly passes into a state of collapse. The warning signal is haematoporphyrinuria, and it seems to me, therefore, of the greatest importance when prescribing this drug to have careful observations made on the passage of urine, and the report of any tendency for it to change to a reddish tinge. It has been my invariable rule to have these instructions written on the box in which sulphonal is dispensed, and this may account for my having seen only one case of poisoning from the drug, but I realize the

risk of its prolonged administration under other circumstances, and think these should not be treated too lightly. I consider sulphonal prescribed with the above precautions to be most useful in cases of old-standing excitement, and especially in cases of senile dementia. It is not a cardiac depressant, but it is very slowly excreted. I prefer it in the powder form in which some makers prepared it in pre-war days, for in the crystalline form it is very insoluble and liable to set up gastro-intestinal irritation, which, in my opinion, may produce attacks of diarrhoea. Its action is slow but cumulative, and it requires to be given several hours before its effect is desired. After testing its action in a hundred cases I found that the average period that elapsed before sleep after the administration of 30 grains was four hours, and that on an average seven and a half hours' sleep followed.

Veronal.—I agree with Dr. Starkey that this is in many ways preferable to sulphonal, and I use it for cases of excitement in the early stages. The drug, however, is very liable to produce a habit; this I throw out as a warning to those who may use it in private practice. It seems to have been procured by drug takers more commonly since the Hove case (BRITISH MEDICAL JOURNAL, 1913, vol. i, p. 566), the newspaper accounts of which may have had some influence in this direction. Veronal is quicker in its action than sulphonal, and I found that on an average 10 grains produced five hours' sleep within forty-five minutes of its administration.

Whilst on the subject of hypnotic drugs I should like to state that I consider their use should be avoided as much as possible. Much can be done to induce sleep in restless patients before drugs are resorted to, and efficient nursing may considerably diminish the strength of the dose required. I venture to suggest that hydrotherapy is not so frequently tried as it should be in cases of acute maniacal excitement, and that the poisonous doses of hypnotics otherwise necessary may frequently be avoided by this line of treatment in the early stages.

RICHARD EAGER, O.B.E., M.D.,
Deputy Medical Superintendent, the Devon Mental Hospital.
Exminster.

"ACUTE SUFFOCATIVE CATARRH."

THERE seems to be a close resemblance in the description given of the cases of acute suffocative catarrh recently reported to the condition met with in paroxysmal tachycardia. In one form of this the patient stands rooted to the ground, with intense dyspnoea, cyanosed, and expectorating large quantities of frothy, blood-stained fluid. As in the condition described by Dr. Gale, morphine is often extremely efficacious. A good description is given by Dr. Lewis in one edition of his *Clinical Disorders of the Heart Beat*, modified, for some reason which I do not know, in a later edition.

W. DUNCAN LAWRIE, M.D.,
F.R.C.S.Edin.
Longton, Stoke-on-Trent.

HOUR-GLASS STOMACH: GASTRIC AND PYLORIC ULCERS.

THE following case presented some interesting features as an instance of a condition which I believe to be uncommon:

Mrs. E., aged 53, had been troubled with "indigestion" for sixteen years. Pain in the epigastrium after every meal was a marked symptom when I saw her, no matter what food she took, though the degree of pain varied with the consistency of the food—it was less after a fluid diet, such as milk, than after one including potatoes. During the last twelve months she had lived on scarcely anything but milk. She was very badly nourished, and weighed just over 6 st. I advised operation, to which she consented.

Operation.

I found a rather enlarged stomach with the pylorus almost surrounded by dense adhesions and attached to the under surface of the right lobe of the liver. There were signs of recent inflammatory trouble in this area. The pylorus scarcely admitted the tip of the little finger. At the junction of the proximal and middle thirds of the stomach was a large chronic saddle-shaped ulcer extending down both the anterior and posterior surfaces from the lesser curvature, and constricting the lumen to such an extent that here again the tip of the little finger could just be inserted. The edges of the opening were rounded, thickened, hard and smooth; there were no adhesions on the posterior wall of the stomach, and the organ could easily be lifted up. I had no reason to suspect malignancy.

Resection of this part of the stomach with or without the pylorus was not attempted because such a procedure was not to my mind justifiable owing to the poor condition in which the patient was at the time. I therefore performed double posterior gastro-enterostomy and closed the wound.

Apart from a little vomiting twelve hours after the operation recovery was uneventful, and she was up on the tenth day and left hospital on the fourteenth.

Her condition at present (two months after the operation) is very good and she is eating well. Her weight is now 7 st. 6 lb.

Although hour-glass stomach is not uncommon, this condition combined with ulcerated pylorus is rare. Also in an hour-glass condition a double gastro-enterostomy is perhaps not the best method to adopt, yet I think in this case it was the one and only suitable procedure.

Another interesting point is the relative times of formation of these ulcers; from the condition of things found at operation I should say that the saddle-shaped ulcer was of much longer duration than that at the pylorus.

The possibility of ultimate transition to malignancy did not escape my mind, but, as I have said, resection in any form was not justifiable.

DONALD M. MACLEOD.
Evesham.

Reports of Societies.

DIVERTICULITIS.

THE meeting of the Proctological Subsection of the Royal Society of Medicine on the subject of diverticulitis, which had been adjourned from the previous week,* was held on Wednesday, January 14th. The discussion was resumed by Mr. J. P. LOCKHART-MUMMERY, the President of the Subsection.

Diagnosis.

Mr. LOCKHART-MUMMERY expressed the view that the discussion would be instrumental in proving to the profession that diverticulitis, far from being a pathological curiosity, was a very real disease. As far as he knew, the earliest description of the condition in English literature was that contained in a paper by Sir Humphry Rolleston published in the *Lancet* of 1905. One of the most important points in connexion with diverticulitis was its liability to be mistaken for carcinoma, and carcinoma of an inoperable nature. The result was that such a patient was often left without surgical relief. The points that were of assistance in establishing a diagnosis of diverticulitis were the following: First, recurrent attacks of inflammation, accompanied by a rise of temperature and rigors. Second, a long history without great increase in the size of the abdominal tumour, and without great emaciation. Even when the abdomen was opened the diagnosis often remained doubtful. However, a large mass with marked adhesions suggested diverticulitis. In 4 out of his series of 24 cases perforation into the bladder had occurred, and he suspected that the vast majority of cases of perforation into the bladder which were believed to be due to carcinoma of the bowel were in reality due to diverticulitis. On the other hand, diverticulitis was sometimes associated with malignant disease, and for this reason he recommended that colostomy should be performed early, without waiting for urgent signs of obstruction. Although resection was the ideal proceeding, it could seldom be attained, owing to the density of the surrounding adhesions. In only 4 of his cases had resection been possible. The usual alternatives were some form of short-circuiting operation and colostomy. The results of colostomy were exceedingly good, but care must be taken to get well above the diseased bowel. After colostomy the disease became arrested, and in spite of the objection of patients to this proceeding, their condition was a very satisfactory one. Only in very exceptional cases was it justifiable to perform resection of the bowel without a preliminary colostomy. If, as the result of colostomy, the local condition improved, secondary resection might be undertaken. In his series the average age of patient suffering from diverticulitis was 60.

Etiology.

Mr. W. ERNEST MILES agreed that the discussion had shown that diverticulitis was a very real disease, and one that should engage the attention of every abdominal surgeon. Whether it was a comparatively new form of

* Reported in the BRITISH MEDICAL JOURNAL, January 17th, 1920, pp. 82-86.

disease due to modern modes of life, or whether it was one that had existed previously and had not been detected, was a question difficult to answer. Dr. Maxwell Telling had said that there was often a long antecedent history. It might be possible by careful inquiry to associate its onset with certain conditions or habits that might prove to be definite causative factors. He was inclined, with Professor Rutherford Morison, to put the idea of congenital origin out of court. The fact that diverticula often existed in considerable numbers supported this view. Increased intracolonic pressure, causing hernial extrusion of the mucosa through the muscular coats at the weak points of blood-vessel perforation, was a much more likely cause. Flatulent distension had been suggested as a determining factor. He doubted this because of the even distribution of gas pressure. Intracolonic pressure was more likely to be increased through one of the following three causes: First, forcible contraction of the sphincter in order to overcome the desire to evacuate the bowels at an inconvenient moment, as when hurrying to catch the morning train. Second, straining at stool in order to force a formed motion through a narrowed anal orifice. Apart from stricture of the rectum, which of course would have this effect, there existed a common condition of the anal canal which the speaker had described in the *Journal of Surgery, Gynaecology, and Obstetrics*, November, 1919. It consisted of a fibrous deposit in the submucosa of the pecten that materially limited the expansibility of the external sphincter. This condition caused great difficulty in emptying the rectum, a diminished calibre of the faeces, and an increase of intracolonic pressure. The third cause of increased pressure was the habitual use of very large enemata to which the badly constipated often resorted. For these reasons it would be of great interest to obtain accurate information as to the previous habits of those suffering from diverticulitis. If definite causes could be recognized, prophylactic measures might be adopted.

Mr. LIONEL NORBURY, in discussing the etiology of the condition, laid stress on enterospasm as a factor. This was accompanied by hypertrophy of the bowel wall and increase of pressure. The large amount of fat that accumulated round the bowel in these cases was possibly the result of venous congestion produced by the enterospasm. Sigmoidoscopy was sometimes of use in showing a narrowing of the colon, due to spasm, and a thickening of the mucous membrane. This condition when seen suggested diverticulitis.

Dr. A. C. JORDAN showed an interesting series of *x*-ray photographs, several of them illustrating the results of operative treatment in patients suffering from diverticulitis. In speaking of the etiology of the condition, he believed that practically all cases started from a colitis accompanied by enterospasm. The colitis being due to infection, it might be said that diverticulitis was a manifestation of chronic intestinal stasis.

The Subject in General.

Mr. SAMPSON HANDLEY considered that the success of the discussion was in great part due to the clear exposition of the subject given in the opening paper of Dr. Telling. This had provided an excellent skeleton around which subsequent remarks could be hung. A point that assisted in differentiating diverticulitis from carcinoma of the colon was the fact that in the former condition the "tied string" appearance so characteristic of carcinoma was never seen. He entirely agreed with the President's remarks on the subject of colostomy. In very few cases was a primary resection justifiable. He had seen an interesting microscopic section showing infiltration of a diverticulum wall with carcinoma.

Sir CHARTERS SYMONDS said that with the new light that had been thrown on the subject by the discussion he could see the explanation of many a previous clinical puzzle. He remembered a case of inoperable carcinoma of the bowel for which he had performed a colostomy. The patient had returned to him years afterwards in excellent health and with his colostomy opening closed. He agreed with previous speakers in believing that perforation into the bladder was seldom due to malignant disease. Would it be possible to diagnose an impending perforation into the bladder before it had actually taken place? He remembered cases in which the chief symptom had been pain when the bladder was distended. Was this suggestive of adhesions between the colon and the bladder?

Mr. LOCKHART-MUMMERY agreed with the previous speaker that it would be a great advantage to forestall so serious a catastrophe as a vesico-colic fistula. Unfortunately the accident usually occurred very suddenly, and without any warning that would allow of an earlier diagnosis being made.

Sir GORDON WATSON called the meeting's attention to a fresh specimen he had brought from St. Mark's Hospital. It consisted of a portion of colon removed after a diagnosis of carcinoma had been arrived at. Now that it was removed it was by no means easy to say whether the condition of the bowel was due to carcinoma or to diverticulitis. The specimen emphasized the difficulty of forming a diagnosis even when the abdomen had been opened.

Opener's Reply.

Dr. MAXWELL TELLING, in closing the discussion, congratulated the Subsection on the excellent way in which the subject had been handled. The result was that there remained little for a speaker to do in the way of dotting i's or crossing t's. He would like to point out, however, that there had been a tendency in the case of some speakers to confuse true diverticulitis with the condition of sacculation of the colon. This confusion would be increased if Professor Rutherford Morison's suggestion as to a change of nomenclature were adopted. The fact that diverticula were often found in the bowel of men past middle life did not necessarily imply that diverticulitis was a common disease. Such diverticula often gave rise to no symptoms, and he would be the last to suggest wholesale resections for such a condition. Operation should be reserved for those cases that were accompanied by definite and troublesome symptoms.

The PRESIDENT then proposed a vote of thanks to Dr. Maxwell Telling and to the other medical men from the provinces who had come to London in order to take part in the discussion. He wished to thank them in addition for the trouble they had taken in providing illustrative specimens. The motion was heartily carried.

LARYNGOLOGICAL CASES AND SPECIMENS.

A MEETING of the Section of Laryngology of the Royal Society of Medicine was held on December 5th, 1919, with Mr. E. B. WAGGETT, the President, in the chair. A number of cases and specimens were shown.

Mr. W. M. MOLLISON showed a rare case of fibroma of the aryepiglottic fold in a male, aged 40, who complained only of earache due to meatitis. Routine examination of the larynx showed a fibroma which was smooth and globular, growing from the above site. The tumour, which was the size of a pigeon's egg, was dissected out and removed by means of suspension laryngoscopy. Microscopically the growth proved to be a hyaline necrotic fibroma. Mr. Mollison showed also a case of lupus of the larynx in a patient aged 18. The larynx showed much heaping up in the interarytenoid space, the right ventricular band was ulcerated, the ulcer extending down to the true vocal cord. The lungs were in a condition of active tuberculosis; the Wassermann reaction was positive. He showed also a case in which melanotic sarcoma of the nose was removed by lateral rhinotomy. The growth arose from the lower portion of the right outer wall and from the inferior turbinal. The patient made a good recovery.

Dr. IRWIN MOORE exhibited a female patient, aged 24, who had suffered for years from enlarged and diseased (septic) tonsils. Enucleation of the tonsils was advised, but the patient refused operation. The tonsils were therefore destroyed by the application of an escharotic (London paste). Dr. Moore also exhibited some instruments for oesophagoscopy and bronchoscopy—namely, an improved adjustable handle for his foreign body forceps; a new pattern cutting shears for cutting up tooth plates; and a forceps for removing growths from the trachea.

Dr. WILLIAM HILL showed a rare case of multiple polypi (oedematous fibromata) of the middle third of the oesophagus, causing stenosis of the gullet. Applications of radium were of no benefit. Portions of the growth were removed by oesophagoscopy and forceps, and shown to resemble the structure of ordinary nasal mucous polypi. Dr. Hill showed also a fish bone which had perforated the inferior constrictor and caused fatal posterior mediastinal abscess. Mr. BELL TAWSE exhibited a case of supernumerary

nostril and cavity in a child aged 16 months. The cavity led up to the root of the nose.

Sir STCLAIR THOMSON exhibited a case of spontaneous cicatrization of a tuberculous larynx in a lady, aged 42, who developed tuberculosis of the lungs seven years previously. Under "silence" treatment alone the larynx had completely healed, though tubercle bacilli still existed in the expectorated sputum from the lungs.

Dr. DUNDAS GRANT showed a case of congenital occlusion of one choana causing nasal obstruction. The obstruction was mainly osseous, and was removed by operation. He exhibited also a specimen of a kinked and obstructed oesophagus, caused by an oesophageal growth.

Dr. G. A. CARTER, with Sir STCLAIR THOMSON and Mr. HOPE, showed a case of laryngo-fissure for intrinsic cancer of the larynx in a female aged 33.

Various other cases and specimens were shown and discussed.

Reviews.

G.H.Q. (MONTREUIL-SUR-MER).

THE two broad bands, red and blue, on the wrapper of *G.H.Q.*,[1] by G.S.O., will recall to many certain moments in France when an obstructed road suddenly cleared itself, for "a G.H.Q. car is so clearly recognizable" by the bands on the wind screen and on the arms of the occupants. Incidentally it may be said that the British army was not peculiar in its addiction to initials, though it may have carried it rather far. To the French their head quarters were known as G.Q.G., and the Germans contracted the name of their own to O.H.L.

G.S.O. tells us no more of himself than that he is a gunner, but we guess that in this book he does not commence author. Like most of the not very senior members of G.H.Q., he had been "crocked," and while under repair on several occasions had formed a very high opinion of the nursing organization. "'Sister' is of many different grades of skill, but of an almost unvarying degree of devotion." He is so gallant as to assert that the design attributed to matrons of assigning all the pretty nurses to sick sisters' wards was frustrated because the supply of pretty sisters was too great to allow of their all being so disposed of. He pays a generous tribute to the medical corps, and shows that he takes a pride in the success of that branch of his service. Moreover, for all his genial bantering style he can see the reason, or one chief reason:—

> The fight against mustard gas in 1918 was another fine achievement of the medical services. But this subject of the medicine of the war calls for a volume to itself. Let me only add here that the successful medical results won in this war were largely due to the fact that—contrary to the system of other wars—the doctor had a real influence and power at G.H.Q. In his own department he was supreme. So were solved successfully the vast medical problems which the Great War presented. The greatest armies known to history grappled in a continuous and furious struggle, not for a day or a night or a week, but for months. The wounds caused by hand grenades and high explosive shells were often of terrible extent. The battlefield to a depth of five miles was under constant shell fire, and transport of the wounded for that distance was therefore always under fire, and roads were torn up almost as soon as made. Conditions of infection were extraordinarily favourable. Traffic regulation had to overcome the most serious obstacles, since railways, roads, and tracks had to provide for the constant reinforcements, for the frequent passage to and fro of relieving Divisions, for food and water for men and horses, and also for ammunition unprecedented in quantity.

In describing the multifarious work of G.H.Q. and the necessity to be prepared for either fortune of war, G.S.O. utters a dictum on casualty clearing stations, dealing rather summarily with a matter which excited much difference of opinion at the time and will, no doubt, come in for much discussion in the future. As an example of the way in which, during trench war, units allowed themselves to become immobile, we are told that "many casualty clearing stations had burdened themselves with surgical stores and equipment which should be reserved for stationary hospitals. Thus burdened they were tempted to evacuate too soon." There may be some truth in this, but we do not believe it to be the whole truth.

The author is by no means disposed to make little of the work and achievements of G.H.Q.; the work meant long hours in offices, and afforded relatively few occasions for getting near the actual fighting. Supply and transport was a huge business, and G.S.O. is enthusiastic in praise of Lieut.-General Sir Travers Clarke—he had started the war as Major—appointed Q.M.G. by Lord Haig at the end of 1917. But he knows, and very frankly says, that it was the humour, the good humour and the adaptability, as well as the courage and constancy, of the men of the new armies that made the achievements possible. G.S.O. set out to write not a history of the war nor a contribution to any of the numerous war controversies, but a sketch of life at G.H.Q. as it appeared to a staff officer. But the eyes of G.H.Q. on the hill of Montreuil saw much, and what the eye did not see the ear heard; thus the book gives a vivid general impression of the course of events. As a rule the style is light, and designed to produce an impression rather than a story of events, but the last four chapters, dealing with the spring, summer, and autumn of 1918, are in a more serious tone. They set out the anxieties of the spring of 1918, and relate the painful decisions which had to be taken to meet the possibility of the Germans breaking through to the coast.

[1] *G.H.Q.* (*Montreuil-sur-Mer*). By "G.S.O." London: Philip Allan and Co. 1920. (Med. 8vo, pp. 306; 32 illustrations; 1 map. 20s. net.)

ANAESTHETICS.

DR. STUART ROSS, in his *Handbook of Anaesthetics*,[2] has aimed at giving a "condensed account of modern anaesthetic views and practice." He has succeeded well in his task, particularly with regard to the first portion of it. The four opening chapters are devoted to the physiology of anaesthesia, of shock, and of asphyxia, and to a general account of methods of anaesthetizing. They are clearly written, and, although of necessity in so compressed a work several important matters escape mention, yet all those of greatest practical import are dealt with, and the student is offered an admirable foundation of reason for the principles on which he is to administer anaesthetics. Dr. Ross has drawn upon his experience to give in some detail the treatment of shock among the casualties of war. In describing the origin of mechanical asphyxia he does not mention one of the commonest causes, namely, swelling from congestion of the tongue and fauces. This very often accompanies the inhalation of ether as well as of nitrous oxide. He makes clear the different effects of excessive CO_2 and of oxygen starvation, and draws from them the proper directions for practical treatment of asphyxial states. He points out a truth, often not appreciated, which is that laryngeal stridor may be a reflex effect, and persist even in an anaesthesia so deep that the vital medullary centres are in peril; consequently it is futile to attempt to remove the symptoms by an increased supply of anaesthetic. In the recommendations for the preparation of the patient is included an enema at 6 a.m., when the operation is to be at 10. Many surgeons nowadays believe that to awake a patient early in the morning for the reception of a rectal injection is not calculated to help him to reach the operating table in the best possible frame of mind or body. It is a traditional practice to be generally discouraged. Dr. Ross approves of routine preliminary use of small doses of morphine and atropine, except in young children. For the subjects of severe shock and of sepsis he recommends nitrous oxide and oxygen as the anaesthetic of choice, and gives a good description of recently devised apparatus and how to use it. Otherwise his choice of a routine anaesthetic appears to be open ether assisted by intermittent and most guarded additions of C.E. mixture. He attains anaesthesia with about 2 oz. of ether and 2 drachms of the mixture, afterwards using about an ounce of ether every ten minutes and no mixture. He finds a considerable field for the use of ethyl chloride, which he prefers to give by the "vapour" method, and he approves its use in conjunction with gas in dental cases. The book is one which we warmly recommend to all students.

It is only three years since the first edition of Dr. FLAGG'S interesting *Art of Anaesthesia*[3] appeared, and no great difference or extension can be expected or is to be

[2] *Handbook of Anaesthetics.* By J. Stuart Ross, M.B., B.Sc., F.R.C.S.Ed. Edinburgh: E. and S. Livingstone. 1919. (Cr. 8vo, pp. xii + 214; 54 figures. 7s. 6d. net.)

[3] *The Art of Anaesthesia.* By P. J. Flagg, M.D. Second edition, revised. Philadelphia and London: J. B. Lippincott Co. 1919. (Med. 8vo, pp. xviii + 367; 136 figures. 18s. net.)

found in this issue. A chapter has been added on the selection of the anaesthetic, and here Dr. Flagg has some very pertinent observations to make regarding the relative importance of agreeableness and efficiency in the anaesthetic chosen. He shows how an anaesthetic, safe in itself, becomes unsafe if it fails to facilitate, or even renders more difficult, the manipulations of the surgeon. These are words that need attention just now when there is a tendency to require of gas and oxygen alone more than they are able to provide. Dr. Flagg looks on ether as the anaesthetic of choice, regardless of sex or age, and has a high appreciation of the anaesthetometer. This instrument, he says, has demonstrated the important fact that when good anaesthesia is established, the percentage of ether needed to maintain anaesthesia is about the same in all cases. The author considers that a "gas-oxygen induction, an ether maintenance, and a gas-oxygen recovery is an ideal anaesthetic for all adult cases." In considering special operations, however, he finds of course many to which this method is inapplicable. The chapter on the point of view of the patient might be read with advantage by every hospital surgeon and anaesthetist. At the same time we confidently believe that the picture drawn of the patient's anticipatory troubles is not commonly true either in America or in Great Britain. The book enjoys a beautifully clear and large print, which adds to its many attractive features.

CAUSE AND TREATMENT OF OBESITY.

THE second edition of Dr. HECKEL'S large book[4] on the radical cure of fatness and obesity is the work of a physician who has devoted many years to the study and treatment of fat people. The earlier chapters give an account of the etiology, symptoms, pathogenesis, course, diagnosis, and prognosis of the condition. The last quarter of the volume is devoted to its treatment; here the author sets up a high standard, demanding that the patient shall not only be reduced to a proper weight and degree of fatness, but also enabled to maintain that state; in addition, he must be relieved of the various troubles—dyspnoea, indigestion, glycosuria, or what not—that so frequently accompany obesity.

Dr. Heckel considers that obesity is due to over-eating in three-quarters of the cases; in the remainder he incriminates such things as hereditary predisposition, the neurotic constitution, disturbances of the endocrine glands, indigestion, and pulmonary tuberculosis. Obesity may be maintained, especially in females, on as low a diet as one with a heat value no more than 1,200 calories—in place of, say, 3,000. Each case must be studied and the treatment must be individualized; the routine of daily life, the diet, the number of meals allowed, the amount and nature of the exercise taken, the hours of repose and work, must all be looked into and regulated. Success may be looked for in almost all male cases and in 95 per cent. of the female. Dr. Heckel's own contribution to the treatment of undue fatness appears to consist in "methodical morphogenic myotherapy," the extensive employment of exercises designed to bring all the muscles into action, with particular attention to the breathing exercises, or respiratory gymnastics.

The book is still somewhat lengthy, though not so voluminous as the first edition, and contains a great deal of information and many suggestions that should be of great service to those who have to treat obesity. A special word of praise may be given to the publishers for their success in producing so large and well printed a volume nowadays at the price of 15 francs.

ENCYCLOPAEDIA MEDICA.

THE sixth volume of the second edition of the *Encyclopaedia Medica*, under the editorship of Dr. J. W. BALLANTYNE,[5] contains thirty principal articles, of which five are completely new, and a number of short notes giving condensed information or cross references. The revision of the articles has been undertaken either by the original writers or by others, and in the main they show obvious evidence of change; this is particularly so in Professor J. Arthur Thomson's article on heredity. On the other hand, the account of that extremely important disease, influenza, by no means exhausts the additions to our knowledge resulting from the pandemic of 1918–19; but in these days of slow printing and delayed publication it is quite possible that articles may have been long out of the author's hands when they appear before the public.

To turn to the new articles, Dr. S. A. K. Wilson gives a clear and masterly review of hysteria, with an able and broad-minded discussion of the various physiological and psychological theories as to the nature of the disease. Dr. W. D. Scott's article on immunity contains an account of anaphylaxis including serum sickness. Dr. W. Armstrong, Medical Director of the Buxton and Bath Dietetic Clinics, who wrote on hydrotherapy in the first edition of this work, now entitles his article on the therapeutic uses and effects of water, hydrology. In his elaborate and well illustrated account of hermaphroditism Dr. Berry Hart advises that children of doubtful sex and *sex-ensemble* should be brought up as boys, as the chances are ten to one that they are atypical male *sex-ensemble* cases, and the risk of sexual mischief and scandal afterwards is thus minimized. The article on housing by Dr. A. M. Williamson, Medical Officer of Health for Edinburgh, deals with the subject under the three heads of the extent, effect, and cure of the housing evil. His observations in Edinburgh show that the death rate increases almost precisely in proportion with the increase in the number of the smaller dwellings.

The editor may be heartily congratulated on this instalment of his arduous undertaking.

NOTES ON BOOKS.

Pocket Notes on Nerves,[6] by Dr. T. M. MARTIN, is a little book containing a concise summary of neurology, written to benefit medical men who may be confronted with cases of nervous disease and are not neurologists. It is full of facts, but free from the explanations needed to co-ordinate them into a mass of useful knowledge.

Animal Parasites and Human Disease, by ASA C. CHANDLER, is a compilation.[7] In the preface the author justifies the production of such works and expresses the belief that "no less mental and physical energy, if not perhaps even more, is necessary for efficient mere compilation than for the addition of new facts to scientific knowledge, and the value to civilization, which must be the ultimate criterion by which all scientific work is judged, must be equally as great, if not greater." This is a novel view certainly, but the compiler has forgotten to add that if he has not first-hand knowledge of the subject himself he is almost bound to perpetuate any errors in the originals, and is very likely to add more of his own. This risk is exemplified in the work before us. On page 298 it is stated that Manson first discovered the embryos of *F. bancrofti* in human blood, while working on tropical diseases in India; Lewis discovered the embryos and Manson has never worked on tropical diseases in India. On page 133 in the description of Fig. 38 a contracticle (*sic*) vacuole is described; one of the chief characteristics of the genus *Entamoeba* is that a contractile vacuole is absent. Again, on page 298 the following statement is made: "Recently in an examination of 949 natives from the Congo-Cameron (*sic*) country of Africa, about 74 per cent. of the men, 79 per cent. of the women and 33 per cent. of the children were found to be filariated." It is not stated with what species of filaria these people were infected, so that the information is valueless. Unfortunately there are other errors scattered through the book, and it cannot therefore be recommended as a source of accurate information to any student of the subject.

THE *Calendar of Durham University College of Medicine for 1919–1920* (Newcastle-upon-Tyne: Andrew Reid and Co., Ltd.) contains all the information required by students of medicine at that university, and gives a brief history of the college, which was founded in the year 1832.

[4] *Grandes et Petites Obésités: Cure Radicale.* By Dr. Francis Heckel. Second edition. Paris: Masson et Cie. 1920. (Roy. 8vo, pp. ii+536; 60 figures, 12 plates. Fr. 15 net.)

[5] *Encyclopaedia Medica.* Vol. vi, Heat Fever to Intertrigo. Second edition. Under the general editorship of J. W. Ballantyne, M.D., C.M., F.R.C.P.E. Edinburgh and London: W. Green and Son. 1919. (Roy. 8vo, pp. 658; 5 plates (4 coloured), 70 figures. 16s.)

[6] *Pocket Notes on Nerves.* By T. Muirhead Martin, M.D., C.M. Edin. Edinburgh: William Bryce. 1919. (Fcap. 8vo, pp 58. 2s. net.)

[7] *Animal Parasites and Human Disease.* By Asa C. Chandler, Instructor in Zoology, Oregon Agricultural College. New York: John Wiley and Sons. London: Chapman and Hall, Limited. 1918. (Med. 8vo, pp. xiii+570; 254 figures. 21s. net.)

British Medical Journal.

SATURDAY, JANUARY 24TH, 1920.

THE ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH.

MORE than ever the promotion of medical research is now the subject of discussion from many points of view, and, what is more to the purpose, of active organization. The Medical Research Committee, the success of which during the war did so much, by bringing home to the man in the street the great economic value of expert advice, has stimulated public interest, but the notes and articles in the general press have been concerned mainly with one side of the subject—the laboratory aspect of research, or the application to the art of medicine of the methods essential to the allied sciences. There is another, though more difficult and therefore at first sight less attractive, method of research which has been advocated by Sir James Mackenzie, especially in his remarkable book, *The Future of Medicine*,[1] and now more fully set forth, with conciliatory moderation, in his address on Clinical Research, delivered at the opening of the Institute for Clinical Research founded by him at St. Andrews, and published at page 105 of this issue.

Sir James Mackenzie points out that the methods useful in physiology, chemistry, and bacteriology are not all-sufficient for the investigation of the wider problems of clinical medicine. This proposition may come as rather a new light to men who have been brought up in the tradition that the highest form of research is that modelled on laboratory lines, with instruments of precision to confirm or correct the impressions and the erudite senses of the old-time bedside observer. Sir James Mackenzie originated the modern development of cardiology largely through such painstaking instrumental investigation of the circulation; great weight, therefore, must attach to his opinion that, valuable as are the results obtained by laboratory aid, there are other and extensive fields for investigation untouched thereby and awaiting exploration by methods as yet either unrecognized or improperly applied. He does well to insist on the importance of clinical research; this, though not a new doctrine, urgently needs treatment on fresh lines. The reason why the study of symptoms has not been more successful in the past has been the want of essential guiding principles; thus, the prognosis of heart disease, based on auscultation and the presence of murmurs, remained stationary for years and failed, as did the recent attempt to grade men into classes for war work. On the other hand, Lord Lister spent years in establishing the principles necessary to enable him to evolve the proper treatment of wounds, and a similar apprenticeship was served in the labour that led to the discovery of auricular fibrillation. With a guide so experienced and possessing so firm a grasp of the true scientific method to help them to establish the essential principles, the general practitioners attached to the St. Andrews Institute have the most enviable opportunities for work, the promise of which it seems difficult to estimate too highly.

In order to prevent disease it is essential to understand the nature and significance of its earliest manifestations and also of the conditions, such as deficient nutrition and injurious occupation, that impair the resistance of the body and render it vulnerable to the first inroads of disease. The earliest symptoms are often merely a consciousness that something is amiss or that the sense of well-being is absent; as such a complaint is vague it does not, unless physical signs are present, excite any great interest, largely because it is so difficult to make any further way in the inquiry. Sir James Mackenzie warns us that it is only after a long training that the art of asking the appropriate questions is attained, and that much experience is necessary to interpret the answers correctly. Opportunity for clinical research into the disposing and early stages of disease is seldom available in hospitals, but it comes within the scope of the general practitioner and is the chief object of the St. Andrews Institute.

The institute, we understand, has started well. Sir James Mackenzie himself is the director, and among his fellow workers are all the general practitioners in the town, with one or two others who had retired from practice. It already has a chemist on its staff, and it is intended to appoint a bacteriologist. The professors in anatomy and physiology in the University of St. Andrews give their help, and so also does the assistant professor of logic; this is, we believe, the first time that the logician has been called in to help in the work of a medical institute. It is perhaps not surprising that this should have happened first in Scotland, and we make no doubt that his presence and advice will be of the highest value. Arrangements have been made with the doctors on the insurance panel under which their patients attend at the institute at regular hours. Each doctor will have a separate room and all the facilities of the institute at his disposal. The experiment in this early stage has fully established the fact that the general practitioner, given the facilities, will become a potent factor in research. But although it is only natural to anticipate results rapidly when an institution is started under such good auspices, it is well to recall the old proverb that Rome was not a one-day's growth, and that great advances take time, much patient investigation, and assistants who have gone through a long training.

[1] Reviewed in this JOURNAL on August 16th, 1919, p. 201.

CHRONIC DIVERTICULITIS.

THE discussion on diverticulitis at the Royal Society of Medicine, the report of which is concluded in this issue, will have served a useful purpose if it calls more general attention to the diagnosis of a condition which often goes unrecognized. We say "diagnosis" advisedly—first, because in the present state of knowledge there are no very clear ideas as to its prevention, and secondly, because when once developed the only treatment seems to be by operation. That the subject excited much interest among those within reach of the meeting is shown by the large audience, and we make no doubt the report will have many readers. Although the condition to which the rather cumbrous term "diverticulitis" is applied has been recognized for some years by surgeons concerned with operations on the abdomen, it is probably true that to the general body of the profession it is more or less a new disease, but in future years it may become as familiar to students of medicine as appendicitis. Whether the term will be retained, or whether, following the advice of Professor Rutherford Morison, it will be discarded in favour of "sacculitis," remains to be seen. There are several reasons for agreeing with Professor Rutherford Morison in his preference for the latter term. Diverticulitis suggests

an inflammatory condition of a congenital sac. The acquired sacculations seen in the large bowel in diverticulitis are entirely different in their pathology from such congenital abnormalities as Meckel's diverticulum, and demand the employment of a term less liable to confusion than that which is at present current. The word "sacculitis" is not really good, but is perhaps equally descriptive of the condition present, and is not more open to objection on the score of euphony.

Acquired diverticula may occur in any part of the intestinal tract from the oesophagus to the anus, but we may follow the example of Dr. Maxwell Telling of Leeds, who introduced the discussion, and limit the applicability of the term "diverticulitis" to diverticula of the lower bowel.* Clinically they are probably of most importance when they occur at the end of the colon or in the sigmoid. The origin of the diverticula is no doubt in some instances—probably a small minority—a slight congenital abnormality or a congenital predisposition to their formation, but the general opinion seems to be that as a rule they are due to increased pressure within the bowel. The fact that they are believed to occur more frequently in the lower part of the sigmoid than elsewhere is held to support the view that they are due to faecal stagnation, since it is greatest at this point. Constipation is a frequent antecedent, but it may be absent, and in some few cases there is looseness of the bowels. It is thought possible that gas is more important than faeces in their production, but impaction of the latter is probably the commonest cause of the inflammation which gives rise to the final clinical symptoms calling for operation. An argument against the congenital origin of the diverticula is that the condition rarely occurs in early life; its prevalence reaches a maximum at ages from 60 to 75. Once a diverticulum has begun it tends to undergo progressive enlargement, becoming a cyst with a narrow neck, so that faecal matter is retained. The sac is very imperfectly drained, a concretion may form, and perforation supervene; but probably more often inflammation ensues in and around the wall of the sac. When several diverticula are produced near together a large mass may form, which will produce mechanical obstruction, and to such cases the term "peri-diverticulitis" is sometimes applied, though the distinction does not seem to be of much clinical importance. The clinical picture presented varies very much. There may be a sudden outbreak of general peritonitis, determined probably by perforation, or there may be inflammatory trouble more or less acute within the abdomen, usually within the left lower quadrant. The cases most often mistaken for carcinoma—and most surgeons who recognize the condition admit that they have fallen into this error—are those in which obstruction is the first symptom recognized by the patient. The usual sequence is the occurrence of partial or subacute attacks of obstruction, ending in a condition calling urgently for surgical interference. Sir Berkeley Moynihan, in a paper read to the Clinical Society of London at the end of 1906, observed that while the mimicry of malignant disease in the caecum and ascending colon by a hyperplastic tuberculous process was well known, it was not so generally recognized that inflammatory tumours presenting all the clinical appearances of cancer might occur in any part of the large intestine, and he pointed out that many of them were probably due to the presence of acquired diverticula.

One result of the recent discussion will be to convince the profession that the condition to which the term diverticulitis or chronic diverticulitis is applied is far commoner than has hitherto been generally supposed. As Sir John Bland-Sutton said, many patients have in the past been submitted to colotomy and colostomy, under the belief that they were suffering from cancer of the colon, but subsequently the lump has disappeared, the patient has survived for many years, and at death no evidence of tumour has been found. In a wide-embracing sentence he asserted that the condition, acute or chronic, mimicked such lesions as acute and chronic appendicitis, cholecystitis, tumours of the stomach, subdiaphragmatic abscess, perigastric abscess, splenic abscess, tubal infections, ovarian abscess, cancer of the uterus, and infected uterine fibroids; but he added that the extraordinary feature of sacculitis (or pericolitis) is its mimicry of cancer of the colon. Mr. Hamilton Drummond brought evidence as to the frequency of the condition when he said that he had found it in 22 out of 500 necropsies made at the Royal Victoria Infirmary, Newcastle-on-Tyne. While appendicitis may remain the commonest intestinal lesion that demands surgical intervention during the first half of life, it seems probable—again to quote Sir John Bland-Sutton—that diverticulitis is a newly discovered "bane of elders." It may be expected that once its symptoms become recognized and it ceases to be regarded as a clinical curiosity, the number of cases in which the propriety of surgical interference will have to be considered will be multiplied and the question as to when operative interference is indicated will become extremely important. Resection of the bowel is an operation that cannot be lightly undertaken, especially in the case of elderly patients. Its risks, even with the best of techniques, must always remain greater than the risks of appendicectomy. The arguments for and against surgical interference will need careful weighing before the decision is made. Diverticulitis is of great interest as a clinical entity, but we look forward with still greater interest to future studies of its pathology, diagnosis, and treatment. Much patient work will be required, and a vast amount of clinical data must be collected before its true position amongst the diseases, and its appropriate treatment, both medical and surgical, has been established.

* See his very full paper in the *British Journal of Surgery*, 1917, p. 468.

INSURANCE MEDICAL REMUNERATION.

THE recent history of the capitation fee may be said to begin with the last Annual Conference of Local Medical and Panel Committees, arranged by the British Medical Association. On November 27th the representatives declared with one voice that the proposed new Medical Benefit Regulations could only be accepted if the remuneration for service under them was upon a satisfactory basis. With the same unanimity the Conference next resolved to maintain the opinion that 13s. 6d. was the lowest capitation fee that could properly be accepted for an effective service.

These decisions having been taken the question arose as to what should be done if, as seemed not improbable, the Government would not grant 13s. 6d. In our school-days the conundrum used to be put: "What will happen when an irresistible force meets an immovable object?" Nowadays every schoolboy knows the answer: "They will submit it to arbitration." It was certain, therefore, that in the Panel Conference someone would state the case for arbitration. The representative of Hertfordshire moved

"that in the event of the Government offer being deemed inadequate the Insurance Acts Committee be authorized to ask for an independent arbitration board to fix the capitation fee." Representatives of Hampshire, Durham, Lancashire, and Warwickshire spoke in support of this motion; Southampton and Kent wholly rejected the idea; while one or two cautious voices from London were raised, not against arbitration, but against tying the Committee down to it beforehand. The Chairman was asked whether the figure named by arbitrators would be binding on both parties; he replied quite plainly that it was understood that all persons who went to arbitration meant to accept the award. The outcome of this debate was a large majority in favour of authorizing the executive body of the Conference to ask for arbitration should the Government offer be deemed inadequate. The number of representatives present was 147, representing 153 constituencies in Great Britain. The resolution giving this discretionary power rested upon the belief that the case submitted on behalf of the profession was so strong that it had little to fear from arbitration; and, further, that in the event of a deadlock a proposal for arbitration coming from the doctors would strengthen their case in the eyes of the public at large, and more particularly of the hand-working classes. Some who favoured the idea felt, it is true, a doubt as to the wisdom of applying it should the Government offer a sum very little short of the figure demanded by the Conference; but, as we all now know, this situation did not arise; the Government, on January 14th, through the Minister of Health, offered 11s. Thus the deadlock which had been foreseen as possible came about. The Minister said he could offer no more; the Committee answered that they would advise their constituents to reject that sum. Here, then, was the Committee's opportunity to propose the only alternative to a rupture. After long and anxious discussion Dr. Addison sought and obtained the Government's consent to arbitration, and a provisional settlement on that basis was reached. These terms were published in the SUPPLEMENT last week and are repeated in substance this week.

The position at the moment is sufficiently clear, though what will come of it is quite another matter. There is to be an independent board of arbitrators, to fix the capitation fee; its award will apply as from April 1st, 1920. Meanwhile for the first quarter of this year the rate is 11s. per annum. It must be understood that whatever capitation fee is fixed by the arbitrators it will not touch the special mileage fund of £300,000 for England and Wales, granted in order to compensate for the greater work and outlay of the rural practitioners. The new mileage grant contrasts favourably with the £34,000 allocated for this purpose before the war, and it should do much to stem the medical depletion of remote and sparsely peopled areas, and thus prove a gain to the community as well as to the country doctors themselves. It seems obvious that the proper distribution of this grant will need close thought and the supply of accurate information from the different areas. Over and above the arbitrators' award there will be throughout the country a uniform capitation fee of 2s. a year for those doctors who supply drugs and appliances.

Thus, in brief outline, the matter stands to-day. It remains, perhaps, to add a few words on the temper in which these difficult negotiations have been carried out, and on the criticisms that are sure to be brought against those who are acting on behalf of the insurance practitioners. With regard to the first, we would only remark that good manners still count in the conduct of affairs, both great and small, and that all history goes to prove that firm statesmanship best gains its ends in an atmosphere of civility. Since the medical profession has always put the public good before its own interests, nothing is lost by behaviour that earns public respect and goodwill, even when the controversy seems to turn solely upon a question of cash. As for the critics, these are of two sorts. The honest critic does service to his generation; it is right that he should always have a hearing, most of all when what he says is disagreeable. There are, besides, those who "dip their pens in faction"; they would be amusing were it not for the mischief they may do at critical times; their weapon is the lie that is half a truth. To them may be applied the dictum of a great Englishman (without laying too much stress on the adjective he uses): "A fly, Sir," said Dr. Samuel Johnson to Sir Joshua Reynolds, "may sting a stately horse and make him wince; but one is but an insect, and the other is a horse still."

THE LATE SIR WILLIAM OSLER.

SIR NORMAN MOORE, president of the Royal College of Physicians, who had intended to deliver a eulogium on Sir William Osler at the meeting of the Section of the History of Medicine of the Royal Society of Medicine on January 14th, was prevented by indisposition. Sir D'Arcy Power, the president of the Section, in moving a vote of condolence with Lady Osler, spoke of the large part Sir William Osler had taken in the foundation of the Section, and the interest he had throughout maintained in its work. He was its first president; he had stimulated the members to original research in the history of medicine and had established the precedent of inviting distinguished authorities on special subjects to give lectures to it. Of Osler's personal qualities it was very difficult to speak without emotion, for he was a personal friend of all members. The vote of condolence was seconded by Dr. Raymond Crawfurd, a former president, who said that Sir William Osler was a man the like of whom probably this generation would never see again. As a consultant he brought to the bedside a huge fund of knowledge and experience; as an administrator he showed no disposition to insist on getting his own way, because he was unwilling to hurt the feelings of any man with whom he came in contact. The papers he contributed to the section had always a peculiar charm, a biographical flavour, revealing a man able to love not only his fellow men just round about him, but mankind as a whole; his interest in medical history was always in persons rather than in principles. In general literature the variety and scope of his knowledge was great. The catholicity of his affection for the humanities was the counterpart of his affection for mankind. It was as though he extended his charity from men to things. This was the reason why the sum total of his interest was so wide. But there was more than this: the real man who was mourned was a man of great loving-kindness; it was impossible to be in his company without feeling the better for it, and without feeling all good fertilized and fructified by his presence. The lesson from his life was that when the qualities of the heart and of the head were balanced in the scales it was the qualities of the heart which weighed heavier in the sight of one's fellow men. The vote of condolence was passed by the members standing.

THE RESEARCH DEFENCE SOCIETY.

THE Research Defence Society has this month attained its twelfth year. It set out in 1908 to drive antivivisection from its strongholds; to make known the value and the necessity of experiments on animals, the restrictions imposed on them in this country under the

Act of 1876, the nature and the purposes of the experiments which are being made, and the discoveries which have come by help of the experimental method; and to bring about a better understanding between the few who made these experiments and the many who profit by them. Its operations have been attended by a large measure of success, but it is not yet time for it to dissolve. The agitation raised by thoughtless opponents of experimental medicine is scotched, but not killed. The cause of the Society has been aided much by the great demonstration the war afforded of the efficacy of methods arising out of research and experiment, and in particular by the results of antityphoid vaccination. Very much of the success of the Society is due to the devoted work of Mr. Stephen Paget, its honorary secretary, who in his last quarterly report points out that among the fallacies of antivivisection is the assertion that experimental bacteriology and the present methods of protective treatment tend to make doctors forgetful of the value of "ordinary sanitation." No fallacy, he says, could be much more absurd, and the war gave it the lie direct. Among all the many officers of the Army Medical Service and the Indian Medical Service who organized and headed a great sanitary work, there was not one who ever doubted for a moment the importance of bacteriology and the value of the protective treatments. "To all of them bacteriology and sanitation were what a man's two hands are in daily life: he uses now one, now the other, now both at once; and each of them belongs to the other, all the time." In a reference to the death of Sir William Osler it is said that his interest in the welfare of the Society was memorable. He was one of its vice-presidents and was president of the Oxford Branch; his evidence before the Royal Commission ought to be included in any complete edition of his works, as a fine example of his wonderful power of teaching. The report also contains a reference to the death of Mr. C. Louis Taylor, for many years Assistant Editor of the BRITISH MEDICAL JOURNAL. The Society, the report states, "loses by his death one of the best and most helpful of all its many friends." The address of the Society is 11, Chandos Street, London, W.1. Captain Walter E. Elliot, M.C., M.B., Ch.B., who sits in the House of Commons as the representative of Lanark, has recently become honorary assistant secretary.

THE BUREAU OF TROPICAL DISEASES.

THE office and library of the Tropical Diseases Bureau have been removed to the new building of the London School of Tropical Medicine, Endsleigh Gardens, Euston Square, N.W.1. The building in its upper stories provides wards for patients and in the lower laboratories for the various departments; by attracting into immediate relation with it a library and an organization for the dissemination of information with regard to tropical diseases, the School is fulfilling one of its purposes, which is to serve as a centre for graduate study and for research. The chairman of the Bureau is the Right Hon. Sir J. West Ridgeway, G.C.B., who is chairman also of the Advisory Committee of the Tropical Diseases Research Fund, through which and in other ways the Colonial Office gives its support to the School. The Bureau publishes a *Tropical Diseases Bulletin* and also a *Tropical Veterinary Bulletin*. The last issue of the former is a sanitation number, and contains a series of notes on the prevention of disease in the tropics. In a section dealing with plague attention is called to some observations made by Dr. William Marshall Philip in the report of the Public Health Department, Colombo, for 1918. It was there stated that the indiscriminate setting of baits for rats was stopped, as it was thought that the poisoning of rats in occupied houses and the consequent liberation of their fleas there was a probable source of danger to the occupants. It was therefore decided to restrict the setting of poisoned baits to empty houses, and at the same time to fumigate and fill up the rat holes. The Editor of the *Bulletin* points out that this caution is needed. Any persistent interference with the rat population sufficient to make a real impression upon their numbers—for instance, by the combination of poisoning, trapping, and fumigation of their burrows—will induce emigration to the next available food-providing area. A sketch is given of an organized campaign for dealing with rats over a considerable area. It is pointed out, further, that the bug forms an inducement to the cockroach to enter habitations. The rat finds the cockroach a delectable morsel, and it is therefore desirable to get rid of the material on which the cockroach feeds, so that the rat may not find so much inducement to enter the house to feed on the cockroach. Other sections of the report deal with sanitary works and vital statistics. In this last section it is noted that the statistics of the epidemic of influenza in India in 1918 support the opinion that Indians are less resistant than Europeans. Amongst British troops in India the attack rate was 218.2 per mille; the mortality rate 8.96, and for pneumonia 0.65. In Indian troops the attack rate was 135.6 with a mortality of 15.21, and for pneumonia 6.48.

TAR CANCER AND CHROME ULCERATION.

THE new order of the Home Office, published in the JOURNAL of December 27th, 1919, p. 852, requiring notification in cases of epithelioma due to tar and its products, and in cases of chrome ulceration, demands a precise knowledge of the clinical manifestations of these conditions. It is well known that workers in tar are liable to several forms of cutaneous eruption, such as "acne," warty growths, ulceration, and finally carcinoma. Notification, however, is only ordered where malignancy has occurred; but it is precisely in deciding for or against this condition that difficulty will be experienced. The criteria leading to a positive conclusion are briefly these: First, healing does not occur even where remedies—including rest—suitable for simple conditions have been employed; secondly, in epithelioma the edges present a characteristic hardness; thirdly, indisputable evidence is afforded by microscopic examination of a small portion of the edge of the growth. It should be noted that lymphatic glandular enlargement is not an invariable accompaniment of skin cancer, and further, that even where such enlargement exists it is not necessarily metastatic, for secondary coccal infection of the primary lesion can occasion inflammatory adenitis. Similar difficulties do not obtain where ulceration from chrome compounds has arisen, as the order clearly states that notification should follow the occurrence of definite ulceration.

TYPHUS FEVER IN POLAND.

THE prevalence of typhus fever in Poland led to the appointment last August, by the League of Red Cross Societies, of an Inter-Allied Commission, consisting of four epidemiologists — American, British, French, and Italian—Dr. G. S. Buchanan, of the Ministry of Health, being the British representative. The commission visited various parts of Poland during that month and presented a comprehensive report to the League, in which the gravity of the position was indicated.[1] The urgency of effective measures was pointed out and the nature of the work and supplies of material immediately needed to prepare for what was to be expected in the winter. It would seem that the expected has happened, for a dispatch to *The Times* dated Warsaw, January 16th, states that the epidemic, which had diminished, again became severe in December. The rapid spread that appears to have taken place is attributed to refugees and deserters from Russia; it is stated that Bolshevik statistics admit 1,340,000 cases of typhus fever during the six months

[1] BRITISH MEDICAL JOURNAL, November 1st, 1919, p. 565.

September, 1918, to March, 1919, and it is asserted that during the later months of 1919 the number of cases was half as high again. Typhus fever is endemic in many parts of Russia; it has frequently extended eastward, and even assuming that the accounts of the disorganization produced by Bolshevist methods are exaggerated, the admissions and boasts of Lenin and his followers are enough to prove that all the factors tending to produce typhus are present—insufficient food and fuel, overcrowding, and civil war. *The Times* correspondent, whose dispatch is evidently a reflection of serious alarm in Warsaw, is urgent that help should speedily be given to Poland to get the epidemic under control. He says that the American Commission on the spot and the British detachment of the Society of Friends are doing valuable work, but that they are too few. This is easy to believe, for the control of a severe and widespread epidemic of typhus requires a large organization, with trained personnel, directed on scientific lines by experts of experience. We gather from a statement by Dr. Buchanan that the commission of which he was a member, believed that the claims of Poland, which had applied to the League of Red Cross Societies for help, would receive immediate attention, and that the League would undertake to concentrate Red Cross energies on countries devastated or likely to be devastated by formidable epidemics. Nothing has since been heard of any action by the League to deal with the problem in Poland, which clearly requires immediate attention, not only in the interests of that much-tried country, but of its neighbours. There are experts in this country who during the war gained special experience of the methods by which typhus fever can be combated; but to send a commission without trained assistants and adequate equipment would be useless, even assuming, as it would no doubt be safe to assume, that the Polish Public Health Department will be anxious to give all facilities.

ST. THOMAS'S HOSPITAL.

THE St. Thomas's Hospital old students' dinner was held on January 14th at the Connaught Rooms, with Sir George Makins, G.C.M.G., President of the Royal College of Surgeons and consulting surgeon to the hospital, in the chair. There was a very large attendance; among those seated beside the chairman were Sir Arthur Stanley, treasurer of the hospital; Dr. Addison, M.P., Minister of Health; Sir Robert Hill, Medical Director-General of the Navy; Sir John Goodwin, Director-General A.M.S.; Sir Cuthbert Wallace, Dean of the medical school; Sir Charles Ballance, Sir Seymour Sharkey, Sir Archibald D. Reid, and Sir Robert Morant. The toast of "St. Thomas's Hospital and Medical School" was proposed by the chairman, who gave a sketch of the personalities of the four treasurers who have held office during his long connexion with the institution. He said that the greatest need of the moment was proper accommodation for the out-patient department, but the medical school also needed more room. The governors were willing to find space for a residential club upon the new site on the other side of the Lambeth Palace Road. Sir George Makins, in conclusion, referred to the splendid war record of St. Thomas's Hospital. The roll of honour of past and present students, teachers, nurses, clerks, and employees has been compiled by Mr. Robert S. Hopkins. This shows that nearly 1,200 St. Thomas's men served in uniform during the war; of these, 71 gave their lives. The list of honours received is long and distinguished; the Victoria Cross was won by Dr. G. A. Maling, who was present at the dinner. Sir Arthur Stanley, who responded on behalf of the hospital, declared amidst applause that before the voluntary hospitals were killed they would have a good run for their money. Sir Cuthbert Wallace, who was in his happiest vein when replying for the school, made reference to the professorial system now being introduced in London; it would, he said, do much to break down insularity. Dr. Addison, taking up the treasurer's allusion to the voluntary system, said that the Ministry of Health had no disposition to interfere with voluntary hospitals because they were voluntary. The State might help and receive help from the voluntary hospitals without destroying their machinery and character. His Department, he said, was entitled to look to the great hospitals, which had been leaders in medical affairs for generations, to help it to minister to national needs in no narrow spirit. It need not follow that national assistance given to the medical schools must interfere with or check their progress. In return for aid given in this spirit the State looked with confidence to the medical schools for increased assistance in training medical men for specialist services. In conclusion Dr. Addison spoke of the importance of developing post-graduate instruction, and as one who had long taught anatomy, declared himself a believer in proper pay for research and teaching. A most successful evening came to a close with the toast of the Chairman, received with enthusiasm on the proposal of Mr. Samuel Osborn, F.R.C.S., now Master of the Society of Apothecaries, and once a fellow student.

THE BIOLOGY OF THE LYMPHOCYTE.

BERGEL, who has previously published work on the fat-splitting ferments of lymphocytes, has recently remarked on the fact that these cells increase in numbers in the blood of people who are on an almost pure diet of fat, owing, as he thinks, to the necessity for greater fat-splitting activity in the blood.[1] In the blood of patients suffering from under-feeding a similar lymphocytosis occurs, probably because the reserve fat in the body has to be mobilized. Lymphocytic activity is recognized again in relation with the lesions of diseases in which the causal organisms are rich in fat or lipoids, such as tuberculosis, leprosy, and syphilis, and the cellular activity is regarded as a specific form of reaction towards the lipoid-containing organisms. Bergel has recently carried out researches on the effects of the introduction of certain oils and lecithins into the peritoneal cavity in rabbits and guinea-pigs. The resulting cellular exudates were withdrawn at varying intervals and examined microscopically. Up to ten or twelve hours after injection the cells in the exudate were mainly polymorph leucocytes. After twenty-four hours small lymphocytes appeared in considerable numbers and very soon some of these became enlarged and exhibited amoeboid and phagocytic activity and took up minute fat droplets. After thirty-six to forty-eight hours the polymorphonuclears much diminished in number, while the lymphocytes remained numerous. In many of them the protoplasm was considerably increased in amount and the nucleus became excentric and developed indentations or assumed a horseshoe shape. These enlarged cells presented great similarity to the large mononuclears (hyalines) of the normal blood. They showed more and more phagocytic power and their protoplasm became filled with fat globules, so that the nuclei were pressed to the side and flattened out. Often large fat globules were observed in the exudate surrounded by rings of the smaller mononuclear forms; they attacked the fat by thrusting out protoplasmic processes towards it, and absorbing minute fat granules into their bodies. After six or seven days the fat had mostly disappeared from the peritoneal cavity, and the majority of the cells in the exudate were again of the type of small lymphocytes. Bergel has convinced himself, by histological examination of the omental tissues of experimental animals, that the small lymphocytes pass out through the vessel walls by their own active movements and later show amoeboid movement in the peritoneal cavity. He concludes that small lymphocytes are attracted chemotactically by fats and lipoids, and that they exhibit

[1] *Berl. klin. Woch.*, September 29th, 1919, p. 915.

phagocytic activity towards such substances. The observation possesses special significance when it is remembered that all the fats absorbed from the intestine are passed through the lymphatic glands in the mesentery before they reach the thoracic duct and the blood. He believes also that he has proved the existence of a close relation between the small lymphocyte and the large mononuclear or hyaline cells of the blood, as cells may be formed from the former which are indistinguishable from the latter. It may be doubted, however, from his descriptions and illustrations whether the large phagocytic forms which take up fat in the peritoneal cavity are really enlarged small lymphocytes, as he maintains, and not originally large mononuclears. The latter cells are already well known to occur in numbers in inflammatory exudates after the first day or so, and they exhibit phagocytic and amoeboid activities.

MILK FOR CHILDREN AND MOTHERS.

THE Ministry of Health and the Food Controller have issued orders modifying the milk orders of 1918 with reference to the supply of milk for expectant and nursing mothers, and for children under five years of age. The new order relates to milk only, and not to food. The power of the central authority to require local authorities to make arrangements for the supply of milk has been omitted, but local authorities are empowered to supply milk free or at less than cost price not merely in necessitous cases but also where such a supply is necessary because of the retail price of milk in any area. The quantity of milk to be supplied is prescribed by the new order to be one pint and a half daily for children under 18 months, one pint for children between that age and 5 years, and for nursing and expectant mothers "the quantity prescribed by the person certifying." The effect of the order is to empower local authorities to supply milk to expectant and nursing mothers and young children without previously obtaining the consent of the Ministry of Health (as is required by the Maternity and Child Welfare Act, 1918, in respect of distribution carried out under that Act) free or under cost price where some person authorized by the local authority certifies this to be necessary by reason of the retail price of milk in its district. It will be understood that the maternity and child welfare grant distributed by the Ministry of Health is limited to the cost of any food, including milk, distributed to necessitous cases who are certified by the medical officer of the centre or by the medical officer of health to be in need of the food or milk. The expression "milk" in the order is to include any preparation of milk which may be prescribed by the medical officer of health or by the medical officer of a maternity or child welfare centre working in co-operation with the local authority. It will include, therefore, tinned and dried milk; the use of one or the other may often be necessary, though never, we believe, desirable.

THE PRICE OF QUININE.

A WHITE PAPER—Profiteering Act, 1919 (Cmd. 499)—presented to both Houses of Parliament tells a curious story. It purports to give the findings of the Board of Trade on consideration of a report by a committee appointed to investigate the position of prices and supply of quinine sulphate. The document begins by stating that 90 per cent. of the world's supply of cinchona bark of the quality requisite for the production of quinine is obtained from plantations in Java, where the Dutch owners number some 120 and the British 6. The former furnish ten-elevenths of the total Java production. At present only 10 per cent. of the bark requisite for the production is supplied by the Government plantations in British India; it is not sufficient to supply the needs of India itself. The Indian Government is taking steps to extend its cinchona plantations, but it will be five to seven years before bark from that source will be available. At the beginning of the present century there was a period of alleged over-production, and quinine sulphate was sold on the British market at 7d. an ounce; shortly before the war the price was 1s. an ounce. These prices, it would appear, were not remunerative. In order to secure the industry and standardize prices, combinations first of manufacturers and then of planters were formed, and both finally entrusted their interests to an organization known as the Kina Bureau at Amsterdam. It consisted of three representatives of the planters, three of the quinine manufacturers, and an outside chairman. At one time German interests were paramount, but during the war control passed into the hands of the Dutch, and consent to the appointment of a British representative has not been obtained. In December, 1916, an arrangement was made by Messrs. Howards and Sons, then virtually the only British manufacturers, to place the whole of their output at the disposal of the War Office. A few months later the War Office took possession of all stocks of quinine sulphate in this country, and eventually requisitioned two million ounces. In June, 1918, Messrs. Howards, with the assistance of the War Office, made an agreement with the six British-owned plantations in Java under which they obtained practically the whole of their output for a period of ten years. The agreement provided that prices received by the British planters in Java from Messrs. Howards should not be less than the price they would have received had they renewed an agreement with the Dutch. It follows that if the Kina Bureau alters the price of quinine sulphate the price of the bark to the British planters will be automatically affected. In September, 1918, an agreement, made on the advice of an inter-allied committee with the Dutch manufacturers, secured a sufficiency of cinchona bark and quinine for the allied nations. The price in Java was 1s. 8d. an ounce, and the total cost in this country 1s. 10d. In anticipation of the end of this agreement, a British Quinine Corporation, consisting of fourteen leading firms, was formed for the co-operative purchase of quinine from the Dutch combine. The Corporation made a contract with the Dutch and Java manufacturers providing that no member of the British Corporation should sell quinine sulphate, bisulphate or hydrochloride at a price less than that fixed by the Kina Bureau. While the War Office had control the price of quinine in this country was 2s. 11d. an ounce for large quantities, rising gradually for smaller quantities until it reached 3s. 9d. for a single ounce. On August 26th the War Office Contracts Department sold 840,000 ounces of quinine to the British Quinine Corporation at 2s. 11d. an ounce. The managing director of the corporation had expressed the opinion that as soon as control was removed the price would drop to about 2s 3d. for sulphate; but as a matter of fact it was raised as from September 2nd last to 3s. 5d. an ounce for large quantities, an immediate increase equivalent to at least 6d. The Kina Bureau had already requested the British Government to accept immediate payment for the whole of the quinine; the amount to be paid amounted to £125,000, although it was impossible that speedy delivery could take place. The effect of the increase in price to 3s. 5d. an ounce from 2s. 11d. an ounce—the price at which the purchase from the War Office Contracts Department had been effected—was to increase the value of the quinine purchased by the corporation by £21,000. The Board of Trade expresses no opinion on the matter, and we will follow its example.

THE management of the Harrogate Baths has appointed an analytical chemist to keep the numerous mineral waters under constant scientific supervision. A pathologist and bacteriologist has also been appointed to the staff.

COLONEL A. L. A. WEBB, C.B., C.M.G., Director-General of the Medical Department of the Ministry of Pensions, and Surgeon Vice-Admiral Sir W. H. Norman, K.C.B., late Medical Director-General, R.N., have been appointed Knights of Grace in the Order of St. John of Jerusalem.

EIGHTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association,

CAMBRIDGE, 1920.

THE eighty-eighth Annual Meeting of the British Medical Association will be held at Cambridge next summer, under the presidency of Sir Clifford Allbutt, K.C.B., F.R.S., Regius Professor of Physic in the University. The Annual Representative Meeting will begin on Friday, June 25th, and the statutory Annual General Meeting will take place on Tuesday, June 29th. The sectional meetings for scientific and clinical work will be held on June 30th, July 1st, and July 2nd. Saturday, July 3rd, the last day of the Meeting, will be given up to excursions to places of interest.

We print below the second of a series of historical and descriptive notes on Cambridge, which it is hoped will prove of interest to members of the Association. The first article, sketching the origin of the University and town and describing the situation and climate of Cambridge, appeared in our issue of January 3rd, 1920, p. 17. Subsequent articles will deal, *inter alia*, with the history of the medical school and of scientific progress at Cambridge (including an account of the medical school of to-day), and with the antiquities and architectural beauties of Cambridge and district.



Scott and Wilkinson] KING'S COLLEGE CHAPEL. [*Photo, Cambridge.*

DEVELOPMENT OF THE UNIVERSITY.

The primary object of the University was to train men as priests and schoolmasters. Accordingly we find that the chief subjects of study were grammar, logic, theology, and music. The term "grammar" (corrupted sometimes to glamour, gramarye, or glomery) included the art of speaking and writing correctly, of literary composition, of poetry, and of rhetoric, both in English and in Latin. Civil law, especially Roman, appears in the curriculum, but medicine was not officially taught until recent times. Music was an important subject in the training of priests and choristers. It is remarkable that architecture, sculpture, and painting, including the illumination of manuscripts, were not taught, though they were hardly less important to the priesthood than music. These arts were the special function of guilds of handicraft, whose work is much in evidence in the University buildings, and was much more so before the iconoclasts of the Reformation wantonly destroyed the works of art in the churches and college chapels.

In the earliest times the students and scholars lodged in private houses; but already in the thirteenth century the hostels came into existence. In these the men could live with considerable luxury, doubtless in proportion to the quality and the fees of the particular hostel. "Each hostel was presided over by a Principal elected by the students from their own number."[1]

As mentioned in our previous article, the first college was founded in 1281, with the name *Peter House*, for fourteen scholars and a master. The college was intended for the housing of deserving men whose means were insufficient to pay the expenses of a hostel, and only the bare necessaries of life were provided, without any luxury whatever. The word "scholar" would now be interpreted as *fellow*, or a man who had passed his first degree and was continuing his studies for the priesthood or other profession.

The second college, Michael House, was founded in 1323, but merged in Trinity College more than two centuries later. The next few colleges were named "Halls" instead of "Houses." The name "College"[2] became general at a later period, but Trinity Hall has retained its first name to distinguish it from Trinity College of later foundation. From the fourteenth to the sixteenth century many colleges were founded, until at the end of the sixteenth their number amounted to sixteen. Then after a long interval the last college, Downing, was founded in 1800.

Late in the nineteenth century the hostel system was reintroduced with modern modifications. In 1876 a large hostel with the name Cavendish College was built outside the town at the south end, but was too far from the centre of university life to be successful. A private hostel was opened by the Rev. W. Ayerst in 1884, closed in 1896, and afterwards reopened as a hostel for Roman Catholics. Selwyn College, a large public hostel, was founded in the suburb of Newnham in 1882, and is now a flourishing institution.

The early colleges had no fireplaces, and only a minimum of glass, for the windows were mostly shuttered openings, and other provisions for comfort were similarly deficient. But as time went on, pious benefactors provided their colleges with the means of greater comfort, so that

[1] Atkinson and Clark.

[2] Latin *collegium*, society of colleagues or companions: from Latin *collega*, a colleague. Skeat's Dictionary.

wealthier students were willing to live in them and to contribute to their maintenance. Inventories show that such well-to-do students substituted glazed window-frames for shutters, made structural alterations in their rooms, and had them painted and adorned with hangings. In the sixteenth century, during the changes accompanying the Reformation, undergraduates were received into the colleges and the hostel system was superseded, several hostels being merged in the colleges. Meanwhile provision was being made for candidates for other professions than those of the priesthood and pedagogy. In 1350 Trinity Hall was founded for scholars of Canon and Civil Law; and when Dr. John Caius refounded Gonville Hall as Gonville and Caius College, he founded three new fellowships, two of which were to be held by medical men.



THE "BRIDGE OF SIGHS," ST. JOHN'S COLLEGE.

The Regius Professorships of Civil Law and of Physic were founded in 1540. Among the professorships of later foundation which relate to medicine it must suffice here to mention the following: Chemistry 1702, Anatomy 1707, Botany 1724. But the functions of the professors, so far as medicine was concerned, were almost entirely confined to examining. The medical school, as an institution for study and research, was of much later origin, and its history will be described in a future article.

For further information on the development of the University, readers are recommended to the following works, to which the present writer is much indebted: Atkinson and Clark, *Cambridge Described and Illustrated*, published by Bowes and Bowes, Cambridge; A. F. Leach, *The Schools of Medieval England*, published by Methuen and Co.

England and Wales.

INSTITUTIONS FOR MENTAL DEFICIENTS.

WE referred a few weeks ago (December 27th, 1919, p. 853) to that part of the fifth annual report of the Board of Control for 1918 which dealt with the insane. The second part of the report deals with mental deficiency, and contains suggestions for the amendment of the law in order to simplify the methods by which defectives already in workhouses may be detained under the Act, and to provide for "supervision" being included in the methods that may be suggested by the Education Authority in the case of defectives leaving a special school.

It is pointed out that one of the most potent influences that has delayed full application of the provisions of the Act has been financial restriction. The annual Exchequer grant towards the expenses incurred by local authorities is limited to £150,000, and, owing to the war, this grant has up to the present been available only for "urgent" cases; these limitations have now been withdrawn, and the Government has gone further by agreeing to propose the abolition of the limit of £150,000 fixed by the Act. On the strength of this the Board issued a strongly worded circular to local authorities early in 1919 pointing out the grave importance from the point of view of national economy and welfare of dealing speedily with the mass of mental defect which hindered and hampered the progress of the community. Local authorities were urged to recognize the importance of carrying out their duties of ascertainment and registration and to appoint suitably qualified officers to deal systematically and continuously with the investigation.

It appears that fifty-six institutions had been certified before the end of 1918; of these, eleven, with 840 beds, had been established by local authorities, and forty-five, with 5,953 beds, by various philanthropic associations or religious societies. The Board recognizes that the accommodation so available is varied and useful, but finds that, when regarded as provision to meet the Mental Deficiency Act, falls far short of requirement. It is generally insufficient to meet demands, and is particularly inadequate for dealing properly with low grade cases, where the need is urgent and cannot be left to chance. The Board is in favour of the establishment of a few large institutions containing facilities for dealing with all classes of defect, rather than many small ones more or less specialized in character; it intends to issue suggestions, in the form of plans, to show the general lines upon which the buildings should be provided on economical lines. It will be useful to have these plans, and we can warmly endorse the statement that a more costly provision at a time when there is urgent need for national economy would be contrary to the public interest.

Among the new certificates issued it is interesting to note one granted to a small part of the London Lock Hospital. The report contains the following comment:

> Imperfect supervision over weak-minded women has some effect upon the persistence of venereal disease, and the power of control is essential to effective treatment. The mentally defective woman, ill qualified to protect herself from sexual risks, is a frequent sufferer from and conveyer of venereal disease. Such a woman can hardly be expected to appreciate the necessity for treatment or submit herself voluntarily to it; action, therefore, is called for on the ground of common humanity, and in the public interest, when a woman suffering from this disease is liable to be dealt with under the Act.

In institutions for mental defectives, as in those for the insane, the restrictions placed on food supplies during the war resulted in a high sickness rate and a proportionately high mortality rate. Tuberculosis was the most common of all diseases, patients appearing to be more liable to attack and less able to resist than under ordinary conditions. The report on this section of the Board's work is, as in the past, valuable and instructive.

MANCHESTER ROYAL INFIRMARY.

The second course of post-graduate demonstrations on diseases of the ear will be held at the Manchester Royal Infirmary (out-patients' department, Nelson Street entrance) on Fridays at 4.30 p.m., commencing January 30th. The courses were founded by Sir James E. Jones of Rochdale, who has done much for the education of the deaf. Three courses are arranged in each year—in the Michaelmas, Lent, and Summer terms; each consists of ten practical demonstrations, and the number attending is limited to twelve at a time, so that each may have an opportunity of examining the patient himself. One lecture in each course will be descriptive of the aural method in teaching deaf children to speak, and will indicate the importance of commencing this education at an early age. The first course was delivered by Sir William Milligan last year, and the next course will be conducted by Mr. Lindley Sewell, assistant surgical officer, Aural Department, Manchester Royal Infirmary. Further information can be obtained on application to the general superintendent and secretary of the infirmary.

WEST LONDON POST-GRADUATE COLLEGE.

The West London Post-Graduate College has arranged a special set of lectures during the present session. Among those who have consented to take part are Sir Clifford Allbutt, Sir George Savage, Sir Arbuthnot Lane, Sir A. Pearce Gould, Professor W. M. Bayliss, F.R.S., Dr. Robert Hutchison, Mr. Hey Groves, and Dr. Risien Russell. Future lectures will be given at 5 p.m., at the Post-Graduate College, West London Hospital, Hammersmith, W.6. The lectures are open, without fee, to medical practitioners. Further particulars as to dates can be obtained on application to the Dean.

Scotland.

DIAMOND JUBILEE OF A SCOTTISH PRACTITIONER.

A few weeks ago the diamond jubilee of Dr. George Banks of Wick, who became L.R.C.S.Edin. in 1858 and L.R.C.P. in 1860, was celebrated by a dinner given to him in Wick by the Caithness Medical Society. The chair was occupied by Dr. Thomas Wright of Wick, and the toast to the guest was proposed by Dr. MacLennan of Thurso, who described the warm regard in which Dr. Banks was held by his colleagues and spoke of the great services he had rendered to Wick as medical officer of the burgh and port and during his many years' practice in the town. Dr. Banks was at one time surgeon-colonel of the Caithness Volunteer Artillery and holds the Volunteer Decoration. Dr. Banks, in his reply, told of his going to Wick as an assistant to the late Dr. Sinclair, whose practice extended over a wide area, from Canisbay almost to Lybster, and recalled how when a dispensary was opened at Canisbay the event was celebrated by a hare hunt, in which the Earl of Caithness took part. In acknowledging the toast of his health, given by Dr. Banks, Dr. Wright paid a high tribute to their guest as a physician, a consultant, and a friend.



GENERAL NURSING COUNCIL FOR SCOTLAND.

The Scottish Board of Health is taking steps towards the constitution of the General Nursing Council for Scotland established by the Nursing Registration (Scotland) Act, 1919. On the first constitution of the Council thirteen of the fifteen persons composing the Council are to be appointed by the Scottish Board of Health. Four are to be appointed after consultation with persons and bodies having special knowledge and experience of training schools for nurses, of the work of matrons of hospitals, of general and special nursing services and of general and special medical practice, and nine of the persons to be appointed by the Board of Health must be, or must have been at some time, nurses actually engaged in rendering services in direct connexion with the nursing of the sick. The Board is anxious that the new Council should be of a thoroughly representative character and would welcome suggestions for membership of the Council, but all recommendations should be accompanied by a statement of the special qualifications and experience of the persons suggested for membership.

THE EDINBURGH MEDICAL JOURNAL.

The *Edinburgh Medical Journal* appears this month (January) with the name of Oliver and Boyd as publishers on its wrapper (now pale brown instead of green). This is not the first time that firm's name has appeared on its title page; for thirty-six years the monthly parts of this old but ever youthful periodical issued from Tweeddale Court, 14, High Street, with Oliver and Boyd's imprint upon it, under the successive editorship of Henry Duncan Littlejohn, Daniel Rutherford Haldane, George William Balfour, and Joseph Bell. In 1897 Young J. Pentland began to publish it, and later it was printed for the proprietors by W. Green and Sons, Ltd. Now, without changing its able editors (Alexander Miles and J. S. Fowler), the journal has returned to its old home in Tweeddale Court.

In the prospectus which accompanies the January part it is said that the *Edinburgh Medical Journal* enters upon the one hundred and sixteenth year of its existence. This is not quite correct if one has regard to its present name; for it was the *Edinburgh Medical and Surgical Journal* which was founded by Constable in 1805, and appeared (at first quarterly) for fifty years when it united in 1855 with the *Monthly Journal of Medical Science*, and for the first time took the title of the *Edinburgh Medical Journal*. Some fifty years later another union took place—namely, that in 1907, with the *Scottish Medical and Surgical Journal* (founded in 1897); on this occasion the *Edinburgh Medical Journal* retained its name unaltered. The January part is interesting, containing, as it does, Professor Meakins's inaugural address on "The Influence of Edinburgh on McGill University and American Medicine," Dr. W. B. Drummond's article on "A Binet Scale for the Blind," and Captain Leggate's "Observations on Beri beri among the Chinese in France." There are also "Clinical Records" of individual cases, and two valuable "Critical Reviews" on surgical tuberculosis and *x* rays and radium in gynaecology. The annual subscription is 30s.

Correspondence.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—It is a curious thing that just at the time when there is something of a revolt against the interference of the State in the sphere of curative medicine, extension of State activities is all the craze in the sphere of preventive medicine. It is especially astonishing in view of the fact that many still cling to the idea that prevention and cure go together. Schemes for treating the sick should not be looked upon as measures for the prevention of disease. When it is realized that the two are distinct, then the futility, from the point of view of preventing disease, of much that is now being done for combating tuberculosis will become apparent. Tuberculosis is one of the commonest of preventable diseases, and its connexion with social ills is comparatively clear. Therefore it is a good type to study as an example, and Dr. Bertram G. M. Baskett has done good work in presenting your readers with his striking and able article on "Public Health versus the State" (BRITISH MEDICAL JOURNAL, January 10th).

His views involve several important implications which should cause doctors to think hard. Even if they do not carry conviction to all, they should arrest attention and lead to a careful survey of the present situation as to preventive medicine and its association with State interference. Personally, I believe his conclusions are correct. At a time like the present, when, through the indirect effects of the war, the municipal and State funds are heavily encumbered, when problems of the burden and true incidence of taxation are of vital importance to the welfare of the people, it is particularly opportune to discuss the effects of these things upon the prevalence of disease. This is especially so, as it appears to me, because we may well be at a parting of the ways. On the one hand, there are those who want to see more regimentation from above, more bureaucracy, more paying out from Government funds, and more public borrowing in some shape or form—for example, nationalization of the railways by buying out present owners at a high figure. On the other hand, there are those who aspire in the near future to a diminution of State interference and an ampler personal freedom, to a gradual cessation of all forms of public borrowing, and to the discovery of a sinless tax which cannot be passed on to the poorer workers and cannot burden production. As doctors it behoves us to study these questions. The more we do so I feel sure the clearer it will become that Dr. Baskett is right when he contends that "when a Government sets itself by direct means, involving expense, to improve the conditions of the poor the usual result is to encourage tuberculosis."—I am, etc.,

Mundesley, Jan. 14th. S. VERE PEARSON.

"NEW LAMPS FOR OLD" IN OBSTETRICS.

SIR,—My letter on your leading article was concerned with attempting to widen the prospect opened by the conception of the new lamp in obstetrics rather than with Mr. Bonney's paper, and I regret with him and Dr. Blair the way the whole hunt has followed the red herring of the use or abuse of forceps, especially as it is over the old ground in the old way. Perhaps I was too emphatic on that matter, or perhaps your correspondents felt the cap fitted or their consciences pricked. In opposition to Mr. Bonney, however, I maintain that the question as to whether there should be more or less interference in midwifery cannot be divorced from the other circumstances of

the surgical methods which should surround midwifery practice, because it is an inseparable part of them. The true surgical attitude of mind seeks to eliminate all unessential manœuvres by which sepsis may be introduced, as well as to secure asepsis in carrying out those which are essential. The less often the infallibility of our efforts is put to the test the better. To minimize handling and to keep the fingers so far as possible out of the wound is, even in these days of rubber gloves, an integral part of surgical technique, and, applied to midwifery, involves the reduction to the absolutely necessary of all internal manipulations, whether vaginal examinations or operative procedures, especially in view of the impossibility of sterilizing the vulva.

Even if "safeguarded by all those circumstances of environment, assistance, and asepsis which are accepted *sine qua non* in every department of recognized surgery," a diminution in the frequency of internal manipulations when spread over the annual birth rate of the kingdom—about a million—must bring with it a corresponding and appreciable drop in childbed morbidity.

The red herring that Mr. Bonney complains of was my reference to a letter in a previous correspondence (September 27th, 1919) which I quoted as an example of what I hoped the new lamp would dispel. That letter had advocated assistance by forceps or other means, and the removal of the placenta by hand if expression fails, to save "absurd waste of time, as there is when a practitioner waits on Nature." The manual removal of the placenta from the uterus, even when all the resources of a hospital are available, is known to give a high morbidity rate, and the mere suggestion that it should be done without grave reason would explain and excuse my emphasis of the need for limiting interference in labour.

Another red herring which, however, had little following, was an attempt to indicate the approach through physiology. In the one detail which has absorbed this discussion such line of approach would begin before any question of instrumental assistance arises—that is, with the causes of uterine inefficiency in labour and how they may be averted. Other disorders of function—as, for instance, the frequent failure of lactation—would be similarly approached. Dr. Thomson Shirlaw touched on this aspect, and his ironical advice to "swot up Caesarean section" well expressed the want of courage of those who have no opinion of Nature's effort in pressing that opinion to its logical conclusion.

We must all have our own ideas as to how the new spirit in medicine and its application to obstetrics should be interpreted, and an expression of such ideas on broad lines cannot but be helpful and stimulating to others, and I regret the narrow line this discussion has taken.—I am, etc.,

London, W., Jan. 18th. JOHN S. FAIRBAIRN.

SIR,—Let us inter the red herring and deal only with Mr. Bonney's contention. If he means that the elaborate ritual practised in most hospitals before and during surgical operations should be adopted in every case of midwifery, then I can only say that in view of the housing conditions of the people in this country his proposal is as Utopian as it is unnecessary. Parturition differs from a surgical operation from the fact that in the former Nature provides her own antiseptic in the vaginal secretion, and woe betide the practitioner who washes it away or otherwise destroys it. Students should be taught that there is no danger of sepsis provided they keep their hands, arms, and instruments free from infection. Some men will touch with their bare fingers every infectious or contagious case they come across, and often neglect to wash, or at any rate to wash properly. Of course they get septic cases if they practise midwifery. Students should also be taught plain common sense in obstetrics, and should not be allowed to practise midwifery outside hospital until they are proficient in turning and in using the forceps. But I forget—there is the old red herring bobbing up again.—I am, etc.,

North Shields, Jan. 17th. F. C. MEARS.

PREVENTION OF VENEREAL DISEASE.

SIR,—My attention has been called to a letter in your issue of December 27th, 1919, signed by Mr. E. B. Turner and Dr. Otto May, in which it is stated:

> Very few statistics are as yet available, but we defy the Society for the Prevention of Venereal Disease to bring forward a single set of figures showing, to the satisfaction of an actuary, that methods based on their system have ever resulted in any striking diminution of disease. Should the recent debate on this subject lead, as is hoped, to a publication of the actual figures for the Portsmouth area (in which, according to Lord Sandhurst, the incidence of venereal disease is two and a half times greater than for the whole United Kingdom), the profession will be able to judge how little foundation exists for the misplaced optimism of Sir Archdall Reid, whose "experiences" in that town constitute one of the chief assets of the Society for the Prevention of Venereal Disease.

Well, let us get at the facts. For some years past soldiers suffering from venereal disease have been subjected to no penalties. It had been found that punishments led to concealment. When a case occurs the medical officer of the unit must, under stringent orders, immediately send it to the venereal diseases hospital of his area. There the man's unit is recorded and he is questioned (and his answers recorded) as to the source of infection (professional or "amateur"), as to date and place of infection, and as to whether he disinfected after exposure, and, if so, how long after. It will be seen that the M.O.'s returns may be exactly checked from independent official sources. Before the war the 1st Yorkshires were ordered from a hill station where there was no disease to Delhi, a hotbed of infection. The C.O. in alarm consulted his medical officer, who instructed his men to disinfect immediately after exposure with a solution of potassium permanganate. In four years that battalion had six cases of venereal disease instead of hundreds — 1.5 per 1,000 per annum. At Mhow venereal disease was reduced by similar means to "negligible proportions." At Portsmouth the M.O. in charge of Clarence Barracks, with an average of about 2,000 troops in charge, had, in twenty-eight months, seven cases *originating* among his men—a rate of 1.5. The method of carefully teaching men to swab immediately after exposure spread throughout the "Portsmouth area" (the greater part of Hampshire and Dorsetshire) with approximately similar results. At the local venereal diseases hospital it was found that while many men, fearing blame, declared at first that they had disinfected themselves immediately, every one on closer questioning admitted he had not done so. At the Naval Gunnery School at Whale Island Surgeon Commander Boydon supplied 496 men who applied, with bottles of permanganate lotion, and instructions to swab immediately after exposure. Only one man was infected, and he delayed disinfection for six hours. The Royal Marine Artillery (nearly 4,000 men), to whom quick disinfection was carefully taught, had only five cases in nine months—approximately 1.5 per 1,000 per annum, which appears to be about the normal for well instructed troops. Many more instances may be quoted, but I give only those which may be easily verified from independent official sources.

I do not know what Mr. Turner's and Dr. May's actuary would make of the above figures, but, unless he possessed the peculiar talents of the gentleman who supplied the Interdepartmental Committee and Lord Sandhurst with their statistics, I do not think he would make much. There is hardly scope for him, since the facts are so simple, and I think he is only mentioned by way of hinting doubts which Mr. Turner and Dr. May would like to diffuse but cannot substantiate, though the materials for investigation are at hand. Will these two gentlemen please explain how my "experiences" can "constitute one of the chief assets of the Society for the Prevention of Venereal Disease"? I have just given not only my records but also those of many medical officers, whose very names are in most cases unknown to me, though I am acquainted with their returns.

In 1916 the army was "rotten" (I use an expression which was often heard) with venereal disease. The hospitals were overflowing and camps were formed, man power was seriously affected, the Colonial Governments (I am told) were threatening to withdraw their forces, in every Dominion the chief cry of those who opposed help to the Mother Country was that clean lads should not be sent to that cesspool—England. The English public heard little of all this, for allusion to it was suppressed for fear of the effect on recruiting; but the soldiers received innumerable lectures exhorting them to chastity and exposing the horrors of disease. Finally, "venereal ablution rooms" were established in which permanganate solution in pails and calomel cream in pots were stored, and to which men who had incurred danger were supposed

to resort for self-disinfection. It is understood that some sort of a bargain was made with "influential" people who opposed "any system of prophylaxis which might be said to afford opportunities for unrestrained vice." Immense good resulted, but in 1917 the authorities, convinced of the superiority of quick disinfection, arranged to introduce it. Delay occurred, and inquiry revealed that the officer who had been placed in charge of the scheme was waiting for the delivery of millions of bottles and tubes which had been ordered. Vehement protests were immediately made; the bottles and tubes unnecessarily introduced the objectionable "packet" system; the disinfectants already in the hands of the medical officers were sufficient, as had often been proved, and nothing but stringent orders to the officers to give careful instruction was required. The protests were unheeded. After prolonged delay the bottles and tubes were sent to the troops *with instructions that the men were to be taught, not to carry them, but to use their contents after return to quarters.* Conceive the imbecility of transferring, at vast expense, chemicals from one set of receptacles to another only to use them in the old inefficient way. More protests were made; the authorities were implored to insist on the one essential thing—the careful instruction of the men. Again the protests fell on deaf ears. To-day, if demobilized officers and men be questioned, it will be found that, in 99 cases out of 100, they know nothing, or next to nothing, about disinfection. Those who were trying to stay the plague were reluctantly forced to the conclusion that whoever was in charge of the arrangements was incompetent, or that he did not desire the success of disinfection.

In 1919 the Interdepartmental Committee assembled. It considered evidence from an army which had been instructed, as far as it had been instructed at all, *not* to use "packets" as packets. Very sapiently on that evidence it decided that packets, used as packets, were useless. If the figures for 1914–15 had been contrasted with those of 1916 and those of subsequent years the difference between the effects of no disinfection as compared with those of some (even if inefficient) disinfection could have been ascertained. Accordingly the statistics for 1914–15 were withheld. In the future much will be heard concerning the evidence produced before this Committee. For the present it will be sufficient to consider Lord Sandhurst's figures which are quoted by Mr. Turner and Dr. May and which were supplied by the same hand and are of the same character and quality as those supplied to the Interdepartmental Committee.

Lord Willoughby de Broke, desiring to ascertain the effects of quick disinfection, asked for information concerning the "Portsmouth area," where it had been widely practised. Of course, he referred only to troops resident in the area and in charge of the Assistant Director of Medical Services at Portsmouth. His question was plain enough, and was thoroughly understood, if not by Lord Sandhurst, yet by the person who supplied his figures. In 1919 there came into the area from elsewhere in the United Kingdom drafts who, relatively few in number brought about twice as much disease as that contracted by the resident soldiers—that is, disease which developed in a few days after, and was admittedly contracted before, arrival. Into it, also, came tremendously infected units from abroad. In it were also large numbers of colonial, American, and R.A.F. troops with which the A.D.M.S. had nothing to do and who were suffering severely. Lord Sandhurst ingeniously combining all this infection, announced that the disease in the Portsmouth area was two and a half times greater than that for the rest of the kingdom. The average army rate is about 40 per 1,000 per annum. Therefore the rate for the Portsmouth area should have been about 100. But consider the weakness and incompetency of the army administration which permitted—without protest and without attempt at remedy—this shocking state of affairs. Suppose the disease had been typhoid. Lord Sandhurst has been taxed with the manipulation of the figures I have indicated, and has not denied the soft impeachment. But Mr. Turner and Dr. May quote him, and talk of an actuary. After all, I think the actuary is really necessary.

But consider the case if Lord Sandhurst's figures were true. They would then be even more deadly. Portsmouth is the only large town in the area. The venereal rate, therefore, should be about 150 per 1,000 per annum. Yet a little careful instruction given to some six or seven thousand men has reduced this huge figure to next to nothing among them.

I hope I have given Mr. Turner and Dr. May sufficiently precise information. I wonder, if they cannot indicate any substantial inaccuracy, whether they will consider the question of joining the S.P.V.D. I speak only for myself, but I should think they would be as welcome as lost sheep.—I am, etc.,

Southsea, Jan. 19th. G. ARCHDALL REID.

SIR,—In his letter on this subject in your issue of January 3rd, Dr. Herbert Butcher makes one or two interesting observations. Discussing prophylaxis he says: "I fail to see that as medical men we have any concern with the moral aspect of the matter. That had much better be left to others." I am tempted (and fall) to place that statement alongside one that I quote from *The Times* of January 9th, 1919. At a conference on venereal disease in the army the chairman, Lord Sydenham (president of the N.C.C.V.D.), is reported as saying that "the National Council did not regard the moral aspect as part of their propaganda—they left that to the clergymen." If Lord Sydenham be reported aright I rather think the National Council have changed their point of view, but it would appear that in some respects we are not very much further on in this question at the beginning of 1920 than we were at the beginning of 1919. The medical profession is still in a state of doubt and dissension over its standpoint on the moral side. Further, has the question of venereal disease attained any such position, beyond the columns of the medical press, as would justify the belief that the great mass of the people are any less apathetic towards the whole business than they were a year ago? I doubt it.

At present, Sir, the National Council and the Society for the Prevention of Venereal Disease are splitting hairs over the question of whether prophylaxis should take the form of a packet distribution or disinfection under supervision. Is there any insuperable obstacle to the adoption of both? As regards our attitude towards the morality of prophylaxis, I maintain that we *must* make it our concern. If we cannot plead its moral justification we are running the risk of alienating the sympathies and forfeiting the aid of large numbers of thinking men and women. For if a prophylactic scheme of any nature is established, it cannot be brought to the notice of those who stand in need of it without attracting the attention of a large community unprepared to receive into their midst so open an acknowledgement of the widespread existence of sexual vice.

I believe that the preventive value of prophylaxis is proved, and granted in one form or another by both the National Council and the Society for the Prevention of Venereal Disease. Now what is its moral position? Its opponents say it offers an inducement to sin and immunity to the sinner, its advocates that it has in view the saving of the innocent. No one can dispute the justice of the latter object. With regard to the moral objections, any inducement to sin can surely be counteracted and more than counteracted by a coexistent and far-reaching propaganda—moral, social, and educational—depending for its success on the extent to which the active aid of men and women *outside* the medical profession and the Church can be enlisted. But, Sir, counteracting influences are not necessarily a reply to moral objections. Good. "If a man have an hundred sheep, and one of them be gone astray, doth he not leave the ninety and nine, and goeth into the mountains, and seeketh that which is gone astray?" Do we then do wrong if we make our objective those who have gone astray? And what of conferring upon the sinner (for this argument is and will be used) an immunity from the consequences of his sin? Surely that is the one thing that we can safely leave to the judgement of Another.

I repeat, if the campaign against venereal disease is to achieve victory with honour, if we are to secure the services of a large body of helpers, we must justify our prophylaxis. To quote Dr. Butcher again, "We shall have done our duty if we impart to the public the truth that science has imparted to us." But we must beware lest the public interpret the practice of that truth as inimical to the truth that was imparted to mankind 1,900 years ago.—I am, etc.,

JAMES M. STALKER, M.B., Ch.B.St.And.

Dundee, Jan. 5th.

SIR,—I am, I hope, as moral as most people, and I do not consider I am assisting immorality if I take the line that I am entrusted with the cure of the body and not of the soul. And prevention is better than cure; if I can prevent, I should do so. The fact that I were doing my best to prevent would not hinder professed priests and others from carrying on their side of the campaign.

If a man suffering from syphilis confided in a priest it would be the duty of the latter to dwell on the ethical side, and when he had finished turn the patient over to a doctor. But if the man came to me in the first place, I should not consider it any part of my duties to lecture him on his morals, nor to be guilty of the impertinence of directing him to make his peace with the Church.

It is undoubtedly the duty of the medical profession and of its individual members to point out the dangers, evils, suffering to the innocent, and the gruesome side of venereal disease. Sometimes we succeed so well that the convert practises self-abuse rather than risk infection. The late Dr. Charles Mercier would have classified this last as a crime against humanity. It is all very well to say that education is going to eliminate immorality, but what is to be said of State education, which has taken the parents' responsibilities out of their hands and thrust them on to the shoulders of the teachers?

What can be said for the education of to-day which teaches hygiene and decency *by precept* and then allows the scholars to go home to sleep two or three, of opposite sexes, in the same room—even in the same bed? How long is it going to take to rectify this? How long will it be before the proletariat are decently housed? When will it cease to be a crime for a working man to help keep alive an imperial race by bringing up a family of half-a-dozen? Anyone who cares to see it knows that the worse the living conditions the lower the morality of the occupants—and we meet this with "watch committees" and the like. The iniquity is that many of the couples started married life decent and self-respecting until their economic conditions crushed the decency out of them and robbed their children of the chance to grow up decently.

If they want relaxation they go *outside* the hovels where they live, and this leads to drunkenness, promiscuous sexual intercourse, and other evils. It is useless to expect to reclaim this class of the community by propaganda, and it is absurd to contend that it is immoral to combat venereal disease amongst them by preventive measures. Education can do nothing for them until it has relieved them physically, then, perhaps, its teaching will not stultify itself.

As to the immorality amongst the more fortunately situated classes, it is unwise to shut one's eyes to the fact that Nature intended the sexes to be attracted to one another. The desire is a normal one, fortunately held in check by convention and still more by interest in one's work and hobbies. But here, too, syphilis is rife, from all accounts, and innocent people are becoming infected every day. Is the tale of infection to rise higher and higher whilst religious and educational work is trying to catch it up? This line of attack might possibly assume endemic proportions—certainly not the epidemic proportions of the incidence of the infection. Rather, one fears, will it be sporadic; and the convert probably already suffering from the disease.

For my own part I am grateful to the eminent members of the profession who have been courageous enough to advocate preventive measures, knowing the kind of criticism they would have levelled at them. The least I could do was to apply for membership of the society.

"Sic vos, non vobis . . ." from the "fagging" of school days to the present time.—I am, etc.,

J. CHARSLEY MACKWOOD, M.C.,
M.R.C.S., L.R.C.P.

Newick, Jan. 12th.

MODE OF QUININE ADMINISTRATION.

SIR,—I am much obliged to Colonel W. H. Willcox for his letter in the JOURNAL for January 3rd in reply to my inquiry in the previous number, and I now understand that his estimate of the comparative values of rectal, oral, intramuscular, and intravenous administration of quinine—namely, that these values vary roughly in the proportions of 1, 2, 20, and 40 respectively—was a clinical estimate. I attach no small importance to such estimates when backed by so large an experience as Colonel Willcox had during the war. But there are many special difficulties in the case of quinine in malaria, all of which must be remembered in every case. Thus when any change of treatment is made we are apt to forget that the benefits of the previous treatment may not declare themselves for some days.

According to the best Italian work from the time of Torti, doses of quinine given shortly before an impending paroxysm, or even given and repeated during that paroxysm, may not modify it in the slightest, but will annul the *next* paroxysm. Suppose that a bad case of malignant tertian has a paroxysm beginning at noon on a Monday, then the fever is likely to continue from that hour till noon on the Wednesday following or even later, and this in spite of any quinine which may be given on the Monday, Tuesday, and Wednesday; but the next paroxysm, which should commence at noon on Wednesday, will be aborted. Suppose that the clinician sees his patient again on the Tuesday evening; he will find him severely ill, in the so-called crisis of his aestivo-autumnal fever; and, if he forgets these facts, he will think that all the oral quinine which he has given hitherto has failed, and he may then proceed to his intramuscular or intravenous injection. Sure enough next day the fever will probably fall or disappear; but this result will be due, not to that injection, but to the quinine which was given on the Monday morning; the patient may have taken as much as 200 grains on the three days, but the dose given before the Monday exacerbation was probably the one which did the work and broke the fever from Wednesday onwards. It is precisely in cases of this nature that intravenous injections are so apt to be employed, after the previous oral doses have *apparently* failed; and it is precisely in such cases that we are so apt to attribute the recovery to the injections.

Quinine does not affect the impending paroxysm because, according especially to Antolisei, Golgi, Marchiafava and Bignami, it cannot destroy the segmenting forms, to the breaking up of which, with consequent liberation of toxins, the febrile exacerbation is due. Thus the latter writers say:

> Quinine acts upon the malaria parasites in that phase of their life in which they are nourished and developed. When the nutritive activities cease by an arrest of the transformation of haemoglobin into black pigment and the reproductive phase begins, then quinine is ineffectual in its action.

My own observations have always supported these opinions. It follows that the therapeutic value of a dose of quinine may depend more upon the time at which it is administered in relation to the growth cycle of the parasites than upon the mode of administration.

At the same time we cannot say definitely that the mode of administration has no effect on the result. I am *inclined* to think that it does not have much effect. For instance, very little difference could be proved between the results of oral and intramuscular administration in the numerous War Office researches on the subject—see especially the late Mr. R. W. Harold Row's careful paper in the *Observations on Malaria by Medical Officers of the Army and Others*, just published; and Captain G. B. Bartlett even thought that the oral method is the better. On the other hand, Lieut.-Colonel S. P. James found that intravenous injections had a quicker result in ten carefully taken cases, though the relapses remained as frequent as with other methods (*Journ. R.A.M.C.*, September, 1917). The other literature is large, but conflicting, one-sided, or indecisive.

Hypodermic injections had fallen into some disrepute before the war, owing to occasional local mischief, to tetanus, and, particularly, to the statements of many able chemists, that quinine is actually less readily absorbed from such injections than when given by the mouth. Therefore I for one rightly objected to them, except where oral administration was not possible (though I never said, as some seem to think I said, that injections are entirely useless). More recent chemical work seems, however, to show that there is not much difference in the excretion of quinine, whether it is given by one route or another.

Much interesting chemical work, bearing on treatment, has recently been done by Ramsden, Lipkin, and Whitley (*Ann. Trop. Med. and Parasitology*, vol. xi, p. 434, vol. xii, p. 233, and vol. xiii, p. 149). They conclude that there is a great destruction of quinine in the tissues, especially when large doses are given, and that the concentration of

it in the blood is not much greater with large doses than with small ones—which might explain why moderate doses seem to be clinically as efficient as massive doses. They say also that 90 per cent. of quinine injected intravenously disappears from the blood within one minute. Quinine is destroyed especially by the liver—which would appear to justify D. Sandro when he claimed in 1909 that this is the reason why intramuscular injections are more potent than oral doses of the same magnitude (if this be true). The concentration of quinine is always much higher in the urine than in the blood, except in blackwater fever, in which it would seem to be eliminated in the form of Nierenstein's haemoquinic acid—a very haemolytic substance, the occasional formation of which may explain the symptoms in many cases of that type of malaria.

We have to consider not only the therapeutic value of any mode of administration, but also its administrative advantages or drawbacks. It is much easier to give quinine by the mouth than by other routes. Colonel L. S. Dudgeon has recently shown that, whatever antiseptic precautions may be taken, intramuscular injections cause much local necrosis (BRITISH MEDICAL JOURNAL, January 3rd, p. 25, and *Journ. Hyg.*, 1919, xviii, p. 317), and we hear "stories" of accidents which are not reported in print. On the other hand, I am seeing patients every day who have had many injections, both intravenous and intramuscular, but who have received no permanent injury from them—and also, I fear, no permanent cure. Against oral administration there are the dangers of vomiting, non-absorption, and, not least, of avoidance of the dose; while there is this comfort about the other routes, that the dose cannot be avoided.

The real question is, not whether the injections are as good as oral doses or a little better, but whether they are so much better as to justify the extra pain and risk involved, small as these may possibly be. I have seen no decisive experimental proof of the superiority of the injections; but pending such proof I think we are bound to accept the views of many clinicians who prefer them for dangerous paroxysms, especially such as the attacks referred to by Colonel Willcox and Major Mavor, which usually occur in intensely malarial areas, and also occasionally in England. But for the ordinary attacks, of which we have been seeing thousands during the last three years, good oral treatment has been shown to be sufficient in the numerous malaria hospitals and centres. I see that Colonel Willcox agrees.

The War Office Researches on Malaria did a great deal of work. It is a pity they had to be stopped last year. I have tried in vain to have them continued by other bodies. Even now the British Empire does not know how to manage its scientific affairs.—I am, etc.,

London, N.W., Jan. 17th. RONALD ROSS.

SIR,—Malarial therapeutists talk glibly of administering from 1 to 3 grams of quinine, more or less, daily, for weeks together, and one gathers that the drawbacks to a course of this treatment are few. But they do not often mention one very serious drawback, namely, the tendency of these large doses to cause deafness, which often proves permanent. They will, of course, ascribe it to idiosyncrasy, but, idiosyncrasy or not, it is a very serious consequence.

I have had considerable experience of the quinine treatment of malaria, and I can recall several instances in which permanent and pronounced deterioration of hearing remained.—I am, etc.,

Algiers, Jan. 4th. ALFRED S. GUBB, M.D.

FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—To one who has for nearly two years employed the old Breuer-Freud method of abreaction, almost as a sheet anchor, it comes rather as a shock to have its utility questioned.

As in the Freudian method of analysis, one has, in the early stages of treatment, avoided suggestion as much as possible and allowed the patient to "work out his own salvation" by the revival of the original emotion in his own way. When the battle dreams and more severe anxiety symptoms have been relieved, as they undoubtedly are, and moreover in a remarkably short time, then methods of re-education and persuasion are employed. Dr. Carver's article must, I feel sure, express the feelings of many who, like myself, work to relieve the anxiety state of the pensioner and others.—I am, etc.,

London, W., Jan. 18th. ROBERT M. RIGGALL, M.R.C.S., L.R.C.P.Lond. and Edin.

SIR,—In his letter on "Forgetting," etc., in last week's BRITISH MEDICAL JOURNAL, Sir Robert Armstrong-Jones writes:

> The psychoses and neuroses are Nature's means of defence, and I venture to believe they are best relieved by helping Nature to obtain a complete rest and some mental diversion.

I made a similar statement in 1916, and it was on account of my holding this view that I founded the Country Host scheme.

It is sad, it is passing sad, that only at this late (almost too late) period the neurological experts and authorities are beginning to recognize the truth of the fact I ventured to point out to them in 1917—namely, that psycho-therapeutical treatment such as that given at Maghull, and later at Seale Hayne, removes symptoms indeed, but that it does not cure the patients permanently. For proof of this I quote the 30,000 cases of war neuroses seen yearly by the Special Medical Board in London alone.

As I have insisted over and over again, the only permanent cure for most cases of war neuroses is the natural one of rest and good feeding with suitable occupation, preferably in the country. Most unfortunately, the brilliant results in the way of removal of symptoms dazzled the authorities, and, like Esau, they sold their birthright for a mess of pottage; they overlooked the fact that men so treated were no more "cured" than a man suffering from enteric fever would be cured if his temperature were reduced to normal by placing him in a cold bath. Such treatment may be necessary and helpful, but it is only symptomatic, and is not radical or permanent in its result.

Once more let me insist that all purely neurasthenic cases should be sent to the country under the Country Host scheme now being managed by the Red Cross. All hysterical cases should have their symptoms removed by psychotherapy and should then be sent for three months to the country under the above scheme.—I am, etc.,

London, S.W., Jan. 19th. THOMAS LUMSDEN.

SIR,—The discussion revived by Dr. Alfred Carver's communication is concerned with issues of such general interest that any member of the profession must hope it will not degenerate into the acrimonious mud-slinging which seems to be the usual fate of an argument wherein the word psycho-analysis is mentioned.

I suggest that the problem is somewhat as follows: One is suddenly tendered a bill for five pounds, and it is inconvenient to pay. One may not have the money, or may dispute the claim; anyhow, one does *not* pay. Then perhaps the creditor dies, and his executor has no record of the transaction; the debtor is not pressed for payment. Next, one of two things happens to a large majority of debtors: either the whole transaction is forgotten, or it is remembered as a case in which the sleeping dog may be allowed to lie. But by a minority, although the name of the creditor and the nature of his claim have been forgotten, it is remembered that some claim exists. Such persons may make themselves miserable by attempting to discharge debts of £1,000 (to which the principal has grown by very high compound interest) in the most unlikely quarters. How can we still these tender consciences?

1. We may persuade the debtor either (*a*) that he never owed anybody anything; or (*b*) that he has already paid his debt; or (*c*) that money is the root of all evil, and it is better to think of something else.

2. We may try to find out who the original debtor was and what the nature of his claim.

If we proceed by (1), the debtor may discover that his adviser is not telling the truth. He may have been positively assured that the debt was paid to Smith; he may afterwards meet Smith, who is ignorant of the transaction.

If, on the other hand, we adopt (2), we may never find who the original debtor was, or, worse still, we may learn

that he died of starvation owing to want of the five pounds, and left no heir.

Substitute in my apologue "reaction" for "debt" and "painful stimulus"—or any other polysyllabic equivalent you please—for "creditor," and one is close enough for practical purposes to the topic under discussion.

How are we to decide whether (1) or (2) is the better line to follow? We shall obviously not derive anything but amusement from the spectacle of angry psychiatrists bandying such charges as lover of pornography or victim of a "complex" from side to side (the manner of all previous discussions). We shall derive very little, even of amusement, from dogmatic statements that this or that method "cures" patients, or from the spiritual autobiographies of eminent men (thus far the method of the present controversy).

What is meant by the term "cured"? Of those treated how many were "cured"? Were they *in pari materia?* Was the treatment uniform? Have any two of the rivals treated samples of a common population by their respective methods? If so, what are the results? Like Sir Robert Armstrong-Jones, I have asked six questions; unlike him, I have not framed them so that a Latin translation would require the use of the word *num* in each.—I am, etc.,

Loughton, Jan. 18th. MAJOR GREENWOOD.

THE ORIGIN OF TUMOURS.

SIR,—In the annotation entitled "The Origin of Tumours," in last week's JOURNAL, it is stated that the hypothesis recently developed by Ribbert is not invalidated by the occurrence of *x*-ray cancer, because this type of growth arises as a single focus. This is far from being the case, for in a very high percentage of *x*-ray cancers there are two or more separate and distinct primary growths, two or three or even more fingers, the hand, and perhaps the chin, having all been affected in one individual.

The more one thinks of these cases the more difficult becomes the acceptance of Cohnheim's theory, or any modification of it, such as that now advanced by Ribbert; for in *x*-ray cancer we have a condition—that is, carcinoma of the finger—practically unknown under any other circumstances. Are we to suppose that Cohnheim's cell-rests are deposited only in the hands of those who happen to adopt *x* rays as their avocation? Or, to take another remarkable example, can we imagine that the Kashmiri is the only kind of individual in whom cell-rests occur in the skin of the thighs and lower abdomen—for these are the positions in which multiple kangri cancers are met with very commonly in Kashmir—and is cancer ever seen in these sites in other races?

In my view no hypothesis of the etiology of cancer can satisfy the facts unless it affords some sort of probable explanation of the origin, not only of such cases as cancer of the breast, about the precancerous stages of which we know nothing at all, but of such conditions as *x*-ray cancer, kangri cancer, soot and fuel cancer, or aniline, arsenic, and chrome cancer, all of which are specialized forms of growth occurring in peculiar situations, and never arising except as the end result of the action of a definite physical, chemical, or thermic agent.

To say that a hypothesis "contains at least as much probability as any other hypothesis that has been made regarding the etiology of tumours" is a damning criticism.—I am, etc.,

London, W., Jan. 14th. CECIL ROWNTREE.

CHRONIC PANCREATITIS.

SIR,—Consequent on my article on this subject in your issue of November 15th, 1919, I have received a number of communications, several of which controvert my stated opinion that "on the surgeon rests in many of the cases the ultimate diagnosis by means of excision of a portion of the gland for microscopic examination" (by which I mean the removal of a small wedge), and suggest that the pathologist might be in many cases the person to undertake the task.

May I point out that the pancreas stands somewhat pre-eminent amongst the tissues in rapidity and intensity of *post-mortem* changes? Directly death has stopped the circulation in the gland active self-digestion begins, and in a gland examined twenty-four to forty-eight hours after death autolysis has produced results so pronounced as to obliterate in portions of the gland histological distinctness of outline, and in others to simulate necrotic pancreatitis.

The value of the various methods of examination of faeces, urine and blood, at present under trial, must be decided in many cases by the microscopic examination of fresh sections taken by the surgeon from the living gland.—I am, etc.,

Glasgow, Jan. 16th. JAS. H. NICOLL.

TICKS AND RELAPSING FEVER.

SIR,—Let me, in reply to Dr. Balfour's letter (January 17th, p. 97), where he says, "So far as I know we have no definite evidence that *Argas persicus* can transmit any human spironema," state that in the summer of 1918 I definitely proved that it can. I was then with a small column in North Persia. All the troops were under canvas, with the exception of a section of engineers, who were billeted in a deserted house, where they slept mostly on frame beds.

During the first week of their habitation there they complained of being bitten by bugs. I asked them to secure a specimen, which they did. This tallied exactly with the description of the *Argas persicus* in Manson's *Tropical Diseases.* The interesting point is that every man in that billet developed relapsing fever. The spirochaetes were found in their blood and also in the tick itself. None of the other troops developed the disease, though many of them suffered from lice infection. On making inquiries amongst the Persian natives, I found that nearly every house in the town was infested with ticks and that they were considered to be carriers of some sort of fever.

The severity of the infection seemed to vary directly with the number of bites, which were sometimes very severe and healed with difficulty.—I am, etc.,

J. LEEPER DUNLOP, M.B.,
Late temporary Captain R.A.M.C.

Ross, Jan. 18th.

THE WORK OF A PENSIONS REFEREE.

SIR,—It is evident that there is a widely spread fear in the profession that a State medical service will have many objectionable features. My experience, as medical referee to the Ministry of Pensions, lends no support to that view. I have found, from both the Ministers under whom I have worked to the latest joined member of the Local Pensions Committee, a genuine anxiety to do the best possible to restore disabled men to health and working capacity. The medical referee is left with an absolutely free hand to recommend whatever he considers necessary to that end. I am sure my experience can be echoed by all the other medical referees when I say that I have been treated with the utmost kindness and consideration. Letters are answered promptly, and not in the perfunctory official manner usual in some Government departments. The work is worrying at times, as one has to hold the balance true between the State and the pensioners. Mistakes will occur, no doubt, but if the work is done to the best of one's ability, the sympathy and support of all the officials from the Minister downwards is assured. The terms are, in my opinion, generous, and I am pleased to state that genuine malingering is rare. One or two cases in which I suspected it, on further investigation proved to be suffering from very real maladies; and I have found the conditions of work under the Ministry a pleasure.—I am, etc.,

Falkirk, Jan. 12th. GEORGE C. STEWART.

THE IRISH MOTOR DEADLOCK.

SIR,—It was hoped that through the good offices of Mr. H. G. Burgess of the Ministry of Transport a solution would be found of the deadlock which has arisen out of the Motor Permits Order, but it would seem that the *impasse* is to continue regardless of the consequences.

There is, perhaps, no section of the community which has adopted the motor as a means of locomotion to a greater extent than the medical profession, and one fails to see how the medical needs of the public can be attended to in the circumstances now existing.

Briefly the position is this:

1. The attendance of doctors is essential for the public good.
2. Motors are essential for the efficient discharge of the doctors' duties.
3. Doctors are prevented from using their cars.
4. Hitherto in all warfare the Red Cross has been respected, and belligerents who do not respect it alienate public sympathy.

Many of my professional brethren who have urged me to state their peculiar position through the press have suggested that doctors' cars should bear a red cross and carry a front red light at night for purposes of ready identification, in order to prevent a repetition of the unfortunate occurrence which took place in co. Clare a few days ago. It may be urged that this concession, if granted, might be abused, but surely there is none more jealous of respecting the privileges of the Red Cross than the doctors themselves, and anyone found breaking its conventions would deserve severe punishment.

It will be absolutely impossible for us to "carry on" without our cars, and we hope for the sake of the sick and suffering that we be allowed to use them.—I am, etc.,

MAURICE R. J. HAYES,
Honorary Secretary, Dublin Division, Leinster Branch, British Medical Association.

Dublin, Jan. 11th.

HYPERNEPHROMA OF THE OVARY.

SIR,—As my diagnosis of the specimens described by me (BRITISH MEDICAL JOURNAL, October 18th, 1919) as ovarian hypernephromata was doubted by Dr. Leith Murray, I sent him the sections, and he was of the opinion that they were lutein bodies. In the circumstances I sent the available material of these two specimens, and another tumour which in my view came under the same category, to Professor Turnbull, who very kindly examined them and sent me the appended report.

I now agree that my original diagnosis was wrong, and that these tumours are lutein formations.

I shall be glad if you can insert this disclaimer, not only to prevent the specimens being recorded unchallenged as hypernephromata, but also because Professor Turnbull's report is so instructive that I think it should be published.—I am, etc.,

A. KNYVETT GORDON.

London, W.C 1, Jan. 2nd.

Report on Sections and Blocks of Ovaries.

The following specimens were received from Dr. A. Knyvett Gordon on December 16th: (1) Sections labelled 217, 1209, and 909; (2) one paraffin block of specimen 217, and two paraffin blocks of specimen 1209. The sections forwarded had been stained: 217 with haematoxylin and Biebrich scarlet, and with acid rubin and Mallory's stain; 1209 and 909 with haematoxylin and Biebrich scarlet. Sections were cut from the blocks of 217 and 1209, and were stained in Ehrlich's haematoxylin with eosine, in Weigert's iron haematoxylin with van Gieson's mixture, in Weigert's fuchselin with neutral red, and by the Weigert-Gram method with neutral red. There is no suggestion of malignant growth in the bodies within the three ovaries. If the bodies are connected with the suprarenal glands, they are either ectopic, suprarenal, cortical bodies, or benign growths thereof. In order to determine, therefore, the nature of the bodies, I first tabulated the points of histological difference, to be seen in paraffin sections, between (*a*) ectopic, suprarenal, cortical bodies, from the kidneys, liver, coeliac ganglion, and hilum of testis; (*b*) adenomata of the suprarenal cortex; and (*c*) lutein bodies.

1. *The Cells.*—In ectopic, suprarenal, cortical bodies, and in cortical adenomata, the cells are acidophil, rendered somewhat granular by minute vesicles, or frankly spongy. They show little variation in shape, being round or, more commonly, rounded polygonal, the surfaces where adjacent cells meet being flattened; measured with an eyepiece micrometer they are very seldom so large as the cells of lutein bodies, and their nuclei are relatively larger. The cells of lutein bodies are much less commonly vesicular or spongy; the great majority have a peculiarly homogeneous appearance. They are usually less acidophil than the cells of cortical bodies, tending to be stained purple or blue in haematoxylin and eosine sections. They vary greatly in shape; they are frequently elongated, the long axis being directed radially to the centre of the lutein body. The average cell is distinctly larger than the average suprarenal cortical cell.

2 *Arrangement of Cells.*—In ectopic, cortical bodies the cells are arranged exactly as in the cortex of the normal suprarenal body. Unless the section is tangential, zonae glomerulosa, fasciculata and reticularis are visible. The zona reticularis is pigmented in subjects of an age at which the corresponding zone is pigmented in the suprarenal body. In cortical adenomata the exact arrangement of these different zones is not seen. In the adenomata, however, as in the ectopic bodies, the cells are very obviously arranged in acini; although the acini are separated only by delicate capillaries and equally delicate strands of connective tissue, the acinar arrangement is conspicuous. The parenchyma of lutein bodies is traversed by a net of capillaries, this net being obvious when the capillaries are engorged. But a definite acinar arrangement, such as is seen in the suprarenal, is not visible. This point of differentiation I have found to be constant, and I consider it therefore of great importance.

3. *General Structure.*—The lutein body has a central core. This is stellate, sending centrifugal, gradually tapering, trabeculae into the surrounding parenchymatous zone. The core at first consists of fibrin and blood corpuscles. Spindle fibroblasts and capillaries pass into it, and it is ultimately organized and vascularized. The organization occurs most rapidly in the outer zone and in the centrifugal radiations therefrom. In early stages isolated lutein cells or isolated groups of lutein cells are seen occasionally in the periphery of the core in addition to spindle fibroblasts. Trabeculae, carrying large vessels, pass from the ovarian stroma towards the core. The majority of these pass inwards opposite the intervals between the centrifugal trabeculae. These centripetal trabeculae taper in the opposite direction—that is, towards the core. In consequence of these alternating centrifugal and centripetal trabeculae the zone of lutein cells is thrown into waves or crenations. In some lutein bodies groups of cells of smaller size, cells resembling more closely the cells of the theca interna of the Graafian follicle, are seen in isolated groups within the ovarian stroma which immediately surrounds the lutein body. More frequently such cells lie in or about the centripetal trabeculae. In the centres of accessory cortical bodies and cortical adenomata are veins with a relatively broad fibrous wall. Occasionally, also, accessory cortical bodies are divided by one or more fibrous trabeculae. I have never, however, seen in either accessory bodies or adenomata any structure resembling the stellate core of a lutein body, or any suggestion of the crenation described above as characteristic of lutein bodies.

The above differences in general structure are obviously points of great importance in the differentiation.

Determination by these criteria of the nature of the ovarian bodies in question:—

Specimen 217.—The body has a stellate core composed of a delicate, vascularized fibrous tissue. Fibrin is absent. The core sends centrifugal rays into the surrounding parenchymatous zone. Centripetal trabeculae alternate with these, giving the parenchymatous zone the crenated structure characteristic of a lutein body. In the centripetal trabeculae, rarely in the periphery of the parenchymatous zone, are the smaller cells seen frequently in lutein bodies. A definite acinar arrangement of the cells in the parenchymatous zone is not seen. The cells are large, vary considerably in shape, and the majority have the homogeneous cytoplasm of lutein cells. The cytoplasm is less cyanophil than usual.

The body has all the important differential characters of a lutein body.

Specimen 1209.—The body has a stellate core. This is occupied by fibrin (Weigert-Gram stain). The fibrin is invaded by a few fibroblasts. The fibroblasts are most abundant in the periphery of the core, and in places form a definite fibrous zone thereto. Centripetal and centrifugal trabeculae alternate. The small cells are present in the centripetal trabeculae. Definite alveolar arrangement is absent. Homogeneity of the cellular cytoplasm is more conspicuous in this body, and the cells are obviously cyanophil.

This body might be taken for demonstration purposes as the type of a lutein body during early organization of the fibrinous core.

Specimen 909.—The interpretation of this section is more difficult, because much of the body is not included. There is a large central core, composed apparently of fibrin; in the absence of the block I was unable to prove this. The outer zone of this fibrin is infiltrated by spindle fibroblasts and also in a few places by occasional cells similar to those in the parenchymatous zone. Centrifugal rays pass from the central core. The parenchymatous zone forms an incomplete ring. Towards one surface of the ovary it narrows, and ultimately disappears. Where the section includes the outer limit of this zone, centripetal trabeculae are seen. Here the typical crenated structure of a lutein-cell zone is recognizable. The cells are not arranged in definite acini. They are, in general, of the homogeneous type, and are slightly basophil. A peculiarity is the extreme dilatation of many capillaries in the zone; the parenchymatous cells appear to be compressed thereby.

This specimen has all the more important characters of a lutein body. It is a flask-shaped lutein body, the lutein zone being absent at the point of dehiscence of the Graafian follicle.

Conclusion.

All three specimens, therefore, show the three main differential characteristics of lutein bodies: (1) The stellate core of fibrin or granulation tissue, (2) the absence of clearly defined acini, and (3) the alternation of centrifugal and centripetal trabeculae. Excepting the apparent lack of basophilia of the cells in specimen 1,209, they also show all the other less absolute characteristics which I have tabulated above after comparing lutein bodies with cortical suprarenal bodies and with adenomata of suprarenal cortex.

(Signed) HUBERT M. TURNBULL, D.M.,
Professor; Director of the Pathological Institute of the London Hospital.

THE Straits Settlements gold medal, founded by graduates of Scottish Universities practising in the Malay States, has been awarded by the Senate of the University of Glasgow to Dr. R. T. Leiper, for the last fifteen years helminthologist to the London School of Tropical Medicine. His researches into bilharziosis led to his appointment by the War Office, in concert with the Medical Research Committee, to be consulting parasitologist to the Egyptian Expeditionary Force. In Egypt he, with his assistants, worked out the life-history of the peculiar trematodes which cause bilharziosis. It was shown that there were two species concerned—*Schistosoma haematobium* and *Schistosoma mansoni*, and it was established that both passed an intermediate stage in a freshwater snail, but that the snail was not the same; the one species *S. haematobium* entering a *Bullinus*, and the other, *S. mansoni* a *Planorbis*.

THE MILITARY MEDICAL SERVICES IN 1919.

FOR the last five years an article has been published annually in the BRITISH MEDICAL JOURNAL in January or February dealing with the military medical services, with reference especially to the number of casualties which had occurred and of honours which had been granted during the previous year. This series was continued, and it was hoped completed, in the Roll of Honour published as an appendix to the *Proceedings*[1] of the special clinical and scientific meeting of the British Medical Association held last April. The armistice was declared over a year ago, on November 11th, 1918; peace with Germany was signed on June 28th, 1919, but was not formally ratified until January 10th, 1920. The Roll of Honour gave statistics up to June 28th, 1919, and contained the names of 681 medical officers killed and of 515 who had died during the course of the war up to that date. Out of this number 2 were killed and 63 died during the first half of 1919.

But though peace now prevails, more or less, in Western Europe, military operations still drag their slow length along in other parts of the world. To take Britain alone, during the latter half of 1919 a campaign, which a few years ago would have been considered a war on a fairly large scale, has been conducted on the North-West Frontier of India, and is not yet over. Desultory fighting has also taken place on the frontiers of Mesopotamia, both north and south, and in the Sudan. And only two or three months have elapsed since a British force of some size was withdrawn from Northern Russia. We still seem to have troops on the shores of the Baltic, on the Black Sea, in Persia, and possibly elsewhere. During the latter half of the year three medical officers have been killed in action on the North-West Frontier of India, while a good many others have been accidentally killed or died of disease. But deaths from such causes there must always be in an army of any size, whether at peace or at war.

DEATHS.

The following four names, which should have been included in the Roll of Honour, were accidentally omitted, the last three having been published in Indian Army Lists which have reached England since June 28th.

Sewell, W. T., Captain Royal Inniskilling Fusiliers, killed at Thiepval, July 1st, 1916.

Gopal Swami, Lieutenant I.M.S.(T.C.), died at Madras, April 26th, 1919.

Greenwood, A., Major I.M.D., died June 10th, 1919.

Mathre, S. W., Captain I.M.S.(T.C.), died April 10th, 1919.

The three medical officers killed on the Indian frontier during the latter half of 1919 were:

Andrews, H. J., M.B.E., Captain I.M.S.(T.C.).
Bhargava, M. P., Captain I.M.S.(T.C.).
Middleton, A. H., Captain R.A.M.C.(S.R.).

The following medical officers have died during the latter half of 1919. Those marked with an asterisk (*) had recently retired or been demobilized.

R.N.—Surgeon Commander S. H. Vickery, Staff Surgeon J. Verdon, Surgeon-Lieutenants R. M. R. Thursfield (killed when H.M.S. *Glowworm* blew up in the river Dwina, in North Russia); R. Martin (drowned).

R.A.M.C.—Major-General J. G. MacNeece,* Lieut.-Colonels M. M. Rattray, F. M. Parry, Major H. G. L. Chevers,* Brevet Major N. W. Stevens, Captains J. W. Burton, W. S. R. Steven.

R.A.M.C.(S.R.).—Captains R. O'Kelly, G. A. Mitchell.

R.A.M.C.(T.F.).—Majors E. W. H. Vincent-Ryan,* W. Peart-Thomas,* A. H. Hogarth, Captain C. P. Sells, M.C.

R.A.M.C.(T.C.).—Lieut.-Colonel W. W. Angus, Major A. Neve,* Captains J. F. Stevens,* D.S.O., J. MacLeod (accident), C. N. Cobbett, S. W. MacLellan,* M.C., S. Wright,* J. F. Spilsbury, G. H. Baird, W. H. Gray, C. H. Backus.

Australians.—Captain H. South.

Canadians.—Lieut.-Colonel R. Wilson.

I.M.S.—Lieut.-Colonels T. Jackson, C. R. Stevens, Majors H. Crossle, R. J. Bradley, Captains J. F. Richardson (T.C.), N. Ghosh (T.C.), Lieutenant N. N. Saha (T.C.).

Combatant.—Major G. W. K. Crosland,* D.S.O., West Riding Regiment.

[1] Published by the British Medical Association, 429, Strand, W.C.2. Price 3s.; members of the Association are entitled to a copy free.

HONOURS.

The total number of honours conferred upon members of the medical services, from August 4th, 1914, to June 28th, 1919, was 5,227, of which no less than 1,596 were gazetted in the first half of 1919. The attached table shows those given between June 29th and December 31st, 1919, amounting to 485. About 450 come under the three heads of British Empire (218), miscellaneous (50), and foreign (181). The list includes no K.C.B.'s and only two K.C.M.G.'s and three K.B.E.'s.

It has been stated that the honours gazetted in December would be the last given for war services. The Premier, however, has since announced that another list would be published of honours conferred for special services while prisoners of war. And presumably there will be some for the recent campaigns on the Indian frontier.

The total number of honours conferred upon naval medical officers has been larger than in any previous year of the war; but out of the total of 96, the O.B.E. accounts for 81. The Territorial Force has also done well in actual numbers, but 42 out of the total of 103 are the Territorial Decoration, an honour which is conferred almost automatically for length of service.

Honours, June 29th to December 31st, 1919.

	C.B.	K.C.M.G.	C.M.G.	C.S.I.	C.I.E.	K.B.E.	C.B.E.	O.B.E.	M.B.E.	D.S.C.	D.S.O.	Bar to M.C.	M.C.	Miscell.	Foreign.	Total.
R.N....	1	—	3	—	—	—	1	81	1	2	—	—	—	1	6	96
R.A.M.C.	4	1	4	1	1	—	2	12	—	—	2	—	1	—	65	93
R.A.M.C.(S.R.) ...	—	—	—	—	—	—	—	2	—	—	—	1	2	1	4	10
R.A.M.C.(T.F.) ...	—	—	—	—	—	2	5	15	—	—	-	—	—	44	37	103
R.A.M.C.(T.C.) ..	—	1	—	—	—	—	10	35	1	—	—	—	—	2	56	105
Australia	—	—	—	—	—	—	4	7	—	—	2	—	—	—	1	14
New Zealand ...	—	—	—	—	—	—	4	4	4	—	—	—	1	—	1	14
Canada	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	7
S. Afri a	—	—	—	—	—	1	2	5	1	—	—	—	—	—	—	9
I.M.S.	—	—	—	—	4	—	2	11	1	—	2	—	2	—	4	26
I.M.D.	—	—	—	—	—	—	—	3	2	—	—	—	1	2		8
Total	5	2	7	1	5	3	30	175	10	2	6	1	7	50	181	485

RECRUITING FOR THE R.A.M.C. AND I.M.S.

Both the R.A.M.C. and the I.M.S. are now asking for applicants for commissions. It was announced in September last that 204 new commissions will be given in the I.M.S., 136 to Europeans and 68 to Indians. So far the number of applicants does not seem to have been large, though a few temporary officers of the R.A.M.C. have accepted commissions in the I.M.S. The terms of service offered are improved from the money point of view, as the pay now offered to officers on joining the service is more than double that which the senior men now serving drew when they first joined. Probably the difficulty of obtaining good European candidates for service in India in the present unsettled state of affairs in that country is more political than pecuniary. There should be no difficulty in finding the Indian candidates required. It is to be hoped that only men with satisfactory war service, of whom there must be a large number, will be appointed, and that special consideration will be given to those who joined in 1914–15, in the first year of the war. The R.A.M.C. doubtless will find it easier to get men for permanent service than the I.M.S. It is for many reasons to be regretted that compulsory service, or "conscription," to the extent of requiring a year's service in the army from all men qualifying and physically fit, was not kept up for some time longer, until all men now serving who had left their practices to join the army, and all who joined in 1914–15, whether previously in practice or not, had been relieved and demobilized.

Medico-Legal.

MEDICAL PROFESSIONAL PRIVILEGE.

THE remarks made by Mr. Justice McCardie on this subject on January 13th in the course of the case of Garner *v.* Garner, to which we made brief reference last week, have received considerable notice in the public press, and the vexed question as to the extent to which a medical man can be compelled in a court of law to disclose information obtained by him in his professional capacity is raised once again in a slightly altered form.

As a rule of English law, it is established beyond all question that confidential communications which have passed at any time between a party to an action and his legal adviser in the latter's professional capacity for the purpose of obtaining legal advice for the protection of the client's interests, together with any information which the legal adviser may have procured for the same purpose, are absolutely privileged. This right or privilege is the "property" of the client in the sense that unless the client waives his privilege, his legal adviser is not competent to give evidence in any court of law with regard to any matter which is covered by the privilege.

But the privilege is confined to the relationship of client and legal adviser, and although attempts have been made from time to time to extend it to the almost precisely similar relationship of patient and medical attendant, those attempts have met with little or no success.

In the case of the King *v.* Elizabeth Gibbons, in which the prisoner was charged with the murder of her bastard child, the evidence of a surgeon to whom she had made a confession in the course of a professional visit was admitted, and it seems clear that, subject to the discretion which every judge has to protect confidential communications in cases where he deems that protection is justified in the circumstances, no privilege, such as obtains in the relationship of legal adviser and client, can be claimed as a matter of right by a medical man or by his patient.

It may, however, be of interest to show the views which the Courts have taken of this medical "privilege" at various times.

In a case which was decided in 1828 Chief Justice Best said:

> I think this confidence [which obtains] in the case of attornies is a great anomaly in the law. The privilege does not apply to clergymen, since the decision the other day in the case of Gilliam. I, for one, will never compel a clergyman to disclose communications made to him by a prisoner; but if he chooses to disclose them I shall receive them in evidence. There is also no privilege of this description in the case of a medical man.

An attempt was made in Slade *v.* Tucker, which was decided in 1880, to claim privilege in respect of communications made to a Pursuivant of the Heralds' College, who had been employed in the conduct and support of a protest against a pedigree sought to be enrolled in the Heralds' College, and Jessel, then Master of the Rolls, said:

> I never yet heard of the doctrine of communications between principal and agent being protected. The rule is that protection is confined to communications between a client and his legal adviser, that is, between solicitor and client or barrister and client, and the doctrine goes no further, except as to the employment of the intermediate agents between the client and the solicitor and the client and the barrister.

Mr. Justice Hawkins in 1896 took rather a wider view, according to a report in *The Times* of March 28th of that year, of the case Kitson *v.* Playfair, and, in summing up the evidence to the jury in that case, said:

> I can quite understand a case, especially in a civil case, where a doctor is quite justified in refusing to divulge questions of professional secrecy. The judge might in some cases refuse to commit a medical man for contempt in refusing to reveal confidences. Every case must be governed by its particular circumstances, and the ruling of the judge will be the test.

In 1914 Mr. Justice Avory put it in a somewhat similar way in observations which he made at the Birmingham Assizes in charging the grand jury with a case of murder arising out of an illegal operation. The prisoner in that case had been indicted on a coroner's inquisition, the magistrates having dismissed the charge against her. It was clear from the medical evidence that the deceased had died from the effects of an abortion, but although three medical men had attended her since the operation, to one at least of whom she had given the name of the person who had performed the illegal operation, no information had been given to the police or to the authorities, and the woman had died without any deposition having been taken from her. Mr. Justice Avory said:

> Under circumstances like those in the present case, I cannot doubt that it is the duty of the medical man to communicate with the police or with the authorities in order that one or another of those steps may be taken for the purpose of assisting in the administration of justice. No one would wish to see disturbed the confidential relation which must exist between the medical man and his patient in order that the medical man may properly discharge his duty towards his patient; but there are cases, of which it appears to me this is one, where the desire to preserve that confidence must be subordinated to the duty which is cast upon every good citizen to assist in the investigation of a serious crime such as is imputed to this woman.

In Garner *v.* Garner, which was the case before the Divorce Court on January 13th, the petitioner was praying for the dissolution of her marriage, and relied upon the fact that syphilis had been communicated to her by her husband. She therefore desired to call as a witness the doctor who had attended her for this complaint in a London hospital at which treatment of venereal cases was given under the Public Health (Venereal Diseases) Regulations in accordance with the scheme formulated under those Regulations. The doctor went into the witness-box and then took the point, which he supported by a letter from the House Committee, that his knowledge of the case had been obtained in the course of the treatment of a venereal disease under the Regulations, and was therefore confidential and not to be disclosed in a court of law. It should perhaps be recalled that these Regulations expressly provide that "all information obtained in regard to a person treated under the scheme approved by the Board in pursuance of the Regulations shall be regarded as confidential."

The doctor was, however, being called as a witness by the woman upon whom he had attended; no question of "privilege," therefore, properly arose, and Mr. Justice McCardie decided that the evidence must be given. But the judge appears to have gone a good deal further than the occasion required, and to have made certain general observations from which it may be inferred that even had the doctor been called as a witness by the other side, the judge's decision would have been the same. These observations, according to the report in *The Times*, were to the following effect:

> "The doctor [of the venereal centre] was one of those who were desirous of assisting the scheme for treating venereal diseases in every way, and for the purpose he wished loyally to maintain the secrecy which rightly rested upon him. But the witness would appreciate that in a court of justice there were even higher considerations than those which prevailed with regard to the position of medical men. He wished to say that, apart from the obligations which might be imposed on medical men by the order of His Majesty's judges, it was desirable that there should be the most loyal observance of the confidence which was reposed in them by patients. He was glad to say that the history of the medical profession was most honourable, and it was to be hoped that its members would always retain the confidence placed in them."

Put in another way, therefore, the provision in the Regulations of 1916, as to information being regarded as confidential does not, in the opinion of Mr. Justice McCardie, affect the question of a medical privilege. In order to test this opinion from the legal standpoint it is necessary to examine the Regulations a little closely, and not only the Regulations, but also the general scope of the Acts under which they were made.

The Regulations were made under the Public Health Acts of 1875 and 1896 and the Public Health (Prevention and Treatment of Disease) Act, 1913. Under Section 130 of the Public Health Act of 1875 the Local Government Board may make, alter, and revoke such regulations as the Board may think fit, with a view to the treatment of persons affected with cholera or any other infectious disease, and may declare by what authority such regulations are to be enforced or executed; and power is, further, given to the Board by Section 134 of the same Act, whenever any part of England appears to be threatened with any formidable epidemic, endemic, or infectious disease, to make regulations for the provision of medical aid, and for guarding against the spread of the disease. The Act of 1913 gives the Local Government Board power to make county councils authorities responsible for the execution of any regulations made by the Board under Section 130 of the Act of 1875.

With the powers conferred by these Acts the Board, in 1916, made the Venereal Diseases Regulations, which provided that every council was to arrange for the provision of assistance to medical practitioners attending patients

suspected to be suffering from a venereal disease, and that every council should prepare a scheme to be approved by the Board for the treatment of persons suffering from these diseases and for the provision of salvarsan at the council's expense, and the regulations contemplated that this was to be done through the media of hospitals and other institutions. Now, the Board had reason to know that the great difficulty which confronted any attempt to deal with this problem was the fear of disclosure on the part of those suffering from these diseases, and this being of such prime importance it rightly insisted that, as an essential part of any scheme, all information should be regarded as confidential, and the reason is even better appreciated when one reflects upon the number and varied classes of persons in a hospital or other public institution who must necessarily obtain a certain amount of knowledge with regard to patients attending for treatment.

From this, however, it is a far cry to a claim of privilege. The word privilege is not used in the Regulations as one would have expected had that been their intention; and, moreover, the Acts under which the regulations were made do not give any power to create a privilege in the proper sense of the word. Secrecy is a factor peculiarly important with regard to the treatment of venereal diseases, but was not contemplated by any of the Public Health Acts under which the regulations were made.

It seems, therefore, clear that Mr. Justice McCardie was right in his view of the Regulations, and that no legal protection is created by them.

A great deal has recently appeared in the press as to the desirability of medical men being compellable to disclose information obtained by them in a professional capacity, and more particularly in regard to cases of venereal disease; it must be generally recognized that the arguments in favour of such contention are strong.

According to French law, in effect, no witness is obliged in a civil case to give evidence against his will, and by Art. 378 of the Penal Code a doctor who does so in a case of any sort is guilty of an offence. The article may be translated as follows:

> Physicians, surgeons, and other officers of the health services, as also pharmacists, midwives, and all other persons who, owing to their status or profession, are depositories of secrets confided to them, who, save in the case where the law requires them to make notification (à se porter denonciateurs), shall reveal such secrets shall be punished by imprisonment for one to six months and a fine of 100 francs to 500 francs.

It is provided further that such persons may not divulge these confidential communications even though their patients are prepared to waive the privilege.

This view has not commended itself to English jurists, who hold that inevitably from time to time cases must occur in which the judge will consider it essential in the interests of justice that the evidence of a medical attendant should be available, even against his patient. Any hard and fast privilege, on the lines of the French code, is not likely to be approved by Parliament.

At the same time it must be recognized that the preservation of confidence is a prime essential of the relationship of patient and medical adviser, and that this should be respected in the public interest in all ordinary cases. No doubt it might be difficult to lay down any rule of privilege on these lines, but it should easily be possible to improve upon the present position, which is apt to result in definite conflict between the legal and professional duties.

For this, however, legislation is necessary.

The Services.

MEDICAL APPEAL BOARDS FOR OFFICERS.

THE Ministry of Pensions announces that medical appeal boards for officers, each consisting of a Deputy Commissioner of Medical Services (as chairman), an appropriate specialist, and a medical assessor, are being established at the regional head quarters of the Ministry of Pensions, or at other convenient places within the respective regions. The medical appeal board will hear all appeals based on dissatisfaction with the assessment of the degree of disablement. It will also deal with claims based on deterioration of health since the last board and made within one month of the date of the last board, such claims being deemed to be based on dissatisfaction with the assessment made by the last board. (Claims in the latter category, where made after the expiry of a month, will be dealt with by special machinery which has been set up for the purpose.)

The medical appeal board will have before it all the relevant medical documents, including proceedings of the previous board and any medical information which the appellant may furnish, and will be in a position to give an authoritative opinion. The appeal board will have power to raise or lower or confirm an assessment, and the decision will be binding for the currency of the previous award, provided that it will not preclude the review of the assessment during that period, if the officer claims that his condition has become substantially worse since the decision.

Officers desiring to appeal or claim a reassessment must communicate direct with the Secretary, Officers' Branch, Ministry of Pensions, Chester Gate Huts, Regent's Park, N.W.1.

HONOURS.

C.B.E.

MAJOR (temporary Colonel) John Thomas Clarke, C.A.M.C., has been appointed a Commander of the Order of the British Empire (Military Division) in recognition of valuable services rendered in connexion with military operations in Siberia.

Military Cross.

The Military Cross has been awarded to Temporary Assistant Surgeon James Michael Connor, I.M.D., for marked gallantry and devotion to duty at Barley Hill Piquet on July 18th, 1919.

He went out from Fort Maude, and, after being wounded himself, attended the wounded under fire until they were evacuated. He was again wounded while leaving, but continued at duty at Fort Maude until July 20th.

FOREIGN DECORATIONS.

The following are among the decorations and medals awarded by the Allied Powers to British Forces for distinguished services rendered during the course of the campaign.

By the President of the United States of America.

Distinguished Service Medal. — Honorary Major-General Sir Anthony A. Bowlby, K.C.B., K.C.M.G., K.C.V.O.; temporary Major-General Sir Robert Jones, K.B.E., C.B., T.D., A.M.S.; Major-General Sir H. Neville Thompson, K.C.M.G., C.B., D.S.O.; Honorary Major-General Sir Cuthbert S. Wallace, K.C.M.G., C.B.

By the President of the French Republic.

Légion d'Honneur. — Officier: Colonel John Charles Baron Statham, C.M.G., C.B.E., late R.A.M.C. *Chevalier:* Lieut.-Colonel R. de Lothbiniere Harwood, C.A.M.C.

Croix de Guerre.—Captain (acting Major) James Chambers Sproule, R.A.M.C.

Ordre du Mérite Agricole.—Chevalier: Captains James Clayton, John Duncan Davidson, and John Golding, D.S.O., R.A.M.C. (T.F.).

By the King of Serbia.

Order of St. Sava.—5th Class: Captain John Steedman, R.A.M.C.(T.F.); temporary Captains (acting Majors) William Henry Peacock, Norman Bruce Stewart, and William Halliday Welsh, R.A.M.C.; Lieutenant (temporary Captain) Arnold Guy Harsant, R.A.M.C.(S.R.).

Gold Medal for Zealous Service.—Captain Philip Henry Mitchiner, R.A.M.C.(T.F.).

By the King of Siam.

Order of the White Elephant.—3rd Class: Lieut.-Colonel and Brevet Colonel Sir Edward Scott Worthington, K.C.V.O., C.B., C.M.G., R.A.M.C.; Lieut.-Colonel R. de Lothbiniere Harwood, C.A.M.C.; Major (acting Lieut.-Colonel) Richard Chapman Wilson, R.A.M.C.; Captain and Brevet Major Robert Craig Dun, R.A.M.C.(T.F.). *4th Class:* Captain Joseph Henry A. Paquette, C.A.M.C.

Order of the Crown of Siam.—2nd Class: Lieut.-Colonel Harold Percy Waller Barrow, C.M.G., O.B.E., D.S.O., R.A.M.C.

By the Sultan of Egypt.

Order of the Nile.—3rd Class: Lieut.-Colonels Cauldwell Hamilton Anderson, M.C., 2nd Light Horse Field Ambulance A.A.M.C.; (temporary Colonel) Thomas Henderson Forrest, D.S.O., R.A.M.C.(T.F.), Percy Samuel Lelean, C.B., R.A.M.C. Major and Brevet Lieut.-Colonel (acting Lieut.-Colonel) Herbert Vale Bagshawe, C.B.E., D.S.O., R.A.M.C.; Majors (acting Lieut.-Colonels) Alexander Glover Coullie, I.M.S., George Wykeham Heron, D.S.O., O.B.E., R.A.M.C.; Major Alfred William Moore, O.B.E., R.A.M.C.(T.F.); Captain (acting Lieut.-Colonel) Hugh Stanley Beadles, R.A.M.C.(T.F.). *4th Class:* Major Leonard A. Avery, D.S.O., R.A.M.C.(T.F.) Captain Arthur Lewin Sheppard, I.M.S.

By the Shah of Persia.

Order of the Lion and Sun.—3rd Class: Captain Charles James Stocker, M.C., I.M.S.

By the President of the Portuguese Republic.

Military Order of Avis.—Commander: Temporary Lieut.-Colonel George Henry Usmar, O.B.E., S.A.M.C. *Chevalier* Captain Frederic Battinson Smith, M.C., R.A.M.C.(T.F.).

By the King of the Hellenes.

Order of the Redeemer.—Chevalier: Captain William Lombar Murphy, R.A.M.C.(T.F.).

Greek Medal for Military Merit.—3rd Class: Lieut.-Colonel Arthur Durham Waring, R.A.M.C.; temporary Major John Heatly Spencer, R.A.M.C.; Captain Harold Edgar Smith R.A.M.C.(T.F.); temporary Captains (acting Majors) Phili

laynard Heath and Robert Scott, R.A.M.C. *4th Class:* aptain J. Ratcliffe, R.A.M.C.(S.R.); temporary Captains onald E. Gordon Gray, and Charles Samson Thomson, .A.M.C.

By the King of the Hedjaz.

Order of El Nahda.—3rd Class: Captain and Brevet Major acting Major) William Edward Marshall, M.C., R.A.M.C.

TERRITORIAL DECORATION.

The Territorial Decoration has been conferred upon the ollowing officers of the R.A.M.C.(T.F.):

Lieut.-Colonels: John Allison (attached Northumbrian eomanry), F. E. Fremantle, O.B.E., M.P. (General List), F. W. ibbon, V.D. (attached Tyne Electrical Engineers), Archibald . Hay (3rd Scottish General Hospital).

Major (acting Lieut.-Colonel) James Scott (attached 5th attalion, Royal Scots).

Majors: William A. Burns (2nd Lowland Field Ambulance), ames H. Dixon (5th London Field Ambulance), William Haig, .S.O. (attached 6th Battalion, Royal Highlanders), Alexander . Kidd, O.B.E. (3rd Highland Field Ambulance), James iddleton (attached 5th Battalion, Gordon Highlanders), Paul IcK. Terry (attached Wessex Division, Ammunition Column, .F.A.), William D. Watson (1st East Anglian Field mbulance), James Wood, D.S.O. (1st West Lancs Field mbulance).

Captain and Brevet Major Keith W. Monsarrat (1st Western eneral Hospital).

Captain (acting Major) Arthur L. Whitehead (2nd Northern eneral Hospital).

Captains: Godfrey J. R. Lowe (4th Northern General ospital), F. W. K. Tough (3rd West Lancs Field Ambulance).

The surname of Lieut.-Colonel Cyril H. Howkins, C.B.E., .S.O., is as now described, and not as stated in the *London azette* of November 4th, 1919.

Obituary.

GEORGE WILLIAM KILNER CROSLAND, D.S.O.,

M.R.C.S., L.R.C.P.,

Late Chairman of the Huddersfield Division, British Medical Association.

THE medical profession in Huddersfield and surrounding istrict has sustained a serious loss by the death of Major rosland, which took place on the last day of 1919, after a istressing and painful illness. He underwent a serious peration in the spring of last year which necessitated his bsence from work for about four months. In the autumn is health had improved so much that he had good ground or believing that he was cured of his ailment. Soon fterwards, however, there were signs of a recurrence, nd he began slowly but surely to lose ground. He truggled bravely on in spite of much pain and weakness nd did his operative work—hospital and private practice—ntil within a month of his death.

Major Crosland belonged to a well-known Huddersfield amily, and his grandfather, Mr. T. P. Crosland, was lember of Parliament for the borough. He received his nedical training at the Leeds School of Medicine, and fter qualifying, in 1892, was appointed house-surgeon of Huddersfield Infirmary, and held that post for two years. He then started practice in his native town. In 1905 e was appointed honorary surgeon to the Infirmary, and t the time of his decease was senior surgeon. He served luring the South African war as surgeon. Ten years go he contracted blood poisoning, whilst operating, esulting in a serious illness which laid him aside from work for many months. At the outbreak of the war n 1914 he was a combatant officer in the Fifth Battalion Duke of Wellington's Regiment, and went with it to France, and was exceedingly popular with his fellow fficers and men. In recognition of his services he was granted the D.S.O. On returning from the war and esuming his private practice in Huddersfield he had harge of one of the auxiliary war hospitals.

Major Crosland was only 50 years of age, and great egret is felt by his professional brethren and the whole ommunity at his untimely death. He was an able and kilful surgeon, a wonderfully quick and neat operator, and ery resourceful in any emergency. He had high ideals of rofessional honour and acted up to them. He was late n coming to his own, but his skill as a diagnostician and is dexterity as an operator were becoming more and more ppreciated by his fellow practitioners, and had he not een stricken down by sickness he had the promise of a sy and useful career. He spent his life in the service of thers and delighted in his work for its own sake, rather han for any monetary reward it might bring him. For several years he was secretary of the Huddersfield Medical Society, and only last year retired from the post of chairman of the Huddersfield Division of the Yorkshire Branch of the British Medical Association. He was an occasional contributor to the BRITISH MEDICAL JOURNAL.

Major Crosland was buried with military honours amidst many signs of deep respect. The funeral was attended by a large number of the medical men of Huddersfield and the surrounding district.

THE death took place from encephalitis lethargica, on December 26th, 1919, at Great Shelford, Cambridgeshire, of Dr. JAMES THOMAS CHAMBERLAIN. He was born in Leicestershire in 1856, and received his medical education at Edinburgh University and the Royal College of Surgeons of Edinburgh, winning a medal in midwifery and diseases of women and children. He obtained the Scottish triple qualification in 1886. Dr. Chamberlain practised for ten years in Nottinghamshire, and shortly after his retirement went to live at Great Shelford, where he made himself very popular, taking a warm interest in all local affairs. He was one of the trustees of the Shelford charities. The first part of the funeral service was held in Great Shelford Free Church on December 30th; the interment ceremony took place in the parish churchyard. The wreaths included one from former patients in Nottinghamshire. Dr. Chamberlain leaves a widow.

CAPTAIN H. J. ANDREWS, M.B.E., I.M.S., was reported as killed in action in a casualty list published on November 24th, 1919, aged 48. He went to India as a young man, and was one of the first officers of the Salvation Army in that country. Subsequently he studied in the United States, and took a medical degree at Chicago. During his service with the Salvation Army he designed and superintended the erection of three hospitals —at Nagerwil, at Anand in Gazerat, and the Thomas Emery Hospital at Moradabad. He took a temporary commission as lieutenant in the I.M.S. in June, 1917, was promoted to captain after a year's service, and received the M.B.E. in June, 1918.

Medical News.

THE first of the course of three Lettsomian Lectures on tumours complicating pregnancy, labour, and the puerperium, before the Medical Society of London, will be delivered by Dr. Herbert Spencer on February 2nd, at 9 p.m. It will deal with fibroid tumours. The annual oration will be given by Sir D'Arcy Power on May 10th; the subject is "The Rev. John Ward and Medicine."

DR. MILLAIS CULPIN will begin a course of fifteen lectures on neuroses and psycho-neuroses in the London Hospital Medical School at 5.15 p.m. on Tuesday, January 27th. Members of the profession are invited to attend the course.

THE Assurance Medical Society has resolved, by a large majority, not to become incorporated with the Royal Society of Medicine.

DR. EDWIN SMITH, lecturer on forensic medicine and toxicology at St. Thomas's Hospital, has been appointed deputy coroner for Westminster and the South-West London district.

AN ante-natal clinic will in future be held weekly on Thursdays at the Great Northern Central Hospital, Holloway Road, N.7.

AT the meeting of the Hunterian Society to be held at the School of Oriental Languages, Finsbury Circus, on Wednesday, January 28th, at 9 p.m., Dr. A. E. Gow will read a paper on treatment by protein therapy.

DR. LOUIS W. SAMBON will read a paper on tropical and subtropical diseases at a meeting of the Royal Colonial Institute to be held at the Central Hall, Westminster, on Tuesday, January 27th; the chair will be taken by Sir Patrick Manson, G.C.M.G., M.D., F.R.S., at 3.30 p.m.

THE Royal Sanitary Institute announces courses for sanitary officers, meat inspectors, and women health visitors, and child welfare workers. The courses are didactic and practical. Full particulars can be obtained on application to the director and secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1.

THE first exhibition of *x*-ray prints in this country to be open for any considerable period is on view at the house of the Royal Photographic Society, 35, Russell Square, until February 7th. The prints have been gathered together by a committee of the Röntgen Society, and include nearly two hundred examples by some twenty or thirty of the principal radiographers in this country as well as a few in France. One at least of the prints is of historic interest; it is the first radiograph made in public in London, and was the result of an exposure on the human hand for twenty minutes in the course of a demonstration by Mr. Campbell Swinton at the Camera Club at the beginning of 1896. In addition to the very representative illustrations of medical and naturalist interest, a large number of records of the application of *x* rays to the examination of metals are included; and altogether the non-medical uses of *x* rays would surprise any visitor who is not familiar with the most recent developments in radiography.

THE first number of *Discovery*, published by Mr. John Murray for the trustees, has appeared. It is a popular journal designed to give its readers an interest both in the sciences and in the humanities. The editor, Mr. A. S. Russell, M.C., D.Sc., believes that there has been considerable opposition between representatives of science and the humane studies, and that the two studies ought to be regarded as complementary. The first conception of the journal was due to the late Professor Julius Macleod, a Belgian botanist who was a guest of the University of Manchester during the war. A joint committee was formed between the Council of Humanistic Studies and the Conjoint Board of Scientific Studies, and it was arranged to establish such a journal and to commit its management to representatives of various bodies, including the National Union of Teachers, the Head Masters' Conference, the British Psychological Society, the Royal Society of Economics, and various associations concerned with classics, history, geography, and modern languages. The first number ranges over a variety of subjects—archaeology, psychology, education, politics, and acoustics as applied to sound-ranging in war. We wish the new monthly success, and hope that the support it receives may shortly warrant its enlargement, for it has a very wide field to cover. The price is 6d.; the annual subscription, post free, 7s. 6d.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

INCOME TAX.

"ANXIOUS INQUIRER" has an income of about £100 net from property; what will be his income tax liability if he transfers his practice to his son?

*** As from the date of transfer his total income would be reduced by a proportional part of the income tax assessment—for example, if from February 5th, 1920, then by two-twelfths, and so on. If the transfer be effected by April 5th, 1920, and our correspondent has no other income, he would not be liable to income tax on his property for 1920-21, as his total income for that year would be less than £130.

ADOLESCENT OBESITY.

B. G. R. asks for suggestions in the treatment of a girl in her teens who continues to put on fat in spite of strict dieting, exercises, and thyroid treatment. After three years of failure the effect is most depressing (mentally) on the patient.

ALOPECIA.

M. C. wishes to hear if any further treatment would be of use in a girl who at the age of 17 began to lose her hair. She is now 19, in good health, having had a long course of *x* rays, ionic, and electrical treatment with no improvement.

LETTERS, NOTES, ETC.

"MINERS' NYSTAGMUS."

DR. CHARLES F. HARFORD (London, E.C.) writes: In a paper which I contributed to your issue of March 4th, 1916, as the result of observation of a series of cases met with in the army I ventured to call attention to the misleading character of the title of the disease, which concentrates attention upon one out of many symptoms in this complaint as if this were the disease itself. One of the results of this has been to relegate the disease purely to the department of ophthalmology, when in reality it is an affection of the nervous system in general. Thus the medical textbooks as a rule ignore the subject altogether, and even modern textbooks on ophthalmology leave much to be desired in their treatment of this affection. The American *Encyclopedia of Ophthalmology*, vol. x, contains an exhaustive account of the literature of the disease, whilst Dr. Lister Llewellyn's monograph, *Miners' Nystagmus: its Causes and Prevention*, is the classical work to which one would naturally turn. Much needs to be done to deal with the prevention and treatment of miners' nystagmus, and a determined effort should be made to improve the conditions of those who are liable to or already suffering from this serious malady.

CERVICAL VAGUS AND SYMPATHETIC.

IN a note on Sir E. Sharpey Schafer's experiments on the cervical vagus and sympathetic published in the Epitome, January 17th, p. 12 (paragraph 74) there was a slip of the pen. The penultimate sentence should have read "No functional regeneration of the vagus in the neck was found either in dog or cat." In common with other investigators he found histological and functional regeneration of the sympathetic.

THE SPAN OF LIFE.

LIEUT.-COLONEL FREDERICK F. MACCABE, M.B. (Kildare), writes: Since I wrote *Human Life* and read your review of it I have read the *Bible*. I cannot resent your preference for the words of the Psalmist on the length of life to any words of mine, but I think the following quotations will interest your readers, as they go far to show that, perhaps, after all, I may have been right, even from a scriptural point of view, when I fixed upon 120 years as the intended span of life.

In Genesis, chapter vi, verse 3, I find the following: "And God said, My spirit shall not remain in man for ever, because he is flesh and his days shall be a hundred and twenty years." And again, in Deuteronomy, chapter xxxiv, verse 7: "Moses was a hundred and twenty years old when he died: his eye was not dim neither were his teeth moved." Then in Ecclesiasticus, chapter xxvi, verse 1, I find the following interesting quotation bearing on the subject: "Happy is the husband of a good wife, for the number of his years is double." Of course, this leaves me in doubt as to whether such a man's expectation of life is 140 or 240 years.

A DISCLAIMER.

DR. A. C. MAGIAN (Manchester) desires it to be understood that the recent use of his name in an advertisement of a fountain pen is distasteful to him, and that he has taken steps to inform the advertiser of his disapproval.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 39, 43, 44, 45, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 40, 41, and 42.

THE following appointments of certifying factory surgeons are vacant: Duncannon (Wexford), Newmains (Lanark), Rochdale (Lancaster).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

PSYCHOPATHOLOGY AND DISSOCIATION.*

BY

WILLIAM BROWN, M.A., M.D.OXON., D.Sc.LOND.,

READER IN PSYCHOLOGY, UNIVERSITY OF LONDON (KING'S COLLEGE); LATE MEDICAL OFFICER IN CHARGE OF CRAIGLOCKHART WAR HOSPITAL FOR NEURASTHENIC OFFICERS.

I HAVE chosen this subject because it seems to me an especially interesting part of psychology, and to those who are beginning the subject it opens out prospects of advance in the science which are extremely attractive and stimulating.

Psychopathology is the science of the abnormal or pathological working of the mind. Psychology considers the laws of working of the normal mind, the mind that is in adequate adaptation to its environment, physical and mental. Psychopathology considers the laws of working of the mind that is out of harmony with its environment because of some degenerative process.

The difficulty is to find one guiding idea to carry us along in this very complicated subject. The hint comes from normal psychology. Not many years ago our own English psychologists developed a system of association psychology, explaining the mind in terms of association of ideas—that is, regarding the mind as something gradually built up on the basis of what is given through impressions from without and of what is inherited within. So in psychopathology we might begin our discussion by considering facts of dissociation—indeed, that is the word to conjure with in our subject—dissociation, splitting up of the mind, the antithesis of association. We shall take as examples of pathological states the so-called borderline cases—hysteria, neurasthenia, psychasthenia, and compulsion neurosis. If we go beyond these we come to what are called the psychoses, which are recognized forms of insanity. Much the same kind of explanation will cover all types of mental disease, but the attempt to produce a satisfactory science of mental dissociation was begun within the domain of borderline cases, otherwise known as the psychoneuroses. These diseases may also be called functional nervous diseases. In them there is no demonstrable lesion of the nervous system. The nervous system is apparently intact, but is functioning wrongly or inadequately.

This lecture will be devoted to the problem of hysteria.

Hysteria.

In hysteria we have very obviously a case of dissociation; certain parts of the mind, certain sensations, certain powers of movement, certain memories, are lost to the main consciousness, but still exist somewhere or other, in some form or other, and can be restored under appropriate conditions. The anaesthesias that hysterical patients suffer from are a good instance of the kind of dissociation that occurs. A hysterical patient may suffer from anaesthesia of the hand, or of the hand and lower arm, or of the hand and arm up to the shoulder, ending in a straight line round the shoulder, or, again, from hemianaesthesia extending down the right or left side of the body and ending accurately in the middle line. Many other forms of anaesthesia are possible. All these types correspond in their extent to ordinary, uneducated concepts of the divisions of the body; for example, the hand, in ordinary unscientific thought, is considered as one entity, the whole arm is considered as an entity, ending in a straight line round the shoulder. This holds good even for purposes of tactile association, but from anatomy we know that the nerves supply irregular areas, consisting, for example, of a strip down the forearm, extending towards the fingers of the hand, so that, if there were an organic disturbance of a cutaneous nerve, we would find an irregular area of anaesthesia—the more irregular the smaller the number of nerves affected—we would not find an area of anaesthesia corresponding to the hand, or the arm. Pierre Janet emphasized these distinctions between what are called functional anaesthesias and organic anaesthesias, and pointed out that the anaesthesia illustrates the state of mind of the hysteric, who has lost the power of holding together in one unity all the sensations from the different parts of his body. A patient may receive a blow on the arm, causing a mental shock, as a result of which his whole arm may become anaesthetic, and the anaesthetic area may end in a straight line round the shoulder-joint. That area does not correspond to the distribution of any set of nerve fibres, but it does correspond with the patient's own conception of his cutaneous sensibility. Moreover, it can be proved indirectly that the sensations in this part of the body still exist. Sometimes we can do this by a trick, as Janet pointed out: We can ask the patient to say "yes" when he feels a pin-prick, "no" when he does not. We get him to close his eyes, and then silently explore different parts of his body. Whenever he is pricked on the normal part of the skin he will say "yes." When he is pricked on the so-called anaesthetic area of the skin he will often say "no," whereas if the area were really anaesthetic he would not know that it had been touched at all. Yet he is probably quite genuine in his belief that he has not felt the pin-prick—though of course we must be certain that he is not malingering. It is very important in considering hysteria to be familiar with the various types of malingering. Cases like this, of anaesthesia combined with functional paralysis of the arm, occurred frequently during the late war.

I have dwelt on hysterical anaesthesia, not because it is very important, but because it well illustrates this theory of functional dissociation. There is dissociated from the entire mind one psycho-physical power, in this particular case cutaneous sensitivity—the power of reacting to stimuli presented to some part of the body. Again, the patient may have loss of motor power: he may be suffering from loss of power in the legs—cannot stand or walk; yet if we investigate his nervous system we may find that it is perfectly normal. Nevertheless, there is loss of sensory power, or loss of motor power, and also, very frequently, a greater or less degree of amnesia, or loss of memory. To sum up the state of mind of the hysterical individual, we may say that it is a state of mental dissociation—dissociation of certain psycho-physical functions from the main personality. Yet these dissociated functions remain, and under appropriate conditions can be recovered—for example, under hypnosis. Hysterical patients are easily hypnotized; in fact, Charcot and Janet hold that any person who is easily hypnotizable is *ipso facto* hysterical, and that, if an ordinary person be hypnotized, he is made hysterical by dissociating his mind—a form of dissociation has been started. With this view I agree.

It is worth while considering this matter a little further. To hypnotize a person we get him to fix a bright object with his eyes, to relax his muscles, and to give his mind up to sleep—to turn his mind away from everything active. We continue to talk to him all the time, telling him to think of sleep, and saying that his eyelids will begin to get heavy, that he will lose feeling in his limbs, and that he will gradually become more and more drowsy. After he has fixed the bright object for a short time and his expectation of sleep has been encouraged in this way and his thoughts fixed on sleep, which (though we have as yet no satisfactory theory of sleep) may be provisionally said to be a quieting down of the mental powers, he will appear to lose consciousness. But there is one power of the mind that is not quieted down, and that is the power of hearing the physician's voice. The physician is talking almost the whole time, and whenever he speaks the patient, until he gets very deeply hypnotized, can respond. Thus we produce dissociation of the power of hearing a particular kind of sound from the rest of the mind. The rest of the mind is lulled to sleep; it is a case of partial sleep. But more than that, there is an emotional element at work. A patient cannot be hypnotized by a gramophone, unless he has been hypnotized before and has an extreme tendency to yield to this kind of suggestion. The patient has to feel an interest in the physician, either of fear or of confidence. Those are the two forms of mental reaction. Different people hypnotize in different ways; some have a tendency to hypnotize through fear, others through arousing confidence—one might even say affection—in the patient. There is always an emotional element involved. We shall have later to consider a theory that makes a great deal of this emotional element. In the case of a normal person such an emotional appeal must be very strong; in the case of a hysterical person it need not be so strong, because the patient already shows

* A lecture delivered to Psychology students at King's College, Strand, December 15th, 1919.

a tendency towards dissociation; the hypnotic effects appear more readily. Charcot considered the hypnotic state a form of artificially induced hysteria. Janet agreed with him, and so do I, though many people think that, because almost everyone can be hypnotized to some degree, this theory must be wrong. But there is a tendency to mental dissociation in all of us, based on emotional conflicts. No one is a complete mental unity.

Finally, as an example of a hysterical patient, let me take the condition of almost any bad case of shell shock on the Western front, or any of the other fronts, during the past five years—any of the cases as they reached the casualty clearing station. The patient's condition was always that of dissociation. All such cases agree in showing loss of memory of greater or less extent. They may have forgotten everything that has happened since the shell burst, and they will exhibit other losses of function, greater or less, according to circumstances. They may show loss of voice, of powers of walking, of powers of hearing, of the power of voluntary control. I would emphasize their loss of memory. It will be found that such a patient is very easily hypnotized; if it be suggested to him that he will remember the circumstances of his injury with hallucinatory vividness, he will act again the whole circumstances, and in that process his various dissociated functions will return. If he has been dumb, he will now speak, without the necessity of suggesting this. If he has been paralysed, movement will occur in his limbs. I do not say that he will at once be able to take up his bed and walk, but his limbs will move about, showing that there is power in them, and that the power is linked up with the lost memory. What has been done here? We have re-associated him by bringing up these lost memories. With the memories we have brought up the lost functions. But we have done more than that, we have given him an outlet for an emotion which was originally experienced by him with too great intensity—with so great an intensity that he could not do full justice to it, and his mind split in the attempt. The way in which these patients live again through their experiences shows what terrible sensations they must have had. They roll about, gripping at the sides of the stretcher, or rolling on the floor, tearing at their hair with their hands, contorting themselves in every possible way, foaming at the mouth, becoming purple in the face, their eyes starting out of their head, all their muscles tense. While under shell fire the conscious personality was trying to suppress the emotion of fear, partly from a sense of duty—the duty of a soldier—partly in self-defence—anything to get away from it. There occurs a mental conflict—an attempt to get rid of the painful emotion. The attempt succeeds at the expense of the mental machinery; clouding of consciousness supervenes, the patient goes into a state of stupor, where he is not completely unconscious, but where he is dazed. He gradually recovers from this, but has no memory of it later. We see here the mechanism at work explaining the dissociation. The dissociation is obviously a fact, but it is not an ultimate fact. There is a cause for it, and that cause is mental conflict, an attempt at repression, an attempt which has succeeded to a certain extent, but only at the cost of the production of a pathological symptom or set of symptoms. In curing the patient we bring up the repressed experience once more, we encourage him to work off the emotion involved in it. Just as a person who grieves for someone he has lost finds relief in tears, so we let these patients work off their fear. Thus we are concerned not only with the linking up of the dissociation, but also with the working off of fear, of a certain amount of emotional energy that has been bottled up in the patient.

This illustrates the advance that Sigmund Freud made on Janet in explaining hysteria. Janet explains hysteria simply in terms of dissociation. He says that the patient suffers from weakness of mental synthesis. He compares the hysteric to an old lady who has gone shopping and has made too many purchases. She comes back with her arms laden with parcels. Some of these fall to the ground; she stoops to pick them up, and others fall. So, he says, is it with the hysteric after a shock. He loses the power of holding all his psycho-physical functions simultaneously in his mind so that some of them are lost, and he suffers from an anaesthesia and paraplegia. If you cure him of this by suggestion, later on he will, perhaps, as the result of some slight shock, show some other functional symptom—he may lose his voice or his hearing. Some other hysterical symptom will take the place of the original one unless he is cured of his general mental state. But Janet did not undertake to explain why the dissociation took place. Freud found, after an investigation of some hysterical cases under hypnosis, that there was very frequently loss of memory, that such memories were always of an emotional character, and that the symptoms disappeared if the memories were brought to the surface of the mind with their original vividness. Breuer and Freud published their first article on the mechanism of hysteria in illustration of this process—this effect of repression of painful emotional experience: loss of memory and dissociation, and the recovery of these by means of hypnosis and the dissipation of the symptoms themselves through encouraging the patient to live through the emotion again. This living again through the emotion and working it off was called "abreaction." At this early stage of his theory, then, Freud regarded dissociation as due to a preliminary mental conflict and a repression of one of the conflicting mental tendencies. Later on he developed this view further. He found that in the case of the dreams of normal persons there was also evidence of mental repression, and of the production of mental symptoms as a result of the repression. His view of the dreams of normal persons was, and is, that they correspond exactly with the symptoms of the hysteric, that they are "disguised fulfilments of repressed wishes," to use his own words. I do not want to go into his theory of dreams in detail, it would take us too far afield; I wish only to recall this part of his theory.* Later on he found, after analysing a number of his own cases, that the emotional tendencies which were repressed were all of a sexual nature, and so he enunciated his dictum that no neurosis is possible in a normal sexual life, and that, if a patient is suffering from neurosis, there must have been some disturbance in his sexual life.

That is the extreme form of the Freudian theory, which I do not accept, though the Freudian school make it an essential part of their doctrine. Freud thinks that we can find evidence of sexuality in the early years of childhood—namely, feelings of attraction of the boy towards his mother and of the girl towards her father, combined with hatred and jealousy felt towards the parent of the same sex—and that these feelings are shortly afterwards repressed. A mental conflict takes place in the child's mind, and sexual repression occurs, partly through the further normal development of the child's mind—other interests arise and crowd out these feelings—partly through the fact of development of feelings of sympathy and of morality, and these repressed tendencies only produce a competing factor if shocks occur later in the child's life.

I have already referred to the production of hysterical symptoms as being due to an emotional shock. That seems to be the general rule—an emotional shock will produce hysteria in persons whose inherited make-up is suited for it. The hysteric is born, not made, but the hysterical symptom is originated through some emotional shock. Freud considered that these emotional shocks were repressed and dissociated from the mind, and continued to act as a foreign body in consequence, but that these repressed memories could be brought to the surface either by hypnotism or by his method of psycho-analysis. In his earlier work he thought that he could prove in every case the actual occurrence of a shock in early childhood of a sexual nature. Later on, however, he discovered that some of the memories brought up by these methods were false memories—that the patient had imagined them—but this did not alter his theory very much. He said that the fact that the patient had the power of imagining such events showed that there was maldevelopment of the sexual life at that time, so that he then explained the neurosis in terms of the process of development of the psycho-sexual life of the child—a theory into which I cannot go now. To be a thoroughgoing Freudian now one must be able to accept this theory, and for many of us it is because we cannot subscribe to it that we should not call ourselves Freudians.

C. G. Jung of Zurich was Freud's most brilliant pupil, and at first an enthusiastic supporter of his views. Later, however, Jung's researches led him to believe that these

* See my articles on "Freud's Theory of Dreams," *Lancet*, April 19th and April 26th, 1913.

earlier emotional memories of the child were not an essential factor in the production of neurosis, but that the principal factor was the present condition of the patient. When a patient falls ill of a psycho-neurosis it is because he is not adequately adapted to his present social and physical environment. Life is too great a task for him; he cannot hold his own; he has not sufficient courage to face facts, with the result that, if he is of a hysterical temperament, his mind turns back to childhood's memories and to more childish modes of conscious activity. What Jung calls "regression" takes place. The mental energy of the individual, which Jung has called the "libido" (corresponding very closely to Bergson's "*élan vital*"), is reflected back, and revives earlier memories of childhood, not only memories of actual occurrences in childhood, but also early fancies. These fancies may be of a sexual nature or they may not. The libido in that way becomes linked up with earlier memories, and is no longer of use to the individual in his present mental situation—thus he becomes still less competent to deal with his environment.

But Jung would use the same method as Freud uses in treating the patient—the method of psycho-analysis, because, he says, we want to get back these earlier memories for the sake of the libido that is linked up with them. Psycho-analysis is simply the method of free association. If the patient is suffering from some hysterical symptom you get him to let his mind pass into a passive state—to recline on a couch, say, with his eyes closed—and passively follow up the sequence of ideas as they occur to him one after another, without any prompting. He begins, say, to think of the time when the symptom first developed, and then just watches his mind drift as it will—gets into a state of meditation—and tells the doctor from moment to moment what he is thinking about without reservation or criticism. His thinking seems to be undirected, to be just determined by free association. The result is that more and more ideas and memories from the past come to his mind, and perhaps eventually memories that are of great significance for his symptom. This occurs because the method is not really a method of free association at all. The series of ideas is, it is true, not determined by conscious mental process; it is determined by unconscious mental process. By letting the conscious selective activity fall into abeyance trends of unconscious mental activity come nearer to the surface of the mind and guide the ideas, and these belong to the same world as those mental tendencies which are at the basis of the hysterical symptom.

The difference between Freud and Jung, then, is, that Freud says that earlier memories and earlier imaginations are directly responsible for the hysterical symptom; Jung says that failure of adaptation at the present moment causes a regression or reflection of mental energy back to the past, and that this revives earlier imaginations and memories and so produces the hysterical symptom. Both agree in adopting the method of psycho-analysis, which proceeds to recall these earlier memories and fancies.

These, briefly, seem to be the fundamental ideas of Freud and Jung on hysteria, as contrasted with the ideas of Janet. They go a step further to the cause of the dissociation—that is, mental conflict and repression. Link up this dissociation and remove this repression and the patient is cured.

Freud, who originally used hypnosis, gave it up, partly because he found that he could only hypnotize about one-third of his patients, whereas psycho-analysis, though it took much longer, could be applied to every case, and produced eventually much the same results. His second objection to hypnotism was that certain resistances are overcome by the recall of particular memories, but in this process the resistance in other directions is increased, so that the mind is limited rather than expanded. He also suggested the germs of the theory that Ferenczi worked out in detail afterwards—namely, that in hypnosis there is really a transference of emotional feeling, of the early sexual feelings of childhood, to the person of the physician. Ferenczi points to the fact that there are two main methods of hypnotizing: the method of command, corresponding to the paternal method with the child, and the method of coaxing and soothing, which corresponds to the attitude the mother adopts towards the child. He then argues that in both types of hypnosis there is a revival in the patient's mind of its early modes of response. When a patient is hypnotized he responds to the physician just as he responded to his father or his mother in early years—that is, by a reaction that is of a sexual nature—hence the patient's early sexual feelings are fixed on the physician. What has thus really been done is to replace one set of symptoms by another. Hysterical symptoms, like loss of the power of walking or loss of voice, may thus be got rid of, but in the place of these the psycho-sexual dependence of the patient upon oneself has been produced, and this also is bad. What evidence has Ferenczi for this view? He says that it is taken from actual experience of patients whom he originally treated by hypnotism, but later on psycho-analysed. He found evidence of such transference of feeling in them.

These, then, are Freud's three objections to the method of hypnotism: (1) Failure of the method in certain cases. (2) Its tendency to produce other symptoms in place of those of which the patient is cured. (3) Fear of the transference of sexual feeling to the person of the physician.*

With regard to the last objection we might urge that Ferenczi's theory is a *petitio principii;* the patient may respond to the physician as he did to his father or his mother in childhood, not necessarily, however, because of sexual feelings, but perhaps simply because at that time he was more suggestible than in later life. A young child has only a few facts in his mind, and if any suggestion is made to him he tends to believe it unquestioningly. He comes into the world with a tendency to what is called "primitive credulity"—a very important attribute. Most of what he learns in early life is learnt through suggestion, not by means of logical reasoning. We like to encourage a child to reason, but if we made it think out everything for itself we should only confuse it and hamper its development, instead of forwarding it. And if that is true of the intellectual side of the child's life, it is much more important on the moral side. We can explain the child's response simply in terms of greater suggestibility. We get our patient into a state in which he is willing to accept the suggestions that are made to him in the same way as he accepted them in his early childhood.

This method is much quicker than that of psycho-analysis, and can produce equally satisfactory results in simple cases. I will give two illustrations.

One is that of a signaller in the Flying Corps who was blown up by an aeroplane bomb whilst taking refuge in a disused trench in France. He became unconscious, and on coming to he found that the trench seemed to be turned round at right angles to the position in which he had expected it to be. When he arrived at the barracks the same thing had occurred—everything seemed to be twisted at right angles to its ordinary position. This feeling of disorientation, as we may call it, persisted for many months. When he came home to England it still showed itself in the following ways: When walking along a street which bent roughly in the form of a semicircle, thus ⊐, he would have the irresistible feeling that he had been walking like this ⌐. If he were riding on the top of a bus, and the bus turned at a right angle, he would have the feeling that he was continuing to go in a straight line, although he knew that the bus had turned a corner. He would think that the whole room he was in, everything, had twisted round to a right angle. I hypnotized this patient and put him through his experiences again, with the result that the occasions on which he got this feeling of disorientation became roughly about half as frequent as before, but the disorientation continued to occur from time to time. He was better, but by no means cured. A few days later he came to tell me that his mother had informed him that at the age of six, as the result of a fall, he had shown much the same symptom; while crossing the Tower Bridge one day he had told her that the bridge was turned "the other way round." I hypnotized him, and put him through this experience again. He lived it through with much vividness. He is sitting on a wooden horse (white with red stripes) in the dining-room. His aunt comes into the room and wishes to wash him; he declines, and edges away from her; the horse tips up on the edge of the hearthrug, and he falls on to the fender. He knows no more until he wakes up and finds himself in bed, with his aunt bathing his face. He continues to recall his

*But all Freudians regard such "transference" as an essential stage in the process of cure, and expect to produce it, in every case, in the course of psycho-analysis. They subsequently "resolve" the transference by further analysis.

experiences, and remembers crossing the Tower Bridge and finding it turned at right angles. After recalling this incident the patient was much better, but a few days later he went to the theatre to see *Going Up* (it is true that there is an aeroplane in *Going Up*), and he suddenly found that the theatre was the wrong way round. He went home, and in the middle of the night he woke up with the feeling of disorientation, got out of bed, and went towards what he thought was the window, and put his hand through the looking-glass. Thus he was by no means cured. I pointed out that there must be some memory in the first six years of his life which was the cause of the trouble. He tried to recall it, but did not make much progress. I then put him through his fourth birthday under hypnosis, and he remembered a frightening dream in which he had thought that there was an animal under the table. He had crawled downstairs and waked up half-way down. The next morning he had thought that the pier was the wrong way round, and had told his mother so. I interpreted his dream for him while he was in the hypnotic trance. He had seen the Giant Ape in a glass case at the Natural History Museum, South Kensington. This had frightened him, and it was this creature which he had thought was under the table in his dream. I took the precaution to get another doctor (Captain P. A. Galpin, R.A.M.C.) to come and see me hypnotize this patient the next time. I then suggested to him that he would go through his first experience of disorientation. When I put my hand on his forehead he shouted out, "Hot coffee!" It appeared that, when a child of nearly three, he had gone into the kitchen one morning, and had pulled the coffee-pot, which was on the table, towards him by pulling at the tablecloth. The coffee upset and poured down his right arm. He felt it as a pain in his left side, over his heart. He knew no more until he woke up in bed, when he saw his father come into the room, and he felt the bed to be the wrong way round. That was his first experience of disorientation—the first he could remember. It occurred to me, as a possible explanation of the dissociation, that the scalding of his arm produced a fainting fit, in which he fell to the left and everything twisted round to the right—he fell through a right angle. That was the beginning of his disorientation.

To make quite sure of this I hypnotized him again to bring up an earlier memory still. I suggested to him that he should remember his second birthday. He suddenly began to shout out: "He has bit me—Gordon has bit me!" Before I woke him up, I asked him all about it, but he could not tell me very much whilst in the hypnotic state—he had gone back to a period when he was too young to be able to describe his experiences. I told him that he would continue to remember all that he had just gone through, and I then woke him up. He told me that Gordon was not a dog, but a little cousin of his. They had been in bed together, standing up in bed, and it appears that he had punched Gordon in the face, and that Gordon had retaliated by biting him in the left arm. He could remember that at that time he was living near a Fire Station—could remember all the details of the incident, and could remember definitely that he had had no feeling of disorientation. The revival of this incident brought no memory of any earlier disorientation. The next day after this treatment he felt more disorientated than ever, for he had been going through these experiences very vividly. I let him stay in bed, and after two days he recovered completely, and very soon applied for his discharge. I let him go, but asked him to write to me if the feeling of disorientation ever recurred. I have never heard of him since.

This case seems to me to show that such memories date from very early life, and more than that, it shows that the memories need not always be of a sexual nature, because at the age of 2 even Freud would admit that there can be very little sex, and it is very difficult to see where the sexual experience could come in in such a case.

The other case is a much simpler one, but it is what I would call a crucial case of the value of abreaction, or the working off of emotion under hypnosis. It is the case of a gunner who was admitted to the hospital where I was working, after he had spent two years in military hospitals of different kinds. He was suffering from a tremor of the right hand, dating from the time when he had been blown up at Ypres. He did not remember anything more until he reached hospital, and the memory of this interval had never been recalled to him by any of the doctors he had previously seen. I sent him to sleep—that took just about three seconds—and then suggested to him that he should live again through the experience of Ypres. He did so, and began to shout out all sorts of things which showed what had happened at the time. Bosch shells were falling nearer and nearer to the gun-pit. He was apparently serving the gun, and someone else was handing him ammunition, and this person had evidently lost his head, for my patient shouted out: "What the —— do you mean by pulling the —— pin out of that —— fuse?" Then I noticed that he was moving the handle with his right hand; his hand began to shake violently, and soon he was shaking all over, but especially in his right hand. Then he suddenly became absolutely still. I suggested to him that he would continue to remember all that he had just gone through and then woke him up. He looked at his hand, which was absolutely still, with amazement, and expressed his gratitude, but his mind still appeared somewhat confused, so I told him to go and sleep it off. An hour later he came back and told me that he had not been to sleep, but that he had been thinking it all over. He knew everything that had happened, and told me that he had not been suffering from shell shock but from gun shock. His gun had been blown up, and the emotion which this experience had excited in him had been bottled up for two years, with the result that he had suffered from this tremor in his hand. The next morning he was able to shave himself with an ordinary razor, for the first time since his illness.

Now, was this working off of the emotion the cause of the recovery? The alternative explanation is that the recovery is due to suggestion. When this man came to me, however, he certainly did not expect me to cure him. I saw him the first day that he came to the ward and treated him at once, and he was not likely to have more confidence in me than in anyone else who had treated him. As regards the hypnosis, he went off straight away without realizing that he was being hypnotized—it was not that that impressed him. As far as one can make out, there was no expectation worked up—it was simply the working off of the emotion that cured him. That is why I call this a crucial case. In many other cases it may be argued that the cure is the result of suggestion—for example, in the case of the disorientated man—but this case of the gunner was not of that sort. I do not for a moment wish to deny the working of suggestion in curing such cases, but I wish to emphasize the curative effect of the working off of emotion as a fundamental factor. It is a more causative treatment than suggestion. Suggestion removes the symptom; abreaction removes the cause of the symptom.

The explanation of psychasthenia, compulsion neurosis, and some of the psychoses in terms of the same concept of mental conflict and dissociation must be postponed.

In conclusion, I should like to express my indebtedness to Major R. Worth, O.B.E., R.A.M.C., of Springfield War Hospital, for his courtesy in allowing me to report the above two cases, and for his unfailing help and encouragement while I was working in that hospital.

THE IMPORTANCE OF THE HOUSE-FLY AS A CARRIER OF *E. HISTOLYTICA*.

BY

P. A. BUXTON, M.R.C.S., L.R.C.P.,

FELLOW OF TRINITY COLLEGE, CAMBRIDGE; CENTRAL LABORATORY, AMARA, MESOPOTAMIA.

THE investigation here described was undertaken to determine as far as possible the extent to which the house-fly is a carrier of the organisms causing diarrhoea, dysentery, etc. No one would now attempt to deny that the fly *can* carry a very large number of different species of pathogenic organisms; the present paper tries to afford some actual statistical evidence of the extent to which it actually *does* carry them. So far as I know, we have very little real knowledge of the relative importance of water carriage, flies, carrier cooks, etc., either in this country or in any other. The investigation has been carried through in one small area in Amara, on the lower Tigris, between February 1st and November 3rd, 1918.

The sanitation here is, of course, very much better than it is further up the line.

The Gross Figures.—These are as follows:

Total number of flies dissected	1027
Number containing "apparent faeces"...	645=63 %
Number containing human intestinal parasites	42=4.09 %
Number containing *E. histolytica* cysts ...	3=0.3 %

The intestinal parasites, as will be seen later, are eggs of worms and cysts of protozoa. The "apparent faeces" which is recorded in 63 per cent. of the flies dissected requires explanation. A fly was recorded as containing "apparent faeces" if its gut contained brownish material enough to be seen by the naked eye, and if on being made into a film the brown material agreed in its appearance with human faeces. Generally it was swarming with bacteria; often one observed portions of partially digested muscle fibres (proving that the faeces, at any rate, was not that of horse or sheep); or one found the characteristic thick-walled cells which appear in the stools of Indians after a meal of dhal (pulse); or groups of yeast stained blue with iodine which are common in human stools in this country. I have frequently found these yeasts in conjunction with such distinctively human parasites as hookworm eggs. Moreover, the fact that I never found a cyst or egg of any parasite of dog or ox or horse suggests very strongly that the faeces found in the fly was human in origin; and if over 4 per cent. of the flies contain eggs or cysts of definitely human parasites there is nothing unreasonable in believing that *63 per cent. of the flies contain human faeces.* One must, however, admit that there is no *one* criterion which enables us to state that a given substance is human faeces; even the demonstration of the presence of *Bacillus coli* in each of these flies would have been useless, as that organism inhabits the intestinal tract of many vertebrates.

Difference between Male and Female Flies.

It soon became clear that flies from different situations would contain faeces and human entozoa to very different extents, and also that the males were very much cleaner than the females. As the relative abundance of the two sexes varied much in the day's catch, I determined to exclude males altogether from the dissections in order to obtain a uniform basis for my statistics. The relative cleanness of the sexes is shown below:

Males:	
Number dissected	206
Number containing "apparent faeces"...	67 = 33 %
Females:	
Number dissected	165
Number containing "apparent faeces"...	107 = 65 %

These figures appear to indicate that the female is twice as much a carrier of faeces as the male. As a matter of fact the disparity between the sexes is greater even than this, because the average male recorded as containing faeces often contained but a fraction of the amount one would find in the average female. The above figures are strictly comparable, as in them I have only included males and females taken at the same time and place.

Females from Various Situations.

The females alone will now be considered; the total figures are as follows:

Total number of females dissected ...	796
Number containing "apparent faeces"...	568 = 71 %

The great majority of these females fall within five groups:

Group I, those taken in or on British fly-proofed latrines 100 yards or more from any incinerator. Group II, those taken on or in latrines immediately adjacent to an incinerator. Group III, those taken in one particular British cookhouse and mess 80 to 100 yards from an Indian latrine and incinerator. Group IV, those taken in Indian latrines with incinerators alongside. Group V, those taken in Arab compounds of the lower class.

The system of sanitation provides approximately fly-proof latrine seats with lids for British troops, the walls and roofs rendering the inside partially dark. For Indian troops latrines with any form of lid are impossible to arrange owing to caste; the Indian latrines consist of separate urine and faeces tins on the ground, between two foot rests, with screens of matting and mud and a light roof. The latrine, whether British or Indian, in the great majority of cases is close to the incinerator, which is a brick cone with a grid about 3 ft. from the ground; a door about 2 ft. square is provided for loading dejecta, etc., upon the grid, and two or three small holes on different aspects for admitting the wind; the top of the cone is truncated, leaving a smoke vent about 2 ft. across. These incinerators burn fairly well even if there is no breeze. Trench latrines and the burying of any form of refuse except that from slaughterhouses have long ago been abolished.

The system of sanitation in Arab compounds, so far as it can be said to exist, is as follows: There is a great deal of promiscuous defaecation, particularly by children, and before dawn by low-class adults, in courtyards and roads and, above all, on the flat housetops. The Mesopotamian sun is only sufficient to render this practice harmless during four or five summer months; in fact, by September isolated deposits of faeces are not only fed upon by swarms of flies, but actually afford breeding places for *Sarcophaga*, etc., and by October for *Musca* itself. Apart from this promiscuous defaecation, all the low-class compounds from which the flies in Group V were collected possess a shallow, partially open cess-pit in the corner of the yard. Dejecta are dropped into an open, sloping trench, and slowly pass down into the pit itself. It is also customary to make basin-shaped holes in the earth in front of the door of each hut, and in these to place household rubbish, partly decomposed vegetables, faeces, etc. It will, I think, be realized that the presence of a number of these compounds close to a military area tends to nullify the efforts of those in sanitary charge of the area. The better class houses in towns are kept much more clean, and have completely closed cess-pit latrines, which cause very little annoyance.

The figures for flies from these five types of locality are as follows:

Group Number and Locality.	Total Number Females Dissected.	Number containing "Apparent Faeces."	Percentage containing "Apparent Faeces."
I. British latrines, no incinerators	99	39	39
II. British latrines and incinerators	80	57	71
III. British mess and cookhouse	198	119	61
IV. Indian latrines and incinerators	155	118	76
V. Arab compounds ...	201	161	80

The difference in dirtiness between flies in Groups I and II is due to the fact that burning in the type of incinerator I have described is so slow that numbers of flies may frequently be seen inside the incinerator feeding on such material as is not directly in the smoke. I think my figures show that these incinerators are an important leak in the system of sanitation; it appears that the fly-proofed latrine for British troops is moderately efficient, but as it is frequently placed next one of these incinerators, in which the flies feed freely, the fly-proofing of the latrine seat becomes a mockery. One concludes, then, that the provision of a door to close the hole through which the incinerator is loaded is an urgent necessity. Of course the burning of faeces on an open grid incinerator is still more strongly to be condemned. There is no reason why sheet-iron doors should not be fitted to these cone incinerators in areas at the base and on the lines of communication—in fact, such doors are often fitted, but only used as draught regulators.

As regards the flies from British cookhouses and messes (Group III), the great majority of these flies were taken in one mess and cookhouse about eighty yards from an incinerator and latrine, and up wind of it when the prevailing north-west wind was blowing. It is rather disquieting to notice that 61 per cent. of the flies from this group contain faeces. As a matter of fact, 5 of these 198 flies contained cysts of human intestinal protozoa, one of them the cyst of *Entamoeba histolytica.*

The Entozoa.

Human intestinal parasites, referred to shortly as entozoa, were found in 42 different flies. This is 4.09 per cent. of the whole number.

The entozoa comprised representatives of ten species—two cestodes, four nematodes, three protozoa, and the organism known as *Blastocystis.* All the species are well-known parasites

of man, and the great majority of them are not known as parasites of other animals. Of the 42 flies in which one or more of these organisms was recognized 39 belonged to Groups I to V; in these groups the flies shown to contain entozoa were distributed as follows:

Group:	I.	II.	III	IV.	V.	Total.
Total flies examined ...	99	80	198	155	201	733
Hymenolepis nana	0	0	0	0	1	1
Taenia saginata	0	1	0	0	0	1
Ankylostomum duodenale .	0	0	0	1	2	3
Necator americanus ...	0	0	0	0	1	1
Strongyloides stercoralis ...	0	0	0	0	1	1
"Ankylostomes"	0	0	0	3	0	3
Trichiuris trichiura ...	1	1	0	0	0	2
Entamoeba coli	1	8	3	5	3	20
E. histolytica	0	2	1	0	0	3
Giardia (Lamblia) intestinalis	1	2	1	1	0	5
Blastocystis	0	1	0	0	3	4
Total flies containing entozoa	3	13	5	8	10	39

Note.—The totals at the foot of the table do not equal the sum of the figures above them, because some flies contain more than one sort of entozoan.

The detection of cysts of *Entamoeba histolytica* only three times in over a thousand flies might at first be taken as evidence that the fly under the conditions studied is of minor importance as a carrier of amoebic dysentery. On the other hand, it must be remembered that it is impossible to remove the whole amount of faeces contained in a fly; if a given fly contains but one or two cysts, it is quite possible that these may escape detection. One must further remember that it is by no means easy to see the cysts at all in some films, owing to the presence of the globules described below; also, even in the absence of these globules, a single cyst must often remain undetected behind a mass of débris. It may safely be said, then, that 0.3 per cent. by no means represents the number of flies carrying cysts of *E. histolytica*. We should certainly be nearer the mark if we surmised that the actual percentage was 0.5; possibly it may be higher. Now this represents a very large number when it is remembered that the fly is found throughout the year in Mesopotamia, and that in spite of the excellence of the sanitation of most units in the area, the fly is abundant in messes and cookhouses every spring and autumn. Probably up the line the percentage of flies carrying cysts is higher, as the conservancy is necessarily less perfect.

The identification of the eggs of *Ankylostomum duodenale*, *Necator americanus*, and *Strongyloides stercoralis* rests, of course, on measurements. The egg of *S. stercoralis* was 93.6 μ in length and relatively more elongate than that of the other species.

Technique.

The flies were dissected in the ordinary way, as described by Patton and Cragg.[1]

The legs and wings are removed, the trunk is placed on a slide in saline solution, and the head cut off with a needle sharpened like a scalpel. The trunk is then steadied with a blunt needle, while with the sharp needle small incisions are made dorsally and ventrally in the abdominal wall. The tip of the abdomen is then pulled away from the rest of the body and the gut and crop gradually unravelled on the slide. After fragments of fat body, Malpighian tubes, etc., have been pushed aside, those lengths of gut which seem to contain faeces are isolated by cuts from the scalpel needle. The faecal contents are expressed from this as far as possible at one spot on the slide; the crop is also opened at the same place. The contents are flooded with Gram's iodine solution and covered and examined.

During a certain stage of the digestive processes of the fly globules are poured out by the gut epithelium into the gut contents. These globules have an oily appearance and do not closely resemble a cyst, but being round and approximately the size of cysts they make examination of the film extremely slow; in examining an ordinary film from a stool the trained eye very quickly picks out any round body for further study; in examining a film from a fly this may be rendered quite impossible owing to the presence of many round bodies in every field. Pathologists differ as to the advisability of treating ordinary stool films with iodine; there can be no doubt that in examining films from the fly iodine is almost a necessity, as it enables one very rapidly to distinguish between cysts and globules. In carrying out this work I have never recorded any body as an amoebic cyst unless it had been treated with iodine, to render the cyst wall and nuclei clearly visible. A number of doubtful cysts were seen early in the investigation; they have not been included in the figures. I have not found either fluorescin or eosin o any value in enabling me instantaneously to detect a cyst among a number of globules. Practically all the amoebic cysts have been examined also by Captain G. Lapage, R.A.M.C., and passed by him. His very wide experience of these bodies has been of the greatest use to me; whenever he has been doubtful about any object which I have submitted to him I have excluded it from the statistics. The investigation was begun in conjunction with Lieutenant J. H. Woodger of the Norfolk Regiment and continued for a short time by both of us. I have presumed on his kindness and included a number of his dissections in the statistics, transfer to an isolated force preventing all communication between us. I am very grateful to them both.

The flies examined have all of them been house flies—that is, they would all have been referred to as *Musca domestica* a few years ago. A great number appear to be referable to the species or races now known as *Musca determinata* and *M. angustifrons;* but the whole question of species in the house-fly group is now under revision, and it is probable that new species will be found when the flies of Mesopotamia have been examined along the lines of Awati's[2] work in India. From the public-health point of view the exact systematic position of the insect appears to be immaterial. The habits of all these races appear to be the same as regards breeding in faeces and feeding upon it and upon human foods.

Vomit Spots.

Early in the investigation about fifty were examined with negative results; time failed to examine a large number.

The occasional presence of eggs of worms and cysts of protozoa in the vomit and faecal deposits of flies has, of course, been demonstrated, especially by Wenyon and O'Connor.[3] A transfer to another country has prevented me from carrying through a similar investigation on the carriage of pathogenic bacteria by the fly in this area.

Conclusions.

(*a*) As has already been shown by Wenyon and O'Connor,[3] one may expect to find the egg of any human intestinal worm, or the cyst of any protozoan in the fly if only one looks long enough.

(*b*) It appears that in a well-sanitated area in Lower Mesopotamia over 60 per cent. of the flies carry human faeces, over 4 per cent. of them actual human entozoa, and probably at least 0.5 per cent. the cyst of *Entamoeba histolytica.*

(*c*) One is justified therefore in regarding the fly in this country as not only a potential, but an actual and major factor in the carriage of the bowel disorders which are here so regrettably numerous.

REFERENCES.

[1] Patton and Cragg: *Textbook of Medical Entomology*, Madras, 1913. [2] Awati: *Ind. Journal of Med. Research*, vol. iii, p. 510. [3] Wenyon and O'Connor: *Journal of the R.A.M.C.*, vol. xxviii, 1917, No. 6, p. 694.

THE triennial meeting of the International Society of Surgery will be held at Paris instead of Brussels this year from Monday, July 19th, to Friday, July 23rd. The subjects set for discussion are: (1) The surgery of the heart and great vessels; (2) the treatment of tumours by radium and *x* rays; (3) the analysis of the blood and its biological reactions in surgical affections; (4) fractures of the femur; (5) the prophylaxis and treatment of tetanus. The subscription is 50 francs. Members of the medical profession who wish to be nominated for election are requested to communicate with Sir D'Arcy Power, K.B.E., 10A, Chandos Street, Cavendish Square, W.1.

ANALYSIS OF ONE HUNDRED CONSECUTIVE CASES OF CARDIAC DISEASE.*

BY

W. BLACK JONES, M.D., B.S.LOND.,

BUILTH WELLS.

DURING the past few years knowledge of diseases of the heart has been notably advanced, and I will here give an analysis of 100 consecutive cases of cardiac disease occurring in my practice at Llangammarch Wells, and discuss the symptoms, the prognosis, and treatment, in the light of modern research.

When a patient with a disordered heart presents himself it is advisable, before proceeding to the physical examination, to make inquiries as to the symptoms. Frequently they have been neglected, and more stress has been laid on the presence or absence of certain physical signs, and an erroneous impression of the case has been obtained.

At rest the heart uses only a small portion of its energy in keeping the blood circulating, but during exercise a larger amount, called reserve energy, is used; in violent exercise this may amount to three or four times that used at rest. When heart failure begins this reserve energy diminishes, thus lessening the amount of work the patient can do.

Heart failure is indicated by certain symptoms, such as pain in the region of the precordium, shortness of breath, exhaustion, etc. The basis for estimating the strength of the heart, and therefore the amount of reserve energy present, is the amount of physical work the patient can do. The first inquiries are therefore directed to ascertain how far the patient can walk without exhaustion, and whether he can ascend one or two flights of stairs or a moderate hill without feeling short of breath. This is a valuable test, and as the patient recovers he can estimate the increase in the reserve energy by his ability to walk further afield without distress. It is the object of this paper to call attention to these symptoms of primary importance, to indicate their relative frequency and their value in diagnosis, prognosis, and treatment.

Patients with certain physical signs, such as murmurs, have often been misled as to their condition because the physician laid too much stress on the presence of a murmur when no other sign or symptom of cardiac failure was present; and, on the other hand, some practitioners have been puzzled by the condition of a patient, obviously seriously ill with some cardiac disorder, because no murmur could be heard, as if a valvular lesion were the sole cause of heart failure.

In the medical examination for life insurance the examiner is generally asked to state whether the sounds of the heart are normal and whether the organ is enlarged. In many cases these are the only questions directed to the condition of the heart excepting those as to the character of the pulse. It is, however, encouraging to find that one insurance company at least has appreciated the value of modern researches on cardiology, and in addition to the above asks the following questions: "Does the proposed suffer from precordial pain, breathlessness on slight exertion, or any other symptom of impaired cardiac efficiency?"

The following are my methods of examination and the results I noted in 100 consecutive cases:

1. *Age.*

The average age was 54 years.

2. *Occupation.*

It is not enough to learn that the patient is, say, a solicitor or an engineer, without inquiring whether the strain upon him is physical, or mental, or both. When the questions of prognosis and treatment are concerned we have to ask ourselves what proportion of this work he can do in the future, whether he can do half, or must give up all his work. Of 100 cases, 65 were males, and as to occupation 26 were of the working class.

3. *Pain.*

Pain in the chest is a most valuable symptom: it may be regarded as a sign of the degeneration of the muscular fibres of the heart and of the exhaustion and failure of that organ. It is often slight, but in some cases, especially when the pain is more or less constant, sudden death occurs. Whether slight or acute, it does not necessarily indicate the calcification of the coronary arteries, a lesion which is known to accompany many cases of angina pectoris. The pain is usually felt over the area of the heart. It is of a reflex nature, caused by the irritation of the cardiac nerves, by which impulses are transmitted to the spinal cord, reflected to the sensory nerves, and referred to various parts of the trunk and arms. Pain is a valuable measure of the amount of degeneration of the myocardium and is a guide to prognosis and treatment.

Of the above cases under my care, 73 complained of pain over the heart or neighbouring part of the chest; 9 of them complained of pain in the region of the lower ribs on the left side; in many of the cases the pain was only a dull ache; in all the pain was intermittent. On exertion or excitement the pain often radiates to other parts of the body. Of these 73 cases, 33 experienced an increase in the area of the pain, 30 referred the pain to the left arm, two to both arms, and one to the right arm only.

4. *Causes of the Pain.*

(*a*) *Exertion.*—Fifty-one patients attributed the pain to exertion. Careful inquiry should be made as to the amount of exertion that causes this pain; it is a valuable indication in treatment, as in many cases the pain can be wholly or partly avoided by reducing the amount of work.

(*b*) *Excitement.*—Thirty-six persons stated that mental excitement caused the pain. Worries in the daily life that can be avoided must be ascertained.

(*c*) *Indigestion.*—Thirty-four persons attributed attacks of pain to digestive disturbances. Flatulence due to chronic gastric catarrh is one of the most frequent causes of such cardiac disturbances as pain, palpitation, shortness of breath, etc. The stomach, if distended with flatus, may either act reflexly or mechanically on the heart. Probably the latter cause is the more frequent, as it raises the heart up and alters its axis, thus disturbing its anatomical position. The treatment of this condition is of the utmost importance, and in some cases I have devoted my whole attention to the treatment of the gastric rather than of the cardiac symptoms. Frequently immediate relief to distressing cardiac symptoms is afforded by a few simple directions as to diet.

(*d*) *Pain at Rest.*—Twenty-one patients complained of pain while in bed. This symptom often indicates advanced degeneration of the myocardium, and the prognosis is unfavourable.

5. *Breathlessness.*

In 89 cases patients complained of shortness of breath after slight exertion. This is one of the earliest and also one of the cardinal symptoms of cardiac failure. It is nearly always accompanied by exhaustion.

6. *Exhaustion after Exertion.*

This occurred in 85 cases. In the treatment of the patients these two symptoms—breathlessness and exhaustion—are of great importance, as when they abate they become measures of the progress towards recovery.

7. *Palpitation.*

This was noticed by 36 persons, of whom 13 were males and 23 females. It frequently occurs in neurotic women, and if there are no other symptoms of cardiac failure the prognosis is frequently good.

8. *Faintness and Giddiness.*

Faintness was noted in 6 cases; in only one of these was the prognosis good. Giddiness occurred in 29 persons. It is an important sign often noticed in tall people; the prognosis is generally not favourable.

9. *Pulse.*

(*a*) *Frequency.*—The rate of the pulse was 76 or under in 71 cases; it was above that rate in 29 cases. In 2 of the latter it was markedly irregular owing to auricular fibrillation.

(*b*) *Tension.*—In all cases the systolic pressure of the pulse was noted. I have adopted the classification of Oliver, who defined as cases of high tension those in

* Being a paper read before the North Glamorgan and Brecknock Division of the British Medical Association, at Brecon, September 24th, 1919.

which the pressure is above 145 mm. in persons under 40 years of age, and in those above that age in whom the tension is above 160 mm. Out of 100 cases, 36 had high tension; of these, 25 had symptoms of anginal pain and 11 were without pain. When the high tension is not accompanied by dilatation or other signs of cardiac failure the prognosis is more favourable than when signs of degeneration are present.

10. *Dilatation.*

In 61 cases the heart was dilated, and in 22 of these a murmur was present; in one case the murmur certainly had no prognostic significance, as it was the only cardiac symptom present.

11. *The Urine.*

Albumin was present in the urine in three cases and sugar in one.

12. *Prognosis.*

In 17 of the 100 cases prognosis as regards life was good, provided the patients did not exceed the limits of the amount of strain put upon the heart. Of these cases, 4 were due to affections of the nervous system, and were all amenable to treatment, and 8 suffered from cardiac pain, but this either disappeared on treatment or was so infrequent as to cause little anxiety. In two cases the cardiac symptoms were of no importance.

Treatment.

The first essential is rest; its degree must be left to the judgement of the physician, (*a*) whether the patient is to go to bed for some weeks, or (*b*) whether he is allowed to be up and about, and is to have his exercise graduated according to the amount of work the heart is able to do. All the cases mentioned in this paper are comprised in the latter class. In estimating the capacity of the patient for exercise it is always necessary to inquire how far he can walk without bringing on pain or producing shortness of breath, palpitation, or exhaustion. After a few days' treatment it is often found that the patient is able to walk further without distressing symptoms, and has lost the sensation of lassitude.

The second essential is the careful regulation of the diet, especially if gastric catarrh be present. Frequently immediate relief to distressing cardiac symptoms is afforded by a few simple directions as to diet. The main principles I adopt are as follows:

1. The teeth are to be in good condition.
2. The avoidance of indigestible foods, such as pork, veal, and other hard meats and warmed-up dishes. All underground roots, including potatoes; also sloppy food, such as bread and milk, broth and soup, strong tea, coffee, alcohol.
3. Each meal is to consist of a very few articles, and over-eating is to be avoided. The food is to be well masticated, and eaten dry.
4. Hot water is to be taken after the meal; when flatulence is present, a soda mint tablet may be taken with advantage.
5. A pill containing a grain of calomel is to be taken once or twice a week.

Among the working classes indulgence in strong tea has in many cases caused more damage to the gastric mucous membrane, and thus eventually shortened life, than indulgence in alcohol.

At Llangammarch Wells these patients had spa treatment in addition to rest from their various occupations and anxieties, and change of air and scene; they had the benefit also of balneological treatment, consisting of the internal administration of the mineral water, of baths, and of massage, which I have fully described elsewhere.*

Many of the patients are seen year after year, and the progress made by some of them is noted below.

CASE I.

A man, aged 60, consulted me in July, 1916, having had symptoms of cardiac failure a month previously. He complained of pain over the precordium, which occasionally radiated down the left arm. He also suffered from giddiness, palpitation, and shortness of breath. There was evidence of gastric catarrh, the heart was dilated and the sounds feeble. The pulse was regular, the rate 76 and the tension 150 mm. He had been addicted to alcohol. I recommended a strict diet, the mineral water, and abdominal massage, and advised him as to the amount of exercise he was to take. He soon began to improve, and lost most of the distressing symptoms and was able to walk much better. The improvement was maintained when he was last seen during the summer of 1919.

CASE II.

A man, aged 32, was first seen in February, 1918. He complained of pain over the heart, which at times was of a stabbing nature, and which radiated down the left arm on exertion or after attacks of indigestion. He had experienced this pain occasionally for two years. He had the usual symptoms of shortness of breath and exhaustion, and was at times in considerable distress. The heart was dilated, and there was marked gastric catarrh. He was a commercial traveller, and had not only been much overworked, but his meals were most irregular.

After several weeks' rest and careful diet all the distressing symptoms abated, and he gradually returned to his duties; at present is able to do a considerable amount of work. He is very careful as to his diet, and often is able to obtain an extra day's rest at the week-end. I am of opinion that the prognosis is good in this case.

CASE III.

A man, aged 55, consulted me in May, 1919. He had worked abroad for many years, and his heart had been weak since 1915. He complained of pain over the precordium and shortness of breath, which were aggravated by exertion. The heart was dilated, the pulse rate was 80, and the tension 140 mm. Occasionally he had Cheyne-Stokes breathing and the stomach was dilated.

After six weeks' treatment the pain left him, the Cheyne-Stokes breathing disappeared, and he could walk several miles without exhaustion. The prognosis in this case is distinctly good.

CASE IV.

A lady, aged 50, had suffered from palpitation and exhaustion for eight years, subsequent to an attack of influenza. She was in poor health, the attacks of palpitation occurred frequently at night, and her sleep was much disturbed. She had slight pain over the heart, was short of breath, and easily fatigued on exertion. There was marked flatulent distension of the stomach, the heart was dilated, and the pulse tension was 140 mm. The diet was strictly regulated and ammonium bromide prescribed. In a few days she began to improve, the palpitation was much less, the digestion better, and she slept well. After a month's treatment she said she was more active and was feeling stronger than for several years. The prognosis in this case is good.

CASE V.

A man, aged 47, consulted me in August, 1917. He had had rheumatic fever ten years previously, and had worked very hard for many years. He complained of a stabbing pain over the heart, but it did not extend down the arm. He often had attacks at night, when he also experienced a smothering feeling. He was breathless and easily exhausted, and the stomach was distended with flatus. The heart was dilated; the tension of the pulse was 160 mm. He was carefully dieted and advised to reduce the amount of his daily work as far as possible, but at the same time my prognosis in his case was bad. I saw him in September, 1918, when he was much improved; the pain was less, and although he still had a smothering sensation at night there was less exhaustion, and he was able to get through his work fairly well. I saw him again in August, 1919, and found the improvement maintained. The pain was not so frequent, and he could walk three or four miles a day.

* The Mineral Water of Llangammarch Wells, BRITISH MEDICAL JOURNAL, October 24th, 1903.

ON THE DIRECT CULTIVATION OF TUBERCLE BACILLI FROM TISSUES.*

BY

G. HASWELL WILSON, M.B.,

LECTURER IN BACTERIOLOGY, GLASGOW UNIVERSITY; PATHOLOGIST, ROYAL HOSPITAL FOR SICK CHILDREN, GLASGOW.

THE method of isolating tubercle bacilli from tuberculous tissues described below was devised in the course of an investigation, undertaken on behalf of the Medical Research Committee, into the types of tubercle bacilli found in children. It depends on the use of (*a*) a special medium for culture, as described below, and (*b*) the trituration of the tissue with dry quartz sand before the application of antiformin to destroy contaminating organisms.

The efficacy of antiformin as an aid to the detection or cultivation of tubercle bacilli in sputum, etc., is generally recognized, and the benefit derived from its use may be said to depend on two factors. In the first place, the antiformin exercises a disintegrative action on tissues and cells and liquefies mucus, so that the organisms may be concentrated by centrifugalizing, and, secondly, contaminating bacteria are killed off. So far as sputum or

* The expenses of this research are being defrayed by the Medical Research Committee, to whom I have pleasure in recording my indebtedness.

other fluid material is concerned, the method as ordinarily employed (1919[1]) is satisfactory, since solution is effected in a comparatively short time and the tubercle bacilli are not damaged; but, in the case of tissues, prolonged exposure to the reagent may be necessary before the material becomes sufficiently fluid to allow of its being centrifugalized, and in these circumstances the growth of tubercle bacilli, as well as that of less resistant organisms, may be inhibited. In the methods here described the tissue material is reduced to a very fine state of division by mechanical means, and a very short exposure to the antiformin serves to destroy bacterial contamination.

Process.

The tissue to be investigated is cut up into small pieces with scissors, and is thoroughly rubbed up in a mortar with a small amount of dry sterile quartz sand. The rubbing up is continued till the fibrous tissue is disintegrated as far as possible, and the material forms a slightly moist, crumbling mass. The contents of the mortar are then washed into a wide test tube with 15 to 20 c.cm. of sterile saline solution. The sand is allowed to sediment for a few minutes; as it falls, it carries down with it any coarser particles of tissue which remain. The supernatant fine suspension is then pipetted off, and thoroughly mixed with an equal volume of 15 per cent. antiformin. After five minutes, during which it should be stirred continuously, the mixture is centrifugalized at high speed for a few minutes, and the supernatant fluid is discarded. The sediment is shaken up with sterile saline solution and again contrifugalized. The shaking up of the sediment with sterile saline solution and centrifugalizing are carried out three times in all, so that no trace of antiformin remains. The sediment resulting from the final centrifugalizing is used for making cultures, or, after emulsifying with a convenient amount of sterile saline solution, is injected into a suitable animal. It may be mentioned at this point that in none of a large number of films made from the sediment obtained by this procedure was any evidence found that the bacilli tended to be broken up. It is certain that their vitality cannot be seriously diminished as in some cases growth was obtained although the tubercle bacilli were present in such small numbers that none could be demonstrated in films. Further, in many instances, control cultures on agar were put up at the same time as the egg medium cultures. These invariably remained sterile.

Preparation of Medium.

The medium used is simple to prepare and is a modification of Dorset's medium (1919[2]), in which the contents of eggs are mixed with a tryptic digest of horse heart instead of with water. Various digests were tried, including horse heart digested for varying periods, Cole and Onslow's casein digest (1916[3]), and a tryptic digest of glidine. All the media containing a protein digest were found to yield a more rapid and abundant growth than the original Dorset medium, but the product which so far has given the most satisfactory result is that obtained by digesting horse heart with trypsin for a period of three weeks.

Preparation of Horse Heart Digest.

Take:

Horse heart, freed from fibrous tissue and fat as far as possible, and minced ...	500 grams.
Water	1,000 c.cm.

1. Render faintly alkaline to litmus, using 20 per cent. sodium hydrate, and heat slowly to 80° C.
2. Cool to 40° C. and add 1 per cent. liquor trypsin co. (Allen and Hanbury) and 30–40 c.cm. chloroform. Shake well and cork with a loose stopper.
3. Incubate at 37° C. for ten days, shaking daily.
4. Add a further 1 per cent. liquor trypsin co. and leave in incubator for another ten days without shaking.
5. Render slightly acid to litmus with glacial acetic acid and boil for fifteen minutes.
6. Leave overnight in ice chest and decant off clear fluid, or filter through Chardin paper.
7. Adjust reaction to 1.2 per cent. acid to phenolphthalein; autoclave at 118° C. for twenty minutes; cool and filter; sterilize.

It is important to test the reaction of the digest at intervals during the period of incubation, as it tends to become acid, and, should this occur, a further addition of alkali must be made till it is again just alkaline to litmus.

The contents of several fresh eggs are well beaten up, and the above digest is added in the proportion of one part to three parts of the beaten eggs and thoroughly mixed. The mixture is filtered through muslin to remove air bells and filled into tubes which are heated in the sloped position at 70° C. till complete solidification has occurred. The medium is then sterilized high up in the Koch sterilizer (to avoid bubbling) for twenty minutes on each of three succeeding days. Prepared in this way the medium forms a smooth slope, free from air bells, of a pale yellow colour. Glycerin is added to the medium before solidifying, when desired.

An important point to be observed in the preparation of Dorset's medium or of this modification is that the eggs used must be as fresh as possible. Commercial "fresh" eggs are often quite unsuitable, and the more nearly the eggs approximate to "new-laid" the better are the results likely to be. Whatever the component of new-laid eggs may be which renders their use in the preparation of media more favourable to the growth of tubercle bacilli, it not only resists the heating incident to sterilization, but is actually rendered more stable by it, since media prepared from fresh eggs retain their growth-producing properties for many weeks at least, whilst these properties are lost in a few days if the eggs are kept before being made into medium.

On this medium growth, both in primary cultures and in subcultures, is rapid, being visible, as a rule, in less than a week, sometimes in four days, and copious in less than three weeks. Bovine types of bacilli are markedly inhibited by the presence of glycerin in the medium, as occurs in Dorset's medium prepared in the ordinary way. The differences between the cultural characteristics of the human and bovine strains are very well brought out, the human type producing a copious, heaped-up, dry and wrinkled growth, often with a slight brownish tint; the bovine a growth which is flatter, fairly smooth, and with a distinctly slimy appearance. So far, direct cultures of tuberculous material from twenty-five cases have been made on this medium, and in twenty-four of these growth has been obtained. The remaining case was one of tuberculous meningitis in which only one tubercle bacillus could be found in films from the sediment obtained on centrifugalizing a large amount of cerebro-spinal fluid.

SUMMARY.

1. The disintegration of tuberculous tissue and the destruction of contaminating bacteria by antiformin can be greatly facilitated by a preliminary trituration of the tissue with quartz sand.
2. This procedure appears to exercise no deleterious effect on the bodies of the bacilli or on their vitality.
3. The growth of tubercle bacilli on egg media of the Dorset type is enhanced when the media are prepared with a twenty-one day tryptic digest of horse heart instead of with water.
4. Egg media intended for the growth of tubercle bacilli should be prepared from eggs which are as nearly as possible new-laid.
5. The addition of glycerin to such media inhibits the growth of bovine strains, and the other cultural characteristics of bovine and human strains are well defined.

NOTE.—Further experiments with these and other digests are being carried out with a view to the preparation of fluid media; and also, by the use of more delicate indicators, for the determination of the optimum reaction of the various components.

REFERENCES.

[1] Muir, R., and Ritchie, J.: *Manual of Bacteriology*, 1919, seventh edition, p. 297. [2] Ibid., p. 46. [3] Cole, S. W., and Onslow, H.: *Lancet*, 1916, ii, p. 9.

NASAL DRILL: AN INVESTIGATION OF ITS VALUE IN THE TREATMENT OF ADENOIDS.

BY

GERTRUDE H. HICKLING, M.D., D.P.H., B.Sc.

IN the *Lancet* of August 24th, 1918, and in several later issues, some remarkable results were published of the effect on adenoids of systematic nasal drill, as conducted by Mrs. Handcock. At that time, owing to the depletion of staff at the various hospitals, numbers of cases of adenoids waited month after month for operation. Thus the moment seemed opportune to ascertain whether the troublesome symptoms of these children could be alleviated by means other than surgical. I therefore went up to London and Mrs. Handcock kindly demonstrated the method to me.

Subsequently a class conducted on similar lines was held weekly for six months at the out-patient department of the Manchester Children's Hospital. For test purposes various types of cases were sent to the class. An average of twenty children attended, ranging in age from 3½ years to 14 years. The parents were present at the drill, and by their regular attendance showed their interest in the proceedings.

Method.

The children stand in rows with as much space as possible between each individual in a room with widely opened windows. Each child is given a piece of soft paper to serve as a handkerchief. Then at the word of command:

One: All stand erect (chest out, shoulders back, etc.).
Two: Hold paper ready (spread out in the left hand beneath the nostrils).
Three: Grasp the top of the nose (between the eyes, with the right thumb and forefinger, the elbow being raised to shoulder level) *leaving the nostrils open.*
Four: Blow down the nose (bowing the head forward and down and at the same time depressing the right elbow to the waist line, the top of the nose still being held).
Five: Breathe in.

Exercises three, four, and five are then repeated in a rhythmic manner about ten times, the action somewhat resembling that of a pump. After this each nostril is "pumped" separately in the same way, each side being held closed in turn. The soiled paper, which catches the discharge as it flows unimpeded from the uncompressed nostrils, is now burned and replaced.

The nose and its accessory sinuses having been to some extent cleared by this preliminary pumping, irrigation of the nasal cavity from above down is now obtained by means of a free flow of lymph induced by sneezing, thus: A mild, non-irritating nostril snuff is handed round. Mrs. Handcock's powder was used at first; afterwards a similar preparation made by the hospital dispenser, Mr. Teesdale, containing menthol and a soap basis. Each child takes a pinch of the powder, and lightly flicks the septum just within the nostrils. The powder is not sniffed up. This feeble stimulation is sufficient in the majority of cases to induce a sneeze. Immediately after sneezing "nose pumping" is resumed. Sneezing and pumping may then be repeated until discharge from the nostril ceases or becomes scanty. Lastly, nose breathing exercises are performed, the nostrils being used alternately and together.

The importance of nose breathing and of regular daily nose "toilet" is constantly emphasized, and powder is provided for the drill to be carried out at home.

Results.

General.—Improvement in the physique of the class was soon noticeable; the carriage is better, chests are fuller and shoulders less curved, mouths gape less, and there are fewer cases of sniffling and running noses. Mothers report greater freedom from colds, less restless sleep, and cessation of snoring. Speech is clearer and hearing more acute. One child got through the winter without having his "annual" February attack of bronchitis. No member of the class contracted influenza during either of the two epidemics, although in some cases other persons in the household had the disease. Improvement of appetite and of digestion and a gain in weight coincided in several instances with the disappearance of the nasopharyngeal discharge. One case of relapse after operation is now free from symptoms.

Local.—With the exception of a diminution, amounting in some cases to an actual cessation of the nasopharyngeal discharge, very little local change was observed in the throats—that is, the relief of symptoms is out of all proportion to the visible improvement in the local condition. Certainly in some cases slight shrinkage seemed to have occurred, but in no case could it be said that the growths had disappeared. This result is disappointing, in view of the cases recorded in the *Lancet* referred to above.

Nevertheless the experiment would seem to show that:

1. Cases where operation is inadvisable on general grounds may be relieved of their main symptoms by this method of nose drill.
2. Some cases of chronic nasopharyngeal discharge attributed to the presence of adenoids can be cured without operation.
3. Operation may be avoided, that is, rendered unnecessary in cases of slight adenoids.
4. Daily nasal drill lessens the chance of contracting infections.

Two special fields of usefulness of the drill suggest themselves in addition.

Post-operative.—To keep the nasal passages clear and so avoid recurrence.

Preventive.—The introduction of nose drill into the daily routine of nursery schools and infant schools should do much to bring about a decrease in adenoid case incidence and do away with the majority of those cases of sniffling, sore-nosed children to be seen by the dozen at any medical inspection of school children.

In conclusion I should like to take this opportunity of thanking the hospital staff for permitting and assisting the experiment, more especially Dr. Lapage, at whose out-patient clinic the class was held, and who, on his return from service overseas, allowed me to continue the class, and Dr. Arnold Jones, aural surgeon to the hospital.

Note by C. P. LAPAGE, M.D., M.R.C.P.

On my return I found that Dr. Hickling, who had been conducting my out-patient department during my absence, had instituted a nasal drill class. I asked her to continue to hold the class in order to finish the experiment. From personal inquiry I can support all that Dr. Hickling has said about the progress and relief of symptoms in those cases who had not markedly enlarged tonsils and adenoids. The results certainly justify the continuation of this class, and I intend to hold a further trial, and if successful, to make the class part of my out-patient practice for a certain selected class of case.

One does not for a moment wish to give the impression that cases of hypertrophied tonsils and adenoids of any size can be cured without operation, because no amount of drill can remove tissues which are hypertrophied; but some cases are inflamed and swollen rather than hypertrophied, and in such there is no doubt that methods making for removal of stagnation and chronic inflammation are a very important factor in treatment. It is quite possible for reduction of inflammation to cause shrinking sufficient to relieve symptoms in mild cases. It is not an unknown experience to find that in cases in which operation has been decided upon but which have had for some reason or other to wait for a little time for that operation, the tonsils and adenoids have shrunk so much in the interval that operation has become unnecessary.

I hold that the majority of cases of tonsils and adenoids are due to infection, which becomes chronic and leads to obstruction, first by inflammation and swelling and then by ultimate hypertrophy of the lymphatic tissues. Under modern conditions children are more exposed to infection than formerly, because they have so many more opportunities for such infection. Gatherings of children indoors, as at school and places of amusement, or in badly ventilated chambers such as trams and railway carriages, are specially fertile sources of infection. Other causes, such as debilitating factors acting on the general health and vitality, also play an important part, probably because they lead to lowered general resistance to infection. Again, irritating atmospheric conditions and any unhygienic state of the mouth have an effect, the former being especially shown by those cases who suffer from chronic catarrh and frequent colds in town atmospheres but do well in country air or at the seaside. Whatever the cause, there is no doubt that there is a very large number of cases of inflamed and enlarged tonsils and adenoids at an out-patient department who have troublesome symptoms and yet are not sufficiently bad to need operation, either because the enlargement is intermittent or because it is slight.

As a summary one can say that in cases with much hypertrophy the local results are, as can only be expected, poor, but in cases with inflammation and little hypertrophy the relief of symptoms such as headache, restless sleeping, and liability to colds, is marked. Nasal drill is therefore of great value for such cases, and it should also be of value as a post-operative measure. It is of value over and above the physical exercises employed, because the improvement in the nasopharyngeal symptoms was far greater than could have been accounted for by the mild physical exercises which were used as an adjunct to the nasal drill. For cases which are hypertrophic and not largely inflammatory, and which are therefore sent for operation, nasal drill may be useful as a post-operative measure. The best methods of conducting nasal drill and the period of time over which such exercises should be continued can only be determined by experiment.

SIR GEORGE FRAMPTON'S monument to Nurse Cavell has been placed in position at the point where Charing Cross Road meets St. Martin's Lane. The crowning figure on its lofty pedestal will look down on Trafalgar Square. Among the monuments of London it will be remarkable for its dignity and the originality of its conception.

MESSRS. CHAS. J. SAWYER, Ltd. (23, New Oxford Street, London), have issued a catalogue of works on medicine, surgery, anatomy, etc., from the sixteenth-century to the nineteenth, with a selection of engraved portraits of medical men. The prices of both strike us as moderate.

ECTOPIA VESICAE TREATED BY IMPLANTATION OF THE URETERS IN THE RECTUM.

By C. C. HOLMAN, M.B., F.R.C.S.,
ASSISTANT SURGEON, NORTHAMPTON GENERAL HOSPITAL.

ECTOPIA VESICAE is a sufficiently rare deformity to justify publication of the following case:

A boy, aged 8 years, was admitted into the Northampton General Hospital in March, 1918, suffering from ectopia vesicae. He was small for his age and pale, exhibiting all the symptoms characteristic of his unhappy condition.

First Operation.

On March 15th, 1918, after the patient had been anaesthetized, a No. 1 gum elastic catheter was passed into each ureter for about three inches and tied in. A median incision was made through the bladder and a circular incision round each ureteral orifice. The ureters were then, in turn, freed by blunt-pointed scissors, taking care not to trespass on their blood supply. After a finger in the rectum had demonstrated its relations, a pair of fully curved forceps were passed through the anus and pressed against the rectal wall below the peritoneal reflection. A small incision was made, the forceps passed through and the right ureter with its catheter drawn into the rectum as far as it would go. The wound in the rectum was closed by one stitch which took a grip of the wall of the ureter. This procedure was repeated on the left side. The rest of the bladder was trimmed away and the wound left open. At the conclusion of the operation the catheters were withdrawn as they seemed calculated to do more harm than good by their presence in the ureters.

Subsequent Progress.

The patient's general condition remained good, but the temperature ran an irregular course for a fortnight, rising each evening to 101° or 102° F. The bowels acted naturally on March 17th, and by March 19th the boy could keep dry during the day. On April 6th there was thought to be some leakage of urine through the wound.

Second Operation.

On April 17th granulations were cut away, the skin edges undercut and brought together. Both ureters could be felt projecting into the rectum. The wound healed by first intention, and there was no leakage of urine.



DERMOGRAPHISM.

Present Condition.

In January, 1920, the boy's general health is good and his gait normal. He has complete control over his urine, which he voids two or three times during the night and at intervals of from three to four hours during the day. The operation scar is sound and dry.

The operative procedure in this case was practically that described by Peters,[1] with the minor difference that the ureters were fixed by a stitch into the rectum and the catheters removed at the conclusion of the operation. There was probably some slight infection of the kidneys in this case, as shown by the irregular pyrexia and by thirst. It might be wise in a similar case to allow an interval of some weeks to elapse between the transplantation of each ureter, as suggested by Mayo.[2] He utilizes the sigmoid in preference to the rectum, but, in the hands of the average surgeon, such a procedure would involve more risk to the patient. Some writers seem to assume that by transplanting the trigone (Maydl) or the whole bladder (Moynihan) the risk of ascending infection of the kidneys is diminished. I know of no statistics which prove this assumption. The statement that the valvular orifice of the ureter is maintained after transplanting the trigone is open to question, as the transplanted portion of the bladder is necessarily severed from its nerve supply.

REFERENCES.

[1] Peters: BRITISH MEDICAL JOURNAL, June 22nd, 1901. [2] Mayo: *Collected Papers at St. Mary's Hospital, Rochester*, 1917.

THE late Mrs. Louise d'Este Oliver has bequeathed £3,000 each to the Elizabeth Garrett Anderson Hospital, Euston Road, N.W., and to the West Cornwall Dispensary and Infirmary, Penzance, £1,000 to the Middlesex Hospital for the Cancer Ward, and £200 to the Dunedin Hospital Guild, Dunedin, New Zealand.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF DERMOGRAPHISM.

(From the Neurological Department, 2nd Northern General Hospital, Leeds.)

PTE. W., aged 20, was admitted to this hospital in May, 1919, with a gunshot wound of the right upper arm and ulnar nerve injury.

His attention had first been drawn to the ease with which his skin whealed three months previously when, while washing himself, he received a slap on his chest from a fellow patient, which was followed by a raised impression of the hand. Since then he noticed that a tight shirt wristband, a tight collar or bandage would cause a raised wheal on the underlying skin.

The words in the photograph were traced by moderately firm pressure with a blunt piece of wood. The urticarial wheals took about three minutes to develop fully. As they rose they were at first uniformly pink, but finally were white and bloodless in the centre with a bright pink border. They subsided in from half to three hours, according to the pressure used to create them, and vanished rather more quickly from the arms than from the back and chest. There was no itching of the skin. The readiness of the patient to sweat on slight exertion furnishes further evidence of vasomotor instability.

The patient exhibited no signs of hysteria, and examination revealed nothing else abnormal either in the nervous system or elsewhere, except that, although a Yorkshireman, he spoke quickly, almost to the point of clipping and slurring his words, and unintelligibility.

His family history furnished no sign of neurotic heredity, his parents, brothers, and sister being quite healthy, and, as far as the patient knew, none presented this phenomenon of factitious urticaria.

The patient himself stated that he had always been healthy, was classified A1 on joining the army, and during his six and a half months in France suffered from nothing until he was wounded. The only other feature of interest is that about two months previous to his first noticing the condition he was in hospital in London, and whilst lying in the anaesthetic room waiting for some small operation a bottle of ether exploded and caught fire. He assisted the nurse to extinguish the flames, and was rather scared and tremulous afterwards. He was anaesthetized, however, and the surgical procedure carried out. There were no ill effects on recovering from the anaesthetic.

I have to thank Lieut.-Colonel C. E. Ligertwood, D.S.O., the administrator of this hospital, for permission to record the case.

H. S. CARTER, M.B., Ch.B.,
Captain R.A.M.C.(S.R.).

SUBLIMED SULPHUR IN MERCURIALISM.

MERCURIALISM is caused by the accumulative action of mercurial salts, but the exact mechanism is not definitely known, though two theories have been advanced, one by Almkvist and the other by Professor Gaucher.

Almkvist's Explanation.

Protein foods are pressed into the sockets of the teeth or into the recesses of the mouth. Here they are attacked by putrefactive anaërobic organisms, such as the *Spirochaeta dentium* and the fusiform bacillus of Plaut-Vincent. These bacilli form sulphuretted hydrogen. The mercury circulating in the capillary loops of the gums is precipitated as black mercury sulphide. The nourishment of the gums and the alveolar process of the jaw is interfered with and degeneration and necrosis of the involved tissue results.

Professor Gaucher's Explanation.

Mercury, on absorption into the system, becomes converted into a chlor-albuminate-peroxide of sodium and mercury. It is an irritating salt, and is not allowed to circulate freely, thereby

causing stomatitis and other symptoms of irritation. He recommends that sulphurous waters should be drunk, and reports a case in support of his theory. He further states that the irritating mercury salt is converted into a non-irritating mercury sulphide, which circulates freely in the system. The mercury sulphide is easily excreted and is well tolerated.

Professor Gaucher's theory, in view of the fact that sulphur improves the condition, is the more feasible.

As a prophylactic measure all tartar should be removed from the teeth at the commencement of treatment, although this may not always be possible. The teeth should be cleaned after every meal, using a tooth-brush, and a tooth-powder containing preferably potassium chlorate. As a mouth-wash, a weak solution of hydrogen peroxide should be used.

As a large percentage of the syphilitic patients who present themselves have bad teeth, and as time cannot be spared to send them for treatment by the dentist, and in view of the fact that the theory of Professor Gaucher appeared to me to be quite feasible, I resolved to try an experiment on this theory. As no natural sulphurous waters were available I put all the patients in this dermatological section who were being treated for syphilis by intramuscular injections of mercury on one teaspoonful of sublimed sulphur nightly (by the mouth). From the very beginning the results were astounding. Not only was mercurialism prevented, but patients actually suffering from the condition, who had frequently to be excused their weekly injections on this account, improved rapidly, and in the course of a short time were on full and regular treatment again.

After using the sulphur in this method I have obtained such confidence in its action that I would now waste no time in sending a patient to the dentist for preliminary treatment for a mouth condition, however bad it might be. I have even stopped prescribing gargles except in the worst cases, and then only as a preliminary measure. Patients are simply advised to "wash their teeth after meals."

This treatment has now been in progress for the past nine months, and in no case has mercurial treatment had to be suspended on account of mercurialism.

Barian Camp, India. G. IRVING, Captain R.A.M.C.

"ACUTE SUFFOCATIVE CATARRH."

I HAVE been much interested in the cases of acute suffocative catarrh lately published in the BRITISH MEDICAL JOURNAL.

I have seen two cases presenting similar conditions, but in both the patients were suffering from diabetes; one was not aware of his condition, the other knew he had at one time suffered from diabetes, but thought he had completely recovered:

CASE I.—I was called out late at night some years ago to see a young man who was a complete stranger to me. I knew nothing of his previous history; I learned he had suffered from some stomach complaint, and had, in fact, been up that same day to see a specialist in London. I found him suffering from extreme dyspnoea, and râles were heard all over the chest. I was presented with a vessel full of a pinkish-looking fluid, with a white scum; he had been expectorating this in large quantities. I was quite at a loss to account for the condition, but happened to think of lipaemia in diabetes, as described in Taylor's *Practice of Medicine*. The urine was found to be loaded with sugar. He died within twelve hours.

CASE II.—Some two years later I was called to a patient, also a young man, who was suddenly seized with difficulty in breathing. I found him sitting with a pail between his knees, into which he was expectorating a fluid similar in appearance to that in Case I. From my previous experience I at once told his wife that he was suffering from diabetes; to this she replied, "He has not got diabetes now; he had it at one time, but we thought he was cured." This patient also died within twelve hours. The urine was found to be loaded with sugar.

In Taylor's *Medicine* it is stated, "It has been found in a small number of cases that the capillaries of the lung are blocked by globules and masses of fat, and Drs. Saunders and Hamilton, who first described this, attributed the whole train of nervous symptoms to this 'fat embolism' of the pulmonary capillaries."

Kempston, Bedford. GEO. BUTTERS, M.B.

A BASKET-MAKING shop will be erected and equipped at the Enham Village Centre from a fund of £500 raised in the town of Southampton.

Reports of Societies.

OXYGEN THERAPY.

A DISCUSSION on the therapeutic uses of oxygen was held on January 20th, 1920, in the Section of Therapeutics and Pharmacology of the Royal Society of Medicine.

The discussion was opened by Mr. J. BARCROFT, C.B.E., F.R.S., who said that the subject of oxygen therapy was no new one, and it had now reached a stage at which there was considerable diversity of opinion. In such circumstances the best method of treating a subject was to produce facts, and the work of himself and his colleagues had been on those lines. His work on oxygen therapy had been limited to the treatment of a particular class of case—namely, soldiers and munition workers who had been gassed—and the endeavour of Miss Dufton, Major Hunt, and himself had been to get at the facts, formulate them in such a way that they should be simple, intelligible and capable of repetition, and take care that in their interpretation neither their opinions nor those of the patients should play a part.

Chronic Gassed Cases.

The cases treated were all chronic cases, and the treatment adopted was partly worked out from experiments on animals and partly from reports from France. The method adopted at Cambridge was simple.

A glass room of about 1,000 cubic feet capacity formed a living ward and contained three beds. The ward was gas-tight and fitted with air locks. The composition of the atmosphere within was kept at 40 to 50 per cent. of oxygen and 50 to 60 per cent. of nitrogen. The CO_2 and aqueous vapour were removed by passing the air from the ward through an external circuit containing scrubbers of soda-lime and calcium chloride and potassium permanganate.

The chief object in adopting this method was to attain simplicity and ensure that the only altered condition of the patient's life was the change in the composition of the atmosphere he breathed. No attempt was made to study the question of the best method of administration. Their object was solely to make observations on the results of oxygen treatment. For many purposes for which oxygen was wanted a chamber was clearly out of the question. The routine was to put the patient in the chamber from about 5 p.m. till 10 a.m. for five consecutive days. Between 10 a.m. and 5 p.m. the patients left the chamber for varying periods for exercise, etc. A chronic case of chlorine, phosgene, or chloropicrin poisoning usually complained of one or both of the following symptoms: nocturnal attacks of dyspnoea and physical distress on exertion out of all proportion to the effort put forth. The latter afforded the better means of obtaining an objective indication of the patient's condition. The response to exertion of either the circulatory or the respiratory system might be taken as the guide. Each had its advantages and drawbacks. The pulse was easy to count, its variations in rate were susceptible of simple and accurate statement, but its significance in relation to the strain put upon the heart or the volume of blood propelled round the body was obscure, whilst the mechanism of its regulation was also obscure at the time of their experiments. The respiratory system was in some respects more hopeful: not only the frequency of the respiratory rhythm could be measured, but the total ventilation, the composition of the air expired and of that retained in the lung, and the depth of respiration could be recorded. On the other hand, the respiration was more under the influence of the will than was the pulse.

Results of Treatment.

In the first fourteen cases studied they took the response of the pulse to effort as the criterion; in the last twelve the respiratory response. The procedure with regard to the pulse was as follows:

After a general examination the patient was made to rest for fifteen minutes. His pulse was then counted. He was given an exercise to perform, the severity of which was judged appropriate to his condition. His pulse rate was counted again after the exercise, and the time observed which elapsed between the end of the exercise and the return of the pulse rate to within six beats per minute of its resting value.

In nearly every case the pulse of the gassed man took an unduly long time to return to its normal. These same observations were made immediately after treatment. Every one of the patients received more or less benefit as judged by this test, but the degree of improvement naturally varied.

A typical case was that of S., gassed April, 1915, presumably with chlorine; treated October, 1917. Pulse before treatment took nine to ten minutes to fall to within six beats per minute of resting rate after test exercise. After treatment it returned in the fourth quarter-minute.

With regard to the question as to how long the improvement lasted they were able to give some data. Of five patients examined two and a half months after treatment three were normal as regards the response of their pulse rate to exertion and two were nearly normal. A sign which was frequent but by no means invariably present in cases gassed with chlorine or phosgene was a high red blood corpuscle count. It was largely the occurrence of this sign which suggested the oxygen treatment to them. Occurring as it did in persons exposed to an atmosphere deficient in oxygen, they argued that this sign in patients breathing a normal atmosphere showed that they were nevertheless suffering from want of oxygen and that an increase in the oxygen inspired might reduce the red count to a normal value. Observation fully bore out this expectation, the red counts falling after the oxygen treatment and being two and a half months later still lower than before treatment. The third sign, to which they paid a good deal of attention, was nocturnal dyspnoea. Of six cases in which such attacks were a marked feature one only showed no improvement. In four cases the attacks were completely and permanently abolished. No man had an attack during treatment.

Interpretation of Results.

With regard to the possibility that the results could be attributed to some subjective cause three remarks might be made: (1) It was unlikely that the red count would drop from 7.5 to 5 million as a result of suggestion. Moreover, in gassed rabbits the same phenomenon was observed. (2) As regards the pulse, twelve cases of D.A.H. not attributable to gassing were given oxygen. These taken as a whole showed no clear benefit. (3) As regards nocturnal dyspnoea. In one case oxygen was blown into the chamber in such a way as to make the patient believe that he was getting the treatment, while in reality he was not doing so, as the oxygen was expelled unknown to him as rapidly as it entered. He complained that the treatment did him no good and his nights were not improved. On the fourth night the oxygen treatment really began and he at once improved.

Dyspnoea Ratio.

Dr. G. H. HUNT said that, with regard to the respiratory symptoms in chronic gassed cases, their object at Cambridge was to find some exact method of measuring improvement. They were faced with the difficulty that there was no numerical measure of dyspnoea which satisfied their requirements. Any standard must fulfil three conditions:

First, it must be fairly constant in any one individual, provided his physical condition did not alter appreciably; secondly, it must give approximately the same result for a number of men in the same condition of physical fitness; thirdly, it must distinguish between healthy men and those suffering from any pathological cause of dyspnoea.

Their method was as follows: The subject breathed through a meter while at rest. His total ventilation and respiratory rate were noted. He then did a definite amount of work on a bicycle ergometer, and the observations were repeated during work and for several successive minutes after. A few experiments showed that total ventilation and respiratory rate in all these periods varied considerably in the same man, and were widely different in different healthy men. The above mentioned requirements were therefore not satisfied by these observations. It was well known that in healthy men the respiration after exercise returned to the state occurring during rest much more quickly than in breathless men. They found it impracticable to estimate the time taken after exercise for the respiration to return to the pre-exercise condition. Instead they compared the total ventilation during the second to fifth minutes after exercise with that during four minutes at rest. Dividing the former by the latter they obtained a figure which they called the "dyspnoea ratio." This ratio fulfilled their requirements satisfactorily. It was reasonably constant for the same individual doing the same work in a given time, it was approximately the same for ten healthy men who were in good training and for six who were in bad training, and it clearly distinguished between healthy men and those suffering from any disease known to cause dyspnoea. A chart was shown giving the dyspnoea ratios for a number of different subjects over a series of exercises of increasing severity. With light work the ratio of trained and untrained healthy men was approximately the same. With harder work the untrained man had the higher ratio. In gassed men the ratio was higher than in healthy men even with light work. These observations also afforded a measure of a man's efficiency as judged by his respiration. Healthy trained men doing 10,000 foot-pounds per minute for 1½ minutes had a dyspnoea ratio of 1.64. The dyspnoea ratio of gassed patients was found to rise to 1.64 when doing from 3,000 to 5,000 foot-pounds per minute for 1½ minutes. Therefore their efficiency was only 30 to 50 per cent. On applying this test to seven gassed patients both before and after oxygen treatment it was found that one did not improve at all, in one the efficiency rose 11 per cent. and in five between 17 and 21 per cent. In three of these cases the efficiency rose to over 70 per cent. as compared with the value 77.5 per cent. found for untrained healthy men. In the other two cases the efficiency was but slightly less.

Anoxaemia.

Dr. J. S. HALDANE, F.R.S., wished to emphasize two points: (1) That very slight anoxaemia had a very serious effect if persisting for a long time. For example, seriously unpleasant symptoms of mountain sickness often followed exposure for some hours to slight lowering of the oxygen pressure of the atmosphere. The same effect followed slight CO poisoning, and the serious symptoms were apt to be delayed and come on after the cause provoking them was no longer operative. (2) That anoxaemia was very common in acute illnesses. In such cases it was desirable to prevent the anoxaemia and to do so at an early stage. If not ameliorated the condition was likely to become serious. The failure to recover in fresh air after CO poisoning referred to above was due to want of oxygen, and not to the effect of some obscure toxin. A reliable method of detecting slight degrees of anoxaemia was to administer oxygen and note any resulting change of colour. If anoxaemia were present the lips would become redder. The occurrence of anoxaemia in acute illnesses was well shown by recent work in America. Stadie had analysed the gases of arterial blood in cases of pneumonia, etc. Nearly all showed a deficiency in the degree of saturation of the blood with oxygen, which might amount to as much as 50 per cent. in some cases. Such cases with only half the normal amount of oxygen in the arterial blood all died. Similar results were obtained in heart disease and bronchitis. Anoxaemia (deficiency of oxygen in the arterial blood) might be due to two causes:

1. Thickening of the alveolar epithelium of the lungs. This was studied years ago by Lorrain Smith in lungs injured by exposure to excessive pressures of oxygen, and was best seen in cases of phosgene poisoning.
2. Unequal ventilation of different parts of the lungs.

He had noticed that, in patients suffering from the chronic effects of gas poisoning, the type of respiration was commonly very shallow. Working with Colonel Meakins and Captain Priestley at Taplow he found that artificially induced shallow breathing in healthy people caused anoxaemia, even though the rate of respiration was increased sufficiently to maintain the CO_2 output at its normal level, and though the total ventilation per minute was increased. The shallow ineffective breathing of the chronic gassed cases similarly caused anoxaemia. They suffered from dyspnoea, not merely from hyperpnoea. The same effect on the breathing and consequent anoxaemia was produced by fatigue and by exposure to lack of oxygen. A striking symptom of anoxaemia was nocturnal attacks of dyspnoea, which were relieved in a remarkable manner by the administration of oxygen.

War Experiences.

Colonel S. L. CUMMINS, C.B., said that it was unfortunate that knowledge tended to be shut up in the heads of ultra specialists. There was no one in the Regular Army when the gas attacks began who had an expert knowledge of the methods of oxygen administration and the indications for its use. By the end of the war, however, the effects of oxygen were much clearer and more widely known, but were not yet completely explained. The impressions he had gathered by the end of the war were: (1) That it was certain that oxygen did much good in acute gas cases, pneumonia and shock; and (2) that many medical men were reluctant to use oxygen as freely as it should be used. As regards the method of administration, it was easy to put a patient in an oxygen chamber, but in some cases, especially where anoxaemia was intense, it was difficult to give oxygen by means of a mask. For instance, Dr. Haldane's apparatus was excellent, but was difficult to apply in some cases. It was clear that further research was required as to methods of administration, and perhaps it might be found that a small modified oxygen chamber enclosing the patient's head might be of value.

Lieut.-Colonel C. G. DOUGLAS, C.M.G., said that in France he saw acute cases of gas poisoning. The good effects of oxygen were seen after the first gas attack, even before the time when it was possible to be sure how much good the oxygen did. Four methods of administration were used in France: (1) A simple tube and funnel; (2) the ordinary nitrous oxide apparatus; (3) the nasal tube; (4) Dr. Haldane's apparatus. With patients suffering from anoxaemia much good was done by giving oxygen, provided that the patient got the oxygen. Unfortunately, by many methods in use the oxygen was expended on the surrounding air, and not on the patient. Colonel Douglas went on to describe the remarkable effect of oxygen in two representative cases, and laid stress on the great improvement in all symptoms brought about by oxygen, more especially in the pulse—for example, a weak, irregular pulse of 140 changed to a stronger, regular pulse of 120 immediately oxygen was breathed, but relapsed when the oxygen was stopped. He also laid stress on the necessity for continuity of administration as long as symptoms of anoxaemia persist, and the need for increasing the amount given until the beneficial effect was observed. It was often noticed that the vital necessity for continuity of administration was not realized, and it was not unknown for bad cases to be given oxygen for five minutes only in each hour. Such a proceeding was useless. Apparently there was a tendency for medical officers to be alarmed at the apparatus. In badly gassed cases it was clear that the earlier the oxygen treatment was begun the quicker the recovery of the patient. Some cases which were apparently moribund were so far improved by two hours' oxygen treatment as to be in a state to be further benefited by venesection.

Dr. RYLE said his observations were clinical and dated from the gas attack of August, 1916. He found the funnel method ineffective and improvised masks were not tolerated. The nasal catheter method devised by Captain Adrian Stokes was a great improvement. It had the advantage that the patient could adopt any position, was easily fed, and could and did readjust the catheter himself if necessary. A difficulty with the Haldane mask was caused by the oedema fluid in phosgene cases. As regards oxygen treatment after gassing the cases might be divided into three groups: (1) Mild—sufficiently treated by fresh air; (2) medium—sufficiently treated by pure oxygen for five minutes in every fifteen; and (3) severe—requiring oxygen continuously. Other conditions in which oxygen was found to do good were the lung oedema of trench nephritis, acute purulent bronchitis, and severe haemorrhage.

Dr. R. H. PETERS corroborated the remarks of Colonel Cummins and Colonel Douglas with regard to the good effects of oxygen in gassed cases. He described one severe case of bronchopneumonia which he had treated with oxygen. The patient was getting progressively worse, the breathing became feeble and the pulse bad. Cheyne-Stokes respiration set in. Two litres of oxygen per minute added to the air breathed for ten minutes in each hour initiated an improvement which was continuous.

Oxygen Wards at Stoke.

Dr. SHUFFLEBOTHAM said he must omit much of what he had meant to say, for want of time. He described the oxygen wards at Stoke-on-Trent, installed with the help of the Medical Research Committee. They had treated one hundred patients in fourteen months. The cases were mostly gas poisoning, but included some cases of pneumonia and two of pernicious anaemia. Many of the cases improved and could resume their work after the treatment, though previously quite incapacitated. The cost of the oxygen was a difficulty. At Stoke it was £1 3s. 6d. per day per patient despite the utmost economy. Dr. Harker had suggested the use of the residual gas after removal of nitrogen from the air for technical purposes. Possibly liquid air might be an economical source of supply. The question of oxygen therapy opened up a great field of usefulness and research. Dr. Shufflebotham showed an interesting model of the oxygen wards at Stoke, and drew attention to the necessity for great care in the use of oxygen chambers, owing to the danger of fire.

Dr. SOWRY described the work done with the oxygen chambers at Stoke. He thought the chamber the most efficient way of giving oxygen; there were no complaints from patients so treated. Seventy-seven cases of gassing in soldiers and munition workers were treated. The patients were the victims of various kinds of gas and came under treatment at varying periods after gassing. The routine treatment was a stay of five to six days for twenty hours each day in the chamber; oxygen at first 25 to 40 per cent., later 50 to 60 per cent. Full notes of the cases were taken, *x*-ray examination of the chest made, and the patients were submitted to exercise tests before and after treatment. These tests were: (1) A short and acute effort, (2) the stair test, and (3) eighteen minutes' vigorous walking on the level. The patients showed the usual symptoms of the effort syndrome, cough and nocturnal dyspnoea. There was cyanosis in 15 to 20 per cent. of the cases, but it was never severe. Emphysema was noted in 40 per cent. Râles, etc., were common, and fibrosis was shown by the *x* rays. Two cases of active tuberculosis were proved bacteriologically. The patients reported for re-examination two, four, and six weeks after treatment. The majority remained much better than before. Of 70 cases 23 were very much improved, 30 were much improved, 10 were improved and 6 were not improved. There was marked improvement in asthmatic symptoms and in the response of the heart to exercise. In 29 cases blood counts were made. Polycythaemia occurred in some cases, but was not the rule. Indeed, low counts were not uncommon. Whether the count was low or high, it tended to return to normal after oxygen treatment. No other treatment was allowed. Two cases of pernicious anaemia were improved subjectively, but later, after the oxygen treatment was stopped, continued to get progressively worse. In five acute respiratory cases very good results were obtained.

Dr. P. HAMILL described the effects of oxygen on cases of opium poisoning investigated by Dr. Clarke and himself. They had Cheyne-Stokes respiration, and the blood pressure rose to nearly normal after the period of respiration, and fell during the apnoeic periods. Oxygen made the respiration more regular, and kept up the level of the blood pressure. Dr. Hamill suggested that sodium peroxide might be a useful source of oxygen on the score of cheapness; the drawback was the heat engendered.

After the meeting Dr. HALDANE demonstrated the apparatus devised by him for the administration of oxygen.

HYDATIDIFORM MOLE.

AT a meeting of the Edinburgh Obstetrical Society on January 14th Dr. F. J. BROWNE gave a lantern demonstration on the histology of hydatidiform mole in its relation to prognosis. He claimed that Langhans's cells were found in hydatidiform mole in two stages: (1) The small inactive cell lying between the syncytium and the core of the villus; (2) the large cell in active mitosis, which before invading the decidua lay in closely packed masses forming a mosaic pavement. These large cells indicated malignancy. They must not be confounded with the "vacuolation cell" formed from syncytium by the appearance of vacuoles around the syncytial nuclei. These new cells lost their vacuolation, their protoplasm became more

condensed, and they ultimately formed the syncytial wander cell. When present in relatively large numbers the vacuolation cells indicated a benign mole. Before invasion of decidua these cells were easy to distinguish from each other, but afterwards, owing to the tendency of both to become syncytial-like, and also to the presence of decidual reaction cells, their differentiation became more difficult. The amount of syncytium present had no prognostic significance. For the histological prognosis uterine curettings alone were necessary. The paper was favourably commented on by Drs. BERRY HART, BALLANTYNE, LAMOND LACKIE, JOHNSTONE, and YOUNG. It was pointed out by the speakers that if Dr. Browne's observations were confirmed, valuable information would be at hand in regard to the question as to which cases of hydatidiform mole should be considered malignant and which simple.

INFANT WELFARE CENTRES.

A MEETING of the London Association of the Medical Women's Federation was held on January 20th, at 11, Chandos Street, W., the President, Mrs. FLEMMING, M.D., in the chair. A discussion on infant welfare centres was opened by Dr. FLORA SHEPHERD, who described the organization of such work. She said that in order to be successful each centre should be under the administrative control of the medical officer of health, and that the medical officer of the centre should send him monthly reports of the work done. Each centre should be responsible for all the work required so as to avoid overlapping by health visitors sent by different authorities. No centre should be more than twenty to thirty minutes' walk from the homes, and not more than thirty children could be satisfactorily attended to in one session of two and a half hours. In a well organized district there should be an attendance of 60 to 70 per cent. of all the births notified. Antenatal consultations should be entirely separate from infant welfare consultations. Mrs. ROBERTSON, M.B., B.S., in a paper on natural feeding of infants, referred to some of the causes of inability to feed infants, and described how they could be helped by treatment at welfare centres. Among the points mentioned were nasal obstruction in the babies, depressed nipples in the mothers, and bad health due to dental disease. She added that some babies got on well when fed only four times in twenty-four hours, and that it was generally better not to wake them for feeding. Dr. C. A. KING, in a paper on the artificial feeding of babies, said that no rules could be given, as cases had to be judged on their own merits, and methods appeared to vary within fairly wide limits. She advised fresh cow's milk, boiled; in estimating quantities, weight and size are of much more importance than the baby's age. Dried milk should be used as a routine when hygienic or atmospheric conditions were unfavourable. Dr. King found that dried milks were better tolerated than ordinary cow's milk by infants with feeble digestive powers, especially when prepared by the Bévenot-de-Neven as compared with the Hatmaker process. She preferred plain desiccated milk, which could always be modified as required, to those modified in preparation. The antiscorbutic and antirachitic properties of milk were not decreased to any great extent by desiccation, but fresh fruit or vegetable juices should invariably be given with a dried milk diet.

THE University Medical Advisory Committee at Johannesburg has recently presented a report on the organization of the medical school to the senate of the University College; its recommendations are published in full in the *South African Medical Record*. It is advised that the chairs of anatomy, physiology, and pharmacology should be whole-time appointments and that the professors should receive a salary of £1,000 a year each, but that the chairs of medicine, surgery, obstetrics and gynaecology, pathology and bacteriology should be part-time appointments. The suggestion to make the professors of clinical subjects whole-time officers also was considered, but rejected, as it was felt that the teachers of the practical branches must be men in daily contact with the practice of the profession, as the chief aim of the medical school is to train general practitioners and not specialists. The course contemplated extends over six years. The first year would be given to the preliminary sciences, the second and third to anatomy and physiology, and organic chemistry, but in the third year the second term would be given to elementary medicine, surgery, pharmacology, pathology and bacteriology. The fourth and fifth years would be clinical; the sixth year would be given to special subjects. There would be five professional examinations, at the end of the first, second, third, fourth, and sixth years.

Reviews.

THE SCOTTISH WOMEN'S HOSPITALS.

AMONG the books on the medical aspects of the great war one of the most attractive is undoubtedly *The History of the Scottish Women's Hospitals*,[1] edited by Mrs. SHAW MCLAREN, and told almost entirely by the women who did the work. It is most appropriately dedicated to the memory of the late Dr. Elsie Maud Inglis, who originated and organized this great undertaking by Scots medical women. Interest, therefore, naturally centres in the personality of this devoted woman, who, after qualifying in 1892, practised in Edinburgh, where she took an active part in the medical education of women and was for some time honorary secretary to the Scottish Federation of Women's Suffrage Societies. In the appreciative chapter on "Our Chief," Miss Mair writes: "In outward appearance the leader of the Scottish Women's Hospitals was no Amazon, but just a woman of gentle breeding, courteous, sweet-voiced, somewhat short of stature, alert and with the eyes of a seer, blue-grey and clear." After the outbreak of war, as in the case sixty years before of Florence Nightingale, with whom she is compared, all her energies were devoted to one object. After the offer of a unit had been declined by the War Office, she organized three units entirely staffed by women, which went, in December, 1914, to Calais, Royaumont, and to Serbia. Early in 1915 typhus became rampant in Serbia, and in May Dr. Inglis went out; in November she went through the great retreat before the German-Austrian invasion, and what this entailed is graphically expressed by a Serbian writer: "If the skies were all paper and the sea were all ink we could not even then write the sorrows of our country." The story of the retreat is fully told. After being a prisoner in Austria Dr. Inglis returned home, and at the end of August, 1916, took a unit with a personnel of 75 *via* Archangel to Odessa for service with the Serbian division of the Russian army; she went through the vicissitudes of the retreat from the Dobrudja; in November the unit was on its way home, but the leader was so ill that she passed to the land of shadows soon after landing at Newcastle on November 26th, 1917.

The story of the Scottish Women's Hospitals naturally falls into six parts, some of which have been mentioned above; they are the early days up to the establishment of the Calais unit, the history of the hospital at Royaumont (1914–18), Serbia (1915–16), with the Serb division in Russia and Rumania, continued work for the Serbians in Corsica and elsewhere, and the Girton and Newnham unit's work. The Calais unit, under Dr. Alice Hutchison, who had previously worked in Bulgaria during the first Balkan war, and later, in 1915, was active in Malta and Serbia, was busily occupied for three months with enteric among the Belgians. From December, 1914, to December, 1918, Miss Ivens, M.S., was in charge of the unit at Royaumont, and, with Miss Cicely Hamilton as administrator, rapidly transformed an abbey 700 years old and without light or water into a most efficient modern hospital. The Girton and Newnham unit, under Miss Louise McIlroy and Miss Sandeman, was for six months at Troyes in France and for three years at Salonica, and after the armistice was moved to Belgrade as the nucleus of the Elsie Inglis Memorial Hospital.

This volume gives a well written and well illustrated record which moves the reader to sincere admiration for all concerned.

X-RAY LOCALIZATION OF FOREIGN BODIES.

CAPTAIN HAROLD C. GAGE, of the American Red Cross Service, has published the results of his work in a book with the title *X-Ray Observations for Foreign Bodies and their Localization*.[2] It is a compact and well written essay, illustrated by numerous diagrams, radiographs, and photographs. These observations are based entirely upon

[1] *A History of the Scottish Women's Hospitals*. Edited by Eva Shaw McLaren. London, New York, and Toronto: Hodder and Stoughton. 1919. (Demy 8vo, pp. 408; 57 illustrations. 7s. 6d. net.)

[2] *X-Ray Observations for Foreign Bodies and their Localization*. By Captain Harold C. Gage. London: William Heinemann (Medical Books), Ltd. 1919. (Demy 8vo, pp. 87; 55 figures. 6s. net.)

the personal experience of the author and are the result of four years of war work. Having convinced himself that the usual report from the radiographic department—that a foreign body was situated so many centimetres under a certain mark made on the skin—was insufficient for the operating surgeon, he evolved the method of the three intersecting lines joining up three sets of two marks. Colonel Blake, of the U.S.A. Medical C rps, reports that as a result of this method, out of 506 localizations, 302 foreign bodies were successfully removed; in two of the other four cases the operation was abandoned for surgical reasons unconnected with localization.

This monograph is a valuable contribution to the many books and articles on the same subject which have resulted from war experiences. In addition to the standard method described, we come across, all through, various little hints which are helpful in difficult cases. The chapter on the method of localizing foreign bodies in the eye—a description of the work done by Drs. Belot and Fraudet—is of distinct value.

Now that the war is over the demand for this class of work must necessarily diminish, but for many years to come cases will be coming for examination—cases in which foreign bodies have been left undisturbed, but at a later date begin to give trouble. Books of this kind should be distinctly helpful to workers in *x*-ray departments.

THE PSYCHOLOGY OF EVERY DAY.

THIS volume on *Psychology and the Day's Work*,[3] by Mr. EDGAR JAMES SWIFT, Professor of Psychology and Education at Washington University, consists of a series of studies in which psychological principles are utilized to interpret the common matters of everyday life. The essays cover a wide range of subjects, the general trend of which is towards the elucidation of those factors in mental life which increase or diminish efficiency in the business and social world. With this end in view the question of adaptation, the process of thinking and acting, and the development of habits are fully discussed in the opening chapters. A consideration of the psychology of "learning" contains personal researches of the author, and incidentally includes interesting curves representing the scores of an enthusiastic golfer which should afford some ground for hope to the despairing beginner. They indicate steady, though undramatic, progress, with some bad days which will excite the sympathy of the reader. Under the heading of fatigue the author, in an account of much experimental work, furnishes a useful summary of the voluminous literature of the subject. A similar comment applies to the chapters on memory and the psychology of digestion, the latter containing an account of Pavlov's researches. A practical and ingenious investigation into the value of evidence is detailed in the chapter on "testimony and rumor."

A number of useful facts are gathered together in this volume, but there is perhaps a certain diffuseness of treatment which may make it difficult for the reader to acquire from it any fundamental view of mental life. Though the author draws freely upon incidents in daily life to make his points clear, yet there is a certain academic atmosphere about his book which fails to emphasize in certain directions the struggling, dynamic aspect of mental life; insufficient stress is, perhaps, laid on the conflict between instinctive trends and the demands of modern life to give a tone of vitality to the psychology here presented. The chapter on "our varying selves" might possibly have been developed less superficially along these lines. The volume, however, contains much of value and will be found useful, especially to those engaged in educational pursuits.

NOTES ON BOOKS.

THE *Cambridge Note Book for Practical Zoology*[4] is a most admirable member of its class. It is simple and to the point. The short introduction gives an excellent and concise statement of the importance of personal dissection and of making graphic records of the work done. A short account is also given of the more general methods of fixation, staining, and mounting of specimens. The book covers a good representative field, and if it be used as intended it should prove invaluable to the student.

The subject of open-air schools and sunshine schools for tuberculous and debilitated children is discussed in a French pamphlet[5] published by the Comité National d'Education Physique et d'Hygiène Sociale of Paris, with details of some of the work being done in this direction in France. Sunshine schools open at the end of April and close in mid-October, and rules for the amount of exposure to the sun's rays have been formulated. Details of the equipment and conduct of such schools are given, and the pamphlet is copiously illustrated with photographs showing how they are carried on in practice. The little book is an encouraging comment on the open-air system started by the London County Council in 1907, and will interest educationalists as well as medical men.

Professor S. B. SCHRYVER'S *Introduction to the Study of Biological Chemistry*[6] is a brief and clearly written account of the elementary principles of organic chemistry, as seen from the point of view of a biologist. But for the fact that it interests itself mainly in the organic substances formed by the living body, and eschews mathematics as far as is possible, both admirable features so far as students of medicine and biology are concerned, the book resembles other introductory accounts of the subject. In addition, it contains excellent brief summaries of the present views on important subjects, distinguished by being printed in italics.

Two short but well written books for the industrial chemist are *Catalysis in Industrial Chemistry*,[7] by Professor HENDERSON, and *The Applications of Electrolysis in Industrial Chemistry*.[8] Both these highly scientific and technical works deal with subjects of great and increasing interest in the manufacturing world, concerned as they are with the practical applications of science to technology. Both are well furnished with references to the literature of the subjects of which they treat.

A third edition of the handbook of physiology[9] by ZUNTZ and LOEWY, of Vienna, has been published. The first edition appeared in 1909. It is a big book, without any outstanding merits or demerits, and may occasionally be of use to British teachers for purposes of reference. British students have many works better balanced and written on a sounder philosophical basis.

[3] *Psychology and the Day's Work: A Study in the Application of Psychology to Daily Life.* By Edgar James Swift. Professor of Psychology and Education in Washington University, Saint Louis. London: George Allen and Unwin, Ltd. (Post 8vo, pp. viii+388. 10s. 6d. net.)

[4] *The Cambridge Note Book for Practical Biology (Zoology).* Edited by J. Stanley Gardiner, M.A., F.R.S., and L. A. Borradaile, M.A. Sixth edition. London: H. Frowde, and Hodder and Stoughton. 1919. (Cr. 4to, pp. viii + 76. 5s. net.)

[5] *L'Ecole de Plein air et L'Ecole au Soleil.* By MM. P. Armand-Delille, Médecin des Hôpitaux de Paris, et Ph. Wapler, Médecin du Dispensaire Antituberculeux de Versailles. Paris: A. Maloine et Fils. 1919. (Med. 8vo, pp. 30; illustrated. Fr. 4.)

[6] *An Introduction to the Study of Biological Chemistry.* By S. B. Schryver, D.Sc.Lond. London: T. C. and E. C. Jack, Limited. 1918. (Cr. 8vo, pp. 340. 6s. net.)

[7] *Catalysis in Industrial Chemistry.* By G. G. Henderson, M.A., D.Sc., LL.D., F.R.S. Monographs on Industrial Chemistry. Edited by Sir Edward Thorpe, C.B., LL.D., F.R.S. London: Longmans, Green and Co. 1919. (Demy 8vo, pp. ix+202. 9s. net.)

[8] *The Applications of Electrolysis in Chemical Industry.* By Arthur J. Hale, B.Sc., F.I.C. Monographs on Industrial Chemistry. Edited by Sir Edward Thorpe, C.B., LL.D., F.R.S. London: Longmans, Green and Co. (Demy 8vo, pp. 148; 58 figures. 7s. 6d. net.)

[9] *Lehrbuch der Physiologie des Menschen.* 1920. Leipzig: F. C. W. Vogel. (Sup. roy. 8vo, pp. xiv + 789; 302 figures. M. 38.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Case Committee sixteen cases were considered and £224 10s. voted to twelve of the applicants. The following is a summary of some of the cases relieved:

Daughter, aged 61, of M.R.C.S.Eng. who died in 1861. Until recently has been a school matron, and received from £30 to £40 a year. Now unable to obtain a post, owing chiefly to age, and to the demobilization of so many women. Voted £10.

Daughter, aged 46, of M.R.C.S.Eng. who died in 1908. Has no income, and is entirely dependent on her mother, who is an annuitant of the fund. Rent, 15s. for one room. Voted £12 in twelve instalments.

Daughter, aged 67, of L.R.C.S.Edin., who died in 1893. Applicant lets rooms, from which she receives about £40. Has occasional help from another charity. Suffers from ill health. Cannot manage owing to the high cost of living. Relieved three times, £31. Voted £18 in twelve instalments.

Daughter, aged 67, of M.D.Edin. who died in 1873. Applicant lives with two sisters, and they take in paying guests. Receives £48 from dividends and £30 from sister-in-law, and £15 by teaching. Requires help towards paying coal bill. Relieved four times, £45. Voted £15.

Widow, aged 39, of M.R.C.S.Eng. who died in 1914. Has no income, and is living with mother, whose income is limited. The Guild is helping to educate her one daughter, aged 11. Suffers from ill health. Relieved five times, £60. Voted £12 in twelve instalments.

L.R.C.P. and S.Edin., aged 62, widower. Receives £20 from another charity, and £50 from his only son. Rent and rates £28 10s. Suffers from ill health. Relieved fifteen times, £180. Voted £12 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts and suits for working boys. The Guild appeals for second-hand clothes and household articles for the benefit of the widows and children who, in happier times, would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

THE STATE AND VENEREAL DISEASE.

POLICY OF THE MEDICAL WOMEN'S FEDERATION.

WE have received this week a print of some suggestions as to the duty of the State in the control of venereal disease, drawn up by a committee of the Medical Women's Federation, and approved by the members of that body at an extraordinary general meeting held on December 13th, 1919. The committee begin by stating their belief that the problem is highly complex, and that its consideration involves far-reaching social and moral questions which cannot be separated from it.

To grapple successfully with these diseases will involve a radical reform of the social conditions and moral habits of the society in which the disease flourishes.

This, then, in the committee's view, is the chief and most important part of the task with which society is faced; but, while the campaigns against other infectious diseases and against the conditions under which they flourish can be simultaneously pursued, in the case of venereal disease there is the risk that activities along one line may, unless wisely planned, bring to nothing the other half of the campaign. Hence the need for great caution and a study of the problem from all its aspects and in all its implications before deciding upon action.

The principal cause of the dissemination of venereal infection in a modern community is promiscuous sexual intercourse. Any action which neglects this fact, or which may even tend to increase promiscuous intercourse, is bound, we believe, to fail to decrease the spread of the disease, and may even lead to its increase. Much the most important factor in the cure of the disease is early treatment, and any method of dealing with the disease which is likely to lead those infected to conceal their condition and to delay treatment will be a most dangerous expedient, and may easily lead to a serious increase of the disease. These two facts must be borne in mind in considering the desirability of any method of grappling with the disease, and we believe that no method has any chance of success which neglects either or both of these factors.

The memorandum next discusses the six principal means so far suggested for a direct campaign against venereal disease. Regulation, that is to say examination and registration of prostitutes, is wholly rejected. Notification, the committee think, is impossible without a legally accepted criterion of infectivity; and even were accurate notification possible they hold it undesirable because it would do nothing in itself to diminish infection if it were merely numerical and no names were given. On the other hand, notification by name, as a step towards compulsory treatment, would lead to concealment of early cases and delay in treatment during the curable stage. The difficulties in the way of penalizing those who infect others are held to be insurmountable, this view being based on the working of Regulation 40 D under the Defence of the Realm Act; nor would extension of the offence to both sexes in any way diminish the difficulties. Moreover, there is the practical difficulty of obtaining trustworthy evidence upon which a verdict can be based as to whether the plaintiff had been infected by the defendant or vice versa, or in some other way.

With regard to prophylaxis and the so-called "packet system," the committee associate themselves with the findings of the Interdepartmental Committee on Venereal Diseases in connexion with Demobilization.[1] They hold that the immunity obtained in this way among the civil population would certainly be incomplete. They agree that the issue of prophylactic packets "tends to give rise to a false sense of security, and thus to encourage the taking of risks which would not otherwise be incurred," and that "under any mechanical system which does not give absolute protection, the venereal incidence must be proportionate to the risks taken." They hold that the increase in the number of exposures which they consider would certainly follow the introduction of such a system might well increase absolutely the spread of the disease. While strongly impressed with the dangers of this system the committee do not advocate the retention of the disease in order that the fear of infection may deter from promiscuous indulgence. Their point is that such indulgence would not be safe, while the attitude of the State would encourage a false idea that it was safe and countenanced by the authorities, and so would lead to increased indulgence and quite possibly to increased disease. The provision of "early preventive treatment" at the public expense at day and night clinics is condemned for the same reasons. But they add:

The sale by chemists, to those who wish to purchase them, of calomel ointment or of permanganate of potash solution is a matter with which we have no concern as long as the public is aware that these things are not remedies for venereal disease and that chemists are under a legal obligation not to sell them for the purpose of treatment of these diseases.

Having thus rejected one by one these six lines of attack upon venereal disease the committee proceed to define their own constructive policy. First, there must be a recognition of the causes of casual intercourse in a modern community, and then an organized attempt to get rid of them. Among the causes of promiscuous sexual intercourse they include the public opinion which accepts a different standard of morals for men and women. They urge social reforms which would tend to lessen the difficulties in the way of continence under existing social conditions. Such are:

Facilities for early marriage.

Facilities for divorce, where otherwise people would be doomed to a celibate life for causes such as, for example, incurable insanity and chronic alcoholism; such facilities for divorce to be equal for men and women.

Adequate reform in housing conditions.

Provision by the public authorities of opportunities for both sexes to enjoy rational recreation together and share their social life and public work.

Provision for study and higher education for both sexes and a real share in the organization of the society in which they live.

Discouragement of the system of segregating either sex for long periods of time, thus removing them from the influences of home and normal social relationships.

Recognition of the important part played by alcohol as an ally of promiscuous intercourse and so of venereal infection.

The training of children in sex and allied subjects and the inculcation of self-control from infancy are considered to be an essential part of the campaign. Such teaching should, at any rate in the earlier stage, be given by the parents, but "it is the ultimate duty of the education and health authorities to see that adequate teaching is provided."

Among other measures the committee advocate raising the age of consent to 18 for both sexes; the systematic registration and inspection of lodgings for young persons (but this, they insist, must not be done by the police); stern punishment of brothel keepers; reform of police court procedure by requiring the presence of a respectable woman unconnected with the case during its hearing; and an adequate force of women police armed with full powers. They admit the urgency of the danger and the need for prompt and effective action, but think that the results of the radical measures of reform they suggest would be quickly apparent and cumulative. "Public opinion can be changed in a generation, nay, in a few years, and the instruction of children may bear fruit practically at once." Beyond this they urge free secret efficient treatment in every area for all patients suffering from venereal disease, and they deprecate any legislation that might in its effect deter patients from seeking advice at the earliest possible moment. The address of the Medical Women's Federation is 9, Clifford Street, New Bond Street, London, W.1.

[1] BRITISH MEDICAL JOURNAL, September 13th, 1919, p. 349.

THE FUTURE OF VOLUNTARY HOSPITALS.

SCHEME FOR RED CROSS ASSISTANCE.

A LARGELY attended conference of the British Hospitals' Association was held at St. Thomas's Hospital, London, on January 23rd, under the presidency of Mr. WADE DEACON, chairman of the Liverpool Royal Infirmary. The purpose of the conference was to consider a draft scheme for Red Cross assistance for the voluntary hospitals of the country. The proposal is to use on behalf of the voluntary hospitals the collecting organization which was evolved during the war by the Joint Committee of the British Red Cross Society and the Order of St. John at the time when it was responsible for 1,600 auxiliary war hospitals. The Joint Committee has practically finished its work, but it proposes to live on as a Joint Council and to act as a channel through which the generosity of the public may flow out to the relief of civilian suffering. It is suggested that in addition to collecting funds, the Red Cross (which term is understood to include the two bodies forming the Joint Council) shall help the hospitals by acting as a central dépôt and office for information in various ways, such as—

1. The preparation of statistical tables similar to those issued by King Edward's Hospital Fund so as to afford hospitals all over the country the means of comparing their own expenditure with those of other hospitals and thus detecting possible loss and waste.
2. The codification and tabulation of information and statistics at a central office in London, where there would be a reference library in which the latest details could be obtained regarding all matters connected with hospitals, such as planning, construction, heating, and lighting.
3. The Joint Council could utilize the storage accommodation it has in London by inviting gifts of hospital stores from which grants could be made to hospitals in need; non-perishable drugs, dressings, etc., could be stored in bulk. In the purchase of stores (especial requirements of surgery and of the dispensing department) the Council would be in a position to buy on most advantageous terms under expert advice, and facilities would be provided for the analysis of articles of hospital consumption and for the supply of details with regard to prices of hospital commodities.
4. The work parties that did valuable services during the war in providing hospital garments, etc., might, it was hoped, be induced to continue their work for hospitals and child welfare centres.
5. The War and Peace Hospitals Library would be continued for the supply of books and magazines.

The scheme was to be regarded only as an outline of the way in which a central voluntary organization might help voluntary hospitals. If it were accepted, details would be settled in consultation with the representatives of the hospitals. The money grants which could be made to hospitals must depend upon the measure of financial support received from the public by the Joint Council; but even if this were not large it was believed that much money might be saved in the manner indicated above. The scheme aimed at helping, in the first place at all events, the provincial hospitals, in view of the fact that the London hospitals have the benefit of the King Edward's Hospital Fund, the League of Mercy, and the Sunday and Saturday Hospital Funds.

Sir ARTHUR STANLEY (Chairman of the Local Committee and Treasurer of St. Thomas's Hospital) said that he wished to make it clear that the Red Cross was not in any way trying to infringe on the duties or rights which ought to be exercised by the State or the local authorities. Whatever the State did, however, there was always scope for the voluntary agency, and his own conception of the Red Cross was that it should stand to the Ministry of Health in time of peace in the same relationship as it stood to the War Office in time of war. It was not for the Red Cross to say what policy should be pursued by the State, but to bring to the help of the State everything that voluntary effort could supply. He believed it to be the determination of those to whom he spoke that the voluntary system should be continued. If only the machinery of collection was provided, and the public was satisfied that the money was being well spent, funds would certainly be forthcoming. Formerly the hospitals only made application to the well-to-do, but the ordinary patrons had been severely hit by the war, while on the other hand the working classes, who he believed to be as ready to give as anybody else if only the matter was presented in the right way, had to a large extent benefited financially. He proceeded to give some figures which he admitted were purely illustrative. If there were 300 voluntary hospitals in the country, each with an average of 150 beds, the maintenance of each bed requiring £150 a year, the annual cost of the voluntary hospitals would be £6,750,000, and deducting one-third from this sum as covered by endowment, it would be necessary to raise every year between four and five millions. Out of the forty million people in this country, surely one million could be found who would put aside a shilling a week for the hospitals and another two millions who would put aside sixpence. This would yield five millions, and yet only 7 per cent. of the population would have been touched. He could not believe that the raising of this money was an impossible task, but a necessary condition of effective giving was that hospitals should be properly administered, and for this purpose a central bureau for the issue of statistics and other comparative data would be valuable, as it had proved to be in dealing with the auxiliary war hospitals, which at first showed the most extraordinary divergences in expenditure. It had been made possible for Sir Napier Burnett, K.B.E., M.D., who had gathered wide experience in connexion with hospital administration under the Red Cross, to devote his whole time to the furtherance of this scheme, and the promoters hoped much from his direction.

Viscount KNUTSFORD proposed, without making a speech,

> That the thanks of the British Hospitals' Association be conveyed to the Joint Council of the British Red Cross Society and the Order of St. John for its offer of assistance, which is cordially and gratefully accepted by the hospitals represented at this meeting.

After the Rev. G. B. CRONSHAW had seconded, a general discussion took place, and the scheme was very cordially received, especially on account of the fact that the body which had come to the help of the hospitals was not an austere officialized organization, but sympathetic and allied. Questions were asked as to how the general collection for the Red Cross would affect special local efforts on behalf of a particular hospital; and one or two representatives of the London hospitals criticized the omission of London from the present scheme, more especially as the new agency was likely to tap the constituency of the Hospital Saturday Fund, which was one of the great collecting organizations on behalf of the London hospitals. A Bradford representative wished for an assurance that the State or municipality would not take the hospitals over, and said that until this point was cleared up donors would withhold their money. The same point was put forward by Mr. C. E. L. LYLE, M.P., who said that as a result of his interrogation of Dr. Addison he believed that the Government had no intention of nationalizing the hospitals, but it was doubtful whether the Government could prevent a municipality from setting up a hospital. Sir HENRY BURDETT said that it was evident that the Government would not nationalize the hospitals, and, in his opinion, it would not allow them to be municipalized either.

Sir ROBERT MORANT said that the Minister himself had been very anxious to come to that meeting in order to repeat the statement he had already made, that there was no foundation whatever for the rumours that the establishment of the Ministry of Health meant the imposition of bureaucratic control over the voluntary hospitals. No such intention was on the horizon at all. On the contrary, the Ministry was eager to encourage all voluntary effort.

Sir NAPIER BURNETT said that the purpose of the scheme was to supplement, not supplant, the efforts of individual hospitals. The utmost care would be taken not to collide with any local efforts. Before the central organization set to work in any district it would communicate with the authorities of the local hospital to discover whether they wished its assistance. He dwelt upon the value of the scheme as a means of co-ordinating hospital administration, not only in regard to treatment of the sick, but to the provision of research facilities and work on the preventive side of medicine.

Sir JOHN LYNN-THOMAS expressed the opinion that the cost of providing an adequate hospital service for the country would be larger than Sir Arthur Stanley had estimated. The Prince of Wales's Hospital for the Limbless at Cardiff had been established for the treatment of soldiers and sailors, but inquiry in Wales showed that the number of civilians who had lost limbs was large even when compared with the injuries of war. To meet their needs no hospital provision had previously been suggested; provision must be made to restore and reconstruct the limbless for work which war experience proved need not

fall short of the normal wage-earning power. This fact afforded an indication of the extent of the whole problem. During the war properly equipped general and special hospitals were found for soldiers and sailors, irrespective of their rank and pay, the only passport for admission being the need for treatment. Under the stimulus of war conditions the Government willingly agreed that the Army Medical Department should find sufficient hospital beds, but so far no Government department had felt it to be its duty to encourage the provision of adequate hospital accommodation for the sick and injured of peace. In future everyone who needed it should be entitled to hospital treatment.

Sir ARTHUR STANLEY, in reply to a Newcastle representative, who urged that it was too much to expect a subscription of a shilling a week from the working classes, said that his figures were purely hypothetical. It might be better, instead of getting a million people to give a shilling a week, to get twelve million to give a penny, and even then only 30 per cent. of the population would have been touched. The danger of a municipal hospital was remote. Some Government department must have the power to prevent a municipality from borrowing the money for the erection of a municipal hospital when it could be shown that the existing hospital might be supported by voluntary means. The new collecting organization wished to work in harmony with King Edward's Fund; indeed, that Fund was at the moment distributing on behalf of the Red Cross a quarter of a million among the London hospitals. But the principal work of the Red Cross was to render first aid, and he thought that the provinces were more in need of first aid than London; the second branch of its work was home nursing, and perhaps London might come in later in that category.

The resolution was carried unanimously.

DISCUSSION AT BIRMINGHAM.

An interesting discussion on hospital policy took place at a meeting of the medical profession of Birmingham and the West Midlands, called together by Dr. Thomas Wilson, president of the Birmingham Branch of the British Medical Association.

Sir BERTRAND DAWSON spoke of the need for more hospitals, a better classification of them, and a better distribution. In the large changes that would be necessary the aim should be to foster the traditions that existed in the voluntary hospitals. Not only, he said, were the present hospitals inadequate in number, but they were not performing the right functions; they were consequently called upon to do too much work and to do the wrong kind of work. Hospitals in future must be more widely distributed so as to be available for all, and there must be grades of hospitals. A distinction should be made between the "primary" hospital, where the patient would be looked after by the doctor of his choice, and the larger hospital to which he should be sent when the care of a staff of specialists was needed. The primary hospital would create an intellectual atmosphere in the medical life of its district, and around it should be assembled the machinery of health, thus linking up the preventive and curative sides. The great mass of routine cases would be received at the primary hospitals; cases needing special skill and equipment in the central hospitals; while at accessory hospitals—for instance, adapted Poor Law infirmaries—cases could be treated which, though not necessarily of great clinical interest, were of enormous importance from the economic point of view. From the educational point of view the work of these different hospitals should be co-ordinated so as to widen the field for the students. He warmly supported the plan of associating the present Poor Law infirmaries with the hospitals, but it would, he thought, be a pity to attempt a permanent arrangement. How, he asked, was the additional accommodation to be provided? All the evidence suggested that any new hospitals must be maintained by public authority. If the whole cost of curative treatment were provided free this would impose a heavy burden on the State. In the primary hospitals there might be standard rates for public and for private wards. He suggested an elastic rate, taking account not only of what a man received, but also of his responsibilities. In the public ward a standard rate would include medical treatment, because the patient would have passed from the care of his doctor to that of the consultant. In private wards the patients should pay both for their accommodation and for their medical attendance.

Sir GILBERT BARLING, Vice-Chancellor of the University of Birmingham, spoke of the inadequate hospital accommodation in Birmingham, and the parlous financial plight of the hospitals. Frankly, he thought it hopeless to try to provide what was needed for the future by the voluntary system, though he trusted the voluntary principle would be retained side by side with and supplemented by municipal or State aid. He emphasized the need for an exhaustive survey of the hospital accommodation of the country; decentralization should be the keynote of the scheme for the future.

Dr. JOHN ROBERTSON, M.O.H. for the City of Birmingham, remarked that while there was a serious shortage of accommodation in voluntary hospitals, his own authority was swamped with beds for fevers, tuberculosis, and mental diseases. They had three times as many beds as the voluntary hospitals had for the treatment of all other ailments.

Dr. THOMAS WILSON urged the desirability of setting up an authority to correlate the various hospitals of the country with the necessities of the community. All grades of the medical profession should be largely represented on that authority.

Professor J. T. J. MORRISON postulated three factors that would in the main determine the final form of the hospital system in this country: (1) The demand of the people for greater facilities and a far larger volume of hospital service; (2) the refusal of these people to accept charity; (3) the immense political power possessed by that section of the community. He felt hopeful that the vast changes that would be brought about by these factors would turn out to be for the benefit both of the hospitals and of the community.

PROPOSED PUBLIC INQUIRY INTO THE MEDICAL SERVICE OF THE COMMUNITY.

A deputation from the British Federation of Medical and Allied Societies was introduced to the Minister of Health by Sir W. WATSON CHEYNE, M.P., on January 23rd. The object of the deputation was to urge that a public inquiry should be held as to the conditions of service under National Insurance medical benefit, and as to whether these conditions promoted the efficiency of the medical profession, and gave commensurate results to the community.

Dr. ARTHUR LATHAM said that the five years' experience during the war had stirred the public and medical conscience, and had shown what medicine could give to the community. The Regulations made with regard to medical service under the Insurance Act seemed to be designed to catch the erring doctor, but to impair the efficiency of health services. There must be regulations but they should be elastic. None of the lessons of the war had so far been incorporated in the regulations, and, owing to the limitations imposed under the Act, they could not be incorporated. The most effective means to reach a mutual understanding was publicity, and public inquiry was essential if suspicion was to be replaced by willing co-operation. Dr. STANCOMB, in supporting the plea for a public inquiry, spoke of the grave dissatisfaction both among the medical profession and the community.

Dr. ADDISON, in his reply, said that he was grateful for efforts to focus trained medical opinion upon the question how the medical service of the country could be placed in a position most usefully to serve the public. He was anxious to know in what respect the medical profession was tied up or prevented from doing its best, and undertook to find a remedy should this prove to be the case. He asked for help in devising a scheme whereby a strongly individualistic profession could be brought to give their devoted services to the public with goodwill and by common consent. The Government had agreed to inquire into the question of remuneration, and he did not want to oppose a further inquiry. The Medical Consultative Council had been asked to report upon the type of medical service required, and this report, which he hoped to receive within three weeks, would be made public. Further, he had the authority of the Cabinet for saying that it held itself free to institute a wider inquiry if it appeared to be desirable or necessary, either as a result of the findings of the arbitrators with regard to remuneration or of the report of the Consultative Council. If he became convinced that any advantage could be gained by a public inquiry he would not hesitate to recommend it.

A WHOLE-TIME STATE MEDICAL SERVICE.

AT a meeting of the Marylebone Division of the Metropolitan Counties Branch of the British Medical Association on January 16th a discussion took place on the desirability of a whole-time State medical service. The discussion was opened by Professor BENJAMIN MOORE, D.Sc., F.R.S., and Sir WILMOT HERRINGHAM, K.C.M.G.

Dr. C. O. HAWTHORNE, who presided, said that circumstances with which all were familiar had compelled reconsideration of the form in which the medical profession could best discharge its responsibility as the protector and promoter of public health. Some changes in this direction had already taken place, and it needed no very penetrating eye to discern other changes on the horizon. One change proposed by certain members of the profession was that a whole-time State medical service should be established. There was a strong feeling both for and against this proposal; but however much the protagonists on the opposing sides might differ with regard to choice of methods, they were at one in their desire to preserve the best of all professional traditions—that of effective service in the public interest.

Professor BENJAMIN MOORE said that the proposal for a whole-time State salaried service was still resented by a large majority of the profession as being too revolutionary, although he believed that certain prejudices were wearing away and some misapprehensions being dispelled. Frankly, if he thought that a national medical service would be bureaucratically administered from Whitehall, and that medical men would be simply paid servants of a bureaucracy, he would have nothing to do with it. But it was quite evident that certain methods of co-ordination must be introduced into medical practice, and if only the profession was alert and careful he did not think that a lay bureaucracy need be the result. He looked forward to an organization something like the old-fashioned guilds which used to exist in London and in the country; under such a system the management of all professional matters would be in the hands of the profession, its rank and file as well as its leaders. Central co-ordination would be necessary, but it must not override local control; and even local control—that is to say, control by mayor and burgesses—must not be suffered to override the feeling of the profession. It might be asked why any such change was needed. The answer was that medical science, so far as concerned the treatment of certain diseases, had made the domiciliary methods of the past altogether inadequate. The staffs of hospitals were far too slender to meet the existing need. In an out-patient department on any day a few doctors would be found endeavouring to cope with a great number of patients, while perhaps at that very hour there were dozens of practitioners in the neighbourhood seeing no patients at all. He dwelt upon the need in slum tenements and in factories for some more effective system of early diagnosis; if the profession was to deal in a scientific way with disease it must go out and seek disease in its early manifestations. The question of a salaried service as against some other basis of remuneration was quite secondary; the important thing was that the service should be well paid. He did not accept the view of some people with regard to the low range of salaries likely to be paid under a State service.

Sir WILMOT HERRINGHAM said that what had been laid before the meeting was surely the slightest sketch of any proposal ever brought to the notice of a body of men. Professor Moore's contention seemed to be that they were not to see patients when they were ill, but were to go to every house in the country to find out who was likely to be ill, and the only way in which this could be done was by having a salaried service, with salaries of at least £1,000 a year! The case for a whole-time State salaried service needed a little more elaboration and refinement. His own feeling was that the difficulties and disagreeableness contingent upon such a service considerably outweighed its advantages. He had often talked over the matter in France, and had occasionally found a mess inclined to favour the idea, but when he asked how they would like to go on living always under their A.D.M.S., they invariably said that they would like no such thing, and said so with a forcefulness which recalled Uncle Toby's saying that our armies swore terribly in Flanders. He did not think he ever heard a man say that he would deliberately choose to go on living in that state of life to which Government conscription had called him. The sense of discipline under which it was necessary to live was not good for a profession which must be continually feeling its way towards changes and improvements. Public service, however much the people at the top might desire to prevent such a result, did militate against originality and enterprise. He did not believe for a moment that medical men under such a system would be able to obtain the complete control on which Professor Moore insisted. No other body of men in similar circumstances had been allowed to do it when their interests were apart from, and in a sense opposed to, the interests of the public. Bureaucratic control there must always be, let it be tempered as much as they liked. They could no more claim to regulate public affairs than anyone else, except as advisers. Professor Moore seemed to think that payment would be extraordinarily large. How could it be larger than the payment of medical officers in the army and navy? The speaker thought it very important to consider what ought to be done to improve public health. More hospital and maternity accommodation was desirable, also better facilities for consultations, and, if possible, better communication between the doctor who was looking after the case privately and the doctor who treated the case when it came into the hospital. These, however, were not the necessary consequences of a whole-time service.

Dr. R. FIELDING-OULD remarked that from the ranks of general practitioners he did not find any great champions entering the lists for State service; there was a silence on the matter so far as clinical medicine was concerned. Under State service the spiritual and psychical interest between medical man and patient would diminish. One terrible example of State interference with medical practice was the work under the Insurance Acts. He referred to the likelihood of official duties stopping up the springs of freshness and enthusiasm, and declared himself ready to fight the proposal for a State-salaried system tooth and nail.

Sir WATSON-CHEYNE, M.P., said that it was quite impossible to carry out treatment under orders from the Government. He understood, however, that Professor Moore was not proposing that the Government should rule the doctors, but that doctors in the various districts should mass together and rule themselves. The speaker did not believe that the Government or the local authorities would allow that.

Dr. C. A. PARKER said that private practice had not produced all the results that could be desired. He instanced Sir George Newman's statistics with regard to the health of school children and the records of army recruiting; also the huge incidence of tuberculosis and the prevalence of epidemic disease. Some form of public medical service seemed to be the only solution. Half-time work might lead to undesirable differentiation between State and private practice.

Dr. ALEXANDER BLACKHALL-MORISON pointed out that the collaboration of medical men, before legislation was thought of, had effected a great deal for the health of the community. Dr. T. P. BEDDOES held that no whole-time service would be satisfactory, and did not believe that the health of the nation would be increased under such a service. Dr. A. G. AULD thought that special service under the State was necessary in order to find out the beginnings of disease and to rectify the conditions under which disease was produced. Dr. B. F. HARTZHORNE said that it would be hard on senior practitioners under a State service system if, having arrived at a time of life when they might justifiably look for more leisure, they were to be assigned certain tasks and called upon for a definite number of hours' service each day.

Professor MOORE, in reply, said that in his original remarks he had been intentionally sketchy, believing that the general contentions of those who favoured State service were by this time understood. Those who had been working on this problem for seven or eight years had seen many of their dreams already realized. State service was coming by a process of evolution, and if it was desired that bureaucratic control should be avoided, it was time that medical men were alive to the matter. He pointed to the amount of research which had been done in the Indian Medical Service as telling against the view that keenness and enthusiasm in health matters disappeared when medical men were brought into Government employment.

Sir WILMOT HERRINGHAM, in his reply, said that he was filled with admiration for the evident enthusiasm which prompted Professor Moore's advocacy, and with amazement at the absolute want of reason with which the case was argued. Dr. Parker had said that because the profession had not been able to stamp out this, that, or the other disease, therefore a whole-time medical service must be set up. Why should disease be more likely to be stamped out under such a service? To say that because a nation still had a large amount of disease the present system of medical practice was a failure and must be superseded was to his mind a typical instance of the absolute want of reason with which the question was discussed.

British Medical Journal.

SATURDAY, JANUARY 31ST, 1920.

PREVENTIVE MEDICINE: TEACHING AND RESEARCH.

THE public has heard many sermons on the importance of preventive medicine during the last year or two. But it may be surmised that the results have not corresponded to the intentions of the preachers, since the level of current discussion does not seem appreciably higher than before, and some fallacies which we had hoped were dead prove merely to have slept during the war-time shortage of paper. Perhaps the public is not the only culprit. One may aim too high, and also too low. A discourse on methodology, an appeal to general principles, may be a trifle dull. The immortal name of Sydenham does not make all hearts burn; some men do not rise to their feet and cheer wildly when the importance of harmonic analysis to the sanitarian is expounded. But sometimes even practical discourses on the way to save babies or to stamp out venereal diseases, bring up into consciousness the irrelevant names of Mother Seigel or Dr. Collis Browne, and the lecturer's message is lost.

We forbear from the appropriate Horatian tag, and merely remark that Professor F. W. Andrewes deserves universal thanks for the model address he recently delivered to the Abernethian Society of St. Bartholomew's Hospital.[1] Professor Andrewes took as his text the last London Life Table, the precise meaning of which he explained with a lucidity professional statisticians must admire; he pointed out how life capital is squandered, and gave one of the chief reasons why this happens. "Unfortunately preventive medicine makes no such immediate appeal to us as the treatment of existing disease. What a glow of pleasure we feel when by our skill we have saved a life! How justly gratified is the house-physician who wrestles all night with a case of hyperpyrexia, wrapping him in wet sheets and rubbing him with blocks of ice till his temperature comes down! How well does the house-surgeon merit congratulation when he has dealt promptly and successfully with a dangerous haemorrhage! You can't get that sort of satisfaction by preventing a hundred babies from getting measles and whooping-cough; yet the man who could do this would serve the State far better. And so, for lack of this immediate dramatic appeal, preventive medicine gets pushed rather on one side in medical education. We are given a short course of lectures on public health, and get signed up for them by attending as few as we can, and come away with a few ideas about ventilation and water-closets which seem to bear little relation to medical or surgical practice."

It would be hard to characterize the essential weakness of the position more aptly. It is the plain truth that the average medical student does not regard preventive medicine as his business, and receives extremely little encouragement so to regard it from those set in authority over him. Up to a few years ago (and we are not quite sure that things are very different now) it was possible to obtain the most prized of professional degrees and diplomas without having acquired information even about water-closets, while the medical student who knew as much about life tables as he can learn in ten minutes from Professor Andrewes's lecture and yet did not propose to take the D.P.H. would have been thought to have missed his vocation.

This is a state of affairs which no oratory can alter. So long as the ordinary medical student is ignorant of the general principles of preventive medicine, cannot use the simplest intellectual tools of the epidemiologist and vital statistician, and knows nothing of medical history, that which should be the intellectual heritage of the whole profession will remain the possession of the few, will be tainted with the intellectual vices of particularism, and will appear to some a forbidding wilderness of technicalities, to others a more or less beneficent witchcraft, and to yet others a source of tedious oratory.

It is easy to say that we ought to have more lectures and whole-time teachers, but that is not a remedy; the student hears too many lectures, and if talking, or rather being talked at, could make young men wise we should reckon our Simons and Farrs by the hundred. Apart from the dramatic element noted by Professor Andrewes—if it be not an ingredient of the drama—is the greater reality of clinical instruction. The teaching surgeon is not only handling real patients, but he is doing so before the eyes of his students. He not merely tells them that in such and such circumstances such and such things are done; he does those things, not upon wax models or dissecting-room subjects, but upon living flesh and blood. The medical student has no such contact with the realities of preventive medicine and epidemiology. There is, of course, a reason for this. The unit of the clinician is the individual patient, that of the epidemiologist a group of individuals, a collectivity, and he is therefore forced to adopt what, for want of a better word, we may call the statistical point of view. Hence his *milieu* approximates more closely to the chambers of a barrister or the office of an army staff than to the consulting-room of a physician or the operating theatre of a surgeon. But there is no lack of reality in the chambers of a lawyer or at the head quarters of an army staff. Many have commented on the great value of the legal training a pupil in chambers receives. There he sees real business and how it is handled. Between this education and that to be acquired from books and lectures is as wide a distinction as between the knowledge of the professional detective and that of the disciple of Mr. Sherlock Holmes, or between campaigning and sham fights. An ordinarily intelligent youth who had access to the chambers of an epidemiologist, followed the history of the most trivial outbreak of disease, noted the waxing and waning statistics of morbidity and mortality, the action taken, the opinion of the expert—not when the battle had been lost or won, but while its issue was doubtful—would get nearer to the essence of scientific prevention than any number of eloquent and systematic lectures or of personally conducted tours over municipal sewage works would ever carry him.

But these chambers of the epidemiologist, where are they? In the health departments of great municipalities and in Whitehall; regions into which the ordinary medical student never strays. It is in the nature of things, both as they are and as they must be, that such a separation should exist; if the only remedy were to turn the student loose in Whitehall or give him open access to the offices in the City Hall, we should have to despair of his education in preventive medicine. We certainly think that facilities should exist for young graduates to act as voluntary assistants in the great state and municipal health departments, and that such service should confer the same

[1] *St. Bartholomew's Hospital Journal*, January, 1920.

advantages (not merely upon those definitely entering the career of a public health official) as the tenure of hospital house appointments; but this does not meet the needs of the merely average man.

The solution of the difficulty is to be found in further development of the wise and enlightened policy of the Medical Research Committee. It is obvious that the administrative epidemiologist or sanitarian cannot conveniently be located in a medical school or university. There is no reason why the investigator should not be so housed. If in a medical school we have investigation continuously pursued, the investigator being systematically supplied with all the information which is received in the routine course by the administrative departments, we shall reproduce as nearly as is practicable the atmosphere of the barrister's chambers. It is true that one element of reality will be lacking: the investigator will have no responsibility for administration; this, we fear, is inevitable; but if the record of administrative action is faithfully transmitted, if the student can really see from day to day what happens, we do not think the loss overwhelming. It is upon these lines that the teaching of preventive medicine should, we believe, be organized. At present it is sterile and despised because it is unreal, a mere sham fight. We have aimed at a systematic course, and achieved a lifeless formalism. It is not more lectures, not even more "practical" work—in the ordinary sense of the terms—but more humanity, more of the excitement of a battle, that the student needs.

REMOULDING THE HOSPITAL SYSTEM.

DURING the last few months our columns have contained many evidences of a great stirring of opinion, medical and lay, with regard to civil hospitals, and we publish this week (p. 156) reports of the proceedings on three occasions on which the subject was more or less directly discussed.

At the meeting summoned by Dr. Thomas Wilson, President of the Birmingham Branch of the British Medical Association, on January 15th, Sir Gilbert Barling added his testimony to the current view that not only is the financial position of voluntary hospitals very difficult, but that the accommodation they supply is insufficient. In an address to the same meeting Sir Bertrand Dawson, while admitting that great changes would undoubtedly be necessary, affirmed that there were few institutions in which this country could more justly take pride than in the voluntary hospitals; they were animated by an enthusiasm for the best work and a sense of brotherhood which could not be found in any State institution in this country or abroad. He asserted that the proportion of the community needing hospital treatment was steadily increasing, and likely further to increase, and supported this opinion by pointing to the growing complexity of methods of diagnosis and treatment involving an increase in the cost of treatment which an increasing proportion of the population could not meet. He also pointed to the distinct but related fact that many illnesses, including many not very severe, were more efficiently and far more conveniently treated in an institution with proper equipment and nursing than in ordinary domestic surroundings. He then outlined a scheme, with which the readers of his Cavendish Lecture and other addresses will be more or less familiar, for an organization of medical service from the periphery to the centre. In rural and small urban areas he would like to see what he called "primary hospitals," where the patient's own doctor could continue treatment under conditions far more satisfactory than obtain in most private houses, whether those of industrial or middle class families. In this way the preventive and curative sides of medicine would, he hoped, be brought together. From these primary hospitals patients would, when necessary, be referred to the central hospitals with medical schools, and he indicated that these hospitals would require accessory institutions, to which certain classes of cases might be transferred. Such cases would include many of a minor character in a medical or surgical sense, but of great economic importance, and others in which, though the patient's general health may be excellent, prolonged special treatment is required; and here it is of consequence to remember that continuity of treatment is often essential to cure.

In addressing, last October, the inaugural meeting of the Medical Consultative Council, the Minister of Health said that its first reference would be to report on an ideal system of medical and allied services towards the realization of which the Ministry could work. The Chairman of the Council, Sir Bertrand Dawson, in replying to Dr. Addison, said that the activities of the Ministry of Health were bound to extend and to affect all branches of medicine more and more closely, and that if the results were to be satisfactory a good understanding and close co-operation with the medical profession must be maintained throughout. This understanding and co-operation it is the function of the Consultative Council to promote, and success cannot be attained without constant reference to the working of the National Insurance scheme.

The second instance to which we refer is the interview the British Federation of Medical and Allied Societies had with Dr. Addison on January 23rd, to ask him to institute a public inquiry into the conditions of medical benefit and how far those now in force promote efficiency on the part of the medical profession and give commensurate results to the community. Dr. Addison, in his reply, said that he was not in principle opposed to such an inquiry, but he would await the report of the Consultative Council, which he hoped to receive within three weeks, and would then publish, and also the result of the arbitration on the question of remuneration. He added, however, that the Cabinet held itself free to institute a wider inquiry should the result of the findings of the arbitrators (whose names are given in the SUPPLEMENT this week) or the report of the Consultative Council render its institution desirable.

The third incident was the meeting of the British Hospitals Association at St. Thomas's Hospital on January 23rd, when a scheme of the Joint Peace Committee of the British Red Cross Society and the Order of St. John for coming to the assistance of the voluntary hospitals was unfolded. The Council proposes to tabulate hospital statistics so as to afford to each institution the means of comparing its own expenditure with that of other hospitals; it proposes also to help them more directly by accumulating stores, and by purchasing at the lowest price and on expert advice after analysis and examination of the articles sold. Not very much was said about the war experiences of the Joint Committee, but Sir Arthur Stanley in introducing the subject said that Sir Napier Burnett, K.B.E., M.D., who had gained wide experience of the administration of hospitals under the Red Cross, would devote his whole time to the furtherance of the scheme.

The general effect of the scheme and of the meeting at which it was discussed was therefore to institute an organized plan for assisting the finances of the voluntary hospitals both by collecting money and by

helping to make economies. But there is no doubt a not inconsiderable number of persons who are a little disposed to assume that the experiences of the Army Medical Department during the war can be transferred directly to peace. There is undoubtedly a certain analogy, but it must not be pushed too far. Sir John Lynn-Thomas stated the general principle to be deduced from our war experiences when he pointed out that the difference between the conditions then and now was that the country insisted that money should be provided to enable the Army Medical Department to find a sufficient number of hospital beds, to which the only passport was illness or injury. This principle, he contended, ought to be applied to civil conditions, but it is common experience that it is not, for almost every hospital has a long waiting list. We agree, and we feel sure the whole profession agrees, that the cure of existing diseases is as pressing a need as prevention of disease, and that adequate modern hospital accommodation is as necessary as housing, though it does not involve a financial problem so gigantic.

Sir Robert Morant assured the Hospitals Association that there was no foundation for the rumours that the Ministry of Health desired to impose bureaucratic control on the voluntary hospitals, and we would add that over-centralization is also to be avoided. We find some evidence of failure to appreciate the second point in an article published in *The Times* by Mr. Basil E. Mayhew, a chartered accountant, described by our contemporary as an authority on hospital finance. The military medical problem was relatively simple. Mr. Mayhew speaks of the county director as being in daily touch with the "local War Office Command," which acted as a clearing house for all beds in the command, so that the Army Medical Service was able to allocate convoys of wounded to the various hospitals promptly and accurately. The analogy breaks down at once. In civil life there is never a convoy of wounded, except after some extraordinary catastrophe. Again, he speaks with a complacency we do not share of the auxiliary hospitals. The enthusiasm with which they were established and the unremitting labour with which they were conducted were worthy of all praise, but as instruments of an efficient medical service they often, if not usually, left much to be desired. When Mr. Mayhew gets on to his own ground and talks of the need for a uniform system of hospital accounts we believe that he is altogether right, and anything the Joint Peace Committee can do to promote this system and to favour economical purchase and expenditure will be all to the good.

CLINICAL TEACHING "ELEMENTS" AT WORK.

WE are glad to be able to announce that the hospital teaching organization at University College Hospital, the establishment of which was mentioned a few weeks ago, has been in working order since the first day of this year. The Director of the Medical Element is Dr. T. R. Elliott, C.B.E., D.S.O., F.R.S., physician to the hospital. Dr. J. W. McNee, D.S.O., recently assistant to the Regius Professor of Medicine and to the Professor of Pathology at Glasgow, has been appointed first assistant and deputy to the Director. Dr. F. M. R. Walshe has been appointed second assistant to the Director to control neurological teaching and research, and also to take charge of the department of electro-therapeutics and massage at University College Hospital. The Director of the Surgical Element is Mr. C. C. Choyce, C.M.G., C.B.E., F.R.C.S., and he has as his first assistant Mr. E. K. Martin, M.S., F.R.C.S., and as his second assistant Mr. F. J. F. Barrington, M.S., F.R.C.S. The Directors of the Elements are responsible for the general arrangement of systematic teaching on the principles of medicine and surgery in both hospital and school. The instruction of junior students in physical signs and elementary laboratory methods and the systematic demonstrations and lectures for senior students are to be organized by them, although the teaching in these courses is in certain cases given by other members of the staff. Every student is to take duty during his first year for two months' clerking and two months' dressing with the Medical and Surgical Elements respectively. These terms of clerking and dressing are intended to follow as far as possible the four months' term of duty with other members of the staff. Thus every student will in due course pass through both elements. During his course of two months' duty under the Director of the Medical Element the student will be attached for clinical clerking to some of the special departments, such as the Cardiographic Department under Dr. Thomas Lewis, F.R.S. Arrangements have been made at the Medical School by which the Directors of the Elements and their assistants have been furnished with ample accommodation and facilities for research work in the Graham Laboratories of Pathology, endowed by the late Professor Charles Graham, who was so long a member of the staff of the Chemical Deparment of University College. Both the directors and their assistants are on the whole-time basis—that is to say, they are debarred from private practice. This, it is considered, is an important part of the new organization, but it is at the same time realized that the students should receive clinical instruction from teachers who are in close touch with private practice, as has been the case in the past. Such instruction will in future be given by the remaining members of the staff not belonging to either element, who will devote their time more especially to clinical teaching, and will have the more leisure and energy for this, inasmuch as they will be relieved from systematic teaching. Three-fourths of the total approved cost of the elements will be paid from the parliamentary grant, the remainder must be found by the medical school. The entries at the medical schools this year are generally large, and University College Hospital Medical School has shared in this. The hospital is somewhat small for a large scheme of this kind; it now provides 320 beds, but the committee of management has recently acquired a site in the immediate vicinity of the hospital on which it is hoped to erect a nurses' home in the near future, so as to liberate the part of the hospital at present occupied by nurses for the purpose of providing additional beds. The hospital itself stands on an island site, and there will therefore be little temptation to add to the number of beds in Gower Street. The wisdom of the policy of increasing the number of hospital beds in the centre of great towns is more than doubtful. The high cost of a site is a serious financial burden, and many patients would be much better off if transferred, as soon as their condition permitted, to a linked hospital less elaborate in construction and on a site less costly and more health-giving, outside the town.

THE ACADÉMIE DE MÉDECINE.

THE Académie de Médecine, which meets in Paris but has associates and correspondents throughout France and all civilized countries, is about to celebrate its centenary. It was founded by royal decree on December 20th, 1820, and to-day under the third Republic is in the full vigour of maturity. During its hundred years it has numbered among its officers such great leaders of medicine in France as Laënnec, Pinel, Dupuytren, Magendie, Trousseau, Cruveilhier, Claude Bernard, Pasteur. In this, its centenary year, it has chosen as its President M. Laveran, the discoverer of the malarial parasite, and

the first name on the list of its foreign Associates is Sir Patrick Manson, elected in 1900, and among its foreign correspondents is Sir Ronald Ross, elected in 1904. It is curious to look back to the time before these men began their work on malaria, to recall the slim octavo in which Laveran, then a French army surgeon in Algiers, described and figured the haematozoa—description and figures received with indifference worse than incredulity—the well reasoned hypothesis of Manson, and the brilliant demonstration given by Ross. The Académie de Médecine holds a position unique among the medical societies of the world. To it sooner or later, and usually quite early, comes all the best work done in clinical and experimental medicine in France. But it concerns itself also with the practical application of scientific principles to the prevention of disease, and reports directly to the Minister of the Interior, by whom it is frequently consulted. It combines the functions of the Medical Consultative Council of the Ministry of Health and the Royal Society of Medicine with some of those of the British Medical Association. Its influence with the public, the medical profession, and the Government of France is great, and always wisely exercised.

INTRACAROTID SALVARSAN INJECTIONS.

OWING to the extreme toxicity of arsenic and its compounds to nervous tissue, it has not been feasible to inject salvarsan into the subdural space in the treatment of cerebral lues and the parasyphilitic affections. Horsley's practice of applying mercuric lotions to the cortex directly through a trephine hole will be recalled, as will also the method of Swift and Ellis, who introduced salvarsanized serum into the spinal theca. Later, Levaditi, and Marie and de Martel, put similar serum beneath the dura, whilst Hammond injected it into the lateral ventricles. Knauer, believing that a more efficient method would be to introduce the salvarsan directly into the cerebral blood stream, has devised a way of doing this. Animal experimentation proved that a needle could be pushed through the wall of the great arterial trunks of the neck without a leak occurring when the needle was withdrawn. This he attributes to the thick muscular coat the vessel possesses. Emboldened by these trials, he first applied the method to man by injecting neo-salvarsan into the internal carotid exposed at operation. The obvious disadvantage of having to wait some fourteen days, for the healing of the wound in the neck, before the next injection could be made caused him, with Enderlen's assistance, to try direct subcutaneous puncture of the common carotid. The puncture was made at the level of the thyroid cartilage at the anterior border of the sterno-mastoid. He used a Record syringe, and says that the operator can tell when the point of the needle reaches the vessel by the resistance which its wall offers. On pushing the needle still further bright red blood spurts out; the syringe barrel is then fitted on and the injection slowly made. Knauer has made upwards of sixty carotid injections in this manner on eight different patients without a single mishap or untoward incident. By both methods—that is, by incision and puncture and by direct subcutaneous puncture—he has made 128 injections. One patient has had 22 injections, and no sign of aneurysm has developed. The drug used has been, in the main, neo-salvarsan, though latterly he has made a trial of a new drug which he calls "silber-salvarsannatrium," devised by Kolle of Frankfurt. With this compound he has treated five patients; the dose used was 0.1 gram. His impression is that the new compound is less toxic to nerve tissue than salvarsan. His interesting paper concludes with two tables giving the Wassermann, Nonne, and Pándy reactions before and after treatment. These show that it is easier to get the blood negative than the cerebro-spinal fluid, which often gives a strongly positive Wassermann reaction when the blood is clear.

[1] *Muench. med. Woch.*, June, 1919.

THE EXPERIMENTAL PRODUCTION OF PULMONARY TUBERCULOSIS.

IN the experimental study of pulmonary tuberculosis it is extremely interesting to have a means whereby the lesions in the animals may be confined to the lungs. Bossan[1] states that this can be effected by a method he has used for over two years. A certain quantity of living tubercle bacilli are emulsified in a cubic centimetre of some oil, preferably olive oil, and injected into the marginal vein of the ear. The oil, which circulates very slowly in the pulmonary capillaries, parts with its bacilli there. There is, in fact, filtration. Of more than 200 rabbits so infected none has shown, at any stage of the disease, the slightest lesion in any of the other viscera. In a large number that died of caseous pneumonia affecting both lungs and presenting enormous cavities the liver and spleen were quite normal. The method is important, for it allows us to follow the evolution of a purely pulmonary tuberculosis unaccompanied, as has hitherto been the rule, by visceral tuberculosis. Knowing thus the exact date of infection, we can follow step by step the modifications of the tissues produced by the bacterial invasion, and by knowing the age of the lesions we can determine the activity of the process, the degree of virulence, and the quantity of germs injected. By varying the quantities of organisms injected, or the strains of tubercle bacilli, it will be possible to study the various modifications of lung infection, the length of incubation, and other problems hitherto impossible of precise solution.

THE ORIGIN OF GASTRIC PAIN.

THE difficulties in the way of determining the exact cause of stomach pain are great. It is not due to excess of hydrochloric acid, nor to a diseased condition of the mucous membrane in gastritis. Even the presence of an ulcer is not invariably accompanied by pain. Müller (*Muench. med. Woch.*, May, 1919) believes that pain coming on some time after the taking of food is caused by unusually strong contractions of the *pars pylorica*. The presence of an ulcer in this portion of the stomach determines painful contractions because motor nerve fibres of the mesenteric plexus are exposed in the base of the ulcer. Pain coming on before food, as in "hunger pain," is explained as due to abnormally strong contractions. In carcinoma pain is experienced when the growth has spread so as to cause partial obstruction, and thus increase the tension of the gastric contents. Besides the pain due to tension and abnormal contractions, there is also the peritoneal pain of an ulcer involving the abdominal parietes. Attention is directed to pain in the back in gastric cases, which Müller holds indicates the presence of a penetrating ulcer on the posterior surface of the stomach in which spinal nerve fibres are laid bare. *X* rays are of great assistance in the diagnosis of such an ulcer, and it has been found that when deep pressure is applied during screening, the point of greater sensitiveness corresponds with the site of the ulcer. On the other hand, even when marked gastroptosis is present, the patient suffering from gastric ulcer invariably refers the site of the pain to the epigastrium. A third source of stomach pain is that described by Head and Mackenzie, a viscero-sensory reflex, entailing hyperaesthesia of the correlated skin segment, which may be acutely sensitive. A discussion of the path of this reflex is illustrated by two good diagrams indicating that painful sensations from the stomach pass along the splanchnic nerve to sympathetic ganglia, and thence by way of the grey rami communicantes to the spinal nerves. Although Dogiel has discovered cells of a sympathetic character in spinal ganglia, the evidence tends to support the opinion that the arc is only completed within the cord itself. Müller insists that it is essential in the treatment of gastric pain to make a clear diagnosis of the origin of the pain; whether due to

[1] *Comptes rendus de la Société de Biologie*, January 10th, 1920.

abnormal contractions, to peritoneal involvement, unusual hyperaesthesia of the skin area corresponding to the diseased organ, or to a combination of these.

CAMBRIDGE NATURAL SCIENCE CLUB.

THE Cambridge Natural Science Club, founded in 1872, celebrated its 1,000th meeting by a dinner in the combination room of St. John's College, Cambridge, on Saturday, January 24th. The President, Mr. J. M. Wordie, was in the chair. There were eighty-three members and guests, and the occasion was taken to bring out a complete list of the members of the club since its inauguration. This shows that of the 330 members 52 are dead, 10 having been killed or died on active service during the war, and that 55, or 16.7 per cent., had received the blue ribbon of science—the F.R.S. Indeed, in returning thanks for the guests, Sir J. J. Thomson, who, although President of the Royal Society and Master of Trinity, had never been a member of the club, thought that the proportion of Fellowships of the Royal Society was probably higher among members of the club than among Fellows of colleges elected on account of their attainments in natural science. He confessed that he had never taken the Natural Sciences Tripos, though he had often examined others for it, and pleaded in defence that, like Professor W. H. Bragg, also a guest, he had made some vicarious amends by submitting a son to the ordeal. It may be noted that Professor W. H. Bragg and his son divided the Nobel Prize in 1915 for work on *x* rays. "The Club" was proposed by Dr. J. G. Adami, the recently appointed Vice-Chancellor of the University of Liverpool, who insisted on the educational value of the club, which, as a past professor, he seemed to rate higher than that of lectures; that ideas thus struck out in a discussion were often of great value was accepted as true by Professor Marr, who, as one of the senior honorary members, replied to the toast in an amusing speech. On the cover of the menu there was an attractive reproduction of Kneller's portrait of Sir Isaac Newton, painted in 1689, two years after the publication of the *Principia*, and apparently the only authentic portrait done in his prime. The original portrait is in the collection of the Earl of Portsmouth, but the reproduction was a photograph of the Trinity College engraving executed about 1866 by Oldham Barlow.

THE UNITED STATES ARMY MEDICAL MUSEUM.

THE Army Medical Museum at Washington, D.C., was founded in 1862, and at first consisted very largely of material collected from the Civil War; subsequently it received specimens from civil practitioners as well as from army surgeons in the tropics and at home, so that at the outbreak of the European war it contained approximately 48,000 specimens and photographs. A recent report by the curator, Colonel C. F. Craig,[1] states that a museum unit for service with the American Expeditionary Force in Europe was organized in 1918 and placed in charge of Colonel L. B. Wilson, the Assistant Director, Division of Laboratories, A.E.F. The number of museum specimens has more than doubled since the outbreak of war; 18,000 specimens have been received in the pathological department alone, illustrating especially the morbid changes in streptococcus and influenzal pneumonia, gas gangrene, and the effects of poisonous gases. The material, in fact, is so greatly in excess of the actual needs of the museum that arrangements are being made for distribution to medical institutions for educational and research purposes. Some months after the declaration of war a department of moving pictures was established as part of the instruction laboratory, so as to illustrate methods of treating disease and wounds, sanitary procedures, and other activities of the medical department. There are also departments of still photography to which 10,000 additions were made during the war, of wax modelling, and of entomology, which has been of the greatest service to the Division of Sanitation of the Surgeon-General's office in showing the prevalence of disease-bearing mosquitos in certain districts and their relation to the existing diseases.

[1] *The Military Surgeon*, Washington, D.C., 1919, xlv, 679-687.

INFLUENZA.

JUDGING from the statistics of influenza in the ninety-six great towns during the thirteen weeks ending January 17th there has been no distinct increase in the number of deaths. The highest in any one week was 81—in the week ending December 13th. In the week ending January 17th the number was 62. An increase in the number of notifications of pneumonia is, however, to be observed. The Ministry of Health has thought it well to issue to the press a paper of advice on prevention and treatment founded on the memorandum issued last month, and noticed in our columns of January 3rd. The Ministry expresses the opinion that in view of the almost simultaneous increase of influenza in great American cities, in Europe (Poland), and in the Far East (Japan), there is a considerable probability of another wave of influenza developing in this country at an early date. As to the factors that may produce the new wave nothing more can be said than that it may be due to direct introduction by infected persons arriving from abroad or to the development into an epidemic of the endemic influenza usually present. The Ministry is making special inquiry in selected districts into such questions as immunity, the effects of overcrowding, and age incidence.

PROFESSOR THOMAS SWALE VINCENT, who has held the chair of physiology and biochemistry in the University of Manitoba since 1904, has been appointed to the University chair of physiology tenable at the Middlesex Hospital Medical School. He was a Birmingham student, and was at one time demonstrator of physiology in that university. Afterwards he was Sharpey scholar and assistant professor of physiology at University College, London. Dr. H. E. Roaf, lecturer on physiology at St. Mary's Hospital Medical School since 1911, has been appointed to the University chair of physiology tenable at the London Hospital Medical College. He is a graduate of the University of Toronto; he held a Johnston Colonial Fellowship in the University of Liverpool, where he became assistant lecturer and senior demonstrator of physiology and histology, and lecturer on chemical physiology.

VITAL STATISTICS FOR ENGLAND AND WALES, 1919.

WE are indebted to the Registrar-General for the following statement showing the birth rates and death rates and the rates of infantile mortality in England and Wales and in certain parts of the country during 1919.

ENGLAND AND WALES.

Birth Rate, Death Rate, and Infant Mortality during the Year 1919 (Provisional Figures).

	Birth Rate per 1,000 Total Population.	Civilian Death Rate per 1,000 Civilian Population (Crude Rate).	Deaths Under One Year per 1,000 Births.
England and Wales*	18.5	?	89
96 great towns, including London (populations exceeding 50,000 at the Census of 1911)	19.1	13.9	93
148 smaller towns (populations from 20,000 to 50,000 at the Census of 1911)	18.4	12.7	90
London	18.6	13.6	85

* The civilian death rate for England and Wales cannot be stated at present, the number of non-civilian deaths in the fourth quarter of 1919 not being available.

PUBLIC HEALTH IN 1918–19.

ON the occasion of the issue of the forty-eighth and last medical report of the Local Government Board[1] we were able to publish, in our issue of January 10th, an article on the early history of the medical department of the Board. Sir George Newman's introduction to the Report, in which he discusses briefly the circumstances that led to the establishment of the Board in 1871, may therefore be read to best advantage in the light of the consecutive story told on p. 56 of our present volume. The medical report now issued is, as Sir George Newman says, the last of a famous series dating from 1856 (when Sir John Simon first reported to the old General Board of Health), and marks the close of an epoch of public health administration. More than half a century ago Simon advocated the formation of a Ministry of Health; last summer, fifteen years after his death, the Ministry of Health was created, taking over *inter alia* the medical activities of the Local Government Board. The Report has been prepared by Dr. G. S. Buchanan, Dr. R. J. Reece, and their colleagues, all of whom have become medical officers of the new Ministry, and the preliminary general survey is signed by Dr. Buchanan.

Influenza: Cerebro-spinal Fever.

As might be expected, great attention has been devoted to the influenza pandemic of 1918–19, which (it may be noted) first manifested itself not in Spain but in Asia and America, and which attained such magnitude as to cause, for example, 100,000 deaths in England in 1918. A separate and fuller report is being prepared by the Ministry of Health, but the present Report shows the complexity of the problems involved and the great difficulties lying in the way of their investigation. Epidemiological inquiries appeared to show in some localities that one attack confers a considerable degree of immunity; in other areas the incidence of the disease was the same in those who had and in those who had not suffered attacks during the previous wave. It is suggested that these conflicting observations are explained by the existence of several strains of the influenza virus, varying in virulence and antigenic potency. Investigations made in London, Wales, and Lancashire showed that industrial workers exposed to sulphur-dioxide fumes enjoyed a relative immunity. Conferences between the Board's inspectors and local authorities were held in eighty-six areas, and it became evident at an early date that attempts to control an epidemic by school closure and regulation of places of public entertainment were useless. "The most hopeful course lay in organizing public assistance and treatment, rather than in prevention." Judgement is withheld concerning the etiological parts played by Pfeiffer's bacillus, the various cocci, and a filter-passing virus.

Much more definite are the conclusions gained from the study of 2,000 cases of cerebro-spinal fever occurring among civilians in 1917–18. Careful investigations showed that the majority of cases could be traced to association with soldiers (or with "contacts" of soldiers) who were carriers. Bacteriological examination of contacts was made in 40 per cent. of the cases. The prevention of the disease, apart from the removal of insanitary conditions of housing and overcrowding, is shown to depend on the detection and treatment of those among the contacts who harbour the meningococcus in their nasopharynges. With the disbanding of naval and military communities a great diminution of the disease is anticipated among the civil population. A brief account of encephalitis lethargica distinguishes it by pathological and epidemiological criteria from acute poliomyelitis. Interesting case-groups from various regions of the country are adduced to show that although the disease as a rule occurs sporadically, there may be multiple cases under one roof, and one outbreak (still under investigation) is briefly recorded, wherein twelve cases with five deaths occurred among the twenty-one inmates of a home for girls. This evidence strongly supports the view that encephalitis is due to an organism which may be conveyed by subjects presenting no clinical manifestations of its presence. An analogy is traced with acute poliomyelitis, which was at first thought to be a sporadic disease, and the report emphasizes the possibility that an epidemic of encephalitis may occur.

[1] Forty-eighth Annual Report of the Local Government Board, 1918–19. Supplement containing the Report of the Medical Department for 1918–19. London: H.M. Stationery Office, or to be purchased through any bookseller. Price 1s. 3d. net.

Malaria: Dysentery: Rabies.

The question of the possible spread of malaria has received very close attention, and notification was made compulsory in March, 1919. Nearly all the cases have occurred in ex-service men, who are so carefully followed up by the army authorities and by those of the Ministries of Pensions and of National Service that no exceptional precautionary measures are thought to be called for. When, however, two or more cases are *contracted* within any one sanitary area, the local authorities may now be required to provide for systematic inspection, for distribution of mosquito netting, and for collection of blood films and supervision of quinine treatment by a qualified medical practitioner. Indigenous cases have been happily few in number, and, save for certain regions in Kent, wherein the endemic type of malaria formerly prevailed, have occurred in widely separated areas. Similar attention has been given to the prevention of infection of the civil population by returning soldiers in the cases of typhus and trench fever, now known to be louse-borne. The thorough cleansing and bathing of men prior to their return on leave or discharge, together with the systematic issue of clean clothing, has prevented any increase in lousiness of the population, and infection of a civilian by a soldier with a louse-borne disease seems practically never to have occurred.

With regard to dysentery, the attitude is one of watchfulness. No further outbreaks of bacillary dysentery, such as occurred in the autumn of 1918 (with 9 fatal cases out of 39 at Kingston), are reported. The notifications during the first half of 1919 were 700, of which 500 were relapses in demobilized men. The remainder were mostly asylum cases, and it was such cases which afforded the only instances of acute bacillary dysentery. Hospital isolation and other preventive measures may be enforced, according to the Public Health Regulations, 1919, in infected institutions and households.

The report contains a brief account of the rabies cases which appeared first in Plymouth in September, 1918, and subsequently in Wales, Surrey, and Manchester. At first those bitten were taken over to Paris; at a later date (as recorded in these columns) treatment centres were opened locally, and in view of the probable extension which was anticipated, the preparation of the antirabic vaccine was finally begun at the Board's laboratories in Carlisle Place. Up to June 30th, 1919, 109 patients had been bitten, including 23 by untraced dogs; 69 patients received treatment—21 in Paris, the remainder in England. All patients who were treated recovered, and in only one case was treatment refused when the dog which had caused the bite had been proved to be rabid.

Tuberculosis.

The section dealing with tuberculosis can scarcely be said to afford encouraging reading. Deaths from pulmonary tuberculosis have steadily increased during the last six years, and in 1918 amounted to nine thousand more than in 1913. This increase is greater among women; this is attributed to their more extensive employment (of late) in the industrial occupations, with the associated conditions of long working hours, increased mental strain, and overcrowded lodging accommodation. All the organizations dealing with the treatment of tuberculosis—sanitary authorities, sanatoriums, dispensaries, home-visitors and after-care workers alike—were constrained, owing to the war, to work with depleted staffs; at the same time "an all-round shortage of sanatorium accommodation" was caused by the embargo upon building operations, by the conversion of certain sanatoriums into auxiliary hospitals, and by the demand for the immediate admission of ex-service men to sanatoriums, where "their pension and treatment allowances rendered it possible for them to remain longer than had been practicable for civilian cases." The need for accommodation for cases of surgical tuberculosis, especially in adults, was very great "and is still urgent." The Board pressed the local authorities, with some degree of success, to increase the accommodation for sanatorium treatment wherever possible, both by freeing buildings which had been diverted to other purposes, and by addition of pavilions to existing institutions. In view of the greatly increased cost

of construction, equipment, and administration, there seems to be little immediate prospect of the building of new sanatoriums upon anything like an extensive scale.

Much stress is laid upon the importance of the provision of training colonies and village settlements—the former to provide sanatorium treatment on a simplified scale, and to serve as a half-way house between sanatorium life and productive occupation. Certain colonies, it is suggested, may be given over partially to cases which are not likely to recover, but who still retain a greater or less capacity for working and earning. Allusion is made to the economic difficulties lying in the way of the prolongation of treatment for patients who are not pensioned or who have dependents. Those acquainted with the inner working of sanatoriums will read without surprise the reference to disciplinary difficulties—"Investigations of complaints took up a considerable part of the time of the (Board's) medical staff during the year."

Maternity and Child Welfare.

Turning to the section dealing with maternity and child welfare, we find the grave statement that in the last quarter of 1918 there was for the first time since the establishment of civil registration an excess of deaths over births of 79,443, causing an actual decrease in the population to that extent, and this in spite of the favourable circumstance that no rise in infant mortality resulted during 1918 as a consequence of war conditions and the influenza epidemic. Much work was done by the Board in many directions in connexion with maternity and child welfare problems. The exertions of the Board in stimulating the local authorities appear to have led to a general improvement in the matter of prompt notification of births. An unfortunate feature of the Act of 1915 was that no necessity is imposed of embodying in the notification a statement of living or stillbirth; it follows that stillbirths can only be estimated by inference and inquiry—that is, by enforcing strictly the Act, and by the organization of very prompt home visits by a health worker.

Antenatal treatment suffered greatly, as might be expected, from the scarcity of medical practitioners during the war; but it is claimed that an immense saving of life and health was secured by the conjoined action of the Food Controller and the Local Government Board in providing during 1918 for the supply of fresh and dried milk and of extra meat and butter for expectant mothers. Similar provision was made of milk for infants and of sugar for artificially-fed babies attending at infant welfare centres. Gratifying results appear to have ensued from the Act of 1918. We learn that there only remain sixty-eight districts, representing 1.75 per cent. of the population of England and Wales, which have taken no action in the matter of maternity and child welfare. The health visitors have increased during the year from 2,555 to 3,038 and the number of centres from 1,278 to 1,365. Many additional crèches and day nurseries have been provided or are in course of preparation.

A great deal of attention is devoted in the Report to matters bearing directly or indirectly upon the actual accouchements. The provision of midwives both in urban and rural districts was aided by grants from the Board, and the Midwives Act of 1918 has enabled the local authorities, working in conjunction with the county nursing associations, both to provide midwives and to assist in their training. It is curious to note that of the certificated women on the Midwives' Roll one fifth only are in actual practice as midwives; but 845 candidates out of 1 548 successful at the last examination declared their intention to practise as midwives—including 471 proposing to settle in rural districts. The Board has also authorized grants for the "home helps" so necessary in the working-class household at the time of confinements. Emphasis is justly laid upon the necessity for the provision of maternity beds in homes and hospitals for the very large numbers of women, married and single, who cannot find suitable accommodation in their homes or lodgings. This urgent requirement "is one the need for which has been very slowly comprehended both by the local authorities and voluntary associations." In certain conditions the utilization of a ward—named the "district maternity home"—in union infirmaries has been authorized. A substantial development of dental facilities for expectant and nursing mothers and for children below school age is recorded.

Small-pox.

The venereal disease section gives the courses of treatment in vogue at various centres, together with that suggested by Colonel L. W. Harrison; the small-pox report records one case a week, drawn from as many as fifty areas, up to June, 1919; and in the section dealing with Port Sanitary Administration, we find an interesting account of the energetic and successful measures taken when a refugee ship arrived at very short notice from Russia, having on board 1,700 refugees with sixty cases of small-pox and other infectious disease. Considerations of space forbid more than a passing reference to these sections, but attention may be directed to two somewhat disquieting matters of which the Report treats. Sir George Newman refers specially in his introduction to the circumstance that the percentage of children successfully vaccinated in 1917 was only 43.3, and the percentage exempted was 37.9. Owing to numerous revaccinations consequent upon war conditions, the adult population is better protected against small-pox than was previously the case, but only about half the children under 10 years of age have been vaccinated. The possibility of the rapid spread of an epidemic among the infants of this age (in whom the heaviest mortality is known to occur) has thus to be faced.

Meat Inspection.

The other matter calling for serious reflection is the report on the inspection of home killed meat. When in the early part of 1918 the regulations of the Ministry of Food came into action, the attention of the Board's inspectors was actively directed to the public and private slaughterhouses; and the provision according to which Grade IV carcasses had to be killed in special "Government authorized slaughterhouses" led to close supervision by the local medical officers of health. Three points emerged very clearly as a result of these and other observations. First, that existing inspection arrangements are ludicrously inadequate—for example, in some districts inspectors' visits took place as infrequently as twice a year, being made chiefly "to see that the by-law requirement of limewashing was carried out." Secondly, that the sanitary conditions in large numbers of private slaughterhouses are unsatisfactory. Thirdly, the great increase in the amount of food condemned in the "Government authorized slaughterhouses" compared with that condemned previous to their establishment, leads to the pertinent inquiry, "What became of this class of meat in normal times?" The Report states that before the institution of control a large and lucrative trade was conducted in numerous areas, whereby diseased animals were bought surreptitiously, slaughtered in unauthorized and uninspected places, dressed *secundum artem* and sold in the ordinary way for domestic consumption or to sausage and pie factories. When one remembers that the criteria of the unfitness of a carcass lie almost entirely in the viscera, and that inspection of dressed meat is generally quite useless, the importance of these disclosures will be realized. The gist of the Board's recommendations, which deserve careful study, is to be found in the following paragraph (p. 142):

> There is only one method of ensuring the freedom of meat from disease, and that is by careful examination of the carcase at the time of slaughter, when all viscera are available for inspection. The only practicable means whereby this can be brought about is by requiring all animals intended for food purposes to be brought to a public abattoir, and by providing skilled inspectors in sufficient numbers to inspect thoroughly both before and after slaughter every animal brought there. This would result in the closure of all private slaughterhouses as such, and, in order to be of practical advantage to public health, the requirements would need to operate in town and country alike. Their application to urban areas alone would not be sufficient, as this would merely accentuate past evils by driving the trade in diseased animals exclusively into rural areas where there is no inspection at all.

THE late Mr. Arthur Hill of Eaton Square bequeathed £1,000 to St. Bartholomew's Hospital and £500 to the Great Northern Central Hospital.

THE thirtieth annual report of the New York State Hospital Commission contains a vast amount of statistical and other information bearing on the management of the State's asylums for the insane, which dealt with nearly 40,000 patients in the year 1917–1918.

England and Wales.

LIVERPOOL MEDICAL INSTITUTION.

AT the annual meeting of the Liverpool Medical Institution on January 22nd the following were elected officers and members of council: Dr. John E. Gemmell, President; Drs. R. W. Mackenna and J. Ernest Nevins, Vice-Presidents; Dr. John Owen, secretary of ordinary meetings; Mr. Robert E. Kelly, secretary of pathological meetings; Mr. George C. E. Simpson, librarian; and six members of council—Drs. and Messrs. Robert Craig Dun, Vera Foley, J. Leggate, J. Hepworth Shaw, Richard Stopford-Taylor, and W. Thelwall Thomas. A recommendation of the council to raise the subscription from two guineas to two guineas and a half for a member resident within a radius of eight miles of the Liverpool Medical Institution was referred to the new council for consideration, and a committee was appointed to initiate a systematic effort toward increase of membership.

VENEREAL PROPHYLAXIS.

The London County Council, at its meeting on January 27th, received a report of its Public Health Committee advising that the methods of prophylaxis against venereal diseases commonly spoken of as the "packet" system should not be provided by the Council. The report stated that recent and extended information obtained with regard to the results of preventive treatment did not warrant the Council in differing from the conclusion of the Inter-departmental Committee, which reported to the Ministry of Health last August that the evidence in favour of the packet system was insufficient. The Public Health Committee did not consider that authoritative teaching on the subject of immediate self-disinfection should be provided by local authorities, nor that the means, together with approved instructions, should be readily accessible to the public. The Council's scheme for the diagnosis and treatment of venereal diseases in London fulfilled the Inter-departmental Committee's recommendation, that energy should not be dissipated on measures of doubtful value, but concentrated rather on wise propaganda and the provision of early, prompt, and skilled treatment. The report was adopted.

MEDICAL DINNER AT CARMARTHEN.

A large number of medical men of the South-West Wales Division of the British Medical Association who had served in the war were entertained by some members of the Division at a luncheon held at the Boar's Head Hotel, Carmarthen, on January 16th. Dr. Owen Williams, Burry Port, President of the South Wales and Monmouthshire Branch, presided; he was supported by Dr. Alfred Cox, Medical Secretary of the Association, and a representative gathering of the members of the profession. After the usual loyal toasts were proposed by the Chairman, "Our Guests" was proposed by Dr. D. L. Williams, Ferryside. Dr. Williams referred to the sacrifices made by the men who had joined, and the debt of gratitude owed to them. The toast was responded to by Dr. Roland Thomas in a most interesting, humorous, and racy speech; and by Dr. E. Evans, Llanelly, and Dr. J. Francis. The toast of the British Medical Association was proposed by Dr. R. Hopkin, Llangadock, who referred to the great work of the Association on behalf of the profession and to the great increase in membership which had lately taken place. Dr. Cox, who was received with musical honours, said it gave him very great pleasure to go to Carmarthen to meet the members of the Association. He was especially glad as it was the occasion of recognizing the services rendered by the men of the profession who had helped to win the war, and also to meet his old friend Dr. D. R. Price, whose services were to be recognized that afternoon. Dr. Cox referred to the work of the Association, and said it was the duty of every member of the profession to join the Association; it was very unfair that those men who were not members should benefit by the work of the Association. A presentation of plate was then made by Dr. Brigstocke, Haverfordwest, on behalf of a number of members, to Dr. D. R. Price, Ammanford, who was honorary secretary of the Division for a number of years and has lately resigned on account of ill health. Dr. Brigstocke referred to the untiring energy and tact displayed by Dr. Price, and hoped he would soon be restored to his former condition of health. Dr. D. J. Williams, Llanelly, supported. Dr. Price returned thanks, and said that the work of the Association had been a very great pleasure to him.

LUNCHEON TO SIR HENRY GAUVAIN.

A complimentary luncheon was given at the Trocadero Restaurant, London, on January 23rd, to Sir Henry J. Gauvain, M.D., M.Ch., Medical Superintendent of the Lord Mayor Treloar Cripples' Hospital and College, in order to mark the knighthood conferred upon him at the New Year. The chair was taken by Sir William Treloar, and among the large number present were Viscount Burnham, Lord Downham (Chairman of the London County Council), the President of the Royal College of Physicians, the President of the London Chamber of Commerce, the Treasurer of St. Thomas's Hospital, Sir Watson Cheyne, Bt., M.P., Sir Francis Champneys, Bt., Sir Cuthbert Wallace, Sir Gordon Watson, Sir Forrest Fulton, K.C., and Sir John MacAlister. The Chairman, in proposing the health of their guest, conveyed the congratulations and good wishes of all present, and of many others who were not there. He spoke of Sir Henry Gauvain's ability, enthusiasm, and devotion to duty; during thirteen years of happy work together for the children at Alton he had learnt the worth of the man they were delighted to honour that day. Brief speeches of appreciation and congratulation were made by Lord Burnham, as one of the trustees, and by Mr. John H. Morgan, C.V.O., on behalf of the honorary medical board, and the toast was received with musical honours. Sir Henry Gauvain modestly expressed his gratitude to Sir William Treloar, to the honorary medical board, and to the staff at Alton and at Hayling Island, where the seaside branch has been established. He had seen the institution grow from one of 20 beds to one of 350, and now looked forward to further expansion. Sir Norman Moore, Bt., P.R.C.P., proposing prosperity to the Alton Cripples' Hospital, spoke of Sir Henry Gauvain's admirable work on surgical tuberculosis, and described him as the direct descendant of Dr. Christopher Bennet, who in the seventeenth century was the true founder of the study of tuberculosis in England. Great, however, as the advance had been since those days, it must be remembered that we were still only at the beginning of knowledge of that disease, and much remained to be done. The toast was replied to by Sir William H. Dunn, Bt., treasurer of the institution, and a vote of thanks to the chairman was proposed by Lord Downham. The menu card was enlivened with a sketch by Mr. G. L. Stampa showing the founder and the medical superintendent amidst a group of happy cheering little patients.

Scotland.

SCOTTISH POOR LAW MEDICAL OFFICERS' ASSOCIATION.

THE annual report of the Scottish Poor Law Medical Officers' Association recalls that, in reply to a question in the House of Commons by Mr. Mackinder, M.P., the Secretary for Scotland agreed to consider the advisability of appointing a committee on superannuation for employees of local authorities. A memorial in favour of this course was presented to each Scottish Member of Parliament, a circular was sent to each Poor Law medical officer, the assistance of the British Medical Association was enlisted, and an appeal was made to the Scottish Board of Health asking that two or three members of the Scottish Poor Law Medical Officers' Association should be called to give evidence. At the invitation of the Scottish Board of Health, Dr. William Bryce of Glasgow and Dr. W. L. Muir, Secretary and Treasurer of the Scottish Poor Law Medical Officers' Association, were nominated to serve on the Medical Consultative Council in Scotland. The number of appointments advertised during the year was small and the terms in all cases satisfactory. In one instance a member was advised in regard to the replies he should make to the charges made by a parish council with regard to neglect of duty; the charges were not substantiated. The annual subscription of 5s. should be sent to Dr. W. L. Muir, 1, Seton Terrace, Glasgow, E.

SIR JAMES SIMPSON'S DAUGHTER.

The death of Miss Evelyn Blantyre Simpson severs the last link with Sir James Simpson. She was born in 1856 and was his last surviving child; with her died many memories of that pioneer of general anaesthesia. She, like her brother, was a friend of Robert Louis Stevenson, about whom she wrote two books. With Dr. Berry Hart she wrote the life of her father for the *Dictionary of National Biography*. Her best book was *Dogs of Other Days*. She was a well known personality in Edinburgh, epigrammatic in speech, but a general favourite.

Ireland.

TRIBUTE TO SIR JOHN BYERS.

ON the evening of January 20th Sir John Byers was entertained to dinner by his professional colleagues on the visiting staff of the Royal Victoria Hospital, who presented him with a handsome Chippendale silver salver, on the completion of his term of office, after thirty-seven years' service as gynaecological surgeon to the hospital. Professor James Lindsay, chairman of the staff, presided; all the members of the staff except two, unavoidably prevented from attending, were present.

After the toast of the King, the chairman proposed the health of Sir John Byers, and made the presentation on behalf of the medical staff. In doing so he referred in terms of high praise to Sir John's long connexion with the hospital, his skill as a surgeon, his powers as a clinical teacher, and the administrative ability he showed as a member of the board of management. He mentioned also the keen interest Sir John had always taken in the public health of the city, especially with regard to tuberculosis and infant welfare. Sir John was also an authority on the folk-lore, phraseology, and antiquities of the province.

Professor Sinclair, C.B., then spoke in warm terms of Sir John Byers, as his lifelong friend, and referred to his early work in the Queen Street Hospital for Sick Children.

Dr. Walton Browne, D.L., a member of the consulting staff, and Mr. R. J. Johnstone, F.R.C.S., also joined in the expressions of good-will; the latter said he had worked with Sir John for many years as his assistant, and spoke of his great power as a lecturer, and his constant desire to forward the interests of the younger medical men.

Sir John Byers, in returning heartfelt and deepest thanks to his colleagues for their complimentary hospitality and beautiful gift, said that he valued the latter not merely for itself but because engraved thereon were the autographs of his twenty-three colleagues on the visiting staff. Sir John then gave some interesting reminiscences of his thirty-seven years' work, twenty-one of which were spent in the old Royal Hospital in Frederick Street and sixteen in the present Royal Victoria Hospital. He traced the growth of his department from a ward of four beds to the present wing, which was already far too small. He also described the growth of gynaecological work in general, referring especially to Caesarean section and other modern operations.

The toast of the Medical Staff, proposed by Sir John Byers, was acknowledged by Professor Lindsay. That of the Secretary of the Staff was proposed by Mr. Johnstone and responded to by Colonel Fullerton, C.B., C.M.G., F.R.C.S.I.

DOCTORS' THREATENED STRIKE.

The doctors in the Castlecomer Union have threatened to strike on February 1st unless the guardians accede to their demands for increased salaries. At a large meeting of Kilkenny and City medical practitioners a resolution was passed unanimously expressing thorough sympathy with the action of the medical officers of the Castlecomer Union in their determination to cease work and to refuse to attend any patient, private or otherwise, until their reasonable demand is acceded to. The following resolution was also passed:

> That the initial salary for all dispensaries in the county Kilkenny be £300 per annum, with £5 annual increments until a maximum of £365 is reached, and to be retrospectively applied.

Correspondence.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—Dr. Barwise's diatribe is indebted rather to his imagination than to his mastery of my argument. He has plainly not read the article he criticizes. Let me state what I *did* submit—namely, that the constant factor in the determination of a nation's tuberculous mortality is the height of real wages, and that the State's function in dealing with the problem should be to raise real wages. Economic *laisser faire*, I stated, in England has twice been shown to raise real wages. Of *laisser faire* free trade is the conspicuous illustration, and protection the emphatic contradiction, just as is State paternalism. I submitted that paternalism, like protection, must necessarily do unseen mischief more than compensating the good done. To that point he does not address himself. He confines himself to the Corn Laws in his first paragraph; I never mentioned them. From the dates he could see that I attached great importance to the succession of Peel's free trade measures before the repeal of the Corn Laws; the paragraph, therefore, is irrelevant.

There are several things to depress or to enhance real wages. He must see that his second paragraph is also irrelevant, unless he maintains that in Ireland, during the rise of the tuberculosis mortality, real wages were rising. If he does so maintain, in a country torn by intestine troubles as Ireland was from 1860 onwards, he is surely alone in that opinion. He knows that when comparative peace was attained and wages rose, the rate fell. He says that the rapid fall after the McKinley tariff in Koch's New York chart "proves" the opposite of my theory. He is bold. A more shrinking modesty (I dare not say a more scientific mind) would have said "suggests." If that fall "*proves*" the opposite, what does the check after the Dingley tariff "*prove*"? I am anxious for the truth; I pointed to facts which seemed to negative my hypothesis. Let him be equally sincere. It, of course, "*proves*" nothing; it lasted for only three years, followed Cleveland's historic administration, and was followed by the low Wilson tariff. But even so, in the Massachusetts chart it shows, after three years, a slight slackening of the fall.

He is right to remind me that the Caprivi treaties were not the nearest approach to free trade which occurred in the early years. I should have written (as elsewhere I had) "return." I apologize, but it can have misled no one; it was plain that I began with the history of the empire after the immediate effects of the war might be supposed to have worn off and after protection began. He is right in saying that the German duties on wheat and rye were trebled in 1885. But he is again irrelevant unless he can show that real wages fell. He may be a little more cautious in his condemnations in the future, if he knows that the Board of Trade shows that in Germany the prices of breadstuffs and meat were conspicuously lower in 1835–89 than the average. As a fact, we know that real wages were rising in Germany as in most other countries.

He is again right in saying that the "merest tiro knows that the" (never offensively great) "prosperity of the German working classes dates from the adoption of the protective policy of List." He is badly wrong when he forgets to add that no one else (unless he has an axe to grind) does; as wrong as when he implies that Germany adopted the system of List. That childish fallacy has been a thousand times exposed.

In a burst of confidence he tells us that he was brought up at the feet of John Bright, and had to desert his camp at the sight of men starving under *laisser faire*. I confess that that seems to me a miserable *post hoc ergo propter hoc*. I find a lack of perspective in Dr. Barwise. Did he never realize the appalling conditions due to State control of trade which John Bright and his school did so much to ameliorate? Does he expect that conditions which depend on the nature of things can be altered forthwith by Parliament? And what is he to do now, into what camp to take refuge, when he finds a tuberculous death-rate unnecessarily and unprecedentedly swollen under the system he advocates, or sees the ulcerous sore of unemployment scabbed over by loans, to pay which generations yet unborn, with their own evils to correct, will have to sweat and bleed?

I would by no means curtail his enjoyments; if it pleases him to father on me the figments of his own fertile brain and then destroy them, it does not hurt me, though I am quite unable to understand the tone of his letter. But this I may say: he would be more usefully employed (especially since men of his way of thinking are now on their defence) in trying, with me, honestly to find out why tuberculosis from a dying has become a flourishing disease, the more the State and the municipality have joined in the struggle. Is there, in a word, any other explanation than the economic?—I am, etc.,

Rayleigh, Essex, Jan. 19th. B. G. M. BASKETT.

TEMPORARY COMMISSIONS, I.M.S.

SIR,—Granted that a bachelor can exist—not live—on 400 rupees a month in India, and even have a good time on 700, may I ask what grounds there are for suggesting that a married man, even without a family, can live under present conditions on 700 rupees a month?

From irreproachable data, more than fifteen years old, I find that a newly-married couple, practising the most degrading economy, expended, on the average, 714 rupees a month during the first three years of married life (and 1,111 rupees a month, over fifteen years), and this did not include house rent. The cost of living has doubled since then!

I would also like to ask Colonel Elliot how many men does he know who, *during their first two years*, have had the "chance of doing really big work as a surgeon, or as a physician, or as a specialist"?

As regards permanent commissions, can anyone say what are the prospects of a new recruit, in twenty years' time, either in the way of administrative appointments, well-paid billets, or pension?—I am, etc.,

January 18th. ENQUIRER.

*** We referred this letter to the Chairman of the Naval and Military Committee of the British Medical Association, who replies as follows:

SIR,—I have to thank you for so kindly affording me an opportunity of answering "Enquirer's" letter in the same issue in which it appears. I would first remind your readers that there are three sets of interests to be considered: (1) Those of the young men whom we desire to see sent out to India on temporary commissions; (2) those of the tired I.M.S. officers whom we wish to see relieved at the earliest possible moment; and (3) those of the India Office.

It may clear away misunderstanding if I first explain the basis of the Secretary of State's present offer. The Naval and Military Committee has asked that the pay of permanent officers shall be increased by 50 per cent. of the total pre-war pay as reckoned by the India Office in its circular dated August, 1919. According to that circular a lieutenant in charge of a regiment drew 450 rupees a month. According to our demands he would in future draw 675 rupees. It did not appear to us that we could fairly ask as much as this for temporary men, whose passages were to be paid both ways, and who would have the option of becoming permanent if they chose. We therefore fixed 650 rupees a month for our figure. In doing so we had in mind that the men who went out would be young men, and that most of them would be unmarried men. If a man marries before his prospects are assured, he gives hostages to fortune, wherever he serves. This must be borne in mind in the present case. The Secretary of State has met us most generously. He has fixed the pay at 700 rupees and 750 rupees; he has granted passages both ways, and in reply to our later inquiry, has hastened to assure us that the return passages apply to the wives and families, as well as to the officers. He has further assured us that the privilege of counting in this temporary service toward permanent service will be enjoyed by those who elect to remain permanently in the I.M.S. No one can deny that he has behaved promptly and generously, and it is for this reason that I include the interests of the India Office amongst those which *must* be considered if we are to retain a reputation for fair play and honourable dealing.

And now to answer "Enquirer's" questions:

1. It must be admitted that the cost of living differs greatly in different parts of India, and according to conditions under which a young man lives. The estimates contained in my last letter were derived from information afforded to the British Medical Association by officers who have recently written to us from India and by others, who, being home on leave, have kindly given us verbal evidence. Since reading "Enquirer's" letter I have prosecuted further inquiries, which have only tended to confirm me in the estimates already made. There is one point on which all are agreed—namely, that the Secretary of State's offer is liberal when it is remembered that it is extended to untried young men without tropical experience.

2. I have to thank "Enquirer" for his second question. I certainly did not mean to imply that a young man in his first two years of service would be likely to occupy one of the responsible appointments which are reserved for senior men. What I did mean, and I repeat it, is that any young man who goes out to India who is keen on the scientific side of his work, and who is willing to do a bit—if necessary, a big bit—over and above what he is bound by his contract to do, can always obtain opportunities which would be denied him at home, no matter how great his enthusiasm might be. The reason for this is that the material is so immense and the number of trained workers so very few. As a young man, on my first arrival in the country, such opportunities were afforded me by my senior officers. I took them and profited by them. The same was true of several of my friends; but the complaint made by the senior officers of those days was that so few young men would give up their leisure, their convenience, and their amusements for such a purpose. When, as a senior officer, I held charge of one of the most important hospitals in India, I extended the same facilities to all young men who were keen enough to make use of them. Some of the seniors among my friends did the same; but once again history repeated itself, and our experience was that very few of our juniors were keen enough to avail themselves of our offers. I have heard from young men who have recently returned from India that the same fine tradition of the service is being carried on. I stand by every word I said in my letter. The keen young man in India can always get his opportunities if he is willing to take them. The East is waiting for him if he has learnt the lesson, which the world just now seems to be forgetting, that success is only to be won by strenuous and continued effort. Fortune has no time and no use for the forty-five-hour-week man.

3. Then "Enquirer" asks what will be the prospects of a new recruit in twenty years' time. Who can answer that question for any service or for any business? In two years' time the young man will know far more about the probable prospects of the service than the best informed of us can guess to-day. The British Medical Association has put forward certain conditions of service—call them demands if you will, I would prefer not to—and we are bound to know very shortly whether those conditions will be fulfilled or not. If they are fulfilled the young man will know where he stands; if they are not, I fear the service will die of inanition. Of one thing I am assured, that the Secretary of State and his medical adviser know the facts of the case and are in sympathy with our aims. They are not all-powerful, and they have never pretended to be so. It is up to us to give them fair play and to help them to cut the present vicious circle by securing opportunities for leave to the many over-tired officers of the service.—I am, etc.,

R. H. ELLIOT,
Lieut.-Col. I.M.S.(ret.),
Chairman Naval and Military Committee,
London, W., Jan. 25th. British Medical Association.

MODE OF QUININE ADMINISTRATION.

SIR,—The letter of Sir Ronald Ross in your last issue (p. 130) is an exceedingly interesting and valuable contribution to the literature on the treatment of malaria, and the opinions of so eminent an authority are bound to carry great weight.

I entirely accept his views as regards the oral treatment for ordinary attacks of malaria, on the lines carried out at the various malaria hospitals and centres in this country, and agree with him that in such cases, taking into account the relative advantages and disadvantages of the various modes of administration, injections of quinine are not desirable.

It is in the exceptional cases of severe and intractable malaria of the types quoted previously that I have been compelled, as the result of clinical observation, to believe in the superiority of intravenous and intramuscular injections. No one who witnessed the results of treatment of the cases referred to in Northern Persia, and of some of the severe cases of malignant malaria in Mesopotamia, could fail to appreciate the value of these injections, and in not a few of these cases oral administration carried out over a period of ten days or more had failed to produce any beneficial result.

I have not the least doubt that in Mesopotamia and Persia very many lives were saved by the timely use of quinine injections, and this belief was shared by the medical officers who were in charge of the cases. Much more chemical research is necessary before a scientific explanation can be given of the precise mode of action in the different methods of quinine administration, and too much importance should not be attached to estimations of quinine in the circulating blood, for it is well known that the liver and spleen have the property of rapidly absorbing other alkaloids and organic substances—for example, morphine, strychnine, and salvarsan—in like manner.

My conclusions were based entirely on clinical observations.—I am, etc.,

London, W., January 26th. W. H. WILLCOX.

FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—Years ago, when a medical student, I used to find relief from the dogmatic assertions of professors and textbooks in the correspondence pages of the BRITISH MEDICAL JOURNAL. It came to me as a pleasing discovery that neither were infallible, and that statements confidently made in the lecture theatre could be found contradicted, reasserted, and contradicted again in the battle-grounds of your columns. Since then I have continued to delight in the evidence which your paper affords, that the art of medicine is not a fixed thing hedged about by impassable limitations, but a living organism, assimilating, rejecting, and always growing. *Magna est veritas;* but readers of your JOURNAL may well echo the question of Pilate—"What is truth?" The obstetrical *mêlée* in one part of your paper is likely now to have its rival in the differences between the old and new schools of psychiatrists.

Your issue of January 10th contains a very able article by Dr. Alfred Carver on "Psychological repression." On January 17th Sir Robert Armstrong-Jones, whose eminence we all admit, contributes a letter in which he very courteously but very firmly repudiates the methods of Dr. Carver. As a member of the new school as represented by Dr. Carver I cannot refrain from ranging myself on his side, little though he needs such poor reinforcement. Sir Robert Armstrong-Jones questions "whether it be possible to forget by an act of volition." It is not; but it is possible to consistently ignore until the thing ignored is so overcast that it is no longer present to the consciousness, and has to be "dug" for before it can again impress the consciousness. This process of burial may be exceedingly rapid—as in the case of the shell-shocked soldier, or may be the result of years of repression—as is more usual in the case of the neurasthenic civilian. Whether or not the incident thus buried acts as a psychic irritant depends entirely upon the associations linked with it. If these are normal no harm is done, and the mind can continue to ignore the past with impunity, however unpleasant or horrible such past may be. Psychic trauma is, however, caused when the associations linked with the repressed incident are morbid and unnatural. As Dr. Carver points out, the discovery of the repression is but a step, and the important thing is to bring the idea into line with a normal outlook. In the case suggested by Sir Robert Armstrong-Jones of the woman depressed by a drunken husband I agree as to the futility of merely recalling her past to her; but supposing it were elicited that for some reason she blamed herself for her husband's drunkenness, the greatest possible good might result from showing her the unreasonableness of her fears if these were based on overconscientiousness. This, however, as also the other examples suggested by Sir Robert, are really beside the point, as the experiences he mentions are very unlikely to have been repressed to the point of "forgetting." In practice what one finds is that the depressed woman, the disappointed girl, the broken down actor, are sent to a nursing home, told not to talk of their worries, seen by the physician for five or ten minutes daily, drugged to sleep if restless, and finally turned out sufficiently drugged and disciplined to carry on an approach to normal life until the next breakdown.

The new school substitutes for the ten-minute visit of the physician and his inquiries—limited to the condition of the pulse, tongue, and bowels—a stay of an hour or more, during which the patient is encouraged to talk freely of her feelings and worries, while the light of common sense thrown on to them often succeeds in giving the sufferer a newer and healthier point of view. Direct suggestion, combined with the feeling that she has found in the physician a sympathetic and helpful friend, usually suffices to bring sleep, or hypnosis can be used for that purpose only. At first the troubles talked of will only be the obvious and more recent ones. Then one morning the doctor finds the patient excited and restless; questioned, she will say that something has come into her mind which she had "forgotten"; she feels she would like to talk about it but cannot—it is too dreadful or too trivial; but whichever she says, it is obvious to the physician that the excitement can only be allayed by a free talk. Then begins a tug-of-war, which might remind the obstetrician of a difficult forceps case. The greatest care must be taken not to suggest to the patient the nature of the revelation, but she is made to understand that her peace of mind depends on speaking out. Time and time again the confession is trembling on her lips and allowed to die away or evaded, and time and time again the physician tries to pin her down to the utterance she is longing to make. No one who has witnessed the mental disturbance caused by such a conflict can reasonably doubt the existence of psychic trauma caused by continued repression. At last out it comes, and the effervescent excitement dies away, leaving the patient exhausted but relieved. Delivery is safely accomplished. But what of the *mus* brought forth by this labour? Usually it is some incident in early childhood, sometimes of a definite sexual nature, harmless in itself, but distorted and magnified by morbid imaginings and disproportionate associations. The way is now clear, but the work is not done. Convalescence may be long and tedious; but the physician has now a firm foundation on which to build, and his building is the more likely to stand firm against the stress of everyday life. Introspection has served its purpose and is now discouraged, while by precept and practice the patient is taught that adaptation to environment the lack of which is the root of all neuroses.—I am, etc.,

Harrogate, Jan. 16th. R. G. M. LADELL.

SIR,—My only reason for intruding into the controversy in the issues of January 10th and 17th which has arisen between Sir William Hale-White and now Sir Robert Armstrong-Jones on the one hand, and Dr. Alfred Carver on the other, is to plead that the question at issue should not be allowed to rest where it is. The principle involved appears to be a vital one, for it is nothing less than the correct treatment to be pursued in certain cases of mental and nervous disorders. On the one hand we have men eminent in their profession, of great experience and the highest integrity, advising patients to forget their war experiences, and employ mental diversion to help them to forget. On the other hand, we find men also of high professional standing, large experience, and equal integrity, telling us that

> The forgetfulness thus advised is nothing other than repression, and psychological analysis invariably reveals the fact that the patient's anxiety condition is directly attributable to it.

Later in his paper Dr Carver states:

> I would say that the remarks here made apply with equal force to civilian psychoneurotics.

I suggest, Sir, that it is quite time this question should be settled one way or the other. We older men, who have followed a certain line of treatment for many years, must naturally feel some diffidence about abandoning it without strong reason. All my professional life, upwards of forty years, I employed the methods recommended by Sir William Hale-White in the treatment of certain mental and nervous disorders, and with results by no means unsatisfactory. Nevertheless, if the claims made by Dr. Carver, and many who think with him, for their treatment of bringing

to light unpleasant and repressed experiences are made good, then I for one would feel it obligatory on me to give my patients the benefit of the treatment. I strongly urge full, frank, and fair discussion of this important question, so that some decision may be arrived at.—I am, etc.,

CECIL A. P. OSBURNE, F.R.C.S.Ed.

Old Catton, Norwich, Jan. 20th.

SIR,—"It is sad, it is passing sad," that Dr. Thomas Lumsden continues to "insist over and over again" on his untenable theories of treatment of the war neuroses. There is really very little difference of opinion among those who from actual experience are competent to judge. Monosymptomatic hysterical manifestations, such as mutism, aphonia, blindness, deafness, paralysis, and contractures can generally be completely and permanently cured at a single sitting by explanation, persuasion, and re-education. Such cases hardly ever relapse. On the other hand, psychasthenia is much more difficult to treat; prolonged psychotherapy of some kind is always necessary, combined with congenial occupation, such as was afforded at the Seale Hayne Hospital by the farm, workshops, and pottery. If arrangements can be made for these patients when they have recovered to go straight from hospital to suitable employment they rarely relapse. Unfortunately, however, the official arrangements are so inadequate that it is rarely possible to arrange for this except as a result of the personal efforts of the patient's medical officer. When he fails the vain search for work and the worry in connexion with pensions and medical boards after discharge from hospital only too often lead to relapse.

This would not be prevented by postponing discharge for three months, as advocated by Dr. Lumsden. His Country Host scheme was very wisely rejected by the War Office after careful consideration by a committee of experts of all the available evidence, as it was the universal experience that such treatment resulted in the perpetuation of the symptoms and made it exceedingly difficult for a man ever to learn to depend upon himself again.

The great majority of the 30,000 pensioners referred to by Dr. Lumsden were never in any special neurological hospital, such as Maghull and Seale Hayne, and the comparatively few relapses from such hospitals were almost invariably cases of psychasthenia, and not of hysteria.

I should like to protest once more against the supposed distinction between a rapid and a slow method of treatment. Presumably Sir Henry Davy bases his criticisms of the "rapid methods" of Seale Hayne on his two or three short official visits with inspecting generals. I can assure him that he was only shown gross hysterical cases under treatment, because it was obviously impossible to demonstrate before an audience the slow methods required for psychasthenia. If a man can be permanently cured of hysterical blindness in an hour, it is difficult to understand what advantage would be gained by prolonging the treatment over a month or a year.

To substitute "natural treatment by rest and good feeding" for the various forms of psychotherapy (which obviously exclude neither rest nor good feeding), as employed at Seale Hayne, Maghull, and all the other special neurological centres for soldiers and pensioners, in the way we are asked to do by Sir Robert Armstrong-Jones and Dr. Lumsden, would be to reject all the advances which have been made in our knowledge of the psychoneuroses during the last five years.—I am, etc.,

London, Jan. 25th. ARTHUR F. HURST.

SIR,—I should like to thank Sir Robert Armstrong-Jones for his courteous criticism of my article. I quite agree with him that all questions relating to the mind are elusive, but this must not prevent us from putting forth our most earnest endeavour practically to grapple with them.

In the small space at my disposal I tried to confine my remarks to the subject of repression and readaptation, but Sir Robert shows an inclination considerably to enlarge the issue and assumes that I am committed to several other far-reaching hypotheses. The thesis I put forward is that the recognition by the patient of the cause of his failure is a necessary first step to his re-education, but I do not consider it an axiom that this must be obtained by abreaction; my mention of the fact that the bringing to light of ideas repressed because of their unbearable nature is accompanied by signs of emotion on the part of the patient was merely incidental and had no reference to the abreaction theory; considerable advances have been made since 1895. Only in comparatively rare instances does a bare knowledge of the repressed material suffice for the cure of the patient. The psychotherapist is far more concerned with combating the patient's "resistance," which was in the first instance responsible for the repression. If this resistance is not removed by a readjustment of the patient's attitude, relapse—either with the same or new symptoms—is only too liable to follow apparent cure. For this reason "lightning cures" should be regarded with suspicion. Adaptation is generally a difficult and, therefore, rather slow process.

I rather suspect that Sir Robert Armstrong-Jones is trying to lure me on to less safe ground by introducing the subject of the psychoses, which was beyond the scope of my article, and is too large for discussion here. I must, however, insist in this connexion also that merely to draw the patient's attention to events with which he is declining to deal is only a first step; it is not the ultimate aim of treatment, for to brood over and yet fail to tackle an unpleasant reality is almost as disadvantageous a procedure as repression. Maeterlinck has truly said: "Though over certain external events our influence is of the feeblest, yet we are all-powerful over what these events shall become within ourselves." In other words, the event is not the most important factor; what matters is whether we respond to it by repression and withdrawal, or by facing it courageously and adjusting ourselves to reality. As Havelock Ellis remarks: "It is a necessary task to adapt the universe to man, but it is sometimes also necessary to adapt man to the universe. When this adaptation is incomplete we are in the presence of disease."

I cannot follow Sir Robert Armstrong-Jones in considering that the lack of adaptation which psychopaths display by repressing what is disagreeable to them should be regarded as Nature's method of restoration. True there is a "psychopathology of everyday life," but even in small matters man pays a certain proportionate penalty whenever he shirks.

I regard a physician who aids and abets his patient's repression in much the same light as I should regard a dentist who advised a person suffering with toothache to seek diversion, and try to ignore this symptom rather than undergo the discomfort associated with a dental chair. Not by such means will either contribute to the real peace and health—psychic or somatic—of his patient.

Once the necessary adjustment has been effected I do not think any one could reasonably object to the patient being given a holiday under Dr. Lumsden's Country Host scheme.

Finally, with Dr. Major Greenwood, I trust that the discussion of a theme at once so interesting and so dangerous may not degenerate into acrimonious abuse. The question as to what is meant by the term "cure" is equally pertinent to both sides.—I am, etc.,

Birmingham, Jan. 25th. ALFRED CARVER.

"NEW LAMPS FOR OLD" IN OBSTETRICS.

SIR,—Truly, on reading the letters under this heading, one comes across some extraordinary views. I suppose we have to live with people to know them. One correspondent mentions the difficulty of applying forceps properly. It is their very ease of application, and the satisfaction of getting the case over quickly that, in 99 cases out of 100, induces men to use them. Another states that he can deliver a woman five minutes after the forceps are applied. Perhaps ½ c.cm. of pituitary would have done it in four minutes. I wonder what kind of perineum he has to deal with, for in some primiparae I take with forceps as long as three-quarters of an hour to guide the head over the perineum.

But we return to the old question—Is interference in normal labour desirable?—in other words, Are we justified in converting a perfectly natural process into a surgical operation? I say decidedly, No, and in their inner consciences most men say the same. Medical men have no business to attend normal confinements; they have now too much to do, and have no time to sit waiting, making frequent vaginal examinations, and asking themselves, "How much longer?" Doctors in bygone times acted more as midwives; they would remain at the bedside hou

after hour, holding and squeezing the belly. Now more common sense prevails, and all the spade work is done by a good nurse.

There is nothing seriously the matter with the old lamps which are well and truly made. They require trimming—that is all.—I am, etc.,

Upholland, Wigan, Jan. 26th. J. THOMSON SHIELAW.

SCOTTISH COLLIERY SURGEONS AND THE MINERS' UNION.

SIR,—In a recent issue (January 3rd) you stated that as a result of negotiations between the Scottish Colliery Surgeons' Committee and the Miners' Union, an agreement had been reached for a uniform flat rate of 3½d. per week without the supply of medicine and 4½d. where the latter was supplied. Some of us are wondering how this came about. At the early meetings held to discuss the matter all were firmly resolved that the payments would be 6d. and 5d. weekly respectively. Later we signed a document to the effect that in the event of the miners refusing these terms we would revert to private practice, that is, regarding their wives and families. Little more was heard on the subject until the middle of December last when we received notice that at a meeting held in Glasgow the miners' representatives offered 3½d. and 4½d., whereas our men came down to 4d. and 5d. as the lowest acceptable minimum. We were asked to state our preference between the two, and in the event of our adhering to the larger sum to indicate again whether we would revert to private practice in the case of the miners' refusal. Every medical man I have spoken to, who had any colliery work whatever, stuck out for the larger fees. The next we heard was from the columns of an evening newspaper that the surgeons' representatives had once more retreated. Not another word have we heard on the subject. A good few of us fancy that if the miners' officials had shown a bit more backbone we should have found ourselves committed to attend their dependants at, say, ½d. per week—with medicine thrown in to balance matters!—I am, etc.,

January 16th. SCOTTISH COLLIERY SURGEON.

SIR,—In reply to the foregoing letter which, by your courtesy, I have been permitted to read, I beg to state the facts as far as known to me.

In the spring of last year the Colliery and Public Works Surgeons' Committee formulated a policy on the following lines, namely:

1. That recognition of the committee, as representing all the colliery doctors in Scotland, should be demanded from the Miners' Union.
2. That a uniform flat rate be demanded, applicable to all areas in Scotland, for medical attendance apart from the supplying of drugs.
3. That no area should accept any settlement unless all the areas received the terms agreed to by the committee.
4. That 5d. per week per worker be asked as the rate for medical attendance; and that in areas where medicine is supplied, the additional rate should be not less than 1d.

In furtherance of this policy notices of termination of existing agreements were sent in by the local executives in each area, and practitioners were asked to sign an undertaking to refuse to continue treatment of dependants on a contract basis when asked to do so by the committee. That undertaking was signed almost universally.

After considerable negotiation items 1 and 2 were obtained, but the 5d. rate asked for was refused, and the miners' final offer was 3½d. for medical attendance and 4½d. for attendance and medicine. The Committee neither accepted nor refused this offer, but referred it back to the areas. Each delegate was instructed to obtain a mandate from his constituents, and at the meeting in December every delegate present reported that he had been instructed to try to secure better terms, but not to vote for a strike in the event of these terms not being obtained.

At no time did the Committee say that resignations were to be sent in if the 5d. rate was not obtained; and at every stage the representatives were understood to have consulted their constituents. If any representative failed to do so, the Committee was not made aware of the fact.

A word as to the relationship of the British Medical Association to this Committee. The Scottish Committee of the British Medical Association, in return for a contribution made to the funds of the Colliery Surgeons' Committee, has three representatives on it, and undertakes to support any action taken by the latter Committee if the policy be approved by the former. When the policy was formulated last year the Scottish Committee circularized every practitioner in the areas concerned, urging their support of the policy and offering the help of the Association in furtherance of it.—I am, etc.,

JAS. R. DREVER,
Scottish Medical Secretary.

6, Rutland Square, Edinburgh.
January 20th, 1920.

THE ORDER OF ST. JOHN.

SIR,—May I be allowed to thank you for the very valuable information in the reply to my query about the conditions under which the various grades in the "Grand Priory of the Order of St. John of Jerusalem in England" are awarded? It has cleared up some knotty points.

May I further trespass by asking if the "Priory of St. Torphichen" in Scotland and the "Priory of St. John in Wales" grant similar awards under conditions which seem to me to be strangely out of keeping with modern ideas, which apparently govern each of the other Orders of Chivalry, old and new?

Some years ago, when I was actively interested in the granting of certificates in "first aid" and "home nursing," those of the St. John enjoyed exclusive privileges, especially in relation to the Police and the Marine Department of the Board of Trade. Can you inform me if these privileges are still in existence, or have they been extended to other bodies which to-day undertake similar services, such as county councils and Red Cross societies?—I am, etc.,

January 12th. "ONE INTERESTED."

*** There is no Priory of the Order of St. John in Scotland. There is a St. Andrew's Ambulance Association in Scotland, but there is no Order of St. Andrew and no Orders are conferred by the St. Andrew's Ambulance Association. The old buildings of Torphichen Priory still exist, but they have no connexion with St. Andrew's Ambulance Association. The first-aid certificates granted by the St. Andrew's Ambulance Association are interchangeable in England as well as Scotland with those granted by the St. John Ambulance Association, and equally fulfil the requirements of the Home Office and the Marine Department of the Board of Trade. We understand that the first-aid certificates, first and second class, granted after examination by the British Red Cross Society and by certain county councils are accepted by the Board of Trade as certificates of competency as master or mate in the Mercantile Marine, and by the War Office as evidence of competency for voluntary aid detachments. It appears, therefore, that the St. John's certificates have not any exclusive privilege, and that the recognition they confer attaches also to similar certificates granted by several other bodies. We have no information as to the "Priory of St. John in Wales" nor do we know how it is regarded by the authorities at St. John's Gate, Clerkenwell.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on January 22nd the degree of Doctor of Medicine was conferred on:

R. St. A. Heathcote, C. P. Symonds, T. B. Heaton; C. H. Barber (in absentiâ).

UNIVERSITY OF CAMBRIDGE.

MR. C. R. A. THACKER, M.B., B.Ch., Fellow of Sydney Sussex College, has been appointed additional demonstrator in physiology, and Mr. M. B. R. Swann, M.R.C.S., demonstrator in pathology.

At a congregation held on January 23rd the following medical degrees were conferred:

M.D.—H. V. Deakin, B. W. M. Aston Key.
M.B., B.CH.—H. W. C. Vines, G. H. Oriel.
B.CH.—O. G. Morgan, J. Hale, C. S. Dodson, A. C. M. Coxon.

UNIVERSITY OF LONDON.

DR. H. L. EASON, C.B., C.M.G., senior ophthalmic surgeon to Guy's Hospital, has been elected by the Faculty of Medicine as its representative upon the Senate, in succession to Sir Cooper Perry, who has resigned on his appointment as Principal Officer of the University.

CONJOINT BOARD IN SCOTLAND.

THE following candidates, having passed the final examination, were admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P.S.G.:

Lizzie R. Clark, J. Campbell, R. J. C. Meek, A. Strang, W. F. S. Webb, A. F. W. Thompson, E. F. Birkenstock, Janet A. A. Sang, T. Blarney, R. Carl Fechter, T. W. Stewart.

The Services.

ARMY PAY OF CIVILIAN MEDICAL PRACTITIONERS.

A ROYAL WARRANT (dated January 18th, 1920, and published in Army Order No. 10 of 1920) increases the rate of remuneration of civilian medical practitioners engaged under Article 364 of the Pay Warrant to render medical attendance and examine recruits where army medical practitioners are not available. The substituted rates for medical attendance (including vaccination and cost of medicines) are £7 10s. a year if there are fewer than 10 persons entitled to medical attendance; and when there are 10 persons or more, £15 for every complete 25 or portion of 25, provided that the total emoluments for all services exclusive of the examination of recruits shall not in any instance exceed £1 10s. for any one day. For examination of recruits 2s 6d. is allowed for each recruit for the regular forces, subject to a maximum of £2 a day for services under this head. The new rates come into force as from January 1st, 1920.

HONOURS.

Military Cross.

AMONG the immediate awards conferred by Major-General Sir W. E. Ironside, K.C.B. (under powers vested in him by His Majesty), for conspicuous gallantry and devotion to duty in North Russia, is the Military Cross to Captain James Vallance, R.A.M.C., attached 45th Battalion Royal Fusiliers.

For great gallantry and devotion to duty in dressing and attending wounded under fire. As each objective was gained he followed up immediately, dressing and bringing in all wounded on his way. In one village the Bolsheviks landed a party of sailors, and it was only through his untiring efforts that the wounded were removed to a place of safety.

Mentioned for Services Rendered.

The names of the following officers of the Indian Medical Services have been brought to the notice of the Secretary of State for War for valuable services rendered in India during the war:

Lieut.-Colonels: H. Boulton, (temporary Colonel) H. Burdon, C.I.E Major (acting Lieut.-Colonel) J. B. D. Hunter (attached South Persia Rifles). Captains: J. B. Hanafin, J. A. A. Kernahan (attached South Persia Rifles), (temporary Lieut.-Colonel) J. V. Macdonald, M.C., R. R. M. Porter, J. A. Sinton, V.C., (temporary Major) M. A. Rahman. Temporary Captain H. S. Hensman. Temporary Lieutenants: L. J. P. Mordaunt, A. Noble (attached 124th Baluchistan Infantry), T. Mahomed Nawaz.

Foreign Decoration.

Surgeon Commander Robert W. B. Hall, R.N., has been appointed by the King of the Hellenes to be an Officer of the Order of the Redeemer for distinguished services rendered during the war.

The Territorial Decoration has been conferred upon Colonel Percy C. Burgess, A.M.S.

Obituary.

CECIL RUPERT CHAWORTH LYSTER, M.R.C.S.,

Lately Medical Officer in Charge of the Electro-therapeutic Department, Middlesex Hospital.

WE have to record with much regret the death on January 26th of Dr. Cecil R. C. Lyster, who was for seventeen years medical officer in charge of the electro-therapeutic department of the Middlesex Hospital. He was born in London in December, 1859, the eldest son of the late A. C. Lyster of Abbey Wood. He received his professional education at Charing Cross Hospital, and obtained the diploma of M.R.C.S.Eng. in 1881. After holding various house appointments at Charing Cross Hospital he was appointed medical superintendent and honorary secretary of the Bolingbroke Hospital, Wandsworth, in 1885, and remained there until 1902, when he joined the staff of the Middlesex Hospital as electro-therapeutist. Dr. Lyster was one of the first medical men to undertake *x*-ray investigation, more particularly in relation to the treatment of cancer. He became president of the electro-therapeutic section of the Royal Society of Medicine, and during the war he served as medical officer directing radiology, electro-therapeutics, and massage at Queen Alexandra's Hospital, Millbank. In the early days of experimentation with *x* rays, when their harmful properties were little understood, Dr. Lyster sustained severe dermatitis on his hands from exposure to the rays. Despite repeated amputation of the fingers, and much suffering, he remained at work until November last, when, a dying man, he at last gave up his post at the Middlesex Hospital. Speaking at the court of governors, held on November 27th, the Earl of Athlone announced Dr. Lyster's resignation, and made sympathetic reference to his self-sacrificing devotion to duty. The Chairman of the Middlesex Hospital added:

One of the pioneers of scientific research, Dr. Lyster applied himself to the study of *x* rays and their use in the treatment of disease, especially cancer, and more recently he has been concerned in an attempt to determine the effects of radium, and to standardize its applications as a remedial agent. He himself, by exposure to the rays in the early days when the knowledge of their power was slight, fell a victim to the disease he sought to conquer; though suffering and compelled frequently to seek the surgeon's aid, he declined to be set aside from his purpose, and continued his good work until now, when work is for him no longer possible. Such a record of service for others, a life spent in the advancement of science, with no regard for personal safety, commands our admiration, wonder, and respect.

The funeral service took place in the Middlesex Hospital chapel on Thursday morning, January 29th.

GEORGE A. HICKS, M.D., F.R.C.S.ED.,

Surgeon Samaritan Hospital for Women, Belfast.

IT is with deep regret that we announce the death of Dr. George Adam Hicks, F.R.C.S.Ed., which took place at his residence in Belfast on January 24th. He was in good health until a fortnight before his death, when a small wound on the thumb was infected during attendance on a septic case. A haemolytic streptococcus was isolated which had also been found in the patient. Despite the unremitting attention and skill of several of his colleagues he sank under the infection.

Dr. Hicks was a native of co. Sligo, studied at Queen's College, Belfast, and graduated M.B., B.Ch., B.A.O. in 1897; he obtained the M.D. in 1904 and the F.R.C.S.Ed. in 1912. He was for a time demonstrator of physiology in Queen's College. He had engaged in general practice; when, on the retirement of the late Dr. J. St. Clair Boyd from the Samaritan Hospital for Women, Dr. Hicks was elected gynaecological surgeon in his stead. Thereafter he confined his work to gynaecology and obstetrics, and at his death had one of the largest consulting practices in this department in the north of Ireland. As one of the surgeons to the Samaritan Hospital he had three or four students as clinical clerks every month, and his list of students was always filled for several months in advance. His lucid teaching and painstaking care were in keeping with the conscientious discharge of all his professional duties. His contributions to the medical societies were highly appreciated, and proved his ability, skill, and familiarity with all recent research. There is no doubt that constant and ever-increasing arduous work undermined his powers of resistance, and thus yet another name is added to the roll of those who succumb to disease contracted in the discharge of their duty.

Dr. Hicks was held in great affection and esteem by his patients, professional colleagues, and the students who worked under him, and his loss will be severely felt. Deep sympathy is felt for his widow and only child.

WE regret to record the untimely death, on January 24th, of Dr. FRANCIS NORMAN VICTOR DYER, in his 26th year. He was the only son of Mr. and Mrs. Dyer of Harrogate. He was educated at Marlborough, Clare College, Cambridge, and St. Thomas's Hospital, and qualified M.R.C.S. and L.R.C.P. in January, 1918, graduating M.A., M.B., and B.Ch. in October last. When war broke out he served as a dresser in the 1st Eastern Hospital, Cambridge; he was six months a surgeon probationer in H.M.S. *Buttercup*, then resident anaesthetist and casualty officer at St. Thomas's Hospital; afterwards surgeon R.N. in H.M.S. *Birkenhead* until the surrender of the German Fleet, when he transferred to the R.A.F., and was a member of the Invaliding Medical Board at Hampstead. He was demobilized at the end of October last, when he was appointed assistant medical officer at the London Fever Hospital, where he contracted scarlet fever and died at his work.

Medical News.

THE Minister of Health has promoted Dr. Richard J. Reece, C.B., to be a senior medical officer of the Ministry.

SIR BERKELEY MOYNIHAN will give a Hunterian lecture at the Royal College of Surgeons of England on the late surgery of gunshot wounds of the chest on Monday next at 5 p.m. A Hunterian lecture on the surgical aspect of dysentery will be given on Friday, February 6th, at the same hour, by Mr. V. Zachary Cope, M.S., F.R.C.S. The dates of other Hunterian lectures will be announced in subsequent issues.

DR. ROBERT WILLIAM MACKENNA has been appointed honorary dermatologist to the Royal Infirmary, Liverpool, in succession to Dr. H. Leslie Roberts, who retired at the beginning of the year under the age rule.

THE Lord Mayor of London will preside at a meeting at the Mansion House on Thursday, February 5th, at 3.30 p.m., when the views of the Society for the Prevention of Venereal Disease on the importance of immediate self-disinfection, as a means of preventing the spread of venereal diseases, will be stated by Lord Willoughby de Broke, Lord Riddell, Sir William Arbuthnot Lane, Sir James Crichton-Browne, Sir Ray Lankester, Sir Archdall Reid, Sir Arthur Sloggett, and others.

THE Ministry of Health has issued to the councils of counties and boroughs a memorandum on the duties of local authorities under the Sale of Food and Drugs Acts. The Ministry states that it is aware that in many areas this work was necessarily curtailed to some extent during the war, owing to the shortage of staff and pressure of special work, but it urges local authorities now to take steps to ensure that the powers conferred upon them are fully utilized. The memorandum reminds authorities of the obligation upon them to transmit the analyst's reports at once to the Ministry.

MR. DAVID ANDERSON SHENNAN, a director of the Buenos Aires Great Southern Railway, has by his will bequeathed £5,000 to the London Hospital, the income to be applied to research work in connexion with the septic form of Bright's disease. He has also bequeathed £3,000 each to St. George's Hospital, the Victoria Hospital for Children, Chelsea, and the British Hospital, Buenos Aires.

WE gave some account last week of a White Paper issued by the Board of Trade containing the report of a committee appointed to investigate the position of prices and supply of quinine. A reply to the White Paper has been published by the managing director of the British Quinine Corporation in the *Chemist and Druggist*. It is in the nature of a *tu quoque*. He alleges that on the sale of 840,000 ounces of quinine at 2s. 11d. the Government made a profit of 1s. 3d. an ounce, or about £45,000, whereas the Quinine Corporation, by the rise in price which occurred immediately after the purchase, made only £21,000. It is stated also that during the whole of the war the price of quinine was higher in the United States than in this country, and is to-day 90 cents an ounce in first hands.

DR. CHRISTOPHER ADDISON, M.P., Minister of Health, declared open the new head quarters of the British Dental Association (23, Russell Square) on the afternoon of January 23rd. Mr. Montagu F. Hopson, president of the association, presided over a large company. In the course of his address Dr. Addison expressed the thanks of the Government to the Dental Services Committee and the Dental Tribunal for the work they did for the nation during the war. He spoke of the serious shortage of qualified dentists, and suggested that in view of the heavy expense incurred in training for the dental profession the length of the curriculum might be reduced. He referred also to the need for a co-ordinated service linking up medical men, dentists, nurses, and kindred workers. In helping to bring this about the British Dental Association could do work which would be of value not only to their own profession but to the community. He undertook that in this task the Ministry of Health would do all in its power to assist.

THE current number of the *Edinburgh Review* contains a well informed and sympathetic account by Mr. de Castro of the Rev. Stephen Hales, the first to measure the blood pressure, one of the first to study the physiology of plants, the first to devise a method of ventilating ships, and one of the founders of the Royal Society of Arts. He was buried at Teddington, of which he was perpetual curate, and to which he brought a supply of pure water, but the Princess of Wales of the day erected a monument to him in Westminster Abbey with a portrait bas-relief.

SIR ARCHIBALD GARROD, director of the medical clinic at St. Bartholomew's Hospital, will give the Schorstein Memorial Lecture at the London Hospital Medical College on Friday, February 20th, at 4 p.m. The subject is diagnosis of disease of the pancreas.

THE Milroy Lectures before the Royal College of Physicians of London will be given by Dr. Aldo Castellani, C.M.G., M.R.C.P., on February 26th and March 2nd and 4th. The subject is the higher fungi in relation to human pathology. The Goulstonian Lectures by Dr. J. L. Birley, C.B.E., physician to out-patients, St. Thomas's Hospital, and consulting physician R.A.F., will deal with the principles of medical science as applied to military aviation; the first lecture will be given on March 9th. The Lumleian Lectures by Sir John Rose Bradford, to begin on March 18th, will be devoted to "the clinical experiences of a physician during the campaign in France and Flanders, 1914–1919."

THE Women's Medical Association of New York City has made a generous offer to medical women. It has for award to a woman physician the Mary Putnam Jacobi fellowship of 800 dollars (about £2,000) for post-graduate study in any country for work in any medical science. Full particulars can be obtained from Dr. Murrell, 86, Porchester Terrace, London, W.2.

MESSRS. WILLIAM HODGE AND CO. (Edinburgh and London) announce that they are about to resume publication of the series of notable trials suspended during the war. *The Trial of Hawley Harvey Crippen*, edited with an introduction by Mr. Filson Young, is nearly ready.

Letters, Notes, and Answers.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London:* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London:* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

T. asks whether any treatment short of operation can be advised for a case of obstinate trigeminal neuralgia in which the ordinary remedies have afforded no relief.

DR. W. B. DRUMMOND (Medical Superintendent Baldovan Institution, by Dundee) asks for references to literature dealing with the influence of atmospheric conditions on epilepsy.

ALOPECIA.

DR. G. E. CARVER (Paris) writes, in reply to a correspondent who asked for suggestions for the treatment of alopecia in a girl, that modern French writers (Jacquet, Rousseau-Decelle, and others) believe that this condition is frequently produced by dental trouble, active or passive. At the age in question (19) an unerupted wisdom tooth might be to blame.

INCOME TAX.

G. S. writes: (1) Should part-time employment on Medical Boards (M. of P.) be assessed under Schedule E, and if so, how is one supposed to estimate the amount for the ensuing year? (2) Should a divided share in trust property, payment of which is made by the solicitors, be returned under Schedule A or classed with other dividends under Schedule D? (3) As to a preference dividend just received for dividends accruing 1916 to 1918, can the excess tax be reclaimed on this year's claim?

*** (1) In our opinion the receipts from such work are not strictly the results of an "office" under the Crown, and fall for assessment under Schedule D as the profits of "employment," and are consequently assessable on a three years' average—or on an average of the past year, or two years if the employment has not extended over three past years. For the first year the income would be assessable on the amount receivable for that year, whether the liability falls under Schedule E or Schedule D, and in that case the assessment should be made at the end of the year. (2) If the income in question is derived entirely from real estate, we suggest that it should be shown as assessed under Schedule A, if it is derived from a mixed fund—property rents, interest, etc.—

as income in the nature of dividends. (3) Arrears of preference dividends appear to be treated for repayment purposes as income of the year when the profits were made from which the arrears were paid. For instance, if 1919 is the year for which the company's profits have been sufficient to permit of the payment of the arrears, then they would be regarded for repayment purposes as income of the year to April 5th, 1920. The rule appears to be founded on common-sense principles, and our correspondent will probably find little difficulty in applying it to his case.

F. G. W. was acting as a locumtenent to May, 1919; from that date until September 15th, 1919, his earnings were *nil;* he then took over a general practice. He has recently received a notice of an income-tax assessment putting his earnings as £400. What is his position?

*** Presuming that his earnings as a locumtenent extended to May 17th—that is, covered a period of six weeks in the financial year ending April 5th, 1920—the income from that source at £8 8s. per week would be £50. So far as his income from the general practice is concerned, his liability is determined by the past profits of the practice during the three years 1916, 1917, and 1918, which he can, perhaps, ascertain from his predecessor or from the income-tax inspector.* Assuming that the net average profits of the practice have been £780, for example, his liability for the period September 15th, 1919, to April 5th, 1920, would be $\frac{28}{52}$ of £780, that is, £435, and his total earnings for the year £485. If he has no other income, the net liability would be £485, less £100 abatement, £62 20s. life assurance allowance, £50 wife allowance (not £25, which was the amount allowed in 1918-19)—that is, £272 10s. at 2s. 3d. The expenses to which our correspondent refers—motor car, drugs, etc.—are legitimate deductions from the gross earnings of the practice, but, unless he is taking over his predecessor's book debts, his actual cash receipts will not be admitted to reflect fully the real amount of those gross earnings during the early years of his general practice work.

* Hitherto the official in question has been referred to in this column as the "surveyor," but we understand that his official designation is now "inspector," and we shall adopt that nomenclature in future to avoid misunderstanding.

LETTERS, NOTES, ETC.

PROFESSIONAL SECRECY.

WE have received from Dr. Arthur Powell, Professor of Medical Jurisprudence, Bombay University, a letter containing an expression of opinion to the effect that a medical man errs in objecting to give evidence in court with regard to a patient's condition if asked to do so by the patient on the advice of his or her legal adviser.

COPPER ALANINE IN INOPERABLE CANCER.

MESSRS. BOOTS (Research Laboratory, Island Street, Nottingham) inform us that the solution of copper alanine they supply contains 0.44 per cent. of the salt. Although a 1 per cent. solution can be obtained it appears to be supersaturated, and on long standing crystals of copper alanine are deposited, thus necessitating filtration of the solution before use. The solution as now supplied is made by shaking excess of the salt with water at the ordinary temperature until the saturation point is reached, and hence, unless a considerable diminution in the temperature occurs, no separation of the salt can take place.

DR. J. A. SHAW-MACKENZIE (London, W.) writes: In your issue of January 17th, 1920, p. 104, a note appears under the above title, in which palliative results obtained by Dr. James Donelan in a case of inoperable cancer of the tongue by the employment of copper alanine (the use of which in protozoal diseases and in inoperable cancer was suggested and its lack of toxicity in proper dosage demonstrated by me) is referred to and the sale of the drug announced. Although distinct benefit appears to have been derived in the above-mentioned case, it does not follow that the drug would necessarily have a similar influence for good in cancer generally or in other situations.

Copper compounds of amino-acids were prepared by me in the Physiological Laboratory, King's College. Although such compounds were not new, I directed particular attention to copper glycine and copper alanine. I found that they were soluble in serum without precipitating the serum protein, or other proteins, and that they had a marked toxic action on protozoa, which suggested the use of this form of copper intravenously, and its possible use in protozoal diseases and in cancer. Experimentally the method itself in suitable dosage was found to be harmless. With regard to cancer I pointed out that any treatment with this form of copper was of an entirely experimental character. With the object of carrying out such experiments, I have given some of the copper alanine prepared by me in the laboratory to surgeons and others who have been sufficiently interested in the clinical action, and who have asked for it for trial. While palliative results seem to have been obtained in certain cases for a time, no effect has been witnessed in others. As I have pointed out elsewhere, Mr. Aslett Baldwin, who has been kindly making investigation in a considerable number of cases of cancer and keeping me acquainted with the results, has not yet been able to come to any definite conclusion. With regard to dosage, 1 to 2.5 c.cm. of a 1 per cent. solution are stated to have been employed. In my own work nothing like this dosage has been given. It may be pointed out at once that it appears most unlikely that a 1 per cent. solution has actually been used, since copper alanine, although soluble in boiling water to that extent, crystallizes out if the solution be cooled to room temperature. By actual investigation it was determined that the approximate solubility of copper alanine at room temperature is 0.45 per cent. But as a saturated solution is obviously unadapted for general clinical use, a strength of 1 in 300 was recommended by me. From this it is already obvious that the injections referred to in the note must be less than the half of the amount of copper alanine stated.

The correct spelling of all amino-acids is with a final (*e*); alanine, *not* alanin, is therefore correct according to the terminology of the Chemical Society.

A SIMPLE SPECULUM ILLUMINATOR.

DR. HENRY DUTCH (London, W.) writes: I am sending a new combination instrument which I have called the G.P. pocket throat and ear outfit. By a simple attachment of a collar to a miniature electric torch one can see with the laryngeal mirror the vocal cords and with the speculum the drum of the ear. A tongue spatula is also added, which gives perfect illumination of the throat and fauces. Dentists can use the mirror for examining the teeth, and the work of the laryngologist is simplified. The outfit will be supplied by Messrs. Maw Son and Sons and other surgical instrument makers at the price of one guinea.

INSULAR ORTHOGRAPHY.

DR. C. S. PANTIN of Douglas has been good enough to send us a copy of a bill to amend the Workmen's Compensation Act of 1919, now before the Court of Tynwald of the Isle of Man. Section 4 (4) of this bill strikes him as so funny that he wants others to enjoy it. It runs thus:

> (4) In the third schedule of the principal Act, for the word "celbilitis" there shall be read the word "cellutitis"; for the words "of the patella" there shall be read the words "over the patella"; for the word "bevisitis" there shall be read the word "bursitis"; and for the word "synoiral" there shall be read the word "synovial." The principal Act shall be read and construed as if the amendments in this section had always formed part of such Act.

Manx compositors would appear to have original notions upon the subject of medical nomenclature, and we are rather afraid that a further amending Act may be necessary in order to regularize the disease "cellutitis." Dr. Pantin adds that it will not surprise our readers to learn that the Government that produces such legislation has recently appointed a commission of thirty persons to consider health insurance, and has not put any medical man on the commission.

THE TAGLIACOTIAN DOCTRINE.

LIEUT.-COLONEL B. L. MILLS, M.D., R.A.M.C. (retired), writes: Colonel J. Smyth, I.M.S., should verify his references before quoting Indian mythology. At Ganesha's birth his mother insisted on Saturn looking at him, with the result that the infant's head was burnt off by his gaze. Indra rushed out and cut off the first animal's head that he met, which was an elephant, and *placed* it on the infant, who recovered and became the Hindu god of prudence and policy.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 34, 37, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 35, 36, and 37.

THE following appointments of certifying factory surgeons are vacant: Bovey Tracey (Devon), Coupar Angus (Perth), Great Wakering (Essex), Hatfield (Hertford), Sligo (Sligo), Woburn Sands (Bedford).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
FLAIL JOINTS AND THEIR TREATMENT.

DELIVERED TO THE AMERICAN COLLEGE OF SURGEONS, OCTOBER, 1919.

BY
SIR ROBERT JONES, K.B.E., C.B., M.CH.,
F.R.C.S.ENG., IREL., AND EDIN., F.A.C.S. U.S.A.

ONE of the common products of the results of war injuries is the flail joint; in other words, a pseudarthrosis which is of very imperfect function, because the bones forming it do not come in contact, and, in consequence, the lever is imperfect because it has no fulcrum. The greater number of these disabilities are the direct results of excisions deliberately performed at casualty clearing stations or base hospitals. They were performed in order to save the limb from amputation, or the patient from death by minimizing local sepsis and preventing general sepsis. Joints are difficult to drain, and the excision simplified the immediate problem. The only competent judges of the necessity of these measures were the surgeons at the front, upon whom rested so many grave responsibilities. It is our duty to recognize this, and to try to make suggestions for the immediate and later treatment of these loose joints in order to minimize the loss of function.

It is well, however, to realize, as judged from cases which have arrived at our centres, that upon the type of resection largely depends good or bad function. Cases of so-called limited resection have resulted in better function than where the excision has been extensive. Furthermore, cases in which the sepsis has been overcome and the bones allowed to remain in position have resulted usually in very good and firm ankylosis with excellent function if the position of election has been maintained. There is no reason why any joint should be allowed to heal at functional disadvantage. This, however, is even yet not sufficiently appreciated. I draw attention to this, not as a matter of adverse criticism, but in case one may be tempted sometimes to excise too much bone, or to forget that many most excellent results are chronicled where excision has not been resorted to.

The flail joint may follow—

(*a*) As a direct result of excision.
(*b*) The removal of large comminuted masses of bone.
(*c*) The direct loss of bone from missile.
(*d*) The extrusion of necrosed bone during sepsis.

METHODS OF PREVENTION.

In considering the prevention of flail joints we have to bear three principles in mind: (*a*) The extent of excision should be strictly limited, subject only to conditions of safety; (*b*) the extension applied should be very moderate; and (*c*) ankylosis should be aimed at rather than mobility.

(*a*) *The Limitation of Extent of Excision.*

This is very important. Muscular attachments which have important influence in maintaining good function should be spared where possible. The tuberosities of the humerus, the nerve supply of the deltoid, the condylar attachments of the muscles governing the elbow, the triceps expansion, the biceps insertion, the coronoid, and, if possible, the whole or a portion of the olecranon should be preserved.

Again, we should endeavour to retain as much width of the lower end of the humerus as is possible, in order to allow the surgeon to restore leverage later.

If it be impossible to leave the important muscular attachments *in situ*, it may be possible to chisel off the portion of bones to which the muscles are inserted—such as the olecranon, tubercle of radius, coronoid process, and the tuberosities of the humerus.

(*b*) *Extension should be Moderate.*

We should strictly limit extension both in extent and time. I have seen several cases in which after excision of elbow a Thomas arm splint has been applied for three months and more with separation of the joint surfaces for many inches. The extension should be strictly limited to the urgent needs of drainage. Strong extension of a limb where the joint has been excised obstructs free drainage. The extension, if necessary at all, should be of the lightest kind and maintained for the shortest period possible. An abducted shoulder and a flexed elbow admit of excellent drainage. In the case of the shoulder and of the elbow the dependent position of the arm and forearm permits of pus tracking down the muscular planes.

(*c*) *Ankylosis.*

The rule should be to aim for ankylosis in the best position for function. We need not again enter into the arguments for and against mobility. The fact that we aim for ankylosis does not mean we shall attain it. We very rarely can, but the effort leaves us the best possible result for future reconstruction. The rule, therefore, for the surgeon at the front should be that so soon as possible he should place the bones as near together as he can, and in the best position for future function, whether pseudarthrosis or ankylosis occur.

TREATMENT OF THE FLAIL JOINT.

The flail joint as we meet it is practically useless from the point of view of function, and it demands mechanical or operative treatment or a combination of both.

Treatment may consist of (*a*) removal of necrotic bone and scar tissue, (*b*) postural treatment, (*c*) operative attempts at improved pseudarthrosis, (*d*) production of ankylosis, (*e*) retention in mechanical apparatus.

(*a*) EXCISION OF SINUSES, SCARS, AND INFECTED BONE.

A fair proportion of flail joints—especially the shoulder—are infected and discharging. Where it is possible they should be treated as in the case of osteomyelitis elsewhere, by excision of sinuses, scars, and infected bone. Whether operated upon or not, the bone surfaces should be approximated and retained in the functional position. A proportion of cases take in their slack and ankylose, or a much firmer pseudarthrosis results. The shoulder and elbow are the joints most responsive to this treatment.

(*b*) POSTURAL TREATMENT.

When all wounds are healed the shoulder should be placed in the functional position either by means of an abduction splint or an angular elbow splint or in plaster. The latter method lends itself very well to these two joints, and gives the much needed stability. The bones should be insinuated into juxtaposition to each other without crumpling the soft tissue between them. Immobility should be secured for at least three months.

If the muscles governing the joint retain power, the after-treatment must be carefully conducted. In the shoulder the upper portion of the plaster support should be removed, so that the arm rests on the gutter-shaped under part of the case. The patient should be allowed liberty to exercise his deltoid, and when he can lift it slightly from the case the arm can be brought a little nearer to the side and fixed in an abduction splint whose angle has been lessened, and a larger range of movement may be allowed to the scapula and humerus. The arm is still further lowered until it can be safely dropped to the side.

If the pseudarthrosis is bony or short fibrous, the shoulder blade becomes the joint. If there is free mobility, the deltoid may be trained to lift the arm. This it does by raising the lower fragment and drawing it against the axilla, the result being quite a useful functioning joint. The elbow, when it is removed from the sling, should be more acutely flexed, and the forearm slung by the wrist, in order to strengthen the biceps and brachialis anticus. As these muscles gain in power the forearm can be gradually lowered until it reaches a right angle. For a considerable time it should be kept from further extending, in order to retain the power gained by the flexor muscles. Such shoulders and elbows, however, are always weak, and in the elbow a considerable lateral instability results. A hinged splint with a shoulder cap will be of advantage in the case of the unstable elbow.

(*c*) OPERATION TO IMPROVE PSEUDARTHROSIS.

Attempts may be made at improving the stability of weak pseudarthrosis by operation. This should only be attempted when the muscles governing the joints may be reasonably expected to recover strength. The operation

consists in removing intervening scar tissue and bringing the bone into contact. They may be kept together by means of kangaroo tendon or other absorbable material. In the case of the humerus a bone graft may be used to lengthen the shaft, but we will discuss the position of bone grafting later.

(*d*) ANKYLOSIS.

Ankylosis of the flail joint, often a difficult matter, will be discussed in relation to the joints involved.

Flail Hip.

If the femur has merely been deprived of the head and neck all that is needed is to correct any deformity which obstructs walking—such as adduction. This can be done by division of the adductors. If the limb cannot bear weight a jointed calliper splint should be applied. This supplies an artificial lever, and the muscles governing flexion resume more of their function. With such a splint the patient can walk long distances with ease and strength. When the trochanter and part of the shaft are also lost this splint proves very useful. Bone grafting, as usually understood, is of no use in the upper part of the femur. Ankylosis in the case of limited excision of the hip is of no advantage, and certainly does not justify the severe operation which it would necessarily entail. If the trochanter and part of the shaft has been removed, the most likely method of obtaining ankylosis is to take a long strip of femur half its thickness and slide it into a prepared acetabulum. The slide should rest for two or three inches in the groove of the femur. Such a graft has a much better chance of life than when introduced from another part of the body. A thin graft removed from elsewhere never develops strength in the adult and will refracture.

Knee.

Ankylosis of this joint is the only practical treatment, and if the bones are in good condition nothing is needed excepting to saw the ends and fix with screw or nail. If there is wide separation, however, and the ends have been associated with sinuses, union is not easily secured. In such a case it will be necessary, after sawing the ends of the bone, to bring a bulky sliding graft from tibia or femur and wedge it in at right angles to the line of the joint. This is a method I have often employed in secondary excisions where union has not been firm. If there is shortening to the extent of many inches the patient may prefer an artificial limb, and he may supply arguments worthy the surgeon's consideration. If an operation is refused, the calliper splint and a high boot will afford the best help.

Ankle.

Flail ankle is so rare that I cannot recall an instance as the result of a war wound. Should it be met with, the treatment will lie between an ankylosis or an amputation.

Flail Shoulder.

I have already described the postural treatment of flail joint, and have mentioned that a successful pseud-arthrosis does not often occur in the case of the shoulder. In a limited number of cases where the head of the bone only has been removed, and where the muscles attached to the tuberosities and the deltoid are functioning, abduction and carefully conducted muscle re-education may result in a joint preferred by some people to an ankylosis. The very flail joint can only be approached with confidence if an ankylosis be aimed at. I have seen certain cases where a graft of bone has been introduced to lengthen the shaft—in one case the upper part of the fibula—with results which I would call promising. I have also seen cases in which these grafts have refractured (they never unite again), and others in which they have been absorbed, leaving the patient in a worse plight than before. The result of my experience is that I would prefer adopting a more certain route, such as the production of ankylosis by end-to-end apposition.

Captain Platt has described a method of bone transplant which may still be considered under trial. It is an attempted reconstruction of the head of the humerus in order to obtain a fulcrum for scapular movement. He takes a large autogenous graft from the tibia, shaped like a wooden mallet. The shoulder-joint is exposed, the upper end of the humerus cleared, and the handle of the graft driven into the medullary cavity. The wide upper end is now brought into contact with the glenoid cavity, which has been completely bared as in an ordinary arthrodesis operation. On occasions he has used a long fascia lata sling carried through the upper end of the humerus, the upper margin of the glenoid, and the acromion process. After completion of the operation the arm is placed in abduction until stability is secured.

Many operations for fixing the shoulder have failed because the surgeon has been content to bare the glenoid and freshen the humerus. This is usually insufficient. If the deltoid has been hopelessly deprived of function, an excellent exposure can be obtained by turning back a flap of skin and exposing the upper part of the deltoid; this muscle can be cut across or reflected upwards as a flap. The joint is fully exposed, and the glenoid can be gouged as deeply as possible. The base of the coracoid and the acromion should be chiselled, and the bony flaps left attached. The upper part of the humerus should be exposed and sawn through, and a groove made into the upper part of the shaft for the reception of the acromion. The humerus is pushed into the glenoid and the acromion sawn through and received into the groove prepared for it. The glenoid, humerus, and acromion should be fixed in contact by kangaroo tendon and placed in the functional position.

Major Naughton Dunn has pointed out to me that if there be much shortening of the humerus the functional position will vary from that which I have advocated. If there is no loss of bone the position of selection is just in front of the coronal plane of the body, while if there is much loss of bone it will be necessary to fix it in a plane posterior to this, otherwise in flexion of the elbow the hand will pass beyond the mouth. It is advisable before fixing the shoulder to test the position by flexing the elbow and observing the function. Dunn has described the operation he performs; it is very similar to that already mentioned. He makes an anterior incision, freshens and exposes the upper end of the humerus by removal of the sclerosed ends in one or two positions. These fragments of bone are retained with their blood supply intact to form new attachments and help to strengthen the arthrodesis. The under surface of the acromion is removed by a gouge from without inwards to opposite the upper margin of the glenoid cavity. This partially detached piece of bone is then folded into the space between the under surface of the clavicle and the upper margin of the glenoid cavity. The acromion process is divided about one inch from its extremity so that it may be brought into direct apposition with a prepared surface on the shaft of the humerus. The prepared shaft of the humerus is impacted into the glenoid cavity and maintained there by suture.

After all operations to obtain ankylosis the arm should be immobilized for three months.

Before the arm is ankylosed care should be taken to ascertain whether the scapula is mobile, also whether it retains its normal position in regard to the humerus. This is extremely important. The success of the operation depends on sound ankylosis and a mobile scapula. If the scapula is fixed the result of the operation is a tragedy, as the patient has a fixed abducted shoulder which he cannot lower. I have seen several such results.

After operation great care should be taken to exercise and re-educate the scapular muscles. The range of scapular movement in the young soldier increases for many months.

Flail Elbow.

Two methods of treatment are available here: (*a*) the non-operative, and (*b*) the operative. How can we predict the case in which it is impossible to bring about stability without operation?

The non-operative method consists of the approximation of the bone ends, counteracting the effect of gravity, and in muscle re-education and development. It also often involves the wearing of apparatus.

The operative treatment has one of two ends: (*a*) the formation of a bony ankylosis, or (*b*) the provision of a mobile arm with stability.

The non-operative treatment is only likely to be successful where the bone ends are broad. If the bone ends are pointed and distant, non-operative treatment cannot be successful even with good muscular control.

Ankylosis of the Elbow.

Many surgeons have described how difficult it is to obtain union in flail elbows. Failure is probably due to a technique which trusts too much to limited surfaces of attachment. There is so little vitality in the ends of the bones that a mere freshening with apposition and fixation will often fail to accomplish union. When nails are driven in the result is no better and further interference with blood supply is threatened.

The operation to be desired is one whereby a larger apposition of raw surface is secured This can be effected at times by splitting the ends of the bones, and in this way widening them. Naughton Dunn has described to me the scheme he adopts with results I know to be satisfactory. He makes a subperiosteal exposure of the fragments to within an inch of their extremity, and completes this exposure by partially detaching a portion of bone triangular in shape from each side of the extremity of the shafts of the humerus, radius, and ulna, leaving them anchored by periosteum. This permits of an enlarged area of bone apposition and more productive osteogenesis.

Several such operations are practised with variations in detail. The principle remains that pieces of bone should be so arranged as to allow of good apposition.

Pseudarthrosis of the Elbow.

We need not now discuss pseudarthrosis of the elbow when this operation is performed for mobilizing an ankylosis. It is a different proposition when we wish to stabilize a flail joint and yet permit of voluntary movement. A necessary condition to the success of this operation is a sound muscular control. If this is not present the operation should never be performed.

Captain McMurray has had a successful series of cases by employing a scheme the object of which is to secure movement with improved lateral stability. A vertical incision is made over the posterior aspect of the joint of a length varying with the amount of bone missing, and extending about 2½ in. over the upper end of the ulna and the lower end of the humerus.

The lower end of the humerus is completely cleared from the overlying tissues for a distance of 2 in. The upper end of the radius and ulna are likewise cleared completely to the level of the orbicular ligament.

It is generally found that the olecranon has been removed at the time of wound or operation, and if this be so the lower end of the humerus is made into the shape of a wedge by removing bone laterally, thus—



A wedge of bone is removed from the neighbouring sides of the radius and ulna, as shown above; this wedge is larger in extent than is necessary to contain the wedged lower end of the humerus. A flap of fascia is now prepared for placing round the lower end of the humerus to prevent any adhesions between the bones. This flap may be taken from the tissues in the neighbourhood, if these have not been destroyed, or it may be taken from the fascia lata of the thigh. The question whether this flap is free or pedunculated does not seem to be of any importance as both act equally well. Whichever flap is taken is sutured in position round the lower end of the humerus, which is then placed deep into the space between the upper end of the radius and ulna so that the ends of these bones project behind the humerus. A drill is then passed through the three bones in this position, and the relative position of the bone maintained by means of kangaroo tendon. If the triceps has lost its attachment to the upper end of the ulna, it is now freed from adhesions and attached securely to the upper end of the bone.

If the olecranon is present at the time of operation the wedge from the radius and ulna is taken at the same spot as before and the olecranon is left projecting back from the humerus—so increasing the power of the leverage which is obtained at the elbow-joint.

The arm is fixed in abduction, and voluntary movements encouraged after three weeks. After eight weeks the arm is allowed down by the side, and the tendency to stretching of the biceps is prevented by the wearing of a sling.

In order to render the joint less flail Captain Platt has devised an operation which consists essentially of binding the bone ends together by strips of fascia lata. After exposure and removal of scar tissue he drills the lower end of the humerus and the upper ends of the radius and ulna, and the artificial ligaments are carried through in planes at right angles to each other and tied securely—the knots being fixed by sutures—and the ends of the ligaments are then fixed to the remains of the joint capsule and the muscle insertions in this region. The limb is slung up in 40 degrees flexion, and muscle education is begun at an early stage. The training is begun in the position of abduction of the shoulder. The stability of the elbow is considerably improved by the operation.

The final results in these cases are very promising. Pronation and supination are lost, but, at a later date, if the ankylosis is firm, operation may be undertaken with a view of restoring this movement. This operation, practised by McMurray, is successful. The bony expansions of the V incision into radius and ulna prevent lateral mobility. If the operation fails an ankylosis in good position may be expected.

Flail Wrist.

This is so rare that I need only say that ankylosis should be performed if thereby function is likely to improve.

In attempting to produce ankylosis of any flail joints we often succeed in producing a satisfactory pseudarthrosis. When we directly aim at a pseudarthrosis we are in danger of losing stability.

STIFF JOINTS.

The stiff joints following injuries of war have to be approached with greater respect than in the case of those we met with in pre-war days. Latent sepsis so often present is almost a new phenomenon. The stiffness due to immobilization is far more intractable.

Extension of the Knee.

A fracture of the femur in pre-war days, either simple or compound, retained in a Thomas splint used to leave the knee-joint only temporarily stiff; a fortnight of massage and gentle movement was sufficient to restore mobility. This is not the case in fractures we are now dealing with, for the rigidity is much more pronounced, and a longer time is required to overcome it. Recent improvements in the Thomas splint, and the introduction of the calliper ice tong extension, make it quite unnecessary to keep the knee immobile for months, so that in future we should not have to face the problem of extreme rigidity. I will not deal now with the ordinary light periarticular adhesions which require only simple handling.

Gradual Flexion of the Knee.

Rigidity is sometimes so marked that surgeons have failed to make any impression upon it by attempts at forcible flexion—a procedure of doubtful wisdom and often very hazardous. Such cases will often yield to the influence of gravity and gradual pressure. A long posterior splint is applied, bent to an angle of 15 degrees. The extended limb is bandaged to this, and when the knee yields sufficiently to rest upon the splint it is allowed to remain there in order to permit the strained tissues to calm down. The bandage is then removed from below the knee and voluntary efforts are allowed towards extension. When this is secured, and not until then, the splint is bent a few more degrees, and the procedure is repeated. This plan is continued until sufficient flexion is obtained to enable the joint to be more vigorously exercised first by active and then by passive movements. Before this is done there must be assured the power of full *voluntary* extension. If the knee becomes firmly fixed in its new angle of flexion it is sufficient proof that this method of attack is premature or useless. In certain cases under anaesthesia a limited flexion can be recovered, but any attempt at increasing this is so resisted by firm tissue that the surgeon has to desist. If such a limb is fixed by splint or plaster in the newly gained position, and kept fixed for a week or so, a further gain can often be secured under anaesthesia on a second occasion. This can be repeated until a fair range

of movement is acquired. The fixation of resisting tissue under strain renders such tissue less obstructive. A recognition of this fact will prove very helpful to us in dealing with obstinate stiffness.

If when flexion is obtained in this way the limb remains firmly flexed and resists attempts at extension, we are not making progress. If on extending it again it becomes rigid in extension after reasonable rest, we may be sure that we are being met by tissues which undergo reaction of a type that does not admit of further force.

When strong periarticular adhesions are thus stretched, a certain transient degree of stiffness in the new position will occur, but after a short course of massage and voluntary effort this will disappear. The advantage of gradual stretching over rapid tearing is that haemorrhage and excessive inflammatory reaction are avoided. There is a still further and very vital reason why excessive force should not be applied; instances have happened in which the patella tendon has been torn or the patella fractured, and I have met also with cases in which the quadriceps has been ruptured.

I am convinced that in injuries of the knee, directly or indirectly resulting from war missiles, forcible manipulation has only a very limited field for application. It should be confined to the lighter type of so-called periarticular adhesions; and, as I have suggested, in the more rigid type of case the aim should be, if anaesthesia be employed, to obtain only a few degrees of movement in successive stages, with intervals of complete rest.

Operation.

Surgical intervention may be necessary in cases of (*a*) muscular adhesions to bone; (*b*) scarring and shortening of capsule; (*c*) intra-articular adhesions due to arthritis or fracture; (*d*) fixed patella; (*e*) bony ankylosis of femur and tibia.

Muscular Adhesions.

Muscular adhesions interfering with flexion are generally associated with the quadriceps. If the muscle is firmly bound down, the rigidity of the knee is very marked. These are the cases in which surgeons point out that after forcing the knee they have gained a slight degree of movement. If the knee is examined, however, it will be found that they have either lengthened the patellar ligament or sometimes ruptured it, and, although the knee will bend a few degrees, it cannot be voluntarily extended. These cases should never be subjected to forcible movement. They have often been associated with a compound fracture, or suppuration in muscle sheaths, or with osteomyelitis.

The operative treatment for adhesions of quadriceps is to detach the muscle from its adhesions, and to place a living flap of fat and fascia between it and the bone. The knee should be kept flexed during healing and the muscle subjected to electric stimulation.

Certain cases have suffered losses in muscle structure which have resulted in shortening, and operative elongation should be considered.

Shortening of Capsule.

The *x*-ray picture in a case with shortening of the capsule may exhibit a perfectly normal joint, and the patella be fairly free. There is no undue tension of the ligamentum patellae, the quadriceps is not adherent, and yet the knee is firmly rigid. With these symptoms we can safely make a diagnosis of tense or contracted capsule. This should be treated first of all on the lines laid down in regard to severe periarticular adhesions, and if the rigidity still persists operative interference may be called for.

Operation.—A curved incision should be made from the femoral attachments of the internal lateral ligaments to the tubercle of the patella. The capsule is exposed, and a curved incision made in it, extending from the anterior aspect of the ligament. The patellar tendon need not be divided if it does not obstruct; if it does it can be elongated. The operation is simple, and should involve no risk.

Intra-articular adhesions are treated by gradual flexion under careful observation. If signs of severe inflammatory reaction should appear, treatment by this method should cease. A little pain and some effusion need not interfere with the stretching. Severe pain, with rise of temperature and effusion, should warn us of trouble.

Adhesion of Patella to Bone.—The patella is sometimes bound down by adhesions to the femur, and this alone will cause fixation of the knee. If the adhesions are light they will sometimes yield to manipulation and exercise; if not, the bones may be freed by operation. Where the attachment is bony, separation may be effected by chisel, and a flap of fascia, or the bursa of the patella, introduced between the bones. If the attachment is extensive and rugged the bones should be slightly excavated and made smooth. Horsley's wax can be rubbed into the femoral erosion, and the bursa laid upon the surface of the patella.

Complete Ankylosis.—If ankylosis is complete and the bones are in good position no surgical interference is needed.

Arthroplasty.—In my opinion, arthroplasty of the knee has no place in military surgery. Cases have been met with in which a gunshot wound, not complicated by sepsis, has caused very limited ankylosis. Such conditions can be operated upon with advantage if the joint is otherwise healthy. It is better not to introduce flaps of tissue, but, after chiselling through the obstruction, to excavate the attachments, making them saucer-shaped, rubbing in Horsley's wax as recommended by Stiles, and if possible keeping the knee in any position whereby the raw surfaces are least in contact. Ankylosis may occur, however, in bad position. This may present flexion deformity, lateral deviation, genu recurvatum, or a combination of all these.

Flexion of the Knee.

If the knee is flexed and sound and painless, with no more than 30 degrees of flexion, it is best to leave it alone. If the flexion exceeds that, an operation may be considered, but the advantages and disadvantages should be fully discussed with the patient.

Operation.—A wedge of bone should be removed from the front of the knee, so that when the bones are wedged together firmly the knee should remain at an angle of about 15 degrees.

I have always advised placing the knee-joint fully extended while we wait for an ankylosis to occur in inflammatory conditions, and also where we have to perform a classical excision. To keep such knees in a slight degree of flexion is often difficult and jeopardizes firm union. When, however, we exsect a wedge, these difficulties do not arise, and an angle of 15 or 20 degrees gives a very useful limb from the point of view of function. Supracondylar osteotomy, unless planned to avoid recrudescence of sepsis, is inadvisable, as the result is never so artistic, more especially if the flexion is marked.

Lateral deviation should be treated as in a case of genu valgum by supracondylar osteotomy.

Genu Recurvatum.

This is best treated by supracondylar osteotomy. It is not necessary to remove a wedge. Great care should be taken to prevent sagging at the site of incision. The success of this operation depends entirely upon keeping the femur bowed forwards at the site of the osteotomy incision. After excision and osteotomy a calliper splint should be worn for three months.

We must remember that sound bony ankylosis in a good position is much more useful than an unsound ankylosis with limited and painful movement. Such an unsound ankylosis often has to be transformed into bony fixation. Bone grafting, although it may be useful in fixing a flail joint, is never needed as an accessory to completing the fixation of a painful fibrous flexed ankylosis. Stability of the knee yields better function than a flail pseudarthrosis.

SOME experiments reported to the American Chemical Society by Hirschfelder, Lang, and Feaman showed that the smoke coming from a given weight of tobacco in a cigar, cigarette, or pipe varied somewhat, but not very greatly, in its poisonous action on frogs. When the same weight of the same sample of tobacco was smoked as a cigar, in a pipe, or as a cigarette there was very little difference in the poisonous quality of the smoke, but usually that from the cigarette was less poisonous. This is attributed to the fact that much more tobacco is being converted into smoke in a given time in a pipe or cigar than in a cigarette. The burning occurs chiefly at the surface, and cigars have about four times the cross section of cigarettes, and pipes may have ten times. Cigarette smoking, if the smoker does not inhale, is the lightest form of tobacco smoking.

The Lettsomian Lectures
ON
TUMOURS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON,

BY

HERBERT R. SPENCER, M.D., B.S., F.R.C.P.,
OBSTETRIC PHYSICIAN, UNIVERSITY COLLEGE HOSPITAL.

(*Abstract.*)

LECTURE I.—FIBROID TUMOUR COMPLICATING PREGNANCY, LABOUR AND PUERPERIUM.*

THE notes of thirty-seven cases were given illustrating the following points: First, that in a large number of cases of small tumours patients pass through pregnancy and labour without difficulty. Even in the case of large tumours—some as large as an adult's head—no difficulty may arise. This is illustrated by eight cases. The danger of pedunculated reniform tumours becoming rotated and causing inflammation is illustrated by a case. Three cases of retroversion and retroflexion of the pregnant uterus produced by fibroids, one of acute anteflexion, and two of inversion of the uterus were mentioned; in seven cases submucous tumours were removed after childbirth or miscarriage by enucleation through the os uteri. In these cases, although sepsis occurred, hysterectomy was not necessary. The lecture was illustrated by numerous diagrams made from tracings of tumours on glass, showing the evolution and involution of the tumours. Three fatal cases were described, one from nipping of the ileum between two pedunculated subperitoneal fibroids; the second from twisted infected subperitoneal reniform tumour; the third was infected with *Bacillus welchii*, and died of acute sepsis after Caesarean section. The after-histories were given in many cases, extending in some instances for periods as long as twenty-five years.

Frequency.

Fibroid tumours complicating pregnancy are quite common, though very divergent opinions have been expressed by eminent obstetricians on this point. I think it may be stated with an approximation to accuracy that fibroids occur about once in 150 pregnancies.

Age.

Bayle, in 1813, wrote that "fibroids scarcely ever appeared before the age of 30 years," but were present in nearly every woman over 40 who had preserved the physical signs of virginity; and Virchow stated that he had examined the corpses of few old virgins in which fibroids were not found, although in many women who had borne children the uterus remained free from them even in extreme old age.

Fibroids rarely occur before the age of 25, and are practically unknown before puberty. The slow growth of these tumours, their occasional occurrence at an early age, and the severe dysmenorrhoea they cause years before they become manifest clinically have led to the suggestion that they are of congenital origin; but Essen-Möller has examined the uteri of 20 fetuses and sucklings, and I have examined the uteri of 100 stillborn girls without finding any sign of myoma.

Taking the ordinary period of woman's fertility at thirty years, we may recognize that in the first ten years during which she may become pregnant she is extremely unlikely to have a fibroid, and that only in the next twenty years is she liable to both. These facts invalidate most of the voluminous statistics of sterility and abortion in women with fibroids. These tumours have a certain influence in causing sterility and abortion, but it is slight. On the other hand there seems to be reason to believe that sterility favours the occurrence of fibroids, and that regular child-bearing and suckling to some extent prevent their occurrence.

Effect of Pregnancy on Fibroids.

When a patient with fibroids becomes pregnant the tumours usually increase in size owing to oedema, hypertrophy, and hyperplasia; the muscle cells become greatly hypertrophied, often swollen and sometimes vacuolated and occasionally developed into large cells resembling the decidual cells of the endometrium (Gordon Ley). The development of the tumours varies; usually they enlarge; sometimes no increase is noticeable; occasionally they appear to diminish; their shape is apt to become flatter and their consistence softer than in the unimpregnated organ. They may become more prominent as pregnancy proceeds, and alter their shape to clinical examination owing to change in their location or axes. They may become fixed by impaction in the pelvis or by inflammation resulting from mucous degeneration, necrobiosis, or infection. The necrobiotic fibroid is either grey or pinkish-grey or red (usually of a dusky tinge)—the so-called "red degeneration," which is not confined to the pregnant uterus, and in my experience is quite as common in the unimpregnated. Degeneration of the fibroid is sometimes accompanied by degeneration of the uterine muscle, which may be more markedly affected than the tumour. The degenerated fibroid may be sterile or may be infected; occasionally it suppurates, especially in the puerperium. It would appear that the degenerated or cystic fibroid forms a good cultivating medium for micro-organisms which may be dormant during the pregnancy. I have found an abscess containing a pure culture of streptococci in the centre of a fibroid in a virgin who gave no clinical sign of its presence except a cachectic appearance; it seems, therefore, that infection of degenerated fibroids may occur from the blood stream. The ordinary route of infection by the vagina often leads to necrosis of submucous tumours. Calcification sometimes occurs in fibroids complicating pregnancy, whether the tumours are of uterine or ovarian origin.

After labour the tumours usually diminish in size and alter in shape owing to their rearrangement in the emptied organ. The subperitoneal tumours sometimes do not diminish very markedly in the puerperal month. Their apparent rapid diminution is rather due to increased difficulty of examination.

CASE 12.—*Large Fibroid: Natural Delivery: Slight Involution after Labour.*

S. H., a nullipara, aged 36, had a large tumour in the upper right wall of the uterus. She had a slightly contracted pelvis, the diagonal conjugata being 4½ inches. On this account labour

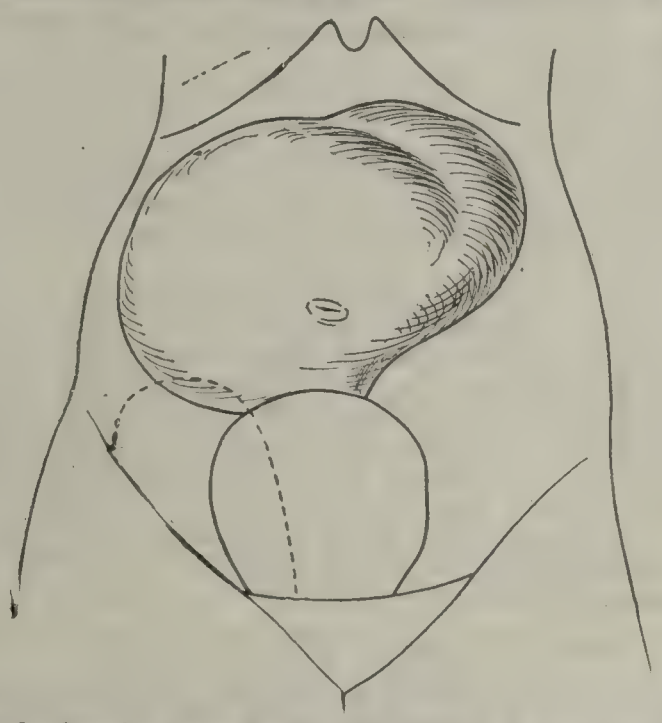


FIG. 1.—Case 12. Immediately after labour; showing tumour larger than an adult's head. The dotted line shows distended bladder.

was induced by bougies and the patient was delivered naturally of a child weighing 8 lb. 1⅞ oz. Both mother and child recovered. The fibroid underwent only slight involution (from 9½ in. by 6½ in. to 8¼ in. by 6 in.) in a fortnight after labour.

CASE 6.—*Large Fibroids: Natural Delivery: Apparent Disappearance of Tumours Fourteen Years Later.*

T., aged 42, married eight years, never previously pregnant. Was sent to me by Dr. Pearse of Ripley on April 26th, 1905. She had complained of pain in the right side of the abdomen for the last two months. She was nearly five months pregnant, having last menstruated at the end of November. Menstruation had commenced at the age of 15, was always regular every four weeks, lasting three days, and being preceded usually by pain.

The uterus was much larger than it should be owing to a

* Delivered February 2nd. The full text contains notes of 37 cases.

fibroid about as big as a fetal head and a larger one as big as a cocoa-nut in the right cornu (see Fig. 2).

The child, a girl, was delivered alive (a breech presentation) by Dr. Pearse on October 2nd, 1905. The mother made an excellent recovery. The uterus contained such a large mass of fibroids that on the fourteenth day of the puerperium it

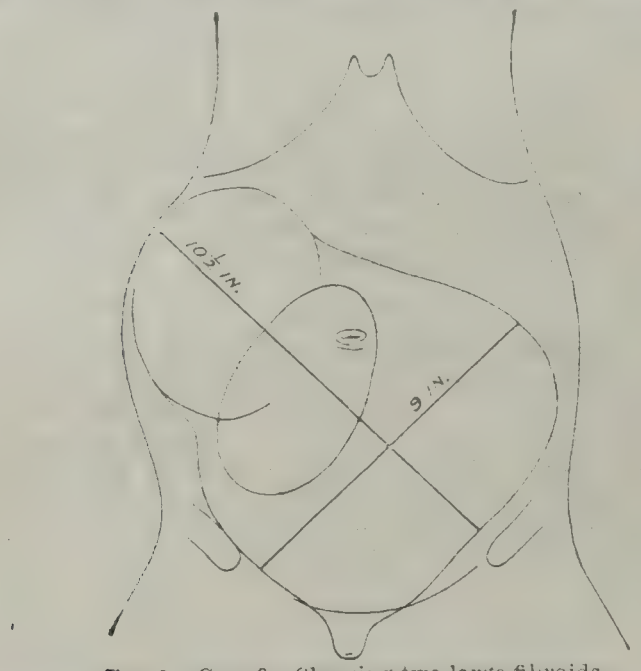


FIG. 2.—Case 6. Showing two large fibroids.

measured 10½ in. transversely and reached up for 1½ in. above the umbilicus.

Fourteen years later, on November 18th, 1919, mother and child were very fit and well in every respect; the child well developed and plump. The mother had not been pregnant again. Menstruation continued to be regular till 1911. Since then (when she was 50 years of age) she had "seen nothing."

Since fibroids undoubtedly in some cases undergo great diminution, they are supposed occasionally to disappear after labour; Olshausen's cautious opinion is that it is "not altogether impossible."

In view of the occurrence of rupture of cystic fibroids in the unimpregnated, of which I have seen an example, it is remarkable that there does not appear to be recorded a case of rupture of the pregnant uterus before the onset of labour. Rupture of veins with intraperitoneal haemorrhage is very rare; the two cases I have met with occurred in nulligravidae.

Torsion of pedunculated tumours sometimes occurs; it is especially liable to happen in the kidney-shaped tumours with pedicle at the hilum (see below). It is a dangerous accident; three out of twenty-one cases collected by Troell and one out of my three cases terminated fatally. This torsion may be transmitted to the uterus and even to the vagina.

Effect of Fibroids on Pregnancy.

Ectopic pregnancy is rarely met with. Troell, in 1910, found forty-nine cases of tubal pregnancy recorded in literature, but one case (Harley's) must be excluded, as the spec men, which is in University College Hospital museum, shows that it was an instance of ruptured uterine horn. I am, however, able to show two specimens of ruptured tube from the same museum.

Placenta praevia is said to occur with unusual frequency in the presence of uterine fibroids. Such a combination was observed in the following case:

CASE 32.—*Submucous Fibroid: Placenta Praevia: Sepsis: Removal of Tumour: Recovery.*

A. C., aged 35, married, had had one pregnancy, resulting in the birth of a living child, eleven days before admission on July 21st, 1910. Three days before delivery she began to pass large clots and on the day before delivery she had a severe attack of haemorrhage (placenta praevia). Version was performed and a living child delivered. During the following week she had several attacks of shivering with high temperature (104°). I saw her in consultation on the eleventh day; the uterus was large and hard and reached 8 in. above the pubes. On examination through the os uteri a submucous fibroid as big as a fist could be felt on the right side. An offensive bloody discharge was present.

Vaginal douches of iodine solution were given, and on July 30th the cervix was dilated with Hegar's dilators and the fingers. The tumour was seized with Doyen's cutting forceps and removed in pieces; the base was very adherent, and in pulling on it the uterus was inverted. This enabled the remains of the tumour to be completely removed. The cavity was then swabbed with iodine solution (℥j to Oj) and the uterus replaced. Iodoform gauze was packed in the uterus for a few hours. The tumour weighed 1 lb. 3½ oz. It was dull red in colour, and in parts was covered with a yellowish-green slough. The operation lasted thirty-five minutes.

The temperature, which had varied from 104° to 100° before the operation, reached 100.8°, 100.8°, 101.6°, 103° in the first four days, then gradually fell to normal. The patient left the hospital on August 18th, 1910, and wrote seven months later to say that she was quite well.

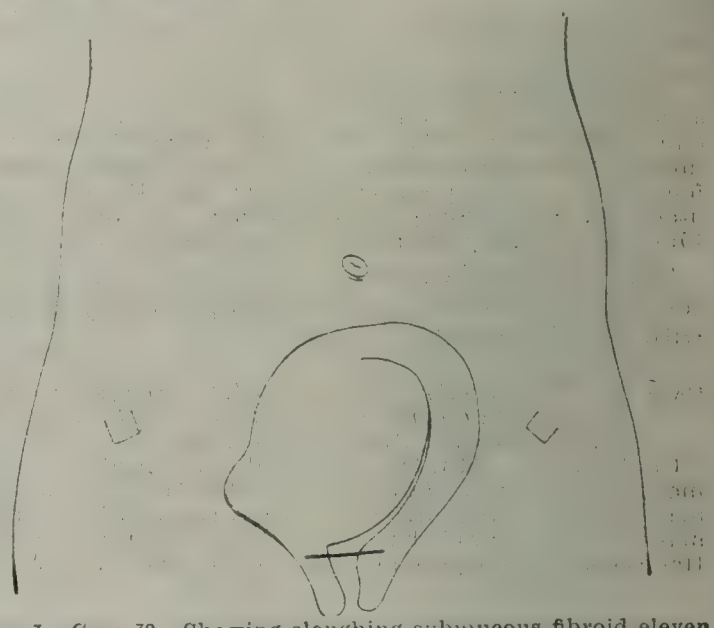


FIG. 3.—Case 32. Showing sloughing submucous fibroid eleven days after labour.

It is probable, however, that haemorrhages due to submucous fibroids or to the insertion of the placenta upon them are sometimes erroneously attributed to placenta praevia. The following case is an example of this occurrence:

CASE 31.—*Submucous Tumours: Removed after Childbirth by Enucleation through the Os Uteri.*

In the outdoor maternity of University College Hospital in 1897 a submucous fibroid measuring 5 cm. by 2.5 cm., to which a piece of placenta and membranes were attached, was removed immediately after labour from a patient aged 41. It was situated on the posterior wall of the body and was associated with haemorrhages during the pregnancy. The labour was natural till the third stage; the placenta was retained; it was during the manual extraction of the placenta that the tumour was discovered. The patient recovered well. Microscopic examination of the tumour showed hypertrophied muscle, adherent chorionic villi, and dilated glands.

It is to be noted that in such a case as this the haemorrhage may lead to the discovery of the tumour.

While abortion, except in the case of submucous tumours, does not appear to occur with much greater frequency than in normal uteri, both premature and post-mature labour are apt to occur.

Pain or tenderness over the tumour or uterus are frequent symptoms, especially in necrobiotic tumours. The pain is usually easily relieved by rest, light diet, and anodynes. I have never met with the "unbearable pain" which some authorities have given as a justification for performing hysterectomy in early pregnancy. In cases of torsion or inflammation or infection of the tumour the symptoms are acute and require prompt surgical interference. Pressure by the tumour on the veins may cause oedema of the lower limbs; albuminuria is not uncommon, and ascites may occur. Abnormal presentations, breech especially, are frequently met with. The labour is often surprisingly easy in view of the advanced age of many of the patients. Even in the case of tumours encroaching on the brim it is found that the tumour is often drawn up out of the way during labour. In some cases forceps may be required for inertia. Retention or incarceration of the placenta or decidua may occur (as in Case 31 reported above), and post-partum haemorrhage, if submucous tumours are present, may be severe. The following is an example of retention of decidua after a miscarriage:

CASE 35.—*Miscarriage: Sepsis: Enucleation of Submucous Myoma and Removal of Decidua: Recovery: Twenty Years Later Death from Sarcoma.*

On October 24th, 1898, at 11 p.m., I saw with Dr. Webb of Netley a lady, aged 34, suffering from fever (temperature 100°, pulse 120) and foul discharge after a miscarriage which had occurred six days previously at the second month. A consultation had been held and the finger had been passed into the uterus, the lining of which was smooth, but the origin of the foul discharge was not discovered. Under chloroform I introduced my finger and found the smooth condition of the lower uterine canal, but I also felt bulging into the cavity a sessile submucous myoma as

big as a walnut; above this, which acted as a ball valve, some putrid decidua could be touched. I enucleated the myoma, removed a mass of putrid decidua, and washed out the uterus with 1 in 3,000 mercury perchloride solution. The temperature fell to normal, and the patient recovered perfectly.

I attended her subsequently in her confinement on December 23rd, 1901, which was quite normal; she also had a second child without any difficulty. She remained in good health till 1917, when she began to lose considerably, and the abdomen increased in size. She became cachectic. I saw her in consultation with Dr. Blaikie and Sir Thomas Barlow on October 5th, 1917. She had a large fixed irregular uterine tumour nearly filling the abdomen, especially on the left side. She had also pleural effusion and haemoptysis, and other signs of growth in the lungs. From the cachectic condition, the haemorrhages, and foul discharge it appeared probable that the growth was a uterine sarcoma. She gradually wasted, and died in February, 1918, nearly twenty years after the enucleation of the fibroid.

The following is a remarkable instance of the value of conservative treatment in a case of pregnancy complicated with large tumours:

CASE 7.—*Multiple Fibroids causing Obstruction (sixth week) and Albuminuria (eighth month): Induction of Labour: Mother and Child Living Twenty Years Later.*

On September 26th, 1894, M., a nullipara aged 37, was sent to me by Dr. Lennox Wainwright, of Folkestone. She had been married twice, the first time at the age of 20, but although married many years to her first husband no coitus had occurred. Her second marriage took place on July 1st, 1894. A few days

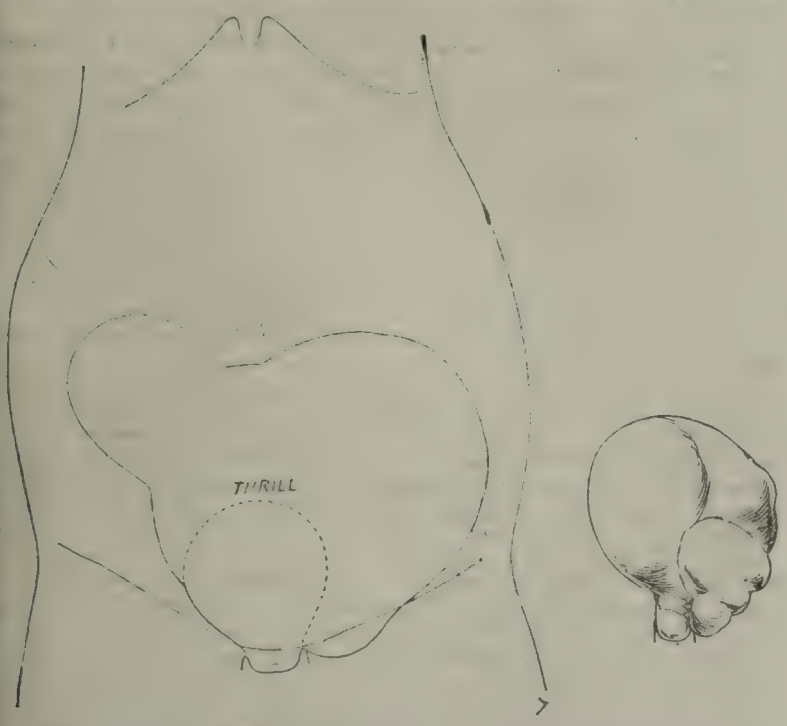


FIG 4.—Case 7. The larger figure shows the size of the tumour at the sixth week of pregnancy; the smaller figure shows the size of the uterus twenty years later.

afterwards she had a period, but had seen nothing since. In the last three days she had been sick, and for three weeks she had had frequency of micturition. At the age of 14 she had an attack of peritonitis, which was repeated in 1886 and 1892, and since then had had several threatenings, and a well marked attack three weeks ago.

Menstruation began at the age of 11, and was regular except at the age of 19, when it stopped for thirteen months; it was always very painful.

On examination the abdomen was tender and distended by a tumour, which reached up to the umbilicus on the left side and rather higher on the right, where there was a marked movable projection as big as a fist.

The tumour felt like a myoma, and near the middle of it there was a marked thrill.

The uterus was retroverted, apparently enlarged, and seemed to pass into a hard mass above and around the cervix. To the left of the cervix projected a solid mass connected with the uterus. This mass came down to the level of the edge of the cervix. The diagnosis was made of pregnancy of two to two and a half months complicated with multiple fibroids.

With rest the patient progressed fairly well, but a month later, on October 28th, 1894, I was called to Folkestone to see her, and found her extremely ill, vomiting frequently, and obstinately constipated. A large enema of soap and water was administered, with the result that motions were passed and the patient recovered completely. At this time the fundus had risen out of the pelvis, but the fibroid on the left side still occupied the brim. At the beginning of April, 1895, the patient came up to London to a nursing home with a view to having Caesarean section performed. The urine was found to contain a large quantity of albumin. The head was above the brim, and the lower end of the large fibroid just entered the pelvic brim on the left side, otherwise the pelvis was free and of full dimensions. I had the advantage of a consultation with Sir John Williams, and it was decided to induce labour on account of the albuminuria. This was done with bougies. During the labour the fibroid on the left side retracted above the brim and a well developed girl of about eight and a half months' development was born alive, after a normal labour, on April 7th, 1895. This girl grew up a very well developed woman, and married in 1914.

On May 7th, 1914, I saw the mother, aged 57, in good health. Menstruation stopped at the age of 47. The uterus was of the size of a fist.

On the whole, in cases suitable for delivery *per vias naturales*, the labour is often normal, even when the tumours in the upper part of the uterus are quite large. In cases, however, in which injudicious attempts are made to deliver the child by forceps or version past tumours even of small size, dangerous bruising of the tumours or even rupture of the uterus may occur.

Diagnosis.

The diagnosis of pregnancy and of fibroids sometimes presents difficulties which are increased when the two are combined. It is more likely that a mistake will be made with regard to the pregnancy than the fibroid. In the first half of pregnancy the great factors in the diagnosis are the suppression of the menses, even if only for a few days, and a uterus larger than it should be and irregular in shape, the irregularities being hard. A uterus may be irregular from pregnancy in one corner—a lop-sided uterus—but it has the normal consistence; when it contracts and becomes hard it assumes the normal shape. If the pregnancy is advanced to the second or third month, the softness of the cervix and body are characteristic, the latter being sometimes best felt on rectal examination. In the early months the points to bear in mind are the cessation of menstruation, the rapid growth of the tumour, the consistence of the uterus, and the hard irregularities upon it.

In the second half of pregnancy, when the "certain" signs—heart sounds, parts or movements of the child, and ballottement—are available, difficulties in diagnosis are sometimes met with. In very rare cases, of which I have seen only two or three instances, the uterus remains as hard as a fibroid throughout pregnancy, and is not subject to those periodical relaxations and contractions which ordinarily characterize it. On the other hand, a degenerated fibroid uterus, by its consistence and livid appearance, may closely simulate a pregnant uterus with its contained fetus, but the certain signs and the breast changes are, of course, absent; menstruation is usually excessive, and I believe the bulging of the anterior lower segment which is sometimes seen in the case of fibroids is never met with in normal pregnancy, though it may be found extremely marked in retroflexion of the pregnant uterus produced by fibroid of the fundus adherent in the pelvis. When there are irregularities on the surface of the pregnant uterus the diagnosis is simplified; the prominences are hard, the pregnant uterus soft and contractile; the fibroids do not alter their position as parts of the fetus do, and they may become more marked during uterine contractions, which obliterate the fetal parts; at most the tumours have a slight mobility, but return to the same position even when repeatedly examined. A large subperitoneal or intramural growth or small multiple growths may render the palpation of the fetus difficult till the pregnancy is somewhat advanced.

If the fibroids are degenerated they may feel softer than the rest of the uterus when the latter contracts, as in the following case:

CASE 30.—*Miscarriage: Intramural Fibroids: Recovery: Caesarean Section in subsequent Pregnancy: Acute Sepsis (Infection of Tumour): Death.*

A. S., aged 42, married in 1904; no children, one abortion (December, 1914); had been an in-patient on December 17th, 1914, at University College Hospital for incomplete miscarriage of about nine weeks, brought on by the use of abortifacients. The retained decidua was putrid, and on removing it an intramural myoma as large as an orange was found in the anterior wall of the uterus. An iodine douche was given, and gauze applied for twelve hours as bleeding was profuse. She recovered well, though the temperature was raised to 100° on three occasions up to the ninth day and up to 99.6° on the thirty-second day; the pulse also varied from 80 to 96.

She was advised to submit to Caesarean section if she became pregnant again. Accordingly she was admitted to University College Hospital on February 21st, 1917; she was in good condition and near the term of pregnancy. The child was lying obliquely with the head below, displaced to the left by the fibroid,

which was felt in the lower segment, more on the right side than the left, as a softish tumour as big as a large orange, which came down into the pelvic brim. Two other small fibroids were felt in the body. The pelvic measurements were normal—10½, 11½, 8 in. The temperature was very slightly raised (99.4° on admission), but afterwards, till the operation, only twice reached 99°; the pulse varied between 88 and 104 (on admission 120). Caesarean section was performed on March 1st, 1917, at 1.30 p.m. The patient had had slight pains all night and strong pains after midday. The abdomen showed a marked prominence above the pubes, which looked like the distended bladder, but felt thicker-walled. It was prominent, but felt soft and fleshy when the uterus contracted; in the intervals between the contractions it felt of the same consistence as the rest of the uterus. The operation was a simple one; the uterus was sewn up with silk; the incision did not extend to the fibroid, which was not encroached upon. The child was delivered alive by the feet in forty seconds, and survived. The operation lasted fifty-two minutes. A submucous myoma as big as a walnut, to which the placenta had been attached and which had been felt on abdominal palpation, was excised. The patient suffered severely from shock, although she had no pain and said she felt well; the pulse and temperature rose to 100; and thirteen and a half hours after the operation she had a rigor and the pulse became very rapid. On the second day temperature 101°, pulse 120 to 166. On March 4th, sixty hours after the operation, at 1.30 a.m., she died. She vomited repeatedly, but this ceased on washing out the stomach. A good deal of flatus was passed per rectum on the second day, and the patient felt comfortable. There was no tenderness of the abdomen. Although she said she felt well but extremely weak, it was obvious she was sinking from acute sepsis.

Post-mortem Examination.—The abdomen was distended, the abdominal wound healthy. A little free fluid was present in the peritoneum, and a few flakes of lymph. The bowel was distended with gas, and had a film of pus over it in places. The deep surface of the wound in the abdominal wall showed early infection. The uterus was large and flabby, the incision was sloughy. The fibroid in the uterine wall felt soft and fluctuating. The uterus was hardened in formalin-salt solution. On opening it the fibroid was found to be of a deep red colour, with cavities containing bloody fluid and bubbles of gas in the uterine wall, as in gas gangrene. The weather was cold, and gas was found in many other tissues of the body. The *Bacillus welchii* was found by Dr. Teale in the tumour.

A degenerated and cystic fibroid may closely resemble an ovarian tumour, and sometimes cannot be distinguished from it, as in a case I recorded in the Obstetrical Society's *Transactions*, vol. xlvi.

CASE 15.—*Large Degenerated Fibroid.*

On July 5th, 1901, I removed from a patient, aged 41, from the left broad ligament during labour, a tumour of which the solid part weighed over 17 lb. and was a foot in diameter. The child, dead before the operation, was easily delivered eight hours later. The patient had previously had four children, at the last labour twins, six years ago. The labours were all normal and the patient had never aborted. She had been very healthy all her life and had first noticed considerable enlargement of the abdomen two years earlier, but always noticed that the abdomen did not go flat after the labour.

In the following case a reniform tumour at the fourth month was diagnosed as a dermoid. Torsion had occurred.

CASE 16.—*Reniform Fibroid: Twisting of Pedicle: Septic Thrombosis: Death.*

Mrs. S., aged 27, a nullipara, was suddenly seized with pain and inflammation on the left side of the abdomen when four months pregnant. A tumour was found on the left side of the body of the uterus, very tender on examination, and was diagnosed as a twisted dermoid. The patient was removed without delay to a nursing home and the tumour removed by abdominal section on May 20th, 1905. There were no adhesions but there was a little pus around the tumour, which was greatly congested owing to twisting of its pedicle, which was attached just inside the insertion of the left round ligament. Some difficulty occurred from haemorrhage owing to the vascularity of the pedicle; but the haemorrhage was stopped by understitching with fine silk. The patient progressed fairly well for two days, then had suppression of urine, secreting only 1½ oz. in sixteen hours, the urine containing one-third albumin and bile, and she died on the third day.

A *post-mortem* examination was not obtained and the tumour was not examined for micro-organisms, but the presence of pus shows that it was probably infected, and I think that death was probably due to septic thrombosis of the ovarian and renal veins. The tumour was a reniform subperitoneal pedunculated myoma weighing 9 oz. and measuring 11½ by 7 by 6 cm. The raw surface of attachment was at the "hilum." The section showed numerous haemorrhages into the tumour and green patches near the surface. There was a small tag of lymph on the surface.

A difficulty may occur in diagnosing twisted fibroids in the acute stage, though the hardness will be in favour of uterine fibroid and the age of the patient may assist the diagnosis. In all cases of difficulty, especially with impacted or inflamed tumours, examination under anaesthesia is of the greatest value.

I need only allude to the resemblance of a horn of a double uterus to a fibroid, for which it has been mistaken, leading to the sacrifice of the uterus, when excision or even replacement of the horn would have sufficed.

After the birth of the child the diagnosis of subperitoneal and intramural tumours is usually easy, owing to the lax state of the abdominal wall and the smaller size of the uterus. Submucous tumours may be overlooked, unless they give rise to haemorrhage or to fever from necrosis or gangrene. If the uterus is large and hard in the puerperium, a submucous fibroid should be suspected and the uterus should be explored. Fever may arise either from retention of the products of conception or from infection of the tumour, especially if it has undergone degeneration. A tender subperitoneal tumour in the puerperium, associated with fever, will suggest infection. I have known a large intramural tumour mistaken for a second twin; in that case the hardness of the tumour and the absence of signs of the fetus rendered the diagnosis easy, but were the tumours degenerated, considerable difficulty might arise; it would be overcome by exploration through the cervix.

A fibroid impacted in the pelvis, especially if cystic, may closely resemble an ovarian cyst, and a subperitoneal fibroid after abortion may resemble a tubal mole, but is to be distinguished by its hardness. Inversion of the uterus may occur, usually some weeks or months after labour or abortion. In addition to the usual signs of inversion, there will be a tumour usually separated by a groove and distinguishable from the uterus by its harder consistence. A case of mine in which these two points of distinction were absent is, so far as I know, unique.

Prognosis.

The prognosis is in the great majority of cases good when the patients are attended with judgement, and careful regard is paid to asepsis. The three fatal cases here published, which are all that I have met with, are examples of dangers which sometimes arise. The first

TABLE A.—*Author's Cases treated by Abdominal Myomectomy.*

No.	Age.	Children.	Abortion.	Date of Operation.	Adhesions.	Tumour.	Remarks.
1	41	4	0	July 5, 1901	To omentum and broad ligament	Cystic myoma 1 foot in diameter, solid part over 17 lb., and several pints of fluid.	Operation during labour. Mother recovered; child dead before operation. (Case 15.)
2	30	0	0	March 5, 1905	To omentum	Pedunculated twisted reniform tumour attached by hilum just internal to right round ligament, 11.5×9×5 cm.; vascular, degenerated, adhesions on surface.	Operation three weeks after abortion at fifth or sixth week. Mother recovered. (Case 17.)
3	27	0	0	March 20, 1906	No	Pedunculated twisted reniform tumour attached by hilum just internal to left round ligament. (See text.)	Operation at fourth month of pregnancy. Patient died on third day. (See text, Case 16.)
4	26	0	0	November 11, 1911	To omentum	1 lb. 1 oz., 7.5 cm. in diameter, pedicle 3.7 cm. thick, lymph on surface; necrobiotic; sterile.	Operation at eleventh week of pregnancy. Child, 7 lb. 15½ oz., born 272 days after marriage; vertex presentation. Patient recovered. (Case 14.)
5	29	2	0	July 24, 1913	To omentum and abdominal wall at navel	3¾ oz., 7.5 × 5 × 4.5 cm., calcified and degenerated.	Operation at sixth week of pregnancy. Child, 6 lb. 10 oz., delivered naturally; vertex presentation, March 10, 1914. Patient recovered. (Case 13.)

TABLE B.—*Author's Cases of Pregnancy complicated by Fibroids treated by Conservative Caesarean Section.*

o	Age.	Children.	Abortion.	Date.	Adhesions.	Fibroid Removed.	Remarks.
1	34	0 (married 5 years)	0	March 1, 1907	No	No	Fibroid size of lemon in left lower segment; generally contracted pelvis; healed tubercle of sacro-iliac joints and pelvis.
2	31	2	0	Jan. 8, 1916	No	No	Fibroid size of grape right upper anterior wall; contracted pelvis. Several small fibroids found on December 14, 1918, when Caesarean section successfully done for the fourth time (H. R. S.).
3	42	0	1	March 1, 1917	No	No (a small submucous tumour removed)	Degenerated infected myoma of lower segment. *Bacillus welchii* in tumour. The patient died of acute sepsis in sixty hours. (Case 30.)
4	25	0	0	March 17, 1917	No	No	Pelvis contracted 3½-inch conj. vera); two fibroids size of grape and marble at back of uterus.
5	38	1 (dead; forceps)	1	Feb. 8, 1918	No	No	Pelvis contracted (3½-inch conj. vera); one child delivered dead with forceps (difficult); small fibroid in anterior wall.

All the mothers recovered except No. 3; all the children were living.

TABLE C.—*Author's Cases of Pregnancy complicated by Fibroids treated by Caesarean Section followed by Abdominal Hysterectomy.*

lo.	Age.	Children.	Abortion.	Date.	Adhesions.	Nature of Operation.	Remarks.
1	28	0	1	May 14, 1892	No	Porro's operation (299 days after last menstruation)	(See *Obstet. Soc. Trans.*, vol. xxxviii, p. 390.) Breech presentation. Labour obstructed by cervical fibroids. Mother quite well in 1914; the daughter 5 ft. 10 in. in height, well developed, recently married. Uterus weighed 6 lb.
2	28	0 (married 5 years)	0	March 18, 1905	A few around ruptured tube	Caesarean section + total abdominal hysterectomy	(See *Obstet. Soc. Trans.*, vol. xlviii, p. 240.) Patient in labour. Footling presentation; membranes ruptured 8 hours; urine highly albuminous; ascites. Uterus 6 lb. 2 oz.
3	38	0	0	March 29, 1908	Of pedunculated fibroid to Douglas's pouch	Caesarean section + total abdominal hysterectomy	(See *Proc. Roy. Soc. Med.*, Obs. and Gyn. Section, vol. ii, p. 74.) Breech presentation. Operation for retroflexion of uterus by fundal fibroid adherent in Douglas's pouch; uterus 5 lb. 12½ oz. (with placenta). Operated on for spindle cell sarcoma of left ovary, May 20, 1919. Child dead before operation.
4	37	3	1 (induced at 6½ months)	July 10, 1909	No	Caesarean section + total abdominal hysterectomy	(See *Proc. Roy. Soc. Med.*, Obs. and Gyn. Section, vol. iii, p. 82.) Head presentation. Operation for painful fibroids and contracted pelvis. Difficult labour last 10 years before; 1 child imbecile, injured by forceps. Uterus 2 lb. 14 oz., posterior wall 2 inches thick; hyaline degeneration of uterine muscle and fibroids.
5	40	0 (married 9 years)	0	October 12, 1914	No	Caesarean section + total abdominal hysterectomy	Operation for painful fibroids and contracted pelvis. Fibroids in posterior lower segment in pelvis, but had risen at operation. Patient anxious for living child. In labour 3 hours; head presentation. (Case 29.)
6	42	0 (married 3 years)	0	Sept. 30, 1916	No	Caesarean section + total abdominal hysterectomy	Operation for fibroids and contracted pelvis; head presentation. Conjugata vera 3½ inches. Fibroid 3¾ inches in diameter, 2⅞ inches thick in lower segment to level of internal os. Mother and child well in 1919. (Case 28.)

All the patients recovered; children all living except No. 3, which was dead before the operation.

eath, from intestinal obstruction due to nipping of ileum etween the subperitoneal fibroids, is a very rare accident, f which I have not been able to find another example. he other two deaths (Cases 16 and 30) suggest the ecessity of bacteriological examination of the tumour efore resorting to conservative abdominal operations.

Treatment.

The great majority of cases require only careful ipervision during pregnancy, periodical examination of ie urine, and rest, mild aperients and anodynes if the mours become painful. Induction of abortion, and remature labour and forcible delivery past obstructing mours are contraindicated. Forceps may be required for ertia but should never be used to overcome resistance aused by tumours. Craniotomy and embryotomy are alled for only in cases in which the fetus is dead and ie mother not infected. Polypi and pedunculated suberitoneal tumours should be removed.

Vaginal myomectomy may be required for cervical broids, but should not be performed for retro-cervical mours.

Abdominal myomectomy is rarely needed, and usually ly for very large or twisted or necrobiotic tumours. It t infrequently leads to abortion and to hysterectomy in der to stop the haemorrhage from the bed of the tumour, nd it often fails to remove all the tumours present in the erus. Before performing myomectomy, as also before nservative Caesarean section, the tumour should be amined bacteriologically, and if it is infected the whole erus should be removed.

Hysterectomy during early pregnancy in the absence of emorrhage or infection is rarely called for.

Myomectomy and hysterectomy in early pregnancy are equently performed by some gynaecologists. An important monograph by T. Landau[1] on myoma and pregnancy is illustrated by many fine plates of fibroid uteri containing little fetuses, sacrificed in some cases, it appears to me, unnecessarily by the operation of hysterectomy. He gives a list of eleven cases of abdominal myomectomy during pregnancy, apparently operated upon by his brother and himself. All the patients recovered and only one aborted. A careful reading of the history of the cases leaves a doubt as to whether the operation was in all necessary or advisable. He gives also a list of 19 cases in which hysterectomy was performed in the early months of pregnancy. In some of the cases the pregnancy was not diagnosed before the operation; in others what was intended to be myomectomy terminated in hysterectomy. One of the mothers died, the others were, of course, sterilized and the children sacrificed. The practice of hysterectomy in the early months of pregnancy is, in my opinion, much too common, both abroad and in this country. I have never found it necessary.

In Table A are given my cases of abdominal myomectomy during pregnancy. Of the mothers four recovered and one died (undelivered) at the fourth month of pregnancy. In No. 1 the child was dead at the time of the operation. In No. 2 abortion had occurred before the operation. In Nos. 4 and 5, operated on at the eleventh week and sixth week, the pregnancy continued and living children were born.

Every endeavour should be made to enable pregnancy to be carried on until the child is viable, when a conservative or radical Caesarean section may be performed.

Conservative Caesarean section is rarely indicated by the fibroids alone, but may be performed when fibroids are associated with contracted pelvis or malpresentations of the child, especially in elderly primiparae. In the case of a single myoma it might be possible to remove the myoma and child through the same incision. Landau, who removed

the uterus nineteen times during early pregnancy, does not record a case of conservative Caesarean section.

My five cases are given in Table B. In all of them contractions of the pelvis and the presence of fibroids were the indications for the operation. The five children survived; one mother died owing to my failure to discover the infection of the tumour. The case should have been treated by total abdominal hysterectomy.

Caesarean Section followed by Abdominal Hysterectomy.

Landau performed the operation in two cases only; the mothers and one child recovered; of the other child it was stated that it was a well-developed boy, but whether it survived or not is not mentioned.

My six cases are given in Table C. All the mothers recovered, and all the children survived except one, which was dead before the operation was performed.

Total hysterectomy, which was performed in five of the cases, is, in my opinion, preferable to amputation in pregnant as in non-pregnant cases, especially as it provides drainage and removes the possibly infected cervix.

Troell gives a list of twenty cases (including two of mine) operated on since 1900, with two deaths. I am able to add three more cases (Table C, Nos. 4, 5, 6), making twenty-three cases with two deaths.

In the puerperium vaginal myomectomy is usually the best treatment for submucous tumours even when they are infected or invert the uterus. It should usually be tried before resorting to hysterectomy, which I have never found to be necessary. In infected subperitoneal or intramural tumours total abdominal hysterectomy should be performed.

REFERENCE.

[1] T. Landau: *Myom bei Schwangerschaft, Geburt und Wochenbett.* 1910.

PENETRATING WOUND OF CHEST: THORACOTOMY: SUTURE OF PERICARDIUM.

BY

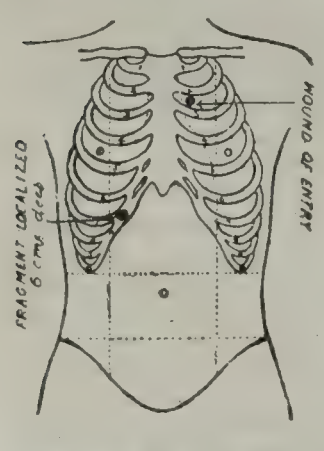
J. B. HAYCRAFT, M.C., M.B., CH.B.EDIN.,

CARDIFF; VISITING SURGEON, MINISTRY OF PENSIONS HOSPITAL, NEATH.

THE following case seems of interest as throwing light on the question whether it is necessary to close a large traumatic communication between the pericardial and pleural cavities. Wounds of the pericardium are rare, and almost impossible to diagnose with certainty.

During the late war much advance was made in thoracic surgery, but the indications for operative interference are not so definite as in corresponding cases of abdominal injury, the reason being that many cases of wounds of the thoracic viscera recover without operation—a very rare event in a wound of a hollow viscus in the abdominal cavity.

In the following case the only factor which might have suggested a diagnosis of injury to the pericardium was the direction of the track of the shell fragment between the entrance wound and the position of the fragment as shown by *x* ray (see diagram).



Pte. H. T., aged 19, was wounded by a piece of high explosive shell at 3.30 a.m. on June 25th, 1918. He was admitted to No. 1 Canadian Casualty Clearing Station under my care at 9 a.m. He was cold and collapsed, with marked dyspnoea, and complained of severe pain in the right side of the chest. There was a small ragged wound over the second left intercostal space, about half an inch from the margin of the sternum. The right side of the chest was absolutely dull on percussion. The pulse was 120. He was put to bed in the resuscitation ward, given morphine gr. ¼, atropine gr. $\frac{1}{150}$, and warmed up by an electric cradle.

At 1 p.m. he was warm, but his condition was otherwise unchanged; the pulse was 124. Examination of the chest with the screen revealed a shell fragment about the size of a raisin (see diagram), 6 cm. deep from the anterior wall of the chest. It did not move on respiration. There was dense right haemothorax, and the right side of the diaphragm hardly moved. The left chest was clear.

Operation.

A 7-inch incision was made (at 2.30 p.m.) over the fifth right rib and costal cartilage, commencing about one inch from the middle line in front. It was carried down to the bone, and the periosteum elevated from the rib. The rib and costal cartilage were split for the length of the incision by a Hey's saw and the parietal pleura divided by scissors. A rib separator was introduced and the chest widely opened. A large haemothorax was evacuated and some large blood clots wiped out with gauze. The right lung was collapsed, and a tear, which was bleeding, was found at the lower part at the junction of the anterior and basal borders. This was sutured with fine linen thread.

On inspecting the lateral wall of the mediastinum a tear in the pericardium, about two inches in length from above downwards, was seen, through which was protruding the right auricular appendix and part of the right auricle. This was closed by a continuous suture of fine linen thread, but with considerable difficulty, owing to the extremely rapid beating of the heart and the attempts of the auricular appendix to get outside the pericardium at each beat.

A rapid search was made for the fragment of shell, but, owing to the patient's condition, was not prolonged, and it was not found. The pleura and two halves of the rib were brought into apposition by five or six sutures of thick chromicized catgut passed round the whole rib and securely tied. The muscles were united and the skin incision closed.

The entrance wound, which was dirty and ragged, was incised and packed with gauze. Gas and oxygen had been administered most skilfully for fifty minutes by Major R. Henry. After the first twenty-four hours, during which the patient was rather "shocked," progress was satisfactory. The stitches were removed on the tenth day, and the wound had healed per primam.

After-History.

On July 8th, twelve days after operation, he was not so well, and for two days he had had an evening rise of temperature, 101°. I asked Captain John Tull, C.A.M.C., medical specialist of the unit, to see him, and he reported as follows:

Heart.—Palpable friction over body of heart; dullness extends from right sternal border to ½ in. outside left mid-clavicular line. Cardio-hepatic angle not widened. Both sounds clear. To and fro harsh friction audible all over precordium.

Lungs.—Right: Dullness and general flatness from middle of scapula to base; signs of fluid; aegophony. *Left*: Dullness for hand-breadth at base; signs of fluid.

We aspirated 20 oz. of clear straw-coloured fluid from the right pleural cavity. Culture sterile.

On July 13th Captain Tull reported:

Heart.—Dullness has increased during past few days, and now extends from ½ in. to right of sternum to 1 in. outside left mid-clavicular line. Sounds are well heard. Precordial friction is much less distinct. It is probable there is moderate effusion into pericardial sac. *Lungs.—Right:* Fluid has reaccumulated in right pleural sac; now extends from mid-scapula to base. *Left:* Signs of fluid from lower border of scapula to base.

On July 14th straw-coloured fluid 15 oz. was aspirated from the right pleural cavity. This caused much distress. Culture: a few Gram-positive cocci.

On July 18th clear fluid 16 oz. was aspirated from the left pleural cavity. No culture was obtained.

On July 22nd he was very greatly improved, and in our opinion fit to travel. At the time there was great pressure on the available beds, and he was evacuated to the base.

Present Condition.

In February, 1919, he was demobilized, marked category B3, and I have a letter from him written in August, 1919, to say that he is working as a platelayer on the railway, and his only complaint is some shortness of breath on exertion. The shell fragment is still *in situ*.

Dr. T. S. Lister of Sandal, Wakefield, has very kindly sent me the following notes:

"I saw him yesterday; he is looking well and strong, and is working on the railway. Long scar of incision extending across the right side of the chest over the fifth rib. This is healed and healthy. Scar 3 in. long over front of second intercostal space on left side.

"Cardiac apical dullness extends to half an inch interna to left nipple line. No appreciable dullness on right side o sternum. The first heart sound at the apex is weak. Live dullness in right nipple line extends to sixth rib. Dullness o posterior surface normal. Breath sounds are normal both sides. Vocal resonance no appreciable difference on th two sides. Expansion of chest is good and normal. He ha slight shortness of breath on exertion."

Gask and Wilkinson have laid down indications for earl operation in cases of penetrating wounds of the chest, bu this case did not present any of those indications, an the first point that will suggest is, Would recovery hav occurred without operation? As far as the injury to th lung and the haemothorax are concerned, aspiration woul in all probability have been sufficient. As to the rent i the pericardium, I venture to think that closure wa essential for the following reasons:

1. Prevention of spread of infection or fluid into th pericardial sac. Immediate closure of other serous cavitie has been found to be the best method of treatment in case of early infection.

2. Mechanical. The contraction and adhesion of th rent in the pericardium to the auricle might have cause grave cardiac symptoms.

The escape of the great vessels and the auricle itself is worthy of note.

I am much indebted to Captain John Tull, C.A.M.C., for his clinical aid and to Dr. T. S. Lister for the notes he supplied me with.

ACUTE INTESTINAL OBSTRUCTION DUE TO PREGNANCY IN A BICORNUATE UTERUS.

BY

C. E. S. JACKSON, F.R.C.S.ENG.,

SURGEON, WEST NORFOLK AND KING'S LYNN HOSPITAL.

THE following case is worthy of record because it is an example of a rare condition which presented great difficulty in diagnosis, and because an interesting question is raised as to what should be done in any future pregnancy.

Mrs. W. was admitted to the West Norfolk and King's Lynn Hospital on October 29th, 1919. The history was as follows: She had menstruated on August 5th, 1919, and had morning sickness in September; in October she noticed that her abdomen was swelling, and her breasts became somewhat tender.

Forty-eight hours before admission she was seized with sudden abdominal pain and vomiting. Her doctor tried turpentine enemata without avail. The vomiting continued, and the abdomen became distended and tympanitic. On admission to hospital the pulse was 104, and of low tension, and the temperature was 98°. Her features were drawn and her expression anxious; the extremities were cold. She vomited twice during her first half-hour in hospital; the vomit was bile-stained, with no suggestion of a faecal taint. The abdomen was somewhat distended, particularly in the left iliac fossa and left flank, and acutely tender all over. In the suprapubic region was a pyriform swelling, obviously the uterus, and I was at once struck by the fact that, although she was less than three months pregnant, the uterine fundus reached a level a fingerbreadth above the umbilicus. On vaginal examination the cervix was found to be softened, and there was marked fullness in both lateral fornices, while from the rectum could be felt a tense elastic swelling, filling up the whole pelvis and pressing firmly upon the rectum. A diagnosis of pregnancy complicated by impaction of an ovarian cyst was made.

Operation.

The abdomen was opened by a left paramedian incision 6 in. long, extending 1 in. above and 5 in. below the umbilicus. The intestines (particularly the large bowel) were very distended, and were with some difficulty packed off from the field of operation. On passing the hand behind the uterus a tense cystic swelling was felt. This swelling quite filled the pelvis, so that it was not easy to insinuate the fingers between it and the pelvis wall. After some manipulation, however, this was done, and the swelling was partly delivered from the pelvis, when the following was found to be the condition of affairs. There was a bicornuate uterus; the first horn was normally placed, while the second horn lay behind and to the left of the first. It was attached to the left side of the cervix; it lay behind the left broad ligament, and there was no direct communication between its cavity and the lumen of the Fallopian tube. It was impossible to expose either the anterior or posterior walls of the second horn, so a transverse incision was made across the fundus of it, and a fetus of two and a half months' gestation was removed, together with placenta and membranes. The horn was sewn up with silk as in Caesarean section. The condition of the patient was not good, and the abdomen was closed forthwith.

After-History.

The intestinal obstruction was completely relieved by the operation, the bowels being well opened by a turpentine enema next morning. Convalescence was normal. I saw the patient again on December 20th, 1919. The median uterine horn was now normal in size, while the abnormal horn could be felt quite distinctly from the rectum as a hard swelling of the size of a large walnut lying behind and to the left of the cervix and slightly above it.

It will be noted that subsequent events showed that only one horn of the uterus contained a fetus. In spite of this, the empty horn was very much larger than the full one. There were no lochia.

As regards further treatment, should the abnormal horn be removed? My own view is that it should. If the patient again becomes pregnant, the best that can happen is that she be delivered at term by Caesarean section; the worst is that intestinal obstruction will develop again.

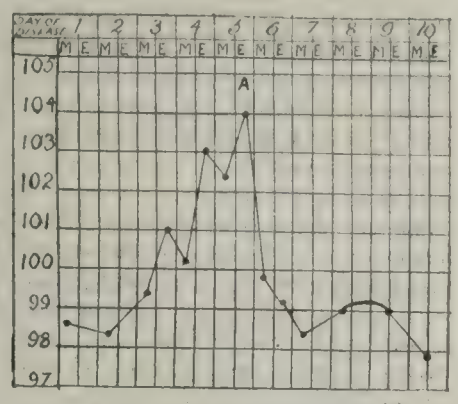
From what was found at the operation, I feel sure that it would be a safe and simple procedure to remove the abnormal horn. The patient, however, was not willing to have a second operation, unless I considered that her condition was immediately dangerous, and this obviously was not the case.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ANTISTREPTOCOCCIC SERUM IN PUERPERAL FEVER.

NATURALLY every case of puerperal fever does not respond to antistreptococcic serum, but it is well to remember its remarkable results in some cases. I have used it twice, and on both occasions with the most dramatic results. The chart reproduced speaks for itself. It is from a patient I treated recently, and it is noteworthy that only 10 c.cm. of the serum were used, more not being available at the moment. The directions sent with the serum recommend 30 c.cm. as the minimal dose.



A=10 c.cm. antistreptococcus serum.

The other case was even more gratifying, as the woman had had a temperature ranging between 104° and 105° F. for several days, with repeated rigors, yet responded immediately to the serum.

Northwood. O. HILTON.

A SIMPLE TREATMENT OF RINGWORM OF THE NAILS.

IN general practice onychomycosis is comparatively rare and its treatment is apt to be superlatively disappointing. Two years ago I met with two cases which appeared to be very much alike. Both were women of middle age and in comfortable circumstances. In one a thumb and in the other a finger nail was badly affected.

Examination of scrapings showed hyphal fragments, and a few particles placed on wort agar gave cultures of rather slow growth resembling specks of damp flour. No conidial fructifications were observed, and the organisms consisted of infrequently branched mycelium with many oidium-like elements and some simple chlamydospores. The cultures died in a few weeks.

It may be objected that such a miserable depauperate mould falls short of what a ringworm should be, but these elements are just the constants of every ringworm culture, and all other elements are variants, more or less perfect, more or less obsolete.

Treatment.—The disease had existed for months in one, for years in the other. They were given a lotion of ʒ j of salicylic acid in ʒ jss of methylated spirit, to be painted on after scraping every night, and without scraping every morning, and to be used for three months or longer. Both have been cured for twelve months.

London, W. ROBERT CRAIK.

MODE OF INFECTION IN PULMONARY INFECTION.

HAVING felt for a considerable time that the present view of the mode by which tuberculous infection is carried from the tonsil to the lung—namely, through the cervical glands to the mediastinal and bronchial glands and so to the lung—is not satisfying, I offer the following suggestion:

Might it not be that the infection is carried from the tonsil through the cervical glands to the jugular trunk and then passed directly into the blood stream through the jugular vein and so to the right side of the heart, from which it would pass to all parts of the lungs? This would aid in explaining why it is that the tuberculous process in the apex is manifested in the lung substance, while in other parts it gives rise in the first instance to pleurisy. The movement at the apex is so much less than that of the other parts of the lung that a greater slowing down of the capillary circulation is more likely in this part. It is in the capillary circulation of the pleura that this slowing down would occur in other parts.

I am excluding trauma, which is no doubt an important factor in determining localization of the infective process, as this is not pertinent to the discussion of a route for infection from tonsil to lung.

The same mode is applicable in the case where the bacilli are absorbed from the intestine. No doubt they pass with the fats into the lacteals, then into the receptaculum chyli and to the thoracic duct, from which they would pass into the venous system and the right side of the heart to pass into the lungs in the blood stream.

THOMAS CAMPBELL, M.D., D.P.H.

Chorlton-cum-Hardy.

Reports of Societies.

PRINCIPLES OF EPIDEMIOLOGY.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, held on January 23rd, with the President, Dr. E. W. GOODALL, in the chair, Dr. F. G. CROOKSHANK read a paper entitled "First principles and epidemiology."

Dr. Crookshank, having called attention to a current neglect of or contempt for discussion of first principles, urged that the time had come for an attempt to define the fundamental concepts of epidemiology. He pointed out that much harm had arisen from a tendency, sanctioned by the example of Sydenham in his less consequent passages, to attribute objective reality to the concept of disease.

> Let us, however, acknowledge that, while no "disease" *sui generis*, boasting a single *vera causa*, exists save as a justifiable mental construct, useful and convenient, we may regard the idea of a special disease as one involving the subordinate notions of (1) a single person manifesting (2) a defined group of symptoms, correlated by (3) a single intracorporeal cause.

A similar confusion had worked havoc in epidemiology, and in the speaker's opinion the student should have in mind a "*concept*, similar in construction to that of a 'disease' but of different content; a concept, that is, to which actual prevalences can be logically referred for verification, just as case-occurrences are referred to disease-concepts, in diagnosis. Three notions are again involved: (1) that of the subject deemed to be affected, (2) that of the disorders manifested in or by the subject, and (3) that of the correlating factor, which we speak of as the cause." In the substantive sense, he continued, the old word "epidemy" might fitly replace "epidemic," and the words of Brochin were significant:

> Dans les épidémies, benignes ou dangereuses, il ne s'agit pas d'un homme, mais de la cité, et même de tout un pays. *Civitatem non virum curabis.*

This was no paradox, that the sufferer from an epidemy was never an individual but always a community or group, and its truth became evident the moment that the conceptual aspect was accepted. This was why in order to diagnose an epidemy one must collate cases in a community, while to diagnose a disease one need only collate symptoms in an individual. Neglect of this principle had led to failure to grasp an epidemic manifestation as a whole—to recognize the cavalry scouts of an advancing army. Dr. Crookshank discussed the theory of epidemic constitutions, and remarked that Ballonius, a hundred years before Sydenham, was much nearer the truth than his more famous successor, and better deserved to be described as the father of modern epidemiology. "The events of the latter months of 1918 are well known, but this should be noted, that during the weeks when the names botulism and encephalitis lethargica were so popular professionally not only the general but the special hospitals saw far more than is usual of Landry's paralysis, of ascending myelitis, of transverse myelitis, and the like. To all of this no attention was paid. Interest was focussed on one type of nervous disease alone, and for the first time during many years a new disease was defined on a regional basis without attempt to study the whole of the prevalent disorders in the hope of arriving at some idea of the scope of correlation."

The paper was discussed by the PRESIDENT, Dr. GREENWOOD, Dr. HAMER, and Dr. BUTLER.

DENTAL SEPSIS IN CHILDREN.

AT a meeting of the Section of Odontology of the Royal Society of Medicine, held on January 26th, the President, Sir J. F. COLYER, being in the chair, Mr. S. F. St. J. STEADMAN read a paper on dental sepsis in children, its consequences and treatment, in which he referred to the deterioration of our national physique as revealed by the physical examination of recruits. He said that the Medical Society of London had commenced an investigation to determine as accurately as possible where we were at fault, but, judging from the report of a meeting held in November, 1918, in which the causes of rejection were classified and in which there was no mention made of dental disease, they were once again overlooking the commonest cause of all. Dr. J. D. Comrie, analysing the physical defects among the general male population, had stated that in 10,000 recruits 928 had artificial teeth, while another 1,120 had lost half their teeth at least, and that a septic condition of the teeth with deposit of tartar and gingivitis was frequently associated with dyspepsia, and invariably with a deteriorated physique. Chronic disease in childhood, the effects of which spread over a period of years, must have a profound influence upon mental and physical growth. Of all chronic diseases of this character dental disease was by far the most common, as something like 80 per cent. of the children of the race were suffering from dental diseases. All were agreed upon the importance to the child of a perfect dental arch. The best way to combat dental diseases was to attempt their prevention, the necessary prophylactic measures being to secure a clean mouth in, and the proper feeding of, the pregnant mother; breast feeding in infancy; the establishment of proper nasal breathing, and proper diet (a diet requiring efficient mastication), and early and constant dental supervision so that caries could be treated early. He was not concerned so much in his paper with the treatment of the children of the rich, for although the fundamental principles were the same for both, in dental diseases, like all other diseases, there was often one means for the rich and another for the poor, and the advice given to a wealthy, leisured mother might be different from the advice given to the busy working class mother.

Effects.

The effects of dental sepsis upon children could be considered under two main headings: (*a*) General; (*b*) local.

(*a*) *General.*—Dental sepsis frequently had a pronounced effect upon children. Their mental and physical growth was retarded; they were pale-faced and anaemic, their eyes had not the normal lustre of healthy children, and they looked tired and sleepy. Sir J. F. Colyer was the first to weigh these children before and after treatment, and in a paper read before the Manchester Odontological Society in 1910, gave the weights of some of the cases he had treated for sepsis. He showed that there was frequently a marked increase in weight, too great to be accounted for by the normal increase of growth; at times the increase following extraction was very marked. From his own experience Mr. Steadman was able amply to confirm these findings.

One of the chief ways by which dental sepsis in children produced this loss of mental and physical growth was by the loss of sleep. A careful investigation of the history of these cases would frequently show that for months the child had not slept well. Its nights had been disturbed by pain. This important symptom had to be looked for, as children did not as a rule complain of it. A common result of oral sepsis in children was gastro-intestinal disorder, as evidenced by gastric and abdominal pain, diarrhoea of an offensive character, with much undigested food in the motions, marked wasting, fretfulness, night terrors, loss of appetite, sleeplessness, and pallor of the face. In treating a case such as this, it would appear reasonable to inspect the mouth first and to remove any possible source of infection therein before proceeding to treat the stomach; yet many medical practitioners still neglected to do this. That this gastro-intestinal condition is due to sepsis and not to lack of mastication, was proved by the fact that the patients frequently got well very soon after extraction of the teeth, and almost before the gums had healed, that is, while they were still too tender to allow of mastication upon the teeth that remained. This

was borne out by the observations of Dr. H. Waller upon dental disease in nursing women. He showed that in many instances in which a breast-fed baby ceased to thrive while still at the breast the trouble could be traced to sepsis in the mouth of the mother. Dr. Waller's charts demonstrated the marked gain in weight of the infants after the extraction of septic maternal teeth. In these cases it was clear that the digestive apparatus of the child was unchanged, and that the improved health had been due to the removal of septic material from its food. As Dr. Sim Wallace pointed out, anaemia of other than dental origin was liable to be aggravated by the chronic toxaemia and septic absorption which might be associated with dental sepsis. Other chronic diseases, such as tuberculosis, could not but be prejudicially affected by an insanitary state of the mouth. Typhoid and scarlet fever and other zymotic diseases had been shown by Dr. William Hunter to be much more dangerous when dental sepsis was present. Further, septic matter from the mouth might be absorbed into the blood stream, and give rise to such diseases as septicaemia and endocarditis.

(*b*) *Local.*—Under this heading he included the adjacent parts to which infection sometimes spread by continuity of tissue, causing such diseases as pharyngitis, tonsillitis, otitis media, and—much more rarely—meningitis. Infection might pass down the lymphatics to the submaxillary and cervical glands. Some observers held that glands were so commonly enlarged in children that it was not worth while examining for them, but he considered that such teaching was absolutely wrong. He thought that normally the submaxillary and cervical glands were not palpable in children, and that if they were, there was sepsis somewhere. Carious teeth frequently produced enlarged glands, as proved by the fact that these glands disappeared after the removal of the teeth. They drained a very large area, including the teeth and oral mucosa, the tonsils, the nasopharynx, the orbits, the skin of the face, and the anterior part of the scalp. Mr. J. G. Turner had shown that sepsis in the deciduous teeth not uncommonly led to damage of the permanent teeth beneath them, as shown by hypoplasia and some of those deformities which had been classed under the term dilaceration. Lastly, the carious tender teeth by disuse brought about a gingivitis, which might spread eventually to the periodontal membrane of the permanent teeth, with all its consequent ill effects upon health.

Treatment of Dental Sepsis in Children.

Mr. Steadman then described his method of treating dental sepsis in children. He extracted all deciduous teeth in which the decay was sufficiently advanced to infect the pulp, and generally their antagonists also. He filled teeth also when he felt sure that the pulp was not affected. This condemned at once the majority of decayed deciduous teeth, because the pulps of these were relatively larger than in permanent teeth, so that a comparatively small cavity was sufficient to infect the pulp. He treated the permanent molar teeth in the same way as the deciduous teeth if the roots were incomplete at the time of the pulp infection. The argument against extensive extraction in children, that mastication was lost, was futile. Medical and dental practitioners who used this argument could see for themselves that mastication was already lost. No child would masticate on tender teeth and exposed pulps. On the contrary, by the removal of tender teeth the area of mastication was increased. An exposed pulp in a deciduous molar meant that the child would not masticate on that side of the mouth, so that the important six-year-old molars behind them were not functional. Experience showed that it was better for the child, if food had to be bolted, that the food should be as clean and as little contaminated by pathogenic organisms as possible. As for the argument that the extraction of teeth prevented the proper growth of the jaw, this, he thought was not borne out by experience, for the removal of teeth from one side of the jaw did not produce deficient growth of that side as compared with the other. The same observation held good if the teeth of the upper jaw, for instance, were removed and those of the lower jaw left. The crowding and irregularities of the arch at a later stage could be overcome if the patient came frequently for dental inspection, so that at the right moment one of the permanent teeth in each corner of the mouth could be sacrificed. It was important to prevent unilateral mastication. On the unused side a marked gingivitis would supervene, and, as the habit was likely to become permanent, the permanent teeth, when they had erupted, would become septic also.

Of the 7,000,000 or so children of this country about 6,000,000 required dental aid. If on an average one hour's work for each child were allowed to be what was required the case would not be overstated. If this work were carried on at the rate of five and a half hours a day it would take one man nearly 3,000 years to complete. This showed that there were not nearly enough dental surgeons available. On the other hand, if all teeth with infected pulps were extracted a tremendous amount of time would be saved. It took a good deal of courage to condemn a large number of teeth in a child. This necessary courage could only be acquired by observing, recording, and pondering over the evil consequences of leaving these septic teeth. A proportion of the dental profession at the present day appeared to lack this courage, or had not yet realized sufficiently the great harm they were doing to their patients by leaving septic teeth. The ignorance of a small but harmful minority of medical practitioners concerning dental matters was nearly as great as that of the general public. They sometimes gave advice on dental matters which was not only incorrect but often extremely harmful. On more than one occasion when he had urged the removal of abscessed teeth which were keeping their possessor awake with pain night after night, besides causing severe general ill health, the medical adviser had stepped in and said that nothing must be done to the teeth until the child's health had improved. Mr. Steadman considered it very important that if in children extensive extraction were decided upon, it should be carried out at one time under a general anaesthetic. In this way much less strain was put upon the nerves of the little patients.

Discussion.

In the course of the discussion which followed Mr. F. N. DOUBLEDAY said that while the function of the teeth was very important, yet when sepsis was established and the teeth were functionless they were useless and redundant, and should be removed.

Mr. F. B. BULL spoke of the importance of the nervous system of the child, which in many cases was such that it was impossible to carry out treatment. Teeth which were septic should be removed at once. He agreed that extensive extraction could be done under ethyl chloride on the open mask.

Dr. ARTHUR SAUNDERS laid emphasis on the excellent results which he had seen in children at the West London Hospital after extraction of septic teeth. The children with septic teeth were often, in addition to being anaemic and wasted, slightly cyanosed, and night sweats were present, so that tuberculosis was often suspected, and the heart was often slightly dilated, a condition which he considered to be due to a mild septic myocarditis, which cleared up after removal of the septic teeth. Slight albuminuria was often present, and nephritis sometimes supervened. Some acute cases of haemorrhagic nephritis due to dental sepsis reminded him of similar cases occurring after scarlet fever.

Mr. E. B. DOWSETT said that the way in which children were able to eat after all the teeth had been removed was remarkable. Those whom he had been able to follow up were able to eat even meat, and thrived well. The occurrence later of irregularity was the only bugbear, but possibly this need not be considered seriously owing to the enormous advantage which followed thorough treatment.

Mr. A. F. PITTS said that Mr. Steadman had brought a serious indictment against the medical men and dentists in stating that some members of both professions did not recognize the serious effects of dental sepsis in children. His experience at the Hospital for Sick Children enabled him to endorse all that had been said with regard to the gravity of the problem and the results of adequate treatment. The effects of dental sepsis, both local and general, were apparent, and equally striking was the improvement in the general health when the mouth was rendered clean. Even when the mouth had to be left practically edentulous the children put on weight and were able to eat their food in comfort. It was astonishing that any man with a medical training should fail to see the harm arising from

septic teeth. Frequently mouths were seen in which necrosed roots had ulcerated through the side of the gum, a condition comparable to sequestra being exfoliated. No doctor would regard such a condition occurring elsewhere with complacency, and yet it was sometimes allowed to exist unnoticed in the mouth. It was true that premature loss of the deciduous teeth often led to irregularity of the permanent teeth, but this lesser evil was so completely overweighed by the greater evil of dental sepsis as to be not worth considering. Some had said that this irregularity was a common predisposing cause of pyorrhoea in later life, but in his opinion dental sepsis in an adult whose metabolism had reached a state of equilibrium, was less serious than sepsis in a growing child, who needed nourishment not only to replace the daily loss of energy but to increase the bulk of its tissues.

Mr. LEWIN PAYNE laid stress on the need for prophylactic treatment. Adequate instruction should be given to parents and children, or the condition would recur in two or three years.

Mr. J. G. TURNER said that extraction was necessary in order to get rid of sepsis. The need of the poor children of London for dental treatment was urgent. All the dentists in the British Isles would not suffice to do all the stopping which should be done. Myopia might result from dental sepsis, the sclera becoming affected by toxaemia or by the malnutrition which accompanied the condition.

Mr. GEORGE THOMSON, speaking of tuberculosis in school children, said that dental sepsis affected the child in two ways: (1) by allowing infection by pathogenic germs, and (2) by resulting malnutrition. The school dental treatment scheme broke down because the number of available dentists was insufficient. Treatment must be begun earlier. He had removed incisors from children of fifteen months. The incisors of babies became denuded of enamel owing to the sugar bag which was given them by their mothers when going to sleep.

SUSCEPTIBILITY TO FOREIGN PROTEINS.

AT a meeting of the Medical Society of London, held on January 26th, the President, Mr. V. WARREN LOW, being in the chair, various pathological specimens were exhibited, after which Dr. JOHN FREEMAN demonstrated the conjunctival and cutaneous reactions obtainable in patients who are susceptible to various proteins. In the case of hay fever it was shown that a diluted extract of grass pollen, if instilled into the conjunctival sac, produced a harmless and transient injection, while if the tip of a glass rod was charged with the pollen and rubbed into a square scratch in the skin an irregularly shaped wheal resulted. Quantitative testing could be carried out with known dilutions of the extract. Susceptibility to other proteins, to the proteins of horses and other animals, and to various kinds of food, fell into the same group, and the symptoms varied only in accordance with the anatomical position to which the disturbing protein was applied. Thus the severe vomiting and diarrhoea which prostrated some persons who ate eggs or strawberries was of the same nature as the prostration and catarrhal changes in the upper respiratory passages in hay fever. The tests were specific, and denoted which was the particular protein to which a patient was susceptible. Experiments had shown that when susceptibility to a protein was encountered in an individual, other members of the same family often showed a susceptibility to other proteins. With regard to the pollens, that of grass was the only one of importance, though certain persons were susceptible to others. This was explained by its abundance and its lightness, the others being much heavier. Another method of employing the test was to precipitate the protein to be tested out of a watery solution by an excess of alcohol. The solution was then filtered, and the filter paper with its attached precipitate dried. A small square of this paper, protein side downwards, if superimposed on a scratched surface, gave the cutaneous reaction. Sufficient protein to give the faintest opalescence to the solution was enough to give the reaction.

"SOLDIER'S HEART."

AT a meeting of the Nottingham Medico-Chirurgical Society, held on January 21st, with the President, Dr. W. ROWE in the chair, Dr. C. H. CATTLE, Senior Physician to the Nottingham General Hospital, read a paper on cardiac affections and the war. He said that the condition spoken of as "soldier's heart," though well known in medical literature, had now for the first time in the history of our country become familiar to every practitioner. The principal symptoms were said to be palpitation, breathlessness, cardiac pain, and giddiness. The chief causes were some infective illness, especially rheumatic fever, and the physical and mental strain of warfare. Half the cases of this affection, for which the term "effort syndrome" was an apt description, were taken from light occupations. As so many men were unable to bear strenuous exertion in civil life, the conditions of military service might be said rather to have brought out a latent tendency than to have caused this condition. Methods of identifying the commoner forms of irregularity of the heart were described. Drugs, with the exception of bromides, were comparatively useless in the "effort syndrome." The most successful method of treatment was the system, introduced by Dr. Thomas Lewis, of gradual physical training in a special institution. Some of these men had systolic murmurs, but the murmur *per se* was found to be no bar to the attainment of a high standard of physical endurance. The general adoption of the exercise test was considered to be the greatest advance made in the examination of cardiac cases as a result of the experience of the war. The following conditions called for rejection for the army: enlargement of the heart, mitral stenosis, aortic regurgitation, aneurysm, repeated attacks of rheumatic fever, failure to pass a strenuous exercise test. A systolic murmur in the absence of enlargement of the heart or of symptoms was far more often functional than organic. Aortic stenosis, without regurgitation, was rare. The murmur of mitral regurgitation could not be distinguished from other systolic murmurs at the apex, but this affection, even if its existence could be proved, may be compatible with many years of useful and even strenuous life. On the contrary, the tendency of mitral stenosis and aortic regurgitation was to get steadily worse. The lecture was followed by an interesting discussion in which the PRESIDENT, Drs. JACOB, SCOTT, and FLINT took part.

Reviews.

PHYSIOLOGICAL PRINCIPLES IN TREATMENT.

THE first edition of Dr. LANGDON BROWN's popular *Physiological Principles in Treatment*[1] appeared in 1908, and the third in 1914. The war, which delayed the present edition, has necessitated a thorough revision, so that the reader is now presented with a stimulating and thoroughly up-to-date guide to the scientific management of a number of diseases.

The text is clearly written, attractive, and not without occasional flashes of humour; thus, in discussing the difficult subject of purins and gout, the author remarks on the curious obsession which leads men who cannot metabolize purin bodies to believe that the rest of mankind are similarly defective, with the result that the purin-free diet becomes a cult. The sections on diabetes and acid intoxications have been almost entirely rewritten, and embody much of Dr. Poulton's recent work. It is interesting to find that the idea of the building up of the diabetic patient's diet after a fast was independently arrived at by Dr. F. M. Allen, now of the Rockefeller Institute, by Dr. G. Graham, of St. Bartholomew's Hospital, the publication of whose results in any comprehensive form was prevented by the war, and by McCay and his fellow workers in Calcutta, the completion of their investigations being delayed by the same cause. The principal difference between Graham and Allen is that the latter prescribes a long fast until the urine is free from sugar, and then gives carbohydrate in the form of green vegetables accompanied by very little protein, whereas Graham's plan consists in a short fast of forty-eight hours followed by a much more speedy addition of protein. From a comparison of these methods Dr. Langdon Brown considers that, whereas Allen's regimen may remove glycosuria more rapidly, Graham's is less likely to affect the patient's general health injuriously. The treatment of renal disease is set forth on broad lines; the irrational restriction of patients with chronic nephritis to a milk diet, which is too dilute a food and may increase

[1] *Physiological Principles in Treatment.* By W. Langdon Brown, M.D., F.R.C.P. Fourth edition. London: Baillière, Tindall, and Cox. 1919. (Cr. 8vo, pp. viii+427. 7s. 6d. net.)

oedema is condemned, and it is pointed out that prolonged nitrogen starvation is as bad for a nephritic patient as for anyone else.

The book contains a graphic description of the symptoms of high blood pressure in the presclerotic stage before structural change has supervened and when preventive treatment can be effectively employed. There is a useful section on the soldier's heart, embodying the knowledge gained in the war. While the text is not overladen with names, due credit is given to those who have recently advanced our knowledge, and the principal references are conveniently arranged at the end of the volume.

THE INTERNAL SECRETIONS AND THE NERVOUS SYSTEM.

THIS monograph on *The Internal Secretions and the Nervous System*[2] is a translation of a report written by Dr. M. LAIGNEL-LAVASTINE of Paris for a congress at Berne in 1914, but not delivered on account of the war, though it was published in the same year in the *Revue de Médecine*. It has now been translated by Dr. F. T. ROBESON of New York, who has added some notes on more recent work, a preface and an introduction. The book presents us with a wide summary of what has been written on this subject, much of it somewhat speculative, and will undoubtedly be a useful source of reference, especially as to the meaning and bearing of vagotonia and sympathicotonia.

The author argues that there are in the first place nervous disorders due to disturbances of the internal secretions, and in the second place anomalies of the internal secretions as the result of nervous disorders, and tabulates these with a running commentary; thus nervous disorders may be due to disturbance of one endocrine gland or to polyglandular syndromes, and in the latter alternative one endocrine gland may be more responsible than the others. The vegetative, formerly called as a whole the sympathetic, system was divided by Professor J. N. Langley into the cephalic and pelvic portions of the autonomic system, and the remainder, still called the sympathetic system. These two portions of the vegetative nervous system are antagonistic, and, as is well known, Eppinger and Hess have insisted on the proof of this by the different reactions in the two conditions to the injection of adrenalin, pilocarpine, and atropine, and apply the term vagotonic to individuals in whom the activities of the autonomic system predominate, and describe as sympathicotonics those in whom the sympathetic is most active. This differentiation has aroused considerable criticism, and it is extremely doubtful if the question is so simple as might at first sight appear. Of the two groups mentioned above, the nervous disorders due to disturbances of the internal secretions are of more practical importance than the disturbances of the endocrine glands caused by nervous disease.

DENTAL CARIES AND ORAL OSMOSIS.

DR. RAGNAR ECKERMAN, a dentist of Malmoe, Sweden, has published in English a book under the title, *Dental Caries in Relation to Oral Osmosis*,[3] which gives a full account of researches and theories he reported to the Congress for Natural Sciences in Vienna in 1913, and published in Sweden in the same year. The theories and observations are very fully stated and amply illustrated in the book before us. Perhaps on account of this elaboration Dr. Eckerman's views are not always quite easy to follow, but we gather that in his opinion there are two kinds of caries—a primary which is a physiologico-pathological state, and a secondary which is a breaking down of substance by micro-organisms. Primary caries, he considers, commences from within, beginning at the tooth pulp and spreading outwards to the surface of the enamel, being of the nature of an osmotic outflow of blood plasma, and even red blood cells, brought about by an excess of common salt or sugar in the saliva. The channel by which this interchange takes place is the dentinal tubules and certain spindle-like spaces in the enamel which are to be found, in the one direction communicating with the peripheral ends of the dentinal tubules, and in the other extending occasionally to the enamel surface immediately under the cuticula dentis (Nasmyth's membrane) which forms the osmotic membrane.

As proof of the internal origin of primary caries the author lays great stress on what he calls the caries canal. This is a cone-shaped area of more or less coloured dentine, having its apex at or towards the pulp and its base under the carious enamel. He considers that its colour is due to blood plasma, and that in all cases of primary caries the connexion with the pulp is demonstrable. He appears to hold that the primary caries is limited to the crown of the tooth, and depends on the fact that owing to too early eruption or to malnutrition the enamel has been badly formed, thus giving full play to the osmotic force of saliva too rich in common salt or sugar. The consequence of this outpouring of plasma into the dentine is an excess of organic matter in that tissue, and in this the author finds an explanation of the increase of organic relative to inorganic matter in carious dentine. At this point micro-organisms come in and "primary" merges into "secondary" caries, which the author allows is a bacterial process. While accepting bacteria as a cause of secondary caries, the author spares no effort to disprove the possibility of their being concerned with primary caries. He would, as we understand, limit the term secondary caries to such caries as arises on the exposed roots of teeth or in places where plates, etc., have held up food débris; but the arguments by which he seeks to exclude micro-organisms from the causation of "primary" caries seem equally applicable to their exclusion from that of "secondary" caries.

We are, indeed, unable to follow the author in his arguments, nor have we been able to determine whether his idea of caries embraces both enamel and dentine or is limited to the dentine. The arguments he advances to disprove the chemico-parasitic theory seem to reveal a failure to appreciate some of the principles of bacteriology and a capacity to turn a blind eye to awkward facts. He triumphantly points to the cessation of the carious process after burial as a proof of the innocence of bacteria, ignoring the lowered temperature and absence of food supply. He seems not to have seen those distressingly frequent cases in which caries is found in tooth after tooth till every available spot is decayed. He regards the symmetry of caries as proof of its independence of bacteria, whereas the theory that caries depends on the lodgement of germs and carbohydrates obviously demands the symmetrical appearance of decay in the two halves of a symmetrical dental arch. His proof of his thesis seems to depend largely on the existence of his "caries canals" and on the supposition that the minute traces of iron found in dark-coloured decay are derived from blood drawn from the dental pulp. He fails, we think, to establish his claim that the "caries canals" are osmotic paths starting from the pulp. He states that he has always found these "caries canals"—tracts of discoloured dentine—stretching from the earliest stage of enamel decay right to the pulp; we would, however, prefer to adopt the generally accepted opinion that it is only in the later stages of decay that a discoloured tract extends right to the pulp, while in the earlier stages a layer of healthy dentine intervenes between the advancing decay and the pulp. In this connexion it is interesting to note that the author seems never to have seen the lateral spread of caries along the "interglobular layer" (situated at the dentine-enamel junction); he, indeed, publishes what he considers a hypothetical figure of how decay should spread in this layer if micro-organisms were causative agents, which figure is, in fact, a very fair representation of what constantly happens.

The presence of traces of iron in decayed dentine can be explained in other ways than as an exudate from the tooth pulp, but even if the haemoglobin of red blood cells derived by diapedesis from a hyperaemic pulp were carried by the dentinal lymph circulation to the edges of the carious dentine the author's thesis would not be helped, the appearance of iron being merely an expression of the normal life-activity of the dentine.

We are compelled to dissent from the author's theory, but we hasten to add that the book will be found to contain much valuable matter and to provide much

[2] *The Internal Secretions and the Nervous System.* By Dr. M. Laignel-Lavastine of Paris; authorized translation by Dr. F. T. Robeson, New York. Nervous and Mental Disease Monograph Series. No. 30. 1919. New York and Washington: Nervous and Mental Disease Publishing Company. (Roy. 8vo, pp. xiv+59. 0.75 dol.)

[3] *Dental Caries in Relation to Oral Osmosis.* By Ragnar Eckerman, Ph.D., L.D.S. London: Williams and Norgate. 1919. (Roy. 8vo, pp. 264; 20 plates. 22s. net.)

stimulating reading to all engaged in research on dental caries. We welcome Dr. Eckerman's contribution to the elucidation of this great problem.

PUBLIC ASPECTS OF THE VENEREAL PROBLEM.

DR. E. T. BURKE'S book on the *Venereal Problem*[4] is written, as the preface states, for the information of the general public; in the introduction its object is said to be "to bring together, in a manner fit for general consumption, the causes of venereal diseases, to point out the factors which cause the continuance and spread of these affections, and to try to indicate the paths along which advancement may be hoped for."

This is undoubtedly a laudable object, but at the same time it may be questioned whether books of this nature are the surest means of attaining such an end. Many of the arguments are reinforced by tabulated figures illustrating such things as the incidence of venereal diseases in different sections of the community. Unfortunately, accurate knowledge in these matters is not available, hence deductions drawn from such statistics are unlikely to be reliable. We would also be inclined to disagree with the statement that the child is infected by means of the spirochaete entering the ovum along with the spermatozoon, the mother becoming infected through the placenta (page 43).

Every medical practitioner is keenly alive to the dangers of the disorders with which this book deals, and few are not at some time brought into contact with the disastrous results following infection. That they inflict an appalling degree of ill health on the community cannot be gainsaid. Whether compulsory notification and treatment, as favoured by the author, is the solution of the problem or not, is a larger question than can be dealt with in this review. Those who favour such measures overlook the confidential relationship that has always existed, and should exist, between doctor and patient—a priceless heritage not to be lightly cast aside. It has been argued that this confidence is sacrificed when diseases like scarlet fever are publicly notified. But the distinction, and it is very important to observe this, lies in the mode of origin of venereal diseases, a factor which influences the patient to hide his malady from the knowledge of others. Nor is this tendency, common to all classes and countries, altered by the use of catch phrases such as "conspiracy of silence" and the like. Herein lies the true difficulty of the problem, and no successful solution is possible that neglects this factor. Medical practitioners are not policemen; they receive the confessions and confidences of their patients, and any effort to disturb such a proper relationship can do no real good either to the public or to the profession.

NOTES ON BOOKS.

THE second edition of *Elementary Practical Chemistry*,[5] by MYERS and FIRTH, provides medical students preparing for their first examination in practical chemistry with a thoroughly sound and well written textbook. The authors claim that they have had regard to the requirements of the syllabuses of most of the medical examining bodies in the British Isles. The book is clearly the work of practical chemists who are also experienced teachers. It is divided into four parts, dealing respectively with the general methods of chemical manipulation, qualitative and quantitative inorganic analysis, and practical organic chemistry; the text is illustrated with a number of simple but excellent diagrams of apparatus. The volume is well written and not too long.

Chemistry in Everyday Life[6] is a chatty volume designed to whet the appetite of the man in the street, and show him how useful an elementary knowledge of chemistry is in every trade, profession, or occupation. It deals in generalities and covers a great deal of ground; it may be recommended to readers of all ages, sorts, and conditions.

[4] *The Venereal Problem*, by E. T. Burke, D.S.O., M.B., Ch.B. 1919. London: Henry Kimpton.

[5] *Elementary Practical Chemistry*. For Medical and Other Students. By J. E. Myers, D.Sc.Vict., A.I.C., and J. B. Firth, M.Sc.Vict., M.Sc. Durham, A.I.C. Second edition, revised. London: Charles Griffin and Co., Ltd. 1920. (Cr. 8vo, pp. viii + 194; 22 figures. 4s. 6d. net.)

[6] *Chemistry in Everyday Life*. Opportunities in Chemistry. By Ellwood Hendrick. London: University of London Press, Ltd. 1919. (Cr. 8vo, pp. xii + 102. 3s. 6d. net.)

Professor JOHN B. ROBERTS'S *War Surgery of the Face*,[7] a treatise on plastic restoration after facial injury, was prepared at the suggestion of the subsection on plastic and oral surgery connected with the office of the Surgeon-General U.S. Army, and it must be confessed that the impression gathered from its pages is rather of a laborious compilation than of the outpourings of a full heart. There have been of late several publications brimming with the enthusiasm of recent accomplishment, and full, therefore, of the greatest interest and instruction for the reader; this volume can hardly challenge comparison. It is not that there is not an immense amount of useful information, though the bibliography is deficient, but there is an unnecessary inclusion of matter not strictly relevant. Plastic surgery is not for the novice, and the skilled surgeon does not want to be told how to treat chilblains with tincture of iodine. The book is profusely illustrated, largely with borrowed pictures.

The fourteenth edition of *Pye's Elementary Bandaging and Surgical Dressing*,[8] brought up to date by Mr. V. Z. COPE, provides dressers and nurses with a friend in need of proved value. It is divided into three sections, the first dealing with bandages and splints, the second with dressings, the third with the immediate treatment of emergencies. This little book contains a great deal of valuable information, and is both well written and adequately illustrated.

The author of *Aids to Histology*[9] has endeavoured to produce a summary of the subject, with the aid of a few diagrams. The task, we take it, is impossible. The book is intended for the junior student of medicine, and for senior students when revising their knowledge.

[7] *War Surgery of the Face*. A Treatise on Plastic Restoration after Facial Injury. By John B. Roberts, A.M., M.D., F.A.C.S., Professor of Surgery in the University of Pennsylvania Graduate School of Medicine, etc. London: John Bale, Sons, and Danielsson, Limited. 1919. (Med. 8vo, pp. viii + 442; 256 figures. 20s. net.)

[8] *Pye's Elementary Bandaging and Surgical Dressing*. Revised from H. W. Clayton-Greene's eighth edition of *Pye's Surgical Handicraft*. By V. Zachary Cope, B.A., M.D., M.S.Lond., F.R.C.S.Eng. Fourteenth edition. Bristol: John Wright and Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1919. (3½ × 5¼, pp. 232; 89 figures. 3s. 6d. net.)

[9] *Aids to Histology*. By Alexander Goodall, M.D., F.R.C.P.Edin. Second edition. London: Baillière, Tindall, and Cox. 1919. (Fcap. 8vo, pp. viii + 135; 20 figures. 3s. net.)

APPLIANCES AND PREPARATIONS.

Amibiasine.

A FRENCH preparation named amibiasine, manufactured by the Laboratoire de l'Amibiasine, 29, Rue Miromesnil, Paris, has been submitted by the Anglo-French Drug Company, Limited, 238A, Gray's Inn Road, W.C.1. It is stated to be a compound extract of the bark of the mangosteen (*Garcinia mangostana*), a tree well known in the Far East for its fruit. It is claimed that the preparation has a strong antiparasitic effect, and is useful in the treatment of dysentery and diarrhoea. The sample supplied to us consists of a brown liquid having an intensely bitter taste and slight odour. Examination shows it to contain some alcohol and 15.8 per cent. of solid matter consisting of vegetable extractive together with a considerable proportion of glycerin. No active ingredient other than the bitter principle could be detected. We are unable to express any opinion on the therapeutic efficacy of the preparation, but the makers state that it has been used in the French Army Medical Department.

Petroleum Jellies.

Messrs. William Browning and Co., Ltd., Albert Works, Park Street, N.W.1, have submitted to us samples of a series of four soft paraffins which they are now supplying under the proprietary name "Semprolia," for medical and veterinary purposes. Examination of the samples shows that they possess the following characters: "Semprolia" No. 1 Petroleum Jelly is a very white, soft paraffin, quite free from odour and taste. Its melting point is slightly higher than that of an average soft paraffin, but not sufficiently so to be any serious disadvantage; in other respects it complies with all the tests of the *British Pharmacopoeia*. It should be quite suitable for internal administration, or for any other purpose for which a soft white paraffin of high quality is required. "Semprolia" Nos. 2 and 3 Petroleum Jellies are respectively yellowish-white and yellow soft paraffins, complying with all the tests of the *British Pharmacopoeia*, and of good quality. "Semprolia" No. 4 is a yellow soft paraffin of lower grade, which is intended for veterinary use, and which, in our opinion, is quite suitable for this purpose.

British Medical Journal.

SATURDAY, FEBRUARY 7TH, 1920.

INFLUENZA.

ALTHOUGH the Registrar-General has not, down to the time of writing, recorded any notable increase of the mortality attributed to influenza, and recent augmentations of notified pneumonia may only reflect normal seasonal conditions, events in other countries justify the warning issued by the Ministry of Health; it is probable that another influenza wave is gathering head. In the calm, which may well be the calm before a storm, and while the floodgates of eloquence are still shut and exhortations to the public health authorities still undelivered, it is good to take stock of our position.

Some pious persons and all journalists have referred to the Armageddon of 1918, but perhaps the opening of the fourth seal would have been an apter comparison; power was certainly given "to kill with sword, and with hunger and with death" over not much less than a fourth part of the earth. In 1918 we entered upon a new epidemiological epoch with but one historical parallel—that of the fourteenth century. Dr. F. G. Crookshank, in the scholarly paper which he recently read to the Epidemiological Section of the Royal Society of Medicine, quite properly drew attention to the neglect of general principles, the narrow particularism which has characterized all popular and too much professional literature dealing with the recent prevalences of epidemic disease. The great factors governing what we may term a pandemic respiratory constitution may be similar even when the bacteriological *verae causae* are different. Whatever be the pathogenic cause of influenza, it is certainly not *Bacillus pestis;* yet the epidemiological affinities of the fourteenth century pneumonic plague and the influenzas of 1918–19 are close. The herding together of human beings under conditions transcending those of ordinary intra-domestic overcrowding appears to be a necessary link in the chain of causes which connects endemic and pandemic respiratory diseases. Plague was not abnormally virulent or widespread in the East before the Black Death; it was in the beleaguered Crimean town of Kaffa, the conditions of which de Mussis graphically described, that something happened which led up to the European pandemic. Upon a smaller scale the same sequence of events was observed in Manchuria in 1910. The primary focus, whether scattered "endemic" cases or an epizootic, is shrouded in obscurity—absolute for the fourteenth century, nearly so for the twentieth—but the incubating chamber, the besieged mediaeval town thronged with fugitives, or the crowded caravanserais of the Chinese hunters in Manchouli, is obvious.

In the specifically distinct case of influenza, it seems probable that a similar stage must intervene before the sporadic passes into the epidemic or pandemic form. Large numbers of human beings must be brought into close temporary association that a stable infective strain may be evolved. Such breeding grounds have been provided with the utmost profusion and in many parts of the world during the last five years. The conditions of fourteenth century Kaffa have been reproduced in the war zone with more than the horrors recorded by de Mussis; they continue to be found, if with less grim accessories, on the tube railways of most cities. In this way we must suppose that a new epidemiological equilibrium has been established. Doubtless the equilibrium is unstable. If it be possible to restore the old standard of life, to break up the mobs of desperate half-starved men and women herding together in cities of Europe, to restore some of the amenities of civilized life, the centre of gravity will again move. But it will move very slowly. The ground conquered by the enemy will not be relinquished more rapidly than it was won. We must not expect to see the end of the present epidemic constitution this year or next year. It is the habit of all men to take short views, to neglect remoter causes and to seek scapegoats, especially when confronted with epidemic disease. Many seem to think that influenza occurred spontaneously, sprang fully armed from the head of Zeus, and may be arrested if only some genius can devise an appropriate vaccine.

In our judgement the sequence of events although mysterious, inasmuch as the precise mechanism, the pattern of the chain, is unknown, is still a real sequence of cause and effect. There is room for controversy as to details, but there is no doubt that those who, like Dr. Hamer, Dr. Crookshank, and a few other epidemiologists, have seen in cerebro-spinal fever, encephalitis lethargica, and pandemic influenza associated manifestations of a new epidemic constitution, judged wisely. With history to guide us, we need not throw back the responsibility upon the "skiey influences" of Sydenham, but can adopt as a reasonable working hypothesis the opinion that the unrivalled opportunities for passage afforded by the social conditions of 1914-18, have combined to standardize an infection which, whatever we may do, and however many scapegoats we drive into the wilderness, whatever panaceas we cry up or down, must continue to take toll of human life until in the course of years a new equilibrium is established.

Does this inference conduct us to a sullen fatalism? must we fold our hands and accept our fate? By no means. Rebuilding of the shattered social order, elevation of the general standard of life, will not "stamp out" influenza this year or next year, but it will steadily reduce the probability of its recurrence in the future. Research into the microbiology of the clinical disease, the controlled employment of vaccines, a really impartial study of their effects, will not prevent epidemics but may do valuable service in the cause of individual prophylaxis. A heedful organization of domiciliary and institutional treatment can save many lives. There is room for much fruitful labour, none for idle boasting or half suggestions that we are almost on the point of discovering a sovereign specific.

Lastly, as to the probable extent of mortality to be anticipated. On the unfavourable side, we must observe that the evil conditions which generate overcrowding, particularly that extra-domestic congestion whether in armies or upon means of public transport which, as the Ministry of Health suggested in its recent memorandum, is probably a more important factor than intra-domestic overcrowding, still exist. So far as the metropolis is concerned, the overcrowding of public vehicles is even greater than in 1918. Hence it may be that the noxious properties of the infective organism will reach an even higher plane than before. On the favourable side, we note the opinion of the Ministry of Health that some immunity was conferred by previous attack, and the fact that the third of the three 1918–19 waves lasted a shorter time and killed fewer persons than the autumn

disease. We might add that the enormous total mortality of the late waves must have eliminated an appreciable proportion of the very susceptible units and that the age-incidence was at the end of the late cycle reverting towards the customary pre-pandemic and less fatal type.

Upon the whole, then, we do not expect that the anticipated outbreak will attain the dimensions of that of September–December, 1918, and think that it may even fall short of what we experienced a year ago. It is said that the epidemic now raging in Italy is not so mortal as before, but details are lacking. Newspaper reports, however, affirm that in parts of Switzerland the current influenza is very fatal. Official figures from New York and Chicago record as many as 10,000 cases in each city for the week ending January 24th, but the deaths have been few. The evidence does not therefore warrant any confident prediction.

THE SALE AND ADVERTISEMENT OF ABORTIFACIENTS.

AT the Central Criminal Court, on January 21st, Mr. Justice Darling, towards the close of his summing up of the trial of two men on charges alleging an illegal operation, expressed the hope that the authorities and those having the power to legislate would take care to stiffen the law regarding abortifacients, "and see that it is more strictly enforced with regard to these improper and dangerous practices." The need for strengthening the law as to the advertisement and sale of abortifacient drugs has long been urged by the British Medical Association. Between 1893 and 1905 the attention of the profession was repeatedly drawn in this JOURNAL to the prevalence in the Midland counties of cases of plumbism in women, caused by the ingestion of diachylon (lead oleate), with the object of procuring abortion. Hundreds of cases of lead poisoning from this cause were then occurring every year, so much so that in the out-patient rooms of the Nottingham and Sheffield hospitals it became a routine practice to examine the gums of women patients. In view of the danger to health and life arising from this practice, the Medico-Political Committee of the British Medical Association appointed in 1906 a subcommittee to investigate the evil and to make suggestions for checking it. A paper by Dr. Arthur Hall and Dr. W. B. Ransom, published in our issue of February 24th, 1906, gave an idea of the magnitude of the evil then existing in South Yorkshire and the Midlands of England. In a leading article of the same date we represented that this matter claimed earnest consideration by the Legislature.

As a result of the deliberations of the subcommittee and of consultation with the Pharmaceutical Society and the Coroners' Society, steps were taken to bring the subject to the notice of the profession through the Divisions, and a communication was addressed to the editors of lay newspapers. In March, 1906, representations as to the necessity of scheduling diachylon as a poison under the Pharmacy Acts were addressed to the Privy Council, but without success. The sale of preparations of this kind without a Government stamp was brought to the notice of the Board of Inland Revenue. Meanwhile the general question of the advertisement, exhibition, and sale of drugs and appliances for procuring abortion had been under consideration. After consultation with the London Council of Public Morality, a letter and memorandum had been addressed to the Home Secretary in November, 1905, urging the necessity for amendment of the Indecent Advertisement Acts; subsequently it was decided to support a bill for this purpose to be prepared by the London Council of Public Morality. In 1908, a Joint Committee of both Houses of Parliament (the Lotteries and Indecent Advertisements Committee) having been appointed, the Association tendered evidence on the lines of the original memorandum. The Joint Committee recommended, among other things, that the advertisement and sale of drugs or articles designed for promoting miscarriage or procuring abortion be made illegal, and that to advertise drugs or articles designed for the prevention of conception should also be illegal. In making these recommendations due regard was had to the protection of bona fide medical practitioners and chemists. Effect would have been given to them by a bill introduced in 1909 by Lord Braye [Indecent Advertisements (Amendment) Bill, H.L. 209], but the bill was dropped. In 1912, at the request of the White Cross League, the Council of the British Medical Association addressed a memorial to the Home Secretary, bringing to his notice the recommendations of the Joint Committee and the earlier recommendations of the Association. Meanwhile the Association had been preparing the evidence given before the Select Committee on Patent Medicines in the same year. A memorandum submitted to the Committee contained recommendations, on the lines already indicated, for the regulation of the sale and advertisement of medical preparations and appliances designed to procure abortion. The final recommendations of the Select Committee embody the policy of the Association, and include the following specific references to this matter: 57 (2) That the Indecent Advertisement Acts be amended on the lines of Lord Braye's bill. 58 (4) That all advertisements likely to suggest that a medicine is an abortifacient be prohibited. (9) (*a*) That it be a breach of the law to enclose with one remedy printed matter recommending another remedy.

In 1906, the National Commission on the Birth Rate having reported in favour of restriction or prohibition of the manufacture and sale of a particular preparation of lead, occasion was taken to bring to the notice of the Privy Council the original memorandum of March, 1906, on the subject of diachylon and lead poisoning. Diachylon was placed in Part I of the Poisons Schedule in April, 1917. In 1918 steps were taken to ensure the inclusion in the Criminal Law Amendment Bill of that year of a prohibition of the sale and advertisement of abortifacients, but the bill was dropped.

This is where the matter stands to-day. The British Medical Association has succeeded in procuring the most effective available restriction on the sale of one abortifacient, the reckless sale of which was entailing terrible consequences on the credulous purchasers—for there is surely no misfortune greater than loss of sight. It has succeeded in convincing a Select Committee that the advertisement of abortifacients should be prohibited by law, and though hitherto disappointed in securing legislation to this effect it does not despair of attaining the object in view.

THE TERRITORIAL ARMY.

THE Secretary of State for War, in his address to a meeting of representatives of the Territorial Force Association of Great Britain on January 30th, outlined the scheme for reorganizing the Territorial Force which has been evolved by the War Office after several meetings between the Army Council and the Territorial Force Association. According to this scheme the British Army is in future

to be organized in two main branches—the Regular Army and the Territorial Army. The Regular Army will be associated with the special reserve battalions necessary to provide it with its own drafts in time of war. For these battalions the old constitutional name "Militia" will be revived. In addition it will have its own reserve, which will be fed by the serving battalions as time passes, and men leave on completion of their engagement. The Territorial Army is to be freed from the responsibility of producing drafts for the Regular Army and to be the sole means of expansion for the British Army in time of war. The purpose of the Territorial Army is to be imperial defence, including the country's obligations to France and Belgium. It will be embodied only when a Royal Proclamation has called out the reserves, and shall be sent overseas only if a fresh Act of Parliament has been passed authorizing its dispatch to a theatre of war. If and when such an emergency arises and the Regular Army and its reserves have gone overseas, and if Parliament then passes the Act, those who enlisted in the Territorials will be the next to go, and on them and on the Regulars the first shock of the war will fall. Mr. Churchill said that there would be fourteen Territorial divisions, and that the yeomanry, of which there are now fifty-five regiments, will provide a cavalry division of ten regiments for the mounted service of the fourteen divisions. A certain number of yeomanry regiments will be kept under the same liability for overseas service as King Edward's Horse, but the rest will be required to form the Field and Mountain Artillery and Motor Machine Gun Corps of the Territorial Army. The war establishment of the Territorial Army is to be 345,000 men, but in the first instance the intention is to recruit it to 60 per cent., or a little over 200,000 men. No reference was made to the special branches, such as the medical. It was stated that the Regular Army and the Territorial Army will be completely self-contained, by which we understand that it is intended each army shall be complete in itself, and independent of the other as regards drafts, etc. The two armies, the Regular and the Territorial, will, however, both be under one direction, that of the War Office; the Territorial Army will be liable to go abroad at a very early stage, and any variation in organization must therefore be avoided, for in the field there must be only one command, one common administration, and identical equipment. These considerations would seem to imply a single Director-General Army Medical Services, who would be finally responsible to the Army Council. On the other hand, it is equally clear that the D.G.A.M.S. must be assisted by officers on his staff intimately acquainted with the characteristics of the component parts of the army. This would apply particularly to personnel, terms of service, methods of recruiting, training, and pay. The question whether it would not be advisable to have a Territorial Medical Advisory Board to advise on Territorial medical administration is one which must be fully considered, but Mr. Churchill promises a fuller statement when he introduces next month the Army Estimates; he will then describe the general scheme of the post-war organization of the British armies as a whole. A White Paper is promised, but has not been issued at the time of writing. We have no doubt that as soon as sufficient information is available the Naval and Military Committee of the British Medical Association will review the situation as it affects the medical branch of the Territorial Army and the relation to that branch of the civil profession. So far as we can judge from what has already been made public, the adoption of the War Office scheme would make it essential that the D.G.A.M.S. should be adequately advised in regard to the special aspects of Territorial service by a competent Territorial officer on his staff, charged with the administration of the medical service of the Territorial Army and responsible for maintaining liaison with the regular service.

HYPERGLYCAEMIA IN MENTAL DISORDERS.

In an article showing evidence of much practical and literary research Kooy,[1] of the Psychiatric and Neurological Clinic at Groningen, Holland, considers the question of hyperglycaemia in mental disorders. Starting with the frequency of glycosuria in melancholia, which Schultze and Knauer observed in 67 per cent. of their cases, and arguing from W. B. Cannon's work that psychical disturbance sets up stimuli travelling by the splanchnics, chiefly the left, to the suprarenals, and thereby causes an increased secretion of adrenalin, which mobilizes the glycogen, and thus leads to an excess of sugar in the blood, and so to glycosuria, he investigated the blood sugar by a modification of Bang's method in a number of mental disorders. The standard was first obtained by examination of the blood sugar in ten normal women and ten normal men, the blood being taken before breakfast and three-quarters of an hour, one hour and a half, two hours and a quarter, and three hours after that meal; the average per mille being 0.98 before food and the highest 1.16 at one and a half hours after food. In epilepsy and dementia praecox the blood sugar was not increased unless there was excitement, and the same result was obtained in the cases classed as amentia. In melancholia hyperglycaemia before breakfast (spontaneous hyperglycaemia) was not constant, but was well marked after food and after anxiety. In mania the blood sugar was often increased, and was highest in real emotional states, such as occur in mania at its climax, but was less in the mild form, and absent when the patient was optimistic, cheerful, and inclined to be jocular. Hyperglycaemia in mental disorder is ascribed to the effect of fear and anger, which phylogenetically are old psychical states, and hence man when so affected reacts in the same way as Cannon and Crile have shown animals do. If this assumption be true, there should be evidence in melancholia of other manifestations of increased stimulation of the sympathetic, such as raised blood pressure, rapid pulse, dilated pupils, erection of hair, as well as hyperglycaemia. Investigation of sixty cases of melancholia supported his contention to such an extent that the working hypothesis of hypersecretion of adrenalin in melancholia is put forward, though in some points proof is wanting. The constipation in melancholia is discussed at length, and is regarded as due to emotion, just as in animals intestinal inhibition may be so caused. In our issue of March 8th, 1919 (pp. 267–271) there was an article on the physiology of hyperglycaemia and glycosuria by Professor H. J. Hamburger of Groningen, who showed that in frogs hyperglycaemia so modified the glomerular epithelium that sugar passed through, but that normally this epithelium prevented the escape of free glucose. The investigation of blood sugar has therefore recently received considerable attention in Groningen from independent and different points of view.

LETHARGIC ENCEPHALITIS.

In communications made recently to the Académie de Médecine in Paris MM. Netter and Achard have reported the occurrence of a considerable number of cases of lethargic encephalitis in Paris and its suburbs. At a meeting on January 6th M. Netter said that he had seen twelve cases since November 26th, and had heard of twenty others. His own cases occurred in different parts of Paris, one in a suburb; no second case had been observed in relation with any of them. A correct diagnosis had, he said, been made in five cases by doctors who had never seen the disease before, and this he attributes to the accuracy of the description of the symptoms he had given to the Académie in May, 1918. Of the three cardinal symptoms—fever, somnolence, and diplopia followed by temporary paralysis of accommodation—the first two were constantly present in the recent cases, but

[1] F. H. K., *Brain*, London, 1919, xlii, 214–289.

diplopia was not observed in a third of them. The hypoglossal nerve was involved in three cases, and the facial in two. Three had tremors and one generalized convulsions. In two there was profuse salivation. There had been two deaths among his cases; two others had completely recovered, and the remainder were still under treatment. At a meeting on January 20th M. Netter said that he had since seen nine other cases, and that the number in Paris and its suburbs exceeded one hundred. He read a note from MM. Combemale and Duhot reporting a series of five cases of lethargic encephalitis in Lille. The first case was that of a man taken ill on September 3rd, 1919, three days after his return from Algeria; the second and third cases occurred in the third week of December, the fourth at the beginning of January, and the fifth on January 13th. Somnolence and ocular paralysis were present in all the cases, and in some other cranial nerves, especially the facial, were affected. The pressure of the cerebro-spinal fluid was increased in all cases, but in only one was it very high. Two other cases had been reported in the neighbourhood of Lille, but no relation could be traced between any of the cases. In two of the cases reported by M. Achard lumbar puncture disclosed marked lymphocytosis, which gradually diminished, and he pointed out that the occurrence of lymphocytosis under these conditions should not be held to negative a diagnosis of lethargic encephalitis, a certain amount of meningeal reaction being apt to occur. This is in agreement with the observations of Dr. James Mackintosh,[1] who found that the pia arachnoid was slightly involved, the lesion consisting usually of an increase in the cellular elements, particularly in the neighbourhood of the blood vessels. In one or two instances only did he observe a number of cellular elements sufficiently great to form an actual mass. M. Netter confirmed M. Achard's statement that the existence of lymphocytosis in the cerebro-spinal fluid did not negative a diagnosis of lethargic encephalitis and agreed that it rapidly diminished. Both authorities referred to the fact that in 1918 and again this year the cases of lethargic encephalitis occurred during an epidemic of influenza. M. Achard suggested that influenza might prepare the way for encephalitis, and M. Netter thought that it was merely an instance of the contemporaneous occurrence of two analogous diseases. He said further that he had recently obtained information of the occurrence of several cases of lethargic encephalitis in a family, in a house, or in a place of business, some occurring at the same time and others after somewhat long intervals. The last fact led him to suggest that, as he believed to be the case with poliomyelitis, the infective agent must be carried in the nose or mouth of convalescents or healthy persons previously in attendance on the sick. A case of the disease has recently been notified at Hanwell, Middlesex, and several isolated cases have been observed in the east and south of France.

PUERILISM OF WAR.

IN 1903 E. Dupré described, under the title of "mental puerilism," a form of altered personality in which there is a reversion to an infantile state. Piéron,[2] in a recent review of the subject, pays special attention to its occurrence during the war, and relates eight cases, one of which was watched for three years. In the historical summary pre-war knowledge is first dealt with: the pathological state of puerilism has long been recognized in three very different mental conditions—in the insane, in hysteria, and in patients with cerebral tumours; examples of these are quoted. Six reported cases precipitated by exposure to explosions or mental shock are referred to, and then the author's eight cases are described in detail. In puerilism the personality reverts to that of childhood, the tastes, feelings, appetites, speech, and gestures being those of a young child. In the cases of war puerilism both physical trauma and emotional shock are possible factors, but the latter is regarded as the more important, though its morbid effect is favoured by antecedent or concomitant trauma, which renders the nervous system susceptible to auto-intoxication. Commotional–emotional puerilism should be regarded as a curable condition, though improvement is slow. The treatment usually indicated is that for shell-shock, but Piéron has administered orchitic extract. Puerilism may be complete or partial, and has been divided into two main forms: (1) Apparent, which is always complete, and is due to suggestion, either from within or without, and is allied to pithiatism; (2) real, which may be partial, and is that seen in the insane, in cerebral tumour, and in most of the commotional and emotional war cases; there is a child's mind in an adult's body, amnesia is not constant and affects recent events, as in an old man in his dotage. True puerilism is due to the combined action of three pathogenic factors: (1) Cerebral insufficiency with more or less complete loss of the inhibitory mechanism of the cortex and of the intellectual acquirements, and with retrograde amnesia; (2) genital insufficiency with diminution or complete loss of the internal secretions of the sexual glands and disturbance of the endocrine balance; and (3) disorder of the affective functions, characterized by abolition of the biological activities (in part due to genital insufficiency), of the social powers (partly the result of cerebral failure), and by exaggeration of the primitive impulses which are no longer inhibited.

[1] Report of an Inquiry into Encephalitis Lethargica. Local Government Board. New Series, No. 121. 1918.
[2] H. Piéron: *Rev. de méd.*, Paris, 1919, xxxvi, 300-345; 410-437.

POST-GRADUATE TEACHING "ELEMENTS."

WE have referred on several recent occasions to the reorganization of medical teaching now taking place in the metropolitan medical schools along the lines suggested by the Royal Commission on University Education in London, and strongly advocated by Sir George Newman in his Memorandum on Medical Education. The essence of the new scheme is the establishment of professorial units, containing "elements" each consisting of a director with assistants; the desire is that as a general rule both the directors and their assistants should be whole-time officers. The scheme is having an effect in various directions, and we are glad to learn that the governing body of the London School of Tropical Medicine has taken advantage of the occasion presented by the removal of the school to Euston Square to bring their whole-time appointments into line with it. The duties of the staff of visiting lecturers remain practically unchanged, but whole-time directorships have been instituted in protozoology, helminthology, entomology, and tropical pathology, and the addition of other "elements" when funds permit is foreshadowed, among which tropical hygiene is specified. We may point out that if an "element" in clinical tropical medicine were added to the preceding subjects, it might be held to complete two full professorial units under the scheme. The action of the board of the Seamen's Hospital Society will undoubtedly excite much attention, for it is the first overt step yet taken towards the founding of a post-graduate medical unit in London. We join in the hope that it will receive the financial support which it deserves from the University Grants Committee now considering the needs and claims of the various educational bodies in this country.

THE JOEL CHAIR OF PHYSICS.

IT was announced last week that Mr. S. B. Joel and his brother, Mr. J. B. Joel, have promised the sum of £20,000 for the endowment of a chair of physics in the Middlesex Hospital Medical School. This handsome gift should prove of benefit to the students in their preliminary training, for the principles of physics cannot be taught too well, and a good grounding in this subject is indispensable for the scientific attitude towards medicine. The endowment may also, it is to be hoped, stimulate research into

the applications of physics to medicine, and may bring about fruitful association in clinical work between the physicist on the one hand and the physician and surgeon on the other. The creation of a professorship of physics in a hospital medical school is an apt recognition of the need for closer association between pure science and medical practice. Long ago physics was called the handmaid of all the sciences, but its possibilities in the way of direct service in the diagnosis and treatment of diseases and injuries are only now being brought to light. When a discovery is made in physics it may be years before its bearing upon the sister sciences is unfolded. To take one instance, Roentgen discovered *x* rays in 1895, but while these rays were soon enlisted for diagnosis, their use in the treatment of disease was of slower growth. Hitherto it has been difficult to discern and test the medical application of a physical discovery because the physicist and the clinician have had few opportunities of intercourse and discussion. The reason for this is not hard to find. The interest to the discoverer of a new fact in physics lies in its bearing upon his own subject, how it may extend knowledge there, and what further fields of research it opens up. His interest in the application of the new fact to other sciences, and to the more remote art of medicine, is to him a secondary consideration. As a result the physician and surgeon do not often get new information in physics in the form in which they can most easily use it. For the advance of medical practice along this line the physicist should be in a position to recognize what is likely to be of service to medical science, and be willing to bring his facts to the notice of the practitioner in such a way that their application may be perceived. Such a physicist must be one with a real interest in medicine, and therefore ready to collaborate with the clinician and the pathologist. During the past ten years something of this kind has been done at the Middlesex Hospital, where researches have been carried out continuously into the use of radium in the treatment of disease. A large part of radium therapy depends upon the established fact that many kinds of cancer cell are more affected by radium emanations than are most of the healthy cells of the body. In order that this fact may be put to good account much research is still needed. The various types of electric current now used in diagnosis and treatment provide another field for co-operation between the physicist and the medical man. Thus, beyond its obvious value in the education of students, the professorship of physics at the Middlesex Hospital may lead to a wider recognition of the value of this fundamental science to medicine, and of the benefit to mankind of joint explorations upon the borderland of the two sciences.

NO. 14 GENERAL HOSPITAL.

IN the earliest months of the war the Casino at Wimereux, overlooking the Channel, was transformed into part of a British military hospital, which became known throughout the army as No. 14 General. About the same time its neighbour, No. 14 Stationary, opened up at the Grand Hotel as the infectious diseases hospital for the Boulogne area, but moved into huts further inland after the building was burnt out at the end of 1915. No. 14 General outgrew the Casino and the adjoining hotel, and became one of the largest hospitals in France. For a part of 1915 its commanding officer was Lieut.-Colonel T. H. J. C. Goodwin, D.S.O., who within two and a half years rose to be Director-General of the Army Medical Service. During the five years of war vast numbers of patients passed through the wards, and very many medical officers served there for long or short periods. The work is now over, and the rooms of the Casino may already be returning to their former uses. A dinner of the staff was held in London, at the Victory Restaurant, on February 2nd, when a company of one hundred exchanged memories of the wonderful years of work and comradeship. The chair was appropriately taken by Lieut.-General Sir John Goodwin. The toast of "No. 14 General Hospital" was proposed by Sir Arthur Sloggett, who was D.G.M.S. in France throughout a large part of its career, and the Chairman responded. In response to a message of loyal greeting a telegram was received from the King expressing His Majesty's thanks to the staff of No. 14 General Hospital for their message "on the occasion of the dinner, which, under the presidency of General Goodwin, their former and distinguished Commandant, has reunited that noble band of men and women who ministered to the wounded and sick." The King visited the hospital in October, 1915, a few days before his accident. His message recalled this visit and congratulated the staff on their happy reunion, adding that "the same spirit of devotion and comradeship which animated their work in those days has brought them together this evening."

WATER CHARGES FOR CAR WASHING.

SOME little time back we referred to the subject of charges for the supply of water for the purpose of washing cars, and this subject has again been raised by a correspondent, a medical man, practising in a North London suburb. He has kept two cars for several years, and has paid an extra charge for water used for the washing of a car. The Metropolitan Water Board now demand twice the amount he has hitherto paid, on the ground that two cars are kept, notwithstanding an assurance that both cars are never used on the same day. The position of water companies and the rates they may charge for water supply are governed by the Waterworks Clauses Act, 1847, and by the particular Acts under which each company is constituted and empowered. Under the Metropolitan Water Board (Charges) Act, 1907, the Metropolitan Water Board is bound under penalty to maintain within a certain area a supply of water for domestic purposes for which the consumer pays a water rate based upon the value of the premises supplied, and the Act defines the words domestic purposes as excluding (*inter alia*) the washing of carriages or other vehicles. Water to be used for extra domestic purposes may be supplied in two ways. Under Section 16 of the Act the Board may supply water for purposes other than domestic by meter, the rates varying with the amount consumed and the minimum amount payable for water supplied in this way being fixed at £1 a quarter. To meet the requirements of the small extra domestic consumer the Board is empowered by Section 24 of the Act to enter into agreements for water supply, providing the scales are of uniform application, and it is under one of these agreements that our correspondent is presumably being supplied. We can therefore only advise our correspondent, and any other reader who may be interested in this point, to refer to the terms of his agreement to see whether this double charge is justified or not. It should, however, again be pointed out, lest what we have said may give rise to any misconception, that the powers of each water company are regulated by its own special Act of Parliament, to which reference must be made in each case. What we have said of the Metropolitan Water Board will no doubt also apply to many other water companies, but there will be others whose powers are entirely different, and the only way of ascertaining what any given water company may or may not do is to refer to its Act.

THE current issue of the *Journal of the British Science Guild* contains an appeal to men of science to make larger use of the facilities the Guild offers. It commands access to the best available knowledge on matters of science, and its resources can be applied at any time to any desired end by the Executive Committee. Communications on subjects considered to require elucidation should be addressed to the Editor of the *Journal of the British Science Guild*, 6, John Street, Adelphi, London, W.C.2. The Guild numbers only 934 members, but it is hoped to increase the membership. The annual subscription is one guinea.

Medical Notes in Parliament.

The New Session.

THE Parliamentary Session, to be opened by the King in state on Tuesday next, will be largely occupied with measures which were heralded last session, but could not, owing to their complexity or on account of their controversial nature, be then proceeded with. Foremost amongst these is the Irish Government Bill, the principles of which were set forth by the Prime Minister just before the House of Commons rose in December. The condition of affairs in Ireland is, however, thought to raise a question as to whether a suspensory clause will be included, so as to make the operation of the provisions depend on circumstances, the decision in that case to rest with the Privy Council, or in other words, with the Government. It is on the vexed labour problems that the Cabinet may find the greatest difficulty in securing legislation to avoid troubles in the country, though Mr. Asquith's declaration against nationalization may considerably help them in getting moderate opinion to support their proposal for dealing with the coal mines on lines of joint management while leaving scope for individual enterprise. In the event of a threat of labour upheaval or refusal by labour of the suggested compromise, it is quite possible Mr. Lloyd George may appeal to the country, either by a general election against nationalization, or by a referendum on that issue. The agreement as to the railways will also require parliamentary sanction, and the bill to fix minimum hours of work and pay will be reintroduced.

An intimation that the Budget will be brought in early carries the reminder that this will in reality be the gravest matter before Parliament this session. Large additional expenditure has been sanctioned since Mr. Chamberlain said that if any such additions were made more taxation would be necessary. On the other hand, the reduction in the cost of the services has been made more drastically than was then thought possible, and the realization of materials held by the Ministry of Munitions has given a much greater yield than at one time was thought probable. The revenue of the country has also shown up better than was anticipated. The hope of the Chancellor of the Exchequer is that in the coming year expenditure and receipts may be brought to balance; but he has guarded himself against the assumption that this balance can be got without some fresh taxation. The exchange conditions, which are exciting so much anxiety, of course come prominently into this matter.

Scotland.

SCOTTISH BOARD OF HEALTH.

Consultative Councils.

IN the Act which established the Scottish Board of Health provision was made for the setting up of Consultative Councils to advise and assist the Board in connexion with Scottish health matters. The constitution and functions of these councils were defined by an Order in Council of December 20th, 1919. The councils are four in number: (1) Medical and Allied Services, (2) National Health Insurance (Approved Societies' Work), (3) Local Health Administration and General Health Questions, (4) Highlands and Islands.

The appointment of the members of the Consultative Councils rests with the Board, and is now complete:

Medical and Allied Services.

ORLANDO CHARNOCK BRADLEY, M.D., D.Sc., M.R.C.V.S., Principal of the Royal (Dick) Veterinary College, Edinburgh, Vice-President of the Royal College of Veterinary Surgeons, and President of the National Veterinary Medical Association.
A. J. CAMPBELL, M.D., Secretary of the Berwickshire Local Medical and Panel Committees.
A. K. CHALMERS, M.D., Medical Officer of Health for the City of Glasgow.
D. ELLIOT DICKSON, M.D., Convener of the Fife Colliery Surgeons Committee.
J. R. DREVER, M.B., Scottish Medical Secretary of the British Medical Association.
MISS ANNIE W. GILL, Lady Superintendent of Nurses, Edinburgh Royal Infirmary.
JOHN GLAISTER, M.D., Professor of Forensic Medicine and Public Health in the University of Glasgow.
PROFESSOR MATTHEW HAY, M.D., Medical Officer of Health for the City of Aberdeen.
JOHN RUTHERFORD HILL, Esq., Resident Secretary of the Pharmaceutical Society in Scotland; Secretary of the General Council of Panel Chemists (Scotland).
SIR DONALD MACALISTER, K.C.B., M.D., Principal of the University of Glasgow; President of the General Medical Council.
JOHN YULE MACKAY, M.D., LL.D., Principal of the University College, Dundee.
SIR JAMES MACKENZIE, M.D., F.R.C.P., Clinical Institute, St. Andrews; Consulting Physician to the London Hospital.
SIR ROBERT WILLIAM PHILIP, M.D., F.R.C.P., Professor of Tuberculosis and Senior Lecturer on Clinical Medicine in the University of Edinburgh; President of the Royal College of Physicians, Edinburgh.
JAMES MAXWELL ROSS, Esq., M.B., C.M., M.B.E., Medical Officer of Health and Chief School Medical Officer for the County of Dumfries.
MISS LAURA STEWART-SANDEMAN, M.D., late Controller of Medical Services to Queen Mary's Army Auxiliary Corps, Overseas.
SIR HAROLD J. STILES, K.B.E., Regius Professor of Clinical Surgery in the University of Edinburgh.
F. TOCHER, D.Sc., Public Analyst for the County of Aberdeen, etc.; Honorary Secretary of the Association of Public Analysts of Scotland.
NORMAN WALKER, M.D., General Medical Council.
GEORGE WILLIAMSON, M.D., Chairman of Aberdeen Local Medical Committee.
JOHN A. YOUNG, L.D.S., Vice-President of the Odonto-Chirurgical Society of Scotland; Convener of the Public Health Committee, Edinburgh Town Council.

National Health Insurance (Approved Societies' Work).

This council consists of fifteen members, including three ladies.

Local Health Administration and General Health Questions.

This council consists of twenty members, including Dr. Thomas G. Nasmyth, formerly medical superintendent of Perth Infirmary and an ex-president of the Scottish Society of Medical Officers of Health, Lady Leslie Mackenzie, president of the Scottish National Association of Health Visitors and Women Sanitary Inspectors, and Mrs. Burns Laird, of the Scottish Labour Housing Association.

Highlands and Islands.

This council consists of fourteen members, including Dr. A. C. Miller, chairman of the Highlands and Islands Subcommittee of the British Medical Association, Dr. Donald Murray, M.P., late M.O.H. for Lewis, and Dr. James B. Simpson, vice-president of the Sutherland Nursing Association and secretary of the County Local Medical Committee. The council contains six ladies, including the Duchess of Atholl and Miss Margaret M. White, superintendent of Queen Victoria's Jubilee Institute for Nurses (Scottish Branch).

Each consultative council will appoint its own chairman. Mr. George A. Birse, Scottish Board of Health, 125, George Street, Edinburgh, will act as secretary to the councils.

EAST OF SCOTLAND OVERSEAS MEDICAL CLUB.

Some time ago this club was formed for medical men who served overseas during the war. It now has a large membership. It was established for the purpose of maintaining alive the friendships forged under the stress of war, and to encourage the spirit of comradeship and mutual help amongst its members. The first annual meeting and dinner was held in Edinburgh on January 30th, 1920. There was a large and enthusiastic gathering. Sir Henry M. W. Gray, K.B.E., C.B., C.M.G., of Aberdeen, who was consulting surgeon with the Third Army in France, the first president of the club, occupied the chair. Professor Francis D. Boyd, C.B., C.M.G., was elected vice-president, and Dr. James Young, D.S.O., honorary secretary and treasurer. The following members of committee were appointed:—Edinburgh: T. F. Dewar, C.B., and Henry Wade, C.M.G., D.S.O.; Dundee: J. Anderson, D.S.O.; Aberdeen: T. Fraser, C.B.E., D.S.O.; Inverness: John W. Mackenzie, O.B.E.; South of Scotland: A. C. Mallace, M.C. It was decided to form subsections of the club in suitable districts in the east of Scotland. In giving the toast of the Club, the President said that one of the greatest functions would be to give opportunities of cementing friendships formed or strengthened overseas under conditions which brought out in many different ways what was real and worth knowing in men; and, further, that it would bring the friendship of other men who served in other areas and who proved their worth. He believed that this and similar clubs would be able to play an important part in raising the status of the profession, and that if properly used they might be of great value in moulding a wise opinion regarding the wider matters that concerned the community. The organization of the army had led to schemes that were of great benefit to the nation's soldiers. "We must take counsel together and decide upon schemes for the benefit of the nation's workers that shall be even more comprehensive and successful." Mr. Henry Wade, C.M.G., D.S.O., who was consulting surgeon with the Egyptian Expeditionary Force, proposed the health of the Chairman, and in doing so mentioned that though he and many others present had not served as colleagues of Sir Henry Gray in France, they had been largely

influenced in their surgical practice by his work. Many younger surgeons who had been trained by him had gone to the Eastern armies. Mr. Wade also referred to the great influence exercised by General Allenby in the East in fostering the most modern methods of treatment of the wounded as they had been practised in the Third Army by Colonel Gray.

GLASGOW LIMBLESS HOSPITAL.

The third annual meeting of the Hospital for Limbless Sailors and Soldiers at Erskine was held on January 29th, when the Lord Provost was in the chair. Sir William Macewen said that at the present time about forty patients, after having put their artificial limbs to use, were receiving vocational training. The accommodation of the hospital would be better filled if the restrictions with regard to the admission of disabled men were diminished. The Ministry of Pensions and the Ministry of Labour both had plans which were excellent on paper, but rather complicated in practice. The machinery for getting the men back into work or training should be simplified. He recalled the fact that it was intended to bring back a considerable number of men who would be permanently housed and cared for at the Erskine Hospital, making it a second Chelsea.

Ireland.

IRISH PUBLIC HEALTH COUNCIL.

THE Irish Public Health Council held a series of meetings on January 20th, 21st, and 22nd, at which the chairman, Dr. E. Coey Bigger, presided, and the following members were present: Sir Henry A. Robinson, Bt., Sir John Moore, M.D., Sir William Thompson, Sir James Gallagher, Mrs. McMordie, Dr. W. J. Maguire, Mr. J. Drennan, the Rev. Father Kerlin, Mr. Edmund Bourke, Dr. E. F. Stephenson, Dr. Alice Barry, Sir Joseph A. Glynn, Mrs. M. L. Dickie, Lady Kenmare, and Dr. R. J. Rowlette. On January 20th the Council received a deputation representing the National Association of Approved Societies. Mr. Daniels (Chairman of the association) addressed himself chiefly to the need for providing an efficient medical service for insured persons and their dependants. If a system of medical benefits or treatment for insured persons were established in Ireland, considerable funds from insurance sources would be available towards financing such a medical service, but it was essential that it should not be in any way associated with the Poor Law medical service. Mr. Meller (Prudential Approved Society) attributed the undue incidence of sickness among insured persons in Ireland to the absence of a proper system of medical treatment. He advocated the provision of a medical service, free from any taint of pauperism, for insured persons and their dependants, including consultant and hospital treatment. Mr. Alexander (Presbyterian Approved Society) said that the insured in Ulster formed about half of the total insured population of the country. He concurred with the previous speakers in advocating medical treatment for insured persons and dependants with an efficient medical service to replace the existing Poor Law dispensary service. Mrs. O'Connor (Nurses' Approved Society) urged the necessity for a proper nursing service.

In the course of discussion, members of the deputation stated that the approved societies would consider favourably the question of allocating towards hospital and allied services, and for the treatment of dependants, part of any surplus funds which might be available after the forthcoming valuation. The deputation also agreed that there would be no objection to a medical service system under which insured persons would be treated by medical practitioners paid by salary or fees, and responsible also for the treatment of persons unable to pay. The Chairman, on behalf of the Council, promised sympathetic consideration of the views expressed.

Subsequently the Council, after discussion, arrived at important decisions concerning the following matters:

(*a*) The constitution of the proposed central health authority in Ireland.
(*b*) The functions to be entrusted to that authority.
(*c*) The constitution of county health authorities.
(*d*) The powers and duties of such authorities.
(*e*) The establishment of an Irish medical service which will provide medical treatment for insured persons (and if possible for their dependants) as well as for persons who are unable to pay.
(*f*) The reorganization and co-ordination of the hospital system in Ireland, with a view to providing treatment for the classes referred to in "*e*," not only in the county institutions but also in the voluntary hospitals in the larger cities.

These questions and previous decisions of the Council were referred to a drafting committee, consisting of the Chairman, Sir Joseph A. Glynn, and Dr. Rowlette, to be embodied in the report to be made by the Council to the Chief Secretary.

THE PROPOSED STATE MEDICAL SERVICE IN IRELAND.

Meeting of the Profession in Belfast.

A meeting of the profession, called by Mr. R. J. Johnstone, F.R.C.S.Eng., chairman of the Irish Medical Committee, was held in the Medical Institute, Belfast, on the evening of January 30th. Mr. Johnstone occupied the chair, and Dr. David Gray acted as honorary secretary. There was a large and influential attendance.

Mr. Johnstone explained that the object of the meeting was to discuss matters and to let members of the profession know what was being done, so that they would not be taken unawares. The Irish Health Council was engaged in drafting a bill which would in all probability create a State medical service; and the profession was asked what class of cases should be included. An income limit of £150 a year had been mentioned. Again, what remuneration should be given in the service? It was proposed to do away with the Poor Law system, and that Poor Law dispensary doctors should be enrolled at salaries commencing at about £600 a year; they would be placed under county councils; entrance would be by examination; a large hospital would be built in each county; cottage hospitals in smaller towns; study leave, opportunity for advancement and for specialization, retiring allowances and superannuation, would all be included. The chairman also pointed out that the question of insurance benefits, of the inclusion of insurance patients, and of the confusion between the State medical service and the panel system—all called for debate. A system that suited the rural districts of the Midlands, South and West, would not suit the industrial centres of the North. Some 95 per cent. of eight or nine hundred Poor Law medical officers had signed a memorandum some years ago in favour of a State medical service. The Irish Medical Committee could not pledge the profession without consulting them.

After a long and instructive discussion, which was conducted with good humour and consideration, it was finally agreed to appoint a representative committee to go into the matter and report to a future meeting. The difficulties of the insurance benefits, of the inclusion of insurance cases, of fixing a limit of income for the inclusion of cases, the determination that any State medical service should not be simply a glorified Poor Law dispensary system; the difficulties as to inclusion of dependants of those on strike, of differentiating a single man from the married man with a large family, were all clearly pointed out. On the other hand, it was felt that a *non possumus* attitude should not be adopted. An ideal was in the air, and "prevention" was the keynote of the Ministry of Health. The following committee was appointed:

Convener: Dr. Wm. Burns; *Members:* Drs. Osborne, Irvine, Gardner Robb, Sir John Byers, R. J. Johnstone, McPolin, McElroy, Wm. Calwell (York Street), McSparran, S. H. White, Williamson, Trimble, T. Davidson, J. R. Davison, Samuel Davidson.

ULSTER MEDICAL SOCIETY.

The fifth meeting of the session was held on January 29th, in the King Edward Memorial Hall, Royal Victoria Hospital, Belfast. The President, Mr. Andrew Fullerton, C.B., C.M.G., F.R.C.S., occupied the chair. Dr. W. W. D. Thompson acted as secretary. The Chairman referred to the deaths of Dr. G. A. Hicks and Dr. Jamison, both members of the society, which had taken place since the last meeting. Votes of condolence with their relatives were passed.

Treatment of Fractures.

The Chairman then introduced Major M. Sinclair, C.M.G., R.A.M.C., who gave a demonstration of the most recent methods for the treatment of fractures by Thomas and other splints.

Major Sinclair first demonstrated how a Thomas splint should be applied to fractures of the lower limb, before the patient was removed from the spot where the accident occurred; extension could be obtained at once by passing a heavy skewer horizontally through the sole of the boot and fastening this to the cross-bar at the lower end of the splint. He then enumerated the various methods of applying extension in hospital, and expressed his preference for painting the unshaved leg with the special glue he had devised, and then applying a long strip of gauze bandage on each side of the leg and fastening these to the lower end of the splint; other methods were to drive special screws into the upper end of the tibia or to fix callipers to the condyles of the femur, or to the external and internal malleoli. By these methods no shortening resulted in the fractured limb; indeed, if care were not taken, lengthening might be produced. Major Sinclair showed devices for obtaining external and internal rotation of the foot, where necessary, and also methods of bandaging which would restore the antero-posterior curvature of the femur. In compound fractures the limb was always bandaged by the "sectional" method; packets containing sterilized gauze dressings, short strips of bandage and clips being used. The wound was treated solely by hydrogen peroxide and sterile saline, and the gauze dressing applied; the leg was bandaged in sections with the short strips fastened along the anterior surface by the clips; thus any area of the limb could be inspected or dressed without removing the whole bandage and splint.

Major Sinclair then showed a large abduction splint or frame used for the treatment of fractured femurs and also for wounds of the lumbar and gluteal regions, or for pelvic cases; the patient was slung up to the frame by a series of hammock-like nettings, and with the help of pulleys could raise himself and thus facilitate nursing. With the ordinary Thomas splint a system of pulleys was useful, so that the patient could, by very little effort, suspend himself in mid-air while the bed was being moved and an arm-chair put in its place; thus accidents through slipping or fainting were avoided, as the patient gradually got accustomed to being up after his long period in bed. Splints for the arms were also shown; one, for the wrist and hand, caused much interest and amusement; by adjusting a series of springs and side-pieces the interphalangeal, metacarpo-phalangeal, and carpal joints were given freedom of movement in succession.

At the close of the demonstration, Professor Sinclair, C.B., proposed a vote of thanks to the lecturer, and said that he had, while acting as consultant in France, utilized Major Sinclair's methods and had brought the surgeons working under him to Major Sinclair's wards at Wimereux for instruction. He commended the methods demonstrated to the careful consideration of the practitioners in the North of Ireland, and hoped that future generations of medical students of the Belfast Medical School would continue to benefit by Major Sinclair's work. The Chairman, in conveying the vote of thanks, said that the society was also deeply indebted to the War Office for having allowed Major Sinclair to give a most remarkable and interesting demonstration.

On the following evening Major Sinclair gave a similar demonstration to a crowded meeting of medical students attending the university. On this occasion lantern slides were also used, depicting the results obtained. Major Sinclair's visit has stimulated an interest in the treatment of fractures in the North of Ireland which cannot fail to produce good results.

Examination in Ophthalmology.

At the meeting of the Ulster Medical Society on January 29th the following resolution, proposed by Professor J. A. Lindsay and seconded by Dr. J. McCaw, was passed unanimously:

> That, in the opinion of the Fellows and Members of the Ulster Medical Society, it is essential that a clinical examination in ophthalmology, conducted by ophthalmic surgeons, be part of the final qualifying examination for medical degrees and diplomas as heretofore in all Ireland. This seems absolutely necessary if ophthalmology is to retain the position its importance entitles it to in the education of the future medical profession of this country.

England and Wales.

Presentation to Dr. W. Stanger, Wakefield.

Dr. W. Stanger, F.R.C.S., J.P., who retired from practice and from the chairmanship of the Wakefield Panel Committee at the end of last year, was entertained at dinner at the Strafford Arms Hotel, Wakefield, on January 28th, by the members of the Panel Committee. After the dinner Dr. Stanger was presented with a cheque in appreciation of his services as Chairman of the Committee. He was for many years one of the honorary surgeons of the Wakefield Clayton Hospital, and holds a high place in the esteem both of the medical profession and of the general public in Wakefield.

Medical Reunion Dinner at Hereford.

On January 22nd the members of the Herefordshire Division of the British Medical Association and other practitioners in Hereford entertained at dinner their medical colleagues who left the country to serve in the Forces during the war. The dinner was held at the Imperial Café, Hereford, with Dr. Dryburgh Gold, chairman of the Division and county M.O.H., in the chair; the Mayor of Hereford was present. The toast of the "Fighting Forces" was proposed by Dr. John Steed (Staunton-on-Wye), and Major Llewellyn Green, D.S.O., who served as a combatant with the 1st Herefords in Gallipoli, replied. The toast of the evening, "Our Medical Guests," was proposed by the Chairman, who expressed the pleasure of those who had remained behind in welcoming their service colleagues back to civil life. The toast was responded to by Lieut.-Colonel J. McK. Harrison (Ledbury), Lieut.-Colonel Herbert Jones, Captain W. Ainslie, M.C., and Major C. J. Caddick, D.C.M.S., Ministry of Pensions. The concluding toast, that of the "Medical Profession," was submitted by Dr. R. Harding (Radnorshire), and Dr. Paul Chapman and Dr. Edgar Morris replied. The arrangements for this most successful evening were made by Dr. E. H. Baldock, honorary secretary of the Division. Representatives were present from nearly all the theatres of war.

Liverpool Women Students.

Some seventy past and present students attended the dinner of the Liverpool women medical students held recently at Liverpool under the chairmanship of Dr. Phoebe Bigland. The guests of the evening were Miss Frances Ivens, M.S., and Miss Adami, the daughter of the Vice-Chancellor of the University of Liverpool. Miss Ivens, in replying to the toast of the guests, said that medical women must take their share in the great schemes of reconstruction and reorganization. She suggested that students should devote themselves to scientific research and so assist in the advancement of medical knowledge. Miss Adami conveyed a message from the Vice-Chancellor of the University wishing the dinner all success and hoping it would be an annual function in university life.

India.

The Medical Institutions of Jaipur.

The native State of Jaipur, Rajputana, which has contributed so loyally and liberally in men and money to the prosecution of the late war, has long been conspicuous, under enlightened and philanthropic rule, for the cultivation of art, the encouragement of industry, the promotion of education, the improvement of public health, and the supply of means of medical relief. The annual report for 1918 on the medical institutions of the State, compiled by the Superintendent Rai Bahadur Assistant Surgeon Daljang Singh Khanka, M.B., supplies evidence of the commendable attention paid to sanitation and the prevention and treatment of disease. The report includes information as to meteorology, vital statistics, dispensary administration, gaol hospitals, and lunatic asylums. Weather has in India a vital influence on the welfare and health of the population. The rainfall in 1918 was deficient, but not so scanty as to cause scarcity of food or famine. Malarial diseases were not so prevalent or fatal as in wetter years. The birth rate was below and the death rate above the average. The latter rate was

for the city of Jaipur 72.97 per 1,000. Infantile mortality is high. There was no cholera or small-pox in the State, but plague and influenza were deadly. Of plague, 18,150 cases and 17,479 deaths were returned from fifty-three villages, and 1,199 cases and 1,196 deaths were reported in the Jaipur city. Strenuous preventive measures, including evacuation, segregation, disinfection, and inoculation were adopted. The epidemic subsided in June. Numerous deaths were caused by influenza, which was of a virulent type. Twenty-nine hospitals and dispensaries were open during the year, in which were treated 208,398 outdoor and 3,253 in-patients; 9,356 operations were performed. Detailed information recorded regarding the work of these institutions indicates good and successful work. Special arrangements are made for the treatment of females, including cases of labour, normal and abnormal. The death-rate in the gaols was 49.21 per 1,000, and in the lunatic asylum 41.2. The report, which, with elaborate appended tables, is a very creditable production, has been printed by the Jaipur gaol press.

INFLUENZA.

Recent reports afford evidence that a recrudescence of influenza is threatening. At Karachi a relief committee has been formed to deal with an outbreak of influenza and pneumonia; eight doctors have offered their services, fifty volunteers have enrolled for relief work, and a fund has been established to provide medicines and warm clothing. Owing to the occurrence of influenza on troop-ships it has been decided to reduce the number of homeward-bound ships by 25 per cent.

MEDICAL RESEARCH.

The annual report of the Scientific Advisory Board of the Indian Research Fund Association shows that although the war has interfered with the activities of the association much work has been accomplished; the programme for 1920 is comprehensive, including investigations with regard to influenza, ankylostomiasis, leprosy, and kala-azar. Yellow fever is to be investigated by a committee of experts appointed by the Government of India.

Correspondence.

"A PLEA FOR THE TONSILS."

SIR,—On page 562 of your issue of November 1st, 1919, there is a review of Professor K. H. Digby's *Immunity in Health*. Although, at the time of writing, I have not had the pleasure of reading this book, your review makes it clear that it is, especially at the present juncture, of more than ordinary importance.

I am fully in agreement with Professor Digby's view that the lymphatic tissue of the tonsils and appendix is functional and not vestigial. In the *Journal of Anatomy and Physiology*, vol. xxxv, pages 83 to 100, I arrived at the following conclusions:

Lymphoid tissue is the characteristic feature of the caeca apex.

As the vertebrate scale is ascended, this lymphoid tissue tends to be collected together into a specially differentiated portion of the intestinal canal—the vermiform appendix.

The vermiform appendix of man is not, therefore, a vestigial structure. On the contrary, it is a specialized part of the alimentary canal.

So far as I am aware, this was the first time the vestigial view of the vermiform process had even been seriously challenged. Its lymphoid character has since been uniformly adopted by every scientific writer—usually without acknowledgement—whilst the unscientific writers still quote the Noachian writers on comparative anatomy as to the vestigial nature of the vermiform process.

Professor Digby, according to your review, goes on to remind us that these glands (tonsils, Peyer's patches, and appendix) are largest and most active in young children at a period when individuals are acquiring immunity to the various common infections, while in old age all lymphatic structures tend to atrophy. These facts I had the privilege—in conjunction with Dr. L. A. H. Lack—of pointing out to the first International Congress of Anatomists at Geneva in 1905, and subsequently published in the *Journal of Anatomy and Physiology*, vol. xl, pp. 247 to 256. Amongst the deductions were the following:

The amount of lymphoid tissue present at the caecal apex varies most probably, though not certainly, in accordance with the varying diet of the animal.

The vermiform appendix of man is not, therefore, either a vestigial remnant or an organ in a state of retrogression, but is an actively functional lymph gland.

The appendix of man is not equally functional throughout the whole of life. Lymphoid tissue is a tissue of the growing animal.

The functions of the human appendix are the same as those of any other collection of lymphoid tissue in any other part of body.

That the significance of these facts has too long been ignored by the profession is amply demonstrated by Professor Digby, as also by the following facts which have recently been brought prominently under my notice as the result of my more recent work on the diagnosis and causation of mental deficiency, now in the American press.

Chronically enlarged circumpharyngeal lymphoid tissue may interfere with breathing and so diminish the supply of bodily oxygen. The cell body of the neurone is peculiarly sensitive to deprivation of oxygen. Imperfectly developed neurones necessitate mental backwardness, even to gross mental deficiency. A community of mental defectives will not only breed criminals and prostitutes, but cannot make good the ravages of war, nor can it hope to survive in that greatest of all struggles—the struggle for existence.

That such national effects do really follow such natural causes is fully proved by the recent investigation of Dr. Waite in hookworm disease in Queensland, published in the *Medical Journal of Australia*, January 4th, 1919. The hookworm, by preying on the haemoglobin, reduces the bodily supply of oxygen, and "produces in growing children severely arrested mental development and considerable mental sluggishness."

The direct outcome of the results of such a blighting disease, which is preying upon 40 per cent. of the total school population from Cooktown to Townsville, and which is stamping serious mental, physical, and sexual degeneracy upon 25 per cent. of the total school population, can be nothing other than the weakening of the social fabric and the unfitting of the coming generation for the struggle for existence. Indeed, the tendency of the disease, if not controlled, is toward the obliteration of the race through the unsexing of its victims. . . . To the economic loss from social inefficiency must be added the wasted educational effort of 4,000 teachers, with an expensive plant, trying to carry along 40 per cent. of relative mental deficients and mental laggards among their classes.

In conclusion, I desire to congratulate Professor Digby on the production of an important work, and your reviewer for his presentation of the same. My own claims to priority in much of the subject matter must, I think, be admitted, but would not even now have been pressed were it not for the great importance of what are thought superficially to be trivial facts. We have yet much to learn regarding lymphoid tissue, and I can only regret that the pressure of routine teaching work and the chronic lack of scientific, financial, and other assistance have compelled me to lay aside my own researches into the matter. For those who come after it is, perhaps, not too much to hope that they will at least commence by a study of the literature of the subject.—I am, etc.,

RICHARD J. A. BERRY,
Professor of Anatomy.
University of Melbourne,
Dec. 15th, 1919.

THE TREATMENT OF MALARIA.

SIR,—Controversies on the intravenous and intramuscular as compared with the oral administration of quinine are of great interest to those who have served in malarial countries, but they must tend to confuse the practitioner who has not experienced the delights of Macedonia or Mesopotamia. There is, I think, general agreement that in an ordinary case of malaria, uncomplicated by vomiting, the first indication is a mercurial purge and a dose of aspirin, with or without brandy. When the sweating stage begins large doses of quinine (15 grains thrice a day) by the mouth are given. Three days is probably long enough to continue this. If, however, the temperature does not come down, or if there is persistent vomiting, there should be no hesitation in giving 20 grains intramuscularly once or twice daily (into the buttock, just below the iliac crest, seems to be the safest place). If even this fails, then one of the arsenic compounds, such as galyl, should be given intravenously.

As to the vexed question of continuing the administration of quinine for some weeks or months, I feel sure that very few of the medical men who themselves have malaria take quinine for more than a few days after an attack.

The *rationale* of giving quinine by intramuscular injection when oral administration fails appears to be that in certain circumstances quinine given by the mouth is not absorbed properly. The risk of quinine necrosis is not negligible, but is infinitely less than the risks of the disease in a case which is bad enough to require intramuscular treatment.

Finally, I would emphasize that a most important part of the treatment is to use every endeavour to get the patient into as good a state of health between the attacks as possible, particularly by such tonics as iron and arsenic, good and abundant food, and moderate exercise in the open air—bearing in mind the myocardial weakness invariably present after malarial pyrexia. In certain cases a bottle of stout daily appears to be of the greatest value.—I am, etc.,

R. K. ROBERTSON.

Sheffield, Jan. 27th.

TICKS AND RELAPSING FEVER.

SIR,—I can corroborate clinically the description by Dr. Nicholson of a type of pyrexia, relapsing in character, associated with a spirochaete in the blood, and giving a different clinical picture from the well known relapsing fever due to louse infection, as described in Colonel Bālfour's "Memorandum on Mediterranean Diseases." This was repeatedly seen by me among Egyptian natives and British soldiers in the Upper Nile Valley in 1916, and among British soldiers in the 44th Stationary Hospital, Kantara, Palestine Base, in 1917, 1918, and 1919, admitted locally. After the third battle of Gaza, when our troops were on the move fighting in the Judean hills, I noticed, at the end of December, 1917, and subsequently, that a different type of fever was being admitted to hospital from Palestine. In some the temperature was normal on arrival, and the diagnosis had been "Pyrexia N.Y.D.," the men having been admitted to hospital up the line with a primary fever lasting about four days; either the blood films were negative or no blood examination had been made owing to military conditions. The weather in Palestine at that time was very cold and wet. After being in hospital a few days convalescing, the temperature would suddenly shoot up and then become normal in twenty-four hours or less. Spirochaetes were found in the blood of some but not in others.

A major of Australian Light Horse had had such a primary attack up the line; blood films were negative. He arrived at the hospital a week later, and about three days afterwards he had a relapse; the fever lasted about fifteen hours, but the blood film was again negative. He was transferred to the 14th Australian General Hospital, Port Said, where he had several similar relapses; blood examinations were made on each occasion, but it was only at the end of at least six weeks that spirochaetes were found in his blood.

Other patients arriving with other than medical conditions would suddenly develop pyrexia between 102° and 103° F., lasting for four days, falling by crisis; these primary attacks developed in the hospital, and spirochaetes were found in the blood. These primary cases were not acutely ill like the typical cases of relapsing fever infected by lice.

The interesting clinical features about the relapses were:

1. The short duration of the pyrexial attack; it usually lasted fifteen to twenty-four hours, and was represented on the temperature chart by a "spike." So well recognized did this "spiky" temperature become by the medical officers of the hospital, that a provisional diagnosis of "Palestine relapsing fever" would be made pending blood examination.

2. Spirochaetes were scanty and often difficult to obtain in a blood film. This was well exemplified in the case of the Australian major above mentioned.

3. Irregularity of relapse, varying from seven to ten days.

The interesting fact was that nearly every one of these patients definitely stated that he had been bitten by "brown bugs." Most of them had been sheltering in caves in the Judean hills, and in the morning they would find those "brown bugs" filled with blood crawling over them. There were also marks of insect bites on various parts of their bodies. They stated that the retreating Turks had been occupying these caves before them. The incubation period seemed to be about seven or eight days.

Colonel Balfour is inclined to doubt the existence of a tick-borne relapsing fever in Palestine, but there is no doubt but that what these patients called a "brown bug" was a tick, and that it was the infecting agent. I have no doubt that Major Austen, D.S.O., British Museum, Entomologist E.E.F., Major Manson Bahr, D.S.O., Dr. Woodcock, and others can assure him on this point.

To me clinically the louse-borne and the tick-borne were two different types of disease. Salvarsan, intravenously, was always a cure.—I am, etc.,

JOHN W. MACKENZIE, O.B.E., M.D.Edin.,
Late Lieutenant-Colonel R.A.M.C.T.F.,
O.C. 44th Stationary Hospital, Kantara, Egypt.

COMMISSIONS, I.M.S.

SIR,—It may be of interest to state, in reference to "Enquirer's" question (p. 168) concerning the prospects of a recruit meditating a permanent commission, some salient points which are at present giving those already in the service much perturbation of thought.

I had the honour during the late war to serve for two and a half years on a staff composed of I.M.S. and R.A.M.C. officers with an I.M.S. chief who is one of the most capable men in his service. I am still closely in touch with many serving in the I.M.S., and therefore, though my service was but temporary, I feel I can voice in some small measure their feelings and doubts, which are:

1. The placing of Europeans under an Indian Minister.

2. That successful administrative work brings more "plums" than successful professional efficiency.

3. The uncertainty of the future pending possible amalgamation or unification of the R.A.M.C. and I.M.S. in the East.

4. The parsimoniousness of the Indian Government in the equipment of station hospitals and feeding of troops.

As a result of this parsimony, sickness is likely to be increased (vide the conclusions reached by Colonel W. H. Willcox in his striking article in your JOURNAL of January 17th). It is not encouraging to serve under a Government which will not appreciate the principles of preventive medicine even when taught by bitter experience.

My advice to "Enquirer" would be that, if he is content to be a bachelor, India will give him happy days and the chance of good experience, both professional and administrative, but if he is a marr ed man he will possibly rob himself of some of the openings because of the expense of having to keep two homes going in India for part of every year and another in England if he has children.

The I.M.S. has a friend in the present Secretary of State for India, but there have been others, and there may be again, who take but little interest in seeing that this fine service is allowed to go about its work in a contented and settled frame of mind.

Hard work in a trying climate ages men prematurely, and everything should be done to make conditions as good as possible with a view to preventing this premature old age, so that when an officer retires he may have a reasonable chance of living to enjoy his deferred pay in the way of pension for a much longer span than what is now the case.—I am, etc.,

FRANK BRYAN,
Late temporary Captain R.A.M.C.

Ipswich, Feb. 1st.

SIR,—Men in the I.M.S. must have noticed the movement in the right direction which has taken place during the past year or so, and that movement is due, I might almost say entirely, to the energy put forward by the BRITISH MEDICAL JOURNAL and the Army and Navy Committee, of which Colonel Elliot, I.M.S., is chairman.

The position of the service at the present moment is a debatable one, and men in it may differ as to what may be its fair dues.

I am sure most of us agree with all Colonel Elliot has stated in his letters in the JOURNAL. The attitude we

should be prepared to take is to play fair with the Secretary of State for India until he has had time to fulfil his promises and, if necessary, even to revise his original ideas when asked to do so.

Those in the service who were fortunate enough to be at the I.M.S. dinner, held last June, will agree when I say that the support which Colonel Elliot and his Committee have from the service was most strikingly illustrated by the way in which Colonel E liot was called upon by the dining members to express his views. I appeal to the service to continue that support, and feel sure it will be crowned with a great success.—I am, etc.,

February 3rd. FAIRPLAY.

SIR,—Having been granted a permanent commission in the I.M.S. a few weeks prior to the offer of temporary commissions I would like to ask whether it is right that the temporary officer should have so many advantages over the regular officer. The former has got the privilege of leaving after two years' service; passages for himself, wife, and family, there and back, after this short service; no compulsory obligation to learn Hindustani, and also is to receive 700 rupees a month, compared with 550 rupees a month in the case of lieutenants and 750 rupees to 700 rupees in the case of captains. From the letter of Lieut.-Colonel Elliot I learn that the Secretary of State is allowing this temporary service to count towards permanent service by those who elect to remain permanently in the I.M.S.

Surely an injustice is being done to the regular officer unless, dating from the time of offer of temporary commissions, his rate of pay is made either equal to, or more than, the temporary officer, since in two years' time the latter may decide to take on a permanent commission, and will then rank just as though he took such a permanent commission now, but will have been receiving 150 rupees a month more pay for two years. The other alternative is not to allow the time spent as a temporary officer to count for permanent service—that is, towards promotion or pension.

Permanent officers are badly wanted, according to all accounts, but where lies the benefit of obtaining a regular commission *now*, under the existing circumstances?—I am, etc.,

January 31st. "DISAPPOINTED."

*** We referred this letter to the Chairman of the Naval and Military Committee of the British Medical Association, who replies as follows:

SIR,—In one respect I would wish to differ from "Disappointed": He would level down, I would level up. Let me explain. The British Medical Association has told the Secretary of State that he cannot get the permanent recruits he wants unless he adds 50 per cent. to the *total* pay of I.M.S. officers. To avoid misunderstanding, it has been stated that this calculation is to be based on a table laid down by the Secretary of State, and one therefore as to which there can be no misunderstandings. Certain other requirements have also been stated. A time limit has been fixed, and at the end of that period the very serious question of future action will be considered. If the requirements of the British Medical Association are not satisfied, it is quite clear that the Association can no longer adopt a neutral attitude; but sufficient unto the day is the evil thereof. We hope and most sincerely desire that such a serious situation will not arise. If it does, the Association will not be found unready. There is thus good hope for the permanent officer; he may rely on the full backing of his just claims. Has "Disappointed" taken the trouble to keep himself *au fait* with all that the British Medical Association has been doing for the Service? If he has, he must surely have been aware that the Association is *not* recommending young medical men to enter the I.M.S. as permanent officers, and will not do so until it feels that the conditions of service are good enough. He will be well advised to get his commission changed from a permanent to a temporary basis, and so in two years' time see whether permanent service is good enough.—I am, etc.,

R. H. ELLIOT,
Lieut.-Col. I.M.S.(ret.),
Chairman Naval and Military Committee,
London, W., Feb. 2nd. British Medical Association.

FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—I hold that fresh air, good feeding, with well-regulated rest, exercise, and occupation in healthy country surroundings, tend to lessen psychasthenia, to cure neurasthenia, and to confirm and perpetuate the improvement rapidly produced in hysteria by many varieties of psycho-therapeutical treatment. This view has the support of common sense and of many centuries of experience; it is thus a marvel to me that any one, even in the ranks of our self-satisfied wonder-workers, should think it untenable.

Dr. Hurst is mistaken if he supposes that I have any antipathy to psycho-therapy, or that I would wish him or any one else to reject all he has learnt about the psycho-neuroses during the last five years. I would point out, however, that such knowledge, if of value, was familiar to others before that period, for no discovery of importance in this connexion has been made during the war; as I always held and first stated in the *Lancet* of November 18th, 1916 (Farquhar Buzzard came independently to the same conclusion about the same time), war neuroses, "shell shock," etc., are only examples of the long recognized disorders hysteria, neurasthenia, and malingering, either singly or in combination.

Psycho-therapy by suggestion, explanation, persuasion, and re-education has been made use of consciously or unconsciously since the days of Hippocrates, and all the psychological methods (including those initiated by Freud before the war) which were used at Maghull, and later at Seale Hayne, etc., have been employed by many physicians for years past.

What Dr. Hurst and his supporters will, I hope, learn in the next five years (when they have had more experience of the later phases of war neuroses) is that removal of individual symptoms of such a protean disease as hysteria, does not necessarily imply cure of the elusive pathological disorder of brain cells and synapses which is at the root of the trouble.

Psycho-therapy I have always recommended and used as a means of removing the gross evidences of hysteria, but natural forces such as rest, good feeding, fresh air and suitable occupation, provided by the Country Host scheme, are necessary to confirm the improvement brought about by psycho-therapy and to render it lasting—that is, to effect "cure," a word only to be used tentatively, after a patient has resumed his ordinary life and has remained well for at least a year since all treatment ceased.—I am, etc.,

London, S.W., Jan. 31st. THOMAS LUMSDEN.

SIR,—We have read with great interest Dr. A. Carver's article in the BRITISH MEDICAL JOURNAL of January 10th, as we have felt for some time the need of such an article. For five years the doctrine of "forget" and "turn your back on the past" has been preached by the vast majority of the profession. With what result? To-day there are more ex-soldiers suffering from war neuroses than there were on Armistice Day! It was with keen disappointment, therefore, that we read Sir Robert Armstrong-Jones's letter in the BRITISH MEDICAL JOURNAL of January 17th; since, whilst we are fully aware of his position as a psychiatrist, our experience leads us to differ from him when the treatment of the psycho-neuroses is under discussion. He questions whether it is possible to "forget" by an act of volition. We do not hold that it is possible, but "forgetting" is frequently accomplished without conscious volition, as in the case of the hysterical amnesia which is so commonly met with. Again, Sir Robert Armstrong-Jones considers that

> The investigator must himself possess an actual and true photographic record of the actual battle scenes, otherwise the effect is purely that of suggestion.

This is a complete fallacy, since it is not the physician who does the recalling, but the patient, and the former makes no suggestion whatever, even of the most indirect nature.

We do not consider that the imaginary cases which Sir Robert Armstrong-Jones describes are entirely analogous to the war neuroses. The first of these cases—that of the patient with "acute mental restless depression"—he calls a psychosis, his treatment of which we should therefore not for one moment dare to question.

Has the "disappointed girl who has become a mental and moral wreck on account of the broken promises of her

faithless lover" succeeded in forgetting the circumstances? If so, then—on Sir Robert Armstrong-Jones's theory—she ought to be cured. If, on the other hand, she has not forgotten them, does he consider that she would be well again if she developed an amnesia for these events? In our view she would then be suffering from a well recognized symptom of hysteria—that is, she would be a psychoneurotic. Perhaps it is considered that she should merely direct her thoughts into other channels (sublimation), but before she can do this it is necessary for her to exercise conscious control over her thoughts and emotions, and this cannot be done by closing her eyes to them and pursuing the "ostrich policy." It is this same "conscious control" that the modern psycho-neurologist seeks to substitute for repression, by familiarizing the patient with his or her memories so that they can be faced with equanimity.

Did not the nervous actor and the sensitive musician merely give way to a perfectly natural fear on the occasion of a certain appearance, and was not this fear consciously controlled instead of being repressed and forgotten? Where, may we ask, is the analogy in this case?

With regard to the young man who has been dealt with as a first offender and is trying to reconstruct his life, it is not stated whether he is suffering from a psychoneurosis. But whether he is or not, will he not be likely to bring himself again within the toils of the law if he succeeds in forgetting that incident? It would surely be better for him to remember the consequences of his former ill-doing that he may profit by experience and shape his course of life differently in the future.

It has for long been our daily experience to see men who have been trying to "forget," and to find distraction for periods of time up to four or five years. We have not yet found a single one who has succeeded without the development of a psycho-neurosis having supervened, and this in spite of the aid afforded by various employments and distractions designed for that end, such as rural surroundings, agricultural work, country homes, etc., even when continued for many months. It is also very noticeable to any observer, either professional or lay, that men enjoying mental and physical health, whether wounded or otherwise, can talk about their war experiences with equanimity, and invariably do so when several of them get together. On the other hand, those who cannot talk about their experiences without showing emotion, and who, in fact, will not discuss their personal experiences in the war, will be found to show symptoms of a psychoneurosis of greater or less degree. Since the aim of all treatment, no matter what the disability, is to restore the patient to the normal, we should endeavour to make the psycho-neurotic like unto those others who can calmly discuss their experiences, however terrifying.

It is not within the scope of this communication to discuss the technique of treatment, but we would venture to point out:

1. That it is the patient, and not the physician, who must recall.
2. That a mere recitation by the patient of his experiences is useless.
3. That it is essential for the patient, when recalling the incidents, to let out the emotion which he has previously been repressing.
4. That for any claim to a cure to be valid the patient must have been given a thorough insight into his own condition and the psychic causes of his disability.

—We are, etc.,

C. H. L. RIXON,
D. MATTHEW,
Neurologists, Ministry of Pensions Neurological Hospital, Exeter.

January 30th.

"NEW LAMPS FOR OLD" IN OBSTETRICS.

SIR,—Once again the old cry of labour being a perfectly natural process is raised. True, Dr. Shirlaw refers to normal labour, and if he defines a normal labour as one that is perfectly natural there is no more to be said, but with every advance in midwifery, anaesthetics, antiseptics, forceps, pituitary extract, the same cry is raised, that it is not right to interfere with nature.

But is a confinement to-day a perfectly natural process? Are not the time, the pain, the mental and physical exhaustion, all the results of our civilization? Unnatural, too, are many of the woman's surroundings—her house, her bedroom, her bed. Many of the conditions that influence her health prevent labour being an entirely successful process if left wholly to nature. Among such conditions are overwork and worry, insufficient healthy exercise, improper feeding and clothing. Then those deformities of the pelvis that are secondary to disease or hereditary would, without any artificial assistance, render many confinements impossible or very damaging; in a perfectly natural state these patients would in time have been eliminated, but now science and art and heredity preserve them and enable them to reproduce and multiply their like, so that in course of time the surroundings and innate conditions of civilized woman compel midwifery to be more "meddlesome."

It is obvious that the more civilization interferes with nature the more necessary is it to compensate for that interference.—I am, etc.,

Bradford-on-Avon, Feb. 1st. CHAS. E. S. FLEMMING.

PROPHYLAXIS AND VENEREAL DISEASE AMONGST THE ANZACS.

SIR,—The latest manifesto issued by the National Council for Combating Venereal Disease, and widely published in the press, infers that "the amount of venereal disease has materially increased" as the result of prophylaxis propaganda, "vide the incidence among the Australian troops, starting as it did at 130 per 1,000, and rising to 147 per 1,000 as compared with the British troops incidence of 38 per 1,000."

Venereal disease did not start at 130 per 1,000 per annum, which was approximately the number to which it was reduced towards the end of 1918. In 1914, 1915 and 1916 it was very much higher, because the system of disinfection was new and undeveloped.

The official figures for 1917 and 1918 were published in the report of the Interdepartmental Committee to the Ministry of Health in August, 1919 (page 5, Table C), and they are as follows:

	(*a*) United Kingdom.		(*b*) France.	
	Average Weekly Admissions.	Ratio per 1000 per Annum.	Average Weekly Admissions.	Ratio per 1000 per Annum.
Three months ending—				
Sept. 30, 1917... ...	200	167	231	101
Dec. 31, 1917	190	150	158	69
March 31, 1918 ...	189	176	181	78
June 30, 1918... ...	126	133	134	58
Sept. 30, 1913... ...	131	132	116	55
Dec. 31, 1918	152	147	115	63

The rise in the figures for the United Kingdom and for France in March, 1918, was due to the congestion of troops in the Channel ports, owing to railway disorganization during the retreat of the Fifth Army. Progress was not maintained in the December, 1918, quarter because of the armistice and the Christmas leave, and short supply of medicaments.

The United Kingdom figures are bad compared with those for France because, although we had a good system, we did not provide adequate means for carrying it out. Better provision was made in France—particularly in Paris—and the rate fell from 101 per 1,000 in September, 1917, to 55 per 1,000 in September, 1918.

The New Zealand Division considered officially that in August–September, 1918, the system of prophylaxis (by distribution of packets, etc.) was being fairly well administered in France, and they therefore ordered one of the senior medical officers to examine all men returning from leave, on arrival at field ambulance, to detect venereal infections, from August 20th to September 20th—thirty-two days. The following was the result:

United Kingdom infections: Belfast 1, Manchester 2, Bournemouth 1, Gloucester 1, Leeds 1, London 19; total 25. France infections: Beauval 1, Arry 1, Bertrancourt 1, Etaples 1, Rouen 1, Paris 1; total 6. Total for thirty-two days, 31.

Thus the New Zealand Division's experience corroborated that of the Australian Divisions—namely, that 60 per cent.

of the infections came from London, and that with the development of disinfection achieved in France we were within measurable distance of reducing venereal disease to a negligible quantity.

The statement that the incidence of venereal disease among British troops was only 38 per 1,000 is not correct, and the rate is not comparable with the figures given above. In the British army there was much concealment of disease, and we believe it is established that the overseas rate of infection was never so high as that of the English Army of Occupation in the early part of 1919.—We are, etc.,

ETTIE A. ROUT,
Hon. Sec., N.Z. Volunteer Sisters.

H. WANSEY BAYLY,
Hon. Sec., Society for the Prevention of Venereal Disease.

HONOURS.

ORDER OF THE BRITISH EMPIRE.

A SPECIAL Supplement to the *London Gazette*, January 30th, 1920, announces the following appointments to the Order of the British Empire (Civil Division) for valuable services rendered in or in connexion with military hospitals, Territorial hospitals, war hospitals, auxiliary and civil hospitals, command dépôts, convalescent camps, or on other duties of a similar nature in the United Kingdom in connexion with the army during the war:

K.B.E.

James Frank Colyer, F.R.C.S.

C.B.E.

George Blacker, M.D., Charles Bolton, M.D., F.R.S., C. Hubert Bond, M.D., J. Walter Carr, M.D., Miss Helen Chambers, M.D., David Drummond, M.D., Edward P. Furber, M.R.C.S., Miss Florence B. Lambert, M.B., Hugh Lett, F.R.C.S., Thomas Lewis, M.D., F.R.S. T. D. Lister, M.D., the late Cecil R. C. Lyster, M.R.C.S., Lawrie H. McGavin, F.R.C.S., H. J. Paterson, F.R.C.S., John Sinclair, M.D., Sir T. Rudolph Hampden Smith, Bt., F.R.C.S., James Taylor, M.D., R. A. Young, M.D.

O.B.E.

Lieut.-Colonel W. G. P. Alpin, M.D., W. Dunlop Anderson, M.B., Thomas Baker, M.R.C.S., T. W. N. Barlow, M.D., J. H. Barnard, M.D., J. S. Boden, M.B., J. G. Boon, L.R.C.S., C. H. Bubb, L.D.S., Miss Winifred F. Buckley, M.R.C.S., W. F. R. Burgess, M.D., A. C. Burrows, L.R.C.S., C. T. T. Comber, M.D., Richard Dagger, M.D., R. G. Davidson, M.B., W. H. Dickinson, M.B., L. G. Dillon, M.D., M.S., G. C. Garratt, M.D., H. W. Gell, M.B., T. P. Gostling, M.R.C.S., E. C. Greenwood, M.R.C.S., J. Z. Hanafy, M.R.C.S., Arthur Hawley, M.B., K. R. Hay, M.B., W. Hern, M.R.C.S., H. T. Herring, M.B., R. J. B. Howard, M.D., F.R.C.S., Richard Humphreys, M.B., W. Warwick James, F.R.C.S., W. H. Jewell, M.D., H. Jossé Johnson, M.B., R. Nelson Jones, M.R.C.S., J. E. Kilvert, M.R.C.S., P. C. W. Laws, L.M.S.S.A., K. A. Lees, F.R.C.S., R. M. Hutchinson-Low, M.B., H. M. McCrea, M.D., Niel McDonald, M.B., W. F. McEwen, M.B., Miss Ethel M. Magill, M.B., C. J. L. Mansel, M.D., Major A. E. Morison, F.R.C.S., Enoch Moss, M.D., R. A. Murray, M.D., G. E. Newby, F.R.C.S., G. Northcroft, D.D.S., W. J. C. Nourse, F.R.C.S., J. Irwin Palmer, M.R.C.S., A. H. Parrott, L.D.S., J. L. Payne, M.R.C.S., G. J. Peacocke, M.D., J. P. Philip, M.D., E. T. Pinhey, M.B., J. F. Porter, M.D., T. G. Prosser, M.R.C.S., J. A. Reed, M.B., P. J. Rendall, M.D., B. J. Rodway, L.D.S., R. A. Rowlands, M.D., Harrington Sainsbury, M.D., O. B. Shelswell, M.R.C.S., Miss Amy Sheppard, M.B., G. K. Smiley, M.B., J. A. Southern, M.R.C.S., G. S. Stansfield, M.R.C.S., R. de S. Stawell, F.R.C.S., H. W. M. Strover, M.B., E. G. Thomas, M.D., R. Turner, M.B., W. Turner, M.D., M.V.O., J. O. D. Wade, F.R.C.S., A. H. Warde, M.R.C.S., James Alexander Wilson, M.D.

M.B.E.

T. Cuming Askin, M.D., R. T. Bailey, M.R.C.S., F. W. H. Bigley, M.D., W. T. Blackledge, M.B., Major J. FitzG. Blood, M.D., E. M. Brockbank, M.D., T. W. Chaff, M.R.C.S., P. M. Chapman, M.D., A. C. Clarke, M.D., Ch.B., J. Craig, M.B., J. B. Cruickshank, M.B., Major G. H. Darwin, M.D., J. H. Fardon, M.R.C.S., C. H. Ferguson, M.B., Lieut.-Colonel M. Gamble, M.D., C. F. Hadfield, M.D., J. Stirling-Hamilton, M.B., Captain E. W. Hedley, M.D., G. E. Helme, M.B., J. Brierley Hughes, M.B., G. A. Hutchinson, M.R.C.S., Miss Catherine M. Ironside, M.B., T. H. Jamieson, M.B., W. J. Lindsay, M.D., W. McClelland, M.B., G. MacGill, L.R.C.S., Mary Campbell, Mrs. Mackie, M.B., J. C. MacWatters, M.R.C.S., F. W. Melvin, M.D., W. Struthers Moore, M.D., J. G. Moyles, M.B., M. M. Murphy, L.R.C.P., H. T. Nixon, M.D., John Noble, M.B., S. J. Palmer, M.D., W. H. Prentice, M.D., John Rust, M.R.C.S., J. W. Stenhouse, M.B., J. S. B. Stopford, M.D., Professor W. Thelwall Thomas, F.R.C.S., T. H. Sanderson-Wells, M.D., H. B. Woodcock, M.B., F. Wallace Wilson, M.R.C.S., Richard Wyse, M.D.

The following appointments to the Order of the British Empire (Military Division) are announced in recognition of services rendered whilst prisoners of war or interned:

O.B.E.

Majors Wright Mitchell, R.A.M.C., and Frank S. Park, C.A.M.C. (attached 4th Battalion Canadian Mounted Rifles) Captain Thomas W. Leighton, R.A.M.C.(T.F.).

M.B.E.

Assistant Surgeons Edwin Brook Holt and Harold Arthur T. Wells, I.M.D.

Military Cross.

Temporary Captain William J. Maloney, R.A.M.C., has been awarded the Military Cross in recognition of gallant and distinguished services in the field.

Mentioned for Services.

The names of the following officers have been brought to the notice of the Secretary of State for War, in accordance with the terms of Army Order 193 of 1919, for valuable services whilst prisoners of war or interned. They belong to the R.A.M.C. unless otherwise indicated.

Lieut.-Colonels E. F. E. Baines, I.M.S., P. H. Collingwood.

Majors W. R. O'Farrell, J. Startin, and W. I. Thompson.

Captains R. C. Clifford, D.S.O., M.C., I.M.S., W. H. R. McCarter, S. S. Meighan (T.F.), L. Murphy, C. E. Redman, A. Sutcliffe, W. Warburton.

Temporary Captains H. M. Gilbertson (attached Somerset Light Infantry), A. J. Gilfillan, R. W. Hodgson-Jones (attached Royal Irish Fusiliers), J. L. Jackson, A. T. I. Macdonald, E. A. Walker.

The name of temporary Captain I. C. MacLean, D.S.O., M.C., R.A.M.C. (died), has been brought to the notice of the Secretary of State for War for gallant and distinguished services rendered in the field.

The Services.

GREENWICH HOSPITAL PENSIONS.

INSPECTORS-GENERAL of Hospitals and Fleets William H. Lloyd, M.D., K.H.S., and Thomas Browne, M.D., have been awarded the Greenwich Hospital Pension of £100 a year from February 4th, 1919, and October 12th, 1919, respectively, in the vacancies created by the deaths of Inspectors-General James W. Fisher, M.D., and Adam B. Messer, M.D., K.H.P.

Universities and Colleges.

UNIVERSITY OF OXFORD.

PROFESSOR ARTHUR THOMSON, M.A., M.B., Professor of Human Anatomy in the University, has been elected to a Studentship at Christ Church.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on January 30th the following medical degrees were conferred:

M.B., B.CH.—W. G. Marsden, D. L. Spence.

UNIVERSITY OF MANCHESTER.

Chair of Physiology.

THE Council has appointed Mr. A. V. Hill, O.B.E., M.A., F.R.S., to the Chair of Physiology, vacant through the resignation of Professor Stirling. Mr. Hill was a Scholar of Trinity College, Cambridge, was Third Wrangler in 1907, and was placed in the first class in Part II of the Natural Science Tripos (Physiology) in 1909. He was George Henry Lewes Student; Walsingham, Gedge, and Rolleston Prizeman. In 1910 he was elected to a Fellowship at Trinity College, and in 1916 was elected a Fellow of King's College. In 1918 he became a Fellow of the Royal Society. During the war he obtained the rank of major in the Cambridgeshire Regiment, and was appointed Director of the Anti-Aircraft Experimental Section of the Munitions Invention Department. The inventions which he made proved of the greatest value in the scheme of defence against attack from the air. He has made valuable researches on the physiology of voluntary muscle.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary Comitia of the Royal College of Physicians of London was held on January 29th, at 5 p.m., the President, Sir NORMAN MOORE, Bt., being in the chair.

Members.

The following candidates, having passed the required examinations, were admitted as Members:

James Beatty, M.D.Dublin; Thomas Izod Bennett, M.B.Lond., L.R.C.P.; Richard Christopher Clarke, M.D.Bristol, L.R.C.P.; Edgar Leigh Collis, M.D.Oxf., L.R.C.P.; Neil Hamilton Fairley, M.D.Melb.; Dorothy Christian Hare, M.D.Lond.; Geoffrey Marshall, M.B.Lond., L.R.C.P.; Stanley Graham Ross, M.D. McGill; Kerr Simpson, M.D.Edin.; Reginald Hugh Simpson, M.D.Lond., L.R.C.P.; Arthur Theodore Todd, M.B.Edin.; Sibyl Ibbetson Welsh, M.D.Lond.

Diplomas.

Licences to practise Physic were granted to 65 candidates who had conformed to the Bye-laws and Regulations, and passed the required examinations.

Diplomas in Public Health were granted, in conjunction with the Royal College of Surgeons, to 15 candidates.

Council.

The following were elected Councillors on the nomination of the Council: Dr. W. H. R. Rivers, Dr. S. Monckton Copeman, Dr. T. H. Arnold Chaplin, Dr. John Fawcett, vice Sir Henry Davy, Dr. W. Essex Wynter, Dr. James Taylor and Dr. Herbert Spencer, who retired by rotation.

Lectures.

The President announced that he had appointed Dr. F. W. Andrewes to be Harveian Orator, and Dr. R. C. Wall to be Bradshaw Lecturer for this year; that the Council had appointed Dr. Martin Flack to be Milroy Lecturer for 1921; and that the Censors' Board had awarded the Oliver-Sharpey prize for 1920 to Professor Emil Roux, of the Pasteur Institute, Paris.

Mitchell Lecture on Tuberculosis.

It was decided that the interest on the sum of £500 presented by Mr. Mitchell through Sir Edward Malins for the advancement of the knowledge of tuberculosis should be devoted to providing for a triennial lecture on tuberculosis, the lecturer to be appointed by the President and Censors.

Diploma in Tropical Medicine.

The revised regulations for the Diploma in Tropical Medicine and Hygiene and the revised syllabus for the examination adopted by the Committee of Management of the Conjoint Examining Board was approved. The course of instruction required in future will be not less than three months, and must include practical instruction in pathology, protozoology, helminthology, entomology, bacteriology, and hygiene in relation to tropical medicine, and clinical practice in a hospital recognized for the study of tropical diseases. Graduates in medicine and surgery of Indian, Colonial, and foreign universities recognized by the Conjoint Board in England, whose degrees are not registrable in this country, may enter for the examination on fulfilling the same conditions in relation to study.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated:

SURGERY.—*†Aspinwall, *†C. G. Bunn, †N. D. Dunscombe, *G. E. Rae, *†G. K. Reeves.
MEDICINE.—*†J. G. Barrie, †N. D. Dunscombe, *†A. H. El Rakshi, *J. Kendall, *W. E. Neale.
FORENSIC MEDICINE.—A. H. El Rakshi, C. T. Gasking.
MIDWIFERY.—A. H. El Rakshi, A. Keilin, G. E. Rae.
* Section I. † Section II.

The Diploma of the Society has been granted to Messrs. C. G. Bunn, N. D. Dunscombe, and G. K. Reeves.

Obituary.

DAVID GOYDER, M.D. ST. ANDREWS,

Consulting Physician, Bradford Royal Infirmary.

DR. DAVID GOYDER of Bradford died on January 27th, in his 91st year. He was the son of the Rev. David Goyder of Accrington, where he was born in December, 1829. Having obtained a diploma of the British Pharmaceutical Society, he decided to study medicine, and entered as a student at Anderson's College, Glasgow. He graduated M.D.St. Andrews in 1860 and took the diploma of L.R.C.P. Edin. From 1862 to 1871 he worked in partnership with the late Dr. Samuel Brown of Bradford, after which he began practice on his own account with great success. About the year 1903 he restricted himself to consulting practice. Dr. Goyder took great interest in the work of the British Medical Association, was an ex-president and ex-secretary of the Yorkshire Branch, of which he was also a vice-president and for some years its representative on the Central Council. He was also a member of the old Parliamentary Bills Committee and of other committees of the Association. He was one of the founders in 1863 of the Bradford Medico-Chirurgical Society; he held the office of president, and on the completion of twenty-five years in the capacity of its secretary the members of the society presented him with his portrait by Mr. Ernest Sichel. On the occasion of his 80th birthday, in 1909, Dr. Goyder was entertained by his professional brethren at a dinner presided over by Mr. T. Pridgin Teale, of Leeds.

Dr. Goyder was greatly interested in philanthropic and public work; he assisted in the founding of the Bradford Nurses' Institution, and as its secretary for a quarter of a century was largely responsible for its sustained usefulness. He was honorary consulting physician to the Bradford Royal Infirmary, to which institution his elder son, Mr. F. W. Goyder, F.R.C.S., is honorary surgeon.

DR. EDWIN LINDSAY DUNN, late medical superintendent of Berkshire Asylum, Wallingford, died on January 22nd, after several weeks' pain and suffering endured with patience and fortitude. He was the son of the late Mr. Robert Dunn, of Dunfield, Waterside, Ireland, was born in 1865, and received his early education at Foyle College, Londonderry. After being an intermediate exhibitioner in 1879, 1880, and a matriculation exhibitioner R.U.I. in 1881, he entered Trinity College, Dublin, as first junior exhibitioner in 1882. He graduated B.A. with honours in classics and English literature, and then entered upon the study of medicine. He was resident pupil at Dr. Steevens's Hospital, clinical clerk and surgical dresser at Sir Patrick Dun's Hospital, Dublin, and prosector to the University Anatomist. He graduated M.B., Ch.B. in 1887. He became assistant house-surgeon to the Children's Infirmary, and assistant surgeon to the Liverpool Dispensary, and afterwards was appointed assistant medical officer at the West Riding Asylum, Wakefield. There he made several contributions to medical literature, and at the Psychology Section of the annual meeting of the British Medical Association at Nottingham in 1892 read a valuable paper on paranoia. He was a member of the Medico-Psychological Association, a member of many years' standing of the British Medical Association, and a member of the Reading Pathological Society. He was appointed senior A.M.O. and deputy medical superintendent of the Berkshire Asylum, Wallingford, in 1894, and on the death of Dr. Murdoch succeeded him as medical superintendent. While at Trinity College he rowed for the University Boat Club, was a member of the University fifteen, and played for the Wanderers' Club. His recreations in later life were shooting, fishing, and golf. He was an enthusiastic Freemason, and became Worshipful Master of the St. Hilda Lodge, Wallingford, in 1890. His good-humour and interesting talk made him very popular; the visiting committee of the asylum were all his personal friends, and he was beloved by his patients and staff. He was unmarried.

THE death took place on December 29th, 1919, of DR. PETER FRASER, late of Carnarvon, at the age of 55. Dr. Fraser graduated M.B. at the University of Edinburgh in 1886, taking his M.D. and B.Sc. degrees three years later. After practising in Llangefni, he became medical officer for Carnarvonshire and parts of Denbigh and Merioneth. In 1908 he went to Lushai as a medical missionary, proceeding in 1915 to North-Eastern Assam where he was medical officer to a large group of tea gardens. Dr. Fraser acquired a very extensive knowledge of tropical diseases and his devoted work on behalf of the native population was untiring. His strenuous and self-sacrificing life out in India eventually proved too much for his strength. He returned to England in November.

DR. WILLIAM PATRICK O'MEARA, of Southampton, who died suddenly on January 23rd, aged 53, received his medical education at the Ledwich School of Medicine, Dublin, and obtained the Scottish triple qualification in 1889. He took great interest in public affairs, had been vice-chairman of the Southampton Board of Guardians, and was appointed a magistrate in 1906. At the Southampton Police-court, on January 23rd, the Mayor referred in appreciative terms to Dr. O'Meara's work as police surgeon for twenty-six years and on the bench. Dr. O'Meara was a member of the Southampton Division of the British Medical Association. He is survived by his widow, one son, and a daughter.

COLONEL ROBERT DAVIDSON MURRAY, Bengal Medical Service (retired), died in London, after an operation, on January 12th, aged 68. He was educated at the Inverness Royal Academy and at Edinburgh University, where he graduated with honours in 1873. He entered the I.M.S. as surgeon on March 31st, 1875, passing into Netley first,

and passing out second, and became colonel in March, 1905, retiring in March, 1910. He served in the Burmese war in 1886–87, taking part in the operations of the 1st Brigade, was mentioned in dispatches, G.G.O. No. 434 of 1887, and received the medal with a clasp. Except for this war service, he spent thirty years in civil employment in Bengal, where he held the posts of first resident surgeon of the Presidency European general hospital, Calcutta, and the civil surgeoncies successively of Jessore, Nadiya, Champarun, Gya, and Howrah, till in August, 1898, he was appointed Professor of Surgery in the Calcutta Medical College and first surgeon to the Medical College Hospital. On promotion to the adminstrative grade he was appointed Inspector-General of Civil Hospitals in the North-West Provinces and Oudh, and a member of the Legislative Council of these provinces. After his retirement he was honorary secretary of the Indian Empire Club, from its foundation, about ten years ago, till his death. Colonel Davidson Murray married a daughter of the late Surgeon-General George Mackay, I.M.S., by whom he is survived, with three daughters and three sons; the latter served with distinction in the war.

CAPTAIN FRANCIS JAMES SPILSBURY, R.A.M.C., died on October 11th at the S.M.S. Hospital, Headington, Oxfordshire, aged 57. He was educated at St. Bartholomew's Hospital and at Edinburgh, and took the L.R.C.P.I. in 1887 and the L.R.C.S.Ed. in 1892, after which he went into practice at Hogsthorpe, Lincolnshire, where he held the appointments of medical officer and public vaccinator of the Hogsthorpe district of the Spilsby Union, medical officer to the Post Office and to the Board of Education, and Admiralty surgeon and agent. He took a temporary commission as lieutenant in the R.A.M.C. on October 16th, 1916, and was promoted to captain after a year's service.

Medical News.

BEFORE beginning the first of his Lettsomian Lectures, published at p. 179, Dr. Herbert Spencer said that in the portrait group which adorns the wall of the Medical Society's room in which the standing figure of Lettsom is prominent, there was represented seated Charles Combe, obstetric physician to the General Lying-in Hospital. Combe, he said, published one of the finest editions of the works of Horace, with a most admirable index. In order that the Fellows of the Medical Society might have the opportunity of consulting it, Dr. Spencer offered for their acceptance a copy of the 1792 library edition. He went on to point out that the first Lettsomian lecture on an obstetric subject had been given sixty-six years ago by Professor E. W. Murphy, a predecessor of his own in the Chair of Obstetric Medicine at University College; in it Murphy dealt with education in the practice of midwifery, a subject arousing much lively interest to-day.

THREE Hunterian Lectures will be given during the course of next week at the Royal College of Surgeons of England, by Mr. H. Tyrrell Gray, on Monday, on the influence of nerve impulses on gastro-intestinal disorders; and by Mr. James Sherren, on Wednesday, on late results of surgical treatment of chronic ulcers of the stomach and duodenum; on Friday Mr. Walter G. Spencer will give the first of three lectures discussing the historical relation between experiments on animals and the development of surgery. Professor G. Elliot Smith, M.D., F.R.S., will give the first of two Arris and Gale Lectures, on the evolution of the cerebellum, on Friday, February 20th, when the origin of the cerebellum will be discussed. The second lecture, on Monday, February 23rd, will be devoted to the mammalian cerebellum, and the meaning of the changes that transformed a primitive reptilian cerebellum into the mammalian organ will be considered, along with the morphology and functional significance of the cerebellum in the various mammalian orders. The lectures are delivered at 5 p.m. on each day.

ON the occasion of the retirement of Dr. Robert Milne from the position of Chief Medical Officer of Dr. Barnardo's Homes after forty years' service in that capacity a framed address has been presented to him by the council of the homes, and also, on behalf of the united staff, a gift comprising an illuminated album bearing the names of over 500 subscribers, a first-grade bicycle, and a cheque (to be subsequently increased) for eighty guineas.

PRINCESS BEATRICE has appointed Mr. Douglas George Rice-Oxley, M.C., M.B., to be Surgeon-in-Ordinary to Her Royal Highness.

A QUARTERLY meeting of the Medico-Psychological Association of Great Britain and Ireland will be held on February 24th at the house of the Medical Society of London (11, Chandos Street, W.1), under the presidency of Dr. Bedford Pierce, at 2.45 p.m., when Dr. R. H. Steen will read a paper on chronic hallucinatory psychosis.

THE amount of the Mary Putnam Jacobi fellowship, which the Women's Medical Association of New York City is offering for award to a woman physician for post-graduate study in any country for work in any medical science is 800 dollars (approximately £200, not £2,000, as printed last week). Full particulars can be obtained from Dr. Murrell, 86, Porchester Terrace, London, W.2.

A SERVICE in memory of the late Sir William Osler was held at Christchurch Cathedral, Montreal, on Sunday, February 1st. It was attended by the faculties and students of McGill University. Dr. Symonds, vicar of the cathedral, conducted the service, in the course of which he referred to Sir William Osler's profound effect on student life during his career at McGill University, and his subsequent interest in everything connected with that university. Sir William Osler left his personal library to McGill University, and for its reception a special memorial room is being prepared, in which also will be placed the urn containing his ashes.

AT the last meeting of the Royal Edinburgh Physical Society Captain Basil Spence, R.A.M.C., a member of the Sudan Sleeping Sickness Commission, gave an account of recent observations on the prevalence of sleeping sickness in Africa and of the measures taken to control its spread. The first case in the Lado Enclave occurred in 1910, and later in the same year a serious outbreak was discovered in Yei; in 1913 it was identified in Kajo Kaji. From 1909 onwards cases continued to crop up in the Bahr-el-Ghazel amongst immigrants from the French Congo. In 1914 it was ascertained that there was a serious epidemic in the French Congo along the Mboma River, and that natives from the Sudan were in the habit of going there on visits. In the following year a small force from the Sudan, accompanied by many natives, operated along the Mboma River: the force returned to the Tambura district of the Sudan, and in 1916 and 1917 many natives of the French Congo began to emigrate into the Sudan. In the spring of 1918 Yuz Nueb Bey, a civil medical officer of the Egyptian army, discovered a serious epidemic in and about Tambura. In order to cope with it patients were collected into a village specially built for them; roads were made through the district, rest houses built, maps and road reports compiled, a census taken, and a systematic inspection made of the inhabitants in Tambura and the district. Communication between the French and Belgian Congo with neighbouring parts of the Sudan was only permitted under very stringent regulations. In 1918 and 1919 876 cases in all were notified.

THE London County Council is making application to the Ministry of Health for the issue of regulations similar to those made in view of the influenza epidemic of 1918, and it asks that they should cover other infectious diseases, and should be made without delay so as to be applicable at once should influenza become epidemic. The previous regulations provided that an entertainment should not be carried on for more than three hours, or in cinematograph halls four hours, and that there should be an interval of half an hour between any two entertainments during which the premises could be ventilated. The Theatres and Music Halls Committee, however, has expressed the view that an adequate system of mechanical ventilation in which the fresh air admitted is warmed is a necessity.

DURING the extreme shortness of petrol, early in 1918, when many motorists were endeavouring to use coal gas as an alternative, the Automobile Association offered a prize of £1,000 for the best system of enabling coal gas to be satisfactorily used. The gas bag had not proved satisfactory, and the conditions of the competition proposed an installation capable of carrying, under compression, a charge of coal gas sufficient to run a medium-powered touring car a distance of fifty miles. The space to be occupied by the gas containers was not to exceed 19 cubic feet and their weight to be not more than 140 lb. The apparatus was not to cost more than £20, and the expense of establishing and working the plant for charging the containers was not to add more than 3d. to the cost of an amount of gas equal to a gallon of petrol. So far no device fulfilling the requirements has been submitted.

SATISFACTORY progress has been made with the arrangements for the Australasian Medical Congress which is to be held at Brisbane, Queensland, from August 23rd to 28th. Sectional secretaries have been appointed from Queensland, and local secretaries in each of the other States. There will be eleven sections, as at the last congress, which was held in Auckland, New Zealand. The intention was that the Congress should meet in Brisbane in 1917, but the war and the large participation of the Commonwealth in it made postponement necessary. As already announced, the chief subject for discussion will be the question of permanent settlement of a working white race in tropical Australia. The meeting in Brisbane has the cordial support of the Queensland Branch of the British Medical Association and of the Federal Committee of Branches in Australia.

THE Metropolitan Life Assurance Company of New York, which in 1916 gave one hundred million dollars to the National Association for the Study and Prevention of Tuberculosis for an experiment in the control of tuberculosis in the town of Framlingham, Massachusetts (a typical American community), during a period of three years, has, we learn from the *Boston Medical and Surgical Journal*, resolved to provide funds for the continuance of the experiment. It was considered that the most effective method of control would be early detection of tuberculosis and the hygienic care of persons affected or threatened. In the first year 42 per cent. of the new cases were of an advanced type, in the second year 16 per cent., and in the first five months of the third year 22 per cent. Contemporaneously the tuberculosis death-rate fell from 0.93 per mille to 0.79 per mille, but this fall can hardly be looked upon as a result of the experiment.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

W. K. L. describes the case of a young soldier recently demobilized after service in France, India, and Mesopotamia, who suffers from profuse sweating in the axillae, chiefly at night. The parts have been shaved, and lemon and boracic powder applied, without avail. He asks for suggestions.

"COLONIAL SERVICE."—We cannot ascertain that there is any institution in London for the care of young children whose parents are abroad.

LETTERS, NOTES, ETC.

THE TERTIUM QUID.

DR. J. F. GORDON writes: A patient who, on my advice, had consulted one of our leading Liverpool specialists asked me why his fee for consultation was £3 3s. when she had previously paid £2 2s. I answered her that her case must have been one that is called the "Tertium quid." She simply smiled, ejaculated "Oh!" remarked that he had not called it that, asked no further questions, and apparently was quite satisfied.

A NEEDLE IN THE ALIMENTARY CANAL.

DR. W. M. FELDMAN (London, W.) writes: The interesting memorandum by Dr. Heywood Smith in the BRITISH MEDICAL JOURNAL for January 17th reminds me of a similar case. Some fifteen years ago a child about 1½ years old was brought to me by the mother because it cried each time it tried to evacuate its bowels. On rectal examination I found a small needle stuck point downwards in the wall of the rectum immediately above the anus. I removed this and the condition was cured. The mother then told me that a couple of days earlier she was doing some needlework and the child was looking on. She then left her work on a chair for a few minutes, and when she came back missed the needle. She asked the child where the needle was, and it pointed to its mouth. She, however, attached no importance to it, and the finding of the needle in the rectum came as a surprise to her. There were no subsequent bad effects, and the child is now a healthy lad 17 years old.

PERICRANIAL EFFUSION OF BLOOD.

DR. WALTER FISHER (Kalene Hill, Northern Rhodesia), writes: Early in October, 1919, a native boy about 10 years of age was injured by the fall of a sun-dried brick (about 4 lb. in weight) from a height of about 8 feet on to the back of his head when he was working in a stooping position. He was only temporarily stunned, and a small abrasion found was dressed. He seemed none the worse and went to his work as usual, but on the third or fourth day his head began to swell, and he was sent here (five days' journey) in a hammock. On arrival the large size of his head was abating, but he did not appear ill, and the temperature was only slightly above normal. The head was not tender, but in each temporal region there was fluctuation extending forwards into the frontal region, and slight fluctuation on the top of the head; in the occipital region where there was a healed abrasion the surface was normal. An exploring needle thrust into the swelling revealed blood, which under the microscope was fresh. We decided that an exploratory operation was useless, and sent him back. On visiting this station ten days later the swelling was twice the size, being more prominent in the frontal region; it still consisted of pure blood. The boy went about as usual and had no headache. We hear that the swelling has decreased and that he is now nearly well. Did the blow cause a fracture injuring one of venous sinuses, and may we conclude that callus has in some way aided in the repair of the vein?

COLD WATER AND ANTIPYRETIC DRUGS.

DR. H. S. REYNOLDS (Upwell, Wisbech) writes: During the year 1886 I reported to the BRITISH MEDICAL JOURNAL from Cradock, Cape Colony, South Africa, the satisfactory result of treating an epidemic of enteric fever complicated with hyperpyrexia by cold-water baths. I had previously tried antipyretic drugs, such as quinine disulphate, in large doses, which I found only increased the complications by causing cinchonism. In the epidemic of influenza in 1918 and 1919, the great complications being hyperpyrexia and pneumonia, I followed the same course of treatment by the cold bath, except that in cases in which the patient's friends feared the drastic treatment I had recourse to cold sponging or sheets wrung out of cold water continually, which causes a lot more work and is not so effective, although I am thankful to say I did not lose one life. The late Sir William Osler, when addressing a meeting of the British Medical Association on fever in 1894, condemned the use of antipyretic drugs and extolled the use of the cold bath. An alcoholic stimulant previous to a bath is advisable, and in children I started with tepid water, gradually cooling it, keeping them in the bath till the temperature was down, independent of shivering.

DURATION OF PULMONARY TUBERCULOSIS.

MAJOR P. HEFFERNAN, I.M.S.(ret.), Tuberculosis Officer, West Derbyshire, writes to question statements made by Dr. Baskett in the BRITISH MEDICAL JOURNAL of January 10th and in an editorial article in the same issue, with regard to the average duration of pulmonary tuberculosis in the individual. In both places it was assumed that the mortality in any year was due to disease contracted on the average two years previously. Major Heffernan thinks there is no specialist in tuberculosis and no tuberculosis officer who would agree with the statement.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 42, 43, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 39, 40, and 41.

THE following appointments of certifying factory surgeons are vacant: Long Melford (Suffolk), Salford and Stretford (Lancaster), Shrewsbury (Salop).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE MODERN TREATMENT OF FUNCTIONAL NERVOUS DISORDERS.

A BRITISH MEDICAL ASSOCIATION LECTURE DELIVERED TO A JOINT MEETING OF THE NOTTINGHAM DIVISION AND THE NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY, JANUARY 7TH, 1920.

BY

BERNARD HART, M.D.,

PHYSICIAN FOR MENTAL DISEASES, UNIVERSITY COLLEGE HOSPITAL, LONDON; LECTURER IN PSYCHIATRY, UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL; LATE LECTURER IN PSYCHOPATHOLOGY, MILITARY HOSPITAL, MAGHULL.

"FUNCTIONAL NERVOUS DISORDER" is a loose and decidedly unsatisfactory term, employed to designate hysteria, neurasthenia, and a number of other closely allied conditions. It is, indeed, rapidly falling into disuse, and its place is being taken by another term more in accord with modern views concerning the nature and etiology of the disorders in question. The newer name is "psychoneurosis," and behind the change in nomenclature there lies a wide-reaching revolution in our conception of these conditions. This revolution in thought, and the radical alteration in methods of treatment which has naturally resulted from it, form the subject of the present lecture.

DEVELOPMENT OF THE CONCEPTION OF "PSYCHONEUROSES."

During mediaeval and earlier times the phenomena of hysteria and neurasthenia were explained by conceptions which have now merely an historical interest. Such, for instance, was the hypothesis that ascribed hysteria to the wanderings of the uterus about the body—a hypothesis to which hysteria owes its name. During the nineteenth century, however, the views held with regard to these disorders crystallized into a form consistent with the outlook of scientific medicine, and a conception developed which may be described as follows. Hysteria, neurasthenia, and similar conditions are affections of the nervous system characterized only by alterations in function, and not by any discernible structural lesion, but due to causes similar in kind to those producing other forms of disease. It is to this conception, of course, that the term "functional nervous disease" owes its origin. Now the modern conception of the psychoneuroses departs fundamentally from the view just described in that it believes these conditions to be the result, not merely of causes similar in kind to those producing other forms of disease, but of causes which play a relatively insignificant part in the field of general medicine—namely, mental or psychic factors. The first definite advance in this direction was made by Charcot when he demonstrated the part played by "ideas" in the causation of the symptoms of hysteria. During the last quarter of the nineteenth and the early years of the present century this psychogenic theory, as we may call it, underwent a great development in the hands of the workers who succeeded Charcot, amongst whom may be mentioned particularly Janet and Dejerine in France, Dubois and Jung in Switzerland, and Freud in Austria. The theories and practice of these and other investigators have diverged from one another in so many respects that it is easy to overlook the essential fact that they are one and all built upon a common basis. Nevertheless, this common basis undoubtedly exists, and it is constituted precisely by that psychogenic theory whose advent we have described. It may be expressed as follows.

The psychoneuroses, comprising hysteria, neurasthenia, and other allied conditions formerly termed functional nervous disorders, are the result of causes amongst which mental or psychological factors play a predominant part.

During the early years of the present century the psychogenic theory was adopted by most of the workers who devoted themselves to the study of this branch of medicine, and our experience of the vast crop of functional disorders which developed during the war has so amply confirmed and strengthened it that it has now been accepted by the great majority of those qualified to express an opinion on the subject. It underlies practically all modern forms of treatment, and the consequences of its acceptance are so momentous that it is necessary to grasp firmly its significance and to appreciate accurately its scope and limitations.

To begin with, it does not mean that psychical causes alone are concerned in the etiology of the psychoneuroses, and that physical causes play no part. On the contrary, such factors as fatigue, the toxic and other effects of illnesses, the physiological disturbances produced by high explosives, may clearly have considerable etiological importance, and one condition of probably very great moment in the production of the psychoneuroses, "constitutional predisposition," can hardly be conceived in other than physical terms. It is only implied that, although both physical and psychical causes may co-operate in producing a psychoneurosis, the latter play an essential part, so essential a part that if they can be removed or modified the psychoneurosis itself will be removed or modified. Nor does the psychogenic theory mean that the causes we now call psychical, emotional disturbances, mental conflicts, and so forth, may not ultimately be capable of expression in anatomical and physiological language. It is only maintained that, in the present state of our knowledge, we can express these processes in psychological terms, and explain them by psychological laws, much more profitably than by the conceptions of anatomy and physiology. More profitably, because by treatment based on these psychological laws we can mould the chain of causation so that the morbid condition disappears, and thereby achieve that practical result which is the aim of all scientific method.

Psychotherapy and its Methods.

If we accept the psychogenic theory of the psychoneuroses our methods of treatment will obviously be profoundly affected thereby, because therapeutics is necessarily dependent upon etiology, and if we regard the psychoneuroses as due in large part to psychical causes, then our treatment must be one which aims at the removal or modification of those causes. Now it is clear that if we have to deal with psychological causes we must employ psychological methods—that is to say, we must practise some form or other of psychotherapy. This recognition of the place of psychotherapy in the sphere of the psychoneuroses constitutes the essential feature of modern methods of treatment.

We must pass on to consider, therefore, the procedures of psychotherapy and how they may be applied to the psychoneuroses. There is a common impression that psychotherapy is synonymous with suggestion, and that suggestion is the only weapon with which we may deal with psychological conditions. This impression is, of course, altogether erroneous, for suggestion is only one weapon, and by no means the most important or the most widely applicable. A more painstaking inquiry into the subject seems to reveal, indeed, a great multiplicity of methods, and a number of schools of thought so widely different from one another in theory and practice that one is tempted to believe that there are almost as many methods as there are writers. We find authors who advocate the employment of suggestion, some employing hypnosis, others suggestion by the aid of electrical contrivances or other means. We find authors who repudiate suggestion as useless or harmful, and who practise persuasion and re-education, endeavouring to attain their ends by logical argument with their patients. Other schools regard both these methods as inefficient, and insist that it is necessary to carry out more or less profound analyses of the patient's mind in order to alter its functioning. Of these latter one school in particular—the psycho-analysts—have devised elaborate procedures, based on certain theories of the nature of mental processes, which they hold to be essential in the treatment of these cases. These divergences in thought and practice, important though they no doubt are, nevertheless are not so fundamental as they at first sight appear to be. All psychotherapeutic procedures are necessarily based on the psychogenic theory we have described; careful investigation shows that they all consist in the employment of a few basic processes, and the differences between the various schools resolve themselves largely into differences concerning the particular causal factors selected for attack. It is obviously impossible in a single lecture to consider in detail the methods and merits of the different schools, and I shall confine myself here to an attempt to set out the essential principles of all psychotherapy, and to illustrate

the application of these principles in certain selected cases.*

THE GENERAL PRINCIPLES OF PSYCHOTHERAPY.

As the object to be attained is the removal or alteration of certain mental factors, it is obvious that every scientifically conceived method of psychotherapy must involve two processes: Firstly, the ascertainment of the particular mental factors responsible for the morbid condition; and secondly, the carrying out of procedures designed to eliminate or modify those factors. These two processes may be termed "analysis" and "rectification."

Analysis consists in deducing the nature of the causal factors from the signs we are able to observe ourselves, and from the information which the patient is able to give us, and it necessarily presumes, therefore, a knowledge of the way in which the mind works, and of the effects which its workings may produce. That is to say, analysis presumes a knowledge of psychology and psychopathology. Sometimes the deduction required is simple, and can be made by the help of the everyday psychology which we all possess; in other cases it is complicated and difficult, and necessitates an expert acquaintance with psychopathological processes. It must be realized that the causes in question generally do not lie on the surface of the mind, but are hidden, not only from our immediate observation, but also from the patient's own introspection. They have to be ascertained by a process precisely analogous to that whereby we deduce, from the signs accessible on the chest wall and the symptoms displayed by the patient, the nature of hidden changes occurring in the lungs. In the psychoneuroses we generally find that the causal factors occur in layers, as it were—that is to say, analysis first discloses superficial conditions which are immediately responsible for the symptoms present, then behind these deeper lying causes, until ultimately we get back to emotional disturbances rooted in the interplay of the great instinctive forces of the mind. How far back in this series analysis has to be carried varies in each individual case, but it is clear that for efficient treatment it must be carried sufficiently far back to enable us to modify the causal chain so that the disorder is no longer produced. It is also clear that without this preliminary analysis, without a reasonable knowledge of the causal conditions present, all attempts at therapy must be haphazard and inadequate.

Rectification, the modification of the causal factors discovered by analysis, may be carried out by the aid of many different weapons. We may endeavour to alter the mental processes responsible for the morbid condition by persuasion and re-education, or we may make the patient clearly cognizant of their nature and action, and teach him to deal with them consciously and efficiently rather than in the haphazard manner which has produced his neurosis. Again, we may press into our service all the emotional forces which can be utilized to modify these processes, either those available in the patient's own mind, such as his ambitions, interests, self-respect, religion, or those which can be applied from outside. These last are practically all included in the conception of "suggestion." Different schools of psychotherapy rely mainly on one or other of these various methods, but the practising physician will do well to regard all of them as useful, and to be employed according to the requirements of the individual case and the end which we wish to attain.

The essential principles of all psychotherapy consist, then, in the elucidation of the psychological factors which play a part in the etiology of the psychoneurosis, and the subsequent employment of every weapon which will serve to modify the patient's mental processes in the desired direction. I shall now endeavour to make clear the manner in which these general principles are applied in practice by the description of some typical psychoneurotic conditions, and the methods of treatment available for them.

FUNCTIONAL DYSPEPSIA.

The first case we will consider is that of a middle-aged woman, who complains that she is only able to take small quantities of milk and fish, and that she suffers from severe digestive disturbances, pain, and vomiting if she attempts a more varied diet. She has lost a considerable amount of weight. Careful examination discloses no evidence of any organic disease, and we conclude that the condition is purely functional. In our search for psychological factors which may have played a part in its causation we elucidate the following history. Six months ago the patient lost her husband, and she passed at this time through a period of great emotional stress. During this period the digestive disturbances began, and she became apprehensive that some serious organic disease was present. She gradually devoted more and more attention to her digestion, carefully testing and observing the effects of different articles of diet, and cutting off those foods which appeared to produce unfavourable results. Finally she reached her present stage in which only milk and fish are tolerated.

With the aid of some very elementary psychopathological knowledge the genesis of this case can be made clear. During the period of great emotional stress some digestive disorder appeared, owing to the normal physiological effects produced on the secretions by emotional disturbance. The patient's attention became fixed on this phenomenon, and vague apprehensions that some serious disease was present passed through her mind. As a result she began to be preoccupied with the functions of her stomach, and instituted the phase of testing and observation which we have described. Now preoccupation of this kind, with the process of auto-suggestion which accompanies it, not only breeds a conviction in the patient's mind that the digestive organs are deranged, but it actually tends to derange their functions. What should have been a merely transient phenomenon therefore becomes fixed, a vicious circle is set up, and the patient's anxious apprehensions concerning the effects of each article of food inevitably lead to an increasing limitation of diet. Finally, the stomach acquires the habit of only tolerating milk and fish.

In considering what treatment should be applied to this case the "layers" of causes which have to be taken into account, proceeding from proximate to more remote, are, firstly, the habit which the stomach has acquired; secondly, the preoccupations, apprehensions, and auto-suggestions which have produced this habit, and finally the emotional disturbances which have initiated the chain of causation. Clearly we have to deal with these various causes, and generally it will be found profitable to begin with the second group, the preoccupations and apprehensions. For this purpose we may employ "persuasion." The nature of the disorder must be fully explained to the patient, it must be made clear to her that no organic disease exists, that her organs are perfectly normal, but that their functions have been disturbed by the attention to which she has subjected them, and that as a result of this her stomach has formed certain bad habits. When the preoccupation and suggestion factors have been removed by these means, attention must next be directed to the habit factor, and the most suitable weapon here will clearly be "re-education." The digestive organs have to be educated to deal once more with a normal diet. The guiding principle constantly to be kept in view is that the process must be gradual but continuous. To begin with, the patient is given the milk and fish diet to which she is accustomed, but she is informed that meat and other foods will be gradually added with the object of training the stomach back to its former capacities. On the following day a piece of meat the size of a small pea is added to the fish meal. Generally this will be digested without ill effects, but should this not be the case a still smaller piece is employed. On the next day a slightly larger quantity of meat is added, and similar additions are made on each successive day. Other articles are introduced according to the same principle, until a full ordinary diet has been once more attained. Usually this end can be achieved within one or two weeks.

Whether or not it is necessary to deal with the more remote causes, the emotional disturbances ultimately responsible for the condition, must be carefully considered in each individual case. In many instances these disturbances are of a purely transitory character, and here the treatment described will be all that is necessary to achieve a satisfactory result. Occasionally, however, emotional factors of a more active and persistent type are present, and these must then be traced out and adjusted before a stable cure can be effected.

A word of warning may be given here with regard to a

* The relations between the various schools of psychotherapy have been dealt with in a paper by the author entitled "The Methods of Psychotherapy," *Proceedings* of the Royal Society of Medicine, 1918.

danger constantly to be kept in mind by every practitioner. Psychogenic disorders are not only capable of being favourably influenced by suitably adapted psychological methods of treatment; they are also capable of being unfavourably influenced by pernicious psychological factors carelessly and unthinkingly introduced by the practitioner himself. This danger is very real in cases of the type just described. Suppose, for example, that we submit our patient to frequent elaborate examinations without assuring her after each such examination that its result conclusively shows that no organic disease is present, that we discuss before her the possibilities of ulcer or carcinoma, and that we then subject her to a carefully regulated diet and a complicated drug therapy. It is easy to see that treatment of this kind, so far from removing the psychogenic factors responsible for the condition, will directly enhance and strengthen them. The patient's apprehensions that she is really suffering from organic disease will be confirmed, the preoccupations will be intensified, the symptoms will become more pronounced, and the difficulties of subsequent rational treatment greatly increased.

CONVERSION HYSTERIA.

The name "conversion hysteria" is applied to a group of cases characterized by obvious bodily disabilities, including such conditions as functional anaesthesias, paralyses, contractures, morbid postures and gaits. I will select for examination a typical case of hysterical mutism, a disorder which is to be regarded as an instance of functional paralysis.

A soldier was knocked over and partially buried by the bursting of a shell, but did not sustain any discernible injury beyond a few bruises. When extricated he was conscious, but dazed and unable to speak. The confusional condition rapidly cleared up, but the inability to speak has persisted, and exhibits the well-known characters of hysterical mutism. The patient understands everything said to him, and can write, but he is unable to make any articulate sound, although he can move his lips, tongue, and so forth, in any way required of him.

If we investigate the psychogenic factors responsible for this condition, we find that the proximate cause is the existence in the patient's mind of a certain conviction. He is convinced that he cannot speak, and the actual inability to speak follows from the conviction by a simple and direct psychological process. Behind this proximate cause there lie a series of more remote causes comprising emotional disturbances of various kinds, ultimately rooted in the great instinctive forces of the mind. The nature of these emotional factors cannot be dealt with here in sufficient detail to enable them to be reasonably understood, but it may be said that in war psychoneuroses of this type the predominant factor generally consists in an inability on the part of the patient to adapt himself to the situation in which he has to exist. This situation stimulates intensely the great forces which may be summed up as the instinct of self-preservation with its concomitant emotion of fear. These forces, whose unhindered action would lead to the individual promptly removing himself from the place of danger, are opposed by other almost equally powerful forces—duty, self-respect, discipline, and so forth. There thus arises an intense mental conflict, and this conflict, the manner in which it affects the mental organism, and the patient's inability to deal with it satisfactorily, form the more fundamental causes responsible for the patient's breakdown.

These two groups of causal factors—the conviction in the patient's mind that he is unable to speak and the more remote emotional disturbances just described—constitute the etiological conditions against which our treatment must be directed. The proximate cause, the patient's conviction of his disability, can be dealt with by various methods, the object of all being to substitute for the pathogenic conviction one of precisely opposite character—that is to say, to replace the patient's belief that he cannot speak by the belief that he can speak. Suggestion, for example, may be employed, either by hypnosis or some other means. The patient may be hypnotized, and while in this state the suggestion may be conveyed to him that he is now, and will continue to be, able to speak; or he may be informed that an electrical current will be passed through his neck, and that immediately this is done he will recover his voice. In either case, if the suggestion be successful, the conviction that he can speak is implanted in the patient's mind, and directly this is achieved the disability will disappear. Or, again, this end may be attained by the use of persuasion and re-education, the procedure then being as follows: It is explained to the patient that examination has shown that all the organs of speech are perfectly healthy, that he has merely forgotten now to use those organs, and that it is proposed to teach him how to recover that use immediately. He is then told that if he fills his chest, opens his mouth, and blows out his breath, he will make the sound of "ah." This result follows, of course, inevitably. The sound of "e" is next produced by instructing him to open the lips, approximate the teeth, place the tongue against the lower teeth, and again blow out the breath. Other vowel sounds can be similarly taught, and one then passes on to consonants. The patient is told to close his lips and then to separate them smartly, blowing out the breath at the same moment, thereby producing the sound of "pah." By these methods the patient can be taught to make any required sound, but it is not, of course, necessary to go through all the sounds in the English language. It must always be remembered that our aim is merely to destroy the patient's conviction that he cannot speak. This conviction is shaken directly he makes the first articulate sound, and it is generally removed altogether by the time he has articulated a few vowels and consonants. He then realizes that his disability no longer exists, and the capacity for speech returns at the same moment. The method of treatment described tends to produce in the first place an aphonic and not a voiced speech; but this defect can be remedied by the employment of similar means, and must not on any account be allowed to persist.

The proximate cause of the disorder having been dealt with in one of these ways, the question arises as to whether, and to what extent, it is necessary to attack the more remote causes. The nature of the latter have been already explained, and unless they also can be removed, it is obvious that the destruction of the proximate causes, the breaking of the chain of causation at its penultimate link, cannot effect a complete and permanent cure. The symptoms will perhaps disappear for the time being, but the original source persists and a fresh outbreak of the same or similar symptoms is always possible. Clearly, therefore, efficient treatment requires that these underlying emotional disturbances should be adjusted. Time does not permit of any detailed description here of the methods by which this end may be attained, but it is evident that the conflict described in a former paragraph will have to be investigated and an attempt made to adjust the warring forces involved. This may be done partly by making the nature and action of these forces clear to the patient himself and instructing him how he may control them consciously and deliberately, partly by pressing into service all those emotional forces in the patient's mind—self-respect, ambition, interest, and so forth—which can be used to aid that control. In many cases of the type now under consideration we shall find that the patient's constitution is such that it cannot deal with the stresses of war, and adjustment will then only be possible by altering the environment in which he has to live—that is to say, he must cease to be a soldier.

The principles dealt with above enable us to understand the well-known clinical observation that, though it is easy to remove hysterical symptoms, it is difficult to ensure that relapses and the outbreak of fresh symptoms do not occur. They provide, moreover, a gauge by which we may measure the merits and demerits of rival methods of treatment, according as they endeavour merely to remove the patient's symptoms, or to attack the more fundamental causes of which the symptoms are only an expression.

ANXIETY NEUROSES.

We may now pass on to consider a type of case for whose treatment a more advanced knowledge of psychological processes is required, and we may select for this purpose another example of a war psychoneurosis, of a kind to which the name "anxiety neurosis" has been applied.

A soldier after some months of service at the front, including several episodes of a particularly distressing character, breaks down, and when we see him some weeks later presents the following clinical picture. As he enters the room we observe a generalized tremor, much accentuated by any emotional disturbance; he starts violently

when the door shuts behind him, and we note that the palms of his hands are wet with sweat. He tells us that his sleep is disturbed by dreams, in which he is once more fighting in the front line, and from which he wakes in terror. These dreams are a frequent feature of the war psychoneuroses, and have been generally christened by the name of "battle dreams." The patient complains, moreover, that he is unable to concentrate his thoughts, and that he becomes promptly fatigued whenever he attempts any physical or mental exercise.

When we investigate the psychological factors responsible for this condition we do not find any "conviction" comparable to that which constituted the proximate cause in the hysterical case previously considered. On questioning the patient, however, we soon discover that he displays a certain noteworthy attitude towards the experiences he has passed through in the war. If we ask him whether he ever thinks of his life in France, he promptly replies that he does everything he possibly can to avoid thinking about it. He carefully occupies his mind with other things to prevent the memories of what he has endured entering consciousness, avoids any newspapers or other literature which might recall them to him, and turns away whenever his comrades introduce the subject of the war. He points out, moreover, that if in spite of his efforts the forbidden memories force themselves upon him, he immediately becomes agitated, tremulous, and terror-stricken. In a word, he finds that certain memories are inexpressibly painful to him, and he therefore endeavours to keep them at arm's length and so far as he can to forget them.

Now this attitude is not a mere symptom to be added to the list of those already described; it is an actual cause of the latter. In order to understand how this may be it will be necessary to devote a moment to the consideration of certain psychological principles. When the memory of an important emotional episode is thrust out of consciousness it does not thereby cease to exist. It is merely driven beneath the surface of consciousness, as it were, imprisoned in the depths of the mind, and prevented from entering consciousness by the interposition of a barrier. This barrier is not, of course, an actual entity, but is constituted by those psychological processes of repulsion, occupation of the mind with other things, and so forth, which have already been described. The barrier prevents the direct entry of the offending memories into consciousness, but it cannot prevent them from influencing consciousness indirectly, and thereby producing certain characteristic symptoms.

Applying these principles to the case under consideration the actual state of affairs may be stated as follows: The patient's war memories are subjected to the "repressive" process which has just been described, and are thereby prevented from entering consciousness directly. Nevertheless, certain elements of the offending memories influence consciousness indirectly, and are responsible for the tremors and "jumpiness" which we observe in our patient. These last may be regarded, of course, as physiological manifestations of the fear which attaches to the buried memories. Again, although the barrier can be maintained during the hours of waking activity, it is inevitably relaxed so soon as the patient composes himself for sleep, the memories emerge into consciousness, and the resulting emotional agitation accounts for the patient's insomnia. When sleep does finally supervene the barrier is almost completely removed, and the released memories are thus free to provide the material of the well-known battle dreams. Lastly, the exhaustion of energy produced by the lack of harmony and conflict in the patient's mind explains, in some part at least, the rapid fatigue which arises whenever any mental or physical exercise is attempted.

So soon as the existence of this mechanism has been ascertained the main indication for treatment is at once obvious. If the repression is responsible for the symptoms the repression must be removed. In the first place, the state of affairs must be fully explained to the patient, and he must be made to understand that his attitude, although apparently dictated by common sense, is really the immediate cause of his troubles. The explanation is not difficult, and can be put into language easily comprehensible to men of mediocre intelligence and education. The next stage is to instruct the patient how this attitude may be corrected. The objects to be attained are clearly the abolition of the barrier and of the repulsion which has produced that barrier. Translated into everyday language, this means that the patient must get used to his war memories, so that he may regard with comparative equanimity those past events whose recollection now fills him with anguish and terror. He must be persuaded to describe them fully to the physician, to face them squarely rather than to shun them, and to accustom himself to discuss them with his comrades. To begin with, the process will be extremely painful and distressing, but this aspect will steadily diminish with the continuation of the treatment. The abolition of the repulsion is aided materially by constantly impressing upon the patient that the events in question are past and are now merely memories, and by endeavouring to elicit every circumstance which will place them in a more favourable and less distressing light. That is to say, every means must be used to alter the perspective in which these memories are regarded, so that they will no longer be outlaws in the mind, as it were, but will fall into their proper place in the mental structure.* When this reintegration of the repressed elements has been attained, when the patient can describe and discuss the events of his war experience with equanimity, then the symptoms due to the repression will naturally disappear.

In cases of this type it will be found that, behind the proximate causes just dealt with, there lie more remote causes of much the same nature as those elicited in the hysterical case described in a preceding section. Here also these causes must be taken into account and suitably treated if a satisfactory result is to be attained. Finally, a process of re-education must be carried out, in order to train the mental and physical activities gradually back to normal functioning.

General Principles.

It will be observed that two out of the three cases which have been selected for description are war cases. This circumstance is not entirely fortuitous. Owing to the comparatively simple character of the psychogenic factors in the pure war psychoneuroses, and the corresponding simplicity of analysis and treatment in these cases, they are admirably adapted for a demonstration of the essential nature and principles of psychotherapy. A large number of the psychoneurotic cases met with in civilian practice have a far longer history, and a correspondingly more complicated etiology and structure, and their treatment therefore requires more elaborate methods and a more extensive knowledge of psychopathology. Nevertheless, the broad principles which have been described hold good here also, and so long as they are constantly kept in view the problem presented by each individual case can be satisfactorily attacked.

A careful examination of the cases considered in this lecture will disclose the fact that in each instance the patient has failed to adapt himself adequately to a particular situation, and the psychoneurosis has arisen because the psychological factors in that situation have been wrongly adjusted. This is the characteristic feature of all the psychoneuroses, both of war and peace, and once it is grasped it becomes clear that the only rational treatment for these conditions must consist in the elucidation and adjustment of the factors which are at fault. In the light of this principle, the futility of rest cures and voyages is immediately apparent, for the patient's troubles are in his mind, and he takes them with him wherever he may be sent. A rest cure may be an excellent adjuvant measure, and a voyage may be a valuable help in convalescence, but unless the factors responsible for the disorder are properly dealt with, both are worse than ineffectual. The physician who undertakes the treatment of these cases must not be satisfied until he has ascertained the situation to which the patient has failed to adapt himself, the psychological factors which have conditioned the lack of adjustment, and the mode in which these factors have acted. If I were required to sum up in a sentence the essential features of the modern treatment of functional nervous disorders, I should say that they consist in taking into account not only the physical antecedents of the patient, but also his psychological antecedents, and in the devising of methods whereby the morbid psychological processes can be rectified.

* For a fuller description of this method of treatment see W. H. R. Rivers, Repression of War Experience, *Proceedings* of the Royal Society of Medicine, 1918.

In conclusion, it may be pointed out that in the space of a single lecture it has naturally been impossible to attempt more than a sketch of general principles, and the cases selected for description have been dealt with in an unduly simplified manner in order to bring into relief the facts essential for our purpose. Throughout the lecture, moreover, emphasis has been laid on the psychological factors in causation and treatment, because the recognition of their importance is the keynote of modern methods of treatment.

This must not be taken to mean, however, that physical factors are of no account in these disorders. On the contrary, they must be carefully estimated and suitably treated. Recent researches in endocrinology promise that in the future a flood of light will be thrown upon the nature of the physical factors which play a part in the psychoneuroses, and in particular upon that vague but vastly important thing we call "constitutional predisposition." In this field, moreover, it seems possible that the physiologist and the psychologist will ultimately find a meeting place in which they can join hands and adjust their claims.

APPENDICECTOMY BY A NEW ROUTE.

BY

R. H. ANGLIN WHITELOCKE, M.A., M.D., F.R.C.S.,

HONORARY SURGEON, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL, OXFORD, AND LITCHFIELD LECTURER IN CLINICAL SURGERY IN THE UNIVERSITY.

THE operation here described is designed for the removal of the appendix vermiformis through the right iliac fossa in cases where no general exploration of the abdominal cavity is called for—that is, in acute cases rather than chronic. The method is a muscle-splitting one, and has proved so successful that I employ it in preference to all others. Indeed, its advantages, anatomical, surgical, and clinical, appear sufficient to justify its general adoption in suitable cases as a substitute for the procedures in general use.

I.—INCISION AND APPROACH.

The incision used for opening the abdomen may from its anatomical situation be described as the para-ilio-spino-inguinal (or ilio-inguinal for brevity's sake), and is made half an inch or less internal or medial to and parallel with the anterior superior spine of the ilium, or as near to it as practicable. The anterior iliac spine, a constant and definite landmark, which is easily felt or demonstrated however obese the subject, forms the centre. The cut is carried above and below this point to an equal extent and parallel with the iliac crest and spine and the attached inguinal (Poupart's) ligament. The length of the incision varies with the size of the individual, but usually need not be longer than 2½ in., although it may be extended in either or both directions if required.

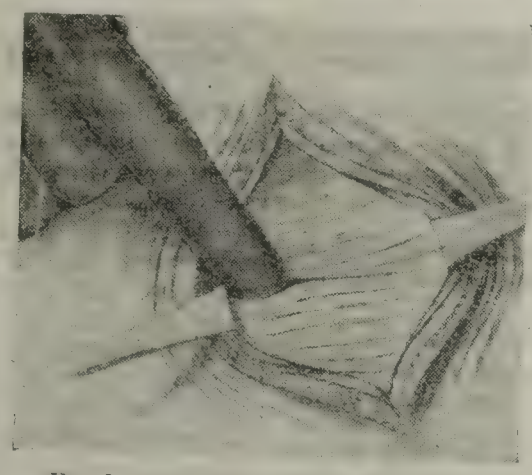


FIG. 1.—Separation of the fibres of the internal oblique muscle.

The cut at once divides the skin, subcutaneous fascia, and aponeurosis of the external oblique muscle to its full length, when an assistant, armed with a pair of blunt rectangular retractors, holds the edges apart, whilst the muscular fibres of the internal oblique muscle are defined and exposed to view. At this stage a white line of varying distinctness may usually (roughly in about 58 per cent. of cases noted) be seen passing across the muscle almost horizontally, in a direction from the anterior superior spine of the ilium to the middle line of the body; this line, which is bloodless, indicates a natural division of the muscle into an upper and lower section. With this line as a guide (the same direction must be followed when no line is visible) the thick fibres of the muscle are incised and then separated with the aid of a blunt instrument such as a Kocher's director, or by the gloved index finger (Fig. 1). The subjacent transversalis muscle is then similarly treated, its fibres being separated at the same time and by the same manœuvre to the full extent allowed by the skin incision. As soon as the fibres of these horizontal muscles have been freely separated and any bleeding stanched the retractors are removed and replaced at right angles to their former position so as to pull and hold the fibres apart, thus exposing the transversalis fascia. This fascia, usually thin, may at times be somewhat thickened and resistant, and through it the exploring finger ascertains the precise condition of the subjacent peritoneum. Up to this stage the procedure is identical for all forms and stages of appendicitis, whether acute or chronic, simple or "interval," with or without abscess. In uncomplicated cases, and whenever there is no evidence of suppuration, as may usually be determined by palpation of the peritoneum through the transversalis fascia, this fascia and the peritoneum are seized with blunt-pointed catch-forceps and divided in a direction parallel with the skin incision, medial or internal to the reflection of the parietal peritoneum on to the iliac fossa, deep to and parallel with the inguinal (Poupart's) ligament.

Where, however, an abscess is present or suspected, it is safer to turn the peritoneum inwards or medialwards from its seat of reflection behind Poupart's ligament and to open it posteriorly from the iliac fossa. The transversalis fascia and peritoneum are usually divided together in a line parallel with the skin incision, but they may be cut transversely as with the deep muscles, if the incision is likely to require enlargement. The peritoneal opening should be made as free as the skin and muscle divisions allow, and the edges caught and held apart securely with a pair of blunt-pointed catch-forceps. These instruments are attached near to the extremities of each edge, and serve to retain the cut edges of the peritoneum, acting as retractors during the subsequent manipulations. The forceps should be blunt, lest they wound the bowel; moreover, unless the peritoneal opening is ample there may be difficulty in replacing the viscus at a later stage. When the abdomen is opened, the viscus first seen is generally (86 per cent. of cases noted) large intestine, either the first part of the ascending colon or, less frequently, the caecum. Except in children and in abscess cases the omentum or transverse colon are rarely seen, still less often is the small gut observed, except in cases of excessive intestinal paralysis and distension due to a generalized septic peritonitis.

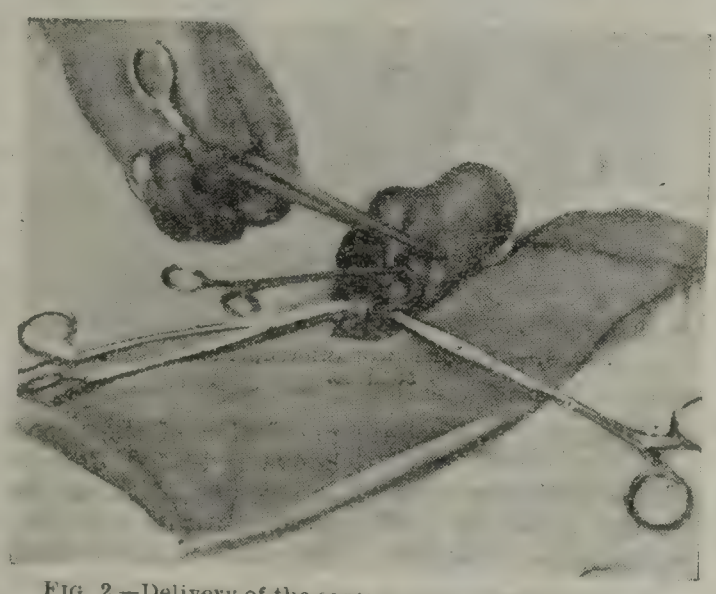


FIG. 2.—Delivery of the caecum and appendix through the wound.

II.—TREATMENT OF THE APPENDIX.

The large intestine is now seized and drawn gently upwards through the wound, its anterior muscular band serving as a guide, until the caecum with its appendix is delivered through the wound (Fig. 2). When the appendix happens to be retrocaecal—a condition more frequently found than is reported—and is therefore sessile, or is otherwise adherent so that it cannot be delivered complete through the opening without risk or injury, it is wiser to detach the caecum at once, to deliver it through

the wound, and to leave the appendix *in situ* to be dealt with afterwards.

In a simple or "interval" case the appendix is removed outside the abdomen by clamping and dividing its mesentery up to its root. The mesentery is then ligatured, the appendix crushed at its base with a clamp, ligatured with catgut, and divided with a sharp knife at a point distal to the ligature, but proximal to a pair of forceps so placed as to prevent any escape of contents (Fig. 3, A, B, C). The stump is now carefully disinfected with pure phenol and buried between the peritoneal folds of the caecum and small intestine, or invaginated and stitched into the caecum by means of two superimposed layers of Lembert's sutures. The caecum is then cleansed with hot saline swabs, and rapidly returned to the abdomen.



FIG. 3.—Treatment of appendix in a simple or "interval" case. A, Division of mesentery; B, use of forceps before division of appendix; C, preparations to bury stump. (After Kelly.)

Some difficulty is at times experienced at this stage in returning the bowel through the small opening, especially in prolonged operations and in cases with a large movable caecum, although the difficulty may be readily prevented or overcome if the following details are attended to:

1. The opening through the peritoneum should be always as free as or more free than that through the muscles.
2. The exposed and delivered bowel must be kept warm by gauze or lint wrappings soaked in hot saline lotion whenever the manipulations are likely to be prolonged.
3. The edges of the wound must be held firmly apart by an assistant whilst the operator is engaged in returning the caecum.

The wound is closed in layers with catgut sutures (fine for the peritoneum, stout for the muscles), the skin being brought together with silkworm ligatures interrupted so as to allow of the escape of serum (Fig. 4). Only a few sutures are required, since there is but little strain on the edges, and the muscles tend to fall together of their own accord

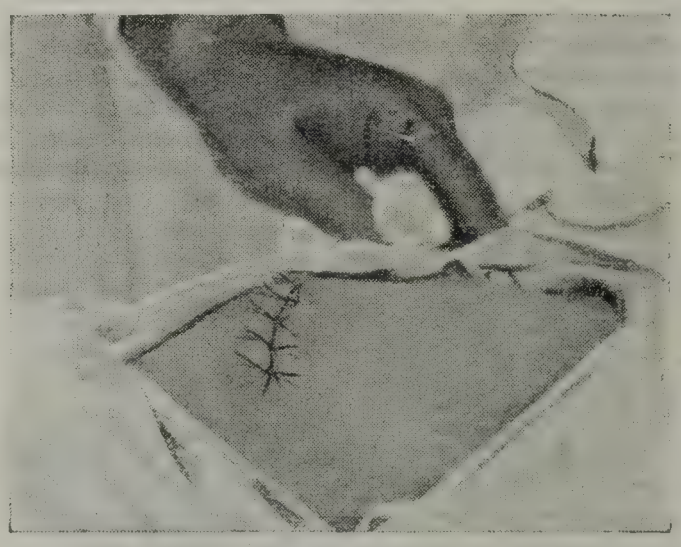


FIG. 4.—Disposition of interrupted silkworm sutures.

When the appendix is so adherent that it cannot be delivered readily with the caecum through the wound—as, for instance, in cases of chronic abscess—the safest and easiest plan is to deal with it as a foreign body by detaching the caecum from its root, and completing the operation by burying the stump as already described. The adherent and detached appendix is then seized at its divided end with a pair of forceps and gently pulled upon until it comes away.

In many cases, when the inflamed viscus lies in retrocaecal or retroperitoneal situations, the muscular and mucous portions of the organ may be pulled out with ease from its inflamed and thickened peritoneal sheath, a firm rubber tube of sufficient calibre then being inserted into the track. When the appendix is approached by this route and its base sought for at the junction of the large and small intestines, it can always be found and removed. Only twice out of a series of over 800 consecutive operations was there any insuperable difficulty in discovering the appendix; in one case, after the ingestion of a barium meal, the Roentgen rays showed a complete transposition of the viscera; in the other, owing to displacement, probably congenital, of the right kidney downwards into the paracolic fossa, the caecum, with its appendix, was pushed across to the left side of the body.

Drainage is now seldom used except in case of abscess. The practice of removing the appendix as a routine, and with it the focus of sepsis and infection, is a sound one, for not only does it minimize the immediate risks and any tendency to relapse, but it shortens the period of drainage, and indeed usually enables drainage to be dispensed with altogether.

III.—ADVANTAGES AND DISADVANTAGES OF THE NEW METHOD.

Since the technique described differs but little from that in general use in muscle-splitting operations, the question may be asked, What are the special advantages of this route of approach? The answer is that it presents definite anatomical, surgical, and clinical advantages.

Anatomical Advantages.

The anterior superior spine of the ilium is an unfailing landmark which can readily be felt in all circumstances of life. An incision or scar running through the external oblique muscle within an inch of, and parallel with, its bony origin is practically free from strain, since it lies in a natural groove or fold of the body. The deep muscles—internal, oblique, and transversalis—are divided where their fibres are thickest and strongest, and more capable of bearing strain—that is, along the line which indicates their natural division into an upper and lower section. As a rule, no blood vessels are present to require ligature nor is any muscle nerve liable to be divided. Moreover, the parietal peritoneum is here thick and taut, and well supported by extraperitoneal fat at its line of reflection to the iliac fossa hence it is less likely to approach the skin wound and so predispose to hernia, even after prolonged drainage. Such approximation of the peritoneum towards the skin through the muscles is perhaps the most important predisposing cause of ventral or other form of hernia. A further advantage is that the ascending colon or caecum is situated in the direct route, so that the surgeon may rely on discovering the appendix at its origin from the viscus, no matter where its body lies (except in the rare event of visceral transposition). There is probably no viscus which varies more than the appendix in its position and movements under the ever-changing circumstances of life. Hence an assurance that the appendix will be found in almost all conditions is a great recommendation of the procedure here advocated. If the large bowel is traced downwards or drawn upwards through the wound, with the anterior muscular band as a visible guide, until its junction with the small intestine is reached, the root of the appendix may be found, while, if it is covered by peritoneum, it may be felt and readily dealt with.

Surgical Advantages.

The ilio-spinal approach to a great extent prevents the risk of ventral hernia, since the two main factors concerned in the process—pouching of the parietal peritoneum and muscle strain—are almost wholly eliminated or rendered improbable by the anatomical facts already described. In the oblique incision of McBurney, on the other hand, the scar from its position is exposed to considerable intra-abdominal strain, and as a result the peritoneum often pouches; in fact, in cases of prolonged drainage the peritoneum often approaches the skin

through the weakened muscles, and may even become adherent to it. Both these circumstances predispose to ventral hernia. Further, the not infrequent division of or injury to the twelfth dorsal nerve, supplying the region of the internal inguinal ring, and the ligature of the deep epigastric vessels predispose to inguinal hernia.

General Peritoneal Cavity.—Even more important than the prevention of hernia is the fact that the ilio-inguinal route avoids the necessity of involving the general peritoneal cavity while dealing with the appendix. Such violation defeats Nature's efforts at self-preservation or cure, efforts which are revealed by the tendency of inflammatory processes within the abdomen to become limited and shut off by protective lymph. Any procedure, therefore, which counteracts this natural and conservative tendency should be condemned as non surgical. This criticism is applicable to most of the operations practised to-day in which the appendix is approached through the general peritoneal cavity, whether the organ is at the time healthy, inflamed, or even gangrenous; especially is this true of the straight or para-median incision, to a less extent the oblique. By the ilio-inguinal route, on the other hand, the peritoneum may be opened and the abscess easily reached and evacuated through the iliac fossa without the difficulties and dangers of soiling or infecting the general peritoneal cavity. For this reason the new route is unquestionably safer and in harmony with the principles of surgery. As a further advantage the appendix may invariably be removed at the time. The necessity for a subsequent operation is thus obviated, with its concurrent risks, waste of time, increased expenditure, and worry, apart from the possibility of hernia.

Drainage, when established through the iliac fossa to the stump of the appendix, or even into the pelvis itself, is simpler and safer than when an abscess is drained through the general peritoneal cavity; an extruded faecal concretion may also be more readily found and safely extracted. Again, the procedure as a whole is simpler and takes less time; in uncomplicated cases the saving of time is remarkable. The appendix is so quickly found, and the wound requires so few sutures, that on more than one occasion four such operations have been performed at the Radcliffe Infirmary within sixty minutes, all the details, including dressings and bandages, being carried out by the operator. Indeed, few abdominal operations will be found so simple. No doubt speed may matter little in an ordinary operation. On the other hand, it may be of the first importance when the patient is *in extremis*, cyanosed or ashy-white in colour, with an irregular or flickering pulse, severe meteorism, and where even the anaesthetic adds appreciably to the danger. Simplicity of method and rapidity in execution are of priceless value when life hangs by a thread.

Diagnosis of Gravity.—Further, the ilio-inguinal route of approach, whether for exploration or removal, enables the surgeon to make a fair estimate of the gravity of the case before the peritoneum is opened. When the transversalis fascia is reached, digital palpation makes it possible to determine not only the presence but the precise situation of an abscess. The extraperitoneal fat in cases of abscess is often considerably thickened and oedematous, and offers distinct resistance even in the early stages; hence if the fingers are pressed gently through the fat against the peritoneum the resistance encountered enables the surgeon to form some idea as to whether the abscess is immediately subjacent or has passed upwards behind, or to the outer side of the colon, or downwards and forwards into the pelvis. When the resistance is slight, the peritonitis is almost certainly localized and the peritoneum may be incised anterior and internal or medial to its anatomical line of reflection, so that the general cavity can be opened with but little risk. On the other hand, if the resistance is such as to justify the suspicion of abscess it is safer to turn the peritoneal fold inwards and forwards, to open the abscess from behind through the iliac fossa, and then to deal with the appendix or its concretion, and to establish drainage through the opening.

Clinical Advantages.

The principal gain lies in the lessening of the period of convalescence. Prolonged drainage is seldom needed, since the actual source of disease is removed at the time, and consequently recovery is usually rapid. When no drainage is necessary, the patient may be allowed out of bed as soon as the wound is quite healed (usually from the tenth to twelfth day), and is able to walk soon after.

DISADVANTAGES OF THE NEW METHOD.

What are the drawbacks?

In the first place, one possible objection is that by this route no satisfactory exploration of the contents of the abdominal cavity can be made. This objection, however, is scarcely to the point, since, as stated before, the operation is recommended for the removal of the appendix, and not for general exploration. Laparotomy and exploration of the abdomen may be superadded by means of another incision, and without detriment.

Secondly, it may be urged that, when the mischief in the appendix is insufficient to account for the symptoms entirely, the return of the caecum after removal of the appendix may be difficult through the small peritoneal opening. This objection is valid; but if care is taken to make a free opening through the peritoneum to begin with, if the edges are well retracted, and if the exposed bowel is kept warm, the difficulty will rarely be formidable, and never insuperable.

Thirdly, the provision of adequate drainage is felt to be a difficulty by those surgeons who believe that gravity plays an important rôle in abdominal drainage. Experience, however, proves that an appendix abscess, even in Douglas's pouch, may be quite as efficiently drained through the iliac fossa as through the central abdomen, provided that a sufficiently rigid though pliable rubber tube is used. It is not suggested, however, that every case need be drained in this way, since treatment must always be adapted to existing circumstances; and it is quite possible that in a few cases it may be advantageous to supplement it by another incision.

IV.—CONCLUSIONS.

The value of the operation is attested by a wide experience, having been practised by the writer for over twelve years; during the last eight years it has been used almost exclusively. The procedure was at first reserved for simple, quiescent, or "interval" cases, the oblique muscle-splitting incision of McBurney being substituted whenever an abscess was suspected or evident. With increasing experience, however, the special method was found to be suited for almost every condition and adaptable to almost every emergency. Out of 843* consecutive operations performed at all stages of the disease, whether simple or complicated, and all ages ranging from 3 to 79 in both sexes, there have been in all 18 fatal cases, yielding a mortality of approximately 2.25 per cent. In a recent sequence of 117 cases there was no death, whilst the 118th and 119th were unsuccessful. The immediate mortality would appear, therefore, to be no higher than that pertaining to any of the other modes of procedure, while as regards remote sequelae not a single case of hernia or abnormally weak scar has occurred. These results amply justify an appeal that the suggested operation should receive at least a trial. In fact, now that it is becoming the rule to operate in almost every acute case as soon as the diagnosis is established and the necessary arrangements can be made, there is every reason to anticipate a fall in the immediate mortality, whilst the necessity for prolonged drainage and convalescence will be so lessened that any permanent abdominal weakness will be rarely met with.

The results, immediate as well as remote, obtained from any particular method of operation must, however, depend upon clinical details, as well as on operative technique. Did space allow, a full account of post-operative treatment and clinical methods would have been added. It is thought advisable, however, to record these later in a special article.

* Since this paper was written 51 additional operations have been performed, with one death.

THE *Boston Medical and Surgical Journal* states that there were 1,367 deaths from tuberculosis in Boston last year. The local association for the relief and control of the disease has after careful investigation come to the conclusion that for each death from tuberculosis there are twenty persons ill with the disease, of whom nine are in the advanced or contagious stage.

THE RESULTS OF PROTECTIVE INOCULATION AGAINST INFLUENZA IN THE ARMY AT HOME, 1918–1919.

BY

MAJOR-GENERAL SIR WILLIAM B. LEISHMAN,
K.C.M.G., C.B., K.H.P., M.B., F.R.C.P., F.R.S.,
DIRECTOR OF PATHOLOGY, WAR OFFICE.

THE BRITISH MEDICAL JOURNAL was good enough to publish, on October 26th, 1918, the proceedings of a conference of bacteriologists, summoned by the D.G.A.M.S. to consider the advisability of employing in the army a preventive vaccine against influenza. This conference, of which I had the honour to be chairman, agreed that such a vaccine might be expected to be of service, and made recommendations as to its constitution and use.

The vaccine recommended was accordingly prepared at the Royal Army Medical College, and, in certain commands, used on a considerable scale.

In view of the opinion, widely expressed in both medical and lay journals, that we are threatened with another epidemic wave of influenza, it is felt that the results obtained in the army commands at home last winter with the vaccine in question should be made known; not only because it is proposed to advocate its employment again in the army, if we should be so unfortunate as to find ourselves in the presence of a serious recrudescence of the disease, but also because the modified vaccine now in army use has, I understand, been adopted by the Ministry of Health for employment in the civil community.

The vaccine formula recommended by the conference mentioned above was as follows:

	Millions.
B. influenzae	... 60 in 1 c.cm.
Streptococci	... 80 ,,
Pneumococci	... 200 ,,

Several strains and types of each organism were used, all comparatively freshly isolated from cases of the disease. Two doses were recommended, the first 0.5 c.cm., and the second, given after ten days' interval, 1 c.cm. The statistical results recorded below apply solely to the vaccine prepared in accordance with the above formula.

As was naturally to be expected, in view of the divergent views held as to the bacteriology of the epidemic, the proposed constitution of the vaccine was subjected to a certain amount of criticism in subsequent issues of the medical press, and the points made in these communications, many of them most valuable and helpful, were duly noted. One of the principal criticisms was concerned with the dosage which had been agreed on as appropriate for

Table of Results of Influenza Inoculations in the Home Commands, 1918–1919.

	Period Covered by Return.	Average Strength during Period. All Ranks.	Number Inoculated.		No. of Cases of Influenza during Period.		Incidence of Attack, per 1,000.		No of Cases in which Pulmonary Complications Occurred.		Deaths.	
			One Dose only	Two Doses.	Inoculated.	Non-inoculated.	Inoculated.	Non-inoculated.	Inoculated.	Non-inoculated	Inoculated.	Non-inoculated.
NORTHERN COMMAND.												
1 Cramlington	31/12/18–28/ 2/19	1,000	20	230	4	40	16.0	53 3	—	—	—	—
2. Wallsend	1/11/18–30/11/18	2,149	774	591	1	5	0 7	6.4	—	1	—	1
3. Forest Hall	1/11/18–30/11/18	841	30	57	—	17	0.0	22.5	—	1	—	2
4. Seaton Delaval	1/11/18–30/11/18	1,100	109	94	3	24	14.7	26.7	—	—	—	—
5. York	1/ 2/19–30/ 4/19	3,100	1 450	50	9	240	6 0	150.0	1	65	—	25
6. Newcastle	1/11/18–30/11/18	2,794	324	41	1	62	3.0	25 5	1	16	—	5
7. Catterick	1/ 3/19–30/ 4/19	3,352	78	395	4	76	8 4	26.3	—	—	—	—
8. Ripon (Reserve Centre) ...	1/ 4/19–30/ 4/19	1,824	71	1,174	1	3	0.8	5.1	—	—	—	—
9. Ripon	1/11/18–30/11/18	5,246	363	408	4	81	5.1	18 0	1	12	1	3
10. Alnwick	1/11/18–30/11/18	668	25	175	—	20	0.0	30.0	—	—	—	—
11. Bradford	1/11/18–30/11/18	643	31	170	—	5	0.0	11.3	—	—	—	—
12. Tyne Garrison	1/11/18–30/11/18	5,270	1,048	765	6	79	3.3	12 8	—	2	—	3
13. 3rd Cheshires	1/11/18–30/11/18	2,180	222	412	12	48	19.0	31.0	—	25	—	5
14. West Hartlepool	1/11/18–30/11/18	670	127	60	—	30	0.0	62.0	—	5	—	2
15. Clipstone	1/11/18–30/11/18	11,509	525	1,734	38	228	16.8	24.6	—	2	—	4
16. Bagthorpe	1/11/18–30/11/18	800	121	31	14	6	92.0	9.4	4	2	—	2
EASTERN COMMAND.												
17. Maidstone	9/11/18–30/ 4/19	4,197	80	410	1	504	2 0	135.9	—	403	—	41
IRISH COMMAND.												
18. Finner	1/11/18–30/11/18	760	79	559	55	36	86 0	295 0	7	11	1	2
19. Charles Fort	1/11/18–30/11/18	1,453	380	191	4	7	7 0	7 6	—	—	—	—
20. Cahir	1/11/18–30/11/18	526	38	318	4	16	11.2	94.1	—	—	—	—
21. Buttevant	1/11/18–30/11/18	835	126	428	—	7	0.0	24.8	—	1	—	3
WESTERN COMMAND.												
22. Prescot	1/11/18–30/11/18	4,151	439	100	1	21	1.7	5.1	—	—	—	—
SCOTTISH COMMAND.												
23. 4th Seaforths	1/11/18–30/11/18	2,326	500	—	—	102	0.0	55.0	—	2	—	—
LONDON DISTRICT.												
24. Battersea	1/11/18–30/ 4/19	1,750	—	221	59	402	267 0	263.0	12	35	—	—
Totals		59,144	7,010	8,614	221	2,059			26	583	2	98
			15,624									

* One dose only.

Summary of Table.

	Inoculated.	Non-inoculated.
Strength	15,624	43,520
Incidence of attack, per 1,000	14.1	47.3
Incidence of pulmonary complications, per 1,000	1.6	13.3
Deaths, per 1,000	0.12	2.25

the *B. influenzae* moiety of the vaccine, it being urged that a considerably larger dose of this might be given with safety and with the prospect of an enhanced degree of immunity. In view of this, and also of the fact that, as the bacteriological experience of the epidemic extended, the etiological rôle of Pfeiffer's bacillus came more and more into prominence, I consulted my colleagues of the original conference afresh upon this point and found them all in agreement with an increased dose of Pfeiffer's bacillus, which I proposed should be raised from 60 millions to 400 millions in 1 c.cm., it being understood that the strains employed should not have been so cultivated or so recently derived from cases as to be unduly toxic in their action.

The formula of the vaccine as thus revised, and as now employed in the army, is therefore:

	Millions.
B. influenzae	... 400 in 1 c.cm.
Streptococci	... 80 ,,
Pneumococci	... 200 ,,

From the first it was desired that every attempt should be made to secure clear statistical evidence of the results of the inoculations with the vaccine, and the necessary instructions to this effect were circulated by the War Office; returns, in accordance with a simple *pro forma* being called for at regular intervals. In theory, such clear evidence should have been easy to collect through the workings of official machinery; in practice, it has been very difficult. Only those familiar with the strain thrown on the medical personnel by the addition of a severe and widespread epidemic to the already sufficiently arduous labours of those days of urgent and wholesale demobilization can appreciate the difficulties of collecting and recording, in accurate detail, the information required for the returns. In spite of these difficulties, which unfortunately vitiated some of the returns, a considerable number of inoculations were carried out and the records were received and analysed at the War Office.

Although it is very far from my intention to make any claim that the figures here presented are conclusive and free from all or even, in some cases, from possibly large fallacies, they serve, I think, to show at least the general trend of the inoculation results, and they have encouraged the hope that, with the larger dose of Pfeiffer's organism now employed, the vaccine, should it be needed, may prove a powerful reinforcement to other measures of protection.

A few words are called for in explanation of the table. The individual returns are shown under the name of the unit or the principal station in or near which the soldiers in question were located. The period covered by each return is shown in a separate column. The "strength" is the "average strength" of the unit or station; no other method was possible in view of the fluctuations of the population. The "inoculated" include those inoculated before the period in question, as well as those done during it, while the "uninoculated" are arrived at by deducting the inoculated from the average strength. The number of cases, complications, and deaths are, of course, not averages but actual figures derived from the hospital records. The recording of pulmonary complications is probably lacking in uniformity, since different medical officers may have taken different views as to the degree of bronchial or pulmonary involvement which should be taken as a complication.

The returns, all of which lie within the period between November, 1918, and April, 1919, comprise all those relating to this period which conformed to the following requirements:

1. That the vaccine used was that prepared at the Royal Army Medical College, according to the original formula.

2. That influenza should have been present in the unit during the period under review. In many stations where inoculation had been largely carried out there was a rapid cessation of the epidemic. Such returns would have swelled the total of the inoculations without throwing any light on their protective effects.

3. That only such returns are included as showed that at least one-tenth of the average strength had been inoculated, whether with one dose or two.

Periodic returns have continued to be received since the period dealt with in the table, but these have been either negative altogether as regards incidence of the disease, or show so few cases of influenza in either group as to be valueless from a statistical standpoint.

Information was asked for as to the interval occurring between inoculation and a subsequent attack of influenza, but the figures in response to this are too few to be worth analysing; it need only be said that they furnish little or no evidence of any increased susceptibility in the days immediately following inoculation, and that they throw no light of any value on the duration of the immunity conferred by the inoculations. The figures bearing on the latter point would, in any case, have been exposed to the fallacy that the epidemic was rapidly declining throughout the forces, and that the inoculated population was drifting, with increasing rapidity, out of our control into civil life.

No bad effects were reported from the inoculations, and the reactions, in the overwhelming majority, were trivial or non-existent.

It will be noted from the table that nearly one-half of the inoculated had received only the first dose of the vaccine—that is, one-third of the amount which we considered essential to effective protection. It is reasonable to assume that, had all received the full dosage, the protective results would have been still more evident. No statistical evidence bearing upon this point is, however, available.

The table had best be left to speak for itself, but it will, I think, be admitted that in general the results are encouraging, and that they tend to confirm and even strengthen our original anticipations, which were, briefly, that at least a moderate degree of protection against infection might be expected, while more decidedly beneficial effects might be hoped for in a diminution of both the frequency and the gravity of the pulmonary complications.

OBSERVATIONS ON THE X-RAY TREATMENT OF NEOPLASMS.

By G. E. VILVANDRÉ, M.R.C.S., L.R.C.P.,

CHIEF ASSISTANT *x*-RAY DEPARTMENT, LATE HOUSE PHYSICIAN SKIN AND LIGHT DEPARTMENT, LONDON HOSPITAL.

WHEN we are able in all cases to diagnose malignant disease early the use of *x*-ray therapy will be limited to those cases only in which mechanical and physiological considerations prevent operation. Until this be attained we have to deal with a large number of tumours which, because of their size and position, forbid the use of the knife.

This paper is not a criticism; it gives the result of observations of facts and deductions, I believe logical, which have been forced upon me during the past three years. Thanks to the kindness of my former chief, Dr. J. H. Sequeira, many cases came partly under my care and observation.

My object in investigating them was not only to obtain successes, but also to inquire why we succeeded in some and failed in others, for upon this knowledge depends future success and the alleviation of much suffering.

R. G. was sent by Dr. Lack as being beyond operative treatment with sarcoma of the tonsil. The right side presented a large growing tumour, obviously quite vascular. Before November 22nd, 1915, attempts at removal when small had been made, but the tumour recurred, and on that date she was, under Dr. Sequeira's direction, submitted to *x*-ray treatment, the dose being a weekly one of Sab. B_4 pr $1\frac{1}{2}$ mm. to outside of tumour and Sab. B_2 pr. 1 mm. of aluminium to the nasopharynx. In January, 1916, she was very much better, and the glands were going down. She had more *x* rays on February 7th, 1916. On February 28th Dr. Lack saw her and reported, "Much better—

no glands." The same doses were given until May 29th, 1916, and then once monthly to September 18th, 1916.

On September 28th, 1916, Dr. Lack wrote: "Firm fibrous thickening above right tonsil, neck smaller." In January, 1917, more treatment (three doses). On February 23rd, 1917, "Much thickening" was noted, and afterwards treatment was followed by gradual improvement; except for a small radiotherapeutic burn she had continuously done well.

To-day she is still well, and though the growth may not be completely eliminated, she looks fit, and is living an efficient life; the neoplasm has remained stationary since March, 1917; the pain—once a prominent symptom—has gone, and a hopeless prognosis in 1915 has been converted into a possible cure and three years of efficient and comfortable life.

The following case is more striking still:

B. C. was admitted in April, 1911, with a tonsillar affection of some duration for which he attended several hospitals. The right tonsil was swollen and red and protruded forward into the mouth; its lower limit could not be seen. He was very thin, pale, and had lost much weight. A diagnosis of sarcoma was made. A week after he was much worse, the swelling protruding more into the mouth, and his condition was looked upon as hopeless; Dr. Sequeira did not think the boy should attend the hospital again. In May the glands were irradiated through filters and improvement occurred, but on May 23rd there was a setback in his general condition. Treatment by radiation was persevered with, and July saw improvement and the "swelling much less."

In November, 1911, "the palate moves easily and the growth has almost gone," but glands were still palpable on the left side, and more treatment was given twice a month until May 4th, 1912, when he was pronounced quite well. A month later the same note was made. In September, 1912, he was still well and passed a medical examination for the Railway Clearing House. When seen again in January, 1913, and May of the same year, he was still well. He joined the army in 1914, and was still well in June, 1916.

This was an undoubted success.

Early in 1914 I saw a case which had been diagnosed by a surgeon of repute as sarcoma of the chest wall. When treated with *x* rays the whole disappeared. The surgeon, on seeing the case again, suggested that the diagnosis could not have been accurate; but he himself had made the diagnosis. The tumour had been there and was gone, and *x* rays alone had been used. The patient, a girl, died some two years after of pneumonia.

E. O., aged 17, had a swelling of the right upper maxilla, which was hard and definitely enlarged to the touch and sight; the patient was sent for treatment with the diagnosis of sarcoma. The tumour had been present for six months; the Wassermann reaction was negative. I thought the prognosis bad. Heavy doses of *x* rays were given during September every four days, and when seen on November 21st, 1918, the swelling was much smaller. The patient's general health was good and more treatment was carried out. In February, 1919, the condition was quite good and the swelling negligible. When I saw her on October 26th, 1919, she was quite fit, and there was no indication for treatment.

I might quote other cases, but only wish to establish a fact which is known to some—namely, that some sarcomata may be inhibited by *x*-ray treatment.

To quote cases of inoperable carcinoma of breast in which benefit, such as prolongation of life, complete disappearance of pain, retrogression of the growth, improvement in general health, are well-marked features would weary the reader. Some of us know by experience of many cases so benefited, and the number runs into hundreds. I may, however, be excused for mentioning the case of a school teacher who had carcinoma mammae; *x*-ray treatment was delayed and, as often happens, recurrence followed. The combination of *x*-ray treatment and radium has, however, enabled her to carry on for nine years since the appearance of the first recurrence. Each new growth is tracked by the application of a radium plate; she illustrates vividly the spread of carcinoma by lymphatic vessels in so far that the radium reaction has left telangiectases wherever the plate has been applied. Although taken late for treatment, this patient has had nine years of life and the capability to earn her daily bread. I saw her last a few months ago.

Of the value of radiation of the site of glands after removal there can be no doubt, and I would plead for the routine radiation of scars after removal of squamous-cell carcinoma of the lip and other such tumours, just as surgeons send their cases of breast cancer after operation.

Looking back upon cases of new growths treated by *x* rays, I have seen the greatest benefit or inhibition in sarcomatous neoplasms, and in my experience in the slow-growing varieties.

Leaving rodent ulcers on one side—in which radium treatment shows at its best, and of which many cures have been published by others, such as Dr. Sequeira as far back as 1908 at the International Congress of Surgery, Brussels—it may be said of carcinomas that the results of radiation are not so striking. A patient with carcinoma is more likely to have secondary glandular involvement than one diagnosed early as suffering from fibro-sarcoma; but, putting this probability on one side, the results are not so good in squamous-cell carcinoma, for instance.

I was inclined to think that the vascularity of the growth was a determining factor, looking upon a fibro-sarcoma, for instance, as one less vascular than the fungating tumour received from the surgical side of a hospital for *x*-ray treatment as a last resort; but experience with enlarged spleens tends to modify that hypothesis, for it is difficult to imagine a more vascular organ, and yet the diminution under *x* rays of an enormous spleen, such as is seen in cases of leukaemia, is most striking.

Breaking down malignant glands such as follow an "epithelioma" of the lip, or squamous-cell carcinoma springing upon an ulcerated lupus lesion, do not do well under *x*-ray treatment.

A case in point was that of B. N., who had had lupus vulgaris of the face for years. Squamous-cell carcinoma made its appearance. Thorough treatment was carried out by diathermy and not without success; the lower two-thirds of the lesion did well and healed, but there remained a focus in the lax tissues of the lower eyelid which, when again attacked by diathermy and *x* rays, grew apace.

Neoplasms of the lung react to hard rays, and though I have not seen one disappear, diminution of pain, cyanosis, and cough, and even retrogression of the neoplasm, do follow radiation; but heavy filtered doses are necessary.

Bulk is no hindrance; it is the nature of the growth that counts. As I mentioned before, the vascularity of the growth is not the important factor, but the more fibrous tissue present in the stroma, as a rule, the slower the growth and the better the result of radiation. Natural means of checking invasion are helped readily by the physical. *X* rays tend to cause or help the formation of fibrous tissue, but only *x* rays of a certain type.

Much good histological work has been done on the effect of radiation on cells, as anyone who reads the excellent work of Sidney Russ and Colwell on radium, *x* rays, and the living cell can see. But we are only on the threshold of knowledge of these phenomena. The removal at fortnightly or monthly intervals of irradiated glands whenever possible, their section-cutting and examination by a competent pathologist would prove of value. The radiotherapeutical department of a hospital should work hand in hand with the pathological.

In many of these cases submitted to *x* radiation it is useful to ascertain whether the Wassermann reaction is present, especially where the position of the growth or other condition forbid the removal of specimens for histological examination.

The *x* rays can be divided into at least two great classes, according to their effect—namely, those that give rise to stimulation of growth, and those that cause inhibition and, further, necrosis. The first effect seems certainly to be associated with the treatment of superficial lesions, such as lupus vulgaris and its frequently accompanying ulceration. In this connexion two points are of importance: first, the rather frequent occurrence of "epithelioma" on lupus, especially in cases that have received frequent *x*-ray treatment by small doses of unfiltered rays. It is a point among others showing the necessity of the skilled control of a therapist over the too-often haphazard methods of *x*-ray treatment. *X*-ray burns are a sad evidence of injudicious dosing, but they at least call attention to over-treatment. The formation of epithelioma on lupus works silently, only revealing itself, as a rule, too late for cure. Needless to say, the constant granulation that goes on, the repeated attempt at healing, the frequent division of cells, are factors in the production of cancer in these cases, but there remains a large number where the presence of squamous cell carcinoma coincides with repeated application of rays in small doses. These are often the legacy of earlier days in radiotherapy.

X Rays and Arsenic.

I was inclined to look upon this appearance of squamous-cell carcinoma on lupus and also in *x*-ray workers from repeated small exposures of ½ to ⅘ Sab. B, as being due to an irritative effect of the "soft" rays, the formation of the skin cancer being regarded as similar to that of lip cancer in clay pipe smokers, epithelioma of the tongue following dental irritation, and so on. The parallel between the effects of *x* rays and arsenic is not without significance. Both may cause erythema, both give rise to pigmentation and hyperkeratosis. Arsenic certainly causes a neuritis, and *x* rays have been described as doing the same. After the prolonged effects of each we may observe carcinoma. To have looked upon this common action as an over-stimulation was, I think, natural. But, in the words of Dixon:

Arsenic under certain conditions gives rise to a peripheral neuritis which closely resembles that of alcohol. The action is essentially one on the interstitial tissues, the connective tissue sheaths of the nerve being affected in the same way as connective tissue elsewhere in the body. It becomes hyperaemic, shows multiplication of new tissue elements and migration of leucocytes. These changes lead to pressure on nerve fibres, and so to later degeneration.

The end results of prolonged exposures to "soft" *x* rays are the same on the skin as those of the prolonged use of arsenic. Hyperkeratosis, usually affecting the soles and palms, is peculiar to arsenic among drugs. Hyperidrosis is then often prevalent in these places, appearing as small elevations like millet seeds or small corns. Epitheliomas may develop on these small corns. The hands of the radiographic assistant of early days may be compared with this.

Is it, then, too much to deduce that in the latter case nerve fibres also become degenerated, and that some forms of carcinoma are due to lack of nerve control of the cells? I have heard this theory before, and only suggest that the similarity of action of *x* rays and arsenic is another fact in favour of the theory.

Mrs. M. was at one time a skin patient. She had also exophthalmos, some cyanosis, dyspnoea, clubbing of fingers, dullness in the sternal region, and other signs, and was sent to the physician for thoracic disease; a diagnosis of mediastinal neoplasm was made. The patient ultimately died of broncho-pneumonia, and *post mortem* a growth around the arch of the aorta, of the size of a small apple, was found.

This patient had some *x*-ray treatment, and though certainly the case was advanced, her death was not without a lesson, which I now wish to point out with due humility. Such a tumour should be radiographed, and I will even suggest localized. To hand over such a case as "tumour of the thorax" to a lay assistant for radiation is a mistake. His knowledge of anatomy is negligible, of disease still less; and unless careful focussing of penetrating rays in heavy and repeated doses are carefully and accurately applied to the growth, it may be from several angles by a cross-fire method, the chances of hitting the tumour are *nil*. It is therefore essential in such cases to transfer upon the thoracic wall with indelible pencil the findings of clinical and radiographic and localization methods. Accuracy of focus is, I am certain, a primary essential factor in *x*-ray treatment. The chances of missing with a pencil of rays a tumour the size of a small apple in such a large cavity as the thorax are, of course, very great. Careful localization and markings are of primary importance.

It is easily realized that neoplasms, be they sarcomas or carcinomas, especially if large, will require prolonged treatment. The care of the skin is therefore paramount, for unless great precautions be taken erythema and, too often, burns will follow, preventing further treatment, and consequently destroying all chances of alleviation or cure. A shield on the patient will protect all organs except those in the direct paths of the rays passing through an aperture in the shield. Only the diseased tissues will therefore be irradiated. It may be argued with reason that many foci of infection are possibly present, and that wide radiations are beneficial. If such be the case the prognosis is bad whatever treatment be given. The presence or absence of secondary deposits will sometimes be revealed by radiographic examination.

That the localization of the growth is essential will be easily understood when it is remembered that the power of the rays is inversely proportional to the distance of the object from the anticathode. For success, therefore, it is essential that the depth of the object be known, for on that, I think, the dosage should also be based. Far less radiation will reach an object 8 in. than one 2 in. deep.

Time will show that the doses we have given are inadequate. Heavier doses of "harder" rays through thicker filters are those that will cause inhibition of neoplasms. We have done well in some cases, failed in others. Where two years ago I gave 4 Sab. B through 2 mm., I now give 8 or 12 B's through thicker filters and the results are better.

My thanks for opportunity and advice are due to Dr. Sequeira; for practical help am I also indebted to Mr. Blackall of the London Hospital. The mistakes are mine.

BIBLIOGRAPHY.

Milton B. Hartzell, *Diseases of the Skin*. Wm. E. Dixon, *Manual of Pharmacology*. Sidney Russ and Colwell, *X Rays, Radium, and the Living Cell*. James H. Sequeira, International Congress of Surgery, 1908.

CHRONIC INFECTION OF THE FAUCIAL AND POST-NASAL LYMPHOID TISSUE IN CHILDREN.

BY

PERCIVAL W. LEATHART, M.B., B.CH.CANTAB.,

ASSISTANT SURGEON, LIVERPOOL EYE AND EAR INFIRMARY.

A CHILD with enlarged tonsils and adenoids is not ill because of the increased size, but because of a chronic infection of its faucial and post-nasal lymphoid tissue, which serves not only as a nidus for the manufacture of toxins, but also as a port of entry for many other systemic diseases. This condition of chronic infection is extremely common, and diagnosis is easy if the three cardinal physical signs—enlarged tonsils, rhinitis, and enlarged cervical glands—are kept in mind. Additional physical signs are often to be noticed, such as running ears, bronchitis, mastoiditis, etc., but are more correctly described as complications, and are found as a rule only in neglected cases. That the disease is highly infectious is shown by the following facts:

1. That it is far more frequent among school children than among children who do not go to school.
2. That when one child in a family is attacked the disease subsequently spreads to his brothers and sisters who were previously healthy.
3. Micro-organisms can always be grown from the nasal and post-nasal secretions, which are normally sterile.

For these reasons the disease may be considered as infectious in exactly the same way as measles and scarlet fever are infectious.

Unfortunately in this disease there does not appear to be as great a tendency to spontaneous cure as in some of the other specific infections of childhood; it is a very much more chronic condition, and in consequence of this once a child is attacked he may, and often does, continue in a more or less normal manner for years; but on examination will be found to present the three cardinal signs of the disease, and micro-organisms will be detected in the nasal and post-nasal secretion.

Such a child is, in fact, a "carrier," and is for that reason a source of danger to all healthy children with whom he may come into contact. Because of the chronicity of the disease it follows that nearly all untreated cases are carriers for a longer or shorter period, and this would appear to be a good reason for its frequency.

A sufficient number of bacteriological examinations of secretions from the nasal and post-nasal spaces have not hitherto been made to enable us to be dogmatic with regard to the nature of the specific causal organism. But in a very large proportion of such examinations some form of pneumococcus has been the predominant organism, and in some cases it has been the only one grown. This, coupled with the fact that some form of pneumonia is a frequent complication, renders it possible that the pneumococcus is to blame. But whatever the organism may prove to be it is one which attacks the faucial and post-nasal lymphoid tissue, producing a form of inflammation which is not acute, so that pain is seldom complained of; it is typically a chronic inflammation in the course of

which the lymphoid tissue becomes softer and larger. The infection spreads to the lymphatic glands, draining the inflamed area, causing them to enlarge.

In an uncomplicated case there is no tendency to suppuration either in the lymphoid tissue itself or in the lymphatic glands. Suppuration when it occurs is probably always due to the implantation of one or more of the common pyogenic organisms on a tissue the normal resistance of which has been impaired by disease.

If so much be accepted we may fairly claim that the disease is highly infectious, and that children suffering from it are "carriers," and therefore a source of danger to others.

The treatment required is that of the individual, and preventive treatment.

1. *Treatment of the Individual.*

The ideal is to render the post-nasal space sterile and the diseased tissue normal; it is doubtful whether this ideal can ever be attained, for the tonsils and adenoids, once they are infected, never appear to regain their normal structure. As in other chronic infections elsewhere, the process whereby infection is eliminated is one in which the diseased tissue is replaced by fibrous tissue, and not until the fibrosis is complete can the disease be said to have been arrested. In this condition, as in other chronic infections, the "natural" cure postulates the disappearance of function in the affected structures.

In these circumstances it is unlikely that any medicament will ever be satisfactory; and it is certain that at the present time there is no local application capable either of rendering the post-nasal space sterile or the infected lymphoid tissue normal in structure and function.

In view of the failure of this method of achieving our object we must resort to surgery, and anticipate Nature by removing as much of the diseased tissue as possible. The great advance made in recent years in the treatment of the individual is by the introduction of the operation of enucleation of the tonsils and thorough removal of the adenoid mass.

After this operation, efficiently performed, the majority of children show improvement at once, in that the rhinitis disappears, the cervical glands cease to be palpable, the beds of the tonsils and pillars of the fauces become healthy in appearance, and in some cases the post-nasal space becomes sterile; a sufficient number of bacteriological examinations have not, however, yet been made for us to be sure that this happens in the majority of cases.

There is a definite relation between the thoroughness of the operation and the number of "cures" effected. Partial removal is followed by disappointing results; children are frequently seen of whom it is stated that they have undergone removal of tonsils and adenoids two or even three times, yet the three cardinal physical signs are found still to be present, and, in addition, some complication, such as running ears, which was not present at the primary partial removal.

Apart from such cases as these, there are a few in which even after thorough removal the disease continues unchecked. Perhaps in some of these the lingual tonsil and lateral bands which cannot be removed are sufficient to keep the infection active. In others the inferior turbinals, which sometimes remain enlarged, would appear to be the cause. In the remainder possibly the causal organism is of a different nature, and is able to thrive in the nose and post-nasal space even after the diseased lymphoid tissue has been romoved.

2. *Prevention.*

The reason why no steps have hitherto been taken with regard to the prevention of this disease is possibly to be found in the fact that its infectious nature has not received the attention it deserves.

Preventive measures have been taken with regard to other diseases spread by carriers, such as diphtheria and cerebro-spinal meningitis, which are not nearly so common or far-reaching in their complications, though they are more immediately serious to the individual in that they are more acute; yet in the aggregate the amount of harm done to the community as a whole is insignificant compared to that done by the disease in question.

The harm done by chronic infection of the lymphoid tissue of the fauces and post-nasal space is very great. Its direct complications are far-reaching, spreading beyond the sphere of the throat and ear surgeon, the ophthalmic surgeon, and the laryngologist, into the domain of the physician, in the shape of bronchial affections and lobar and broncho-pneumonia.

Its indirect complications are even more serious, for the lymphoid tissue, having lost its natural resistance, is rendered more liable to become a port of entry for other specific infections such as tubercle, rheumatic fever, measles, scarlet fever, diphtheria, and influenza. If preventive measures which resulted in lessening the incidence of this disease were adopted, the incidence of all its complications, both direct and indirect, would be lessened also. Further, recognizing that in the above list of complications are included the diseases from which a large proportion of the death and disability of the community results, the importance of stamping out the origin to which they can all be traced is evident.

A discussion of the details of prevention would unduly prolong this article; the difficulties are numerous, but by organization on sound lines much could be accomplished. Encouraging results may be confidently expected from the adoption of open-air schools and vaccination, but before the latter method can be used the specific organism must be definitely isolated.

It is to be hoped that the Ministry of Health will consider the subject of prevention of this "carrier" disease, for until adequate measures are adopted the disease and its complications, both direct and indirect, will continue to be rampant.

Summary.

1. The disease is highly infectious.
2. It is spread by carriers.
3. Its complications cause widespread death and disability.
4. The treatment of the individual is satisfactory if complete removal be carried out.
5. The necessity for preventive measures is urgent.

RUPTURED GASTRIC ULCER IN AN OLD MAN: LAPAROTOMY: RECOVERY.

BY

ANDREW FULLERTON, C.B., C.M.G., F.R.C.S.IREL.,
SURGEON, ROYAL VICTORIA HOSPITAL, BELFAST;

AND

T. S. S. HOLMES, F.R.C.S.ENG.,
SURGICAL REGISTRAR, ROYAL VICTORIA HOSPITAL, BELFAST.

A SUCCESSFUL case of laparotomy for ruptured gastric ulcer at an advanced age is sufficiently rare to justify the publication of the following:

Mr. W. G., retired civil engineer, aged 78¼ years, had enjoyed good health all his life and was never known to suffer from dyspeptic symptoms till within a week or so of his present sudden illness. He had always been very regular in his habits and most abstemious in diet. Lately he had confined himself to two substantial meals a day, breakfast and lunch. The latter meal was generally taken at 2 p.m. A cup of tea without solid food at 6.30 p.m. completed his diet for the day, and nothing more was taken until next morning.

History.

In April, 1909, he was operated upon by one of us (A. F.) for stone in the bladder, and in May, 1911, for enlarged prostate. Except for a small ventral hernia in the neighbourhood of the suprapubic scar, he had remained well until a week previous to the present illness. During this week he had suffered from rather vague dyspeptic symptoms with some tenderness in the right epigastric region. On the day of perforation, December 16th, 1919, he had a meal of haddock and rice pudding at 2 p.m. At 6 p.m. he was sipping his usual evening cup of tea when a sudden severe pain in the epigastric region doubled him up. When seen at 7.30, he was in great agony, cold, clammy, and blue, with rigid abdomen and dilated pupils. The pulse was 50, weak and irregular, and his general condition so serious that death appeared imminent. He was given morphine gr. ¾ in three doses at short intervals, with very little if any relief of pain. At 9 p.m. he was again thoroughly examined. The abdomen was like a board, the liver dullness was diminished but not lost, and there was no evidence of fluid in the flanks; he was cyanosed, the pulse was 65, and the heart's apex was outside the nipple line. His arteries were hard, tortuous, and ringed. There was no vomiting. The pain was now more general, but the maximum intensity was in the epigastrium. The bowels had acted as usual that morning.

Operation.

It was decided, on consultation with his friends, to give him the slight chance that operation alone afforded, and he was removed to a neighbouring nursing home. The operation was begun five hours after the onset of pain. Ether, with a small quantity of alcohol and chloroform, was administered by Dr. Robert Marshall, and anaesthesia was quiet and satisfactory. In addition, conduction anaesthesia was produced by blocking the intercostals with novocain, and good relaxation was obtained. The abdomen was opened in the middle line above the umbilicus. On incising the peritoneum a quantity of thin, slightly turbid fluid, with some gas, escaped. A punched-out, circular aperture about the diameter of a lead pencil was found in the stomach. From this exuded a small quantity of dark-coloured mucoid fluid. Surrounding the opening for at least an inch the stomach wall was indurated, inelastic, and friable. There were some omental adhesions to the upper part of the indurated area. The ulcer was situated on the anterior surface, three or four inches from the pylorus, and near the lesser curvature. The edges of the ruptured ulcer were infolded with difficulty, owing to their rigidity and friability, by two rows of linen thread sutures. A piece of omentum was sewn over the repair for greater security. The fluid lying in the neighbourhood was mopped up and the abdomen was closed in three layers without drainage, the whole procedure, including the induction of anaesthesia, having lasted twenty-six minutes.

After-History.

Recovery was uneventful, and the patient left the nursing home within three weeks, apparently quite well.

He was examined on January 22nd, 1920, about five weeks after the operation, and was then free from pain, in his ordinary health, and able to get about as usual.

A METHOD OF TREATING TINEA.

BY

C. J. GLASSON, M.D., M.R.C.S.ENG., L.R.C.P.LOND.,

LATE CAPTAIN R.A.M.C., AND OFFICER IN CHARGE X-RAY DEPARTMENT, NETLEY.

As a result of so many men having to serve in many districts of the East (India, Mesopotamia, and Egypt) and East Africa, a form of tinea, known in the East as dhobie or washerman's itch, has become prevalent in England.

This variety invariably attacks the crutch and upper and inner surfaces of the thighs, sometimes extending upwards around the root of the penis and posterior part of the scrotum; the intense irritation causes a desire to scratch, accentuated at night and leading to insomnia. It is very contagious, and may easily be conveyed to others by laundries unless means are used to disinfect the clothing and sheets effectually before they are sent to be washed. Patients should be isolated completely until a cure is obtained.

I have treated many cases, both at home and abroad, with success by a combination of *x* rays and chrysophanic acid ointment (gr. xxx to ʒj of lanoline).

An ordinary *x*-ray tube of medium hardness may be used, or, better, one of the later "gas" tubes which can be regulated, or, best of all, the Coolidge tube, as by its use the hardness required can be got and the exact dosage wished given. If a "gas" tube is used it should be tested to give a penetration of 8 by Wehnelt's radiometer. With a Coolidge tube the battery should be 4 ampères, and the primary current should give a reading of 8 to 10 milliampères.

When the tube selected is ready the patient undresses and lies upon a couch, so that the part to be treated can easily be got at. Every part in this region, except that to be treated, must be adequately protected; this can best be done by a sheet of the prepared lead-lined rubber the same as used in protective aprons. Over the part to be treated is placed a thin sheet of lead $\frac{1}{16}$ in. thick, with a hole a little larger than the exposed part. A thin layer of the chrysophanic ointment is spread all over the part and a little beyond the outer borders of the tinea. The tube is then brought into position so that the target is directly over the centre of the part to be treated, and from 8 to 10 in. away from the surface of the skin; an exposure of five minutes exactly is given. Having finished one area, the application is made with the same precautions to another patch.

The dose is large, but I cannot give the exact amount, none of the methods at present in use being reliable. I measure by time guided by experience.

After the treatment is finished the ointment should be wiped off the skin in order to prevent staining of the linen or clothes by the chrysophanic acid.

In 90 per cent. of the cases treated in this way one application was sufficient to cure; in a few a second was given to make doubly sure.

For the first two days the skin shows a brown pigmentation due to the chrysophanic acid; this gradually disappears with slight desquamation, and by the end of a week the skin is clear and normal, the tinea having disappeared. Several cases, even those of long standing, cleared in two or three days.

In brunettes or dark-haired people no filter is necessary, but in persons who are fair or with a tinge of red in the hair a filter should be used, $\frac{1}{16}$ in. aluminium being sufficient; in red or coppery-red-haired people $\frac{1}{8}$ to $\frac{3}{16}$ in. will be necessary. Fair-haired and very red-haired people are much more susceptible to *x* rays, and in them I have found it necessary to reduce the time of exposure to three minutes, otherwise a radio-dermatitis with deep pigmentation due to the chrysophanic acid will result; this is, however, easily got rid of by zinc ointment.

The same treatment can be carried out with tinea on any other part, but before applying the ointment the tinea should be washed with ether soap. By the same method psoriasis also can be got rid of, but it does not cure, as patches always return either in the spring or fall of the next year.

X rays alone will not cure this very irritating complaint; the chrysophanic acid ointment will in time, but it stains the clothing. The two combined will cure, and, curiously enough, all irritation ceases after the application, so that patients are not worried and get at once a good night's rest.

There should not be the slightest risk to any patient of sterilization if proper precautions are used to protect the generative organs.

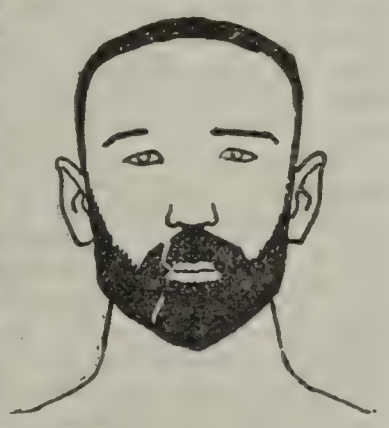
Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HERPES ZOSTER AND GREYNESS OF HAIR.

THIS is a case in which grey patches appeared in the hair of the right side of the face during an attack of herpes zoster which affected the region of the right forehead.

The attack of herpes zoster and the appearance of the grey patches occurred in 1857. The patches of greyness were permanent; they are now becoming merged in the general greyness of advancing years.



It can be seen in the figure that the patches of greyness appeared on the fronto-nasal (inner extremity of right eyebrow), naso-labial, and mental maximum points described by Dr. Henry Head in *Brain*, Part III, 1894, "On disturbances of sensation with especial reference to the pain of visceral disease."

I venture to publish this case for two reasons: the first is that it supports the observations I have published in many articles in this JOURNAL on the relation between certain forms of the hair's greyness and the nervous system; the second reason is that it is so difficult—at least I find it difficult—to discover any additional changes of nutrition accompanying lesions of herpes zoster. The grey patches of hair observed in this case appear to me to exhibit an additional change of that kind. The figure here produced is made from photographs taken years ago. The subject is a doctor, who has kindly given them to me with the history of his case.

London, W. G. LENTHAL CHEATLE.

ATROPINE IN ACUTE SUFFOCATIVE CATARRH.

As acute suffocative catarrh is, in my experience, very rare, I wish to mention one case I treated some years ago.

A gentleman, aged 70, went to bed one night quite well,

but in an hour awakened suffocating, with blood-stained froth coming in such quantities from his mouth that it half filled a large basin. I saw him about twenty minutes after the onset of the attack. Crepitant râles were heard all over his chest, there was great distress in breathing, and the pulse was irregular; there was no fever.

I injected at once $\frac{1}{100}$ grain atropine sulphate and $\frac{1}{15}$ grain strychnine nitrate, and administered oxygen by inhalation. I also gave three separate drachm doses of sal-volatile at intervals during the night. I left him next morning at 9 o'clock, practically as well as ever. I considered the atropine to be the chief factor in producing his recovery.

Dublin. WM. VERNER FURLONG, M.D.

TWO CASES OF HEMIPLEGIA.

THE two following cases of hemiplegia present certain points of interest; both occurred in a ward under my charge in a war hospital.

CASE I.—A soldier, aged 26, was much upset by Zeppelin raids. During a raid he was found late one evening lying underneath his bed; next morning he had right-side hemiplegia and partial aphasia, which gradually became more complete. Fluid obtained by lumbar puncture and blood gave negative results to Wassermann's test. He lived for about five months. *Post-mortem* examination showed an old altered blood clot in a cyst-like cavity in the usual area (internal capsule).

CASE II.—This case had generalized and rapidly increasing signs in the lungs diagnosed as probably a miliary tuberculosis. The sputum was very scanty, and tubercle bacilli were not observed in it. About the sixth day after admission he complained of diplopia, and there was evidence of involvement of the third nerve on the left side. This was quickly followed by right hemiplegia and rapidly increasing coma. At the *post-mortem* examination extensive miliary nodules were found throughout both lungs, and four very small yellow nodules in the meninges at the base of the brain, accompanied by encephalitis spreading into the left crus cerebri. A smear from lung, and also one of the nodules in the meninges squeezed out on a slide, both showed many tubercle bacilli.

KENNETH ROGERS, O.B.E., M.D.Lond.

RIFLE BULLET IN BLADDER.

ON the night of September 2nd, 1919, Pte. J. B., aged 20, was troubled with an "itchy sensation" in the urethra and tried to relieve this by passing a rifle bullet into the meatus. This he accomplished without pain or discomfort, and "suddenly the bullet slipped right down and disappeared." He at once reported to his medical officer, who passed a catheter into the bladder, meeting no resistance. He was sent to hospital on September 4th and came under my care on September 8th.

During these six days after his "accident" the only symptoms complained of were occasional slight delay in commencing micturition and a sensation of something inside the bladder. He stated that he could feel the bullet change its position when he rolled over suddenly in bed or if he stooped forwards quickly. *X* rays showed the bullet lying transversely in the pelvis. Chemical examination of the urine showed no abnormality, but a catheter specimen taken just before operation and examined microscopically revealed ample evidence of infection—the bacteriologist reporting "numerous organisms present; pus cells; oxalate crystals and epithelial (bladder) cells."

The bullet was removed by suprapubic cystotomy (extraperitoneally) on September 10th, the bladder wall sutured in two layers and the wound closed without drainage.

Apart from a mild degree of cystitis which rapidly responded to treatment the patient made an uneventful recovery and was evacuated on October 2nd, 1919.

F. R. BROWN,
Major R.A.M.C (T.C.); Surgical Specialist,
— Casualty Clearing Station, Batoum.

A "FROGHOPPER" AS A BLOOD-SUCKING INSECT.

To add to the list of the several blood-sucking insects already known I now send in the name of a member belonging to the order Homoptera or Hemiptera-Homoptera. So far as I am aware this order has not supplied any instance of a species with such propensities. In Madras, especially after the north-east monsoon—that is, in the months of November and December—large numbers of small whitish-green "froghoppers" come to light at night, and some of these bite, or rather sting, by means of their sharp proboscides. Several people used to complain to me of being stung by these insects, but, not being cognisant at the time of such habits among the Homoptera, I discountenanced these tales of the presumed aggressors. It was only when I was myself a victim of the insects' action that I was disillusioned.

These insects sting both at night and on cloudy days. I procured four of these "froghoppers," two caught actually in the act of sucking blood and two others hopping about at the same time and place. These I took to Dr. Gahan, of the South Kensington Museum, and they were identified by Mr. Distant. The two blood-suckers were *Phrynomorphus indicus*, Distant, and the other two included one of the same species and another Jassid, named *Nephotettix bipunctatus*, Fabr., which I cannot accuse of any malpractice. Dr. Gahan tells me that Dr. Guy Marshall informs him that he has from time to time received Jassidae sent to him from Africa as blood-sucking insects, but he does not know of any records of the kind published.

In adding this member to the list of blood-sucking insects I wish to demonstrate that we have reached no finality in our knowledge of sanguinivorous flies.

London, W. C. DONOVAN, Lieut.-Colonel, I.M.S.

CAESAREAN SECTION FOR PLACENTA PRAEVIA WITH CONCEALED HAEMORRHAGE.

THE case reported by Mr. Arthur Cressy in the BRITISH MEDICAL JOURNAL of November 29th, 1919, p. 706, is similar to one with which I had to deal recently.

A woman, aged 39, pregnant for the fourteenth time, was admitted to the Nightingale Maternity Home, Derby, on May 14th, 1919, in a state of profound collapse. Her daughter said she had been bleeding for a week. When I saw her she was cold, blanched, and almost pulseless and had an irritating cough. Haemorrhage from the vagina continued. The cervix admitted one finger and a soft mass presented. The abdomen was distended, rigid and excessively tender. The uterus was hard. There was marked dullness in both flanks. Her whole appearance reminded me strongly of cases of bullet wound of the abdomen, and I decided to treat her on the lines we adopted at a casualty clearing station for such cases.

First Operation.

A hypodermic injection of morphine and scopolamine was given at once. Half an hour later she was anaesthetized with ether and oxygen. An intravenous transfusion of alkaline hypertonic saline was set going and during the operation 2½ pints were administered. On opening the abdomen blood escaped and about 2 pints were removed from the peritoneal cavity. The uterus was very distended and blood oozed steadily from several tears in the perimetrium, which, however, did not extend deeply into the muscular layer of the uterus, but explained the presence of blood in the abdomen. On incising the uterus a large clot was found separating the placenta and membranes from the lower hemisphere of the uterus. The membranes containing the fetus were shelled out intact. On account of the perimetrial tears I performed subtotal hysterectomy. The peritoneal toilet was completed and the incision closed layer by layer. The patient was in the theatre about half an hour.

After-History.

Shortly after her return to bed her condition was distinctly better than on admission, but the pulse was poor. During the night she was much disturbed by the cough, which was partly relieved by a hypodermic injection of heroin ⅛ grain.

Next day she still suffered from blood shortage, and I transfused 1½ pints of blood from her daughter. The improvement was striking. Listlessness, pallor, and subnormal temperature gave place to restlessness, flushed face, a temperature of 103°, free action of the skin, and improvement in the volume of the pulse. The following day her condition was very satisfactory, and the temperature 99.2°. The severe cough only distressed her. The temperature settled down to normal on the fourth day, and remained so till the ninth, when the stitches were removed. Early the following morning, during a very severe fit of coughing, the wound burst open and the intestines escaped beneath the abdominal dressing. They were skilfully replaced by the night nurse, who retained them in position by packing with abdominal swabs. I removed these two days later and found the wound clean and adhesions formed. The temperature, which had risen to 102° after the packing, settled to normal in two days, and the wound healed rapidly, with no suppuration. On the fifteenth day her condition was satisfactory, and I went away for ten days' holiday.

Second Operation.

On my return I was surprised to find that there had been a running temperature, and that she had the appearance of septicæmia. On vaginal examination I found a soft fluctuating mass in the pelvis. Under an anæsthetic I opened through the posterior fornix and evacuated large quantities of pus and an abdominal swab. I accepted the responsibility of leaving this in the abdomen at the time of operation, until I found that it did not correspond with the swabs then used, being of different size and having no tape attached to it. It was, however, recognized as one used by the nurse when she replaced the intestines on the ninth night, and it must have been introduced deeply into the abdomen with a coil of bowel. The temperature fell to normal five days later, and for the next three weeks rose only twice to 99° F.

Death.

As she showed no sign of regaining strength, she was removed to a sanatorium where she could have open air, but she died a fortnight later, about two months after the Cæsarean section.

On inquiring into her previous history I found she was a confirmed alcoholic. There was also evidence that the haemorrhage was preceded by a sharp attack of influenza, for which she had stayed in bed ten days but had not seen a doctor.

Two conclusions can, I think, be drawn from this case: (1) That Cæsarean section is the right method for delivering this class of case, and (2) that adequate methods for counteracting haemorrhage and collapse will give results as satisfactory in civil practice as in war surgery.

R. DOUGLAS LAURIE, M.B.,
Derby. Hon. Assistant Surgeon, Derbyshire Royal Infirmary.

VOLVULUS OF THE WHOLE JEJUNO-ILEUM.

A LABOURER, about 45 years of age, was admitted to the J. J. Hospital one afternoon as an emergency case, with a history of abdominal pain, vomiting, and constipation of four days' duration. He was a well developed and well nourished man, and gave no history of any previous abdominal trouble. He did not look acutely ill. The pain was generally distributed all over the abdomen, which, though distended, was not tense. No particular spot of maximum tenderness was made out. He vomited only after food. The constipation was absolute. An enema was given without result. He was immediately prepared for operation.

On incising the peritoneum, greatly distended coils of small intestine protruded through the wound, rendering further exploration impossible. Enterotomy was performed in two places, and about three pints of faecal fluid removed. This permitted the necessary manipulations. The whole of the small intestine was found to be distended. The colon was empty and contracted. On tracing the ileum from the caecum upwards it was found that about six inches from the ileo-caecal junction it was tightly compressed by and kinked over the mesentery, the whole of which was twisted completely round once, from right to left (reverse clock-wise). The volvulus was relieved by giving the mesentery one turn in the opposite direction. At the seat of compression the peritoneal coat of the ileum was damaged. This was repaired by Lembert sutures, and the wound was closed without drainage.

Healing took place by first intention and convalescence was uneventful, except for an attack of abdominal pain and distension during the second week, which was relieved by an enema. He left hospital quite well at the end of the third week.

Leichtenstern's description, quoted in Treves's *Intestinal Obstruction*, fits this case exactly. Although the obstruction had lasted four days, the patient's general condition was not bad on admission. The placid expression, the absence of severe pain and vomiting were remarkable. A possible explanation may be that the onset of the volvulus was gradual, and that the compression of the ileum took place late in the course of the illness.

I have to thank Lieut.-Colonel A. Street, I.M.S., S.M.O. J. J. Hospital, for permission to publish this case.

B. P. SABAWALA, F.R.C.S.Ed.,
Captain I.M.S. (Hon. T C.),
Honorary Surgeon J. J. Hospital, and
Marine Lines War Hospital, Bombay.

DR. LÉON BERNARD, Professor of Hygiene in the Faculty of Medicine, Paris, and a well known writer on tuberculosis, has been elected a member of the Académie de Médecine. Dr. Lesbre of Lyons and Dr. Lignières of Buenos Aires have been elected correspondents.

Reports of Societies.

GAS POISONING.

AT a meeting of the War Section of the Royal Society of Medicine, held on February 9th, a discussion was held on the subject of gas poisoning in warfare.

Drift Gas.

Sir WILMOT HERRINGHAM said that in April, 1915, in a Canadian field ambulance in France, he came across three French (Algerian) soldiers who said that while they were in their trenches they had seen the Germans opposite come out bearing certain tubes from which they poured some stuff out on the ground and set light to it, whereupon clouds of choking smoke had drifted towards the French line. The story was subsequently found to be inaccurate in certain particulars. Chlorine had been used in this first attack, and its change from colourlessness to white and green had deceived the Algerians into thinking that it had been ignited. That was the speaker's first introduction to the effects of stifling or asphyxiating gas used in warfare in the form of clouds or drifts. At about the same time he also saw the effects of lacrymatory gas, for there was brought into the dressing-room a man whose clothes smelt strangely, and in a few minutes no one could remain in that room because of the severe watering of the eyes which was occasioned, yet this man had been lying out in the open for four hours on a windy day. Three days after the first gas attack another attack was made, and as a result of this he found six or seven hundred men in the two hospitals at one centre all suffering from its effects. They were gasping for breath, coughing, and bringing up thin yellow, frothy fluid, which often ran out of their mouths when they lay on their sides. Various measures of treatment were tried at that time, but nothing seemed to be of very much use. He had never before seen a cyanosis which did not yield to the ordinary administration of oxygen. The methods of employing oxygen were those that had been customary in dealing with pneumonia and the like, and they were not of the slightest use. He was inclined to think at first that the cyanosis must be due not to reduced haemoglobin, but to a morbid change in the haemoglobin; that supposition, however, was proved to be wrong. In *post-mortem* examination the effects found were mainly three—laryngitis, extreme oedema of the lungs, and emphysema. Experiments were immediately made in England with the object of elucidating the pathology, and it was soon shown that the chief symptoms, if not all of them, might be explained by the impossibility of getting oxygen into the blood through the great wall of oedema. He could not help thinking that, to explain the rapid collapse, there must have been some further action on the heart. Presently it became possible to divide these cases into three groups. The first were the "grey" cases, which collapsed almost at once; in these cases, as a rule, nothing could be done. Then came an intermediate group of cases, which required very close supervision; here neglect was dangerous, but otherwise there was good hope of recovery. The third group were cases only slightly affected, which recovered even though more or less left alone. The mainstay of treatment was oxygen, and the speaker showed the makeshift apparatus, such as improvised petrol tins, which were used until Dr. Haldane's apparatus became available.

Mustard Gas.

Attacks with chlorine gas went on all through the summer of 1915; in the course of the winter phosgene was substituted. Later, gas shells took the place of drift. The British forces were the first to employ gas in projectors. In July, 1917, came mustard gas attacks. He saw the first *post-mortem* examinations of these cases, and when the attack was repeated a fortnight later near Nieuport he saw the first gassed men brought in. The principal action of chlorine and phosgene was to produce an enormous oedema; that of mustard gas was first of all to inflame the eyes, though little permanent injury resulted to the eye; secondly, to scorch the air passages; and thirdly, to scorch the skin. The main danger was septic bronchopneumonia,

produced by sloughing of the membrane of the trachea. Sir Wilmot Herringham mentioned that a research chemist in this country who was accustomed to pay periodical visits to Germany before the war was there in 1909, when, walking in the country, he detected a strange odour, and, following it up, came to a small hill on which were a number of soldiers and also some sheep; several of the animals appeared to be dead. He was not allowed to trespass further, but it was evident that he had come upon some poison gas practice for German military purposes.

Colonel C. G. DOUGLAS said that gas warfare could be conveniently divided into three phases: first, the cloud gas on a limited front; then the lethal gas shells; and, finally, the mustard gas poisoning. Mustard gas caused 80 per cent. of the total gas casualties during the period for which it was employed. The problem that confronted the medical officer in treating gas casualties in modern warfare differed according to the character and mode of action of the gas. In the case of lung-irritant gases the most difficult task was to tide the patient over the first forty-eight hours. In the case of mustard gas the mortality was comparatively low; where death occurred it was caused by bacterial infection of the bronchial tubes, and the medical officer's concern in dealing with mustard-gas cases was to cope with the large number in which eyes and skin were affected, and to get the cases cured as quickly as possible. In chlorine and phosgene poisoning late deaths were infrequent; death, when it occurred, was almost immediate. In mustard gas poisoning, on the other hand, the deaths did not reach their maximum until the fourth day after exposure, and their incidence fell slowly, so that there were deaths on the tenth or twelfth day or even later.

Pathology of Poison Gas.

Major J. W. MCNEE said that with chlorine gas the pathological lesions were comparatively simple; the lesions were entirely those brought about by a pulmonary irritant. The only subsequent condition of any importance was that during the period of convalescence a certain amount of bronchitis was commonly found. With regard to phosgene the conditions were somewhat different. Phosgene gave rise to lesions which were distal from the lungs. In the lungs the lesions were similar to those caused by chlorine, with great oedema and disruptive emphysema. It was on the distal effects of phosgene that he wished to lay stress. Clinically, phosgene had in some way a definite effect on the heart not seen in the case of chlorine poisoning. In phosgene a larger proportion of cases were pallid and suffered from circulatory failure. In addition to the emphysema and oedema, a considerable capillary thrombosis in the lung was frequently found. Hyaline thrombi were also to be found in the capillaries of the brain. The pathology of mustard-gas poisoning was entirely different. After a latent period, generally of about a day, an intense inflammatory reaction took place, resulting in the bronchial membrane becoming entirely necrosed. In dealing with war pensioners he had noticed that men who had been gassed showed a tendency to develop bronchitis during foggy weather. He also found among these pensioners a number of cases of what the French called pseudo-tuberculosis, with cough and expectoration, some alteration of the *x*-ray picture, but no tubercle bacilli. This was believed to be due to fibrosis around the lumen of the bronchi.

Anti-gas Measures.

Colonel S. L. CUMMINS addressed himself to the defensive rather than the clinical measures. The first gas attack found them entirely unprepared, but within a few weeks defensive measures were well in operation, thanks to Professors Haldane, Baker, and Watson, and also the help of Colonel Horrocks and others at home. At first the anti-gas defence was run as part of the medical service, but a stage was soon reached when it became evident that this question was not wholly a medical one. Commanding officers of regiments in the line had to detail somebody to make wind observations; gas discipline, also, was a regimental responsibility. Therefore he came to see, as did others, that defence, like offence, should be made an administrative service. But working with the fighting services, maintaining the closest possible touch, and aware of every secret development, must be the medical service, whose officers were responsible to the Director-General for work on the physiological and medical side.

Professor J. S. HALDANE said that the clinical evidence was very clear that in certain cases bleeding did relieve symptoms. Resort to bleeding was familiar to him before the war in cases of poisoning from nitrous fumes. The reason people thought of bleeding was because the sufferer's veins were distended. The only cases which were benefited by bleeding were the "blue" cases; in the "grey" cases it was of no use. With regard to anoxaemia, a serious anoxaemia was, to his mind, a very dangerous thing. Anoxaemia in the "grey" cases was far worse than in the "blue," for the reason that in the "blue" there was probably an excess of CO_2 in the blood as well as a deficiency of oxygen.

Late After-effects.

Dr. J. A. RYLE said that he was inclined to divide the late effects of gas poisoning into four groups: (1) A small proportion of cases showed gross damage. These were cases of chronic bronchitis, awakened tuberculosis, and cases not specifically described but to which he would apply the term bronchiectasis, the result of mustard-gas poisoning. (2) Cases of structural damage which could be demonstrated, but was not superficially obvious. In most of these cases a history of pneumonia following "gassing" would be found. (3) Cases of "D.A.H.," or Lewis's effort syndrome group. (4) Functional cases, in which there was often vomiting, giving rise to a diagnosis of chronic gastritis. These cases of vomiting, however, were, he thought, functional, and many of them had been cured by methods of re-education and persuasion.

Dr. T. J. BENNETT asked for experience as to gastro-intestinal symptoms in "blue-cross" gas shell (arsenc) cases.

Sir WILMOT HERRINGHAM, replying to the last speaker, said that he did not remember any blue cross gas shell cases with intestinal symptoms. The most interesting thing about these cases was certain nervous developments, chiefly of the nature of paralyses and anaesthesias, but so far as he knew the effects quickly passed off, save for some loss of reflexes.

TYPHUS AND RELAPSING FEVER IN THE EAST.

AT a meeting of the Section of Medicine of the Royal Society of Medicine, held on January 27th, the President, Dr. A. F. VOELCKER, being in the chair, Dr. W. H. WILLCOX, in the course of a paper on typhus and relapsing fever in Mesopotamia and Northern Persia, dealt fully with the history of the two diseases and gave accounts of outbreaks during 1916, 1917, and 1918 in those countries.

The Louse Factor.

The etiological factors were all in accordance with the view now generally held that the body louse is the main channel of infection of both diseases. The factors associated with prevalence of the diseases were likewise favourable to the life and multiplication of the body louse. It was pointed out that these diseases were endemic in Northern Persia. In Persia, owing to the lower degrees of maximum temperature, occurrence was all the year round, while in Mesopotamia the great heat of the summer would effectively stamp out the diseases. In Lower Mesopotamia the diseases were uncommon amongst the natives, the temperature conditions being adverse to their spread. In the Baghdad area, however, the diseases occurred practically always in the early part of each year; they were, no doubt, brought along the caravan routes from Persia and the upper regions of the Euphrates and Tigris by pilgrims and others. The Turkish troops in Mesopotamia during the whole war suffered terribly from typhus and relapsing fever, and an interesting account of their prevalence, written by a doctor who had served with the Turkish army during this period, was related. Another source of the diseases in 1918 was the influx of the great number of refugees, some 50,000 in number, from the lower Caspian region. These brought with them a heavy louse infection accompanied by cases of both diseases. In 1916 and 1917, since communication with the local Arabs in the infected areas had not been

established, the main source of infection of the few cases that occurred was from Turkish prisoners. Those of our troops who came into contact with them—such as medical personnel, motor transport, drivers, military guards—ran serious risks of infection. After the occupation of Baghdad and the occupation of the large areas of Northern Mesopotamia the troops came more into contact with the local population, so that in 1918 the main source of infection was the local population (Arabs, Kurds, and Persians). Many of these had been enrolled into native labour corps, and in them both diseases occurred, so that those of our troops who were brought closely into contact with these men ran grave risks of infection; thus the medical personnel, ambulance and transport drivers, military police, and those in charge of the native labour corps were specially exposed.

Other Channels of Infection.

With regard to other channels of infection than the louse, it was pointed out that since the excreta probably contained the virus of the disease, general precautions to limit infection were necessary in the nursing of patients. With typhus no case was observed where the disease had spread from patient to patient in hospital, and no case was known of the spead of this disease where the agency of lice could be excluded. With relapsing fever the risk of infection appeared decidedly greater. Several instances occurred where the disease had spread from a patient to another person where every precaution had been taken to prevent access of lice. Two cases were quoted in which a bacteriologist contracted the disease after taking blood from a patient for examination; in each case the usual incubation period intervened, and it seemed likely that the blood of an infected person might convey the infection, also possibly the excreta in cases of a relapsing fever might serve as carriers of the disease. An unusual type of relapsing fever occurring in Northern Persia at Mianeh was described; this appeared to be conveyed by a tick known as the Mianeh bug, and the symptoms resembled those of ordinary relapsing fever such as occurred in Mesopotamia, the attacks being perhaps more severe. No opportunity of blood examination in these cases occurred. The close association of typhus fever and relapsing fever was alluded to, and also the interesting fact that a patient suffering from one of these diseases might carry on him lice which were capable of producing both diseases. The native population (Arabs, Kurds, Persians) appeared to have considerable immunity to typhus fever, and often had the disease in a very mild form. The occurrence of outbreaks of typhus and relapsing fever amongst the troops was described, and the source of the different outbreaks traced. The interesting feature of the Mesopotamian campaign was that, owing to the difficulties of communication through the long distances between the posts where troops were stationed, the origin of each outbreak of disease could usually be traced, and the spread of infection effectively guarded against. At no period did these diseases get out of control, and outbreaks were quickly localized and stamped out.

Symptoms and Treatment.

Special attention was drawn to the marked severity of the mental symptoms in typhus and to the profound effect on the brain, lasting many months after the fever had subsided. Lack of concentration and inability for mental effort, associated with a condition of slight deafness, commonly lasted for at least six months. An important diagnostic symptom in the acute stage of illness was the loss of the knee-jerk which usually disappeared about the fifth day and remained lost during the febrile stage and for a varying period after this had subsided. In severe cases a condition of coma with incontinence sometimes lasted for a week or more after the temperature had become normal. The character of the rash and its distinctions from the rash of enteric and paratyphoid and other rashes which occurred in Mesopotamia were fully described. In the treatment of typhus attention was called to the great value of administration of normal saline. In severe cases this was given rectally every four hours, commencing about the eighth day, and in the later stages subcutaneous and intravenous saline were given. Where symptoms of venous thrombosis threatened, an intravenous injection of normal saline containing ½ per cent. and 1 per cent. of sodium citrate was of value.

The symptoms also of relapsing fever were fully described, and attention was called to the cerebral type of the disease in which marked mental symptoms occurred. The value of kharsivan or salvarsan in the treatment of this disease was emphasized, and a dosage of 0.3 gram was recommended (or 0.45 gram of neo-salvarsan). Almost invariably the temperature would fall to normal within eighteen hours, and usually no relapse occurred. In a series of 241 cases treated by kharsivan, in only 5 per cent. did relapses occur. Doses smaller than 0.3 gram were found to be inefficient, while doses greater were inadvisable owing to the risk of hyperpyrexia. When a relapse occurred after the dose of kharsivan recommended it was usually of a very mild nature, and generally the apyrexial period was much prolonged.

APPENDICECTOMY INCISION.

AT the meeting of the Section of Surgery of the Royal Society of Medicine held on February 4th, with Sir JOHN BLAND-SUTTON in the chair, a paper was read by Mr. R. H. A. WHITELOCKE of Oxford on appendicectomy by a new route. The paper appears at p. 211. In the discussion which followed—

Mr. G. A. R. NITCH questioned whether the particular incision advocated gave sufficient room for dealing with acute perforating appendicitis when there was a large collection of fluid in the pelvis. It was very necessary to sponge that fluid out, and he thought it must be difficult to get the sponge down into the bottom of the pelvis without using a considerable amount of force.

Mr. H. J. PATERSON said that this small incision had the grave disadvantage that with its use it was impossible to get an adequate exposure of the abdominal contents. He took it that the chief reason for adopting the method was to avoid the risk of subsequent hernia. That risk, however, could be obviated almost entirely by making the incision in the middle line of the abdomen. He held very strongly that the right place to operate was through the middle line, which made it possible to ensure that no secondary foci were left undrained.

Professor RAYMOND JOHNSON said that he did not feel inclined to change his usual habit of operating after hearing the information given them that evening. He was not quite clear what particular advantage was claimed for the new route. He disagreed entirely, however, with Mr. Paterson as to taking the middle line. His feeling was that that was absolutely the worst position to take. The advantage which the middle line offered of dealing with small pockets of pus was a very small one to put in the balance against its obvious disadvantages.

Mr. MCADAM ECCLES said that the incision was likely to be very useful in certain cases, but it would be a most disastrous incision in cases of general peritonitis, because these could not be drained properly.

Mr. R. P. ROWLANDS said he believed in the muscle-splitting operation for acute appendicitis; it was more suitable, he thought, for acute cases than for chronic. Out of about 1,000 cases of acute appendicitis treated in this way he had only found two in which hernia had developed, and in both these cases there were other circumstances which favoured the development of hernia. He had kept a keen eye on his patients with a view to this occurrence. Statistics showed that the risk of pulmonary embolism was greatest between the ninth and the seventeenth day or thereabouts. To prevent pulmonary embolism he had adopted the plan of getting his patients up on the fifth day. They (or the nurses) did not like it, but he had found it answer, and whereas he used to get about one pulmonary embolism in his cases of appendicitis in a year, he had now not seen one for seven years.

Sir JOHN BLAND-SUTTON said that for every operation in surgery there seemed to be as many methods as there were men to use them. Each man had his own accustomed method, and had good results from it. With regard to the avoidance of hernia, he had come to the conclusion that the only way of avoiding hernia was to refuse to open the abdomen at all. Some years ago an enthusiastic student who wanted to become an abdominal surgeon asked him to suggest a theme for his thesis, and, as the student had means, he advised him to go to the Continent for a year and study the work of the best operators, and

then decide what would serve best for the purpose. He returned with his thesis already written; it was "On the different methods of closing abdominal wounds with a view to the avoidance of hernia." He found an extraordinary variety of methods, and the material used for sutures was as remarkable as the methods; it included catgut, silk, silkworm gut, horsehair, and iron, aluminium, silver, gold, and platinum wire. The speaker had still to find a man with a way of sewing up a wound so as to be quite certain that he would not get hernia. Probably the surgeon who had done the abdominal operation did not see the patient when the hernia had occurred; other men would see his failures, and he would see theirs. But if a man thought he had succeeded by any device in getting over the possibility of hernia he was living in a fool's paradise.

Dr. WHITELOCKE said that he had tried to see as many of his patients afterwards as he could, and he had not yet seen a hernia. He had not the slightest doubt that the frequency of hernia was appalling after operations for appendicitis, especially by the para-median incision. In all his abdominal operations he never swabbed out the pelvis; he put in a rubber tube of sufficient calibre, and left the respiratory movements to swab out; he inserted the tube right down to where the abscess was. Mr. Paterson's idea of opening the appendix abscess through the middle line of the abdomen appeared to him absolutely unsurgical. In reply to other questions, he said that it was only in well developed people that one got muscle fibres; he welcomed muscle fibres, such cases gave the best scar. He did not divide them with his scalpel, but separated them with his fingers. He was quite ready to try the fifth day for getting the patient up, but he could not recall a single case of his which had died from embolism.

GYNAECOLOGICAL CASES AND SPECIMENS.

A MEETING of the North of England Obstetrical and Gynaecological Society was held at Manchester on January 16th, with the President, Mr. MILES H. PHILLIPS (Sheffield), in the chair. Mr. BLAIR BELL (Liverpool) exhibited a specimen of diverticulum of the bladder showing cystitis. The diverticulum was adherent to the right ovary, and was undoubtedly congenital. Mr. CARLTON OLDFIELD (Leeds) said he had often observed cases of diverticula of the bladder, but in no case had infection occurred. He asked if it were not possible in the present case that a portion of bladder wall had been pulled out by inflammatory tissue in the neighbourhood of the right uterine appendage. Mr. BLAIR BELL, in reply, did not think that the diverticulum had originated in the way suggested by Mr. Oldfield.

The PRESIDENT demonstrated a specimen of adenomyoma of the recto-vaginal septum which had caused a constant coffee-coloured vaginal discharge for several months in a multipara aged 45 years. A very tender nodular cystic growth occupied the posterior fornix and presented a small area of papillary growth; no connexion with the cervical mucosa could be demonstrated. He had operated on more than twenty of these cases, and in the majority had found inflammatory disease of the uterine appendages; he expressed the opinion that these growths were of inflammatory origin. Dr. LEITH MURRAY (Liverpool) recalled a case of adenomyoma presenting unusual features, related to the Society by the late Dr. Wallace in 1914.

A hysterectomy with removal of one ovary was carried out in 1908, but a complete removal of the infiltrating growth was not possible. Nine months later a regular monthly haemorrhage occurred, similar in all respects to her previous menstrual periods, and persisted for some years. By 1914 the growth was filling the pelvis and causing chronic intestinal obstruction. Dr. Leith Murray performed a colostomy with marked benefit, and at the same time a search was made for the remaining ovary with the intention of removing it, and of inducing the menopause, in the hope that the periodic haemorrhage indicated a Müllerian origin of the tumour mass, and that the growth might react favourably to such a step. Unfortunately, as the result of excessive infiltration of the broad ligaments, the ovary could not be localized. The patient lived till the latter end of 1918, and was in fairly good health and able to walk about until two or three months before her death.

Dr. D. DOUGAL (Manchester) described two cases in which he had performed Caesarean section for dystocia, due to (1) uterus bicornis unicollis, and (2) ventrifixation, or adherent myomectomy scar.

In the first case the non-pregnant horn of the double uterus lay within the pelvic brim, and caused obstruction, much in the same way as a fibroid situated in the lower part of the uterus.

The second patient had a myomectomy performed four years previously. The anterior uterine wall was firmly adherent to the parietes, but whether this was accidental or due to a fixation operation could not be ascertained. The posterior uterine wall had become enormously hypertrophied, and had pulled the cervix upwards and backwards to the level of the sacral promontory. Owing to the fixation the Caesarean incision had to be made through the posterior uterine wall, and a few days after operation a coil of small intestine lying in the pouch of Douglas became adherent to it, and caused acute intestinal obstruction. This was remedied at a second operation, and the patient then made a good recovery.

Dr. W. W. KING (Sheffield) showed microscopic sections of a spindle-celled sarcoma which appeared at the lower end of a colporrhaphy wound within one month of operation. The first nodule, the size of a bean, was removed, but in ten days' time the growth had recurred, and was then the size of a large pea. After treatment with Coley's fluid the growth disappeared to the naked eye, and a piece removed two months after the first appearance of the tumour showed no sign of sarcoma. The PRESIDENT thought the appearance of the section very suggestive of granulation tissue. Dr. DONALD thought that diagnosis by microscopic examination in cases of sarcoma was very difficult, and apt to be misleading. The clinical picture in this case did not seem to be altogether in favour of sarcoma. Dr. KING, in reply, thought the rate of growth too rapid for granulation tissue. He would keep the case under observation and report further in six months' time.

Mr. CARLTON OLDFIELD (Leeds) described a case of hydatid mole with bilateral ovarian cysts and toxaemia.

The patient, a multipara aged 36, was three and a half months pregnant when she first came under observation. Her husband had contracted syphilis a year previously, and she herself had a positive Wassermann reaction. Severe toxaemia with albuminuria developed suddenly at this time. The uterus was retroflexed and the size of a three and a half months pregnancy. Seven days later the uterus was much larger and reached the costal margin. Abdominal pain and tenderness and marked tachycardia were present, and her general condition was grave. There was no external haemorrhage, and the cervix was closed. Under an anaesthetic the uterus was emptied and the contents found to be a hydatid mole. There was practically no haemorrhage during the operation. During the pelvic examination at the time of operation bilateral ovarian cysts were discovered, the left being apparently the size of two fists. In three days' time the patient was very much better, and within three weeks was practically well. Three months after the commencement of the illness her general health was normal, and the ovarian cysts, which had been noticeably decreasing in size since the operation, had entirely disappeared.

Dr. FOTHERGILL had met with a case of hydatid mole in which severe symptoms of toxaemia were present. He had found it necessary to remove the uterus in this case, but toxaemic symptoms persisted, and caused her death two months later.

The PRESIDENT related a case where a large cervical fibroid caused severe haemorrhage ten years after the climacteric.

The patient was a spinster aged 57 years, and had a sudden profuse haemorrhage which came on without warning, and was only controlled by packing the vagina. A pelvic tumour had been known to exist for years, but had recently caused no discomfort. Hysterectomy was performed; the uterus was atrophied, but the cervix was lengthened to over six inches, and extremely thinned by a large cervical fibroid. Under the cervical mucous membrane covering the lower pole of the tumour were many large veins, and it was considered that rupture of one of these had led to the profuse bleeding.

MR. MICHAILO GAVRILOVITCH, Envoy of the Kingdom of Serbs, Croats, and Slovenes, has become the President of the Serbian Red Cross Society in Great Britain.

A CASE was reported to a recent meeting of the Society of Medical Sciences of Lyons in which M. Patel had treated right facial paralysis, due to mastoiditis and caries, by operation. The patient was inconvenienced by the inability to close the eye, its prominence, and constant watering. The operation consisted in section of the right sympathetic and excision of the superior cervical ganglion. It was successful; the palpebral fissure was diminished and the globe retreated into the orbit. At the same time contraction of the pupil on the right side was observed, but the reactions to light and accommodation were retained.

Reviews.

THE GROUNDWORK OF SURGERY.

IN his *Groundwork of Surgery*[1] Mr. ARTHUR COOKE, Surgeon to Addenbrooke's Hospital, Cambridge, and University Teacher in Surgery, describes surgical diseases, their pathology and treatment, in the simplest way. A general wide idea of the subject is obtained, to which detailed work and experience in the wards can soon be added. The book is systematically arranged; in seven chapters it deals with infections; these are followed by others on injuries and shock, on deformities, on new growths, and later by an excellent chapter on prophylaxis and preventive treatment. Finally there is a chapter on the time factor in surgical treatment, in which the causes that render early operation so necessary in certain classes of cases are set out, and it is judiciously observed that the medical man can only insist upon early operation if he can arrive at his diagnosis with confidence.

Mr. Cooke says that his book is designed to give the student on beginning clinical work an elementary groundwork of knowledge as to common lesions and their causes; and it is, we think, one of the best books that has yet been written for the third-year student. It will save him from the bewilderment which many a student experiences when he begins to attend in the wards of his hospital, and will provide him with the main general facts of his subject.

FOOD POISONING AND FOOD INFECTIONS.

DISEASES due to food, though their existence is well recognized, are probably more frequent than is generally known and are often wrongly interpreted; it is, indeed, not uncommon to find references to "ptomaine poisoning" in textbooks and in the evidence of medical men at inquests, although there is no longer any justification for the continued use of this popular phrase. It is therefore highly appropriate that an authoritative monograph on *Food Poisoning and Food Infections*[2] should have been contributed to the Cambridge Public Health Series by Dr. W. G. SAVAGE, who has devoted much time to this subject during the last fifteen years, and is the author of valuable reports and papers dealing with this aspect of public health administration.

Food poisoning is often classified according to the kind of food; but as the majority of cases are due to bacteria, and usually to bacteria of the Gaertner group, a division based on the vehicle of the infection, such as those due to ordinary meat, shellfish, sausages, milk, cheese, and ice-cream, is unsatisfactory, and the only scientific classification is one which depends on the infective agent. The three groups of bacterial food poisonings are those due to the Gaertner bacilli, to *B. botulinus*, and to other bacteria, of which putrefactive bacteria, *B. coli* and *B. proteus*, are usually considered to be the most important. Dr. Savage deals with these in detail, and shows that all, or almost all, the large and widespread outbreaks of bacterial food poisoning investigated by modern methods are due to the Gaertner group, that mass infection by bacteria not necessarily specific in nature is very doubtful as a factor in food poisoning, and that the poisonous effect of food rendered putrid by bacilli such as *B. coli* and *B. proteus*, though often assumed, still requires more rigid proof before it can be finally accepted. The description of the general clinical picture and other features of food poisoning of bacterial origin is derived from an analysis of about 112 outbreaks in this country investigated by the author, and, though mainly based on outbreaks due to the Gaertner group, may be taken as applicable to all outbreaks of bacterial origin except botulism. As the author has not been able to find any definite cases of botulism in this country, and it will be remembered that the recent outbreak of encephalitis lethargica was at first erroneously thought to be of this nature, he depends for his description mainly on the work of Van Ermengem and E. C. Dickson; the latter has within the last few weeks published investigations on the resistance of the spores of *B. botulinus* to the sterilizing agencies commonly employed in canning foods.

Chapters are devoted to food poisoning due to chemical poisons introduced unintentionally and as preservatives; to foods inherently poisonous, such as certain fish, mainly in the tropics, and ergot; to food idiosyncrasies, in which anaphylaxis is sketched; to the prevention of outbreaks of food poisoning, and to the methods of investigating the outbreaks. The work can be most cordially recommended as a clear and standard guide in this important subject.

UROLOGICAL PRACTICE.

DR. V. C. PEDERSEN, in his *Textbook of Urology in Men, Women, and Children*,[3] has accumulated a vast amount of information. He states in his preface that this volume represents the experience of many years in urological departments in New York City, in private practice, and at St. Mark's Hospital, and that the actual writing of the text and the preparation of the illustrations represent four years of steady concentrated work. The result is a book which no one can read without being impressed with the industry, thoroughness, and knowledge of the author. That he has utilized his intimate knowledge of the subject to the best advantage is, however, not so certain. The language of the earlier chapters is often difficult to follow, and clearness of expression is too often lacking. It is only when he has left questions of theory and deals with matters of practice that the author appears to write with ease and with corresponding lucidity. The paragraphs and chapters on diagnosis and treatment are therefore the best. Here it is that the author's great store of clinical experience is given to the reader in a style that is simple and vastly more readable than that employed elsewhere. Fortunately diagnosis and treatment have been allotted a liberal allowance of the book.

Physical treatment—comprising electrotherapy, heliotherapy, and hydrotherapy—has been dealt with in far greater detail than is customary in textbooks of urology. The author, while admitting the limitations of electrotherapeutics in the treatment of genito-urinary diseases, considers that many of the failures reported are due to the use of second-rate apparatus in a semi-skilled manner. For this reason he supplies the reader with the information necessary for forming a clear judgement of the scope of electrotherapy in urinary diseases. Instruction is given as to the best form of machine, the type of application, its strength, duration, and frequency, and what class of case is most likely to benefit from its use. Hydrotherapy, though dealt with at less length, is given its due place amongst the therapeutic weapons available. It is, however, curious that in a work that is so comprehensive and that lays so much stress on physical remedies no mention should be made of the treatment of inflammatory conditions of the genito-urinary apparatus by passive congestion. We can find no mention of such an apparatus for the urethral canal, or of Bier's cups, or of the *rationale* of treatment by venous congestion.

While dealing with the bacteriology of the urethral canal, Dr. Pedersen emphasizes—unduly perhaps—the importance of distinguishing between infections due to the gonococcus and those caused by *Micrococcus catarrhalis*. In support of his statement that the latter organism is occasionally to be found in the human urethra, the author quotes the work of W. Ayres. Whether he will find much support for this statement on this side of the Atlantic is extremely doubtful. So competent an authority on the *Micrococcus catarrhalis* as Dr. Mervyn Gordon has categorically denied that it is ever found in the urethra. Still, whatever be the truth with regard to this difference of opinion, we cannot believe that the question of urethral discharge due to *Micrococcus catarrhalis* need seriously disturb the clinician.

---

[1] *Groundwork of Surgery.* For First-year Students. By Arthur Cooke, M.A., M.B., B.Ch.Oxon., M.A.Cantab., F.R.C.S. Cambridge: W. Heffer and Sons, Limited. 1919. (Cr. 8vo, pp. viii + 183. 7s. 6d. net.)

[2] *Food Poisoning and Food Infections.* By William G. Savage, B.Sc., M.D., D.P.H. Cambridge Public Health Series. Edited by G. S. Graham-Smith, M.D., and J. E. Purvis, M.A. Cambridge: At the University Press. 1920. (Demy 8vo, pp. viii + 247. 15s. net.)

[3] *A Textbook of Urology in Men, Women, and Children, including Urinary and Sexual Infections, Urethroscopy, and Cystoscopy.* By V. C. Pedersen, A.M., M.D., F.A.C.S., Major Medical Corps, United States Army. London: H. Kimpton. 1919. (Med. 8vo, pp. 991; 362 figures, 13 coloured plates. 36s. net.)

MEDICAL HISTORY.

OWING to the exigencies of the war the first volume of the *Annals of Medical History*,[4] begun in 1917, was not completed till 1919, and the first number of vol. ii is now before us. It begins with Dr. G. W. Corner's article on "The Anatomists in Search of the Soul": in the third century before Christ Erasistratus regarded the meninges and subsequently the cerebellum as the site of this intellectual faculty; Herophilus discovered the cerebral ventricles and gave them this function, and Strato of Lampsacus decided that the frontal sinuses were *pars princeps animae*. René Descartes's famous assumption at a much later date, that the pineal body is the seat of the soul, was promptly opposed by Bartholin and Wharton, two of the best contemporary anatomists; then followed Henry More's advocacy of the fourth ventricle. Dr. W. A. Jayne of Denver writes on "The Medical Gods of Ancient Iran," and Dr. J. Collins Warren of Boston contributes an illustrated account of "The Pulmotor of the Eighteenth Century," an apparatus designed for the purpose of inflation of the intestinal canal as a means of resuscitation of the apparently drowned. The history of laryngology and rhinology is traced by Dr. J. J. Walch, and Dr. Jonathan Wright supplies the first of two "Modern Commentaries on Hippocrates." The descriptive list of the incunabula in the library of the College of Physicians of Philadelphia occupies 34 pages. Sir William Osler has provided an attractive note on James Currie's Manuscript Journal, sold at Sotheby's on July 24th, 1918, and his review of Dr. Parkes Weber's *Aspects of Death*, a book dedicated to him, has a melancholy interest. Sir Norman Moore's *History of St. Bartholomew's Hospital* is pleasantly praised by Dr. C. Singer, and there are several short articles by the editor, who must be congratulated on this successful number.

SUSSEX SEVENTY YEARS AGO.

Sussex in Bygone Days,[5] first published in 1906 for private circulation only under the title of "The Reminiscences of Nathaniel Paine Blaker," has now been much expanded, and is a charming record of one who loves both the country and his profession. The author, who was born in 1835 on a Sussex farm, gives a vivid account of the rural life and customs which have largely gone beyond recall, such as the pattens, the ox teams, and the smugglers. The picture of these remote days and villages is tantalizingly peaceful; the amount of traffic was not more than two or three carts a day, and even a stranger on the road was so rare that people turned and stared after he had passed. There was little illness, and doctors were seldom seen in the village; when they were summoned for a grave case they always came on horseback, and dressed, as a rule, in summer, in dark swallow-tailed coats and brass buttons, light waistcoat and breeches, top boots and spurs, and large white tie and white frill.

In 1852 Mr. BLAKER was apprenticed as a resident pupil at the Sussex County Hospital, which had been opened in 1828; he gives a graphic if rather grim description of the surgery of those days when anaesthetics were little used and "laudible pus" was thought to prevent erysipelas. Three years later he went to Guy's, where he attended Addison's last course of lectures, and was fascinated by his manner and eloquence.

An empyema which he spat up cut short his London and nearly his earthly life. He, however, became house-surgeon and eventually senior consulting surgeon, to the Royal Sussex County Hospital, and his modest but wise meditations, especially those on the altered type of disease in relation to social customs, are the fruit of ripe experience. He suggests that it is the people rather than the diseases that have changed, and mentions the dictum of his old uncle: "Men are very much changed since I was a boy; they swear less and lie more." It is difficult not to quote more of the good things in a book which the reader is unlikely to put down until he is disappointed to find it is finished.

[4] *Annals of Medical History*. 1919, vol. ii, No. 1, Spring Number. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber. Yearly subscription, 6 dols.; single copy, 2 dols.

[5] *Sussex in Bygone Days*. Reminiscences of Nathaniel Paine Blaker, M.R.C.S. With a foreword by Habberton Lulham and an introductory letter by Sir Arthur Newsholme, K.C.B. Hove, Sussex: Combridges. 1919. (Fcap. 8vo, pp. xvi + 197; 4 illustrations. 5s. net.)

NOTES ON BOOKS.

THE *Year Book of Pharmacy*[6] for 1919 contains some 300 pages of abstracts of papers dealing with pharmacy, materia medica, chemistry, new remedies and formulae, therapeutics, and kindred subjects; these are of great interest to pharmacologists and dispensers. The volume also contains a full report of the proceedings of the fifty-sixth annual meeting of the British Pharmaceutical Conference, held in London last summer, together with lists of members and indexes.

Mr. KINGZETT'S *Popular Chemical Dictionary*[7] is a brave attempt to solve a wellnigh impossible problem—namely, that of producing a dictionary explaining the nature and actions of important chemical substances or terms and physico-chemical processes in phrases intelligible to the layman. His endeavour has been to produce a popular educational work and general book of reference not only for chemists but also for the larger body of the public who take interest in chemical matters. The *Dictionary* covers a great deal of ground, and is full of facts, definitions, and explanations that should be of service to the general inquirer. Perhaps it would be possible in a later edition to insert a few such terms as "Benzine," "Benzole," "Margarine," "Erlenmeyer flask," that do not appear to be mentioned in the book. The text contains a number of serviceable illustrations, and certainly supplies a want that must often have been felt.

MINOR SURGERY.

Some sixty years ago the first edition of Christopher Heath's *Minor Surgery and Bandaging*[8] saw the light. Since that time it has gone through no fewer than seventeen editions, the last recipient of the mantle of the prophet being Mr. GWYNNE WILLIAMS. The book has naturally undergone many changes, the latest being the omission of the chapter on war injuries—a happy sign of the times. Such advances in surgery as the war has occasioned have been incorporated in the text. A notable omission in this respect, however, is that the method of blood transfusion is not described. No one would look for a full and wide account of this life-saving measure in so small a work, but the citrate method might have been included, for it is the easiest and most generally applicable. There are minor faults in the book: the reader is given to understand that a rectal tube can be passed high into the bowel, whilst the general experience is that in reality it coils up in the rectal ampulla. Torsion of the spermatic cord—a much commoner incident than is generally supposed—is omitted from the section on acute scrotal swellings. Rupture of a hydrocele is also not mentioned. In spite of the painstaking work of Kanavel and others in America on the principles of the treatment of infections of the hand, the new doctrines are slow in making their way in this country. In few situations can such irreparable damage be done by the common faulty placing of the incisions. The section on the sterilization of the hands and patient's skin might be made fuller. Not enough stress is laid on the truism that it is possible to render skin sterile for the moment, but that it is impossible to keep it so. The book is, in spite of these things, very serviceable, its great defect is lack of personality. In that attribute the original work was rich and often, to our eyes, picturesque. "Some visiting surgeons," says Heath, "wish to do everything for themselves, and are very wroth if a house-surgeon has opened an abscess or tightened a bandage," and proceeds to warn his readers against the attempt to bring the practice of two or three individual surgeons to one uniform level, by which all possibility of comparison would be lost. As to the chaplain, he must not be interfered with, "the only difficulty at all likely to arise in this question is the tendency of some chaplains to prolong their visits to the wards to the inconvenience of the dressers and others." These times have gone and newer and better ones taken their place. The new edition will be found to reflect that change.

[6] *Year Book of Pharmacy*. London: J. and A. Churchill. 1919. (Demy 8vo, pp. 548. 12s. 6d. to non-members.)

[7] *Popular Chemical Dictionary*. By C. T. Kingzett, F.I.C., F.C.S. London: Baillière, Tindall, and Cox. 1920. (Demy 8vo, pp. vi + 368; 78 figures. 15s. net.)

[8] *Minor Surgery and Bandaging* (Heath, Pollard, Davies). By Gwynne Williams, M.S., F.R.C.S. Seventeenth edition. London: J. and A. Churchill. 1920. (Cr. 8vo, pp. viii + 447; 236 figures. 10s. 6d. net.)

THE late Mr. Henry R. Kinnear, formerly of Shanghai, has bequeathed £1,000 to the King Edward's Hospital Fund.

British Medical Journal.

SATURDAY, FEBRUARY 14TH, 1920.

MINERS' NYSTAGMUS.

THE fact that a Home Office committee is now sitting for the revision of the tests for miners' safety lamps presents a convenient opportunity for reviewing the known facts of a disease which takes so heavy a toll of the vision of the coal-mining population. The chief feature of the disease is the rapid oscillation of the eyeballs. The symptom is to be seen in other conditions; it is, for instance, common in some defects of the eyes arising from congenital malformation or acquired disease, and occurs in certain diseases of the central nervous system and of the ears. The symptom is familiar to every practitioner of medicine, and the layman can gain for himself some knowledge of the phenomenon by noting the eyes of a fellow traveller on the railway who is engaged in watching the objects that fly past the carriage window, and if he himself indulges in the same practice he will appreciate some of the fatigue associated with the movement.

The recognition of miners' nystagmus is of comparatively recent date. Decondé, an ophthalmic surgeon of Liége, first drew attention to the disease in 1861. "Almost always," he said, "vision is seriously affected, and generally I have found it impaired. If the oscillation is very frequent sight is disturbed by it and the patient cannot continue at work." Since then much work has been given to elucidating the cause of the disease and the possibility of its prevention. During these investigations attention has revolved about certain aspects of the work of the coal miners. The cramping of his body and the movements of his eyes caused by the narrowness of his position and his attitude at work, the feebleness of the light in which he has to work, the badness and sometimes the poisonous badness of the atmosphere under ground, and the intensity of the physical work done; with these there are to be brought into relation all those other ills to which flesh is liable—defective eyes, ill health of mind or body, and intemperance.

At first attention centred upon the first two of the conditions and mainly on the first, so that the disease was held to be due to the strain on the muscles of the eyes caused by the effort to see in a constrained position and in a poor light. Bell Taylor of Nottingham considered the affection a pure myopathy and likened it to writers' cramp. For a time attention became almost wholly centred on this vice of posture, largely because of the energetic work of Simeon Snell of Sheffield. He concluded "that the disease only attacks men who are compelled through the nature of their work to direct the gaze upwards—that is, hewers and deputies," and further, "the position of the miner at his work is, therefore, the prime and essential cause of miner's nystagmus."

To Josiah Court of Staveley is due the credit of showing by a series of shrewd observations that posture was not the prime cause or even a leading cause of the disease; the prime cause, he maintained, was bad light. For once the great saying, "a prophet is not without honour save in his own country," has been honoured in the breach thereof, for we recorded recently that the King had bestowed on Dr. Court the honour of knighthood, and, further, his many writings addresses, and evidence have been gathered into a small volume recently published.[1] Sir Josiah Court observed in 1891 that nystagmus was common in the fiery mines where the safety lamps must be carried, but rare in safe mines where naked lights were used. "Out of 573 miners using naked lights, only 3 were affected with nystagmus who had *always used candles*. . . . But we find, in strong contrast to this, that out of 524 men using safety lamps, 164 miners were affected, or nearly one-third of them." And again, "There was not a single case of nystagmus in the torch-lamp pits amongst those men who had always used torch lamps." Finally, "The coal is got in the same manner, and holing and undercutting is done in the naked light mines just in the same way as in the collieries worked with safety lamps." Court's observations were confirmed next year by Romiée in Belgium, who recorded that there was an increase in the number of cases of nystagmus following the prescription of safety lamps, and later a very large reduction when a powerful electric lamp was used. Since that period there have been some oscillations of opinion, but through all a steady trend in favour of the dominant influence of bad light. Detailed work has been done on the actual conditions of the lighting in the mines, and particularly on the defects of the safety lamp, which gives a dim, diminishing, and remote light, in an unrelieved blackness broken with points of high reflecting power, in a small area bounded by the densest shadows. Attention has also been given to adjuvant factors, the greater liability of miners with defective vision as compared with emmetropes, the conducive influences of ill health and of intemperance, and the possibility of a form of chronic poisoning due to the absorption of coal gases. But that the dominant factor is the light; as pointed out by Court, has been convincingly established, so that after a discussion on "miners' nystagmus (neurosis)" at the Oxford Ophthalmological Congress in 1912 a resolution was passed unanimously declaring "that the chief factor in the disease was the deficient light present in the mine," and asking the Government to appoint a Departmental Committee to deal with the question. In the same year an admirable work of research and review was published by Dr. T. Lister Llewellyn, the first Tyndall Research student, whose work was done under the control of the Royal Society through a fund established by Mrs. Tyndall in accordance with the wish of Professor Tyndall, for the purpose of furthering scientific research in "improvements in mining and in the lot of the miners." Dr. Llewellyn's book,[2] and a later work by Dr. M. Stassen[3] of Liége will well repay study.

The solution of the riddle of causation does not conclude the matter. The disease may be prevented by more light, but how to get that light is a problem still unsettled. The orders published under the Coal Mines Act of 1911 show how much ingenuity has been expended in recent years in attempts to secure improved lamps, both flame and electric. The difficulty of the problem may perhaps be realized when we cite some of the tests to which a flame lamp is subjected before it can receive the official approval, without which it cannot be used in the mines. The first test is to drop the lamp from a height of 6 ft. on to a wooden floor five times in succession. In the second a weight of 5 lb. is dropped from a height of

[1] *Miners' Diseases.* Records of Researches by Dr. J. Court. Edited by W. Bailey. *Sheffield Daily Telegraph.*
[2] *Miners' Nystagmus.* By T. Lister Llewellyn. London: The Colliery Guardian Company. 1912.
[3] *La fatigue de l'appareil visuel chez les ouvriers mineurs.* Par le Dr. M. Stassen. Liége: Vaillant-Carmanne. 1914-1919.

6 ft. on to the top of the lamp. In the third test the lamp is hung up and a weight of 10 lb. is attached to its lower part by a cord 6 ft. long; the weight is then dropped. This is done thrice; the least sign of yielding to the strain condemns the lamp.

Electric safety lamps give a much better light than the commoner oil lamps. They are more costly and heavier, but it is said that they are slightly more economical in maintenance. But the character of the source of illumination introduces a new complication; the specific intensity of the light is very high, and it emanates from a few millimetres of glowing wire a very small luminous spot compared with the large flame of a candle. The specific intensities of lights of equal candle power are inversely proportional to the area of the source of light, and the comfort to the eyes varies in the same sense. Every town dweller will have appreciated this since the introduction of the "half-watt" glow lamps. To diffuse the glow of the wire by frosted or opalescent glass is not practicable in miners' lamps, for these devices reduce the light from 30 to 60 per cent. Something can be done by placing the lamp between the points of two conical reflectors, as advocated by Llewellyn, for the illumination of the reflectors reduces the relative intensity of the source of light. The desideratum is a true glow lamp, a lamp the whole of whose bulb is glowing with light because the whole of its contents is luminous, like the mercury vapour lamp, only without its ghastly hue. There is room for research here, and we may hope that necessity may mother an invention, and that speedily.

NON-SPECIFIC IMMUNITY.

THE work done by Petersen, Jobling, Cecil, and others in America, and by A. G. Auld and quite recently by A. E. Gow[1] in this country, on protein shock therapy, or the intravenous injection of foreign protein, either as such or in the form of a bacterial emulsion, has shown that the beneficial effect of vaccines is not specific only; thus injection of typhoid vaccine has been found to exert a curative influence on gonococcic arthritis. This rather revolutionary doctrine raises some further questions of interest: Can a vaccine exert a non-specific prophylactic effect and protect against infection by micro-organisms other than those from which it is made? How far does one infective disease protect against another?

The acquired immunity that comes with the advance of years is usually assumed to be mainly due, if not to some previous attack, to gradual immunization from repeated exposures to infection, which have not given rise to clinical manifestations sufficiently definite to attract notice. But whether abortive attacks or repeated autovaccination completely explains the gradual acquirement of immunity may be questioned, and in this connexion attention may be drawn to a suggestive paper by Victor C. Vaughan and G. T. Palmer[2] on non-specific immunity. Experience of epidemics in military camps in America clearly showed that when men were crowded together those from rural districts were much more susceptible to infections than those from crowded cities. Especially is this true of those infections transferred through the respiratory organs; seasoned soldiers were much more resistant to an infection new to the whole command than recently recruited men. The question therefore arose as to the existence of any scientific evidence in favour of the possibility of the development of a non-specific bacterial immunity or increased resistance to infection.

Years ago Vaughan and Wheeler found that all true proteins—bacterial, vegetable, and animal—can be split by chemical agents into poisonous and non-poisonous fractions, the poisonous being specific for each protein, whereas the non-poisonous is common to all proteins. Experimentally the late V. C. Vaughan, junior, demonstrated that the poisonous fraction, or "protein poison," establishes a non-specific tolerance for other proteins, and that no antibodies are formed, and further, that repeated introduction of the protein poison into the body produces a non-specific bacterial immunity which is of low grade and is not comparable with that attainable in toxic immunity. Vaughan and Palmer believe that men long resident in crowded cities and frequently inhaling particulate proteins (bacteria), whether pathogenic or non-pathogenic, acquire a non-specific immunity which helps them to withstand infection. This form of immunity, though it does not prevent infection with a newly imported virus, mitigates the effect—sometimes to so great an extent that no symptoms are obvious. In this manner a non-specific immunity may, it is suggested, enable a specific immunity to be developed against a virulent infection. Thus it makes a great deal of difference whether a susceptible recruit is at once exposed to the risk of infection of, say, measles, or whether contact is delayed until he has been for months in a crowded camp, inhaling daily more or less foreign protein from which, after absorption, protein poison is liberated and causes a non-specific immunity. The new recruit is thus transformed into a seasoned soldier, but in this transformation he does not acquire a specific immunity to measles, and if exposed becomes infected as readily as the recruit, though the effects are mitigated by his increased tolerance. A similar explanation is given for the well-known fact that seasoned soldiers bear influenza and pneumonia better than recruits.

It is interesting to note that the report by Walter Reed, E. O. Shakespeare, and V. C. Vaughan on enteric fever among the American troops during the Spanish-American war (1898) showed that, contrary to general belief, temporary gastro-intestinal disturbance, far from disposing to the onset of enteric fever, conferred a certain degree of immunity against subsequent infection with this disease. We may recall also that during the recent pandemic of influenza in this country some observers spoke of the existence of a "protective catarrh."

[1] A. E. Gow: *Quart. Journ. Med.*, Oxford, 1919-20, xiii, 82-104.
[2] V. C. Vaughan and G. T. Palmer: *The Military Surgeon*. Washington, D.C., 1920, xlvi, 1-8.

CLINICAL TEACHING "ELEMENTS" AT WORK.

THE reconstruction of the teaching organization at St. Bartholomew's Hospital is making steady progress. The Medical Element is now complete; the director is Sir Archibald Garrod, K.C.M.G., the assistant director is Dr. F. R. Fraser, and the chief assistants are Dr. A. E. Gow and Dr. George Graham. Dr. Francis Fraser, who was recently consulting physician, at Cologne, to the Army of Occupation, took up his new duties at St. Bartholomew's on February 1st. He is a son of the late Sir Thomas Fraser, was educated at the Universities of Cambridge and Edinburgh, and has held the posts of assistant physician to the Presbyterian Hospital, New York, instructor in clinical medicine at the Columbia University, and assistant resident physician to the Rockefeller Institute for Medical Research. The organization of the Surgical Element has not proceeded quite so far. The director, Mr. G. E. Gask, C.M.G., D.S.O., is only now recovering from a recent illness, and the post of assistant director has just been

filled by the appointment of Mr. T. P. Dunhill, M.D., B.S.Melb., Surgeon to St. Vincent's Hospital, Melbourne, who will take up his duties at St. Bartholomew's in May next; during the war he acted as Consulting Surgeon to the British Forces in France. The chief assistants are Mr. R. Ogier Ward, D.S.O., M.C., and Mr. G. L. Keynes. Each of the two elements takes its share in the ordinary duties of the hospital, working as a single "firm," but provided with special facilities for observation and research. Each has clinical laboratories of its own for pathological investigation and routine work. The two teaching elements already formed are thus not isolated from the medical and surgical work of the hospital in general, but being so to speak "opposite numbers" there is specially free daily communication between them. We have announced certain appointments in connexion with the reconstruction of the pathological department, of which Professor F. W. Andrewes, F.R.S., remains the head. Dr. M. H. Gordon, C.M.G., is now bacteriologist and lecturer on bacteriology; Dr. B. H. Spilsbury is lecturer on morbid anatomy and histology, superintending all *post-mortem* examinations; and Dr. R. L. Mackenzie Wallis is chemical pathologist and lecturer on chemical pathology. Three senior demonstrators have been appointed as whole-time pathologists; there are in addition three demonstrators who are not whole-time pathologists, but will be eligible for posts as chief assistants in one or other of the clinical elements. It is proposed that all the chief assistants in future shall come through the pathological department, since one of their functions within the Elements will be to superintend the pathological work of the students. The object of these various changes is to make pathology more essentially a part of the clinical teaching.

PROPOSED SANATORIUM FOR MERCHANT SEAMEN.

LORD INCHCAPE, immediately before his departure for India at the end of January, issued an appeal for funds with which to equip and endow a much needed sanatorium which is to be conducted by the Seamen's Hospital Society. The existing sanatoriums are of insufficient capacity to meet the general public demands made, and presently to be made, upon their resources; and, although the percentage of cases among seamen is not abnormal, the circumstances of the sailor's calling render it difficult for him to await his turn on the long list of those seeking admission. Thus, the temptation of the tuberculous sailor is to put to sea again with the disease still active; but the conditions of his life afloat tend to aggravate his own condition and to make him, at the same time, a special source of danger to his shipmates. It is felt, therefore, that in no way can the merchant seamen's courage and devotion to duty, so manifest during the war, be more usefully recognized than by providing for the immediate treatment of such as may be attacked by tuberculosis. An initial grant has been allocated by King George's Fund towards the purchase, for such uses, of Bramshott Place, Hampshire. The chosen site has been approved by the Ministry of Health and provides the essentials of good air, suitable soil, sufficient immediate accommodation and ample space for extension. For the establishment of the sanatorium a sum of £70,000 is needed; £1,000 will suffice to endow a bed. The P. and O. Company and its associates have promised £10,000 and Messrs. Furness, Withy and Company, £2,500. The Seamen's Hospital Society is a very great institution of which the country may be proud, and support of its many activities affords the most practical way of proving our gratitude to the sailors whose courage, skill, and endurance make the life of these islands possible. The Society was founded in 1821, and was incorporated by Act of Parliament passed in the third year of the sailor King, William IV. It at first had the *Dreadnought* hulk in the river, but a hospital was established ashore in 1870. It now possesses the Dreadnought Hospital at Greenwich, which has 345 beds, the Albert Dock Hospital, with 50 beds (at which until the recent move the London School of Tropical School Medicine was established), and the London Schools of Tropical Medicine and Tropical Hospital now opened at Endsleigh Gardens, where there are both beds for patients and well equipped laboratories for research and instruction. It also possesses the Angas Convalescent Home at Cudham, with 30 beds, and maintains dispensaries at the East and West India Docks and at Gravesend. A sanatorium will add one more necessary appliance to its equipment, and with no more competent body could its administration be placed. In Lord Inchcape's absence, communications on the subject may be addressed to Commander Hodgkinson, R.N., at 122, Leadenhall Street, London, E.C.3.

FEDERATIONS OF BRAIN WORKERS.

IN the discussions on the better adjustment of the relations between employers and employed which have occupied so much space in the public press during the last year or so attention has been almost exclusively directed to the relations of industrial employers and manual workers. The interests of other classes of persons whose work is essential to industry have been almost ignored, although the Labour Party has declared its willingness to accept recruits from among brain workers. At the industrial conference summoned by the Prime Minister last April employers' associations and trade unions considered a proposal for a joint industrial council, and the Society of Technical Engineers at this conference moved an instruction to the council, when it should come into existence, to consider the position of unions composed exclusively of members of technical, management, and administrative grades, and to determine how such unions should be represented on the council. The industrial council has not yet come into existence, but meanwhile the Labour Research Department has been making inquiries into the position of professional classes in relation to the Labour movement, and at a meeting in London on February 7th a National Federation of Professional, Technical, Administrative, and Supervisory Workers was formed. The bodies represented at this conference included the Civil Servants Union, the Association of Local Government Board Officers, the National Union of Clerks, the National Federation of Law Clerks, the National Union of Journalists, representatives of scientific, technical, engineering, and chemical workers, together with the Actors' Association and the National Orchestral Association. A representative of the Labour Research Department said that it was not proposed that the Federation should affiliate with the Labour Party or the Trade Union Congress. Among the professions invited to join the new Federation medicine and the law are not included. It appears, however, that for some months past certain technical and scientific professional workers have been taking steps to form themselves into a confederation, and that representatives of these bodies and several others, after full discussion, have prepared a memorandum proposing that the various societies concerned should be formed into an industrial group, a financial group, a group for the public services, and a group for the other professions. Each group would form a federation, and the four would be combined into a confederation for which draft rules are being prepared. The General Secretary of the Society of Technical Engineers last week published a long letter on the subject in *The Times*, in the course of which he observed that the assumption that a salaried official must ally himself either with the employers or with the work-people ought not to be accepted without further investigation. The position of medicine and the law are similar to each other and differ fundamentally from that of the intellectual workers represented by such bodies as the Society of Technical Engineers. The medical profession will be disposed to watch with sympathetic interest the

movement for a federation of scientific and technical workers; but until their plans are more fully known it will be premature to say that medicine should have any direct concern.

THE AEROPLANE IN MEDICAL INVESTIGATION.

The enterprise of *The Times* and Lord Northcliffe in sending an aërial expedition to make the journey from Cairo to the Cape will serve a useful purpose by calling public attention to the possibilities of the aeroplane as a means of scientific investigation. Dr. Chalmers Mitchell, F.R.S., secretary of the Zoological Society, who is the scientific member of the party, will be chiefly concerned with the geological, geographical, and zoological observations, and it may be anticipated that this and future expeditions will make important contributions to these sciences. While fully recognizing this, we are disposed to think that the new method will be of particular value in medical investigation and administration. Probably medical investigation will be most efficiently advanced not by organizing flying laboratories, but by using flying machines to carry investigators to the spot. In the investigation of tropical diseases a stage always comes when laboratory inquiries in this country reach their limit, and it becomes necessary to test hypotheses by inquiry in the tropics. At the present time the organization of a scientific expedition is costly in time and money. It may take the investigator three or four months to get to the place, and as much to return. The actual investigation may only take a few weeks, but the investigator is absent for perhaps five or six months, during the greater part of which he is travelling and doing no scientific work. This involves a great waste of energy. The working life of a student of tropical medicine might be greatly lengthened if he could be transported to, say, the centre of Africa in three or four days instead of three or four months. The result of the expedition now in progress will, we trust, be to show that this hope can be realized. Several correspondents of our contemporary have called attention to the use of the aeroplane for the rapid transport of the doctor to give early treatment to a sick or injured man who could be brought by a relatively short journey to an aerodrome. A short time ago, with the aid of Professor Tuffier of Paris, we were able to publish an account of the work of this kind already being done by the French Army Medical Service in the hinterland of Algiers and Tangier and further into the Sahara itself. The arrangements are still in their infancy, but enough has been done to prove that a very valuable system can be established. Another use which it has been suggested might be made of an aeroplane service to the tropics is to bring home, or to a convenient port, colonial officers who are going on sick leave, or, indeed, ordinary leave. As it is they must spend months in slow travel before reaching a port or railhead, and the total cost in money and time to the colonial services must be very great. The matter is one which seems to deserve the attention of the Colonial Office.

OPTICAL INSTRUMENTS.

WE have received a letter from Lieut.-Colonel W. D. Sutherland, M.D., I.M.S., stating that he has recently had an unsatisfactory experience with a hand spectroscope sent to him in Calcutta from this country. Many years ago he obtained from the firm of Carl Zeiss some hand spectroscopes on the Browning model, furnished with a wave-length scale which was most admirably adjusted and enabled the absorption bands seen in the spectrum of the object examined to be read off at once. These instruments having been stolen he obtained some of British manufacture, to which, he states, the old and unscientific, because purely arbitrary, scale was fixed. By dint of great pains he has managed to construct a wave-length curve to coincide with the old scale; but even so reference must be made to the curve at each observation, which causes loss of time. He asks whether it is not possible for British manufacturers of spectroscopes to take a leaf out of the book of Zeiss and make modern instruments. Colonel Sutherland seems to have been unfortunate as regards a certain wave-length scale, but in his condemnation of British makers of spectroscopes generally, on the strength of this, he goes too far. If any defect of principle is found in spectroscopes, or indeed in any other scientific instrument, complaint should be addressed to the British Scientific Research Association, 26, Russell Square, London, W.C.1, which exists to promote the development of scientific instrument manufacture, and is already doing good work. It is, of course, difficult to make substantial advances quickly or to change old ideas as regards the superiority of German goods over British; but as a matter of fact we believe the finest spectroscope work is produced by a London firm. It is no doubt true that in many directions British instrument makers have much leeway to make up, but they have taken the right course in establishing the association of which we have given the address. We may take this opportunity of adding that new facilities have recently been provided at the National Physical Laboratory, Teddington, in the Metrology Department, for the testing of volumetric scientific glassware. In a circular issued by the laboratory it is stated that the manufacture of such ware was an industry practically non-existent in this country before the war. It was largely developed during the war, but in order that its position may be consolidated it is supremely important that the accuracy of graduated apparatus made in this country should be thoroughly reliable. The National Physical Laboratory began the work of graduating volumetric glassware fifteen years ago. Its scope has now been widened; a new building, especially equipped for dealing with this class of work on a large scale, has just been completed at the laboratory. In it apparatus is tested; when the tests are required to ensure the highest accuracy for scientific purposes a Class A certificate is granted; a Class B certificate is issued for vessels adapted to ordinary commercial purposes. Full particulars are given in a pamphlet which can be obtained free on application to the Director, the National Physical Laboratory, Teddington, Middlesex. The laboratory has a special mark for Class A and Class B tests of volumetric apparatus, and the combination of this laboratory monogram and the date of the test are etched on all vessels which comply with the regulations. In special cases in which minute accuracy is necessary, corrections to be applied to the apparatus are supplied. The work long done by the laboratory in testing thermometers is well known, and we have no doubt that it will be ready to extend its operations in other directions in order to control the graduation of optical and other glass apparatus as the demand arises. The scientific control of the institution is exercised by the President and Council of the Royal Society, and its property is vested in the Imperial Trust for the Encouragement of Industry under the Privy Council.

SALARIES OF MEDICAL OFFICERS OF LOCAL AUTHORITIES.

IN consequence of the increased cost of living and other abnormal conditions due to the war, many temporary increases in the salaries of medical officers to local authorities have been made in various parts of the country, and, as might be expected, the standard of increase has varied a great deal locally. As a rule, medical men have benefited under a claim put forward by one of the general associations of local government employees, or by an association representing the whole staff—preponderantly a lay staff—of an individual authority. In a circular dated January 12th, 1920, the Ministry of Health authorizes the payment by local authorities of salaries increased according to the scale

of Award No. 101 of the Civil Service Arbitration Board; the authorities are empowered also to adopt any further increase which the Arbitration Board may grant. The effect of Award No. 101, so far as it applies to medical men, is to increase the original salary by 30 per cent., with a further addition of £60, irrespective of the amount of salary; thus, in round numbers, salaries of £400 and £500 become respectively £580 and £710. The total bonus must not exceed £500 per annum. In the case of part-time medical officers the award has usually been on a *pro rata* basis. The position of resident officers, as defined in the circular, will be of interest to many medical men; recent arbitrations, it is said, have decided that in such cases the rate of increase should be one-half that payable in the case of non-resident appointments, but the actual amount of remuneration upon which the increase is thus made is to be calculated by adding to the figure representing the salary paid in cash the estimated value of all the emoluments.

ACUTE LEUKAEMIA.

IN an article on acute leukaemia,[1] extending over 250 large pages, Dr. O. Lindbom states that about 300 cases of the disease have been published, and adds 20 more observed by himself. He considers that all the white cells of the blood may be derived from the fetal mesenchymatous cell called lymphoidocyte by Pappenheim, myeloblast by Naegeli; as is notorious, the terminology employed in describing the embryological development of the blood and the various forms of blood cells is very complicated, and is rendered more difficult by the fact that different writers use the same term in different senses. It may be said that acute leukaemia is not in fact a rare disease; it may occur at any age, from birth to over 70; over two-thirds of the patients are males. The blood-picture is very variable; two main types are described — the lymphatic and the myeloid, but some cases show leucopenia throughout, others are frankly cases also described as chloroma, and it must be added that the blood-picture varies widely from week to week in many of the patients. Instances transitional between the above four main groups are often found; Dr. Lindbom concludes that the name "leukaemia" should be dropped owing to the heterogeneity of the cases included under it. The number of the blood-platelets is strikingly low in most cases of leukaemia; the white cells often show inclusions of various sorts—short rods and larger or smaller rounded masses, with different staining reactions, sometimes described as intracellular parasites; Dr. Lindbom interprets the rods as plasmatic structure, the masses as toxic-degenerative products identical with some of Doehle's cell-inclusions. Pathologically the cases often show haemorrhages into the skin and mucous membranes and into the various organs; indeed, many cases recorded as instances of the haemorrhagic diathesis have probably been cases of acute leukaemia; the bone marrow is red and diffluent, the spleen and often the lymphatic glands are much enlarged, and the thoracic and abdominal viscera exhibit leukaemic infiltration—particularly with tissue mast-cells that appear to differ from the mast-cells of the blood by giving no oxidase reaction by Schultze's original method. Histologically it is not possible always to classify cases of acute leukaemia as either myeloid or lymphatic, as transitional cases are not rare. Dr. Lindbom is unable to regard acute leukaemia as a malignant tumour of the blood, and considers Sternberg's lymphosarcomatosis merely one form of acute leukaemia—that is, he regards it much as he does chloroma. In many ways it resembles an acute infection, or septicaemia; but no specific virus has been found, and the disease is not transmissible experimentally. Yet, again, bacteria have sometimes been found in the blood, mostly secondary infections, and Dr. Lindbom finds it hard to believe that an infection of the blood is not the primary cause of acute leukaemia. Finally, no hard and fast line can be drawn between acute leukaemia and some cases of chronic leukaemia or some cases of septicaemia with leucopenia. Other examples of acute leukaemia that often escape correct diagnosis are instances of ulceration and necrosis in the mouth and tonsils with subcutaneous haemorrhages; the diagnosis of purpura often made would be corrected by examination of the blood. Dr. Lindbom confirms the view that the prognosis is absolutely bad in acute leukaemia; the duration was from nine days to three months in eighteen of his cases, averaging six weeks, and in the other two an acute leukaemia was the terminal event of a chronic myeloid leukaemia. The treatment is, at present, purely symptomatic. Numerous references to the literature are given, and there is a coloured plate showing various forms of cell-inclusions in leucocytes.

[1] *Svenska Läkaresällskapets Handlingar*, Stockholm, 1919, xlv, 83.

A HYPOTHESIS AS TO THE ORGANIC BASIS OF FUNCTIONAL NERVOUS DISEASE.

IN 1917 Dr. D. W. Carmalt Jones,[1] recently appointed Professor of Medicine in the University of Otago, New Zealand, wrote, while in charge of the medical division of No. 4 Stationary Hospital in France and unable to see current or standard medical literature, a paper based on the analysis of 1,300 acute or chronic cases of war neurasthenia, which is attractive both for its independence and its personal touches. In this "plain clinical study made by a general physician, with sufficient experience in disease of the nervous system to be able to make an accurate diagnosis between organic and functional conditions" of the nervous system, war neurasthenia is described as a physical disorder with symptoms affecting most of the chief systems, and the opinion is expressed that the emphasis usually laid on the psychical side of war neurasthenia sometimes entails neglect of the physical. We do not propose to follow Professor Carmalt Jones's analysis of the cases, but it may be of interest, in connexion with the experimental work of W. B. Cannon, Crile and others, and Laignel-Lavastine's recent monograph on "The Internal Secretions and the Nervous System," to refer to the hypothesis as to the organic basis of functional disorder which he very modestly puts forward. In considering the difference between a man's nervous system before and after he has developed neurasthenia, and assuming the absence of any gross change, such as punctate cerebral haemorrhages, the only physiological fact bearing on the subject that struck him was the presence in the blood of an animal under the influence of fear of an excess of sugar destined to supply the muscles with energy, and ascribed to increased secretion of adrenalin under the stimulation of the sympathetic. The same number of *Brain*, it may be pointed out, contains an elaborate paper by Kooy on "Hyperglycaemia in Mental Disorders," and embodies the same thesis. Inspired by a conversation with Major Crile, though he does not wish to father him with responsibility, Professor Carmalt Jones argues that a soldier when exposed to danger has to suppress his instincts, though his ductless glands are stimulated to over-activity, and to act in accordance with discipline and reason; and that in war neurasthenia, the exhaustion, fatigue, loss of control, and visceral disturbance are due either to exhaustion of, or intoxication with, the products of the ductless glands which have been constantly stimulated but whose products have not been properly metabolized by the actions they were intended to facilitate. In support of the thesis that the symptoms of war neurasthenia which are described in his paper, such as dilated pupils, sweating and salivation, tachycardia, the frequency of both constipation and diarrhoea, and the remarkable variations between polyuria and suppression, are referable to either over-stimulation or exhaustion of the ductless glands, especially the adrenals, appeal is made to Starling's statement that the injection of adrenalin arouses every activity normally excited by stimulation of the

[1] *Brain*, London, 1919, xlii, 171–213.

sympathetic, namely, vaso-constriction, dilatation of the pupils, increased secretion of sweat and saliva, rapid pulse, vaso-constriction of the kidneys and intestine, vaso-dilatation of the same, inhibition of the intestines, contraction of the ileo-colic sphincter, and inhibition of the bladder.

THE FIRST SUPERINTENDENT OF THE JOHNS HOPKINS HOSPITAL.

FROM August, 1889, when the Johns Hopkins Hospital opened with that brilliant quartette of teachers—Sir William Osler, Dr. W. H. Welch, Dr. W. S. Halstead, and Dr. Howard A. Kelly—none of whom were more than forty years of age, until May, 1911, Dr. H. M. Hurd was responsible for the organization and smooth running of this model institution. He was born in 1843, and when called to Johns Hopkins had for eleven years been engaged in organizing and superintending the Eastern Michigan Asylum, which had become one of the most progressive in the country. While busy with the initial organization of the Johns Hopkins Hospital, he helped to found the *Hospital Reports* and the *Monthly Bulletin*. He edited both of these periodicals, which became extremely well known among all English-speaking physicians and surgeons. It is therefore most appropriate that the December issue of the *Bulletin*[1] should be entirely devoted to an account of his numerous activities and striking characteristics, from the kindly pen of Dr. T. S. Cullen, who so recently contributed an appreciation of his former chief, Professor Howard A. Kelly.[2] Like other biographers in the past, he finds his admiration is much increased by the necessary investigations for his tribute; Dr. Hurd always appeared to be an indefatigable worker, but it is only now that the tremendous amount he had accomplished and his share in the phenomenal success of the hospital have been clear. In addition to being the best known hospital superintendent in the United States, he was and still is an active writer, mainly on psychiatry, hospital management, medical education, the education of nurses, and on medical history. When, at the age of 68, he resigned the superintendentship he became Secretary of the Board of Trustees of the hospital, and is now engaged in writing the history of the hospital. The tribute contains a series of photographs from the age of 6 years, which were obtained surreptitiously, and therefore will surprise no one more than Dr. Hurd himself, and a bibliography of his 131 publications. The Henry M. Hurd Library, built by his friend George K. McGaw, will keep the memory of the hospital's first superintendent for ever green.

BLIND MASSEURS.

AN Association of Certificated Blind Masseurs was registered last summer, and licensed under the Board of Trade. Its objects are to promote the welfare and protect and advance the interests of all certificated and qualified masseurs and masseuses who are too blind to perform work for which eyesight is essential; to assist and secure the recognition and status of such blind masseurs in their work; to provide for them any assistance or advantage calculated to help them to work on terms of equality with sighted masseurs; to promote co-operation in all matters relating to massage and physical culture between the blind and sighted persons; and to advocate and extend the general employment of massage and other physical methods or exercises. To be eligible for membership of the association, a blind masseur must hold the certificate of the Incorporated Society of Trained Masseuses, or a certificate by the late Dr. Fletcher Little, or such other certificate as may be prescribed by the Executive Council. The President is Sir Arthur Pearson, Bt., G.B.E., and amongst the Vice-Presidents are Sir Alfred Fripp, K.C.V.O., Sir Robert Jones, K.B.E., Sir Alfred Pearce Gould, K.C.V.O., Sir B. Bruce-Porter, K.B.E., Dr. Risien Russell, and Major W. H. Broad. The office of the association is at 224–6–8 Great Portland Street, London, W., where application for masseurs may be made to the Secretary.

[1] *Bull. Johns Hopkins Hosp.*, Baltimore, 1919, xxx, 341–372.
[2] BRITISH MEDICAL JOURNAL, November 29th, 1919, p. 719.

INFLUENZA.

THE number of deaths from influenza last week in the ninety-six great towns of England and Wales was 98; of these 20 occurred in London. The London figure is lower than that several times recorded during the past four months, but the figure for the great towns as a whole is rather larger than any so far recorded this winter. The numbers of deaths from influenza, given in the weekly returns of the Registrar-General for the ninety-six great towns from October 18th, 1919, to February 7th, 1920, are as follows: 57, 71, 71, 56, 74, 79, 63, 77, 81, 64, 43, 52, 73, 62, 85, 66, 98. Influenza of a relatively mild type with low mortality seems to be spreading through the United States of America. We learn from the *Journal of the American Medical Association* that in Chicago, for example, a thousand new cases a day were being reported about a fortnight ago. Up to January 20th, 4,059 cases had occurred in that city, with 33 deaths; and 891 cases of pneumonia, with 159 deaths. The hospitals were so overcrowded that all operations save those of emergency had to be put off. The Health Commissioner of Illinois has appointed a commission of pathologists to act with the Department of Health in this emergency. The members are Drs. Hektoen, Zeit, Wilson, Kendall, Davis, Jordan, Evans, and Drake.

DINNER TO SIR GEORGE MAKINS.

IT is proposed to give a complimentary dinner to Sir G. H. Makins, G.C.M.G., P.R.C.S., some time in May of this year. Sir Cuthbert Wallace will be in the chair. St. Thomas's men, or any medical officers associated with Sir George Makins in the British Expeditionary Force, who would like to be present are asked to communicate with Mr. C. Max Page, 134, Harley Street, W.1. Final arrangements can then be made, of which due notice will be given.

WE regret to learn of the death, at Ottawa, of Sir James Alexander Grant, K.C.M.G., M.D., F.R.C.P.Lond., formerly President of the Medical Council of Ontario, and one of the small number of honorary members of the British Medical Association.

Medical Notes in Parliament.

King's Speech.

IN the early part of the speech delivered from the throne when the King opened Parliament in state on February 10th it was stated that in order to secure the full blessings of peace and prosperity to Europe it was essential that not only peace but normal conditions of economic life should be restored in Eastern Europe and in Russia. So long as these vast regions withhold their full contribution to the stock of commodities available for general consumption, the cost of living can hardly be reduced nor general prosperity restored to the world. The belief was expressed that this country and the empire were making rapid strides towards stability and prosperity; though the price of foodstuffs and other necessary commodities was causing anxiety to all the peoples, the prices in these islands were appreciably lower than they were elsewhere. The legislation foreshadowed in the speech in addition to finance includes measures for Ireland, for the coal industry, and for agriculture. It was also stated that bills would be introduced for peace time regulation of the sale and supply of alcoholic liquor, for the after-war organization of the regular and territorial armies and the navigation of the air, for the extension of insurance against unemployment hitherto confined to a few, for the regulation of hours of employment and the establishment of a minimum rate of wage, and for the necessary amendment of the Insurance Acts.

New South Wales.

ROLL OF HONOUR, UNIVERSITY OF SYDNEY.

APPROXIMATELY some 1,800 graduates and undergraduates of the University of Sydney enlisted in the Great War. Of this number some 204 made the supreme sacrifice, and their names have been inscribed on an honour roll which was recently unveiled by the Chancellor. The memorial has been placed in the corridor of the Fisher Library, but the main part of the ceremony of unveiling took place in the Great Hall of the University. The Chancellor, Vice-Chancellor, and members of the Senate occupied the daïs. After the Registrar and Warden had read out the names of the fallen the organist played Chopin's Funeral March, the audience remaining standing. In the course of an eloquent address the Chancellor said:

To all those gallant men we do homage. To the sons of this University who fell we specially dedicate this ceremony. Those whom we would have gladly welcomed back to their places have reached a loftier place in our associations. The fallen have given all that men can give. The lustre of their renown would never be dimmed. They would remain glorious for ever.

Professor J. T. Wilson, F.R.S., Chairman of the Professorial Board, in the course of his address, said:

It is to you, young men, to whom the duty of developing that heritage rests. Do not delude yourselves with the idea that danger does not threaten us. What has been won by almost superhuman sacrifice can only be retained by the exercise of the spirit which won it.

Mr. Schofield, President of the Undergraduates' Association and himself a returned soldier, added:

The undergraduates of the University are determined that the memorial to those who have fallen shall be in the shape of a magnificent university—one of the greatest in the world. This Sydney University of ours is worth fighting for. We realize what these gallant men have done for us when they laid down their lives for us.

The National Anthem concluded the proceedings in the Great Hall, and afterwards Sir William Cullen, the Chancellor, performed the ceremony of unveiling the tablet in the Fisher Library.

On a subsequent afternoon the Chancellor and Senate of the University gave a garden party in honour of the returned university soldiers, of whom about 100 were present. The guests were allowed to inspect the various departments of the university, and special interest was taken in the roll of honour. An organ recital was given in the Great Hall, a one-act play called *The Wheel Heaver* was produced by the University Dramatic Society, and Professor David, F.R.S., Professor of Geology, gave a short lecture on the Western front and military geology, which was illustrated by lantern slides. Refreshments were served in the Cloisters and in the Great Hall.

The Senate of the University has announced that a prize of the value of £10 open to graduates and undergraduates and to returned officers and non-commissioned officers who have had experience of flying, will be given for the best essay or thesis on some phase of aeronautics. The special subject is "The commercial possibilities of aviation in Australia." Competitive papers must be sent to the Registrar by March 8th, 1920. The prize, which is to be known as the Geoffrey Sulman Memorial Prize for Aeronautics, represents the interest on the balance of pay due to Second Lieutenant Sulman at the time of his death while serving in the R.F.C.

ALIEN ENEMY PRACTITIONERS.

At an extraordinary meeting of the New South Wales Branch of the British Medical Association, held recently, the following resolutions were proposed by Dr. Scot Skirving and seconded by Dr. F. Guy Griffiths:

1. That the New South Wales Branch of the British Medical Association protests against those medical practitioners who were interned during the war, as alien enemy subjects or otherwise dangerous to the community, being allowed to resume practice.
2. That the New South Wales Medical Board be asked to take steps for the removal from the *Medical Register* of (*a*) persons registered in virtue of German or Austrian qualifications not resident or practising in New South Wales, and (*b*) persons registered who have been interned as alien enemy subjects or otherwise.
3. That the Federal Government be asked to deport those medical practitioners who were interned during the war as being alien subjects or otherwise dangerous to the community.
4. That the Federal Government be advised that claims understood to have been made on behalf of one or more of the medical practitioners who were interned during the war that they possessed certain special knowledge essential to the wellbeing of the community which would be lost by their deportation are not based on any known facts, and that any special knowledge or alertness that they may have had is possessed, perhaps in greater degree, by many practitioners in different parts of the Commonwealth.

After a considerable amount of discussion in which the spirit of these resolutions was strongly supported, the motion was put and carried unanimously.

England and Wales.

NURSING ORGANIZATION IN WALES.

THE scheme drafted by the "Priory for Wales of the Order of St. John" to co-ordinate nursing organizations in Wales and Monmouthshire and to improve facilities for training in nursing seems for the present at least to have come to nothing. It was proposed to establish a Welsh National Committee for Nursing, containing representatives of various nursing associations in Wales, of the Welsh National Memorial Association, and other bodies, as well as of the medical profession and medical officers of health. The committee, it was proposed, should discuss and recommend general lines of policy, establish training hostels or other institutions, and take steps to provide an adequate midwifery service, which is considered to be a matter of urgency. A conference which was held last October was not well attended and appears to have arrived at no definite conclusions. Another conference was held in Cardiff on February 6th, and again the attendance was poor. It would appear that the nursing associations are hanging back and an explanation may, perhaps, be found in the resolution adopted at the conference last week, to the effect that consideration of the scheme should be deferred until the British Red Cross Society and the Order of St. John had been amalgamated and until the intention of the Ministry of Health as to the training of nurses is made known. It was announced some time ago that the British Red Cross Society and the Order of St. John in England had appointed a joint peace council, and had arranged that neither should make an independent appeal for funds, but act in this respect through the joint council. It was hoped that the formation of the joint council would mean in practice so close a combination in action as almost to amount to amalgamation.

MANCHESTER ROYAL INFIRMARY.

The annual report of the Manchester Royal Infirmary states that early in October, 1914, it provided 250 beds for wounded soldiers. They were immediately occupied, and the accommodation was extended as necessity arose, until 520 out of a total of 884 were reserved for military cases. The reception of soldiers continued until the early summer of 1919, and the last of these patients were transferred to various military dispersal hospitals on August 21st, 1919. During this period 10,077 soldiers were admitted, 8,197 of whom were surgical cases, and 1,880 medical. The number of operations performed was 3,958. The personnel of the Manchester Royal Infirmary was largely drawn upon for war service. With very few exceptions its medical and surgical officers took commissions in the army or navy; the nursing staff provided senior officers for various hospitals as well as many individual nurses, whilst the lay staff joined up almost without exception. The board place on record their appreciation of the fact that notwithstanding the depleted staff, and the pressure caused by the influx of military patients, the work in connexion with the civilian patients was carried on with the same regularity as in times of peace. Special thanks are given to Mr. F. A. Southam, F.R.C.S., senior honorary consultant surgeon, who returned to duty at the request of the Board in 1914, and continued to serve the hospital until the present time, when the return of the honorary staff has made it no longer necessary to trespass on

his good-nature. Reference is made to the honours (K.B.E., C.B., C.M.G.) conferred on Colonel Sir William Thorburn, senior honorary surgeon. The infirmary, the report affirms, owes him a debt of gratitude for his invaluable services in connexion with the planning and erection of the institution on its present site. Note is also made of the honour of C.B.E. conferred on Miss M. E. Sparshott, who acted as principal matron, Territorial Force Nursing Service, East Lancashire, and organized and administered the nursing service of the 2nd Western General Hospital, comprising thirty-two branch hospitals, with a complement of 703 nurses. A gift of £4,000 by Sir James E. Jones of Rochdale to endow demonstrations to medical practitioners on diseases of the ear, in memory of his son, is noted with gratitude: as we have already announced, the first course of demonstrations began early this year. Under an arrangement with the Ministry of Pensions the Board will continue to receive pensioners; the number of beds set aside for this purpose is now 122. Altogether the board is responsible for 1,244 beds for various purposes, of which 623 are in the Royal Infirmary, 55 in the Central Branch, 136 in the Barnes Convalescent Home, and 430 in the Royal Lunatic Hospital and its branches.

MANCHESTER MEDICAL SOCIETY.

Professor R. B. Wild, on February 4th, gave the presidential address to the Manchester Medical Society on "Some racial problems, social evils and modern crusades." The racial problems as to the falling birth rate and its accentuation by the war, eugenics, and the care of the feeble-minded, were briefly discussed. The effects of tuberculosis, cancer, gout and venereal diseases upon the race as opposed to their effects upon the individual, were considered. Finally, the prevalence of certain drug addictions (including alcohol, caffeine and nicotine), their causes and results as regards both the race and the individual, were compared and reviewed.

Ireland.

NATIONAL UNIVERSITY OF IRELAND ROLL OF HONOUR.

WE have received from the Registrar of the National University of Ireland a bound copy of the war list and roll of honour, giving the names of the past and present students and members of the staff who served during the war, arranged under the three constituent colleges of the university. Of the members of University College, Dublin, forty-three were killed in action or died on active service, and many received military distinctions; the war list includes students of the Medical School, Cecilia Street. Of the old students of University College, Cork, who served, twenty-five lost their lives. From University College, Galway, twelve lost their lives, and one more is entered as "wounded and missing." The university roll of honour contains a considerable number of names of distinguished naval and military officers.

MEDICAL ATTENDANCE ON THE ROYAL IRISH CONSTABULARY.

Arising out of correspondence, which has extended over a considerable time, between the Irish Committee of the British Medical Association and the police authorities, in regard to remuneration for medical attendance on members of the force, the Deputy Inspector-General has informed the Irish Medical Secretary: "That His Majesty's Treasury have approved, from a date to be fixed shortly, of a recommendation made by the Irish Police Pay Committee relieving medical attendants from the duty of attending on the wives and children of the force, the present remuneration, however, being continued." The capitation fee allowed for medical attendance (including the supply of drugs and appliances) on members of the Royal Irish Constabulary is £1 4s. per annum.

POSTAL ARRANGEMENTS IN DUBLIN.

Much objection is taken by business and professional men to the new rules of the Post Office with regard to the posting and delivery of letters in the city of Dublin. Morning letters are held over three or four hours before delivery, and the outgoing mail is collected four hours before sailing from Kingstown. The midnight collection of letters has been abolished, with the result that Dublin doctors when settling urgent appointments with their patients, even in parts of the county in the neighbourhood of Dublin, must now use the telegraph in making arrangements which were hitherto as expeditiously and more satisfactorily carried on through the ordinary post. Sir L. W. Ormsby, M.D., in a letter to the press states that last week the morning deliveries were apparently not made until 9 a.m., and the English post was not delivered until the afternoon, whereas formerly the Irish letters were delivered at 8 a.m. and the English letters at 9 a.m.

POOR LAW MEDICAL OFFICERS' SALARIES.

The following improved scales of salaries have been made recently by boards of guardians:

Cashel (co. Tipperary). An initial salary of £300, reaching a maximal salary of £400 by triennial increments of £10.

Birr (King's County). An initial salary of £250, reaching a maximal salary of £350 by annual increments of £7 10s.

Ennis (co. Clare). An initial salary of £250, with annual increments until a maximal salary of £350 is attained. The scales in Birr and Ennis are retrospectively applied.

The old scales varied from £150 to £200 per annum. Dr. Hennessy, Irish Medical Secretary, attended the meetings of these three boards and stated the case of the Poor Law medical officers.

Scotland.

CLINICAL MEETING OF THE EDINBURGH BRANCH.

THE winter clinical meeting of the Edinburgh Branch of the British Medical Association will be held in the Royal Infirmary, on Friday, February 27th. The Museum will be open from 11 am. Arrangements will be made for holding special clinics during the forenoon. The clinical meeting will be held at 3.15 p.m. At 5 p.m. Dr. Alexander Blackhall-Morison, London, will deliver a lecture on "The Passive Mechanical Factor in Heart Disease: Its Influence and Management." All members of the profession are cordially invited. Those who have patients or specimens to show are requested to communicate at once with Dr. John Eason. A dinner will take place at 6 30 p.m. in the hall of the Royal College of Physicians (morning dress; dinner ticket, 10s. 6d.). Members intending to be present are requested to give notice before February 23rd to one of the honorary secretaries, Dr. John Stevens, 78, Polwarth Terrace, or Dr. John Eason, 35, Melville Street.

EDINBURGH ROYAL INFIRMARY.

The report of the managers of the Royal Infirmary, Edinburgh, for the year ending September 30th, 1919, shows that the total number of patients treated was 12,550, a slight increase on the previous year. The average daily number of patients was 888. A monthly return for eight months showed that there were during that time an average of 606 persons awaiting admission to the wards. The ordinary expenditure had increased in nearly every direction. The cost of each occupied bed was £115 9s. 8d., as against £95 8s. 8d. in 1918, and the total ordinary expenditure was £102,549, an increase of no less than £15,418 over that in 1918. Consequently, the financial position of the infirmary was unsatisfactory and an appeal was made for increased contributions. The daily average number of nurses on duty was 306; 81 nurses and 21 probationers had left and 4 probationers had died. The number of applicants for admission to the training schools for nurses was 612. The daily average number of patients in the Convalescent House, Murrayfield, was 63. The managers expressed their satisfaction in being able to report that all the members of the honorary staff had now returned to duty, with the deeply regretted exception of Dr. Denis Cotterill, who had died in France. The Royal Infirmary could justly claim to have provided its full share of medical officers for all the areas in which the British armies operated, and although this involved a heavy strain on the older members of the staff who remained, they most cheerfully and successfully met the

extra responsibilities and duties thrown upon them. At the annual meeting on February 5th the necessity for providing a new nurses' home was insisted upon, and it was admitted that the infirmary was not in this respect abreast of the times, the number of nurses being inadequate for modern requirements and the hours they worked far too long. If the infirmary came into line with other great hospitals in the country and reduced the hours of each nurse to fifty-four a week one hundred more nurses would be needed. The annual report was referred to a special committee, which will give particular attention to the financial position.

Correspondence.

INFLUENZA AND EPIDEMIOLOGY.

SIR,—The late Mr. C. B. Lockwood, a sound if an incisive teacher, was wont to ask the student who spoke to him of a "gouty diathesis," or of any other ill-defined etiological factor, "Can you show it to me on a plate?" The question may not have been at all times logically justified, but it was extraordinarily helpful as an educational corrective. In your interesting editorial upon the epidemiology of influenza you say, "The great factors governing what we may term *a pandemic respiratory constitution* (the italics are mine) may be similar even when the bacteriological *verae causae* are different." Now Dr. Crookshank, whose plea for a proper consideration of first principles you support, pleads also for clearness of thought when formulating any concept to which disease prevalences may be referred. With both of these considerations few, if any, of your readers are likely to disagree; but it will come as a disappointment to many to find that "a pandemic respiratory constitution" is an accredited concept upon the basis so carefully laid down. You administer a gentle rebuke to the great Sydenham—living before the era of microbiology—for his reference to "skiey influences" in the causation of epidemics; but a "respiratory constitution," so it seems to me, leaves us still very much in the clouds.

If epidemiologists wish to justify and to establish their science, will they not reward our patience, just once, by showing us something "on a plate"?—I am, etc.,

London, W., Feb. 8th. THOMAS HORDER.

TREATMENT OF MALARIA.

SIR,—There are one or two points in Dr. Robertson's letter in your issue of February 7th upon which I should like to make a few remarks.

1. He recommends a dose of aspirin as a routine measure. This is, I think, quite unnecessary in by far the great majority of cases, and I am not sure that some, at least, of the cases of disordered action of the heart which we frequently see in connexion with malaria are not in part caused by the use of antipyretics of this nature. I do not want to labour the point, but it is worth investigation.

2. He apparently considers that the arsenical compounds, such as galyl, are likely to succeed when quinine has failed. This is quite contrary to our experience at the malaria department of the 4th London General Hospital, where, under the guidance of Sir Ronald Ross, a large number of trials were made, and it was shown that the arsenical compounds had nothing to recommend them as substitutes for quinine.

3. I hope he is wrong when he states that "very few medical men who themselves have malaria take quinine for more than a few days after an attack." If that is so we are in the position of the preacher who told his congregation to "do as I say, not as I do." From a prolonged experience in Africa and India before the war, and in charge of malaria wards during the war, I am convinced that regular administration of quinine to the extent of about 10 grains daily, prolonged for a period of four to six months, is the only way to eradicate the infection, and I am one of Dr. Robertson's "few" medical men who have carried out the treatment on themselves, with, in my case, quite a satisfactory result.—I am, etc.,

W. A. MURRAY, O.B.E.,
M.B., D.T.M. and H.,
Late M.O. i/c Malaria Wards, 4th London General Hospital.

February 7th.

TICKS AND RELAPSING FEVER.

SIR,—Dr. Nicholson's paper on the above subject in the JOURNAL of December 20th, 1919, has led to interesting communications from Captain Dunlop and Colonel Mackenzie. These appeared respectively in the numbers of the JOURNAL for January 24th and February 7th, 1920.

Captain Dunlop deals with the disease in Northern Persia and states that he has definitely proved that *Argas persicus* is the vector of its specific spirochaete. Although his observations are interesting and highly suggestive I fear they do not absolutely establish his claim, and further proof is required. Even if the ticks were harbouring spirochaetes derived from the men in the billet he describes, it remains to be proved that they infected healthy men. Again, there is always the possibility that the spirochaetes found in the ticks were fowl spirochaetes, *Sp. gallinarum*, which *Argas persicus* is known to transmit. The evidence furnished is merely of a circumstantial nature and experimental work is required before the rôle of the tick is definitely established.

It is well to recall that Dschunkowsky[1] in 1913 stated that, as a result of certain experiments, he believed that the Persian relapsing fever was transmitted by a species of Ornithodorus, either *O. tholozani* or *O. canestrinii*. Here also, however, the evidence was incomplete, though less so than that advanced by Dunlop. Colonel Mackenzie's note on the clinical differences between the Egyptian and Persian relapsing fevers is interesting, and it agrees with the observations of Boyd.[2] He believes that ticks are the transmitting agents in Palestine, but again absolute proof is wanting.

I may say that I think it is not impossible that *Argas persicus* is the carrier of the spirochaete of relapsing fever in Palestine, but I maintain that definite scientific proof that such is the case is still lacking, and I hope that the question may soon be decided, as the matter is one of very considerable importance.—I am, etc.,

ANDREW BALFOUR.

Wellcome Bureau of Scientific Research,
London, W., Feb. 9th.

SIR,—Though unable to express any opinion on the question of the transmission of relapsing fever in Palestine by ticks, I cannot agree that the characteristics observed by Lieut.-Colonel J. W. Mackenzie are sufficient to distinguish a type of relapsing fever carried by ticks from that carried by lice.

For three years from April, 1916, I was associated with the Egyptian Hospitals E.E.F.; for the first half of that period I was in charge of No. 3 Egyptian Stationary Hospital. In those hospitals thousands of cases of relapsing fever from among the Egyptian personnel attached to the E.E.F. were treated, and all the sick Turkish prisoners of war were passed through them on their way to Egypt.

The following facts seem to me to invalidate Lieut.-Colonel Mackenzie's proposition:

1. The occurrence of relapses so transient as to be represented on the temperature chart by a "spike" was quite common during the eighteen months before the advance into Palestine—that is, during a period in which it was certain that "bugs" were not the source of infection.

2. The number of cases showing that type of relapse did not increase after the advance into Palestine.

3. During all periods it was difficult to find spirochaetes in many blood films.

4. In all types of cases the relapses were very irregular.

At different periods of epidemics some clinical features—for example, the amount of rash, jaundice, etc.—seemed to vary, and it is possible that the character of the relapses varies in a similar manner, though such a phenomenon was not observed.

All the medical officers attached to the Turkish army whom I questioned on the subject stated that only a few cases of relapsing fever had occurred among the Turkish troops, and as also practically no cases were detected among the large numbers of prisoners taken, unless it was possible to trace very definitely the source of infection in

[1] Dschunkowsky, E.: Das Rückfallfieber in Persien, *Deut. med. Woch.*, 1913, February 27th, vol. xxxix, No. 9, pp. 419, 420.

[2] Boyd, F. D.: Experiences of a Consulting Physician on Duty on the Palestine Lines of Communication, *Edinburgh Medical Journal*, 1919, May, vol. xxii, No. 5, pp. 276–287.

Lieut.-Colonel Mackenzie's cases, I should incline to the opinion that it was derived from the Egyptians attached to the E.E.F., and not from the Turks.—I am, etc.,

W. W. TREVES, O.B.E.,
M.B., B.Ch., F.R.C.S.

London, W., Feb. 9th.

FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—In my first letter to the BRITISH MEDICAL JOURNAL of January 17th, I ventured to comment upon the interesting communication by Dr. Alfred Carver on the above-named subject in the previous number.

In that article he stated that forgetfulness was "nothing other than repression, and psychological analysis" (? psycho-analysis) "invariably revealed the fact that the patient's anxiety condition was directly attributable to it. This is due to dissociation and displacement of the affect"; also, "the more successful he is in repressing the memory of his unbearable experiences the more severe become his symptoms," and Dr. Carver advised that the necessary first step was the making conscious of the forgotten memory, a method of treatment that has frequently failed in the forms of psychosis met with in my experience, and I have been disappointed with it. The object of this special form of treatment is reasonable, and comes well within the scope of psycho-therapy, namely, that the patient may himself recognize the cause of his own failure and then readjust himself. I believe therefore that Dr. Carver overstates the value of his method, unwittingly of course, and I think that a compromise of opinion would be more correct—namely, that in the early stages rest and diversion are more effective, and in the later stages the revival may succeed, just as the cure of the "tics" in children is first to ignore—which is Sir William Hale-White's advice—and then to emphasize and persuade, which is Dr. Carver's. "Take no notice of his jerks and spasms at first, but have him in the looking-glass and demonstrate to him later."

It must be remembered that in Dr. Carver's treatment the proximate cause of the patient's failure is apparently in the unconscious mind and is "forgotten," and therefore *ex hypothesi* he is not aware of it, except in so far as it may be interpreted to him by his physician—a conclusion he may not accept, but for which he pays the penalty, and does not get rid of his "converted" illness; but the psycho-analyst scores in either instance. If the interpretation of the cause of the patient's illness is accepted, the psycho-analyst is right; if it is not accepted, he is equally right, for the patient is then informed that the thoughts revealed were in the unconscious mind and were "forgotten" by repression, and he could have no awareness of events in this region, and must therefore accept the conclusions offered to him. It is not surprising, therefore, that these conclusions or explanations are either often strange, uncertain, and fantastic, or that the patient often resents the irritating probing of his early life, and in consequence becomes irascible, which may be interpreted to be his "abreaction"! [I was informed by a leading psycho-analyst that the printer's error in connexion with the publication of a recent honours list was a wish-fulfilment on the printer's part that the recipients *should have received* higher promotion!]

Although the doctrines of Freud have been known to medical psychologists for a quarter of a century, there are still some who, like myself, are unable to assimilate its crude vocabulary, and who continue to feel a "resistance" to the Freudian theories. The statement commonly made that much of the mental and a good proportion of the physical disorders from which humanity suffers are due to a struggle and repression between conventional morality and the natural instincts and impulses needs more facts in its support to be convincing, and personally I believe that the psycho-neuroses are as frequently the result of some sudden failure or the fatigue of an overstrained nervous tissue as that they are psycho-genetic, and in regard to the latter much of the value of psychological analysis arises through "suggestion," which is able to overcome the native inhibition, here dignified into the endo-psychic censor. We all realize that suggestion plays a very considerable part in the relief of the milder neuro-psychoses; many patients are beguiled into recovery by the use of the faradic current; most cases of functional aphonia and dumbness, deafness, blindness, and hysterical monoplegias get quite well either with faradism or upon being reassured that there is a complete absence of organic disease—a psycho-therapy which imposes the stronger will upon the weaker through suggestion and persuasion.

In his second letter Dr. Carver does not add to the statements made in his first, but he limits himself practically to the treatment of hysteria, a group only of the more comprehensive class of the so-called war neuroses, which necessarily includes the psychoses, neuroses, and the group under review—the psycho-neuroses—and these must come under the Pensions Minister in their later or confirmed stages.

The correspondence on the subject has been valuable and deserves attention. Dr. Robert M. Riggall has apparently fallen into line with the modern treatment which tends to avoid suggestion and hypnotism in the later stages and to rely upon psychological analysis. As to the letters of Dr. Thomas Lumsden, I certainly endorse his treatment by psycho-therapy, and I am content to be bracketed with him (if he will permit this by Dr. Arthur F. Hurst), for he is noted for his great services and patriotism. I am further fortified in my belief that "suggestion" is the chief cause of the "lightning cures" which Dr. Carver regards with suspicion. One has only to journey to Holywell in North Wales to see sticks, crutches, splints and perambulators all discarded upon emerging from the intensely cold holy well, and one will there hear also of relapses. Dr. R. G. M. Laddell calls attention to what I venture to believe is the chief advantage of the method of psycho-analysis—namely, the great length of time devoted to each patient, which alone can afford a full and complete investigation into tendencies and temperaments. Dr. Cecil A. P. Osburn with his special experience of psychiatry feels as I do, that we should be in a position to give our patients the most effective help. Dr. Major Greenwood with much point suggests by means of an allegory that we desire to allay the consciences (why financial?) of our patients in so far as this bears upon bodily disorders, and that we should be permitted to do this without acrimony and personal reflections, but, as in other financial conundrums, the point arises as to how the ordinary civilian can best afford the cure, which is both expensive and tedious, and only applicable to the educated and the young.

The communication from Drs. C. H. L. Rixon and D. Matthews is a personal record of preparing the soldier to discuss his past experience by reviving repressed memories, and for this reason it deserves to be considered authoritatively. The employment by them of suggestion and re-education indicates the value of moral suasion of the most direct type, and although psychological analysis is not mentioned, it is clear that its practice is employed, though possibly not on Freudian lines. I have known one young girl certified as insane who repeatedly denied allegations of improper thoughts relating to her father, these having been put into her mind by psycho-analysis. In my first letter I pointed out that the "cathartic" method of first reviving and then "discussing" forgotten memories may be suitable in some cases, but the effect was the opposite with others, the latter constituting the class of confirmed psychosis, where an insight into their own condition was most difficult or impossible.

My protest is against being too pontifical and over-emphatic; to exalt the value of reviving forgotten memories by psychological analysis as the first and the only method of cure in the psycho-neuroses is to discard the experience of others, and to be misleading to those who are being helped. I believe there are two classes of these, one taken in the early stages, which will prove amenable to the valuable advice given by Sir William Hale-White, and the other the later which may yield best to Dr. Carver.

I believe that some of the mental unrest and the anxiety exhibited by the revival of spiritualism and the reappearance of the dead are due to the continuous probing of the mind for memories which were forgotten or were in the process of fading gradually away—Nature's method of restoration, which tends to save the sufferer from becoming the victim of permanent mental disorder, and so confirms the statement of Bergson that the human brain is first and chiefly the organ of forgetfulness, that is, of inhibition.—I am, etc.,

London, W., Feb. 11th. ROBERT ARMSTRONG-JONES.

SIR,—I should like to criticize the letter by Sir Robert Armstrong-Jones. It appears to me that his statements succeed in minimizing or nullifying the beneficial effects of recovering the repressed memory of the "neurasthenic" only by missing the main point in the technique of psycho-therapy, namely, "re-association." I do not think it would serve any useful purpose to discuss the first portion of the letter, and will confine myself to the question of the utility of the methods employed in dealing with cases of "forgetting" by modern methods.

In passing, however, I observe that the writer appears to confuse the part for the whole when he implies that the unconscious mind and the "endo-psychic censor" are one. Freud uses the latter term to define what he claims to be a definite psychological influence at work in the unconscious mind. It is not the unconscious mind itself, indeed it is not even the *élan vital*, etc., but merely a product resulting upon the acceptance of the existence of a primary driving force in the mind of man. It is to be hoped that the novice of the "younger school of psycho neurologists" will avoid such confusion of terms in discussion or controversy relating to a new subject where accuracy of definition and observation are of paramount importance.

It is not the object of the psycho-therapeutist to cure merely by resuscitating painful memories which the patient by constant effort has at last succeeded, or partially succeeded, in driving into the unconscious. By so doing he would achieve nothing more than to bring the patient back to the very starting point from which the symptoms sprang. That is not enough—no cure can be fairly considered to have been brought about until a process of "re-association" has taken place in the mind of the sufferer. True this process may result spontaneously after analysis in the waking or hypnotic state (and in my opinion this state of affairs accounts for the type of case which clears up as the result of simple abreaction alone). But often it is essential for patient and physician to examine the newly broken ground and to pick out, as it were, the gold from the dross; this is the process of "re-association," and by it the patient is brought to realize the fact that, however painful his memories may be, the maximum portion of the pain has been caused through not knowing how to reconcile the pain-causing "conflict" with the rest of his mentality.

The aim of the psycho-therapeutist is as honest as that of the surgeon. His object is not to smother the malodorous wound with sweet-smelling medicaments, but radically to treat to a cure. It is not sufficient to provide the patient with a brand-new supply of "pleasant memories" to superimpose upon the old painful ones (how ineffectual such a method would be is recognized by most workers, I hope). Nor is it any better to provide a "complete rest" wherein introspection (the progenitor of morbid rationalization) is allowed to exercise a truly baneful influence. Such methods only make for the "fixation" of the symptoms, and render subsequent work along rational lines doubly difficult.

It is my experience that the patient does not leave the physician happy because his troubles have been "re-camouflaged" (hysterical symptoms, at any rate, are mere "camouflage" to begin with), but because he is now conscious with equanimity of the cause of his trouble, and is provided with practical means wherewith to combat the same, should the occasioning factor ever enter into his life again. The jilted lady need no longer waste much useful energy in expressing her emotions in symbolic hysteria. Realizing why her unhappy lot is what it is, she can now direct these introverted energies into channels leading to more altruistic results, namely, the benefit of humanity. Thus by "re-associating" is she enabled to "sublimate" her baser tendencies and achieve that peace of mind which is the heritage of all who understand themselves within the true meaning of the phrase.—I am, etc.,

CHARLES DAVIES-JONES, M.B., Ch.B.

Ashhurst War Hospital, Littlemore, near Oxford, Jan. 19th.

SIR,—Some of Sir Robert Armstrong-Jones's remarks on the methods of "the younger school of psycho-neurologists" are very misleading and not in accordance with either their practice or their theories. He speaks as if merely bringing to the surface forgotten memories or reminding the patient of the horrors he has seen is the essential part of the treatment by so-called "abreaction." As a matter of fact, the mere bringing to memory or reminding the patient of his unpleasant experiences is not the essential part of the treatment. The essential part consists in "working off the emotion" attached to these memories, and in reducing them, if one may put it so, to the "commonplace."

The apparent cause of the majority of the anxiety conditions known as "shell shock" seems to be an accumulation of such emotions as fear, disgust, etc. (Into the psychological analysis of those I need not enter here.) In ordinary life one does not repress such emotions. In war, however, from day to day intolerable experiences take place, and the emotion appertaining thereto is not allowed any outlet. The man may then be likened to a steam boiler whose safety valve is closed, and in which the steam pressure continues to rise until it leaks at all the joints. By getting the patient to talk daily about his experiences and to undergo the emotions belonging to them we relieve him of this high pressure.

The matter is not a question of suggestion at all, for by far the greater number of patients whom we have to treat at the present time have already spent any period up to two years in hospitals, and have in a large proportion of cases had treatment by either suggestion or hypnotism. Yet in the vast majority of cases the patients suffering from these anxiety conditions (excluding phobias and obsessions) improve wonderfully in a very short period after "abreaction" of their repressed emotions. One is often informed at the end of the first week of the relief the patient feels, and this corresponds very much to the relief some people feel after a good fit of weeping if they are in trouble.

I am not referring to a few isolated instances. These statements are made as the result of studying the *individual* psychology of from six to ten patients almost daily for the last two years. Of course a certain percentage of cases show a different etiology, and for these psycho-analysis or other methods of treatment are necessary.

As regards the point, raised in the same letter, as to whether it is possible to repress what is intolerable, I can only state that in a very large percentage of the above-mentioned cases the most horrible isolated events in the patients' memories have been repressed, and are not recalled until some of the emotions connected with lesser horrors have been worked off, and this applies (with a rather different mechanism, which space will not permit me to go into) even in several cases of complete amnesia which I have treated recently.

The point is really beyond dispute now, and a study if only of hypnotic phenomena of this kind should convince anyone of its possibility.—I am, etc.,

PAUL BOUSFIELD,
Physician to the Lancaster Gate Clinic of Psycho-Therapy (Ministry of Pensions).

London, W., Jan. 26th.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—Though differing profoundly from him, I think Dr. Baskett is to be congratulated on his courage in attacking the whole trend of recent social legislation. His article in the JOURNAL of January 10th is worthy of careful consideration, and nothing would be more instructive to the general practitioner than the holding of the inquiry he advocates.

Meanwhile I venture to offer a few criticisms on Dr. Baskett's argument.

Destitution is undoubtedly a great cause of tuberculosis, and the height of real wages affects the amount of destitution. But they do not necessarily rise and fall together. As a fact, destitution as measured by Poor Law outdoor relief has diminished almost persistently since 1870, and the fall from 1910 to 1915 was greater than in any quinquennium since 1875. It is now only one-third what it was in 1880. (See Local Government Board chart published in *The Times* of December 27th.)

We must therefore conclude that destitution has not recently been the chief cause of tuberculosis, though I believe with Dr. Baskett that it was during the last century. We must also conclude (on the *post hoc* principle) that "State paternalism" has diminished destitution, even if it has reduced real wages.

Probably the rise in wages above the destitution line does help to decrease tuberculosis, but nothing like to the

same extent as removal of destitution. I believe that the temporary rise in wages, together with the intemperance that marked the South African war, largely explains the rise in tuberculosis during the years 1901–3, shown in Dr. Baskett's chart.

Dr. Baskett says nothing about alcoholism, housing, and other great causes of phthisis. Wages affect them, but only to a very limited extent. The conditions of industry have necessitated, and will for many years necessitate, that the workers should live in unhealthy houses, even though their wages rise.

But it is a great mistake to think that what chiefly caused a disease in the nineteenth century has continued to be its principal source in the twentieth. The great causes now are alcoholism, bad housing, unhealthy conditions of employment, and other urban and industrial conditions. State paternalism has dealt with them by Education, Housing, Factory, and Buildings Acts; and the continued fall in tuberculosis up to 1912 may be attributed to these measures as much as to the continued decrease of destitution.

Dr. Baskett considers there was an arrest of the fall of the tuberculosis death rate after 1900. But he is wrong in expecting the decline to follow an arithmetical progression. A decline from 1,000 to 500 per million is as much proportionally as a decline from 2,000 to 1,000. The decline, therefore, in 1912 was quite satisfactory. But Dr. Baskett is very sanguine if he thinks that a disease so widespread, both geographically and zoologically, as tubercle can be quickly exterminated.

Paternal legislation and administration concentrated after 1900 specially on infant welfare, and the infantile death rate, which had not previously shared in the general fall of death rates, came down with a slump. With it fell the death rate from tuberculous peritonitis and tabes mesenterica, and the fall in these continued up till 1916, which had the lowest death rate, with two exceptions. How does Dr. Baskett explain this?

I submit that Dr. Baskett is mistaken when he says that the effect of any unfavourable cause on the tuberculosis death rate is not observed for two years. He forgets that these causes act as much, if not more, on those already affected as on the well, and that there are always a vast number of tuberculous persons whose deaths will be precipitated by failure of requisites.

I maintain, then, that Dr. Baskett's main thesis—the connexion of *laisser faire* with the fall of the death rate—has but a very feeble leg to stand on.

It must be admitted that it is curious and unsatisfactory that the phthisis death rate has risen since the Insurance Act. But influenza, respiratory diseases, cancer, heart and other diseases have increased even more. (Cancer, at any rate, is not a disease of poverty, and its increase is the most marked of all.) Is the increase of all these due to State interference? *Post hoc non ergo propter hoc*, Dr. Baskett truly says. Let us by all means have the committee of inquiry, and I venture to prophesy that before its report is made—say in five years' time—it will be able to report that the phthisis death rate has fallen lower than ever.

To sum up: Destitution—not the low level of real wages—was the chief cause of tuberculosis for many years during the nineteenth century. The fall of destitution did not cease with the arrest in the rise of real wages at the end of the century, but continued to fall, faster than ever, up till the present time. The rate of decline in the tuberculosis death rate was not appreciably arrested till 1913. The decline in the past twenty five years cannot reasonably be attributed so much to lessened destitution as to social legislation. The increase of deaths from pulmonary tuberculosis since 1913 is accompanied by increase of influenza, bronchitis and other diseases having little connexion with real wages. This increase will probably soon give way to a marked decrease, assisted by an amended Insurance Act and other wise social legislation and administration.—I am, etc.,

SIDNEY DAVIES,
London, S.E., Feb. 9th. Late M.O.H. Woolwich.

TREATMENT OF ADENOIDS.

SIR,—In his note to Dr. Gertrude Hickling's article on "Nasal drill" in the treatment of adenoids (January 31st, p. 148), and with reference also to Mrs. Handcock's results recorded in the *Lancet* of August 24th, 1918, and later, Dr. C. P. Lapage, while approving generally of the nasal drill, is not hopeful as to the cure of hypertrophied tonsils and adenoids except by operation.

May I be permitted to say that while in hearty agreement as to the value of such breathing drills, my experience teaches me to be much more optimistic? During the two years before the war I succeeded in curing by medical means every case I was called upon to treat. Cases certified as requiring operation, with enlarged tonsils touching the uvula, adenoids blocking the nasal passage and with earache, deafness, and mouth-breathing were found to have no trace of any disability two or three months later. I am confident that the vast majority of operations now undertaken are really unnecessary, and if unnecessary unjustifiable.

I should be happy to demonstrate the value of the treatment to any medical man who cares to communicate with me.—I am, etc.,

JOHN KYNASTON,
26, Welbeck Street, London, W., Feb. 6th. Lieut.-Colonel R.A.M.C. (Retd. List).

CHRONIC PANCREATITIS.

SIR,—The point I wanted to make is that workers on the pancreas have tended to shi t, in cases of diabetes, the nine-tenths associated with uric acid diathesis, which have been accepted, to nine-tenths, say, associated with pancreatitis. It is here we want, for diagnosis and therapy, some authoritative teachings—or clear notions.—I am, etc.,

Herne Hill, S.E., Feb. 6th. J. BARKER SMITH.

TERRITORIAL GENERAL HOSPITAL STAFFS.

SIR,—The flood of decorations and honours that has recently fallen on our profession has missed as usual the men who did the hard work at home. The Territorial medical officers who served the great general hospitals are excluded from any recognition. Civilian doctors who looked after school hospitals are now, it would seem, nearly all O.B.E.'s. But the men who were in uniform for nearly five years, who gave up most of their time and energy to military work have received, in the main, neither recognition nor thanks. True, they received their pay; sufficient in many cases to defray the expense of their motor cars which took them to and from their work. But our civilian brethren also received pay. Now they are decorated in hundreds. Yet where was the real hard and responsible work done? Nowhere else than in the Territorial general hospitals.

Those of us who were not allowed to go abroad—and practically all volunteered to go abroad—are still permitted to wear our uniform on great occasions. But not a ribbon decorates that uniform, which was worn for five years in the service of the army.

I was a captain in 1908. I am a captain still. Except the printed form sent on demobilization I have received neither promotion nor thanks. The sisters and nurses have been lavishly recognized, and well they have deserved it.

Now comes along a new Territorial Army scheme. Is there any inducement for us to enter it? I confess I can see none.—I am, etc.,

February 3rd. CAPTAIN R.A.M.C.(T.F.).

SURGICAL WAR HONOURS.

SIR,—Is it much to ask the Royal College of Surgeons of England to make a careful survey of the work performed as surgical specialists by members of the college?

During the war I have done the entire surgical work of nearly 700 beds. The military authorities have on three occasions recognized my services, but no recognition would equal that of my own college by conferring the higher diploma or some written appreciation.

My case is only one of many probably more worthy of recognition. Exceptional services in an exceptional war demands exceptional consideration and professional acknowledgement apart from the State.

Naturally I am unable to subscribe my name.—I am, etc.,

February 5th. M.R.C.S. AND SURGICAL SPECIALIST.

SCOTTISH COLLIERY SURGEONS AND MINERS' UNION.

SIR,—Dr. Drever does not seem to have been correctly informed—at least, in some particulars. When the Miners' Union refused to consider our demand for 6d. inclusive or 5d. exclusive of medicine, we were certainly asked to sign forms agreeing to break off negotiations and to attend miners' dependants after a certain specified date as private patients. I know that in my own county these forms were signed and returned to our county representative by all, or practically all, the men who did any colliery work whatever.

Nothing came of this, however. Subsequently the miners' representatives offered 4½d. or 3½d. One man tried to induce them to accept 5d. or 4d., and circulars were again sent round asking which we would prefer, and if, in the event of the miners not accepting the higher rate, we should again agree to revert to private practice. Nothing resulted, and we found ourselves committed to the offers of the miners' representatives.

Dr. Drever's third "line" reads: "That no area should accept any settlement unless all the areas received the terms agreed on by the committee." I understand that certain areas arranged their own terms independently of the committee, and that even some localities have a higher rate than their immediate neighbours.—I am, etc.,

January 31st. SCOTTISH COLLIERY SURGEON.

*** Dr. James R. Drever, Scottish Medical Secretary, British Medical Association, writes: If I have not been correctly informed, the Committee is in the same position. I stated its policy and procedure in my last letter; in the carrying out of that policy each area was autonomous, but it was understood that resignations were not to be sent in until the Committee directed that they should be. If the policy of the Committee was not correctly explained to those in colliery surgeons' areas, or if the opinions of the latter were not correctly reported to the Committee, the fault, if any, must lie with the local committee or the delegate, and your correspondent has surely a more direct remedy than that of an anonymous letter. I am glad to hear that some areas have obtained higher rates. That does not vitiate the fact that all the areas have received "terms agreed on by the Committee."

Obituary.

LAURENCE HUMPHRY, M.D., F.R.C.P.,

Physician, Addenbrooke's Hospital, Cambridge.

WE are indebted to a correspondent in Cambridge for the following estimate of the life and work of Dr. Laurence Humphry, who died on February 5th:

By the death of Dr. Laurence Humphry the Cambridge Medical School has suffered a great loss, one that for the present, at any rate, is irreparable. Dr. Humphry was mobilized at the 1st Eastern Hospital at the beginning of the war, and gave himself to his heavy and exacting duties with unselfish devotion. By no means a strong man his periods of rest were brief and infrequent; thus, as the war wore on, especially in the last year or two, his friends noticed that the strain was telling upon him. He looked thin and worn, yet still loyally worked on. In this susceptible state Humphry became affected by some obscure septic virus which, beginning in the tonsils, gradually spread to other parts in a long and painful illness, during which the hope of recovery faded away. He died at the age of 63.

Dr. Humphry was a nephew of Sir George Humphry and inherited much of the family ability. His father was a barrister-at-law, who lived in London, where Laurence Humphry was born. His mother was a daughter of Dr. McNab of Epping, a physician of some eminence in his day. In 1889 he married Isabel, daughter of the late Professor Sir George Stokes. They had no children.

Humphry was a graduate of Cambridge (Trinity College), and by his uncle's advice settled there, and soon began to build up a consulting practice in medicine. And in later years, as his senior colleagues died or withdrew from the harder work, Humphry became the leading consultant in the district. He was physician to the Addenbrooke's Hospital, and had filled the offices of assessor to the Regius Professor of Physic, Examiner in Medicine to Cambridge and other universities, and served on the Council of the Royal College of Physicians of London. He also took an active part in the medical school, in which he was keenly interested. For fifteen years—years of much change and revision—he was secretary to the Special Board of Medicine, a post to which he was admirably adapted. He was orderly and accurate in business, thoroughly familiar with the somewhat complex affairs and procedures of the university, and thus, and by his personal qualities, carried not a few difficult and thorny measures through the Special Board and the Senate.

Unfortunately, as we have said, Humphry was not physically robust. He had considerable talent for research, and at one time took charge of the Pathological Museum, and, following on his uncle's lines, did much good work. He was especially interested in malformations of the heart, on which subject he wrote the article in Allbutt's *System of Medicine*. He made some researches also on the functions of the pancreas, on the parathyroid glands, and on embolic aneurysms of the pulmonary artery. He often regretted that he could not do more research work, but he was liable to frequent and intense attacks of migraine which made sad inroads upon his time and energy. As a clinical physician he was excellent; sympathetic, gentle, learned, and sagacious; moreover, he was well equipped on the scientific side of pathology.

Humphry was a man of rare charm of character; modest almost to self-effacement, high-minded, gentle, and with a keen sense of humour; but none the less decisive and wise in judgement. He was a chivalrous colleague and an affectionate friend. He had much taste and skill in the fine arts, in which he and Mrs. Humphry also had no little accomplishment. He was skilful in modelling in wax, especially in medallion work of low relief, very delicate and refined. During the earlier part of his illness he found in this work much relief from ailment and ennui. He was also an enthusiastic and skilful fisherman. He passes away deeply regretted.

BY the untimely death of Dr. C. R. WATSON on December 23rd, 1919, Tunbridge Wells sustained a great loss. He was taken seriously ill in May, but recovered so well that his friends and patients looked forward to his taking up active work again. The end was unexpected, and he died in his sleep. He was educated at Tonbridge School, and afterwards at St. George's Hospital, where he was both house-surgeon and house physician. He took the diplomas of M.R.C.S. and L.R.C.P. in 1895, and the M.D. of Brussels with honours in the following year. After acting as physician to out-patients and resident medical officer at the York Road Lying-in Hospital, Lambeth, he settled in Tunbridge Wells, where for nearly twenty years he occupied the post of surgeon to the General Hospital. He was also surgeon to the Church of England Waifs and Strays Home and the Hawkenbury Convalescent Home. He undertook an enormous amount of additional work during the war, being surgeon to the St. Mark's V.A.D. Hospital and carrying on his brother's practice when the latter joined the R.A.M.C. There is no doubt that all this extra work caused his breakdown in health. He was a member and past chairman of the local Division of the British Medical Association, and took a keen interest in the work of the Association. The great esteem in which he was held by his professional brethren was evidenced by the very large numbers attending the funeral service. His geniality, kindness, and sweet temper will long be remembered. In the words of Hilaire Belloc,

> He does not die that can bequeath
> Some influence to the land he knows.

He leaves a widow and daughter and son, to whom sincerest sympathy will be extended.

WE deeply regret to record the death from septic pneumonia of Dr. WILFRID LEECH MYLES, of Pontllanfraith. In him the members of the medical profession of Monmouthshire have lost a genial and loyal colleague, and the quite unexpected news of his death came as a shock to the people of the district, by whom he was warmly esteemed and affectionately regarded. On January 26th, while attending to his duties, he contracted a chill, and, though he improved at first, he had a relapse on January 30th, and passed away on February 1st from septic pneumonia. The sympathy of the community goes out

to his widow and to his sister and brother-in-law, Dr. and Mrs. T. A. Gregg, of Newbridge. Dr. Myles, who was 42 years of age, was the eldest son of the late Dr. James P. Myles, of Birr, King's County, Ireland, and a brother of the late Major C. W. Chester Myles, M.C., a Territorial officer who served with the R.A.M.C. at Gallipoli and in Egypt, and died while on active service, in October, 1918. He was a near relative of Sir Thomas Myles, the distinguished Dublin surgeon. He was educated at the Academical Institute, Coleraine, and the Medical School of Trinity College, Dublin. He qualified in 1905 and in the following year became assistant to the late Dr. Thomas at Newbridge. In 1910 he entered into partnership with Dr. Gregg, and went to reside at Pontllanfraith with his mother, who passed away seven months ago. Dr. Myles married only last October, and a very distressing feature of the sad circumstances was that Mrs. Myles had a few days previously undergone an operation for acute appendicitis. Dr. Myles was a good and conscientious worker in his profession. During the war he was the military representative on the local tribunal and whole-heartedly supported every movement in the interest of the wives, children, and dependants of the men. He was a staunch Churchman and a gentleman of high honour and noble ideals. He made many efforts to be allowed to go on active service during the war, but an ankylosis of the knee following an injury received many years ago led to his rejection. Dr. Myles was president and secretary of the local cricket club, whose members offered to carry the coffin to the graveside at Abercarn Cemetery.

THE *Journal of the American Medical Association* announces the death, after a surgical operation, of Dr. EMERY MARVEL of Atlantic City, New Jersey. The news will be received with much regret in this country, and especially by those of our profession who attended the Convention of the American Medical Association in America last June. Dr. Marvel was Vice President of the Convention and Chairman of the Committee of Arrangements. Sir Shirley Murphy writes: Dr. Emery Marvel was deservedly held in high esteem for his professional knowledge and had a personal charm which contributed in great degree to the success of the meetings of the Convention. Possessed of a mind well stored with knowledge, a kind, genial, and courteous personality, he made a charming host. He will always be remembered by those who were privileged to meet him as representative of the best type which our profession produces. He belonged to the family of which Andrew Marvell, the seventeenth century poet and satirist, was a member.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

PROPOSALS put forward by the Special Board of Medical Studies for alterations in the first and second M.B. examinations were discussed in detail by the Senate on February 5th. Sir G. Sims Woodhead, Professor of Pathology, undertook that the proposals should be considered further by the Special Board.

War List.

The *Cambridge University War List*, which will be published by the Syndics of the University Press, is now undergoing final revision. We are asked to invite any reader who (being a member of the University before the war) served in the Army, Navy, or Air Force, and has not already supplied his college with an up-to-date record of his services, to send the particulars to Mr. G. V. Carey, M.A., Editor of the *War List*, the University Press, Cambridge. The particulars required are: College and year of matriculation, unit (or units, if transferred), rank on the date of the armistice or highest substantive rank attained prior to it, casualties and distinctions.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the College was held on February 3rd, with the President, Sir Robert Philip, in the chair.

L. F. Bianchi, L.R.C.P.Ed., and W. Hughes, M.B., were elected Fellows of the College.

D. H. D. Cran, M.D., P. C. Davie, M.B., H. C. Elder, M.B., D. Cook, M.B., and E. W. Frecker, M.B., were admitted to the membership of the College.

Licences to practise were granted (in conjunction with the associated bodies) to eleven candidates who had fulfilled the conditions and passed the final examination.

Sir Robert Philip was appointed a trustee of the College.

Election of Honorary Fellows.—M. Eleutherios Venizelos, Prime Minister of Greece, was elected an Honorary Fellow of the College.

Supplementary Royal Charter.—The President announced that the Supplementary Royal Charter dated December 3rd, 1919, had now been delivered and was placed on the table of the College. The Supplementary Charter empowered the College to admit women to the membership and fellowship of the College on the same conditions and with the same privileges as men.

At an extraordinary meeting, immediately following the quarterly meeting, William Herbert Fawcett was suspended *sine die*, and deprived until the said suspension is removed or remitted of all his rights and privileges as a member and a licentiate.

The Services.

HONOURS.

THE following awards and promotions are announced in recognition of distinguished and valuable services rendered in connexion with the war in the fields of operations indicated. The officers belong to the R.A.M.C. unless otherwise specified:

ARCHANGEL (NORTH RUSSIA).

C.M.G.—Captain (acting Lieut.-Colonel) Duncan Campbell Lloyd Fitzwilliams (T.F.).

C.B.E.—Colonel George St.Clair Thom, C.B., C.M.G. Temporary Captain (acting Major) Eric Stewart Marshall, M.C.

O.B.E.—Majors (acting Lieut.-Colonels) Alfred William Adamson Irwin, John Maurice, B. Rahilly. Captain (acting Lieut.-Colonel) Thomas H. Richmond (T.F.).

D.S.O.—Major Archer Irvine-Fortescue.

M.C.—Captain Jeremiah John Magner (156th Field Ambulance).

MURMANSK (NORTH RUSSIA).

O.B.E.—Captains (acting Lieut.-Colonel) John Forbes W. Sandison, M.C. (S.R.), (acting Major) Charles George G. Keane. Temporary Captains (acting Majors) Alexander Hepburn Macklin, M.C., Thomas Victor Somerville, M.C.

SOUTH RUSSIA.

O.B.E.—Captain Trevor Aveling Butcher (S.R.).

To be Brevet Major.—Captain C. S. P. Hamilton, D.S.O.

BUSHIRE.

C.B.E.—Lieut.-Colonel (temporary Colonel) Charles Harford Bowle-Evans, C.M.G., I.M.S.

O.B.E.—Majors Thomas Scarborough Dudding, (acting Lieut.-Colonel) William Lapsley, I.M.S.

PERSIA (BUSHIRE FORCE).

To be Brevet Major.—Captain (acting Lieut.-Colonel) H. R. B. Gibson, I.M.S.

MENTIONED FOR SERVICES.

The following are among the names brought to the notice of the Secretary of State for War for valuable and distinguished services in connexion with military operations. The officers belong to the R.A.M.C. unless otherwise indicated:

North Russia (from March 25th to September 26th, 1919).

Colonel G. St C. Thom, C.B., C.M.G.

Majors (acting Lieut.-Colonels) A. W. A. Irwin, J. M. B. Rahilly. Major A. Irvine Fortescue.

Captains (acting Lieut.-Colonels) D. C. L. Fitzwilliams (T.F.), T. H. Richards (T.F.), J. B. A. Wigmore. Captain (acting Major) L. E. Hughes, M.C. (T.F.). Temporary Captains (acting Lieut.-Colonels) E. R. Hunt, R. Jamison. Temporary Captains (acting Majors) R. T. Grant, E. S. Marshall, M.C., J. D. Watson, M.C. Temporary Captain R. L. Sinclair.

Lieutenant (temporary Captain) G. E. Spicer, M.C. Temporary Lieutenant F. C. S. Bradbury.

Murmansk.

Major (acting Colonel) E. L. Moss, C.M.G., M.C.

Captains (acting Lieut.-Colonels): J. J. D. Roche, J. F. W. Sandison, M.C. (S.R.). Captains (acting Majors): H. R. Friedlander, C. G. G. Keane. Captains: J. Hope, L. J. Schwartz (S.R.), M. D. Vint (S.R.). Temporary Captains (acting Majors): T. E. Coulson, A. H. Macklin, M.C., T. V. Somerville, M.C.

With the Bushire Force in Persia.

Lieut.-Colonel (temporary Colonel) C. H. Bowle-Evans, C.M.G., I.M.S.

Majors (acting Lieut.-Colonels): H. Hallilay, I.M.S., G. A. Jolly, I.M.S., W. Lapsley, I.M.S. Majors: A. Cameron, I.M.S., T. S. Dudding.

Captain (acting Lieut.-Colonel) H. R. B. Gibson, I.M.S. Captains: A. L. Badcock (T.F.), B. F. Beatson, I.M.S., C. M. Finny (T.F.), W. E. Hodgkins (T.F.), T. Kennedy (T.F.). Temporary Captains: N. Joshi, I.M.S., R. N. Khosla, I.M.S., P. N. Mitra, I.M.S., J. H. Oonawala, I.M.S., B. S. Rao, I.M.S., M. A. Singh, I.M.S.

Honorary Lieutenant A. J. Hardaker, I.M.D.

The names of the following have been brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war. This list will not be gazetted:

Lieutenant E. J. Bader, S.A.M.C., Mr. G. W. Badgerow, C.M.G., F.R.C.S., Captain A. C. Barnes, R.A.M.C.(T.F.), temporary Captain E. B. Barton, R.A.M.C., Dr. W. H. Beaumont, Captain E. C. Bradford, R.A.M.C.(T.F.), Major W. Bruce, O.B.E., N.Z.M.C., temporary Major Archibald Cambell, R.A.M.C., Dr. E. H. Colbeck, O.B.E., F.R.C.P., Mr. W. H. Cooke, F.R.C.S., Dr. C. Curd, Dr. M. B. Ferguson, Captain E. E. W. Fisk, S.A.M.C., Dr. R. F. Flood, Captain C. R. Girdlestone, R.A.M.C.(T.F.), temporary Captain J. Graham, R.A.M.C., Dr. A. S. Griffith, Dr. J. M. Harper, Dr. H. Henderson, Dr. A. Hodgson, Dr. L. Kidd, Dr. P. King, Major (acting Lieut.-Colonel) W. Kirkpatrick, R.A.M.C.(T.F.), Mr. F.

Lace, F.R.C.S., temporary Captain A. W. Macgregor, R.A.M.C., Dr. G. J. K. Martyn, Dr. J. M. H. Munro, Dr. J. M. H. Murray, Major (acting Lieut.-Colonel) W. Murray, R.F.A.(T.F.) (temporary Major, R.A.M.C.), Major-General Sir W. W. Pike, K.C.M.G., D.S.O., A.M.S., temporary Captain A. H. Priestley, R.A.M.C., Major A. G. Reid (West Riding Vol. R.A.M.C.), Dr. C. W. C. Robinson, Dr. G. J. Scale, Captain A. L. Singer, N.Z.M.C., Dr. C. Sturm, temporary Captain J. H. K. Sykes, R.A.M.C., Dr. E. C. Thompson, temporary Captain A. H. Ward, R.A.M.C., Dr. A. M. Watson, Captain R. W. F. Wood, N.Z.M.C., temporary Captain A. E. Wynne, R.A.M.C.

Medical News.

THE Prince of Wales, who has become President of Guy's Hospital, presided at a Court of Governors last week, at which he gave his approval to a special appeal for funds which the hospital is about to make.

AT a meeting of the Royal Society on Thursday next at 4 p.m. Professor W. M. Bayliss will read a further paper on the properties of colloidal systems, dealing with reversible gelation in living protoplasm.

SIR ARTHUR MAYO-ROBSON has been elected an honorary member of the Royal Medical Society of Ghent. The society was founded in 1834; for the record of its proceedings it issues *Annales* and a *Bulletin*.

MR. H. NORMAN BARNETT, F.R.C.S., who was for more than five years on active service, and held the rank of lieutenant-colonel, has returned to private practice at Bath, where he is surgeon to the Ear, Nose, and Throat Hospital

DR. F. F. SIMPSON has come from America to discuss the possibility of forming a world congress of physicians and surgeons composed of the various international congresses and associations already existing.

AS in 1918 the Caroline Institute at Stockholm has decided not to award the Nobel Medical Prize for 1919.

THE zoological station at Naples is well known for the facilities it affords for zoological research. We are asked to say that it also affords advantages as a fully equipped centre for physiological research.

MR. ALFRED SMETHAM, chemist to the Royal Lancashire Agricultural Society, has been elected president of the Society of Public Analysts in succession to Dr. Samuel Rideal.

DR. T. LISTER LLEWELLYN will open a discussion on the illumination of mines, with special reference to the eyesight of miners, at a meeting of the Illuminating Engineering Society at the Royal Society of Arts, John Street, Adelphi, on Tuesday, February 24th, at 8 p.m.

WE are informed by the Automobile Association and Motor Union that an inquiry is being made into the justification alleged for the recent advance in the price of petrol to 3s. 8½d. a gallon. It is pointed out that imports of petrol amounted last year to something like 200,000,000 gallons, and that the consumption will probably be nearer 250,000,000 gallons this year. A very small increase in the price per gallon therefore means a large increase in the public's total expenditure.

AN institute for biology and serumtherapy under the direction of Professor Pittaluga has recently been opened at Madrid

THE centenary of the firm of Reynolds and Branson of Leeds was celebrated a few weeks ago by a dinner at which the staff and the wives of the married workers were entertained at the Queen's Hotel, Leeds. The firm was, in fact, established by Mr. William West, F.R.S., in 1816, but the celebration was postponed owing to the war. In 1841 Mr West was joined in partnership by Mr. Harvey, one the founders of the Pharmaceutical Society. The firm assumed the present name in 1883 and became a limited company in 1898

IN the annual report for the year ending June 30th, 1918, by the medical officer for Capetown, Dr. A. Jasper Anderson, the rates are calculated on the basis of a census taken for electoral purposes in May, 1918. The European population is estimated to have been 89,700, and the non-European 82,350, the total being 172,050. The birth rate was 27.4 for Europeans and 44.06 for non-Europeans. The death rate, corrected for visitors, was 11.41 for Europeans and 26.57 for non-Europeans, a decrease in both cases. The infant mortality for Europeans was 79.33, and for non-Europeans 201.16. The number of cases of enteric fever and diphtheria showed a decrease. Four cases of leprosy were notified, all among non-Europeans, and three members of the labour contingent were repatriated on this account. Dr. Anderson complains that the accommodation for infectious diseases and for tuberculosis is insufficient.

DR. J. TUBB-THOMAS, on the occasion of his retirement from the office of M.O.H. for the county of Wilts after twenty-two years' service, has been presented by the medical staff of his department with a chased silver cigar box, cedar lined, and a silver cigar case inscribed with his initials, as a mark of their esteem. Dr. Tubb-Thomas's services are being retained as consulting medical officer for the county.

MR. H. L. EASON, C.B., C.M.G., M.D., M.S., ophthalmic surgeon to the hospital, has been appointed to the post of superintendent of Guy's Hospital, in succession to Sir Cooper Perry, M.D. During the war Mr. Eason served as consulting ophthalmologist to the forces in the Mediterranean, and later to the Egyptian Expeditionary Force. On January 29th a presentation was made to Sir Cooper Perry in the Court room of the hospital.

WE mentioned last week an observation by M. Achard to the effect that the existence of lymphocytosis in the fluid obtained by lumbar puncture in a suspected case of lethargic encephalitis should not be considered to negative that diagnosis. At a subsequent meeting of the Académie de Médecine M. Widal confirmed this observation and reported the existence of lymphocytosis in the cerebro-spinal fluid in three out of four cases in hospital under his care. In one the number of leucocytes was fourteen to the cubic millimetre, and in another eleven. In the latter case the first examination was made six days after the patient took to his bed and the proportion of different types of cell was mononuclear 84, polynuclear neutrophile 16; there were also a few red corpuscles. Two days later the numerical lymphocytosis was the same, but all the cells were mononuclear.

APPLICATIONS are invited for the Mary Louisa Prentice Montgomery lectureship in ophthalmology in the gift of the Royal College of Surgeons in Ireland. The lecturer is appointed for one year, but is eligible for reappointment year by year for a period not exceeding five years. The salary is approximately £150 a year, and applications must be received by the Registrar of the College on or before March 4th.

A MEETING, called by the Society for the Prevention of Venereal Disease, was held at the Mansion House, London, on February 5th, the Lord Mayor presiding. The speakers included Lord Willoughby de Broke, Sir James Crichton-Browne, Sir Arthur Sloggett (late D.G.A.M.S.), Sir Archdall Reid, Sir E. Ray Lankester, and Dr. Mearns Fraser (M.O.H. Portsmouth). Among those on the platform were Sir Humphry Rolleston, Sir Frederick Mott, Sir Bryan Donkin, Sir D'Arcy Power, Sir John MacAlister, Dr. R. A. Lyster, and Dr. A. J. Harries. The following resolution was carried unanimously: "It is obvious that the best way of avoiding venereal disease is to abstain from promiscuous sexual intercourse. It is, however, certain that a large number of persons continue, in spite of moral teaching, to expose themselves to risk and so to incur and spread disease amongst the community, the chief sufferers being women and children. Venereal disease has become a menace to national health and prosperity, and in view of the proved fact that infection can be prevented by means of self-disinfection, if properly applied, immediately after exposure to risk, it is necessary to instruct the public as to (*a*) the vital importance of self-disinfection at the time of exposure to risk as a preventive of venereal disease, and (*b*) the methods of application.

IN an Order dated January 23rd, 1920, under Section 13 (1) of the Education Act, 1918, the Board of Education makes it compulsory, as from April 1st, 1920, that local authorities should provide for medical inspection in their secondary schools, continuation schools, pupil teacher centres, and recognized preparatory classes, as well as in junior technical schools and certain full-time technical classes. Inspections of children and young persons in such schools and classes are to be made on the occasion of their admission and thereafter once a year during their period of attendance.

THE Executive Committee of the Tuberculosis Society, to whom the subject was referred at a general meeting, have unanimously decided against affiliation with the British Federation of Medical and Allied Societies. They consider that the Federation, owing to its constitution, cannot in any circumstances represent the majority of general practitioners, and that its aims and programme have been, or should be better undertaken by the British Medical Association, which by right of numbers is best qualified to represent the profession. If it be desirable to take the opinion of medical societies, as distinct from individual members of the profession, on vital matters, the committee suggest that a subcommittee of the British Medical Association could do this at a fraction of the

expenditure required of necessity by the Federation. In conformity with this decision of the Tuberculosis Society, Dr. Halliday Sutherland has resigned from the Executive Committee of the Federation.

WE announced recently that under the terms of an agreement between St. Mary's Hospital and the Paddington Board of Guardians the clinical material in the wards of the Paddington Infirmary (which during the war was used as a military hospital) will be made available for teaching the students of St. Mary's Hospital. The current number of *St. Mary's Hospital Gazette* states that a scheme of affiliation for teaching purposes has been concluded at the same time with the Paddington Green Children's Hospital and with the Hospital for Epilepsy and Paralysis and Other Diseases of the Nervous System, Maida Vale. Henceforward the out-patient departments and the wards of these special hospitals will be open to all students of St. Mary's. The lecturer on children's diseases will be permitted to make use of all the clinical material in the wards of Paddington Green for teaching purposes, and the lecturer on neurology will have similar privileges at Maida Vale. Further, the physicians and surgeons to these two hospitals will give clinical demonstrations to St. Mary's students in the wards and out-patient departments.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

"PENSIONER" wants to hear of a dry, warm, climate within a week's sail of England, where he might conduct a small unopposed medical practice.

ERYSIPELAS.

"X. Y. Z." asks the following questions: (1) Is local or general treatment the more important in cases of erysipelas? (2) Is ichthyol superior to other local applications, and will it so employed cure all cases? (3) Has death resulted in cases in which ichthyol has been employed?

TREATMENT OF PROFUSE SWEATING IN THE AXILLAE.

DR. W. CAMERON DAVIDSON (London) writes: I would suggest that "W. K. L." should try the effect of general treatment in the case of profuse axillary sweating as local treatment has proved ineffectual. The patient should be instructed to rub the skin of the body briskly all over with a rough towel night and morning, and to take two or three hot baths weekly at a temperature of 110° F. at least. An ordinary mild diuretic mixture can be given as well, but attention must be particularly directed to the hygiene of the patient's surroundings. I have treated a similar case recently in a young lady who was living in a house with central heating. The atmosphere was very unsuitable for this climate, and although she improved a little under treatment it was only when she moved to a different house—without central heating—that she became quite free from the sweating.

DR. D. M. MACDONALD (Arnside, Westmorland) writes to suggest the use of the constant current. He has used it for the axilla and also for the more common and distressful condition of hyperidrosis of the palms. It may occur in one hand only—generally the right one. A few applications suffice as a rule.

DUPUYTREN'S CONTRACTION.

"B. W."—Dupuytren's contraction is not one of the diseases scheduled under the Workmen's Compensation Act. Beat-hand is scheduled, but it is not to be confounded with Dupuytren's contraction. The Report of the Departmental Committee on Industrial Diseases, 1913, which gives full particulars of the Committee's finding on this subject, and the Act itself, can be obtained from H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2, or through any bookseller, price 1½d. and 3d. respectively (without postage).

INCOME TAX.

J. A." inquires as to expenses incurred in connexion with his appointment as M.O.H.

*** The emoluments are assessable under Schedule E, and the expenses deductible must therefore have been incurred "wholly, exclusively, and necessarily in the performance of the duties of the office." In so far as it is a condition of his appointment that he should keep his professional knowledge abreast of modern research, it seems to us that the expense of purchasing the necessary books and periodicals should be allowed, though admittedly the word "exclusively" raises some difficulty. The cost of removal of our correspondent's household to his new residence is not admissible; that expense is not incurred "*in* the performance" of his duties, but is external and preliminary thereto (*see* Cook *v.* Knott).

LETTERS, NOTES, ETC.

THE editors of the *Medical Directory* ask us to state that by a clerical error the name of Dr. E. Hyla Greves, of Rodney House, Bournemouth, was accidentally omitted from the current issue of that directory.

ABORTIFACIENTS AND PREVENTIVES.

DR. BARBARA G. R. CRAWFORD, M.B.E. (Mancol, Chester), writes: It is to be regretted that in your editorial in last week's issue on "The Sale and Advertisement of Abortifacients" you record without recantation the error committed in 1909 by the Association in supporting Lord Braye's bill (fortunately dropped), which endeavoured to make illegal the advertisement of drugs or articles designed for the prevention of conception, classifying them with abortifacients. As is well known, these are entirely different classes of articles; abortifacients are highly dangerous and their use is criminal, but preventives of conception are quite otherwise, and are used without harm by prudent and self-respecting persons. To anyone who, like myself, has seen the moral, physical, and economic degradation caused by excessive maternity among the poor, and how the lack of knowledge of preventive methods leads many a woman to the use of abortifacients, endangering her health and perhaps her life, the classification of preventives with abortifacients is not only regrettable, but gives weight to the allegation that in some matters the policy of the Association is out of touch with the hard realities of life.

A PIN IN THE ALIMENTARY CANAL.

DR. H. B. POPE (Leeds) writes: The case mentioned by Dr. Heywood Smith (January 17th, p. 81) reminds me that whilst acting as medical officer at the Leeds Public Dispensary, probably early in 1914, a boy of about 5 years of age was brought to the casualty room as he stated that he had swallowed a pin a short time previously. About four days later he complained of a sudden intermittent pain referred to the anus. A pin-like body could be felt in the rectum on examination, and was easily withdrawn by dressing forceps under nitrous oxide anaesthesia. It proved to be an ordinary pin, rather a long one, and blackened by its transit through the alimentary canal.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 45, 46, 47, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 43, 44, and 45.

THE following appointments of certifying factory surgeons are vacant: Broughton Astley (Leicester), Long Melford (Suffolk), Maidenhead (Berks), Shelf (Yorks, West Riding), Shrewsbury (Salop), South Molton (Devon), Uphall (Linlithgow).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
ATONY AND PROLAPSE OF THE LARGE INTESTINE.

DELIVERED TO THE MANCHESTER MEDICAL SOCIETY, DECEMBER 3RD, 1919.

BY

J. W. SMITH, F.R.C.S., M.Ch.,

PROFESSOR OF SYSTEMATIC SURGERY, UNIVERSITY OF MANCHESTER; PRESIDENT OF THE SOCIETY.

SEVEN years ago I described some experiences of this subject,[1] and in the sudden week of mobilization in August, 1914, I had arranged to see patients, operated on in 1912 and 1913, for the purpose of this paper. Military work shelved it until six months ago, but I am dealing here mainly with those cases. They group themselves into three chief types.

CLASSIFICATION.

1. Affecting caecum and ascending colon only, the "cesspool caecum." This may be the mobile caecum alone, or combined with an appendix lying behind the caecum, colon, or terminal ileum, adherent to the posterior abdominal wall, either in iliac fossa, or internal to it, behind the end of the mesentery, and constituting Sir Arbuthnot Lane's "controlling appendix."

2. Affecting proximal colon—that is, as far as the centre of the transverse colon.

3. Where the whole colon has slipped down, sometimes alone, sometimes accompanied to some extent by stomach, small bowel, and liver—the visceroptosis described first by Glenard in 1885, and known by his name.

4. A fourth rarer type consists of prolapse of the omega loop of the pelvic colon, with lengthening of its mesocolon, and occasionally an approximation of the bowel at the two ends of the loop by thickened bands of peritoneum across the mouth of the loop. I attribute prolapse of this loop to the weight of long-retained solid contents, though a slight kink of the bowel, originated by Lane's "last kink" may start or expedite it.

In considering these changes in the large intestine, it may be argued that their results are merely due to intestinal stasis or alimentary toxaemia, and should be considered under that heading, a subject discussed so fully at the societies and written about so freely during the years 1913 to 1915.[2] This is to some extent true, but Lane, I think, lays most stress on delay in the small intestine—stasis of the ileal effluent—as the essential factor in the causation of the clinical picture he has so graphically portrayed, with all the widespread and far-reaching results he attributes to it. The state of the patient, as I see it, in cases of delay in the large bowel, varies considerably from this picture. My experience agrees with that of Mr. C. H. Fagge,[3] who in 1913 said:

> We may divide cases of stasis into those which involve the lower ileum and often simulate and probably produce gastric and duodenal diseases, and those which affect the flexures of the colon; the latter, though peculiarly amenable to surgical treatment by short-circuiting, in many cases get along by the aid of medical treatment.

ANATOMICAL AND DEVELOPMENTAL CONDITIONS.

The original source of the prolapse, the distortion and angulation of the bowel, and the presence of the accessory bands, membranes, and adhesions so commonly found in these cases is, in my opinion, primarily developmental, and due to one of two main causes: either failure of union of certain peritoneal surfaces, which normally become indissolubly fused, leaving no sign afterwards that this has taken place; or persistence of certain peritoneal bands present during intrauterine life which usually disappear just before or after birth.

By reason of the migratory changes of position of the developing proximal colon, by the rotation of the U-loop of the hind-gut at the second month of fetal life and the anchorage of its anterior limb in front of the right kidney, by the subsequent descent of the caecum from that position about and after birth, it will be apparent that the right side of the peritoneal cavity must be especially liable to such developmental changes. Thus if the caecum and ascending colon fail to unite with the parietal peritoneum of the posterior wall, the mobile caecum results; if previously, after the rotation of the U-loop of the bowel, the caecum fails to become securely anchored in front of the right kidney, there is afterwards no fixed point at the hepatic flexure, and thus the proximal colon will almost certainly be prolapsed during life; and if, finally, the attachment of the posterior limb of the U-loop to form the splenic flexure fails to be attained, the whole large intestine is proptosed, constituting the three types of cases here classified. The last is, however, rare. I think the splenic flexure is the most generally fixed part of the intestine except the duodenal junction. During the last month I met with by far the most unusual duodenum I have ever seen. From the subhepatic pouch it passed down the right lumbar region, curved across the middle line between the third and fourth lumbar vertebrae, ascended vertically five inches to a ligamentous attachment to the root of the mesocolon, and then passed downwards rather acutely, though the jejunum distally for nearly three feet was as equally dilated and atonic as the duodenum, and gradually passed into a state of hypertonic contraction.

Jackson's membrane, a frequent accessory structure found in the right peritoneum, first described by J. N. Jackson of Kansas City in 1909,[4] as caused by lymph stasis in pericolic tissue due to chronic infection from the lumen, is in close association with the ascending colon. After great diversity of opinion as to its origin, it is now, I think, pretty well accepted as a developmental structure, derived from a fold of the right edge of the great omentum, included in the adhesions which the ileo-caecal loop forms when rotated to the front of the right kidney, associated with persistence of the ascending mesocolon, and probably, in view of this, acting as a support to the ascending colon. This is the view of my colleague, John Morley, as the result of comprehensive investigations reported in 1913.[5] He found this parieto-colic fold in 4 out of 36 fetuses at birth.

A month ago, operating on a case of general enteroptosis of the great bowel, I found a typical membrane, not confined to the right abdomen, but crossing the peritoneal cavity like a veil, and extending up to the attachment of the slipped splenic flexure and over the descending colon. I have never had this before, and have never seen it described.

Appendix.—I estimate that in 20 per cent. of all cases, but most commonly in Classes 1 and 2—prolapse of caecum or of proximal colon—the appendix is situated posteriorly, either retro-caecal or retro-colic, bound closely by adhesion, and frequently acutely kinked. This may be due to its being caught behind the caecum during the descent of the latter, or by its fixation under the end of the ileum by deficit in its mesentery, or by its inclusion in the bands so frequently formed in this region during intrauterine life—for example, the genito-mesenteric fold described by Douglas Reid,[6] who says "that this fold is the commonest cause of the retro-colic position of the appendix. Its pressure on the adhesions it produces to the left of the caecum may arrest the completion of caecal torsion." An appendix so anchored would naturally undergo devitalizing changes, become kinked, and develop the signs of a chronic inflammation. But in addition I have always thought that an appendix originally free might, by reason of subacute infective inflammation, become thus fixed behind the caecum, and then, by distorting the axis of the caeco-colic junction forwards, initiate a bulge in the anterior wall of the ascending colon, developing into a localized proptosis, the typical "cesspool caecum" of Type I.

Lane's Band, determining the Typical Ileal Kink.—The congenital origin of this is upheld strongly in the excellent articles of Seton Pringle[7] and Sir Henry Gray,[8] published in 1914, where it is stated to be due either to the persistence of the genito-mesenteric fold or to excessive peritoneal fusion. More than once I have found this fold present in an abdomen opened for some reason quite independent of stasis.

Arthur Keith[9] finds that accessory bands, once regarded as pathological, are present in at least 30 per cent. of newly-born children; but in colons removed by operation for stasis or colitis he has now no doubt that "adhesions are largely increased in number and extent by pathological states. Still, the chief adhesions, or the bands which have been regarded as the cause of obstruction or stasis are invariably found at the site of the embryological adhesions. In other words, pathological varieties are exaggerations of normal adhesions or bands."

Keith's work on the morphology, the anatomy and the functions of the normal colon, as well as the pathology of colonic stasis derived from minute investigation of specimens removed on that account, has shed new light upon the one, and given new conceptions of the origin and meaning of the other; for, as always, by sufficiency of knowledge of the normal will efficiency of treatment of the abnormal be evolved.

Causation.

In spite of the adhesions, accessory bands, the angulation and prolapse of the colon, my experience agrees with Keith's when he states that he has never yet obtained a single specimen which showed the usual signs of chronic obstruction—namely, marked constriction at the site of the adhesion with hypertrophy of the muscular coat of the intestine, which had to force its contents through the constriction. All the evidence points to stasis being due, not to mechanical obstruction, but to defect in the motor mechanism of the large intestine.

Excluding cases of long-continued colitis, I think all operators will agree that the bowel in stasis is not hypertrophied. It is dilated, with increased sacculation and more or less kinking or distortion. Its wall looks thin and atonic. It is quite a familiar sight to see the proximal colon thus affected as far as about the centre of the transverse colon; and the change in the appearance of the gut in the distal colon from that point onwards gives strong support to the belief in the divided function of the colon, the proximal half for bacterial digestion, the distal for evacuation. It also tends to support Keith's conviction that—

> In the great majority of cases which are classified under the somewhat elastic term of intestinal stasis the symptoms do not result from any atony of the musculature of the bowel, but from a hypertonicity of those parts which are normally in a state of chronic contraction, such tracts as the terminal part of the ileum, and all that part of the colon which lies between the mid-point of the transverse colon and the junction of the iliac with the pelvic colon. The *x*-ray and anatomical evidence is altogether against the theory which regards peritoneal bands and kinks as a cause of chronic obstruction of the bowel, and altogether in favour of a disordered action of the intestinal musculature.

Keith attributes the control of rhythmic action in the gastro-intestinal canal to nodal tissue, situated in the myenteric or Auerbach's plexus, containing certain cells muscular in origin, with processes directly united with nerve cells on one hand and muscular cells on the other, having a higher degree of excitability than ordinary muscle and providing centres at which contracting waves take origin. It resembles, he says, the traffic along a railroad track, divided into sections, each placed under a pacemaker. The traffic of one centre has to be regulated in relation to adjoining sections, and there must be signal-systems which can control and act as pacemakers or regulators of neighbouring centres. The gastro-intestinal tract has six sections, each with its chief centre of excitability at the beginning or proximal end—namely, gastric, including first part of duodenum, duodenal, jejuno-ileal, proximal-colic, distal-colic, and rectal.

A potent reflex action, inhibitory as well as acceleratory, between portions of the gastro-intestinal tract, particularly between ileo-caecal junction and stomach and duodenum, as noted by Moynihan, Lane, and others, is well established. It appears equally reasonable that hypertonicity of the distal colon should, by inhibiting the proximal colon, result in its atony, dilatation, and prolapse. It appears to me also that a frequent clinical sign, the causation of which has never been explained, is attributable to the same influence—namely, ballooning of the rectum, as an indication of an obstructive lesion in the distal colon, its adjacent section.

From the point of view of treatment of enteroptosis, one more point in the dynamics of the abdomen must be mentioned—namely, the present view that viscera are merely slung from, and not supported by, the mesenteries, but are controlled by support of the abdominal wall by automatic reflex action, as in standing, and that their ptosis is due, not to congenital or acquired bands, but to defective action of the abdominal musculature.

Clinical Features.

Whilst it is thus undetermined whether stasis is the result of the different bands or adhesions, or the disturbance of the neuro-muscular action of the alimentary tract; whilst our knowledge of the anatomy and physiology of that tract is so incomplete, and needs establishing by the working out of many complex problems; whilst the question of what constitutes intestinal stasis has never yet been accurately defined, or its exact relation to toxic absorption determined; whilst it appears to comprise so many affections of widely separated portions of the alimentary system, it is manifest that the symptoms displayed must also vary widely in different types of case. Confining our attention chiefly to the large intestine cases, some indications may, by the light of experience, be noted:

1. The majority of cases have the history of a distinct starting point. Quite often it has been a continued and severe attack of abdominal pain, usually right iliac or lumbar, with confinement to bed for two or three weeks. After subsidence the pain continues, more marked at intervals, which tend to become shorter. When the pain is right iliac the symptoms strongly suggest a subacute appendicular attack, without pyrexia, and doubtless this has actually been present in many cases. Sometimes the pain is right lumbar, in the subhepatic area. In such cases one suspects kinking at the hepatic flexure.

2. Much rarer is left iliac pain in cases of pelvic colon trouble. When such cases are sent for surgical advice there is usually a tender spot at the original site of pain. In the cesspool caecum a succussion splash is usual in the right semilunar line, above and outside McBurney's point, but below the level of the umbilicus. This may also be found on the left side in pelvic colon cases.

3. Constipation, though frequent, is not constant. In some cases it is lifelong, but more marked since the commencing or determining attack. Where there is a regular action of the bowels it may be suspected that the sacculi of the proximal colon are not efficiently emptied thereby; but constipation, as the patient understands it, must not be taken as a synonym for intestinal stasis.

4. Dull, aching abdominal pain and feeling of weight is very constant, either in the lower abdomen more marked to the right, or in the epigastrium. Its occurrence may or may not be associated with the taking of food, but it is often associated with the erect posture, and is then relieved by lying down, and often by manual support of the abdominal wall.

5. Gastric or duodenal trouble, sometimes with frequent vomiting, sometimes with epigastric pain after food; *x* ray indicates the actual condition. Whether it is due entirely to reflex action, or whether there is not also a mechanical factor by direct drag on the stomach and second part of the duodenum by the prolapsed and laden colon, is not yet determined.

6. Abdominal crises, such as accompany floating kidney, are associated with enteroptosis also, in my opinion.

7. Very marked pulsation of the epigastric aorta, sometimes visible pulsation, is frequent, as would be expected when the stomach is proptosed.

After some experience, paying attention to these points a diagnosis can generally be made. And yet I am confident that an individual with slipped bowel often passes through life without the troubles and signs of intestinal stasis. As such she may have minor troubles and be classed as a "neurotic abdomen"—a diagnosis now, with the advance of knowledge, becoming much rarer. Some determining factor appears to be necessary to constitute the signs of stasis. A distinct kink or partial torsion of the loosened bowel lasting some time, the effects of a pregnancy, some illness, or even a neurasthenic attack, supervening from general or nerve debility, may be sufficient to originate the disturbances in the bowel wall, from which it never recovers, but lapses into chronic stasis.

Treatment.

It will be apparent that practically all cases, when they come to my notice, are, by reason of some determining attack, with subsequent failure of compensation, or by long continuance of gradually advancing symptoms, likely to be benefited only by surgical interference. But it is essential that it should be widely recognized that in the great majority of cases, especially in their early stages, medical treatment alone is needed, and is very frequently, if carried out carefully and continuously, effects either a cure or such amelioration as to render life comfortable and useful. This lies in the province of the family

medical man; hence the necessity of his keeping stasis always in his mental vision. In view of the reflex action of the muscles of the abdominal wall in supporting the abdominal viscera, the advisability of abdominal exercises to improve their strength and tone will be grasped. In cases where the lax abdominal wall and the prominence of the lower abdominal region show that enteroptosis is already present, whether progressive or due to constitutional growth, as shown by the typical thin, sallow-complexioned, long, narrow-chested condition, the "habitus enteropticus," support from a proper abdominal belt must be sought, and the compression of the lower chest wall by corsets forbidden.

To promote passage in the large intestine, paraffin is a sheet-anchor as a lubricant and to prevent the formation of faecal masses in the sacculi, which weigh down the bowel and drag on the stomach and duodenum. But paraffin, whilst a lubricant, is not a laxative. For this, in cases after resective operations on the bowel, I mostly employ small nightly doses of castor-oil, 1 drachm more or less, as found necessary, the essential being its exhibition regularly every twenty-four hours. Cascara will also serve, and I think Parke, Davis's "cascara evacuant" is the best form available.

Surgical Treatment.

In 1912–13 I operated on 32 cases, 2 of which were fatal. To ascertain "end-results" I have communicated with the remainder, and have reports from about 26.

Class 1.—An appendix, posterior, kinked and adherent, should be removed. If accompanied by the typical ileal kink, this should be freed by division of the underlying sickle band and peritonization of the surface thus divided. If the caeco-colon is markedly "cesspool," it must be dealt with by caecoplication, narrowing the lumen by invagination of the wall between the anterior and outer taeniae.[10] Alternative methods are Coffey's colopexy,[11] anchoring the bowel to the parietal peritoneum, or Wilm's caecopexy, fixation of the caecum to the iliac fossa. I report 5 cases of this type, 4 completely successful. One was well, and working at munitions for four years. Symptoms then recurred, and six months ago I performed a successful hemicolectomy. In cases where a greater extent of colon is involved, or where, by long duration, the condition of the patient is worse, the choice of operation lies between short-circuiting by ileo-colostomy, hemicolectomy, and colectomy.

Class 2, Prolapse of Proximal Colon.—I favour hemicolectomy, and it was done in 12 cases now reported. One died on the sixth day of leakage from the suture, 3 have returned to good health, 8 are improved, 3 of which have only to be careful of diet because of gastric trouble, and one complicated by chest trouble is only slightly improved. During the last six months, since I was set free from military duty, I have been uniting the bowel by end-to-end anastomosis instead of lateral, as in the cases here noticed done before 1914, and I think future results will be notably better, as displayed in three patients shown at the clinical meeting a fortnight ago.

Hemicolectomy appears to me a sound procedure, having regard to the evacuatory function of the distal colon, and because in this type of prolapse the terminal ileum and the centre of the transverse colon will always be found on operation lying parallel and adjacent to one another, as though Nature were indicating the site for resection of the gut. If, by prolapse of the proximal half of the transverse colon, its course has become nearly vertical in the abdomen, with a sharp angle at the splenic flexure, or if the pelvic mesocolon is short and shows signs of a mesosigmoid band, I should do an ileo-colostomy or a complete colectomy instead. The choice between these two must be decided in each case and is not always easy to make. Some weeks ago, in a case of completely slipped proximal colon, where the whole distal colon was closely bound down to the parietes and the iliac fossa, and where the lower pelvic colon appeared too adherent to afford a satisfactory ileo-colostomy junction except when freed by dissection, I decided against this and performed total colectomy. Sir Arbuthnot Lane says "the ease of the operation depends on the operator's familiarity with the development and arrangement of acquired bands, particularly those controlling the splenic flexure." I think I have a fair knowledge of these, and did my best to apply it in this case; but the separation of the distal colon proved most trying and took considerable time, and though no great amount of blood was lost, death from shock took place in three hours. There were no acquired bands, except at the splenic flexure and the pelvic mesocolon, and yet the freeing of the descending and iliac colon was difficult. Should I meet with another case like this I shall trust to short-circuiting, especially as in the contracted state of the distal colon any reflux of bowel contents into it from the anastomosis would be most unlikely. This reflux militates most strongly against ileo-colostomy in the opinion of some surgeons. The crux of the operation seems to me to consist in the making the site of the anastomosis in the pelvic colon as low down as possible. Of the cases here noted, 7 were ileo-colectomy; 4 have completely recovered, 2 are much better, and one is no better.

Colectomy.—In the present imperfect state of our knowledge of the functions of the large intestine and the mechanism of stasis in it, there is no doubt that in advanced cases where its whole course is proptosed or shows kinking at various scattered points, colectomy is the ideal remedy. In most cases it is a surprisingly easy operation, and is followed by no dangerous shock. In its technique I follow the course detailed by Lane, evolved by his long and extensive experience. Three colectomies are included in the present list.

1. Female, aged 56, admitted for intestinal obstruction, with extreme prolapse, died on the third day from cardiac failure.

2. E. B., female, aged 28; duration eight years; prominent symptoms vomiting and constipation. For two years before operation was too weak to stand or walk. Operation June 10th, 1912. The stomach was dilated and dragged down by distended and prolapsed colon; appendix bound down and showing the V-shaped kink. The ileum 6 in. from its termination was united to the pelvic colon by lateral anastomosis, and all the intervening bowel excised. The patient writes last week: "I am pleased to say the operation you performed has been very successful. I keep well in health, not exactly robust, but have been working as a glove-machinist for the last three years."

3. Mrs. E. W., aged 42, duration twenty years, following birth of her only child; uterine prolapse, haemorrhoids, severe constipation and constant vomiting. During the two previous years she had had, in hospital elsewhere, four operations—namely, removal of piles; double oöphorectomy; ventrofixation of uterus; nephrorrhaphy of left kidney. Pain and constipation were even worse afterwards. Vomits several times a day, frequent blood in vomit. She had been confined to bed, had attempted her life, and on arrival in hospital was very weak, worn, and depressed. An operation was performed on November 2nd, 1912. The stomach could be pulled outside the skin level below the umbilicus, and the large intestine was much prolapsed. Lateral anastomosis between the ileum and the pelvic colon just above the rectum was performed, and then, as the patient's general condition warranted it, the colon was excised. She left hospital on the twenty-third day afterwards. She attended the clinical meeting of a fortnight ago, saying she is better now than ever before in her life, can eat anything, and has never taken a laxative since her operation. She started work six months afterwards, has worked in a cotton-mill, and is now dividing the day between cleaning offices and her own housework.

Cases like these prove the present value and status of colectomy. Whether, with the advance of knowledge—from the proposed research schools of applied anatomy and physiology—it will retain this position, is a question of the future.

REFERENCES.

[1] *Medical Chronicle*, May, 1913. [2] Important articles in *British Journal of Surgery*, April, 1915. [3] C. H. Fagge, *Lancet*, 1913, i, p. 1298. [4] Jackson, *Surg., Gyn., and Obstet.*, September, 1909, and *Annals of Surgery*, 1913, p. 374. [5] Morley, *Lancet*, 1913, December 13th. [6] Douglas Reid, *Journ. of Anat. and Phys.*, vol xlv, p. 73; and Ibid., vol. xviii (1913–14), p. 432. [7] Seton Pringle, *Lancet*, 1914, i, p. 183. [8] Gray, Ibid., p. 188; and Anderson, Ibid., 1913, i, p. 1300. [9] Keith, in fourth edition of Lane's *Operative Treatment of Intestinal Stasis; Brit. Journ. Surg.*, April, 1915; *Lancet*, 1915, ii, p. 371; BRITISH MEDICAL JOURNAL, 1912, ii, p. 1599. [10] Watson Cheyne and Edmunds, *Lancet*, 1913, i, p. 842. [11] Coffey, *Surg., Gyn., and Obstet.*, vol. xv, 1912, p. 365.

THE Ministry of Social Welfare, Belgrade, has invited the Committee of the Serbian Relief Fund, London, to organize and operate the bulk of their institutions for disabled and invalid Serbian soldiers, of whom there are between 175,000 and 200,000 in Yugo-Slavia. The English staff will work in close co-operation with the Serbian Government, and orthopaedic hospitals, tuberculosis sanatoriums, workshops, and agricultural schools will be established. A formal acceptance of the offer of the Ministry of Social Welfare to undertake this responsibility is being conveyed by Major Hardwicke, Director of the Serbian Relief Fund in Serbia.

The Lettsomian Lectures

ON

TUMOURS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON,

BY

HERBERT R. SPENCER, M.D., B.S., F.R.C.P.,
OBSTETRIC PHYSICIAN, UNIVERSITY COLLEGE HOSPITAL.

(*Abstract.*)

LECTURE II.—OVARIAN TUMOUR COMPLICATING PREGNANCY, LABOUR, AND PUERPERIUM.*

THE lecturer presented an elaborate table, which we are unable to reproduce, giving particulars of 55 ovariotomies for ovarian tumour complicating pregnancy, labour, and the puerperium; it comprised all the cases he had seen with two exceptions. One of these was that of a woman, referred to below, who died on the third day of the puerperium owing to rupture of a very large cyst; the other was that of a lady with an ovarian tumour as big as a lemon, who had been delivered in 1918 of a living child, and who, as the tumour caused no inconvenience, did not wish to be operated upon. The ages of the 55 patients varied from 20 to 43, the average age being 30. Nine patients were nulliparae at the time the ovarian tumour was present, nine had had five or more children, one had had nine, and three ten. Altogether the 55 patients had had 150 children, an average of nearly three, before the tumours were removed.

ABORTION.

Information as to occurrence of abortion was not noted in 7 cases; the remaining 48 women had had 125 children and 33 abortions. The proportion of abortions to pregnancies was therefore 26.5 per cent.

Of the 55 cases, 40 were not operated on during pregnancy and 15 were. In only 5 of those not operated on during pregnancy, or 12.5 per cent., did abortion occur in the pregnancy preceding the ovariotomy. The rate may have been lower, as the notes leave a doubt about the date of the abortion in one case. In 5 out of 6 cases in which both ovaries were affected abortion did not occur; in the sixth case the notes leave the matter in doubt.

Of the 15 cases operated on during pregnancy 4 aborted (26.6 per cent.).

One had bilateral dermoids removed at the twelfth week; one had bilateral fibroids removed at the fifth week of pregnancy; another had haemorrhage before the operation at the thirteenth week, when a large multilocular cyst was removed; the patient passed a mole twenty-seven days afterwards. The fourth had an acute twist of the pedicle of a parovarian cyst with haemorrhage into the broad ligament; the tumour was removed at the thirteenth week of pregnancy two hours after the twist occurred.

In 10 of the 15 cases operated on (66.6 per cent.) the pregnancy continued and living children were born, but one died shortly after. As 3 of the patients were operated on at term, when the question of abortion does not arise, the true abortion rate for patients operated on before the child is viable is in this series 4 out of 12 cases (33.3 per cent.).

NATURE OF TUMOUR.

The tumour was cystadenomatous in 33 cases (60 per cent.), dermoid in 15 (27.2 per cent.), ovarian fibroid in 3 (5.4 per cent.), and "parovarian" in 6 (10.9 per cent.). Torsion of the pedicle was found 12 times in cystadenomatous tumours, 5 times in dermoid tumours, and once among the "parovarian" tumours, a total of 18 (32.7 per cent.).

Cystadenomatous Tumours.

Of the 33 cystadenomatous tumours 22 were multilocular (in 2 cases papillomatous); 11 of the unilocular tumours may originally have been multilocular. The cystadenomatous tumours were mostly of large size; 3 had ruptured, as noted below. A few were small. The two papillomatous tumours were also multilocular. One case was complicated with hydrosalpinx and another with pyosalpinx and ovarian abscess.

Dermoid Tumours.

Most of the dermoid tumours were small, not more than 10 to 12 cm. in their greatest diameter; the exceptions were a tumour which contained three pints of pus, another which was as big as an adult head, a third which measured 16 cm. in its longest diameter, and a fourth which was as big as the pregnant uterus at the sixth month, and contained pill-like balls of fat. In 2 of the cases tumours were removed on both sides, and in another a dermoid had been removed from the opposite side thirteen years previously. Thus 20 per cent. of the dermoids were bilateral.

Ovarian Fibroids.

In one case the tumour was small and contained pus; in another it was calcified, weighed 1 lb. 8 oz., blocked the pelvis, and was mistaken for a uterine fibroid before the operation; in the third case the tumours were bilateral—the right tumour weighed 3 lb. 8 oz. and was removed with the rest of the ovary; the left, 1 in. in diameter, was excised and the remains of the ovary stitched up. The patient had a living child in the following year.

"Parovarian" Tumours.

All the parovarian tumours except one, which contained ten pints, were of small size. In one case a subfimbrial cyst on the left side was associated with an ovarian cyst on the right. In only one case (the only case in which the pedicle was twisted) was the corresponding ovary removed.

Rupture of the Cyst.

Rupture of the tumour occurred in 3 cases (5.4 per cent.).

In one of these cases the rupture probably occurred at labour; the tumour was removed a month later. Another had been tapped at a lying-in hospital to relieve pressure; the tumour was removed during labour. The other case was admitted during labour with much free fluid in the abdomen. The cyst was removed twelve hours after labour, and was found, as expected, to be ruptured, but holding 2 gallons of bloody fluid, some of which had escaped into the peritoneum. All these tumours were very large multilocular cysts. The largest ruptured ovarian tumour met with by the lecturer contained 31 pints of fluid. It burst on the third day after an easy labour. The patient had been advised, both before and during pregnancy, to have the tumour removed, but refused. She had been progressing favourably, but when the cyst ruptured became collapsed and was removed in an ambulance to hospital, but died of syncope immediately after her admission. The wall of the cyst was very thin, and looked as if it had been stretched.

Suppuration of the Cyst.

The tumour suppurated in 8 cases; in all the suppuration occurred after delivery.

In one case the tumour contained 2 gallons of fetid pus, and the patient was very emaciated and feverish; in another there were 15 pints of pus. In another case the patient had been delivered with forceps (the child dying on the third day), and the tumour had been tapped twice, 10 pints of pus being evacuated. In another case the child was delivered (dead) with forceps, and the tumour contained 26 oz. of pus. In one case the tumour was small and did not become evident till the uterus had involuted; in another it was complicated with an ovarian abscess and pyosalpinx on the other side. The pedicle was twisted in one case.

Six of the suppurating tumours were cystadenomatous, one was a dermoid; the infection in this case probably was caused by the tapping. The supposed proneness of dermoids to suppurate is due to an error of observation; the liquid fat at the temperature of the body looks very like pus to the naked eye. Examination with the microscope shows its nature. Dermoids very rarely suppurate. They are no doubt more prone to it as a result of labour, owing to the risk of injury when they are in the pelvis. Out of 59 dermoid tumours removed Dr. Spencer only met with suppuration in two cases besides the case mentioned above, and in one of them the tumour communicated with the sigmoid flexure of the colon.

Seat and Position of the Tumour.

The tumour was situated in the right ovary in 23 cases, in the left ovary in 18 cases, in both ovaries in 8 cases, in the right parovarium in 4 cases, in the left parovarium in 1 case, in the left parovarium and in the right ovary in 1 case.

The tumour was incarcerated in the pelvis in 5 cases. In 1 case the tumour was mistaken for a uterine fibroid, Caesarean section was performed, with a successful result to the mother and child. In the other 4, which were all dermoids, the value of treating the obstructing tumour either by pushing it up out of the pelvis or removing it by operation was illustrated. The danger of delivering the child while an ovarian tumour is in the pelvis is illustrated by a specimen exhibited before the Obstetrical Society in 1898, which showed rupture during version after an attempt at delivery by forceps, with a fatal result to the mother.

During the course of labour, the reposition of the tumour is facilitated by putting the patient in the Trendelenburg position under chloroform anaesthesia, a procedure which should always be tried before resorting to abdominal

* Delivered February 16th. The valuable table to which reference is made will be published, with the full text of the lectures, in the *Transactions* of the Medical Society of London.

section. If it is found to be impossible to push up the tumour, the uterus should be withdrawn from the abdomen through a 6-inch incision, which is quite long enough if the uterus be brought out cornerwise. If the child be in good condition the tumours may be removed, and the child delivered by forceps; but if the child's heart sounds are slowed or weak, the child should be delivered as soon as the tumour has been pulled out of the pelvis, and before it is removed; thus the child will be spared some minutes of anaesthesia. It is of great importance that the cervical canal should be dilated before operation for the removal of the tumour, otherwise it may be necessary, after removing the tumour, to close the abdomen, which is done with difficulty, owing to the tension of the abdominal wall. In delivering the child at the end of the first stage it is not necessary to replace the uterus in the abdomen; the forceps may be applied (if possible by a second operator) while the uterus lies on the abdominal wall. If the cervical canal is not dilated, the tumour should be pushed up with the patient in the Trendelenburg position, and removed at a later stage of labour or after delivery.

Adhesions.

Adhesions were found in 26 cases (47.2 per cent.). All the suppurating cases were adherent. Dermoid tumours in which the pedicle was not twisted were free from adhesions except in two instances.

GROWTH OF THE TUMOUR DURING PREGNANCY OR PUERPERIUM.

There does not appear to be any evidence in the cases observed of specially rapid growth of the tumour during pregnancy. Fifteen (27.2 per cent.) of the tumours were dermoids, which usually grow slowly, and do not attain a size which enables the growth to be easily observed, at least by the patient. In one case the left-side dermoid grew in three months from the (estimated) size of a hen's egg to a size of 8.5×7.5×6 cm.; in another the dermoid tumour, at the third month of pregnancy of the size of a hen's egg, measured 16×10×8.7 cm. nine months later. It must be remembered that the growth of ovarian tumours, apart from pregnancy, is often rapid. In one case the growth was sudden and rapid, and the cyst ruptured during labour; it contained 2 gallons of bloody fluid, and was removed twelve hours after delivery. In another case the tumour grew so fast that it had been tapped in a lying-in hospital to relieve pressure. These cases of rapid growth are, however, exceptional, and on the whole it appears that pregnancy exercises no special influence in increasing the rate of growth, the evidence pointing usually in the opposite direction. In the puerperium there seems to be a greater tendency to a rapid growth.

In one instance, however, the tumour diminished greatly during ten weeks' observation in the hospital; the patient was also suffering from pleural effusion, of tuberculous origin. A large suppurating ovarian cyst, extending high up into the abdomen, gradually got smaller, until, at the time of its removal, it was of the size of a fist. At the operation adhesions to the omentum, abdominal wall, and intestines were found to encapsule the tumour, and no doubt the vessels in these adhesions had absorbed some of the fluid in the cyst, thus leading to the remarkable reduction in size. The patient recovered well from the operation, and slowly recovered from the pulmonary phthisis, and was examined by me and found to be in fairly good health twenty-seven years later.

THE RESULTS OF OVARIOTOMY.

Of the 55 patients submitted to ovariotomy, one died.

In this fatal case the tumour was a dermoid. The patient had been delivered eight months before the operation. She had noticed abdominal pain five months after the confinement. There were no adhesions. The pedicle was not twisted at the time of the operation, but the Fallopian tube was almost divided, possibly as the result of a twist which had become undone. After the operation intestinal obstruction was caused by the adhesion of a coil of small intestine to the stump of the ovariotomy pedicle. The abdomen was opened and the coil separated, but the patient succumbed.

Ovariotomy during Pregnancy.

Of the fifteen ovariotomies during pregnancy twelve were performed during the first half, two were operated upon during labour, and one immediately after Caesarean section at term. In two labour was induced on account of contracted pelvis. All the mothers recovered.

The children (in one case twins) were born alive in 11 cases, but one of the children died soon after birth; 4 patients aborted; thus, in 5 out of 15 cases the child was lost; thus the mortality rate for the children was 33.3 per cent.; the abortion rate was 26.6 per cent., or, more correctly, 33.3 per cent. (see *ante*). In four other cases seen by the lecturer during pregnancy, and operated on, the mothers recovered and the children survived.

Thus, of the 19 cases seen during pregnancy, all the mothers recovered; and in 15 the children were born alive and in 14 survived, the mortality rate of the children being 26.3 per cent., the abortion rate 21.5 per cent.

The Operation.

The ovariotomy incision was made in or near the middle line, usually through the inner edge of the left rectus muscle. In two cases the transverse Pfannenstiel incision was made: it lessens the exposure of the intestine and the risk of hernia subsequently, but may entail more manipulation; it is only exceptionally suitable for cases operated on during pregnancy. Silk was used exclusively for ligatures and buried sutures. Drainage was employed in three cases. The pedicle was tied with interlocking silk ligatures and stitched over with fine silk. In the later cases isolated ligatures were also placed on the ovarian artery, as first practised by Burd in 1846. The advisability of this practice is shown by Laroyenne's case[1]:

The patient died in the second month of pregnancy from haemorrhage from slipping of the ordinary ligature applied at an ovariotomy three months previously; at the autopsy the two ends of the artery were found gaping, the growing uterus having displaced the ligature by stretching the broad ligament.

Fehling[2] also lost a patient from the same cause; the labour pains, which began on the day following an abdominal ovariotomy near term, after two hours caused the ligature to slip and led to intraperitoneal haemorrhage, for which the abdomen was opened and the pedicle again tied, but too late to save the patient.

Cases of Ovarian Tumour not Operated on.

In the 40 cases not operated on during pregnancy all the mothers recovered from the labour or abortion. In 29 cases (out of 37 in which the fate of the child is given) the child was born alive; in 4 cases the child died as a result of difficult delivery by forceps or version. In 4 (possibly in 5) out of the 40 cases abortion occurred. The mortality rate for the children is 8 out of 37 = 21.6 per cent. The abortion rate is 10 per cent., or possibly 12.5 per cent. (see *ante*).

Etiology of Malignant Change.

The question of the influence of pregnancy in causing malignant changes in ovarian tumours was discussed by Sir John Williams in his Cavendish Lecture. He showed that there was no evidence of such influence. In support of this opinion is the fact that malignant ovarian tumours are rarely found in pregnancy; in my 55 cases there was not an instance, whereas, apart from pregnancy, malignancy is met with in more than 20 per cent. of ovarian tumours. It is noteworthy that in advanced age, in women over 70 years of age, malignant ovarian tumours are also rare. What the cause of this rarity is cannot at present be stated.

After full consideration of the view expressed by Sir John Williams that sterility favoured the production of ovarian tumour, the lecturer expressed the opinion that the evidence was inconclusive, and that the question could not be settled until the frequency of ovarian tumours in large numbers of virgins was known.

SYMPTOMS.

Many patients with an ovarian tumour go through pregnancy without any symptoms arising from its presence, if it is small and does not block the pelvis or become twisted or inflamed. The only way in which such tumours can be diagnosed is by routine examination of the abdomen and pelvis during pregnancy, which ought to be carried out in every case. In advanced pregnancy it is important to examine the lumbar regions, as small tumours may easily escape notice or may be mistaken for renal tumours. Large tumours give rise to feelings of weight and pressure.

If the tumour becomes inflamed or strangulated by twisting of its pedicle, the symptoms are acute and may closely simulate strangulation or necrobiosis of a fibroid, acute appendicitis, or pyonephrosis. The symptoms of rupture will depend upon the nature of the contents; in some cases the accident scarcely gives rise to any other effect than alteration in the shape of the abdomen from

the peritoneal effusion; in others shock, pain, and vomiting ensue. Malignant tumours are fortunately rare; they may cause emaciation and cachexia, and are usually painful, though in some cases there are no symptoms which suggest malignant disease.

DIAGNOSIS.

The diagnosis of pregnancy complicated with ovarian tumour is usually not difficult. In some cases of early pregnancy, where the ovarian tumour is large or adherent, it may be difficult to make out the shape and consistence of the uterus. But in all cases where menstruation is delayed pregnancy should be suspected, and the colour of the vagina, the consistence of the uterus, and the appearance of the breasts should be investigated; the presence of morning vomiting may help in the diagnosis. In the early months the increased width of the uterus may be made out by examining the patient bimanually in the dorsal position with the fore and middle fingers of the right hand on each side of the cervix. In conducting this examination the greatest gentleness should be used; any forcible pressure may easily separate the ovum, an objection which applies to the so-called "Hegar's sign." In the second half of pregnancy the "certain signs" (heart sounds, parts or movements of the child, and ballottement), the contraction of the uterus and the breast changes, usually render the diagnosis of pregnancy easy if care is employed; but hydramnios may render the detection of the fetus difficult even when the patient is placed in the kneeling position, which, causing the fetus to fall to the most dependent part of the abdomen, renders its detection by ballottement easier. It is important to bear in mind the softness of the supravaginal cervix—the physical condition which enables Hegar's sign to be obtained—which may cause the body to be apparently separate from the cervix, and may therefore be mistaken for an ovarian tumour. Occasionally a lop-sided pregnant uterus is met with, which I have known taken for an extrauterine tumour. If the uterus is very thin-walled—and sometimes it feels as thin as an ovarian cyst—the body, or a bulging portion of it, may be mistaken for an ovarian cyst if careless examination is made. Error is avoided by careful bimanual examination in the dorsal position, when under gentle manipulation the uterus will be felt to contract, to become one with the cervix and regular in shape.

In some cases of ectopic pregnancy a doubt may exist as to whether the enlarged uterus is pregnant or not and the tubal swelling is a mole, a haematocele, or an ovarian cyst; but the haemorrhage which usually occurs in these cases will lead to an exploration of the uterus, which is found to be unimpregnated. The rare coexistence of intrauterine and extrauterine pregnancy must be borne in mind.

The recognition of the ovarian tumour is usually easy, as it ordinarily forms a cystic tumour movable apart from the uterus, on a pedicle which can sometimes be detected under anaesthesia. If the tumour is small it may easily escape notice in the lumbar region or may be mistaken for a tumour of the kidney or gall bladder. Examination under anaesthesia facilitates the diagnosis in these cases. If the tumour is twisted and inflamed it sometimes closely simulates a necrobiotic or strangulated uterine fibroid. Under an anaesthetic its cystic character can usually be made out. Tumours of small size impacted in the pelvis often feel as hard as uterine fibroids, for which they may be mistaken. Rectal examination is of great value in these cases. It must be remembered that uterine fibroids may be as cystic as ovarian tumours, and, on the other hand, ovarian tumours may be solid and are often associated with hydroperitoneum, which is rarely found with uterine fibroids. In some cases the diagnosis cannot be made between these two conditions with certainty, though in a patient under 25 a uterine tumour is very unlikely to occur.

If the tumour be ruptured the symptoms will depend upon the nature of its contents. In some cases the accident is followed by few symptoms; in others, shock, pain, vomiting, and peritonitis rapidly ensue. If the tumour be multilocular the unruptured portion of the cyst can be felt, and there are signs of free fluid in the abdomen. If the cyst be unilocular the only sign is the presence of free fluid in the peritoneum, which should always be suspected to be due to a ruptured cyst if there are no renal, hepatic, or cardiac causes present.

Suppuration of ovarian cysts is indicated by high fever, wasting, tenderness, and occasionally tympanites; a history of tapping or injury during labour is often obtained. Twisted tumours usually give rise to local peritonitis, and to fever, which usually subsides after a few days; a considerable rise of temperature, lasting some days after the acute peritonitis has subsided, will usually indicate that suppuration has taken place.

Malignant ovarian tumours are fortunately rare during pregnancy. They are usually solid, bilateral, and associated with hydroperitoneum and wasting; secondary nodules may be felt in the abdomen and in Douglas's pouch.

TREATMENT.

The treatment of ovarian tumours apart from pregnancy is generally acknowledged to be removal as soon as practicable. When pregnancy exists the matter is not so simple; the interests of the child and the desirability of maintaining the fertility of the mother may justify a postponement of the operation. In the introductory remarks a case was mentioned where this was done. In another patient, from whom a dermoid was removed before the occurrence of pregnancy, the other ovary was found to be cystic, but was not removed, as the patient was childless, with the result that in this case also the patient has since had a living child.

On the other hand, in another case the patient, pregnant for the first time, was operated on for bilateral dermoids at the twelfth week, aborted, and has, of course, remained childless. The tumours were causing no trouble, and were discovered during an examination on account of sterility a few months previously. Had the operation been postponed, in all probability she would have had a child; as it was, she aborted as a result of the operation.

I should like again to direct attention to the results to the child in this series, according as the operation was performed during pregnancy or after delivery. In cases operated on the infantile mortality was 33.3 per cent., the abortion rate 26.6 (or 33.3 per cent. of the cases operated on in "early pregnancy"). In those not operated upon during pregnancy (although sometimes unskilfully treated during labour) the infantile mortality was only 21.6 per cent., and might have been reduced to 10.8 by more skilful treatment during labour; the abortion rate was 10 to 12.5 per cent. Five at least (possibly all) of the six cases of bilateral ovarian tumours unoperated on during pregnancy did not abort; both the cases of bilateral ovariotomy during pregnancy aborted. From these figures it appears that operation during pregnancy involves an increased risk to the child.

The statistics, based on published cases, in McKerron's classical work show that the risk of abortion is least in the early months of pregnancy.

Although the risk to the child of operation during pregnancy should be taken in most cases to prevent the grave consequences which may result to the mother from leaving the tumour till the end of pregnancy, yet in uncomplicated cases of small tumours giving rise to no symptoms in patients who are childless, and particularly when bilateral tumours are present, the operation should be postponed, at least until the child is viable.

The treatment of ovarian tumours complicating pregnancy, labour, and the puerperium has been by some writers considered too much from a surgical standpoint; the obstetrical aspect is not less important and in some cases is the dominant factor. Amongst the nineteen cases which I have personally treated during pregnancy there were three cases of contracted pelvis which necessitated induction of premature labour in two of the cases, and would have done so in the third had the patient not aborted. It is clear that a contracted pelvis may profoundly modify our treatment, and that an obstetric examination of the pelvis should be carefully made in every case. Then the existence of bilateral tumours in patients who have not had children may justify the postponement of the operation in the hope of obtaining a living child, and should lead us whenever possible to conserve some part of the ovary.

SCHEME OF TREATMENT.

The following scheme of treatment was published in 1909 in the *Transactions of the American Gynecological Society*. As I have not seen any reason for modifying it, I reproduce it here with slight verbal alterations.

A. *During the First Half of Pregnancy.*

Ovarian tumours should be removed wherever their situation and whatever their size.

Exceptions.—The following tumours should not usually be removed:

1. Lutein cysts complicating hydatidiform mole; these often subside spontaneously.
2. Bilateral tumours causing no symptoms, if the patient is childless; or, if operated on, part of an ovary should be left behind.
3. Primary adherent malignant cysts.
4. Secondary malignant cysts.

B. *During the Second Half of Pregnancy.*

(*a*) All *large* ovarian tumours and ruptured, inflamed, and strangulated tumours should be immediately removed.

(*b*) Small tumours which are in the abdomen or which can be easily pushed up out of the pelvis in the knee-chest or Trendelenburg position should be watched, and if no untoward symptoms arise should be removed either at the end of pregnancy, or towards the end of the first stage of labour, or after delivery.

(*c*) Small tumours which are incarcerated in the pelvis and cannot easily be replaced in the abdomen may be watched and removed at the end of pregnancy, or, if circumstances will allow, towards the end of the first stage of labour. If the tumours are adherent or solid Caesarean section should be performed.

In all ovariotomies during pregnancy the vessels of the pedicle should be separately tied; the pedicle should be ligatured as far as possible from the uterus, and morphine should be given for the first two or three days after operation.

C. *During Labour.*

The best treatment is abdominal ovariotomy, immediate in the case of large tumours, at the end of the first stage or after delivery in the case of small tumours. When the operation is performed at the end of the first stage a second operator may deliver the child by forceps while the tumour is being removed. If the tumour be incarcerated in the pelvis and cannot be pushed up in the Trendelenburg position, the uterus should be withdrawn from the abdomen in order that the tumour may be dealt with.

For solid and adherent tumours occupying the pelvis Caesarean section may be necessary. It should not be performed for cystic non-adherent tumours. When labour is advanced and a cystic tumour is impacted in the pelvis, the circumstances may render it advisable to deliver the patient by the natural passages after evacuating the contents of the tumour by incision and packing the cyst with gauze, but the tumour should, if practicable, be removed within twenty-four hours, preferably through an abdominal incision.

Vaginal ovariotomy may be performed in non-adherent cases; but, though simpler in technique, avoiding an abdominal scar, and requiring fewer instruments, it is inferior to the abdominal operation in that there is greater danger from haemorrhage, difficulty in safely tying the pedicle, the necessity of cutting up the tumour, the impossibility of examining the other ovary, and from the presence of the vaginal wound.

Induction of premature labour, forceps, version, and simple tapping of a cyst, as means of overcoming the dystocia produced by ovarian tumour, are absolutely contraindicated.

D. *In the Puerperium.*

Ovarian tumours should be removed as soon as practicable, when possible within twenty-four hours of delivery. If there is doubt as to the aseptic condition of the uterus, a delay of a week or two may be advisable, unless indications of strangulation or infection of the tumour arise, when the tumour should be immediately removed.

REFERENCES.

[1] *Congrès période. internat. de gynéc. et d'obst., Genève (1896)*, 1897, ii. p. 125. [2] Quoted by Criwitz, Geburtshindernis durch Ovarialtumoren, *Inaug. Diss.*, 1902.

THE Carnegie Corporation of New York intends to give five million dollars to the National Academy of Sciences and the National Research Council. Part of the money will be used to build in Washington a home for the two organizations, and the remainder will be placed in the hands of the academy for the permanent endowment of the National Research Council.

THE EFFECTS OF DEFICIENT DIETARIES ON MONKEYS.

BY

ROBERT McCARRISON, M.D., D.Sc., F.R.C.P., LL.D.,

BREVET LIEUTENANT-COLONEL, INDIAN MEDICAL SERVICE.

(Pasteur Institute of S. India, Coonoor.)

(*Abstract.**)

I.—EFFECTS ON GASTRO-INTESTINAL TRACT.

THE experiments recorded were made on monkeys (*Macacus sinicus*) captured from the local jungles. Ten were fed on autoclaved rice, and four on autoclaved rice *plus* butter. Twelve monkeys, fed on rice, bananas, monkey-nuts, milk, onions, and bread, served as controls. The rice (milled) was autoclaved at a temperature of 130° C. for an hour and a half.

An exclusive diet of rice so autoclaved may be considered to be wholly deprived of accessory food factors of all three classes; it is excessively rich in starch and deficient in proteins, fats, and salts. A dietary of autoclaved rice *plus* butter is lacking in accessory food factors of the "B" and "C" classes, while it is ill balanced with respect to proteins, carbohydrates, and salts. The results of these experiments on monkeys confirm those previously recorded in the case of pigeons [1] fed on similar food. They may be considered as applicable in kind, if not in degree, to human beings subsisting, as frequently happens, on food similar in composition to that on which the monkeys were fed.

Loss of Body Weight.

Monkeys fed exclusively on autoclaved rice lost weight at the average rate of 18 grams a day. Those fed on autoclaved rice *plus butter* lost weight twice as rapidly—37.5 grams a day. As the animals were not weighed daily but only at the commencement and at the end of the experiment the averages given are approximate. It is probable that the loss of weight was much more rapid towards the close of the experiment than during its earlier days. The monkeys which received butter died much more rapidly than those which received no butter—the former in an average of fifteen days, the latter in an average of 23.4 days. The sex of the animal appears to have influenced the results to some extent, but the figures are too small to justify definite conclusions on this point.

No observations were made with regard to body temperature and respirations, as the monkeys were too wild to handle. In addition to loss of body weight, the main clinical evidences of disease exhibited by the animals were: progressive anaemia, gastro-intestinal disorders, and progressive asthenia ending in death. No *clinical* evidences of polyneuritis or of oedema were observed in any.

CLINICAL EVIDENCES OF GASTRO-INTESTINAL DISORDER.

Loss of appetite was mainly due to loathing for the food, accentuated by the gastro-intestinal derangements resulting from the deficient diet. The symptom is an important effect of "vitaminic" deficiency.

Vomiting was observed in four cases. The symptom did not persist for more than two days; the animals so affected refused all food and died rapidly.

Diarrhoea was the most constant symptom. It was present in ten out of fourteen animals. It made its appearance between the fourteenth and the twenty-fifth day of the experiment and persisted. In six cases the diarrhoea continued down to the time of death, in four it merged into true dysentery. The diarrhoeic motions were small, numerous, and pale, resembling pea-soup. Microscopical examination showed the stool to consist mainly of (1) epithelial cells in various stages of disintegration, (2) enormous numbers of bacteria, and (3)—in iodine-stained specimens—a small amount of undigested starch. Amoebae, but without ingested red blood corpuscles, were present in one case. In animals receiving butter in addition to the autoclaved rice large amounts of fatty acid crystals were seen on microscopical examination, and the stools were paler; in two instances they were distinctly frothy, resembling those of sprue.

Dysentery.—In 4 cases out of 10 in which diarrhoea occurred this symptom was preliminary to the onset of

* The full paper will appear in the *Indian Journal of Medical Research.*

dysentery. After the lapse of a day or two, during which diarrhoeal stools were passed, the motions became mucoid and streaked with bright red blood; later they consisted of pledgets of tough blood-stained mucus, sometimes intermingled with traces of pale yellow-white faecal matter, but more often consisting solely of mucus mixed with blood. In two cases dysentery occurred without any preliminary diarrhoea. The familiar characters of dysenteric stools were obscured to some extent in these cases by the nature of the animal's food and by the small faecal output induced by the state of semi-starvation. Nevertheless, they were such as in the human subject would have suggested "amoebic" dysentery. Animals rarely survived the onset of dysentery for more than a few days. In two cases dysenteric stools were passed only for two days prior to death; in four others the animals survived the onset of dysenteric symptoms for four, five, six, and seven days respectively.

In the diagnosis of these cases I have had to limit myself to investigation of the microscopical characters of the stool. Bacteriological studies could not, unfortunately, be undertaken. I am therefore unaware of the extent to which bacilli may have been responsible for, or participated in, the production of the dysenteric symptoms. In the stools enormous numbers of cellular elements of the most diverse form and size were present; they included, in addition to amoebae in some cases: (1) Desquamated epithelial cells in various stages of disintegration, appearing singly or in connected groups of a dozen or more; (2) red blood corpuscles, always in considerable numbers; (3) leucocytes and pus cells in large numbers; (4) single, double, and, more rarely, four-nucleated round cells; and (5) large mononuclear cells ranging in size up to 25 μ or even more. The majority of these cells showed degenerative changes.

In arriving at a diagnosis in any particular case I have followed the rule laid down by Wenyon and O'Connor,[2] and called no case "amoebic" unless I found "at least some amoebae with included red blood corpuscles present, or definite *E. histolytica* cysts associated with the amoebae in the stool." On this basis, four cases were classed as "amoebic" dysentery. Amoeboid organisms of varying sizes up to 25 μ were present in a fifth case, but as these did not contain ingested blood corpuscles and were not associated with *E. histolytica* cysts, this case was not classed as "amoebic." In the sixth case no amoebae were present. The histological characters of the stool in this, as in the previous case, were such as to render the diagnosis of bacillary dysentery legitimate.

In order to determine whether the monkeys were amoebae carriers the faeces of eight healthy control animals were examined (one examination only). *E. histolytica* cysts were found after prolonged search in one case, blastocysts (considered by Flu[4] to be degenerative forms of *E. histolytica*) were found in moderate numbers in a second and in very large numbers in a third; *E. coli* were present in three others. No amoebae were found in the faeces of the two remaining control animals.

Throughout the greater part of the experiment the twelve control monkeys remained free from gastro-intestinal disturbances of any kind. Towards its close, however, seven developed jaundice, thought to be due to a too generous provision of monkey-nuts with lack of exercise. Under a meagre diet of bread and milk, to which was added a pinch of Epsom salts, for a few days, the jaundice cleared up. In no case did diarrhoea or dysentery occur.

It is possible that flies may have conveyed *E. histolytica* cysts or dysenteric bacilli from infected to non-infected animals in the same room. Since, however, the control monkeys did not suffer from dysentery—although equally exposed to possible infection—it is obvious that the provision of a well balanced dietary secured their immunity.

This observation indicates (1) that monkeys in the wild state in South India may be carriers of *E. histolytica*, and (2) that states of malnutrition favour the multiplication of pathogenic agents of dysentery present in the intestinal tract, whereas a satisfactorily balanced dietary has the reverse effect.

Workers in the tropics have long been familiar with the facts that cysts of *E. histolytica* may be present in the stools of perfectly healthy individuals, and absent from the stools in a proportion of cases possessing the clinical characters of the type of dysentery called "amoebic" (Manson[5]). I know of no work, however, designed to determine the percentage of *E. histolytica* carriers amongst natives of India, but recently Flu[4] has estimated that at least 10 per cent. of natives of the Dutch Indies are *E. histolytica* carriers, and has concluded that this estimate is probably much too low. Amongst 946 British soldiers, invalided to India from Mesopotamia, who gave no history of dysentery MacAdam and Keelan[6] found 15.7 per cent. to be harbouring the cysts of *E. histolytica*. Wenyon and O'Connor[2] also found 4.5 per cent. of *E. histolytica* carriers amongst healthy British troops in Egypt who gave no history of dysentery. They record also that 13.5 per cent. of healthy natives of Egypt were *E. histolytica* carriers. It appears, therefore, that *E. histolytica* may exist in the healthy intestine as a pathogenic saprophyte without giving rise to dysentery until the conditions requisite for its growth upon and in the intestinal mucosa are provided by certain favouring circumstances. Amongst these circumstances, malnutrition—including deficiency of accessory food factors*—is one. It appears probable that bacillary dysentery also is favoured by like circumstances.

These observations have a practical bearing on the prevalence, prevention, and cure of dysentery. The occurrence of "famine dysentery" is well recognized in India, and it is submitted that the specific agents of dysentery, whether recently ingested or existing as pathogenic saprophytes, find in the malnourished state of the intestinal mucosa of famine-stricken individuals the conditions necessary for their unhampered growth. It is not necessary to assume a fresh amoebic infection in every case of amoebic dysentery.

Dysentery has frequently occurred amongst the starving inhabitants of certain occupied territories[7] during the late war. No doubt both war and famine often provide greater facilities for the entry of the specific micro-organisms of dysentery into the human intestine than do the more sanitary conditions of peace and plenty; but while recognizing this the present experiment brings into special prominence the importance of suitable dietaries in preventing this malady. It suggests also that disturbance of gastro-intestinal function from any cause, such as a malarial attack, for example, may lead to the recrudescence of acute symptoms of dysentery in carriers of the specific agents of this malady, or determine a first attack in persons recently infected.

In the prevention of dysentery two precautions are necessary: (1) The maintenance of the healthy and protective activity of the gastro-intestinal mucosa, and (2) the prevention of infection. I venture to think that the conditions necessary for infection of the intestinal mucosa differ little from those necessary for infection of the skin, that these conditions are provided by ill-nourished, poisoned, or necrosing tissues, and that an improper food supply is the most ready means of inducing them.

The cessation of this experiment afforded me an opportunity to observe, on the substitution of a normal dietary, the rapid disappearance of diarrhoea (and of dysentery in one case) in monkeys reduced to a grave state of asthenia by the deficient dietary. In the treatment of dysentery it is necessary to take care that the milk and rice-water dietaries employed are not lacking in "vitamines." If they are, not only will recovery from the dysenteric process be greatly impeded, but symptoms of beri-beri will be prone to manifest themselves. Many examples of the association of dysentery with beri-beri are on record.

PATHOLOGICAL EVIDENCES OF GASTRO-INTESTINAL DISEASE.

I shall confine myself here to an enumeration of the morbid anatomical and histo-pathological evidences of disease; details and *post-mortem* records are given in my full paper.

1. *Naked Eye Appearances.*

Fat disappeared from the omentum. The normal omentum in monkeys weighs from 50 to 56 grams; in

* Since this report was written dysentery has developed in two monkeys fed on autoclaved food (rice, bread, monkey-nuts, and milk)—that is to say, on food containing the requisite attributes of proteins, calories, and salts, but in which accessory food factors have been destroyed by autoclaving at 130° C. for an hour and a half.—R. McC.

monkeys dying in consequence of the deficient diet it weighed only 3 to 4 grams. Congestion of the mesenteric vessels was frequently but not constantly observed. The mesenteric glands were always enlarged and frequently discoloured (grey to dark slate-grey), most markedly in the vicinity of the caecum and in the colonic mesentery. There was very pronounced dilatation of the stomach, with thinning of its walls; thinning of the walls of the small intestine, amounting in places to actual transparency, and ballooning in certain areas were constant phenomena. Descending intussusceptions, the majority being agonal in origin, were frequent. A number of the larger intussusceptions presented evidences of congestion and constriction of the invaginated bowel which suggested their occurrence some hours at least before death. No inflammatory change was present in any.

Congestion of the small intestine and subserous ecchymoses, usually most marked in the duodenum and lower ileum, sometimes limited to these areas, were seen, as also congestion of the large bowel, and subserous ecchymoses sometimes throughout its entire length, but often confined to its lower six inches. In circumscribed areas the colon was greatly ballooned and its walls thinned, so that sometimes they were transparent (Fig. 1 and 2). The ballooning was due, not to the accumulation of faecal matter, but to distension with gas and to loss of muscular tone; on cutting into them they collapsed like a burst balloon. Owing to great atrophy and thinning of the longitudinal bands of muscle the normal puckerings of the colon disappeared. In butter-fed pigeons the same appearances were noted, but the whole gastro-intestinal tract was usually more ballooned and of a pale yellow-white colour.

Necrotic changes in the mucous membrane of the stomach were seen, and ecchymoses were frequently present at its pyloric end. In one case an ulcer was found at the pylorus. There was intense congestion of the duodenal mucous membrane, sometimes limited to the upper part, but often extending throughout. Sometimes in the jejunum and ileum there was congestion of the mucous membrane, with ecchymotic areas, the congestion being usually more marked in the lower ileum or confined to it. Above the larger intussusceptions, and sometimes also in the ballooned areas of small intestine, a thin glue-like mucoid material was found. There was great congestion of the invaginated bowel in the majority of the larger intussusceptions; no notable congestion occurred in those which were obviously agonal. Intense colitis was present in the great majority of cases, sometimes throughout the entire length of the large bowel, usually limited to the lower six inches; in rare cases the colitis was confined to limited areas of the transverse colon. In the areas of pronounced ballooning the walls of the colon were transparent. Occasionally great enlargement and discoloration of lymphoid follicles of the colon were seen.



FIG. 1.—Gastro-intestinal tract of healthy monkey. Killed fifteen hours after last meal. Period under observation, 104 days. Compare with Fig. 2. Same scale in both figures.

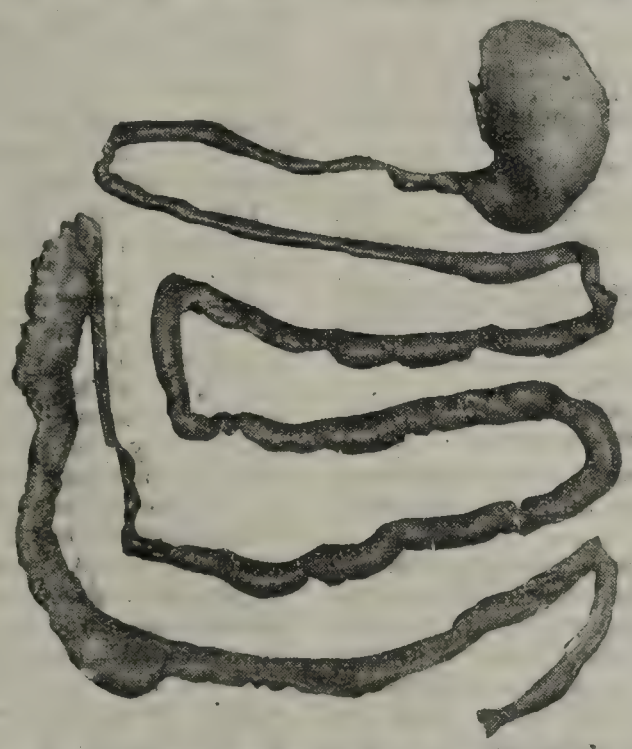


FIG. 2.—Gastro-intestinal tract of monkey fed on autoclaved rice for twenty-eight days, and thereafter on autoclaved food. Note dilatation of empty stomach, ballooning of small bowel (ballooned areas contained air only), inert appearance of large bowel, with great atrophy and thinning of its walls; severe colitis was present throughout colon. Period under experiment, eighty-two days.

2. Histo-pathological Evidences of Gastro-intestinal Disease.

Microscopic examination showed congestion and haemorrhage, usually limited to the serous, submucous, and mucous coats, rarely affecting the myenteron. This condition was most marked in the duodenum, the lower colon, the pyloric end of stomach, and the lower ileum, and its degree was in the order in which the organs are named. There was great atrophy of the myenteron throughout the entire tract; it was most notable in the longitudinal muscular bands of the colon. Pronounced degenerative changes were seen in many ganglia of the myenteric plexus of Auerbach.

The mucous membrane of the entire tract was the seat of atrophic, necrotic and inflammatory changes—most marked in the duodenum, the colon, the pyloric end of the stomach, and the lower ileum. There was atrophy and necrosis of all secretory elements of the entire tract: of the pyloric glands, the glands of Brunner, the glands of Lieberkühn, the mucous glands of the large bowel, and atrophy also of the lymphoid elements of the intestinal mucosa. I have not yet studied the histological changes in the pancreas, but judging by the diminution of weight the atrophic change must be pronounced. The average weight of the pancreas per kilo of body weight in two control monkeys was 1.66 grams; in ten fed exclusively on autoclaved rice the average weight of the pancreas per kilo of original body weight was 1.135 grams; in four fed on autoclaved rice *plus* butter, the average weight of the organ per kilo of original body weight was 0.95 gram.

EFFECTS OF THE PATHOLOGICAL CHANGES.

It is evident that the changes above detailed will lead to impairment of the functions of the gastro-intestinal tract. There will be impaired production of digestive ferments and other secretions of the entire gastro-intestinal tract, leading to imperfect digestion, excessive carbohydrate fermentation, and distension of the stomach and intestines with gas. Depressed functional activity of the pancreas will result from the impaired production of hydrochloric acid by the pyloric glands, and of prosecretion by the duodenal glands. Impairment of the neuro-muscular control of the entire tract will lead to delayed transit of the intestinal contents, especially in the colon, and weakening of its walls and "ballooning." The deranged neuro-muscular control of the bowel may favour production of intussusceptions. The conditions enumerated will lead to intense toxic absorption from the intestinal tract, and impairment of the protective resources of the entire gastro-intestinal mucosa against infecting agents, leading to infection of the mucous membrane by pathogenic saprophytes and by ingested pathogenic organisms. These infections give rise to gastro-intestinal catarrh, to gastritis, duodenitis, enteritis, and colitis, and frequently to haemic

infections. The occurrence of dysentery in these circumstances is significant.

COMMENTARY.

Such degrees of malnutrition as those produced in this experiment are rarely encountered in man during peace, but the late war afforded many examples of gastro-intestinal disorder amongst refugees, prisoners of war in Germany and Turkey, and the starved inhabitants of certain countries.[7] The facts here recorded afford a pathological explanation. They present an extreme picture: the end-results of malnutrition. But between this extreme on the one hand and perfect nutrition on the other there are intervening degrees of malnutrition which must determine the departure from health of the gastro-intestinal tract. It is with the "mean" rather than with the "extreme" that the physician is mainly concerned; with the long-continued use of imperfectly balanced and deficient food rather than with the lack of victuals; with the beginnings of disease rather than with the end-results.

The gastro-intestinal lesions here described were initiated by dietaries too rich in carbohydrates and too poor in other essential attributes of a perfectly balanced ration. It may be expected, then, that gastro-intestinal lesions of like kind, if not of like degree, will result in man from the continued use of such dietaries.

To maintain the gastro-intestinal tract in health, and to enable it to protect itself and the body generally against invasion by ingested pathogenic organisms, it is necessary to provide from birth onwards a satisfactorily balanced dietary containing a sufficiency not only of proteins, calories, and salts, but also of accessory food factors of all three classes.

II.—THE GENERAL EFFECTS.

Attention is directed to the composition of the dietaries given in these experiments. Their balance, or lack of balance, with respect to proteins, carbohydrates, and fats requires consideration as much as their deficiency in vitamines.

Experimental Diets.

A. An exclusive diet of autoclaved rice—that is to say, one deficient in suitable protein, in fat, in accessory food factors of all three classes, and excessively rich in starch. Ten monkeys were fed to the point of death on this diet.

B. A diet of autoclaved rice and butter—that is to say, one deficient in suitable protein, in accessory food factors of the "B" and "C" classes, and excessively rich in starch as well as in fat. Four monkeys were fed to the point of death on this diet.

C. A diet of autoclaved food—rice, wheaten bread, milk, and ground-nuts—to which a small ration of fresh onion was added; that is to say, a diet deficient in accessory food factors of the "A" and "B" classes. Six monkeys were fed to the point of death chiefly on this diet.

D. A diet of autoclaved food—rice, wheaten bread, milk, and ground-nuts—to which fresh onion and fresh butter were added: that is to say, a diet deficient only in accessory food factors of the "B" class and excessively rich in fats. Five monkeys were fed to the point of death chiefly on this diet.

Controls.—Nine monkeys, fed on wheaten bread, plantains, milk, fresh onions, and ground-nuts, acted as controls.

The experiments emphasize the importance of studying the "dietetic history" in every case of gastro-intestinal disorder or of vague ill health in man. Deficiency of vitamines of the "B" class often runs parallel with the excessive richness of a dietary in starch, especially so when the source of the starch is polished rice, white flour, white bread, sago, tapioca, and many proprietary foods. A dietary excessively rich in starch thus often implies a deficiency of "B-vitamine." The results recorded show what the effects of deficiency of this vitamine are in monkeys, and from these we are justified in assuming in similar circumstances like results in man. In man, however, it is not with complete but with incomplete vitaminic deficiency that we have most often to deal in practice. The former causes rapid dissolution and death, the latter protracted dissolution and disease. It will be noted, moreover, that "neuritic" lesions are by no means the most important of the effects of deficiency of "B-vitamine." Unfortunately the adjective "antineuritic" has been attached to accessory food factors of the "B" class, so that a deficiency of this factor suggests the onset of "polyneuritis" or of "beri-beri" as its sole results. These, however, are the grosser and later manifestations of such deficiency. The changes in the nervous system to which want of this vitamine gives rise are not its most important effects with respect to time of onset, to frequency of occurrence, and to need for recognition. It is true that lack of "B-vitamine," associated as it usually is with an insufficient supply of protein and an excess of starch, may ultimately lead to degenerative changes in nerve cells, but it is of greater practical importance to recognize that this combination of defects in human dietaries may be expected to lead more early and more often to degenerative changes in, and to depression and failure of function of, those cells upon which the processes of digestion and assimilation are dependent. It is possible that the depression of function so induced may account for a number of the commoner gastro-intestinal disorders, to which no bacterial or parasitic label has so far been attached.

It will surprise those who investigate the "dietetic history" of cases of chronic gastro-intestinal disorder to find how many persons habitually subsist on "bread-and-butter" and "milk puddings." Such a dietary is poor in "B-vitamine" and in protein, as well as excessively rich in starch and fats. It is my experience in India that the "dietetic history" of European sufferers from chronic colitis, and of those suffering from chronic gastro-intestinal disorder, commonly reveals the fact that their food does not contain the requisite proteins or the due proportion of starch, fats, salts, water, and vitamines. This one cannot "digest" vegetables, fruit, or meat, or "never touches them in India"; that one can "carry on only on farinaceous food." Thus the form of diet they commonly adopt is often that most calculated to promote the very disorder from which they seek relief. These experiments show that the cardinal effects of deficient and ill-balanced dietaries in monkeys are gastro-intestinal disorder, dilatation of the stomach, gastritis, and colitis. They are likely to be the same in man. It did not surprise me, therefore, to find that a patient who consulted me recently, and who for ten years had subsisted mainly on milk puddings, had a dilated stomach, air locks in the small bowel which caused her great discomfort, delay in the passage of the intestinal contents, colitis, tenderness in the caecal region, and an inefficient pancreas with glycosuria. The results of these experiments have helped me to visualize the changes which are likely to be occurring in the gastro-intestinal tract in such a chronic invalid. I desire, therefore, to emphasize the importance in practice of a study of the dietetic history in such cases, believing as I now do that bacterial agencies are often but weeds which flourish in soil made ready for them by dietetic defects, and believing also that in the fuller comprehension of the science of dietetics we shall understand more perfectly the beginning of disease and its therapy.

The following is a summary of the results of the experiments, full details of which are given in the original paper.

Monkeys fed exclusively on rice, autoclaved at a temperature of 130° C. for one and a half hours, died in an average period of 23.4 days. Monkeys fed on rice, similarly autoclaved, to which fresh butter was added, died in an average period of fifteen days. The addition of butter to the dietary (excessively rich in starch and deficient in vitamines and proteins) hastened the death of animals. A similar result has previously been recorded in the case of pigeons.

Monkeys the basis of whose dietary was autoclaved food (wheaten bread, ground-nuts, milk, rice) survived much longer than those the basis of whose dietary was autoclaved rice—an average of seventy days as compared with an average of twenty days. The more liberal provision of proteins and the more perfect balance of the food with respect to proteins and carbohydrates prolonged the life of the animals in these categories. Monkeys (*Macacus sinicus*) cannot sustain life for periods much longer than one hundred days on a dietary which is devoid of accessory food factors of the "B" class. Lack of this factor is a fundamental cause of the animals' dissolution; deficiency of proteins, excess of starch, and excess of fat in the absence of "B-vitamine" contribute to this dissolution.

The total loss of weight in monkeys of all four categories was from 25 to 32 per cent. of the orginal weight; the greatest loss occurred in those fed on autoclaved food and onion—that is, in those which survived the longest time. Those to whose dietary of autoclaved rice butter was added lost weight more rapidly than those receiving no butter.

The chief clinical evidences of disease due to the deficient dietaries were progressive anaemia and asthenia, loss of appetite, diarrhoea, dysentery, diminished sensibility, weakness of the limbs, headache, impaired nutrition of the skin, subnormal temperature, and enfeebled heart's action. Symptoms referable to the nervous system were less prominent and appeared later than those referable to the digestive system; they were for the most part obscured by the profound asthenia. The symptoms were similar in all four categories, but manifested themsleves later in monkeys whose food was more perfectly balanced with respect to proteins and carbohydrates. Symptoms referable to the digestive system were on the whole less common in monkeys whose food was more perfectly balanced with respect to proteins and carbohydrates. Nevertheless gastritis and colitis were frequent clinical features in them.

Haemic infections, as determined by aërobic culture of the heart's blood at necropsy, were commonly present in monkeys whose food was excessively rich in starch and deficient in proteins and vitamines. Dropsy was not present in any of the monkeys fed on the deficient dietaries. All caused an increase in weight of the adrenal glands. It was more marked in those fed exclusively on autoclaved rice and was associated with an increase in the adrenalin content of the glands, provided no haemic infection was present. No increase in the adrenalin content of the suprarenal glands occurred in monkeys to whose dietary of autoclaved rice butter was added. Similar results have previously been recorded in pigeons. No increase in the adrenalin content of the suprarenal glands was found in monkeys whose deficient dietaries were more perfectly balanced with respect to proteins and carbohydrates. The adrenalin content of the suprarenal glands was below the average of health in monkeys presenting haemic infections.

The deficient dietaries gave rise in all categories to an increase in weight of the brain. When similarity in the age of the monkeys rendered the findings in the different categories comparable it was noted that the increase in weight of the brain was more marked in those whose food was excessively rich in butter and starch and at the same time deficient in proteins and vitamine. A similar observation in pigeons has previously been recorded. The increase in weight of the brain in these circumstances amounts in monkeys to approximately one-seventh part of its normal average weight per kilo of original body weight, and in pigeons the same proportionate increase is observed. This may account for the headache and other symptoms observed in certain cases of mental disorder in the human subject.

Three classes of deficient dietaries—namely, (*a*) autoclaved rice, (*b*) autoclaved rice and butter, (*c*) autoclaved food and onion—caused in monkeys an increase in the weight of the pituitary body. Its weight was decreased in monkeys fed on autoclaved food, butter, and onion. Similar results have been recorded in the case of pigeons fed on the first two of these classes of deficient dietaries. The pituitary gland was heavier per kilo of body weight in female than in male control monkeys. The pituitary gland increased in weight in male but not in female monkeys in consequence of an exclusive diet of autoclaved rice. Similar results have been recorded in both respects in pigeons.

Atrophy of all other organs—the thyroid, the reproductive organs, the thymus, the submaxillary gland, the pancreas, the spleen, the liver, the heart, and the lungs—occurred in consequence of the deficient dietaries. The weight of the kidneys diminished only in those animals the basis of whose dietary was autoclaved food. The atrophy of the testicle was slight in monkeys fed on autoclaved food, fresh butter, and onion. The atrophy of the pancreas, the thyroid, the spleen, and the heart was more marked in monkeys to whose deficient dietary of autoclaved rice fresh butter was added. The same is true of pigeons. The atrophy of the submaxillary gland was likewise more marked in monkeys whose deficient dietaries were excessively rich in butter. The decrease in weight of the liver was not so marked in monkeys to whose dietary of autoclaved rice or of autoclaved food fresh butter was added. A similar observation has been recorded in pigeons fed on autoclaved rice, butter, and onion.

In addition to the enlargement or atrophy of the organs mentioned, the main pathological states observed in monkeys at autopsy were dilatation of the stomach, gastritis, duodenitis, enteritis, ballooning of the small intestine, intussusception, colitis, atrophy of the muscular coats of the bowel, complete loss of fat from the omentum, and enlargement of the abdominal lymphatic glands. Excess of starch, in the absence of protein and vitamines, appeared to be largely responsible for the great dilatation of the stomach, the ballooning of the bowel, and the "air locks" in the intestine. The stomach and the small bowel were less affected in monkeys whose food was more perfectly balanced with respect to proteins and carbohydrates. In general the gastro-intestinal tract was not so frequently or extensively diseased in animals fed on autoclaved food, butter, and onion, although both gastritis and colitis were present in 40 per cent. In all categories atrophy of the heart occurred; it was less marked in animals fed on autoclaved food, butter, and onion. In no case was hypertrophy of the heart encountered. Slight hydropericardium occurred in a small percentage of cases. *Post-mortem* evidences of oedema were very scanty in all four categories.

The reproductive organs atrophied to a considerable extent in both sexes, but the atrophy was much less marked than that previously found in pigeons in like circumstances. The atrophy of the spleen was less marked in monkeys than in pigeons similarly fed. The weight of the lungs decreased in monkeys in all categories, thus contrasting markedly with pigeons, in which an increase in weight of these organs was noted to result from a dietary of autoclaved rice, butter, and onion. Degenerative changes were present in the femoral nerves as follows: Controls, nil; autoclaved rice, two; autoclaved rice and fresh butter, one; autoclaved food and onion, four; autoclaved food, fresh butter and onion, two.

Conclusions.

1. Dietaries which are deficient in vitamines and in protein, and at the same time excessively rich in starch or in fat, or in both, are potent sources of disease, and especially of gastro-intestinal disease.

2. An excess of fat, in association with deficiency of "B-vitamine" and protein and superabundance of starch, is peculiarly harmful to the organism.

3. Certain dietetic deficiencies greatly favour the invasion of the blood and tissues by bacteria; especially is this the case when deficiency of vitamines and protein is associated with an excessive intake of starch.

4. Since life cannot be sustained in the monkey, *Macacus sinicus*, for much longer than 100 days on a dietary almost wholly devoid of "B-vitamine," it would appear that complete absence of this vitamine from the food is of less practical importance from the point of view of the production of disease in human beings than its subminimal supply. Complete deprivation of "B-vitamine," especially if there be also imperfect balance in other essential requisites of the food, will lead to rapid dissolution and death; subminimal supply of this vitamine will lead, in like circumstances, to slow dissolution and disease.

5. The results recorded in this paper may afford some explanation of the genesis of that great mass of ill defined gastro-intestinal disorder and vague ill health which forms so high a proportion of human ailments at the present day.

References.

[1] R. McCarrison: The Pathogenesis of Deficiency Disease, 1919. *Indian Journal of Medical Research*, vi, 3, January, pp. 275–355. [2] C. M. Wenyon and F. W. O'Connor: 1917, *Journal R.A.M.C.*, xxviii. No. 1, pp. 1–34; No. 2, pp. 151–187; No. 3, pp. 346–370. [3] R. McCarrison: 1919, The Pathogenesis of Deficiency Disease, No. 4, *Indian Journ. Med. Research*, vii, July. [4] P. C. Flu: 1918, *Mededeelingen van den Burgerlijken Geneeskundigen Dienst in Nederlandsch-Indie*, Deel VI. pp. 113–116 and p. 164. [5] Sir Patrick Manson: *Tropical Diseases*. 5th edition, London, 1914. [6] W. MacAdam and R. Keelan: The Problem of the Amoebic Dysentery Carrier in India and Mesopotamia, *Indian Journ. Med. Research*, vol. i, pp. 239–272, 1917. [7] G. Lemoine: *Bulletins de la Société Médicale des Hôpitaux de Paris*, 1919, xliii. 4, p. 56.

THE publication of the *Revue Générale d'Ophtalmologie* was discontinued during the war, as the three editors, Dor, Rollet, and True, were on active service. We are glad to know that this invaluable French bibliography of current ophthalmology is not to be allowed to die after thirty-three years of vigorous life. Two final parts of the thirty-third volume (October–December, 1914) are now to hand, and from January, 1920, the *Revue* will reappear as of old, under the capable editorship of Jourfein of Geneva, Eperon of Lausanne, and Vogt of Basel.

PROTECTIVE INOCULATION AGAINST INFLUENZA.

BY

W. H. WYNN, M.D., M.Sc., M.R.C.P.,

HONORARY PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM; LECTURER IN CLINICAL MEDICINE, UNIVERSITY OF BIRMINGHAM.

THE possibility of a recrudescence of influenza and the distribution of vaccine by the Ministry of Health has caused much questioning, both by medical men and the general public, as to the advisability of prophylactic inoculation. Although the true value of vaccines for prophylaxis against epidemic influenza cannot be established until the morbidity of a large sample of the population, inoculated before an outbreak, as compared with that in uninoculated controls, is submitted to expert statistical treatment, yet we possess much useful information gained during the last epidemics.

Until we know the true cause of influenza, the use of a vaccine must necessarily be empirical, but whatever the cause, there is little doubt that Pfeiffer's bacillus, and various strains of pneumococci and streptococci, are important secondary or coincident infecting agents, and are responsible for the severe and fatal complications. There is evidence that a vaccine composed of these three organisms will not only diminish the mortality and reduce the complications of the disease, but will also lessen the incidence of uncomplicated influenza. If this latter fact can be proved, it must be taken seriously into account in any discussion upon the true virus of influenza. Most authorities agree that a vaccine should contain several strains of Pfeiffer's bacillus, pneumococci and streptococci, but there is much difference of opinion as regards the proportions and number of these organisms to be used. Confronted with so many vaccines of varying strength and composition, the practitioner may well hesitate as to which he should choose.

The amount of immunity produced by a vaccine depends within certain limits upon the size of the dose inoculated, the limits probably being set not so much by the actual quantity of vaccine used as by the amount of antigen which the tissues can set free from it. Experience with other infections has taught us that when protection lasting for a considerable period is required large doses of vaccine are necessary. Thus with typhoid fever doses of 1,000 and 2,000 million are used, and with pneumonia three injections at seven days' interval of 6,000 million pneumococci have been given. But in these two instances the vaccine is used upon selected individuals or communities and inoculation of the general public is not undertaken. When, as with influenza, it is desirable to inoculate as many of the general public as possible, and sufficient immunity to protect during an epidemic period of a few months only is aimed at, such large doses may not be necessary. It is also important to choose such a dose as will not produce unpleasant reactions and so interfere with work and deter large numbers from being inoculated.

My own preference is for a vaccine containing equal numbers of Pfeiffer's bacilli and various strains of pneumococci and streptococci recently isolated. With pneumococci only first cultures are used, with streptococci either primary or first subcultures. I am convinced that the activity of a vaccine depends upon its being made from primary, or, at the most, first or second subcultures. Unfortunately it is difficult to make such vaccines on a large scale for widespread use, and the antigenic value of many commercial vaccines is greatly impaired. During the epidemic period of 1918–19 I gave a first dose of 100 million of each organism, and after one week 200 million at first, but later increased to 200 and 400 million. These doses I am using at the present time. They seem sufficient to give adequate protection without causing more than a trifling reaction. In several cases these doses have been followed by a third of 800 million and even a fourth of 1,200 million. In my opinion when the increased protection of these larger doses is aimed at it is best to begin with a dose of 200 million, and give three or four increasing doses at weekly intervals, rather than to give two doses of 500 and 1,000 million.

Over 1,000 persons were injected with two doses, about half having a maximum dose of 200 million and the remainder of 400 million. Of these there is a record of the result in 680. Of these only 14 developed influenza, but 4 of these were attacked three months after the last injection. In all cases the disease was mild, and there was no case of pneumonia. In one village in which influenza was very prevalent there were two large preparatory schools. In one no vaccine was used and nearly every boy, besides masters and servants, suffered from influenza. In the other school 75 boys and 38 adults were injected. One adult was injected after infection had occurred and developed pneumonia. All the others escaped influenza. In the village 31 adults and 16 children were injected, and all escaped. One boy injected during the vacation returned to a boarding school, and 19 out of 23 boys suffered from influenza soon after the beginning of term; the inoculated boy was among the four who escaped. In another doctor's practice there were 35 cases of influenza, 7 with pneumonia; 40 immediate contacts with these patients were injected, and of these 3 had mild influenza, in 2 fever only lasting one day. At one institution 117 nurses and maids out of a staff of 170 were inoculated during the autumn of 1918. Of the 53 uninoculated 25 had mild attacks in June, 1918, and escaped in the epidemics of November and February. Of the 28 presumably unprotected, 14 suffered from influenza, 2 with severe bronchopneumonia, of whom one died. Of 5 who only received one inoculation one had mild influenza and one a severe attack. It is not pretended that these results have any statistical value or are free from fallacies, but they support the favourable results obtained elsewhere.

In America protective inoculation was practised on a much larger scale, and much larger doses of vaccine were given than in this country.

Rosenow[1] used a vaccine with the formula: Pneumococci, 3,000 million (Type 1, 500 million; Type 2, 750 million; Type 3, 500 million; Type 4, 1,250 million); *Streptococcus haemolyticus*, 1,000 million; *B. influenzae*, 500 million; staphylococci, 500 million, in 1 c.cm.; ½ c.cm. was given as a first dose, and then 1 c.cm. and 1.5 c.cm. at intervals of seven days. The final doses, therefore, consisted of 7,500 million organisms. A vaccine of this formula is obtainable in this country. In my experience it is apt to cause rather unpleasant reactions, and Rosenow remarks that the number of severe reactions is sufficiently large to prevent general vaccination, except at the time of an acute emergency. It might be thought that the injection of such large doses might have a prejudicial effect upon chronic infections, especially of the respiratory tract. But the reports show that 961 persons with chronic bronchitis were benefited, and 38 made worse; 127 persons with chronic sinusitis were benefited, and 4 made worse; 121 with chronic myositis and 129 with chronic arthritis were benefited, and in one of the former and 22 of the latter the symptoms were aggravated; 997 pregnant women were inoculated, with excellent results.

In institutions where the conditions among the vaccinated and unvaccinated were comparable, 8,306 were injected three times and 9,388 were unvaccinated. Among the vaccinated the incidence of influenza per 1,000 was 31 and among the unvaccinated 200, the incidence of pneumonia 1.0 and 12.0 per 1,000 respectively. Among the general population 93,476 persons received three injections; the incidence of influenza was 87.9 per 1,000, and of pneumonia 4.4 per 1,000, as compared with 281.8 and 21.0 per 1,000 among the unvaccinated. Taking all the results, the average mortality rate in the inoculated was one-fifth of that in the uninoculated.

Minaker and Irvine[2] in San Francisco used a vaccine containing 5,000 million *B. influenzae*, 7,000 million pneumococci (3,000 million each of Type 1 and Type 2, 1,000 million of Type 4), and 100 million *Streptococcus haemolyticus* per cubic centimetre; 0.5, 0.8, and 1.0 c.cm. were given at three-day intervals. The final dose was therefore 12,100 million organisms. This, so far as I am aware, is the largest dose given for influenza. Of the civil population 1,080 were inoculated; their morbidity was 1.4 per cent. and mortality *nil*. These persons mixed with an uninoculated population whose morbidity was 5.3 per cent. and mortality 9.2 per cent.; 1,950 marines were inoculated and 8,232 not inoculated. The respective morbidity and mortality rates in the former were 1.8 and 2.8 per cent., as compared with 15.7 and 5.0 in the latter. For uninoculated nurses and attendants in hospitals the morbidity was 33.8 per cent., among the inoculated 3.5 per cent.

Cadman[3] in Winnipeg used a vaccine of 300 million streptococci, 200 million influenza bacilli, and 150 million pneumococci. Out of 7,600 soldiers, 4,842 were inoculated, but only about half received two doses. Of cases admitted to hospital, 6.05 per cent. of those previously inoculated developed pneumonia, against 17.1 in the uninoculated. The deaths in the uninoculated were 7.1 per cent., in the inoculated 1.7 per cent., but all these had only received one dose of vaccine; there were no deaths among those who had two injections. In the civil population 24,184 received two injections; the incidence of influenza was 9.8 per cent., pneumonia 0.57 per cent., and deaths 0.16 per cent., as compared with 21,285 uninoculated, among whom the incidence of influenza was 24.8 per cent., pneumonia 2.2 per cent., and deaths 0.66 per cent.

In England there has been an unnecessary timidity in the use of large doses for prophylaxis, and the original formula recommended by the War Office Conference—namely, 60 million *B. influenzae*, 80 million streptococci, and 200 million pneumococci in 1 c.cm.—of which it was recommended that 0.5 c.cm. should be given as a first dose and 1 c.cm. after ten days, met with considerable criticism. Nevertheless the results, just published by Sir William Leishman,[4] obtained in the Home Commands showed that this vaccine gave some measure of protection. Of 15,624 inoculated the incidence of influenza was 14.1 per 1,000, of pulmonary complications 1.6 per 1,000, and deaths 0.12 per 1,000, as compared with 43,520 uninoculated giving an incidence of 47.3, 13.3, and 2.25 respectively. About half the inoculated received only one dose of the vaccine.

The vaccine now recommended and adopted by the Ministry of Health contains 400 million *B. influenzae*, 80 million streptococci, and 200 million pneumococci. Thus, whilst the dose of pneumococci and streptococci remains the same, the dose of influenza bacilli has been increased from 60 to 400 million. It would be interesting to have the reasons why this formula was adopted. The streptococcus is probably the most dangerous of the three organisms, and in view of Rosenow's experience with doses of 1,000 million of haemolytic streptococci, it seems advisable that as large a dose of this organism should be given as of the others. The experience of Lister, Cole, and others with pneumococcic vaccine shows that large doses can be given without undue reactions. With the increase of the dose of influenza bacilli to 400 million the point is made "that the strains employed should not have been so cultivated or so recently derived from cases as to be unduly toxic in their action." Some of the advantage of the larger dose is therefore lost by using less active cultures. The dose contrasts with that used in San Francisco, namely, 5,000 million influenza bacilli, with such excellent results.

The St. Mary's Hospital formula — *B. influenzae* 500 million, pneumococcus (mixed types) 1,000 million, and streptococcus 100 million, ½ c.cm. to be followed by 1 c.cm. in a week—gives a larger dose and has been used on a large scale, but no results of its use have been published.

Of other vaccines that have been advocated Rosenow's vaccine suspended in oil instead of normal saline may, in the light of Fennel and Cecil and Vaughan's studies of the pneumococcic lipo-vaccine, give a greater degree of protection. Detoxicated vaccines are being strongly advertised. The evidence in their favour is not convincing. My own experience of them leads me to regard them as comparatively inert, and I doubt if any reliance should be placed upon them for purposes of prophylaxis.

There is evidence of a considerable degree of cross-protection from vaccines. In connexion with the severe outbreaks of camp septicaemia and bronchopneumonia in America,[5] it was found that inoculation with a pneumococcic vaccine gave some protection against the streptococci responsible for the outbreaks, the incidence of streptococcus pneumonia being nearly ten times as great among the unvaccinated as in those injected with the pneumococcic vaccine. It must also be within the experience of many that during the epidemics of last winter, patients who were undergoing vaccine treatment for other complaints were comparatively immune to influenza. Also injection of the triple influenza vaccine often has a beneficial effect in patients suffering from chronic infections.

In the circular accompanying the vaccine issued by the Ministry of Health the inoculation of children under 3 years of age is not advised. It is difficult to understand the reason of this. Young children show no special resistance to influenza, and their chance of recovery is less than in older patients. Children respond to vaccines very well, and I have had no hesitation in giving suitably reduced prophylactic doses to children under 3 years of age.

The records here given show that no medical man need hesitate to advise prophylactic injections to his patients. In most instances the vaccine of the Ministry of Health will doubtless be used, but there is evidence that much larger doses can be safely used. Indeed, it seems advisable that persons particularly exposed to infection should reach larger doses, and 0.75 c.cm. and 1.5 c.cm. of the Ministry's vaccine or a vaccine of a stronger formula could be chosen. It is to be hoped that in every case careful statistics will be kept, and that where the dose varies from that of the standard vaccine a note of this will be made.

REFERENCES.
[1] Rosenow, *Journ. Amer. Med. Assoc.*, August 9th, 1919, p. 396. [2] Minaker and Irvine, *Journ. Amer. Med. Assoc.*, March 22nd, 1919. [3] Cadman, *Lancet*, May 24th, 1919, p. 885. [4] Leishman, BRITISH MEDICAL JOURNAL, February 14th, 1920, p. 214. [5] Cecil and Austin, *Journ. Exper. Med.*, 1918, xxviii, p. 19.

SOME UNUSUAL FORMS OF DYSENTERY.

BY

GEORGE C. LOW, M.A., M.D., C.M., M.R.C.P.,

PHYSICIAN, HOSPITAL FOR TROPICAL DISEASES, ENDSLEIGH GARDENS, N.W., AND SEAMEN'S HOSPITAL, ROYAL ALBERT DOCKS; LECTURER AND CONSULTING PATHOLOGIST TO THE LONDON SCHOOL OF TROPICAL MEDICINE.

THE term dysentery is more or less indiscriminately applied to any condition producing blood and mucus in the stools, or even to diarrhoea alone.

For a proper classification the cause of the condition must be determined, and at the present day we talk of protozoal dysenteries, helminthic dysenteries, bacterial dysenteries, pseudo-dysenteries, and so on. As a general rule, when the term dysentery is used, unless some qualifying adjective is attached to it, either a case of amoebic or bacillary dysentery is indicated — namely, dysentery due to the *Entamoeba histolytica* or to the bacillus of Shiga or Flexner. We are apt to rest at this and consider the matter settled, but so many other conditions, many of them very common, may produce an almost similar clinical picture to these real dysenteries that a careful examination must always be made to exclude them before definitely settling our diagnosis.

A few specific instances culled from a large experience of the treatment of dysentery in London during the war will explain what I mean.

1. SYPHILIS RESEMBLING DYSENTERY (SYPHILITIC DYSENTERY).

Syphilitic ulceration of the rectum is not uncommon; ultimately it leads to stricture of the bowel and other troubles. The patient passes bloody stools with mucus, and is at once branded as "dysentery" and probably dosed with emetine or given antidysenteric serum. I have the records of such a case by me now:

The patient started his trouble in France, in 1916, with diarrhoea. Though the result of the examination of the stools was negative as to protozoa, the diagnosis of dysentery was made and he was given emetine. He was no better, but returned to his work. He soon broke down again and spent the next years going in and out of various hospitals and having more emetine, though again no protozoa were found in his stools. At one of these hospitals a shadow was seen in the rectum on *x*-ray examination. Finally he came under my care in 1919. A sigmoidoscopic examination made by Sir James Cantlie then revealed ulceration with a stricture just below the sigmoid flexure; the opinion was that this was not malignant but syphilitic. There was an old history of syphilis. The Wassermann reaction was negative. A course of novarsenobillon injections was then given and everything cleared up satisfactorily, the blood and mucus disappearing and the stools becoming normal in consistence and appearance. After some time he relapsed and a second series of injections was given. The condition again improved, but not so much as the first time. He is now on mercury and iodide. During his stay in hospital no protozoa were ever found in his stools.

2. MALIGNANT DISEASE.

Mr. Dobell has told me of a case, very similar to the one described above, in which the patient was treated for dysentery and dosed heavily with emetine for quite a long

time. Finally it was discovered that he had a large fungating malignant growth in the rectum. The moral of such a case is that the rectum should always be examined in cases of dysentery and also if the patient has piles, a source of mistake with the uninitiated. Three times recently cases have been sent to me as dysentery because they had blood in the stools; in each instance I found that they had not got dysentery, the blood being derived from obvious piles.

3. TUBERCLE.

An Indian patient was sent into hospital with the diagnosis of dysentery. He was extremely emaciated and was passing diarrhoeic stools with sloughs, blood, and mucus. No protozoa were found nor dysentery bacilli isolated. An examination of the lungs revealed evidence of consolidation at the right apex and below. A specimen of the stool was then examined for tubercle bacilli and a positive result was at once obtained. The patient died and the autopsy revealed advanced tuberculosis of the lungs, with extensive tuberculous ulceration in the small and large bowel. The value of proper stool examinations is well seen in this case.

4. SCHISTOSOMIASIS DYSENTERY.

This common helminthic dysentery should be easily diagnosed by the finding of the characteristic ova during the routine examination of the stools. Nevertheless cases have been sent to me which had been diagnosed as dysentery and treated by emetine injections, but after all turned out to be schistosomiasis infection only. This is a bad mistake, because emetine can do such cases no good, whereas intravenous injections of tartar emetic will cure them.

5. PARAGONIMUS DYSENTERY.

The *Paragonimus westermani*, as regards its habitat in man, is not necessarily limited to the lungs. It has been recorded also in the abdomen and the brain. When found in the walls of the intestine the mucosa may become ulcerated, and then there will be diarrhoea with blood and mucus in the stools. I recently had a case of this nature. The man—a Japanese—had some obscure abdominal trouble with a tendency to looseness of the bowels, but no blood and mucus. Nothing could be found to account for this with the exception of scanty numbers of paragonimus ova in the faeces. Thymol was tried, but no adult worms appeared and the eggs persisted.

6. HETEROPHYES DYSENTERY.

The presence of large numbers of the *Heterophyes heterophyes*, a minute fluke, in the small intestine may give rise to signs and symptoms of enteritis. The following are the notes of such a case:

A Japanese was admitted into the Albert Dock Hospital under my care supposed to be suffering from dysentery. The stools resembled the pea-soup evacuations of typhoid, but the patient looked quite well and the temperature was not raised. There was mucus in the stools, and on one occasion some traces of blood. On examination of the faeces no amoebae or cysts were found, but quite a large number of ova of *Heterophyes heterophyes*. The question whether the flukes were causing the symptoms then arose. To settle this I administered an anthelmintic (eucalyptus, castor oil, and chloroform mixture), after the usual starvation. The result was excellent, over 500 adult flukes coming away. The symptoms after this all subsided and the stools became quite normal. In a week the patient left hospital cured.

7. ANKYLOSTOMIASIS.

Occasionally diarrhoea with blood is seen in ankylostomiasis. Last year a patient was admitted with the diagnosis of dysentery, because there was blood in the stools. He passed a liquid stool with blood in it; microscopic examination gave the diagnosis, many ankylostoma ova being present. Under suitable treatment, leading to expulsion of the worms, all the symptoms disappeared. In this case there was also considerable epigastric pain, which had puzzled several people, before the true nature of the disease was discovered.

8. BALANTIDIAL DYSENTERY.

Balantidium coli is also a cause of dysentery; the symptoms, indeed, resemble very closely those seen in amoebic dysentery. The diagnosis is made by finding the characteristic ciliates in the faeces. No instance of this disease was seen in my series of cases, but I have heard of it from other observers. It is not uncommon in the Philippine Islands.

9. PSEUDO-DYSENTERIES.

This name has been applied to cases which do not fall under any of the headings described above. Foreign bodies impacted in the rectum above the anus may cause ulceration and discharge and be diagnosed as dysentery, especially if the patient has been abroad.

I once saw a patient with a rectal discharge of a purulent nature, and on making a digital examination found what appeared to be a growth just inside the sphincter. Next day he passed the tumour, a large piece of bone, and all symptoms and discharge disappeared. He did not remember swallowing it.

Such examples show that it is most necessary to exercise care in diagnosing cases presenting symptoms of dysentery. Careful and accurate examination of the stools comes first, of course, and after that local rectal examination, either with the finger or the sigmoidoscope.

ANKYLOSIS OF THE MANDIBLE AND ITS OPERATIVE TREATMENT.*

BY

GILBERT CHUBB, D.Sc., M.B., F.R.C.S.ENG.,

ASSISTANT SURGEON, THROAT HOSPITAL, GOLDEN SQUARE, AND PLASTIC SURGEON, QUEEN'S HOSPITAL FOR FACIAL INJURIES, SIDCUP.

THE operations hitherto described for this condition fall broadly into two groups, according as the bone resected is from the region of the condyle or from the horizontal ramus. Operations in the first group fail to give relief when the cause of fixation is wholly or in part anterior to the condyle. Those in the second group, in bilateral cases, leave the jaw so weak as to be practically useless for mastication. In the recent third edition of Brown's *Surgery of Oral Diseases and Malformations* it is recommended that, save in rare cases of urgent necessity, such cases should be left undisturbed, rather than that a bilateral Esmarch operation should be performed.

The present paper deals with the operative treatment of five consecutive cases of ankylosed mandible. In each case, irrespective of the original cause, it was found that a factor in the fixation was the formation of fibrous or bony adhesions between the anterior border of the coronoid and the pterygoid aspect of the maxilla. The operation described permits of the complete resection of the whole of the coronoid. In one case this structure was removed on both sides, together with the condylar neck region of either side also. In no case was there any involvement of the facial nerve, and in each case the patient was left with a gape of at least $2\frac{1}{2}$ cm. and a very satisfactory power of mastication.

Four of the cases were traumatic, all in the malar region and accompanied by fracture of the zygoma. One was infective in origin, and followed a bilateral suppurative arthritis of the temporo-mandibular joints in infancy.

In each case the whole of the coronoid was removed, so that the anterior aspect of the condyle passed in a clean sweep down to the commencement of the alveolar border of the horizontal ramus.

The incision for this operation starts in the pre-auricular fold at the lower level of the external auditory meatus, and passing vertically upwards to the level of the tip of the pinna, curves forwards below the superior temporal crest to terminate anteriorly within the hair area of the temporal region. The incision is carried down to the bone, and the skin, temporal fascia and muscle are separately defined and turned forwards. The deeper of the two layers into which the temporal fascia splits as it approaches the zygoma is divided, and the latter bone, still working from the deep aspect of the temporal fascia, is removed piecemeal with gouge forceps. The tip of the coronoid is defined, and both its surfaces cleared of muscular attachments with the raspatory. By means of suitably shaped gouge forceps the whole of the coronoid process can now be removed. During this process the surgeon is working

* Abstract of a paper read before the Odontological Section of the Royal Society of Medicine, October 27th, 1919.

between the temporal muscle and belly of the external pterygoid on the one hand, and the under surface of the masseter as this passes to its insertion into the outer face of the coronoid and angle on the other. Throughout the operation the surgeon stands at the head of the patient, and the approach to the pterygoid region is by way of the temporal fossa.

In the four traumatic cases the temporo-mandibular joint was not involved, and in three of these cases the fracture of the zygoma directly involved the coronoid process in the resulting adhesions to the surrounding structures. Nevertheless in each case the formation of fibrous or bony adhesions between the lower part of the anterior border of the coronoid and the maxilla could be determined. In each case also free movement of the mandible was not obtained until the coronoid process had been completely removed down to its base.

In the fifth case, Mr. X., the fixation, which was of fifteen years' standing, was bilateral, and followed suppurative arthritis of both temporo-mandibular joints accompanying measles in infancy. The condition before operation is seen in Fig. 1. The molar teeth were firmly clenched and imperfectly erupted. A faint "spring" could be obtained on the right side, from which the condyle had been resected ten years previously, but no movement at all could be obtained on the left. The mandible shows the lack of development characteristic of such cases, and which is due to the involvement of the two epiphyses in the original lesion. As a result the lower incisors, which in point of level actually overlapped the upper, were situated at some distance behind the latter. A gap was thus left through which the patient had managed to feed himself.



FIG. 1.

FIG. 2.

The operation in this case was performed in two stages. At the first stage the condylar neck region and coronoid of the left side were resected. At the second stage a similar operation was performed on the right side. On the left the condylar region was found to be represented by a mass of bone of ivory hardness, causing the ascending ramus to blend smoothly with the skull. The area of bone immediately below this, and representing the neck of the condyle, was removed. On the right side the firm fibrous union occupying the place of the previously resected condyle was likewise resected. Both these resections were carried out by means of curved gouge forceps, and the anterior aspect of the neck was approached by the route described above for the resection of the coronoid. On account of the extent and density of bone on the left side, and in order to minimize the risk of injury to the internal maxillary artery, both these resections were completed from behind. For this purpose the angle of the jaw was exposed by a horizontal incision placed below it, and the neck reached by freeing the posterior border of the ascending ramus from the adjacent soft parts. On both sides movement of the mandible was not free until the coronoids had been completely resected. As in the traumatic cases, dense fibrous adhesions were found between the anterior border of this process and the maxilla. The operation on each side was completed by a flap of temporal fascia and muscle being brought down through the gap made by the resection of the neck region and secured in the deeper layers of the lower wound. In closing the temporal wound the temporal muscles and fascia were stitched back into place, a small drainage tube being left in this and the angle wound for forty-eight hours.

The precarious nature of the patient's teeth precluded gagging at the time of the operation. A gape was, however, obtained sufficient to permit of the teeth being capped a week later. The mouth was then wrenched open under gas and fitted with a detachable elastic gag. The patient's present condition, four months after the operation, is seen in Fig. 2. The unassisted gape is $2\frac{1}{2}$ cm. Mastication is quite painless, and the bite is of sufficient strength to make it exceedingly unpleasant to leave the finger between his teeth.

The case demonstrates the possibility of surgical relief for the condition of bilateral ankylosis in which the cause of fixation is in part anterior to the condyle, while still leaving the patient with a satisfactory control over the mandible.

The post-operative treatment in these cases was carried out by my colleague, Mr. Mendleson, and the results obtained owe not a little to his care.

In the bilateral case the fact that a second long operation followed within a fortnight of the first in a patient whose general condition was naturally far from satisfactory made the choice of the anaesthetic one of some importance. The operation was performed under gas and oxygen, administered by Mr. Wade through a preliminary tracheotomy by means of the apparatus used with so much success by Mr. Geoffrey Marshall while in France. The method proved so successful, and the condition of the patient both during and after the operation was so satisfactory, that I have since adopted it in other cases of prolonged jaw operations.

Memoranda:

MEDICAL, SURGICAL, AND OBSTETRICAL.

CARDIAC MASSAGE IN ASPHYXIA NEONATORUM.

WHEN in general practice some years ago I found cardiac massage of considerable value as an aid to artificial respiration in asphyxia neonatorum. The method was especially useful in white asphyxia, in which there is probably cardiac as well as respiratory failure. It does not do away with the necessity of artificial respiration by the usual and only really efficacious method—traction on the arms; but it renders this successful in a large number of cases where it would otherwise fail.

If smacking and clearing the pharynx does not make the child breathe, artificial respiration is resorted to for a minute or so. If this fails the child's body is placed flexed and supine. The head and shoulders rest against the upper portion of the operator's forearm, and his left hand grasps the infant's left thigh. The fingers of the right hand are now pressed into the upper part of the flaccid abdominal wall beneath the diaphragm, and the right thumb is placed over the cardiac area externally. Massage can now be performed much more effectively than in an adult with the abdomen opened, and is sometimes strikingly successful. Every now and again the operator pauses for a moment to resume artificial respiration, and then begins the massage again if needful.

Asphyxia neonatorum should be regarded as a surgical emergency exactly similar to cessation of respiration on the operating table, and should be dealt with on similar lines. The many methods of resuscitating infants described in textbooks may be of historical interest, but are calculated in some ways to confuse the student. If smacking, artificial respiration by traction on the arms, and cardiac massage will not restore the infant, it is most improbable that any other methods will succeed.

E. WARD, M.D.Cantab., F.R.C.S.,
Paignton. Tuberculosis Officer, South Devon.

ACUTE SUFFOCATIVE CATARRH.

A FEW days ago I was summoned to a patient in this institution who was said to have had "a heart attack." He is an old gentleman of about 75, who, though failing, is still

able to be up and about and to walk considerable distances. He has a little emphysema and a considerable degree of arterio-sclerosis. He suffers from systematized delusional insanity and no change has been observed in his mental condition for several years.

I learnt that this attack had come on without warning just as he was returning to the ward after a substantial tea—a meal of which he always partakes heartily, though not excessively as a rule. When I saw him his condition was identical in every way with that of the second patient described by Dr. Gale in the JOURNAL of December 13th, 1919, p. 775. His colour was leaden and skin covered with perspiration. Dyspnoea was intense and was accompanied by much wheezing and coughing. He spoke with difficulty between gasps, and was sitting forward on a chair bending over a vessel into which he was expectorating large quantities of what I can only describe in Dr. Gale's own words as "frothy watery fluid of a mucous character, faintly tinged pink." His pulse was strong and quick.

I was in great doubt as to the real nature of the condition and the appropriate treatment, when the recollection of Dr. Gale's note came to my mind, and I realized the identical nature of the symptoms in this case and in his. I accordingly prescribed a hypodermic injection of one-sixth of a grain of morphine. In a very few minutes the patient became more comfortable, his colour became normal, the dyspnoea lessened and expectoration diminished. He was taken downstairs to bed, and as I now had no doubt as to the correctness of the treatment, I gave him a second injection of one-sixth of a grain of morphine. Within fifteen minutes he was to all appearance in his usual health, though somewhat weak and shaky. He slept well, and was only with great difficulty persuaded to remain in bed on the following morning.

The condition was quite new to me, save for Dr. Gale's note, but I have no doubt from the symptoms and response to treatment that the case was of the same nature as those he describes. I should, of course, have had the full courage of this conviction, and not given the morphine in two separate doses. I am indebted to Professor G. M. Robertson, the physician-superintendent, for permission to send this note.

HENRY YELLOWLEES, M.D., F.R.F.P.S.Glasg.
Craig House, Edinburgh.

RUPTURE OF MEMBRANES NOT FOLLOWED BY NATURAL EVACUATION OF THE UTERUS.

MRS. A. B., aged 21, was delivered of a full-term male child on January 23rd, 1919. She became pregnant again on June 2nd, 1919.

On September 9th, 1919, she complained of losing a large quantity of blood, and was advised to stay in bed. On the following day she travelled about fifty miles over a rough road in a motor car and about a hundred miles by train, much against her medical attendant's advice.

She was seen by me on September 14th, when she complained of feeling a dead weight in the lower part of the abdomen and also of a bearing-down pain in the lower abdomen. The fundus of the uterus reached about two fingerbreadths below the umbilicus; it was flabby, there was tenderness over the right cornu, and a hard mass was felt inside the uterus. On auscultation no uterine souffle could be heard. On vaginal examination the external os admitted the tip of the second finger; she was advised to stay in bed and have complete rest. On September 16th she still complained of a dull pain in the lower part of the abdomen and of a bearing-down pain. The pains, she said, were more severe than on September 14th, and she was still losing blood. A dead fetus was diagnosed. She was given a mixture of iron and ergot and advised to stay in bed. No improvement took place, and the pains over the cornu at times became acute. It was then decided to evacuate the uterus. On September 21st, during that operation, a quantity of fetal membranes were withdrawn, and on account of the bleeding it was decided not to interfere any further. The internal os resisted dilatation beyond 11 Hegar. Afterwards there was no pain and only a slight amount of bleeding, which ceased on September 23rd. The temperature remained normal except on the evening of September 22nd, when it rose to 99° F. On the evening of September 25th she complained of a slight pain over the right cornu of the uterus and a slight amount of brownish discharge.

On the evening of September 26th she complained of severe pain over the right cornu. and there was marked tenderness on pressure. Captain Mahoney, I.M.S., was asked to see the patient in consultation, and it was decided to evacuate the uterus under an anaesthetic. This was done on September 28th. It was found practically impossible to dilate the internal os so much as to admit two fingers without lacerating the cervix. A central placenta praevia was found, and this explained the severe haemorrhage which occurred during the first operation. With great difficulty the uterus was completely emptied after embryotomy had been performed. The patient lost a great amount of blood. The temperature ranged between 100° and 102° F. until October 3rd, yet the lochia remained perfectly sweet and normal, and gave no indication that septic trouble was going to follow.

Apart from the temperature the patient made an uninterrupted recovery, being up on the fourteenth day after the second operation.

I have to thank Captain Mahoney, I.M.S., who very kindly assisted at the second operation, and also Captain A. C. Jebb, R.A.M.C., who gave the anaesthetic for both operations.

W. F. MASON, Captain R.A.M.C.(S.R.),
Attached British General Hospital,
Nowshera, N.W.F.P., India.

IDIOSYNCRASY TO QUININE.

THE following case is of interest, as it would appear from it that the local application of quinine may cause untoward symptoms in cases of severe idiosyncrasy. The patient, a healthy, active woman, with no neurotic tendencies, good kidney elimination, and regular action of the bowels, has on three occasions suffered from taking quinine. In 1912 she took a small dose, "about 2 or 3 grains, for a cold in the head." Shortly afterwards she became very tremulous, giddy, and sick, and had to lie down for several hours. Some years later she took a tablet of quinine just before going to bed. She woke some hours later shaking all over so severely that the bed shook under her. On the third occasion, in 1918, a few hours after taking "a small dose" of ammoniated quinine, she became sick and vomited, and was prostrate for about six hours. This attack was more severe than either of the two former. Since that time she had been very careful to avoid anything containing quinine, and to warn anyone treating her of her idiosyncrasy.

In November, 1919, her dentist, knowing nothing of her idiosyncrasy, sprayed her gums with a solution containing quinine. Two hours after the application she felt very ill, became tremulous, giddy, and sick, and vomited. She had to lie down for four hours, after which she was able to do a little work, though the tremulousness persisted for some time longer. About five to six hours from the time of the application her lips and chin began to swell, and there was a serous exudation under the cuticle of the lips. When seen by me there was considerable swelling of the lips and surrounding parts, and also over and extending a little underneath the chin. The appearance of the lips was similar to that seen in severe herpes, when the vesicles have been so crowded together that they have coalesced. There was no pain, tenderness, burning, or itching felt. After some days the condition cleared up. With the drying up of the exudation a crust like that seen in herpes formed which covered the entire surface of both upper and lower lips.

London, W. GRACE MACKINNON.

THE CONTROL OF INFLUENZA.

IN view of the possible return of a wave of epidemic influenza, may I impress upon all resident medical officers in charge of institutions the importance of immediate isolation where possible? In hospitals a small ward may be set aside for this purpose. I have on more than one occasion proved the efficacy of this measure in preventing the spread of the disease. The same plan should, of course, be adopted in private, and the spread of the disease would be materially affected.

London, S.W. REGINALD POLLARD, M.B., D.P.H.

Reports of Societies.

MEASUREMENT OF EMOTION.

AT a meeting of the Royal Society of Medicine, on February 11th, Professor A. D. WALLER, F.R.S., gave a lecture on the measurement of human emotion and its control. Emotion, he said, as was well known, produced appreciable changes in the skin, such as vasomotor effects and sweating. He believed that, in addition to these phenomena, there existed others that were under the control of the central nervous system. Cell metabolism was probably influenced directly by impulses arising in the central nervous system, the influence being exerted on the porous envelope surrounding every cell, so that under certain conditions these cell membranes became more porous and cell metabolism increased; under other conditions they became less permeable, and metabolism diminished. These changes were capable of being appreciated through the alterations produced in the resistance to an electric current. For this purpose the hand of the subject under examination was placed in the arm of a Wheatstone bridge and the resistance measured. If the subject of the experiment was then subjected to any painful stimulus, either physical or psychical, a deflection of the mirror galvanometer took place, and its extent could be measured by the movement of a spot of light on a screen. The alteration of the subject's resistance must, he thought, be attributed to the effect of nervous impulses passing down the peripheral nerves, and acting on the cells through their surrounding membranes. Resistance in the passive state varied in different individuals, and at different times of the day. It was necessary therefore before making an observation to adjust the apparatus to the subject's resistance whilst in a passive state. A definite daily cycle in the resistance of an individual had been observed, the resistance being at its highest during the early hours of the morning, and at its lowest during the corresponding hours of the afternoon. These periods coincided with the periods of minimum and maximum metabolism. When making these observations it was always necessary to employ the palms of the hands or the soles of the feet; the reactions obtained when other surfaces of the body were utilized were less marked and open to some doubt. The reason for this was obscure, but it seemed likely that something more was entailed than a mere action on the sweat glands. Charts showing the deflection of the galvanometer that occurred when a subject was submitted to a variety of shocks were exhibited. One extremely good record exhibited the changes during an air raid. A practical demonstration of the phenomenon was then made both on his assistant and on a volunteer from the audience. The striking of a match with the threat of burning caused an immediate deflection of the galvanometer, indicating diminution of resistance. The actual burning caused a greater diminution, but the difference was not so large as might have been expected. A deflection was shown to occur also when the subject coughed; this was due not to any emotion associated with the cough, but to the passage of a nervous impulse down the nerves of the arm. An appreciable interval occurred between the cough and the deflection of the galvanometer. This latent period was probably caused by changes in the periphery rather than in the higher centres. Dr. Waller concluded by stating that he left to others the task of deciding how this method could be most usefully employed in practical medicine. He had found, however, that, contrary to what might be expected, hysterical subjects were less likely to show deflection than normal individuals.

After the President, Sir HUMPHRY ROLLESTON, had thanked Dr. Waller in the name of those present, Dr. J. A. ORMEROD recalled the fact that Charcot had shown that an alteration in resistance to the passage of an electrical current occurred in Graves's disease. Dr. Waller's statement that hysterical patients showed less rather than more deflection than normal beings was of particular interest, for no less an authority than Janet had stated that hysteria was not, as generally supposed, associated with a condition of increased emotion.

Sir KENNETH GOADBY related some of the results observed when he himself was the subject. He agreed that the observations were very striking, but felt that there existed a considerable danger of the method falling into the hands of unskilled and unscrupulous persons. When employed by a skilled practitioner the method was likely to yield interesting and valuable data.

Dr. DAWSON WILLIAMS said that personal experience would leave no doubt in the subject's mind of the existence of the phenomena described. To himself the effect produced on the galvanometer by the sudden intrusion into his consciousness of a disagreeable memory, ingeniously revived by Dr. Waller, had seemed to him even more remarkable than the response elicited by physical pain.

Dr. PARKES WEBER suggested that some interesting results might be obtained by making observations on patients suffering from myxoedema.

NAKED-EYE DIAGNOSIS OF THROAT INFECTIONS.

AT a meeting of the Medical Society of London held on February 9th, with the President, Mr. V. WARREN LOW, in the chair, Dr. H. DRINKWATER read a paper on the clinical diagnosis of diphtheria and other diseases of the throat by means of the naked-eye appearances. Dr. Drinkwater's paper followed the main lines of the lantern demonstration given by him at the Clinical and Scientific Meeting of the British Medical Association in April last.[1] During three years' experience of a large number of cases of diphtheria and other infectious diseases in the East Denbighshire Fever Hospital the bacteriological examination had in every case confirmed the naked-eye diagnosis, thus upholding the correctness of the opinion reached by him twenty-five years ago. As on the occasion of the April meeting, Dr. Drinkwater dealt in turn with the diagnosis of diphtheria, Vincent's angina, follicular tonsillitis, and influenza, illustrating his remarks with coloured diagrams, and explaining his diagnostic division of the fauces into certain well-defined areas, three on each side of the middle line.

Sir JOHN BROADBENT said that the illustrations depicted very accurately the appearances of the throat in diphtheria, Vincent's angina, and follicular tonsillitis. The membrane in diphtheria was ashen-grey or whitish in colour, and not like the wash-leather of the textbooks. There was little difficulty in diagnosis in such definite cases as were portrayed, but in many others the appearance was less characteristic, or only suspicious, and bacteriological examination could alone supply the diagnosis. The same was true of cases seen first in a later stage. Some cases of scarlet fever, with ulceration of the throat, presented great difficulty, for they might be almost exactly like diphtheria, and the two were certainly combined occasionally. In these cases throat culture was important, for if undiagnosed they might become carriers.

Dr. F. PARKES WEBER referred to the herpetic condition of the throat which had been illustrated. Herpes in the mouth, in his opinion, was nearly always bilateral and of the catarrhal form, not herpes zoster. It was rare on the soft palate. He compared it with the herpes met with on the nose and face, remote from the lips, in mild pneumonia.

Dr. W. HILL said that there were occasional cases in which reliance must be placed on the bacteriological findings. Mistakes were likely to be made in diphtheria when the lesions were multiple, the throat clearing up. In several instances he had met with combined lesions. It might be impossible to distinguish between Vincent's angina and diphtheria from the naked-eye appearances. The "coccal" patches depicted as influenzal might certainly occur in influenza, but they were an epiphenomenon, and might also occur apart from that disease. In difficult cases the illustrations would not help.

Dr. MONTAGUE SMITH narrated a case of what appeared to be typical follicular tonsillitis from which the Klebs-Loeffler bacillus had been recovered.

Dr. DRINKWATER pointed out, in reply, that bacteriological examination had been done in every case. If the appearances which he had demonstrated were better known by the general practitioner who saw the cases in their early stage there would not be so many inexcusable mistakes, nor would diagnosis be delayed for the time necessary to receive a bacteriological report.

[1] BRITISH MEDICAL JOURNAL, April 26th, 1919, p. 529. *Proceedings of the Clinical and Scientific Meeting*, p. 334.

Reviews.

THE LIFE OF SIR VICTOR HORSLEY.

(With Portrait Plate.)

SIR VICTOR HORSLEY died on July 16th, 1916, at Amara on the Tigris while consulting surgeon to the British forces in Mesopotamia. In the BRITISH MEDICAL JOURNAL of July 29th, 1916, was published a sketch of his life, in which an endeavour was made to indicate briefly the main facts of his brilliant career. It was not possible to do more, for Horsley's interests extended in many directions and in every field he entered, his virile intellect, his energy, and his powers as a leader of men quickly won for him a commanding position. His industry in collecting facts and his skill in marshalling them were only less remarkable than his grasp of principles and clear view of the result to be attained. With the help of the Medical Secretary of the British Medical Association (Dr. Alfred Cox) we were then able to give a fairly full account of his services to the profession through the British Medical Association, which, directly or indirectly, include most of his medico-political work. But it was not possible at that time to attempt any adequate estimate of his achievement as a neurologist and pioneer in the surgery of the central nervous system: the subject was too large. Nor were we able to give an account of his military services during the war owing to the lack of sufficient information inevitable in the circumstances of the time. Mr. STEPHEN PAGET has now written a biography[1] in which all the aspects of Horsley's strenuous life are depicted with the writer's accustomed sympathy and skill. It has been read no doubt ere this by many members of the profession, and we can only regret that the publishers have considered it necessary to put so high a price on the volume, for it is one that should be read by all of us for the interest of the story and the stimulating lessons to be found in it. It has been thought that a further tribute to Horsley's eminent qualities and achievements could here best be rendered by asking two colleagues intimately associated with him, the one in his work as a surgeon in civil life and the other during the war, to give our readers their estimate of the manner in which Mr. Paget has accomplished his task.

The obituary notice published in 1916 was illustrated by a portrait which some of his friends preferred; but others have since expressed a wish to have a remembrance of him in less stern mood, and this opportunity has been taken to present another portrait which we feel sure many will be glad to possess.

NEUROLOGY AND SURGERY.

We are indebted to Mr. PERCY SARGENT, C.M.G., D.S.O., surgeon to the National Hospital for the Paralysed and Epileptic, Queen Square, where Horsley did much of his work on the surgery of the brain and spinal cord, for the following observations on the earlier part of Mr. Paget's volume:

It is difficult at the present time to form a just estimate of Sir Victor Horsley, or to define the exact position which future generations will assign to him upon the roll of honour of British Medicine. We are too near to the controversies in which he played a leading part in the years immediately preceding the war to see him in true perspective, for the dust of conflict still obscures our vision. Mr. Stephen Paget has given us a study of his life and work which is of absorbing interest. It goes far to satisfy those whose admiration comes near to hero-worship, and it rebukes those who allow political views to warp their appreciation of his greatness in the world of science. Mr. Paget has no hesitation in placing Horsley amongst the greatest of surgeons of all time: "He is with Ambroise Paré, Lister, and Hunter: with them, not below them."

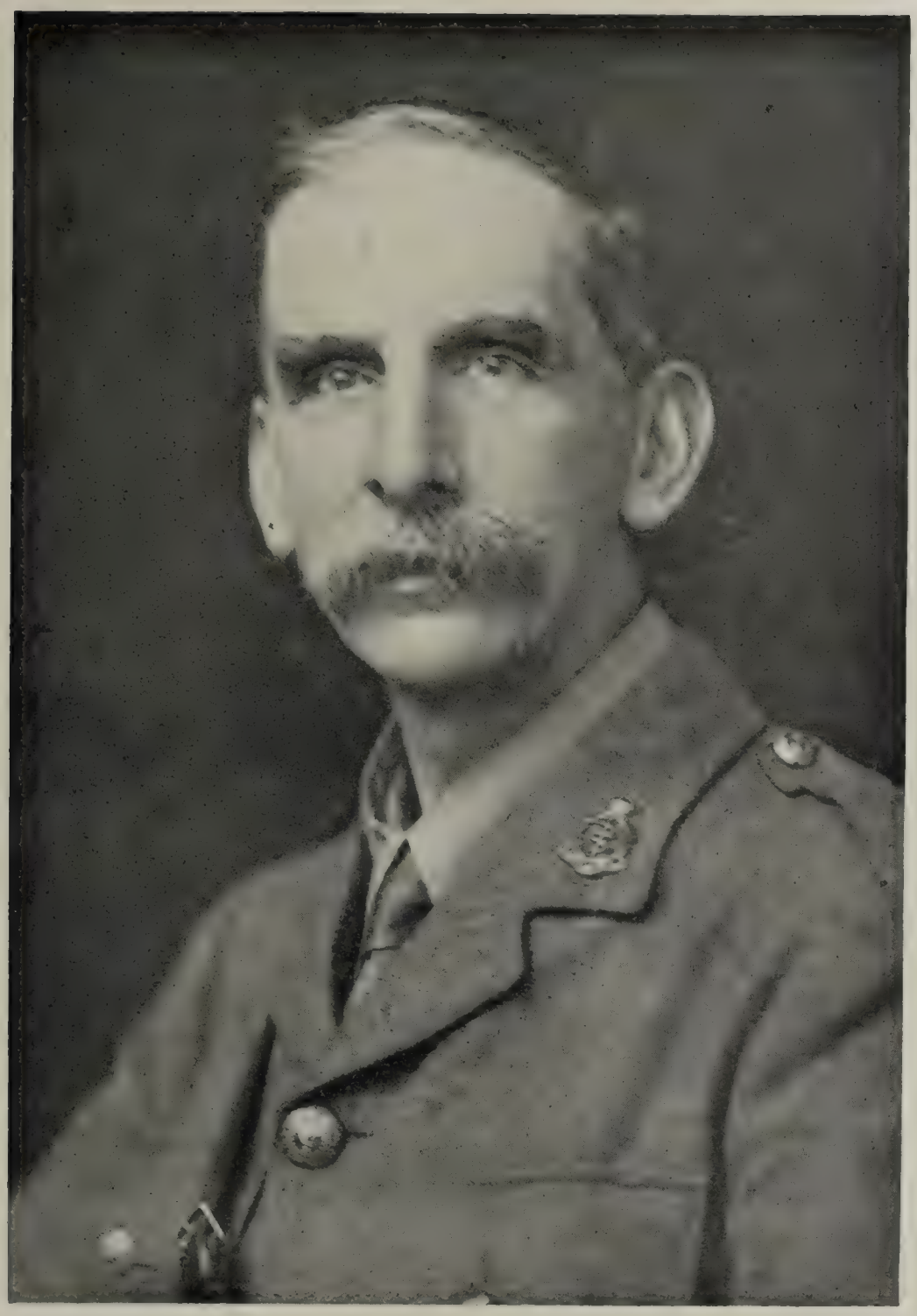
To those who never came into personal contact with Horsley, or who are only vaguely aware of what he did for physiology and for surgery, the record of energy expended and work accomplished may well appear almost incredible. It is one of the features of Mr. Paget's book that we are never allowed to lose sight of the restless energy and indomitable courage which characterized all that Horsley undertook.

Gifted men are often lazy; workers of less ability may surpass them by industry and perseverence, but the combination of intellectual brilliance with tireless industry is rarely found. When it is, once in a generation or two, we get a Victor Horsley. Men of his gifts have often been born at an unpropitious time, into an age which knew them not nor cared to know them; their gospel has fallen upon deaf ears, and it has been for some future generation to appreciate their worth. It was not so with Horsley. The scientific age was ready for him, and he came into his kingdom in princely fashion. The genius of Lister had not only thrown open to his successors the doors of a new surgery, but it had also shaken the complacency of an older generation of surgeons. Not only in these ways was Horsley favoured, but he came at once into contact with men of broad views and wide sympathies, men whose own names are household words, and by whom the brilliant young scientist was stimulated and encouraged. One illustration alone is sufficient. The Commission appointed by the Local Government Board to inquire into Pasteur's treatment of rabies consisted of Sir James Paget, Sir Lauder Brunton, Dr. George Fleming, Lord Lister, Sir Richard Quain, Sir Henry Roscoe, and Sir John Burdon-Sanderson, and Horsley as its Secretary. To the casual observer at that time he must have seemed but a pigmy amongst the giants, yet he was destined to outgrow them all, and to leave behind a name second to none, save perhaps that of Lister.

So many and so varied were Horsley's contributions to medical science, that Mr. Paget has had a difficult task to review them in so comparatively small a volume. He has achieved it with admirable clearness. The research work is described under three main headings: (1) The localization of function in the brain: (2) the thyroid gland; and (3) the protective treatment against rabies. The chapters on myxoedema and rabies furnish a concise epitome, in the first case of the progress of knowledge regarding the functions of the thyroid gland from 1873 to 1893; and in the second, of the history of the stamping out of a preventable disease in the face of the incredibly stupid opposition of the antivivisectionists. In both these directions the dominant share taken by Horsley is clearly indicated. The greatest of the three divisions of Horsley's research work concerns the central nervous system. Of this Paget says: "It was natural that Horsley should take the brain as his chief subject of study. All that was intellectual in him urged him to care more for the seat of intellect than for any other organ in the body; it offered him problems and opportunities and rewards that nothing else could offer." What interested him most of all was the central representation of function, for he held that improvement in the results of cerebral surgery was to be sought for in earlier operations, and that to this end earlier diagnosis, which could only come about from extended knowledge of cerebral function, was essential.

The experimental work, done between 1884 and 1891, in conjunction with Schafer, Beevor, Semon, Spencer, and Gotch, is tabulated and analysed in such a manner as to present the salient results of each research, and their interdependence, in a readily assimilable form. It is astonishing to learn that all this was going on concurrently with the work on rabies and the thyroid gland, as well as with active professional practice. Mr. Paget calls the period from 1884 to 1900 "the wonderful years." Wonderful indeed they were, for in them was well and truly laid, upon the solid basis of experimental physiology, the foundation of the surgery of the nervous system. This all too brief, but nevertheless clear, summary of the research work leads up to the record of what he accomplished for practical surgery. When Horsley was appointed surgeon to the National Hospital for the Paralysed and Epileptic, Queen Square, the surgery of the brain and spinal cord, as distinguished from that of the skull and vertebral column, was in its infancy. Sir William Macewen and Arthur Barker had operated for cerebral abscess, and Godlee for tumour of the brain, but "we can count on our fingers the cases of modern brain surgery recorded in our surgical literature up to the time of Horsley's appointment at Queen Square." His first operation at Queen Square, in 1886, was for epilepsy resulting from an old injury; Hughlings Jackson and Ferrier were present. "Horsley removed the scar in the brain, and the

[1] *Sir Victor Horsley. A Study of His Life and Work.* By Stephen Paget, F.R.C.S. London: Constable and Co., Ltd. 1919. (Demy 8vo, pp. xi + 358; illustrated. 21s. net.)



Victor Horsley

Photograph by Mr. G. C. Beresford.

surrounding brain substance, to a depth of 2 cm. The wound healed well; the mental condition was improved, and the fits ceased."

From that time onwards he rapidly enlarged the field of neurological surgery. The operation of laminectomy as now usually practised is Horsley's; his was the first deliberate operation for the removal of a tumour compressing the spinal cord; the operation of ligaturing the internal jugular vein for septic thrombosis of the lateral sinus was planned by him. A year before William Rose's bold pioneer attempt to remove the Gasserian ganglion Horsley had "in one case divided the trigeminal nerve close to the brain, between the base of the brain and the Gasserian ganglion." He afterwards practised what is usually known as the Hartley-Krause operation for removal of the ganglion, and no one who was privileged to see him perform one of these operations is likely to forget his astonishing dexterity. Paget says, "No surgeon will ever surpass him in skill and judgement over this very difficult operation, and in the earlier years none was equal to him." He was the first to venture to attack the pituitary body, which he approached by the temporal route; the palliative operation for relief of pressure in cases of irremovable cerebral tumour, now known as decompression, was worked out by him. These pioneer operations, any one of which might be thought enough for fame by most surgeons, by no means exhaust the account of what practical surgery owes to Horsley.

He was endowed with all the gifts which make a good operator; skill in the use of tools, quickness devoid of haste, resource in difficulty, and that attitude of mind which allowed no detail of technique to be considered beneath his notice. All this contributed to his many undoubted successes in a field where success is, from the nature of the cases, harder to win than in many another special branch of surgery. One of the many secrets of his success is to be found in the fact that "he never lost hold, in special surgery, of general surgery."

Of his published works, the Address in Surgery at the Toronto Meeting of the British Medical Association in 1906 is considered by Mr. Paget to be amongst the most important. In it Horsley reviewed the whole field of brain surgery in the light of his own experience, extending over twenty years. He emphasized the fact that the principles of cerebral surgery which he had advanced twenty years earlier were based upon experiments on animals, and that since then further experimental research on animals had confirmed and extended these principles. He discussed the appropriate time for surgical intervention in intracranial disease; the significance of "optic neuritis" in conditions of increased intracranial pressure, and the certainty with which blindness from that cause could be averted by the "simple proceeding of opening the dura mater," and his own views as to the localizing value of the incidence of the neuritis. The technique of cerebral operations was also fully entered into, and explicit reasons were advanced for each detail concerned, including the method of inducing anaesthesia and the means of avoiding shock, besides many lesser, though still important, matters.

For the most part Mr. Paget writes with judicial fairness, but the reader cannot help feeling sometimes that he adopts the tone of counsel for the defence rather than of judge, and in so doing occasionally seems to bring weak points into undue prominence. To certain calumnies he gives the lie direct, as when he justly denounces as "brutal nonsense" the "gossip that Horsley was in a hurry to operate, and would even operate for the sake of operating." Throughout the book we get a good impression of Horsley's personal charm, his generosity, his care for his patients, and his love of animals. "The young men who worked with him in hospital wards and physiological laboratories . . . found him keen to help them, lavish of his gifts, enjoying to advise and guide them in their work so that it should tell to the best advantage, not for him, but for them." He "spent himself with superb extravagance"; he "played his life for all it was worth; there is nothing that he kept back from us, there is nothing that he feared."

The War.

Dr. W. H. Willcox, C.B., C.M.G., who served with Horsley in Egypt and Gallipoli, and was consulting physician with the British Forces in Mesopotamia when Horsley was consulting surgeon, has written the following review of the later chapters, in which Sir Victor Horsley's services during the war are related:

A very interesting account is given of his war service, and the letters published contain many local touches portraying his love of nature and his human interest in the everyday life of those around him. Horsley possessed in a remarkable degree the qualities of fearlessness, disregard of self and personal comfort, tireless industry and personal charm, to which perhaps might be added the sporting instinct or love of adventure. All these qualities were exemplified by his services during the war.

In a recent letter the distinguished American surgeon, Dr. W. W. Keen, speaks of "The sad loss to Science and to Medicine specially, and in fact to the World, by the death of Victor Horsley. I had known him ever since the Congress of 1881, so that my intimate knowledge covered almost forty years. I know of no one who has advanced Surgery more than he. It was a great mistake, it seems to me, ever to have allowed him to go into the Field anywhere, but especially into the climate of Mesopotamia. In his Laboratory he would have been worth ten men at the Front." But Horsley could not remain at home without, as he wrote in one of his letters, "eating his heart out in enforced idleness." He felt that there was pressing need of expert surgeons near the fighting line where the necessary operative treatment could be carried out before septic complications had set in. It was only later in the war that the army authorities, as the result of experience, realized the importance of this.

Horsley was on the staff of the 3rd London General Hospital; it was mobilized early in August, 1914, and he worked hard for its organization and equipment. There was, however, little surgical work to be done there during the first few weeks of the war, and a plethora of surgical specialists on its staff. He chafed for more active work, and as early as August 12th, 1914, applied for transfer to the active service list. On March 28th, 1915, he left for France, being in charge of the Surgical Division of No. 21 British General Hospital as Major R.A.M.C., and after a short period of service there was transferred with his hospital to Egypt in May, 1915.

In July, 1915, he was given a wider sphere for his activities, being made consulting surgeon with the rank of Colonel A.M.S. His tireless energy and wide outlook on things extended their influence over the whole sphere of operations, and he fearlessly called attention to the needs not only of the Medical Department but of the troops in general. October, 1915, was spent in visiting Mudros and Gallipoli, during which period he was exposed to much personal privation and danger. His expert advice and help were of inestimable value, and his fine example of disregard of danger and hardships acted as a great stimulus and encouragement to the medical officers who were doing their utmost under most trying and difficult conditions.

After the evacuation of Gallipoli there was less pressing need of his services in Egypt, and he wished for a more active sphere. At that time the needs of Mesopotamia were becoming manifest, and the testimony of the wounded who were being evacuated home through Egypt made Horsley realize that he might do much to rectify the great defects in the medical arrangements in that field of war. We accordingly find him volunteering for service in Mesopotamia, though he knew full well the obvious hardships and dangers to which he would most certainly be exposed. On March 25th, 1916, he arrived in Bombay. While in India he did much to stimulate the authorities with regard to the medical needs of Mesopotamia, and his advice was fully appreciated and acted upon. He reached Basrah on April 16th, 1916, and it is characteristic of him that within a few days he was at the front making a personal investigation of the actual surgical needs in the fighting line.

His letters from Amara in May and June, 1916, graphically describe the climatic discomforts and hardships of the campaign. He told a colleague, however, that he did not feel personal discomfort from the intense heat, but thought that it did him good. His letters show also how much he felt the pressing needs of the force in Mesopotamia and the steps he took in endeavouring to improve the trying conditions. He spoke in the highest praise of the self-denying and splendid work done by all the medical officers in Mesopotamia, and made it known to the world

that they did all that could possibly have been done with the means at their disposal.

His indisposition of July 14th, 1916, culminating in a fatal attack of heatstroke on the evening of July 16th, are related. It was a tragic misfortune that this calamity should thus have occurred, for it was known that he had intended to leave Amara for India early in July in order to use his influence at head quarters there to improve the conditions in Mesopotamia. He delayed his departure in order to meet the Army Commander who was coming up river.

It has been said that Horsley needlessly exposed himself to the fierce climatic conditions of Mesopotamia, relying on his abstention from alcohol as a safeguard. This is untrue. I was closely associated with him as a colleague in Mesopotamia, and can state that during this period there was a very great deal of pressing consulting work which demanded attention. There was a deficiency of transport in the shape of motor cars and launches, and these were not available for consultants at that time, so that the choice had to be made between "inaction or doing one's duty with risk of heatstroke." It need not be said which course Horsley adopted. During the mornings he visited the hospitals at Amara, of necessity walking several miles in the intense heat in order to do the work which demanded his attention, and there is not the least doubt that this exposure caused the fatal attack of heat hyperpyrexia.

Horsley nobly did his duty, and thereby gave up his life for his country.

OBITER SCRIPTA MEDICI MILITARIS.

THOSE who have often turned with relief from some technical article to Sir R. FIRTH'S thoughtful writings in the *Journal of the Royal Army Medical Corps* will give a hearty welcome to the seventy-five essays now collected in a book with the title *The Musings of an Idle Man*.[2] It is dedicated to his old comrades and to the memory of the 568 officers and 4,634 other ranks of the Royal Army Medical Corps who gave their lives for King and country in the great war of 1914–1918. These pleasantly written meditations were begun to while away the tedium of long railway journeys in India, were continued in France and at home, and cover a period of some eight years. The subject matter is varied and touches on ethics, evolution, idiosyncrasies, manners, morals, philosophy, mysticism, sociology, and other topics. The tone is subdued and reflects the calm and kindliness that should come with the experience of the fleeting years, and is well illustrated in Sir Robert Firth's modest thoughts "on being superannuated," and by his remarks "on death." Though written by a distinguished medical officer, these essays are not professional any more than P. G. Hamerton's writings on *Human Intercourse* and *The Intellectual Life*, which they somehow recall, deal with art and etching; their soothing tone will serve to correct the worries of the hard-pressed practitioner.

NOTES ON BOOKS.

THE issue of *Medical Science*[3] for February contains reviews of recent literature on diseases of the respiratory system, cardio-vascular diseases, extradural subcranial dermoid cysts, the surgical measures for empyema of the thorax, diverticula of the bladder, and the representation of the bladder in the cerebral cortex, together with abstracts of papers in various departments.

Psychologies,[4] by Sir RONALD ROSS, is a collection of five poems in the dramatic form, and their tragic effect is derived less from the concourse of external events than from the reaction of human characters in moments of emotional intensity. In our judgement the best poem is "Evil": it is truly dramatic; there is a definite unveiling of character and a crescendo of emotions, but told with restraint, irony, and pathos. The whole series is distinguished, and the verse, although not rising to any great heights of poetic imagery, is always admirably suited to the subject, and its quality is, in places, faintly reminiscent of the old ballad literature. There is vigorous underlying force, which often rises to the surface and gives great beauty to the words, and although it is the chords of pity and terror that are heard, and not those of sweetness and joy, they are always struck with firm touch. Sir Ronald Ross in his brief preface promises more, and the hope may be expressed that he will keep his word.

The fifth edition of FRIEDENWALD and RUHRÄH'S *Diet in Health and Disease*[5] provides the reader with a large and comprehensive book on the subject, full of facts, figures, tables, and percentages that should enable him to devise diets of great variety to suit persons and patients of all classes. The first 360 pages deal with the principles of dieting, the nature of various foods and beverages, and special methods of feeding. The rest of the book deals with diet in diseases of all sorts, with special chapters on army and navy rations, diets in public institutions, recipes, food values, and the like. The authors discuss impartially the many diets they set out in their pages, and appear to be commendably free from dietetic fads and fancies, leaving the reader to draw his own conclusions unprejudiced.

Evening Play Centres for Children,[6] by JANET PENROSE TREVELYAN, sketches the origin and development of the play-centre movement. In a well written and concise form it gives details that should be valuable to the many local authorities and other agencies which are about to start new centres. Descriptions are given of nearly a hundred suitable hall and playground games.

[2] *Musings of an Idle Man.* By Colonel R. H. Firth, K.B.E., C.B. London: John Bale, Sons, and Danielsson, Ltd. 1919. (Cr. 8vo, pp. xii+360. 7s. 6d. net.)

[3] Annual subscription, 21s; a single number, 2s.

[4] *Psychologies.* By Sir Ronald Ross. London: John Murray. 1919. (Cr. 8vo, pp. 69. 2s. 6d. net.)

[5] *Diet in Health and Disease.* By Julius Friedenwald, M.D., Professor of Gastro-enterology in the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, and John Ruhräh, M.D., Professor of Diseases of Children in the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore. Fifth edition, reset. Philadelphia and London: W. B. Saunders Co., Ltd. 1919. (Med. 8vo, pp. 919. 25s. net.)

[6] *Evening Play Centres for Children.* By Janet Penrose Trevelyan. Preface by Mrs. Humphry Ward. London: Methuen and Co. 1920. (Cr. 8vo, pp. xvii + 177; 12 illustrations. 5s. net.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the committee held on February 10th seventeen cases were considered and £183 2s. voted to fourteen of the applicants. The following is a summary of some of the cases relieved:

Widow, aged 38, of M.D.Dubl. Applicant is a trained nurse, but is unable to work at present on account of ill health of self and child. Pays 5s. a week rent for one room. Relieved four times, £29. Voted £10.

Widow, aged 38, of L.R.C.P.Edin. who died in 1917. Has been living on her capital, which is now entirely exhausted. Has three children, aged 12, 10, and 4, and is without means. Relieved once, £10. Rent 17s. for two rooms. Voted £5 and a special grant of £2 2s.

Daughter, aged 58, of F.R.C.S.Eng. who died in 1890. Has no income. She receives £13 from the Guild. Rent 4s. a week. Relieved fourteen times, £136. Voted £18 in four instalments.

Daughter, aged 57, of M.R.C.S.Eng. who died in 1877. Applicant receives £18 from dividends and £21 from another charity. Does a little needlework occasionally. Rent 10s. 6d. for two rooms. Relieved four times, £38. Voted £18 in twelve instalments.

Daughter, aged 61, of M.D.Lond. who died in 1868. Acts as housekeeper, or does a little nursing when her health permits. Receives £26 from another charity, and £12 from friends. Rent 10s. a week for one room. Relieved six times, £36. Voted £12 in twelve instalments, and a special grant of £2.

Widow, aged 70, of M.R.C.S.Eng. who died in 1906. Was left unprovided for with six children; four of them are now married, and are unable to help. Eldest daughter is a teacher, and pays the rates and taxes, £22; the other daughter helps at home. Applicant takes in boarders. Rent £38. Relieved by the Fund many years ago, and again in 1913, when she was granted £12. Voted £10.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts and suits for working boys. The Guild appeals for second-hand clothes and household articles for the benefit of the widows and children who, in happier times, would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

ST. CHAD'S HOSPITAL, BIRMINGHAM:

A HOSPITAL FOR PAYING PATIENTS.

BY

WILLIAM BILLINGTON, M.S., F.R.C.S.

SEVEN years ago a small group of Birmingham consultants formulated a scheme for the provision of special medical and surgical treatment at moderate inclusive cost. There was then no provision for the large number of patients unable to afford the heavy expense of a private operation and who were not yet of the class for whom the voluntary hospitals are primarily intended. It was felt that a frankly non-charitable self-supporting institution where such patients could be treated would be a great boon.

To make the scheme a success it was necessary—

1. That the hospital or nursing home should contain a sufficient number of beds to allow of the fixed and administrative expenses being spread over as many patients as possible.

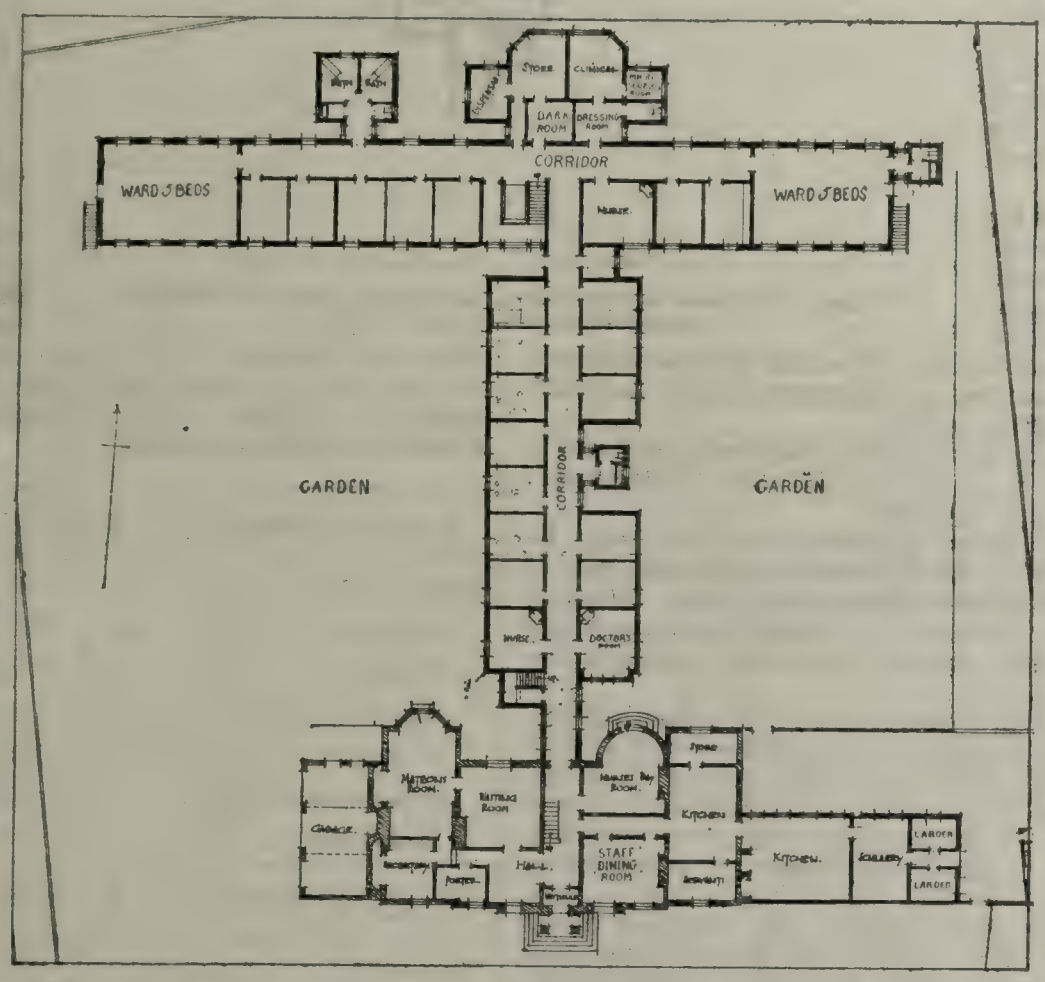
2. That the medical staff should make their fees proportionate to the institution charges in order to bring the inclusive cost within the means of the patient.

The need for such an institution in the Midlands was real and urgent, as indeed it is in every large centre of population in the country. To meet it new ground had to be broken and many difficulties, ethical and financial, to be faced and overcome without the help of a precedent. After careful deliberation it was decided that the most satisfactory solution of the problem would be:

1. To eliminate charity in any form and to found the institution on strictly business lines.

2. While incorporating all that experience has proved of value in the administration and working of the large voluntary hospitals, to keep free from any actual association with them.

3. While obtaining all possible assistance from the outside public, to retain the real control in the hands of the medical staff.



Plan of Ground Floor. Showing a series of rooms for single cases, and two wards of five beds each.

Proceeding in accordance with the above principles, a public company was formed. The articles of association provide that—

1. The affairs of the company shall be administered by a board of directors, three of whom shall be elected by the shareholders and two by the Medical Committee. The chairman shall be one of the three members elected by the shareholders.

2. The directors shall control and generally carry on and manage the work of the institution, subject nevertheless to the restrictions arising out of the powers conferred upon the Medical Committee.

3. The directors shall not (*a*) publicly advertise the institution in any way whatsoever; (*b*) admit patients except on the recommendation of a member of the medical staff and on the conditions laid down by the Medical Committee.

4. There shall be a medical staff consisting of such a number of medical practitioners as the Medical Committee shall from time to time determine.

5. Every member of the medical staff must be the holder in his own right of shares to the nominal value of £200.

6. The medical staff shall constitute a Medical Committee, on which each member shall have equal voting powers.

7. The Medical Committee shall retain the sole right of appointment to and removal from the medical staff. Resolutions to be effective must be supported by three-quarters of the members present.

8. The Medical Committee shall control all matters relating to the medical work of the institution, but all resolutions involving the expenditure of money shall be in the form of recommendations to the board of directors.

Finance.

A large house standing on 3 acres of freehold land in the suburb of Edgbaston was purchased, together with the site. The entire cost of this and the new building amounted to about £22,000. This was obtained by the issue of £10,000 6 per cent. preference shares and £2,000 ordinary shares, the balance of £10,000 being raised in the form of a mortgage. All the shares have been issued and fully paid up. There are nearly 100 shareholders, most of them large firms in the city and prominent men interested in the scheme. Except for the first year after the opening of the hospital, when only 4 per cent. was paid on the preference shares, these shares have received the full 6 per cent. interest, while for the past two years a dividend of 6 per cent., free of tax, has been paid on the ordinary shares.

The Patients.

No patient can be admitted except on the recommendation of a member of the medical staff, under whose care he is placed. Subject to a minimum charge of £5 5s. a week, the amount of the inclusive fee is arranged between the patient and the member of the medical staff concerned. The arranged fee is notified to the house governor, whose business it is to collect it and apportion it according to a scale agreed upon between the Medical Committee and the board of directors. Each member of the staff receives every month a statement showing the fees collected from his patients, together with a cheque for the proportion due to him.

Patients are divided into two classes:

1. "*Composition*" patients, who pay an inclusive fee not exceeding £10 10s. a week for nursing home accommodation and all professional attendance. Composition patients form 90 per cent. of the total admissions.

2. *Ordinary* "*Private*" patients who pay the usual fee to the physician or surgeon in attendance quite independently of the nursing home charges.

A rebate from the usual nursing home charges is made in the case of composition patients, provided that the whole amount of the inclusive fee is notified to and collected by the house governor.

Examples of the Working of the "Composition" Scheme.

1. A. B. is admitted for haemorrhoids or hernia. A charge of £14 14s. covers the operation, the anaesthetic, and a fortnight's stay in the hospital.

2. C. D., suffering from chronic appendicitis, is accepted for an inclusive charge of £21. This covers the cost of the operation, the anaesthetic, and three weeks' stay in the hospital. The anaesthetist receives a direct payment of one guinea from the inclusive fee.

3. E. F. is admitted for curetting or for a repair of ruptured perineum; £15 15s. covers operation, anaesthetic, and a fortnight's stay in the hospital.

4. G. H. is admitted with obscure gastric symptoms, and stays in the hospital four weeks for a composition charge of £31 10s. His case requires full investigation and may call for a consultation between a physician and surgeon, an *x*-ray examination, and subsequent operation. The cost is covered by the single inclusive payment.

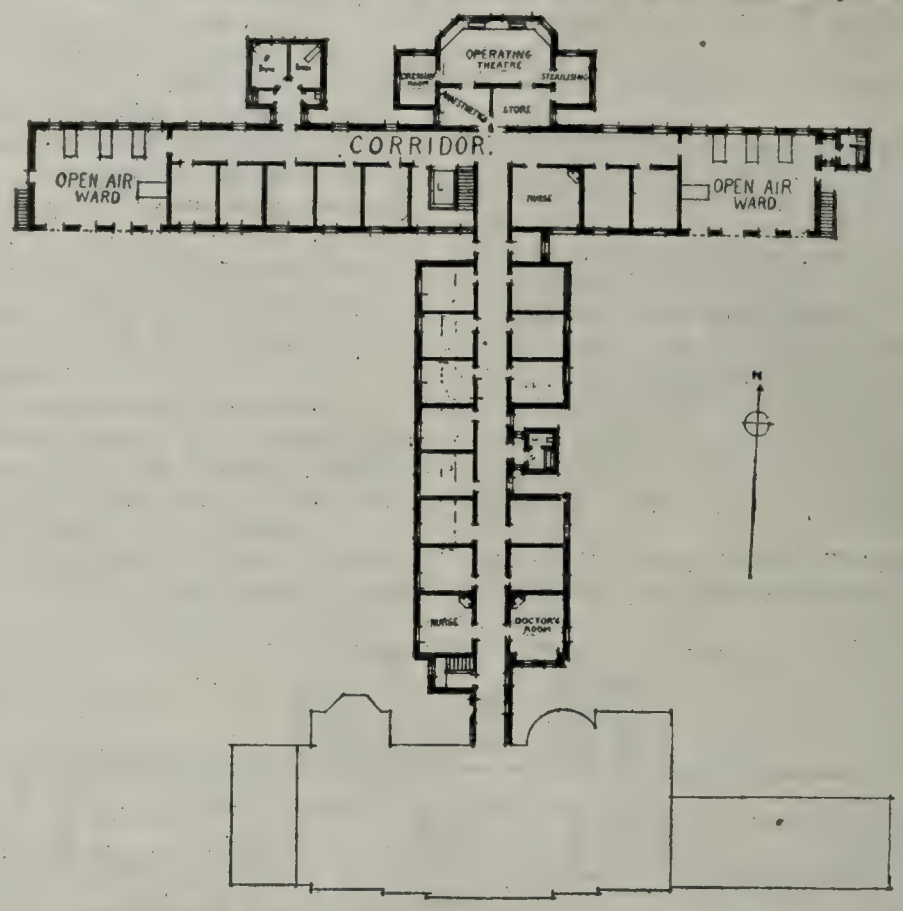
5. I. J. is admitted for investigation of haematuria of unknown origin. He remains in the hospital for a fortnight for an inclusive charge of £14 14s. The case has necessitated a cystoscopic examination, a radiograph, and a bacteriological examination of the urine.

6. K. L., suffering from adenoids, stays one night and is charged a fee of £3 3s., covering the cost of operation, anaesthetic, and nursing expenses.

7. M. N. has symptoms suggesting that he may be suffering from phthisis. He is admitted under the care of a physician for a fortnight's observation at an inclusive charge of £15 15s. The case is watched in an open-air ward, and may require bacteriological and radiographic investigation.

The hospital building is entirely new. It contains sixty small private wards, four large wards with accommodation for six patients each, and two large open-air balconies facing due south; it is capable of accommodating one hundred patients. It is provided with two complete operating theatres, a small dispensary, a pathological laboratory, and *x*-ray rooms. Every room has an outlook on to a large open garden, and receives direct sunlight part of the day. There are three floors, each forming a separate entity from the point of view of the nursing, which is carried out on the lines of a large ward in a voluntary hospital. The equipment and general arrangements conform to the requirements of a modern hospital. The whole building is warmed by radiators (hot-water circulation). The hospital is conducted on the same lines as the large voluntary hospitals. The staff consists of a whole-time house governor and his clerk, a resident medical officer, a matron, assistant matron, six sisters (one of whom is home sister and housekeeper), twelve staff nurses, and nineteen probationers. The College of Nursing, after an official visit and inspection by two matrons of large general hospitals, have recognized St. Chad's Hospital as a training school for nurses, and its certificate of training constitutes eligibility for membership of the college.

The medical staff of the hospital consists of twenty-three members, each of whom is a consultant and a member of the staff of one of the Birmingham hospitals. Every speciality is represented by at least two members, no one being allowed a monopoly. On application to the house governor a printed list containing the names and addresses of the medical staff, arranged in alphabetical order, can be obtained. Admission to the hospital is only possible through a member of the staff, but the ordinary relationship between consultant and practitioner is maintained, and the latter has free access to his patient while in the hospital, and where practicable is invited to assist in the treatment. This holds good especially with regard to the administration of anaesthetics and assistance at operations (for which a fee is paid out of the inclusive charge).



Plan of First and Second Floors. Showing a series of rooms for single cases, and open-air wards.

A point of great practical value is the right that each member of the staff possesses to call upon any other member for assistance in the treatment of a "composition" patient without fee.

The first patient was admitted into St. Chad's Hospital on September 5th, 1914. Since then, in spite of the many serious difficulties arising out of the war, its history has been one of successful progress. The particulars given in the following table, taken from the last Annual Report, afford evidence of the wide scope and progressive character of the hospital's activities. It is worthy of note that last year rather more than 900 patients were of the "composition" class. All these were unable to afford the cost of treatment in an ordinary nursing home, and would have been compelled to apply for admission into a charitable hospital had St. Chad's not been available.

In-patients Admitted.	1914–15.	1915–16.	1916–17.	1917–18.	1918–19.
Total admitted	189	523	767	898	1,011
Surgical	119	269	377	492	481
Medical	25	40	57	37	75
Gynaecological ...	14	61	158	140	240
Ophthalmic	5	17	38	35	27
Ear, nose, and throat	26	136	132	178	170
Maternity	—	—	5	16	18
Daily average number of in-patients	13.68	20.66	29.62	38.15	44.58
Revenue received	£1,287*	£3,417	£5,605	£7,714	£9,7.9

* Seven months.

Five years' practical experience of the working of the scheme of which St. Chad's Hospital is the outward and visible sign has demonstrated that with proper organization "paying" hospitals can be made a success and satisfy the consultant, the practitioner, and the patient.

THE remuneration of the medical superintendents of London mental hospitals is at present, in the case of hospitals with 2,000 or more beds, £1,025 a year, with emoluments of unfurnished house, rates, taxes, and water. The new scale in the case of hospitals of more than 2,000 beds is to be £1,200 a year, and, in the case of the one smaller hospital, £1,000, the emoluments attaching to the offices remaining the same as at present. With the percentage addition of war bonus the annual remuneration in these two cases will amount to £1,400 and £1,180 respectively. At Bexley Mental Hospital, where there are certain special circumstances, the remuneration will amount to £1,510 so long as the present superintendent holds office.

THE town of Southampton has increased its donation to the Village Centres Council for the erection of a Southampton hut at the Enham Village Centre to £1,000, and the city of Winchester has contributed £500 for a Winchester hut.

British Medical Journal.

SATURDAY, FEBRUARY 21ST, 1920.

"THE PITIES OF OLD SURGEONS."

SURGICAL ANAESTHESIA is a subject of perennial interest, indeed of general interest, for who can say when he may not have need to experience its benefits in his own person? It is common to assume that it was a blessing given to the world by the nineteenth century, and the assumption is true of complete anaesthesia as now scientifically produced. But it would be a mistake to suppose that before ether and chloroform were used to produce general anaesthesia our forefathers took no means to dull the senses of him who had to submit to the surgeon's knife. A correspondent in Singapore, Mrs. Ferguson Davie, M.D., has sent us a quotation from the *De Trinitate* of St. Hilary, in which, speaking of the relations of the body with a sentient soul, he says: "When through some grave necessity part of the body must be cut away, the soul can be lulled to sleep by drugs which overcome the pain and produce in the mind a death-like forgetfulness of its power of sense. Then limbs can be cut off without pain; the flesh is dead to all feeling, and does not heed the deep thrust of the knife, because the soul within is asleep." This our correspondent finds the more interesting since Celsus, "writing a century or more earlier," confidently assumes that all surgical operations must be painful. Celsus lived in the reigns of Caesar Augustus and Tiberius, more than three centuries before the Athanasius of the West. The passage of Celsus referred to is the well known description of the qualities that fit a man to be a surgeon; among them is "a mind undaunted, so that he is not moved by the patient's shrieks to unnecessary haste or to cut less than is absolutely expedient."

Hilary was not the first Father of the Church who spoke of surgical anaesthesia. From a casual reference by Origen (*circa* A.D. 185–254) to a draught which casts patients about to undergo an operation into a deep sleep the practice of anaesthesia would seem to have been fairly common in the third century. The effects of mandragora, henbane, *Datura stramonium*, hemlock and lettuce were known in the East in remote antiquity. The Egyptians are believed to have used Indian hemp and poppy juice as surgical anaesthetics. The anodyne properties of mandragora were praised by the ancient Egyptians, Babylonians, and Hebrews. Rachel begged Leah for this drug, probably to soothe the pains of childbirth. A preparation of Indian hemp is probably referred to by the prophet Amos (ii, 8) seven centuries before Christ. Richard Burton, in his notes to the *Arabian Nights*, says that drugging with henbane was common among the ancient Hindus and Arabs: "These have been used in surgery throughout the East for centuries before ether or chloroform became the fashion in the Civil War." S. J. Mozans [1] says the ancient Peruvian Incas probably utilized the anaesthetic properties of the active principle of *Erythroxylon Coca* in trephining. A Chinese surgeon named Hoa-tho, who flourished A.D. 220–230, is recorded to have administered Ma-Yo before operating; this seems to have been Indian hemp. In a few moments it made the patient insensible as if drunk or deprived of life; after a few days he recovered having felt no pain during the operation.

The ancient Greeks used drugs to deaden sensibility, and it is probably from these that Celsus learnt of mandragora, which he mentions (*De Medicina*, XXV, 2), but only as a soporific. The younger Pliny (A.D. 32–79), in his *Natural History*, says that the "herbe mandragoras" is useful before "the cutting or cauterizing, pricking or launcing to take away the sence and feeling of such extreme cures. And sufficient it is in some bodies to cast them into a sleep with the smel of mandrage against the time of such chirurgery." The drug is also mentioned by Paul of Aegina, Seneca, and Dioscorides (*circa* A.D. 50), who gives a prescription for its use as a surgical anaesthetic. Benjamin Ward Richardson tried this and found that "the phenomena repeated themselves with all faithfulness."

A mixture of mandragora, henbane, and other substances (*confectio soporifica*) was used in the thirteenth and fourteenth centuries by Hugo of Lucca, and his son Theodoric (A.D. 1205–1296), Bishop of Cervia near Ravenna, and confessor of Pope Innocent IV, in his *Chirurgiae* (Lib. IV, cap. viii), describes a *spongia somnifera*. The mode of preparation is given by Guy de Chauliac in his *Chirurgia Magna* (1363): "Some, like Theodoric, prescribe medicaments which put to sleep so that the pain of the incision shall not be felt, such as opion, nightshade juice, hyoscyamus, mandragora, tree ivy, hemlock, lettuce, and with these juices soak a new sponge and allow it to dry in the sun. And when the need arises, they place this sponge in hot water and give it to be smelt till sleep comes to the patient. And when he is asleep they do the operation." Formulas for mixtures of opium, mandragora, and henbane are given by Arnold of Villanova (1235–1315) in his *Breviarium* and Nicolas of Salerno in his *Antidotarium*, which was printed in 1471. One of the stories in Boccaccio's *Decameron* (1461) proves that the use of anaesthetics was familiar in Italy in the fifteenth century even for purposes outside the province of surgery. A little later Jean Canappe, in *Le Guidon pour les Barbiers et les Chirurgiens* (1538), gives a list of *médicines obdormifères* employed in surgery. Shakespeare's reference to poppy, mandragora, and the other "drowsy syrups" is too familiar to need quotation. But the following passage from a somewhat later Elizabethan is interesting. Middleton in his play *Women, Beware Women*, says:

> I'll imitate the pities of old surgeons
> To this lost limb, who, ere they show their art,
> Cast one asleep, then cut the diseased part.

Du Bartas, in the middle of the sixteenth century, wrote, as Englished by Silvester:

> Even as a surgeon, minding off to cut
> Some cureless limb, before in use he put
> His violent engines on the vicious member,
> Bringeth his patient in a senseless slumber,
> And griefless then (guided by use and art)
> To save the whole cuts off th' infected part.

Till the sixteenth century mandragora (the *Atropa mandragora*, allied to the *Atropa belladonna* of modern pharmacy) was in common use as an anaesthetic. Then it fell into disrepute, and we find Ambroise Paré writing that the *spongia somnifera* was "formerly" used by operators.

Considering what the horrors of the surgical knife were without some means of deadening sensibility, there must have been some powerful reason for the abandonment of such anaesthetics as were available. Possibly the mixtures of mandragora, Indian hemp, henbane, and opium in the quantities required to produce any real effect were found to be too dangerous.

[1] *Along the Andes and Down the Amazon.* New York, 1911.

Nothing more was heard about anaesthesia till the end of the eighteenth century, and it was not till 1846 that the triumph over pain in operative surgery was achieved.[1]

TOXINS AND ANTITOXINS.

TOXINS and antitoxins are familiar in our mouths as household words. The theoretical interest of the problems raised is only equalled by the practical importance of the application of theory to practice. Much remains to be ascertained, and the student who seeks to become acquainted with the subject in all its aspects is confronted with an enormous mass of literature—good, bad, and indifferent. We may therefore be grateful to Drs. Nicolle, Césari, and Jouan, of the Pasteur Institute in Paris, for giving[2] a connected account of their experimental work, including an exposition of their methods, observations, and results, with a minimum of explanatory hypothesis, all most lucidly set forth. In their summing up of the essential experimental data that they have accumulated, they review and compare in succession toxins, immunity, hypersensitiveness, sensitization, antibodies, and antitoxins. Finally, they present the reader with a general conception of the nature and modes of action of toxins and antibodies. No special mention is made of the endotoxins or bacterial poisons that remain in the bodies of bacteria without to any extent escaping from their cells, although "soluble toxins" are distinguished from what the authors call "solid toxins," or virulent bacteria employed experimentally, living or dead. The actions of "soluble" and "solid" toxins for any given microbe are, according to their observations, identical.

It is concluded that a toxin contains two elements; one active, common to the several poisons of one group, and incapable of producing antibodies; the other inactive, but producing an antibody almost always specific for each toxin. Toxins and enzymes may be regarded as forming a continuous series, the two ends united by substances such as papain that act as both; enzymes may be regarded as acting on inanimate matter, toxins as enzymes acting on living matter. The active element of a toxin is a relatively simple chemical substance, the antigen element a colloidal substratum thereto. The direct action of a toxin may be to coagulate proteins, to hydrolyze the lipoids of red blood corpuscles or the nervous system; great natural variations exist in the amount of toxin produced by animals, bacteria or plants under different conditions or at different periods of growth. As for the composition of antibodies, it is even less definite than that ascribed above to toxins; it may well be of the same general character. The action of antibodies as such is to coagulate or decoagulate—if one may transliterate a serviceable French word—the antigens corresponding to them; an antitoxin neutralizes a toxin by coagulating its separate particles, an anti-enzyme destroys an enzyme in the same manner. Cytolysis may be taken as an instance of both coagulation and decoagulation; it consists of two stages—first, fixation of the amboceptor, producing coagulation; secondly, solution of the coagulum by the complement. The process is analogous to the cytolysis by normal guinea-pig serum of the guinea-pig's normal red cells, after they have been treated (coagulated) with mercuric chloride—the cells dissolve in the excess of protein offered to them in the serum.

The genesis of antibodies is shrouded in the deepest mystery; it can only be said that experimental animals react in the most variable manner to the exhibition of antigens—sometimes they produce no antibody, sometimes one, sometimes many. Indeed, the study of autolysis has led Nicolle to conclude that all living cells normally produce antibodies just as they produce enzymes or toxins; no picture of their method of production can even be outlined. Of recent years there has been a tendency among physiologists to express metabolic processes in terms of physical chemistry, with use of the physico-chemical conceptions furnished by the study of surface tension, adsorption, ionization, and colloid chemistry generally. Nicolle, Césari, and Jouan have avoided anything like a mathematical or physical treatment of the subject. They confine themselves to the well-ordered recording of experiments and their results. It would be of no little interest to see how far their observations could be utilized by a mathematically-minded chemical physiologist as a basis for a more physical exposition of the singularly difficult series of problems outlined above.

[1] A history of anaesthesia will be found in the BRITISH MEDICAL JOURNAL of October 17th, 1896, issued on the occasion of the jubilee of Morton's discovery. Reference may also be made to Sir James Simpson's chapter on ancient history in his *Collected Essays on Anaesthesia and other Subjects* (1871).

[2] *Toxines et Antitoxines.* By M. Nicolle, E. Césari, C. Jouan, de l'Institut Pasteur. Paris: Masson et Cie. (Demy 8vo, pp. viii + 123. Fr. 5 net.)

INTERNATIONAL ORGANIZATION OF MEDICAL SOCIETIES.

AN informal meeting was held on February 13th, at the house of the Royal Society of Medicine, to hear a statement by Dr. F. F. Simpson, who is on a mission to Europe from the United States of America to explain to the medical profession of the allied countries of Europe a scheme for the organization of simultaneous meetings of international associations in the various departments of medicine. The general conception of the scheme Dr. Simpson presented was that in each country and in each department of medical science and practice there should be a national association—as, for instance, for medicine, surgery, gynaecology, physiology, anatomy, and ophthalmology and other specialties—and that these national associations should be in organic connexion, so as to form international associations. The scheme included the establishment of an international council to keep the various international associations in relation to each other and to arrange for simultaneous meetings in selected cities of Europe and America. He proposed the immediate constitution of a provisional committee, consisting of two representatives each of Belgium, France, Great Britain, Italy, and the United States of America, which, it was hoped, might meet in March in order to draw up suggestions for submission to certain congresses which are to be held in Paris this year during June and July. The meeting had the advantage of hearing the views of Sir Wilmot Herringham, who was the general secretary of the last International Medical Congress, which, it will be remembered, was held in London in 1913. He states his view of the matter fully in a letter published elsewhere in this issue, and it will suffice here to note his opinion, with which we believe most of those who have taken part in International Medical Congresses will agree, that such assemblies were a waste of time and energy. It would appear that Dr. Simpson's proposal does not contemplate the revival of these congresses, although it would not necessarily prevent their being held. It has been the custom in the past for an International Medical Congress to select the country at which the next Congress should be held and to leave the general arrangements to a national committee. The Congress in London in 1913 accepted an invitation to Germany, but there are obvious reasons against an International Medical Congress being held in Germany for many years to come. Dr. Simpson's plan, as we understand it, would be an alternative to the revival of International Medical Congresses, and is designed to produce

more business-like assemblies. The informal meeting on February 13th eventually decided to ask the council of each of the sections of the Royal Society of Medicine, and of any other suitable body, to state whether it wishes international organization for its specialty.

EXPERIMENTAL PRODUCTION OF INFLUENZA.

THE doubts that have been cast on Pfeiffer's bacillus as being the cause of influenza, and the failures hitherto experienced by trustworthy workers in attempting to reproduce the disease by filtered or unfiltered secretions or by cultures of the bacillus, make one chary of accepting straightway any claims to have solved the problem. Yet the recent experiments of Blake and Cecil,[1] of the Bacteriological Laboratories of the Army Medical School at Washington, demand attention. These workers have succeeded in producing experimentally in monkeys an acute respiratory disease, closely resembling influenza in the human subject, by nasal instillation or intratracheal injection of cultures of *B. influenzae*. It is well known that the Pfeiffer bacillus soon loses its pathogenic power in cultures. The authors, using a strain originally isolated from a case of influenzal bronchopneumonia in a child, exalted its virulence by successive animal passages through a series of eleven white mice, and then through a series of thirteen monkeys, injecting the cultures intraperitoneally, and withdrawing the peritoneal exudate eight to ten hours afterwards. By these means the virulence of the strain was so exalted that 0.01 c.cm. of a sixteen hours broth culture was fatal to mice. Since monkeys that have been for any length of time in captivity are particularly delicate, the authors used two species of monkeys freshly imported from the Philippines and Central America, and made no preliminary attempts to lower their resistance. For some days before the experiments morning and evening temperatures were recorded, and daily total and differential leucocyte counts were made. Twelve monkeys were inoculated in the nose, or in the nose and mouth, with the cultures taken up and applied by a cotton swab. In every instance an acute respiratory disease was set up in from three to six hours after inoculation, characterized by sudden onset, with profound prostration, a variable febrile reaction lasting for three to five days, the development of rhinitis and tracheo-bronchitis, with sneezing, cough, and the outpouring of a scanty mucoid or muco-purulent exudate. There was either a leucopenia or no noteworthy change in the leucocyte count. In five cases this disease was complicated by purulent sinusitis, and in two by fairly extensive haemorrhagic pneumonia, with areas of peribronchial consolidation. The Pfeiffer bacillus was recovered at necropsy from the lesions either in pure culture or in association with organisms normal to the air passages of monkeys. The disease produced bears a close resemblance in its symptoms, complications, and pathology to influenza in man. Of ten monkeys injected intratracheally with the cultures, seven developed pneumonia, two developed tracheo-bronchitis without pneumonia, and one resisted infection. The general symptoms produced were the same as in the preceding group—sudden onset, prostration, a variable febrile reaction, and leucopenia or no significant leucocytic change. The disease was accompanied by severe cough and accelerated respirations, and in two cases infection of the upper respiratory tract ensued. *B. influenzae* was recovered in pure culture from the lungs, bronchi, or trachea in those animals killed during the active stage of the disease. The pneumonia produced presented the same pathological picture as that found in the two animals developing influenzal pneumonia following inoculation into the nose, and appeared to be essentially identical with that ascribed to pure influenza bacillus infection of the lungs in man. In view of these facts and the constant association of *B. influenzae* with early uncomplicated cases of influenza, the authors feel justified in inferring that Pfeiffer's bacillus is the specific cause of influenza.

[1] *Journ. Amer. Med. Assoc.*, January 17th, 1920.

HEALTH SURVEYS.

THE Ministry of Health has recently issued a memorandum as to the contents and arrangement of the annual reports for 1919 of medical officers of health, together with a covering letter. The details of the memorandum are not of special interest to others than medical officers of health, but points touched upon in the covering letter deserve wide recognition. The Ministry remarks that the conditions of war-time have hindered scrutiny of the prevailing conditions, and that at present it is extremely important to take stock of the position. Such an inquisition has "become doubly requisite in order, first, to bring to light any local consequences of war conditions that may need special attention; and secondly, to form the basis for that careful and comprehensive scheme of health developments generally which it is hoped may shortly follow, *in every locality*, upon the recent unification in the Ministry of Health of the various *central* functions in respect of all matters affecting the health of the people; since this unification of the central administration implies, and, indeed, cannot be effective without, a corresponding co-ordination of local health activities." It is further pointed out that local authorities should endeavour to secure wider publicity for their reports, bringing them more directly to the notice of the inhabitants so as to engender popular interest in the subject. The following paragraph is of special importance: "It will also be found advantageous for local authorities to establish a regular system of exchange of the annual reports of the medical officers of neighbouring authorities and also of areas in other parts of the kingdom whose conditions are more or less comparable. In the past there has been a tendency for authorities to work too much in isolation, and it is important to realize that some of the opportunities for progress and improvement are lost unless all who are now studying public health problems can arrange to pool their experience for the common good. It should be remembered that an apparent failure may be as illuminating and as important in its ultimate results as an immediate success; and for this reason it is to be noted that the reports of different areas will be all the more useful generally if they deal fully with difficulties and failures, a frank examination of which may prove to be of vital importance." The moral of this passage is of wide application. Not only must there be co-operation between various local authorities, a pooling of experience, but all medical men must participate in the scheme. Sir George Newman in his recent memorandum dwelt upon the need of a solidarity, or, as he termed it, an integration. The danger of specialism is that persons tend to peg out individual claims and to regard visitors as trespassers. There is an old and probably apocryphal story of an eminent pre-Victorian surgeon who, attended by his dressers, entered a ward as his medical colleague left it. "Thank God, gentlemen," he said, "thank *God* I know nothing of medicine!" Co-operation upon an inquisition into the national health, the preparation of a medical Domesday Book, would go far to exorcise this spirit.

LEAGUE OF RED CROSS SOCIETIES.

PREPARATIONS are now in progress for the first meeting of the General Council of the League of Red Cross Societies, which will assemble in Geneva on March 2nd. The thirty Red Cross Societies now comprising the League have been invited to attend the conference. Two main topics are put down for discussion. The first relates to the improvement of public health and prevention of disease according to the programme outlined by the Cannes conference in April, 1919. The scope of this discussion is indicated by naming the departments already established or in process

of organization in the general medical office of the League at Geneva: (1) Medical information and publication; (2) child welfare; (3) nursing; (4) miscellaneous communicable diseases; (5) laboratory; (6) library; (7) museum; (8) sanitary engineering; (9) malaria; (10) vital statistics; (11) tuberculosis; (12) industrial hygiene; (13) venereal diseases. The second general topic for discussion will be the programme of service in peace time of each national Red Cross Society, and the best means of extending its membership and resources. In addition to these general topics, the various societies, members of the League, have been invited to propose specific subjects for discussion and study. The conference will last eight days. Among recent appointments announced by the *Bulletin* of the League is that of Mr. C. R. Hewitt, as librarian of the League; he was at one time at the Royal College of Surgeons of England, and until lately assistant librarian of the Royal Society of Medicine. With a view to fighting the epidemics of typhus and relapsing fever in Eastern Europe the Swedish Red Cross has organized and equipped a mobile hospital of a hundred beds; this unit was due to leave on February 1st. The current number of the *Bulletin* contains also an appreciation of the late Sir William Osler, written by Dr. Thomas R. Brown, director of the Department of Medical Information of the League, who, together with Colonel Strong, the general medical director of the League, were members of Dr. Osler's first class in Johns Hopkins University Medical School. In the course of this article Dr. Brown says of Sir William Osler: "While always frankly sceptical about the treatment of disease in its narrower sense, he was the arch apostle of a vigorous sanitation, a broad prophylaxis, a wide preventive medicine, a general utilization of all the forces of Nature in the prevention and cure of disease, and this made him, from its beginning, a real friend of the League of Red Cross Societies, with its many potentialities in the field of hygiene and preventive medicine."

BRONZE MEDICO-CHIRURGICAL INSTRUMENTS.

IN an archaeological account of some bronze instruments recently bought from the collection made by the Russian Baron Ustinov in Palestine and Syria between 1872 and 1890, Dr. S. Holth[1] of Christiania makes some interesting comments on their probable use in surgery. The twenty-two instruments were apparently obtained from Palestine, and especially from the old port of Ascalon. As European museums do not contain any Arabian surgical instruments, peculiar interest centres round what is believed to be an Arabian ophthalmic instrument for depressing a cataractous lens, the only operation known until extraction of the lens was adopted in 1752; one part of the handle of this instrument bears a knob 2 mm. in diameter, probably designed to produce a preliminary depression on the surface of the eye, where the incision was to be made. Among the Graeco-Roman instruments there was a sound with a terminal sharp spoon 12 mm. wide by 6 mm. deep, probably used, among other purposes, for the removal of granulation tissue; the stem of the sound showed a very fine measure scale with transversely filed lines so arranged as to lead to the conclusion that what is practically a millimetre scale was employed 1,500 years before the invention of the metric system during the French revolution. Some of the other sounds might well have been suitable for dilating post-gonorrhoeal strictures, which, however, have only been recognized anatomically since Morgagni's time; attention is therefore drawn to the forgotten record of Heliodorus, a surgeon in Rome during the reign of Trajan; he is mentioned in Juvenal's Sixth Satire, and is said to have removed fleshy growths from the urethra and then to have introduced bronze tubes in order to prevent union of the surfaces, though he did not recognize the underlying cause. Many of the sounds may have been used to bring on abortion, a common practice among the Greeks and Romans, and not regarded in the light of a crime, as the life of the fetus was not supposed to begin until birth. Holth also points out that the Roman netting needle with forks in two planes at right angles to each other, though not made with that intent, was employed for surgical suturing.

[1] S. Holth, *Videnscapsselskapets Skrifter. I. Mat.-Naturv.* Klasse 1919, No. 1, Kristiania.

PHYSIOLOGICAL STUDY AT THE NAPLES ZOOLOGICAL STATION.

OWING to the war the zoological station at Naples has suffered in many ways, and it is highly necessary that this very important international scientific institution should receive the support necessary to enable it to carry on its work without restriction. But, although its importance for zoological and morphological research has always been recognized, its advantages for physiological and bio-chemical studies are by no means as widely known as they ought to be. The station is fully equipped with all necessary apparatus and materials, and the section for Physiology and Bio-chemistry, being under the very capable direction of Professor Bottazzi, the professor of physiology in the University of Naples, students are assured not only of the opportunities of carrying out independent and untrammelled research, but of the best advice and direction from the staff. There is an admirable library, with very complete sets of periodical publications. The rent of a table is 2,500 francs a year (payable in gold), and the director of the station will furnish all details to students who propose to carry out any research there. The study of comparative physiology has bearings upon immunology, upon the question of functional activities, upon bio-chemistry and physiology in general, the importance of which in their relation to medicine needs no emphasis. The effect on international relations of a free use of these scientific facilities being made by British students and of their intercourse with Italian men of science is but little less important.

COURSES IN PSYCHIATRY.

COURSES of lectures and practical instruction in psychiatry have been arranged by Sir Frederick Mott at the Maudsley Hospital, Denmark Hill, S.E., in order to provide teaching for graduates whose work is chiefly concerned with the institutional treatment of mental diseases. Hitherto there has been no special instruction in mental pathology and allied subjects, and as a consequence institutional medical officers have been handicapped by lack of knowledge of the scientific methods that might be employed with advantage. The course of teaching is based on the requirements for the Cambridge diploma in psychological medicine. It is probable that in the near future a degree or diploma in this subject will be regarded as essential for all applying for medical posts in psychiatrical institutions. The Maudsley Hospital has already a library and chemical and histological laboratories; to these are being added laboratories for neuro-physiology and experimental psychology. The first part of the course consists of twelve lectures on the anatomy of the nervous system by Sir Frederick Mott, with eight two-hourly sessions of practical instruction and demonstrations. Dr. F. L. Golla will give twelve lectures on the physiology of the nervous system, and a course in practical physiology designed to put students in possession of such methods as might be employed in minor research work in mental diseases. Dr. J. V. Lowson will give ten lectures on psychology and eight demonstrations in practical psychology. The second part of the course consists of twelve lectures by Dr. C. Hubert Bond on the diagnosis, prognosis, and treatment of mental diseases; two lectures on crime and responsibility, by Sir Bryan Donkin; two lectures, with demonstrations of cases, on the practical aspect of mental deficiency, by Dr. F. C. Shrubsall; six lectures on

the pathology of mental diseases, including brain syphilis, with demonstrations, by Sir Frederick Mott; eight lectures on the psychology of conduct, by Dr. William MacDougall; twelve clinical demonstrations in neurology, by Dr. Golla and Sir Frederick Mott; and six lectures on the psychoneuroses, by Dr. Bernard Hart. The lectures and demonstrations will be given in the afternoons between 2 and 5 o'clock; the days and times of the several courses of instruction will be arranged to suit the convenience of the majority of those attending. The course will begin in the first week of March. The fee for the whole course is fifteen guineas, or ten guineas for either part taken separately. Further details and a syllabus of lectures will be issued shortly.

PENSIONS OF SENIOR SURGEON COMMANDERS, R.N.

The negotiations with the Admiralty concerning the position of senior Surgeon Commanders, R.N., as affected by the new regulations for retirement and retired pay have now reached a stage in which the Admiralty has written declining to deal with the case of medical officers apart from the rest of their comrades of the Executive, Engineering and other branches of the service. The Naval and Military Committee of the British Medical Association, after consideration of the Admiralty's letter, referred it to the Naval Subcommittee with certain suggestions. The opinion of the subcommittee is that the matter should not be left where it is, but that further representations ought to be made to the Admiralty. The Naval and Military Committee is ready to give further consideration to the subject at an early date with a view to taking any steps which may be deemed advisable in bringing it again to notice. The Committee, however, has so far not found it easy to obtain definite information as to how widely senior surgeon commanders are affected by the new regulations, and it would be a great help if any officer who considers that he is seriously affected would at once send particulars of his case to the Medical Secretary. So far, the number of letters received has not been sufficiently great to make it certain that the new provisions affect a large number of officers. The Association is earnestly desirous of taking any opportunity that offers to champion the just claim of the medical officers of the Royal Navy, but it must be clear that this is difficult to do unless the officers concerned bestir themselves to assist to the utmost of their power by furnishing the Medical Secretary with reliable data.

Sir Bertrand Dawson has taken the title of Baron Dawson of Penn, in the county of Buckingham. On February 18th he took the oath and subscribed the Roll of the House of Lords.

Medical Notes in Parliament.

Dogs' Protection Bill.—A bill "to prohibit the vivisection of dogs" was introduced on February 16th by Sir Frederick Banbury, supported by Sir John Butcher and Mr. Frederick Green. It was put down for second reading on Friday, March 19th.

Military Service Civil Liabilities Claims: Time Extended.—Sir Robert Horne announced, on February 12th, that he had been able to arrange with the Treasury for an extension of time for applications by disabled men for grants from the Military Service Civil Liabilities Department. The new terms were:

1. In the case of disabled men who have had to undergo medical treatment since domobilization, the time limit for application has been as follows:
   (*a*) To six months after the termination of treatment, with a further extension to March 31st, 1920, where the treatment ceased during the September quarter, 1919.
   (*b*) Or, alternatively, up to November 30th, 1919, where applicants were discharged prior to the armistice.
   (*c*) Up to March 31st, 1920, in cases where the local War Pensions Committee certify that the disabled man was deterred from making application by the committee's advice, but had he applied would have been eligible under this extended scheme.
2. In all cases arising under paragraph 1 (*a*) and (*b*) applications must be accompanied by a certificate from the local war pensions committee concerned stating:
   (*a*) That the applicant had been under treatment since discharge.
   (*b*) The date on which such treatment ceased.
3. The time limit in regard to applications made by disabled men who have not had to undergo medical treatment since discharge will remain as at present, that is—
   (*a*) Men discharged previous to the armistice—on or before September 30th, 1919.
   (*b*) Men discharged since armistice—one year from date of demobilization or discharge.

Army Estimates.—A White Paper estimating the expenditure on the army in 1920–21 was issued on February 17th. It is for an establishment of 525,000; the number is expected to fall in the course of the financial year to about 280,000, including colonial and native Indian troops serving outside India. The estimate of expenditure is £125,000,000. This sum includes terminal charges of the war and extraordinary provisions for garrisons in occupied territories, amounting altogether to £70,000,000. Vote A, issued at the same time, gives the number of men on the establishment of the army, exclusive of India. This shows that the number of officers of the R.A.M.C. is 1,723, as compared with 663 in 1914–15, and the number of other ranks as 10,602, as compared with 3,797. It is stated that the establishment of British regiments in India is still under discussion with the Government of India; the officers of the R.A.M.C. in 1914–15 numbered 321, the number of other ranks is not given.

Pensions Medical Referees.—Mr. Doyle asked, on February 12th, whether, in regard to War Pensions Committees, medical men could be paid for services rendered in connexion with field cases. Sir L. Worthington-Evans replied: Under the new procedure detailed in Circular 201, which was addressed to local War Pensions Committees on December 23rd, the services of medical referees are no longer required in connexion with the forwarding of appeals to the Pensions Appeal Tribunals. The question of payment, therefore, did not now arise.

Regional Directors for the Pensions Ministry.—Sir J. Craig, on February 16th, informed Major Hills that eleven regional directors had been appointed for the Ministry of Pensions. The districts are: Ulster, Ireland South, Scotland, Wales, South-Eastern England, East Midland, North-Western, Northern, South-Western, Yorkshire, West Midland. The salary in each case is £800 a year.

Pensions Administration.—In reply to questions on February 12th, the Pensions Minister said that he hoped soon to announce a revised scale of payment to members of local War Pensions Committees for loss of remunerative time. The second report of the Select Committee on Pensions contained about fifty recommendations, and he was not yet able to say to what extent they could be adopted. The arrears in the widows and dependants branch had been greatly diminished, and the delays in the award and payment of parents' pensions that now occurred were due to the fact that in the majority of cases they could be settled only after local inquiries and the collection of evidence of dependence and means. On February 17th Mr. Bonar Law declined to give a day for the discussion of the report mentioned above.

Defective Children in Industrial Schools.—Mr. Shortt replied, on February 16th, to a question by Mr. Pemberton Billing as to the transfer of defective children from industrial schools to certified institutions for defectives under Section 9 of the Mental Deficiency Act, 1913. In such cases a certificate must be given by two duly qualified medical practitioners to the effect that the child is a defective, and before an Order of Transfer is made, each case is considered by the Board of Control and the Home Office, and full inquiry is made as to the home circumstances in each case. Further, under the provisions of the Mental Deficiency Act, 1913, each case comes up periodically for reconsideration by the visitors of the certified institution.

Medical Grants under the Insurance Act.—Mr. T. Griffiths asked, on February 16th, why the extra grant made to medical men and chemists to meet the increased price of drugs and cost of living had not been paid out to medical men engaged by workmen's medical associations. Dr. Addison replied: If the hon. member is referring to institutions recognized under Section 15 of the Insurance Act, I must refer him to the answer I gave on October 29th. The Friendly Societies Medical Alliance has still failed to send in the requisite information as regards institutions in England. Information has recently come in from certain institutions in Wales, and this is under consideration with a view to determining such grants as may be due.

Milk and Dairies Legislation.—Dr. Addison stated, in answer to Mr. Dawes, on February 16th, that it is intended before bringing into force the Milk and Dairies Act of 1915, to introduce proposals for legislation to provide for the licensing of milk producers and dealers, for the definition and grading of milk, and to empower local authorities to undertake the supply and distribution of milk in their areas. A bill was being prepared to give powers to control the price and distribution of milk and its use for manufacturing purposes in an emergency.

Army Nurses.—In reply to Brigadier-General Croft, on February 11th, the Secretary of State for War said that all untrained nurses who served under the War Office as nursing sisters on active service had, on being demobilized, received an official letter conveying thanks for their services. Recommendations for the award of the Royal Red Cross, whether at home or abroad, were in all cases made by the general officer commanding under whom the person recommended had served, and so far as he (Mr. Churchill) was aware, there had been no case in which nurses serving abroad who had been so recommended had not been given the decoration

Scotland.

THE NEONATAL DEATH RATE IN EDINBURGH.

ALMOST exactly a year ago it was stated in this column (BRITISH MEDICAL JOURNAL, February 22nd, 1919, p. 229) that the health authorities of Edinburgh intended to publish in the newspapers a monthly statement regarding the neonatal mortality in the city. The intention has been carried out and importance has thus been given to what may be called the third of the three mortality rates, the other two being the general death rate and the infantile death rate. The neonatal rate, it will be remembered, is the number of deaths in the first month of life per 1,000 live births, and it must always be borne in mind that it does not include the stillbirths. The rate in the past twelve months has been as follows, the numbers for the corresponding months in 1918 being added for comparison:

	1918.	1919.		1918.	1919.
January ...	37.2	67.4	July	23.2	34.2
February ...	41 6	62.3	August ...	42 7	52.2
March	35.3	38.9	September ...	29·7	43.1
April	31.5	28 1	October ...	44 8	42.7
May	44.8	10.5	November ...	66.9	38.8
June	27.7	42.0	December ...	43.6	37.2

For the whole year the neonatal rate in 1918 was 39.4 and in 1919 41.4, no great difference; but it will be noticed at once that the variations from month to month have been sharply marked, and the sharpness has been intensified in 1919. The three months which top the list as regards neonatal mortality were November, 1918, and January and February, 1919, in all of which the rate rose above 60 per 1,000. This high rate is probably to be accounted for by the incidence of influenza waves in these three months. Close scrutiny of the infantile and general mortality rates for the same two years will be required before much can be said about the significance of the neonatal rate, but its seriousness need not be again emphasized. In the past month (January, 1920) the rate was 22.2, as against 67.4 last year.

CRAIGLEITH MILITARY HOSPITAL.

The 2nd Scottish General Hospital at Craigleith, which was opened on August 11th, 1914, was closed on February 15th, 1920. On August 5th, 1914, the Edinburgh Territorial Force Association obtained the use of the Craigleith poor-house from the Parish Councils, and within a week the house had been converted to its new use, operating theatres and *x*-ray rooms being provided, together with a special railway platform behind the buildings. The arrangements were made by Lieut.-Colonel Sir Joseph Fayrer, Bt., C.B.E., and Miss A. M. Milligan, with a staff of trained nurses. The first convoy was admitted on September 28th, 1914, and soon it became necessary to provide extra accommodation; the Royal Victoria Hospital was converted to the purpose, and a ward in the Royal Infirmary was assigned for the reception of wounded men. Later a school was obtained for the medical section of the hospital, but this was handed back to the education authority last year. After the armistice the pressure was not relieved for some time, and was increased in December, 1918, by the arrival of repatriated men, who, though they did not stay long, kept the staff busy. Then followed the influenza epidemic, which resulted in many patients being sent in from the troops in the neighbourhood. About the middle of last year a number of heavy convoys arrived from Russia, but after that the work rapidly decreased. The principal matron during the war was Miss A. W. M'Gill, R.R.C. The hospital started with thirteen nurses, but altogether 222 members of the Territorial Force Nursing Association—the majority recruited from the Edinburgh Royal Infirmary—served in it. The first batch of V.A.D. nurses arrived in May, 1915; before the end 281 served. During the war the following decorations were received by members of the nursing staff: Bar to R.R.C., 2; R.R.C. (1st class), 8; R.R.C. (2nd class), 33; Military Medal, 3; Serbian Cross of St. Sava, 1; and Médaille des Epidémies, 1. The medical and surgical staff was drawn from the Edinburgh hospitals, and its members, while doing duty at Craigleith, continued their work in the civil hospitals. The services they rendered have been beyond all praise, and, as has been said, were in keeping with the name Edinburgh enjoys as a world-famous centre of medicine.

MORISON LECTURES.

The Morison Lectures of the Royal College of Physicians of Edinburgh will be delivered by Dr. Richard Gundry Rows, C.B.E., on Monday, Wednesday, and Friday, March 1st, 3rd, and 5th, at 5 p.m. on each day. The subject of the lectures is mental illnesses, but in dealing with it the lecturer will discuss the importance of a knowledge of collateral sciences and describe recent researches. He will set out Pavlov's theory of conditioned reflexes, and describe the possibility of its application to the study of mental illnesses. The later part of the course will deal with the emotions, the pathogenesis of "anxiety states," and the primary and secondary stages of mental illnesses.

GLASGOW ROYAL INFIRMARY.

The annual report of the managers of Glasgow Royal Infirmary for 1919 states that the daily average number of patients resident was 665, and that altogether 10,389 civilians and 30 sailors and soldiers were treated as in-patients. The number of patients treated in the wards of the ophthalmic department was 906, an increase of 94 as compared with the previous year, and 13,039 patients attended the ophthalmic dispensary for the first time. Eight beds and 1 cot were endowed during the year, raising the total to 67 beds and 3 cots, but the burden of this report, as in the case of those of so many other hospitals, is the critical financial position. The ordinary income (£52,802) showed an increase of less than £1,000, and the ordinary expenditure (£98,676) showed an increase of nearly £9,000. The deficiency of the ordinary income was £45,874.

England and Wales.

GENERAL HEALTH COUNCIL, MINISTRY OF HEALTH.

THE Consultative Council on General Health questions established under the Ministry of Health Act has been appointed, and held its first meeting on February 12th, when the Minister of Health, who was accompanied by Lord Astor, Parliamentary Secretary to the Ministry, presided. Dr. Addison asked the Council to put before him a statement of the main defects in existing provisions for safeguarding the health of the people, and to suggest remedies from the standpoint of persons who, as members of the general public, will be affected by the health services supervised by the Ministry.

The members of the Council, of whom a majority are women, are as follows:

Lady Rhondda (*Chairman*), Mr. Arthur Greenwood (*Vice-Chairman*), Mrs. Aspinall (United Textile Factory Workers' Association), Councillor C. Aveling (Past President of the National Chamber of Trade), Mrs. F. Harrison Bell (Labour Party), Mrs. Burke (Women's Co-operative Guild), Mr. George Goodenough (Parliamentary Committee of the Co-operative Congress), Mrs. Ogilvie Gordon, D.Sc. (President of the National Council of Women of Great Britain and Ireland), Mr. W. L. Hichens (Chairman of Messrs. Cammell, Laird and Co., Ltd.), Mrs. Hood (Women's Co-operative Guild), Mr. W. Littler (Civil Service Alliance), Mr. Samuel Lord, F.S.S. (National Association of Local Government Officers), Miss Margaret Macmillan (Labour Party), Mrs. Mayo (a member of the Dorsetshire County Council, with a wide knowledge of rural conditions), Mr. F. H. Norman (Professional Workers' Federation), Miss E. M. Phelps (National Association of Domestic Workers), Mrs. Pember Reeves, Lady Edmund Talbot, and Miss Gertrude M. Tuckwell, J.P.

DR. F. H. HAYNES OF LEAMINGTON.

Dr. F. H. Haynes has now completed fifty years as a member of the staff of the Warneford Hospital, Leamington, first as house-surgeon, then for thirty-three years as honorary physician, and subsequently as honorary consulting physician. During the war he gave his services once more as honorary physician, resuming his consultant rank last summer. At a recent meeting of the Warneford Hospital Committee an illuminated address was presented to Dr. Haynes, whose long and valuable work for the institution was praised by Mr. Frederick Shaw, chairman of the general committee, and by Dr. T. W. Thursfield. It was resolved to invite Dr. Haynes to sit for his portrait in oils.

Ireland.

IRISH GENERAL NURSING COUNCIL.

THE Chief Secretary, in pursuance of the powers conferred on him by the Nurses' Registration (Ireland) Act, 1919, has constituted the first General Nursing Council for Ireland as follows:

E. Coey Bigger, M.D., D.P.H., Chairman Irish Public Health Council.
The Countess of Kenmare, Vice-President of the Queen Victoria Jubilee Nursing Institution, and Member of the Irish Public Health Council.
Colonel Sir Arthur G. Chance, F.R.C.S.I., Mater Misericordiae Hospital, Dublin; President Irish Board College of Nursing.
Colonel W. Taylor, C.B., F.R.C.S.I., Meath Hospital, Dublin; ex-President Royal College of Surgeons, Ireland.
R. J. Johnston, F.R.C.S., Royal Victoria Hospital, Belfast; Chairman Irish Medical Committee.
P. T. O'Sullivan, M.D., M.R.C.P., South Charitable Infirmary, Cork.
Miss Matheson, Secretary Irish Board College of Nursing.
Miss Reeves, Matron Dr Steevens's Hospital.
Miss Michie, Superintendent Queen Victoria Jubilee Nurses, Dublin.
Miss Huxley, Matron Elpis Private Hospital, Dublin.
Miss O'Flynn, Lady Superintendent Children's Hospital, Temple Street, Dublin.
Miss Bostock, Irish Board College of Nursing, Matron Royal Victoria Hospital, Belfast.
Miss Walsh, Lady Superintendent Nurses' Training School, Waterford Union Infirmary.
Mrs. Blunden, Superintendent Mosaphir Private Nursing Home, Cork.
Miss Curtin, Lady Superintendent Mater Infirmorum Nurses' Training School, Belfast; Irish Board College of Nursing.

INFLUENZA VACCINE.

The Local Government Board for Ireland has made arrangements for the supply of influenza vaccine gratuitously to medical practitioners and to dispensary medical officers in Ireland who may wish to use it. The supply is made under conditions similar to those applicable to England and Wales (BRITISH MEDICAL JOURNAL, January 3rd, 1920, p. 19), that is to say, no charge is to be made for the vaccine used, but a professional fee for the administration in private practice is in a different position. The expectation is also expressed that medical practitioners will co-operate in investigating the value of the vaccine by keeping accurate notes of the name, address, age, and sex of each person so treated. The vaccine will be issued to the local medical officers concerned in bottles containing a quantity sufficient for six, nine, or twelve persons.

New South Wales.

TUBERCULOUS SOLDIERS.

As in most other countries, there are in this State a large number of returned soldiers who are the subjects of tuberculous disease of the lungs in various stages. To provide accommodation for the advanced cases a site at Randwick, a suburb of Sydney in which the principal military hospital of the State is situated, was selected by the Department of Defence, but was strongly objected to by the residents of that suburb as well as by others on various grounds. A special committee was accordingly appointed by the Minister for Defence, consisting of two members of the New South Wales Branch of the British Medical Association and one member of the Victorian Branch, to inspect and report on the proposed site. This committee reported that the question hinges largely on the meaning of the term "advanced" in reference to cases of pulmonary tuberculosis. Many persons who show signs of advanced disease are able to move freely among their fellows, while, on the other hand, there are others in whom, in addition to signs of advanced disease, have their general health so much impaired that they are practically bedridden. Under adequate supervision in suitable premises this latter class of sufferers can be well cared for in a populous centre without any danger to the community; but it is otherwise with the former class if they are permitted at times to mix indiscriminately with the rest of the general public. The committee therefore concluded:

1. That it is desirable that advanced cases of pulmonary tuberculosis should be segregated and that particular attention should be directed more to provide for their care and comfort and their easy accessibility to friends and relations than to considerations of climate.
2. That the site inspected by them at Randwick is well suited for the purpose for which it has been selected.
3. That there is no danger of infection to the population of the district, provided that the patients be confined in the hostel. The committee is of opinion that this is so essential that such patients as are sufficiently recovered to press for leave should be transferred to another institution.

ROYAL PRINCE ALFRED HOSPITAL.

Miss Susan B. McGahey, formerly matron of the Royal Prince Alfred Hospital, died on November 16th, 1919. She was trained at the London Hospital and was selected by the late Sir Alfred Roberts as matron of the Carrington Convalescent Hospital at Camden. She was subsequently appointed to the Royal Prince Alfred Hospital, where she developed the Nurses' Training School to a very high standard of efficiency. She retired from this hospital some fifteen years ago and subsequently conducted a high class private hospital for some years. As her health failed, she retired from this position and lived at Carlingford until her death.

Dr. H. J. Clayton, who has occupied the position of medical superintendent of the Royal Prince Alfred Hospital for a period of six years, during one of which he was absent in Egypt and Gallipoli, has resigned owing to the strain of the work. The Board of Directors have received his resignation with regret, and have decided to appoint as his successor Dr. A. J. Collins, who was formerly acting medical superintendent, and has for the past four years been on active service. He attained the rank of lieutenant-colonel, and was awarded the Military Cross and the Distinguished Service Order.

Dr. Joseph Foreman has notified the Senate of the University of his resignation of the lectureship in gynaecology which he has held since 1897. His resignation has been accepted with regret, and a letter of appreciation of his services as lecturer has been sent to him. This resignation involves also his resignation from the staff of the Royal Prince Alfred Hospital as senior gynaecologist.

Correspondence.

PROPOSAL FOR A MEMORIAL TO SIR VICTOR HORSLEY.

SIR,—I have for some time been watching the columns of the BRITISH MEDICAL JOURNAL to see if any proposal was put forward to raise any form of memorial in connexion with Sir Victor Horsley's work for the Association. I have spoken to several members on the subject and have hoped that the initiative would have been taken by some more prominent and important person than myself. But, as no one else has made a move, I have accepted the suggestion made to me by others, and ask permission to ventilate the question.

There is no doubt that Horsley, by his outspoken, and sometimes even vehement, advocacy of unpopular movements in the social world, and by his biting sarcasm in controversy, made many enemies, both in the Association and outside it, but we members ought never to forget his services to the Association when in the throes of transformation nor his persistent and persevering work as Chairman of Representative Meeting, in Council, and in Committees. I need not touch on his work and research as a pioneer in brain surgery, in the treatment of myxoedema, etc., which carried the reputation of British surgery all over the world and gained for Horsley academic honours in nearly every European State. I suggest that we ask permission to hold a meeting of those who are in favour of some Memorial at the Head Office.

If a Memorial be decided upon, the meeting can consider whether it take the form of a portrait (either an oil painting or a bust), or whether it should take the form of a Research Scholarship in Neurology or other subject associated with Horsley's name.

I should be very glad to receive the names of any who could attend such a meeting, or who, if unable to attend, are yet in sympathy with its object, and hand the names to whoever may be chosen to carry out a scheme.—I am, etc.,

EDWARD J. DOMVILLE.

Shutes, Symondsbury, Bridport,
January 27th.

INTERNATIONAL ORGANIZATION OF MEDICAL SOCIETIES.

SIR,—Before a small meeting held on Friday last a proposal was brought forward for the creation of a new international body to deal with medicine. It will be easier to explain it if I contrast it with the international congresses of medicine to which we are accustomed.

International congresses have been open to all comers, and have, in consequence, become immense pleasure parties rather than, or at least as much as, centres of serious work. The new organization proposed rests upon permanent international associations such as exist now in surgery, gynaecology, ophthalmology, and some other branches, which are composed of those specially interested in the subject, have already the habit of holding international conferences, and meet for work rather than for play.

It was expressly stated that the new organization was not intended to supersede international congresses. I hope, however, that the latter, which were a great public nuisance, will die a natural death. Meetings held on the lines of special international associations are greatly to be preferred.

The staff of the new organization will be more permanent than that of the old. It is proposed that in any country the special international associations shall elect a *National* Executive Council, and that each such National Executive Council shall send one or two representatives to form an *International* Executive Council which shall be a permanent body meeting periodically in Paris or some other convenient capital. This International Executive Council is to "determine principles and policies," and call a world congress if it likes. The National Executive Council is to apply these principles and policies in its own country, to nominate new members of the special associations, and to stimulate the profession in various ways.

There is nothing to criticize in this scheme except that it is obvious to anyone who knows what international staff work means that there is not enough business to keep either the National Executive Council or the International Executive Council alive. Men will take trouble for important affairs, but they will not take trouble for business that is formal. The importance laid by some speakers on the future influence of such an International Executive Council is wholly chimerical. Who would pay the slightest attention to a body of ten or twelve medical men laying down principles and policies—on what? On the treatment of fractures, or on the method of dealing with subject races?

But, though I think that the proposal has some decided advantages, it contains one feature which is of a serious nature, and requires the gravest consideration.

It is not proposed to admit to the proposed organization the special international associations of any but Allied countries. It is definitely intended to create a ring of these countries which shall be more or less exclusive of the rest of the world.

That is, in my opinion, a mistake, and I would not take part in any movement conceived with that purpose. It is not yet possible to meet enemy nations in a friendly spirit, and it will be a long time before that comes about. It would be quite impossible to hold an international medical congress now, or for several years to come. Yet some time or other the present animosities will be softened, and no one will deny that they should be. But an organization expressly confined to the Allies, yet calling itself "international" and considering a "world congress" as one of its functions, is a sure way to perpetuate the feud which it is the interest of the world to compose.

I am quite ready to support an "Interallied" Association of Medicine to carry on until such time as the world is ready to resume international relations, though I think its functions would be confined to holding professional meetings, and do not anticipate that any great effect would be exercised by an International Executive Council either upon the medical profession or the world at large. But I am not prepared to set up a fresh barrier to the resumption of friendly relations with the enemy or to keep open in science a wound which politics and commerce are even now trying to heal.—I am, etc.,

Witley, Surrey, Feb. 14th. W. P. HERRINGHAM.

THE TREATMENT OF MALARIA.

SIR,—The correspondence which has arisen out of the discussion at the Medical Society of London has shown such differences of opinion that it seems necessary for those who, like myself, have had long experience of the disease in the tropics to try to help with their experience.

In a most excellent paper by Dr. Taylor, entitled "Routine treatment of malaria in Uganda," published in the BRITISH MEDICAL JOURNAL of January 24th, he gives clearly and definitely the line of treatment followed in that colony, and I may say at once that the routine followed by me and most others in British Guiana was almost exactly the same.

My regular treatment was to give at once gr. iij to gr. v calomel, followed in about four hours by a saline—preferably sodium sulphate—and then gr. v of quinine hydrochloride every three or four hours. This was the regular treatment for all ordinarily severe to mild cases. Having continued the administration of quinine in gr. v doses every three to four hours till the temperature remained normal for forty-eight hours, the dose was reduced to gr. v three times a day for ten days, then to gr. v twice daily for another ten days, and thereafter, if possible, gr. v were given every morning for three to four months; tonics such as arsenic (but never iron) were given regularly during the last stage of treatment.

My experience of cases which did not yield to this treatment was small. Such cases did occur occasionally, and examination would usually show a very heavily furred tongue, pointing to some gastric condition which hindered absorption of the quinine, and in these it was found advisable to give one or two intramuscular injections. Cases of the severe cerebral type I need hardly say were treated at once with injections. They admit of no delay. The type of malaria met with in British Guiana was mostly the subtertian variety, with occasional cases of benign tertian; the quartan was practically unknown. I notice that in all the correspondence there has been no mention of the initial treatment by calomel and salines except for Dr. Robertson's somewhat casual mention of a "mercurial purge" in his letter of February 7th. Yet this calomel and saline I look on as the key to success; it is absolutely all-important. I have occasionally omitted it, thinking the case in hand was a very mild one, but I have invariably had cause to regret the omission. I have no scientific reason to give of how or why this calomel and saline exerts such an influence, but I do know that without it all the quinine one can give will have no effect. Dr. Taylor emphasizes this point as strongly as I do, and I think it is due to his sound methods in this direction that he is able to say that "intramuscular injections were required in less than 1 per cent." My own percentage was certainly not more than this, and I cannot but think that if the preliminary treatment which he and I emphasize so strongly were more regularly adopted there would be much less need for the syringe than apparently there has been.

Another important point is the preparation of quinine used, and the dose. During my last ten years in British Guiana, for oral administration I used quinine hydrochloride only. This I found much more satisfactory than the sulphate. It dissolves easily in water, requiring no addition of acid and is more readily tolerated by the stomach, whilst it contains nearly 10 per cent. more of the alkaloid. I have never seen any advantage in giving more than gr. v at a time, and gr. xxx in twenty-four hours should not be exceeded. The larger doses advocated so freely by many writers appear to me to be quite unnecessary and probably harmful. Whilst, however, I hold that by far the greater number of cases will yield to treatment on the lines I have indicated, yet it is clearly agreed by all that there is a certain percentage in which a more rapidly acting method is necessary. These are chiefly the cerebral type which so rapidly prove fatal, and in them quinine must be given either intramuscularly or intravenously. Personally I have no experience of the latter, which theoretically would seem to be the best in very urgent cases, but which, as Dr. A. Balfour states, should be chiefly confined to hospitals. The intramuscular method is easily and rapidly carried out, and if done with all necessary precautions is perfectly safe and reliable. I have seen no ill effects following its use, and it certainly acts rapidly; gr. x of the bihydrochloride is as a rule sufficient, though in exceptional cases I have given up to gr. xv. Whilst administering the quinine in this way the purgative treatment I have indicated should not be neglected.

Dr. Willcox in his letters of December 8th and 29th lays

stress on the fact that many of his cases were complicated with influenza. I also have had this experience, but it made no fundamental difference in treatment, and the ratio of cases requiring intramuscular injections of quinine was little, if at all, increased by the complication.

As to subcutaneous and rectal injections of quinine nothing need be said—neither method has anything to recommend it.—I am, etc.,

W. F. LAW, M.D., F.R.C.S.I., Major,
Late Medical Inspector, British Guiana.

Dublin, Feb. 10th.

SIR,—The necessity, to the general practitioners of this country, for some knowledge of the nature and treatment of malaria is growing, since there is little doubt that the infection exists and is increasing in certain districts. The fairly large number of infected individuals who have sojourned in Macedonia and Mesopotamia (and other such places), and who are now, since peace, scattered throughout the country, renders it advisable that useful methods of treatment should become more generally known.

A choice between the oral and the intramuscular or intravenous administration of quinine depends, I believe, upon the consideration of each individual case. The intensity of illness in each individual—which, in turn, depends upon the variety and dose of the intoxication, and the state of the patient's health at the time of the attack—are factors which cannot be lost sight of when deciding the mode of quinine administration. The experience of a quarter of a century in British Central America and on the West Coast of Africa has taught me that the large majority of cases—even subtertian malaria—is amenable to treatment by the mouth.

The initial dose of calomel is always useful and necessary to remove bile, with which quinine forms, in the stomach, an insoluble salt as inert as sand. Phenacetin or aspirin if indicated, blankets and copious drinks, and quinine, constitute the routine treatment. The choice of the quinine salt is of importance. The sulphates are somewhat irritating to the stomach, and, excepting in robust people, should not be pressed beyond moderate, though frequent, doses. The salts of hydrochloric acid and the hydrobromide are much more grateful preparations, and euchinin is not without merit. For people who have lived in malaria-stricken countries, and who have suffered from several infections of the disease, 15 grains of a quinine salt, especially the sulphate, three times a day, should be given with great caution. There is no doubt of the existence of a "quinine haemoglobinuria," although this is not so severe, as a rule, as true "blackwater fever," whatever the cause of this disease may be. Heroic doses of quinine are a thing of the past, and indeed experience points to the fact that very satisfactory results in cutting short an attack of malaria are obtained by prescribing the drug in smaller doses (3 to 5 grains), and giving it at more frequent intervals.

Where continued residence in an infected country is not a factor for consideration, a moderate infection of benign type may be eradicated by treatment of the attack only; but where new infections are likely to take place, or should an infection have been untreated for some time, the use of the drug only during the period of the acute symptoms of fever, or for one or two days after, is insufficient to effect a cure. Quinine must be taken on some system for from a fortnight to some three months after an infection, especially if this be subtertian. As a prophylactic measure the administration of quinine on some recognized plan (5 grains daily, or in larger doses at regular intervals) has made a remarkable difference in the incidence of malaria in the tropics.

Quinine must be administered by intramuscular injections when, from the type of the fever (the so-called bilious remittent), or from the associated disordered condition of the liver and stomach, the drug cannot be retained when administered by the mouth. Absorption is naturally much slower by this method, but it is said that the effects on the parasite are more lasting. Untoward consequences, beyond tenderness for some time in the puncture area, are rare in my experience, if reasonable care be taken to secure asepsis.

The intravenous exhibition of the drug is by far the quickest and most reliable method of obtaining the best results, but is not indicated except in "explosive" cases of malignant malaria and in malaria of the brain, where I have seen some remarkable recoveries in what at first appeared to be hopeless cases.

Treatment of the general health on generous lines, between the attacks of pyrexia, with quinine, iron, arsenic, food, etc., will appeal to the general practitioner everywhere when he remembers that a single bout of fever may reduce the red blood cells from normal to as low a number as 1,182,760 and 2,800,000 per cubic millimetre in severe cases.—I am, etc.,

J. WALLACE COLLETT, M.D.

Guernsey, Feb. 10th.

TICKS AND RELAPSING FEVER.

SIR,—The paper by Dr. Nicholson, followed by the observations of Captain Dunlop, Colonel Mackenzie, and Dr. Andrew Balfour, on the tick responsible for the transmission of relapsing fever in Palestine and Persia, reminds me of an epidemic of this disease in the Somali country a few years ago.

In British Somaliland the tick responsible for relapsing fever is *Ornithodorus savignyi*. Both *O. savignyi* and *Argas persicus* are common there, but whereas the former is found more commonly in the interior and also in the coast towns, the latter is only found at the coast, where practically every fowl is infested with them.

The Somalis were certain that *A. persicus* never attacked human beings, and personally I never had any reason to believe that it did. The epidemics that occurred while I was in British Somaliland were all traced to *O. savignyi*.

While this is no proof that, in the absence of *O. savignyi*, *A. persicus* might not transmit the spirochaete of relapsing fever, I am inclined to agree with Dr. Balfour that further proof is required before we can definitely accuse *A. persicus* as the vector.—I am, etc.,

R. E. DRAKE-BROCKMAN, M.R.C.S., L.R.C.P.

London, Feb. 15th.

PREVENTION OF VENEREAL DISEASE.

SIR,—None of the protagonists of the rival societies advocate what is the most sure and natural preventive of venereal disease, and that is "early and congenial marriage."

Let me also point out that the school which preaches continence is really advocating sexual total abstinence, and not merely continence, which expression actually signifies sexual temperance. There is some incongruity in middle-aged people who have been married once, twice, or perhaps three times, and are the parents of three, six, twelve, or more children, advocating sexual total abstinence to young people. They would be on firmer ground logically in urging early and congenial marriage for those of ardent temperament.

The statement that sexual total abstinence is not injurious to health is a half-truth. There are certainly recorded cases where the health has been affected by repression. The natural normal sexual life of married persons is the healthier life for most people of both sexes. It is a question of temperament. Young people should be encouraged to marry. Girls should be provided with dowries instead of useless expensive educations. "Celibate" appointments should be made illegal. I refer especially to the hospital and asylum appointments which are closed to young married members of our profession.—I am, etc.,

JOHN ROBINSON, M.B.Lond., D.P.H.

Weymouth, Jan. 24th.

SIR,—May I give my experience as specialist sanitary officer to a district comprising 20,000 soldiers?

1. We had, amongst the British troops, "early treatment" centres. The American troops in the same area had a "packet" system. The incidence of disease was five times as great amongst the American troops. Their medical officers quite disapproved of the system.

2. The Australian troops also had a "packet" system. The incidence of venereal disease in those troops has always been much greater than amongst the British in the same areas.

What happens is this: The seeming security of the packet induces a far greater proportion of men to indulge, and far oftener, and then far more indiscriminately amongst the female population. Next, it became almost a point of honour not to use the preventive appliance, as conveying a doubt as to the ladies' chastity or at least immaculateness. Then—and this governs the whole question—it

was found by both parties that the pleasure was infinitely greater when coverings were not used. Finally, one found that those who did use the appliances supplied by the packet system consistently gradually acquired a taste for unnatural vice.—I am, etc.,

J. C. MCWALTER, M.D., F.R.F.P.and S.

Dublin, Jan. 24th.

SIR,—I have refrained from joining in the controversy on this subject now appearing, but it seems to me rather ludicrous to read the arguments for and against its use.

Two eminent ladies have been reviled for disagreeing with the statistical branch of the Society for the Prevention of Venereal Disease, although in my opinion clinical experience bears out amply the contention of Drs. Sturge and Molloy. Statistics, we know, can be manipulated so as to make a fallacy appear as the truth (some of your readers will remember how 4d. was made to appear equivalent to 9d.), but what we require are clinical facts, and in my experience (which has been nurtured from nearly all parts of the civilized world) prophylaxis as recommended by the society is utterly valueless and dangerous.

To issue "packets" to a hundred men and compare the results with another hundred who have had no "packets" is clinically fallacious and useless, for so many factors must enter into consideration before a conclusion can be arrived at. No two urethrae are alike with regard to gonorrhoeal infections; one may be virgin soil, another may have its epithelial cells altered through previous attacks. No two persons are alike as regards resistance or immunity. Every venereologist is aware that ten men may have intercourse with the same woman, yet nine may escape infection and the tenth succumb, and I presume if those that escaped had "packets" in their pockets they would be used as evidence of the value of prophylaxis.

There has not been produced one tittle of evidence by the Society for the Prevention of Venereal Disease that prophylaxis, as recommended by them, is other than dangerous and valueless—dangerous in that it gives the unwary a position of false security.

Early *skilled* irrigations given by a skilled person before the gonococcus has had time to penetrate the mucosa would be beneficial, but that is not prophylaxis as advised. Simply urinating, after connexion, and ballooning the urethra by holding the meatus, is more satisfactory and safer than the application of chemicals by a layman. Washing with soap and water is simpler and just as efficacious as the smearing of calomel ointment for the prevention of syphilis.

The glaring posters publishing the dire results and exaggerated calamities in store for those who have had venereal disease are, in my opinion, doing more harm than good. I can readily predict a race of venereal neurasthenics. The clarion cry of any society for the prevention of venereal disease should be early and immediate skilled treatment, and the society should see that the means of obtaining such treatment is easy.—I am, etc.,

M. W. BROWDY, M.B.

Manchester, Jan. 11th.

FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—The late Dr. C. Mercier stated that the ability to forget is the attribute of sanity; and another well known mental authority remarked to his students, "We are all insane, some more so than others."

In my opinion the human mind remembers everything except trivialities which escape through the sieves of thought. But the important events of life, such as the experiences of this great war, do they not become permanently pictured on the memory?

The prospective suicide who has failed, or recovered from the attempt—does he not balance his stupidity with more enlightened common-sense views? The morbid mental condition passes off as time and improved ideas cross his path. Let us remember, too, that "minds" may be compared to the pebbles on the beach—of different patterns when we regard them alongside each other. Much has to be considered in respect to their heredity, environment, and education.

May I be privileged to add a few lines in support of the very useful discussion on Forgetting and Psychological Repression. The simple and practical way of treating the many nervous cases of soldiers and sailors who come before our boards by means of the skill and ingenuity of psychotherapeutics is as old as Adam. Yet, nevertheless, we are indebted to a number of professional men who, during this great war, have brought it so thoroughly up to date.—I am, etc.,

J. F. BRISCOE.

Boscombe, Bournemouth, Feb. 8th.

SIR,—Drs. Rixon and Matthew have struck quite a new note in the discussion which arose from Dr. Carver's article and Sir Robert Armstrong-Jones's letter. Their letter is written by men who have not only read and pondered but have evidently theorized upon the actual experiences of practice of psycho-analysis for a considerable time. With all due deference to Sir Robert Armstrong-Jones, and with full acknowledgement of his eminence in the world of psychiatrics, I maintain that Drs. Rixon and Matthew are correct when they write that he has not yet grasped the full meaning and scope of psycho-analysis.

It has never been claimed that psycho-analysis will cure every case of psycho-neurosis; but, if it is intelligently and patiently carried out, it will indicate the underlying and often deeply buried origin of the disease. Cure is only to be hoped for when the patient understands what has happened to him and has sufficient backbone to support him while he rearranges his life. The crux of the process of the cure by psycho-analysis does not lie in the recalling of painful memories, nor even in analysis pure and simple; it lies in the interpretation of the symbolism employed by the unconscious. It is not easy to illustrate this by a definite example, but perhaps the following case (who has had only one session with me so far) may help.

A., aged 28, single, sergeant in the R.G.A., served from 1915 to July, 1919. Moderate "anxiety state," which developed after his demobilization. His recent dreams and much of his conversation with me centred round his repeated disappointments in not being demobilized as soon as the war was over. The dreams were but superficially analysed, and then A. was asked to apply the dreams symbolically to his present life. Without hesitation he said that it seemed as if he had demobilized all his faculties, and instead of these being under the control of a commanding officer they were acting independently and thus causing confusion—a priceless word picture and the beginning of the cure, for as this patient attains the understanding of his mental *bouleversement* so will he get better.

The application of symbolism and its interpretation and explanation to the patient is a point that, so far as I am aware, has not yet been plainly and definitely described in psycho-analytic literature, though Jung describes it rather vaguely. Drs. Rixon and Matthew, however, seem to understand the value of this.

Ferenczi says:

Still the unconscious is only able to control the mental and bodily being of man until the analysis reveals the content of the thought processes behind it.

Note that phrase "the content of the thought processes," for in the extent of his appreciation of its meaning lies the measure of success or non-success of the psycho-analyst.—I am, etc.,

A. G. MIDDLETON,
Medical Superintendent, John Leigh Memorial Hospital (for Shell Shock), Brooklands, Cheshire.

February 10th.

STERILITY.

SIR,—Accustomed as we are to the ravages wrought by the sequelae of gonorrhoea among the patients in women's hospitals, and to the reproach of sterility so often causelessly brought against women, we have read with appreciation the able article by Mr. Kenneth Walker, M.B., F.R.C.S., appearing in your issue of January 3rd, 1920. We were the more surprised at his insertion of the following paragraph (the italics are ours):

. . . Alcoholism, sexual excesses, debilitating diseases, and *x* rays produce an azoöspermia or oligospermia which is temporary in nature. *Prolonged and absolute continence has been said to have a similar result* (Barney).

On looking up this reference to the observation made by an American writer (*Boston Medical and Surgical Journal*, June 18th, 1914) we find that this theory rests upon one case only, which has been recorded without reference to any collateral circumstances, and on second-hand evidence; the author candidly admitting that he has been able to find no allusion to the theory elsewhere. Surely a writer of Mr. Kenneth Walker's experience in research ought to be more guarded in the apparent propagation of opinions

based on evidence so unreliable. So able an investigator as Sir William Gowers has stated in reference to this very question that in the whole range of his experience he had never known any one to be the worse for continence. Equally strong testimony is borne by Sir James Paget, and by many other high medical authorities. A clean life, according to Sir Wilmot Herringham, so far from detracting from virility, promotes both vigour and fertility. A recent communication by Dr. Amand Routh to the BRITISH MEDICAL JOURNAL of January 17th, 1920, brings further reinforcement in the same direction.

A theory of the above description could only be brought forward by a writer unacquainted with the acknowledged trend of recent medical opinion, and is worthy of a place among the exploded fallacies of fifty years ago. If men are to be encouraged in incontinence by the dissemination of theories so ill founded, women will inevitably reap the calamitous results which are vividly depicted in Mr. Kenneth Walker's article.

It might be added that the advocates of male prophylaxis against venereal disease who have recently written in your columns ought to bear in mind that, in so far as their recommendations tend to induce vice by unintentionally encouraging a sense of security in the practice of unchastity, just in so far will they wrong women by rendering them more liable to injury, no method having been discovered by which women can be kept safe from risk of infection. When the public arrives at a comprehension of the crudely selfish character of this procedure, it may result in an outcry which will render the advocacy of such methods difficult if not impracticable.—We are, etc.,

E. KNIGHT, M.B.
S. E. WHITE, M.B., B.Sc.

January 27th.

The Services.

HONOURS.

O.B.E.—Major (acting Lieut.-Colonel) Alfred Spitteler and Captain Hugh Michael Collins, I.M.S., in recognition of valuable services rendered in connexion with military operations in Southern and Central Kurdistan.

MENTIONED FOR SERVICES.

The names of the following officers have been brought to the notice of the Secretary of State for War for valuable services rendered during the military operations:

Central Kurdistan.—Major J. F. Grant and Captain (acting Major) J. M. Weddell, R.A.M.C.; Major (acting Lieut.-Colonel) A. Spitteler and Captain (acting Major) C. J. Stocker, M.C., I.M.S.; Assistant Surgeon J. Luxa and Subassistant Surgeon G. B. Yemkanmurdi, I.M.D.

Southern Kurdistan.—Lieutenant (acting Captain) L. G. Blackmore, R.A.M.C.; Lieut.-Colonel (temporary Colonel) J. A. Hamilton, C.M.G.; Captain (acting Major) M. Purvis, Captain H. M. Collins, and temporary Captain W. G. Miller, I.M.S.

Captain H. Colwell Rook, R.A.M.C.(S.R.), has been promoted Brevet Major for distinguished services in connexion with military operations in Archangel, North Russia.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on February 14th the degree of Doctor of Medicine was conferred upon F. B. Chavasse.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on February 14th the following medical degrees were conferred:

M.B., B.CH.—H. G. Taylor. M.B.—C. E. Bond.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on January 28th.

The title of professor of physiology has been conferred upon the following teachers of the University: Dr. Marcus Seymour Pembrey (Guy's Hospital Medical School), Dr. Winifred Clara Cullis (London School of Medicine for Women); the title of assistant professor of psychology at University College has been conferred upon Dr. Aveling, and that of reader in bio-chemistry on Mr. J. H. Ryffel (Guy's Hospital Medical School).

The Senate adopted a resolution in appreciation of the generosity of Messrs. S. B. and J. B. Joel, of £20,000 for the endowment of the University chair of physics tenable at Middlesex Hospital Medical School.

The External Council reported that the Vice-Chancellor had authorized the admission to the first examination for medical degrees in March, 1920, of external students who had matriculated as from September, 1919.

Applications are invited for a university studentship in physiology of £50 for one year. It is awarded to a student qualified to undertake research in physiology, and is tenable in a physiological laboratory of the University or of a school of the University. Applications must be received by the Principal Officer not later than May 31st.

Remuneration of Professors and Readers.—The second section of the regulations with regard to the conferment of the titles of University Professor and University Reader was amended to read as follows:

The guaranteed minimum salary for a university professor giving his whole time to the work of his post shall be £800 per annum, and the guaranteed minimum salary for a reader giving his whole time to the post shall be £400 per annum, provided that the title of "University Professor" and "University Reader" may be conferred in exceptional cases on the occupants of posts of which the duties do not take up the whole time of the occupant, and of which the guaranteed salaries are not less than £400 and £200 respectively, and provided in each case that the personal qualifications of the occupant are such as to justify the conferment of the title in question. Provided that the Senate shall not withdraw any title of University Professor or University Reader, conferred in respect of a post of which the salary was in accordance with the regulations previously in force on the ground that the salary of such post does not comply with the existing regulations.

The Senate may also in exceptional cases confer the title of University Professor or University Reader on the occupant of a post who acts without remuneration for his services or receives a nominal honorarium in respect thereof, provided that his personal qualifications are such as to justify the conferment of the title in question.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—*Part II (Completing Examination):* B. A. Astley-Weston, Hilda M. Brown, D. G. Cossham, Sukhasagar Datta, F. V. Jacques. *Part I only:* Khai Way Chan, Marjorie Wadsworth.

D.P.H.—W. H. Scott. *Part I only:* S. H. Kingston, A. D. Symons, G. C. Williams.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on February 12th, when Sir George Makins, President, was in the chair.

Issue of Diplomas.—Diplomas of Membership were granted to sixty-five candidates and Diplomas in Public Health were granted, jointly with the Royal College of Physicans, to fifteen candidates found qualified at the recent examinations.

Court of Examiners.—Mr. John Murray was re-elected a member of the Court.

Honorary Fellows.—The following were elected Honorary Fellows: A. Depage, Surgeon to H.M. the King of the Belgians; Pierre Duval, Professor in the Faculty of Medicine, Paris; John Miller Turpin Finney, Professor of Surgery, Johns Hopkins University; A. Gosset, Professor in the Faculty of Medicine, Paris; Charles H. Mayo, Professor of Surgery, Mayo Foundation for Medical Education and Research, University of Minnesota. The presentation of diplomas to the newly-elected Honorary Fellows will take place on Thursday, July 8th, 1920.

Appointment of Representatives.—Dr. W. S. A. Griffith was reappointed Representative on the Central Midwives Board, and Mr. William F. Haslam on the Medical Board of the University of Wales.

Bradshaw Lecturer.—The President reported that he had appointed Sir Berkeley Moynihan to be Bradshaw Lecturer for the ensuing year.

The Diploma in Tropical Medicine.—The alterations in the regulations for the Diploma in Tropical Medicine and Hygiene, approved by the Royal College of Physicians on January 29th (see page 204), were adopted.

Election of Council.—A meeting of the Fellows will be held at the College on Thursday, July 1st, for the election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Sir Anthony A. Bowlby, Mr. W. Harrison Cripps, and Sir D'Arcy Power. The date of the election will be announced to the Fellows by advertisement and by circular on March 5th, and March 15th will be the last day for the nomination of candidates. A voting paper will be sent to every Fellow of the College whose address is registered at the College.

CONJOINT BOARD IN ENGLAND.

AT a meeting of Comitia of the Royal College of Physicians on January 29th and of the Council of the Royal College of Surgeons on February 12th diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon the following candidates who have passed the requisite examinations and have complied with the by-laws of the Colleges:

M. K. Abdel-Khalik, H. E. Archer, H. A. M. Bosman, Doris I. Bosworth, P. J. Briggs, E. F. Brown, J. H. Bulcock, H. G. Burford, G. F. Burnell, F. W. Chamberlain, G. L. Clements, M. Coburn, J. J. Coghlan, B. H. Cole, Alison Margaret Collie, A. C. M. Coxon, G. W. Dando, A. N. M. Davidson, C. O. Davies, D. J. Davies, T. Draper, W. Edge, I. Frost, L. P. Garrod, Mary I. A. Grimmer, E. A. H. Grylls, *G. C. Hartley, F. S. Horrocks, C. A. Hutchinson, Evelyn H. Johnson, O. E. Kennedy, J. V. Landau, F. F. Langridge, G. P. Lindsay, P. T. McIlroy, S. F. Mahmood, Ida C. Mann, G. Massie, T. Mensa-Annan, O. G. Misquith, A. W. Mooro, C. Nicory, F. A. O'Reilly, S. T. Parker, E. F. J. Peregrine, †G. Perkins, H. H. Perry, N. A. M. Petersen, G. J. Preston, L. I. Roberts, R. E. R.

Sanderson, H. N. Shapiro, F. P. Schofield, C. Shaw, G. M. J. Slot, S. S. H. Sofi, S. Somasundram, S. D. Sturton, W. A. Turner, *Kathleen S. Vine, N. V. Wadsworth, A. D. Weeden, C. J. L. Wells, J. S. White, Kathleen M. Wilkinson, D. W. Winnicott, Jane E. Wood.

* L.R.C.P. diploma not yet conferred.
† M.R.C.S. diploma granted on November 11th, 1919.

An examination in Public Health, Parts I and II, will be held in April next, commencing on the 19th and 26th respectively.

Obituary.

DR. HELEN MOORE, who was in charge of the Church of England Zenana Mission Hospital at Sukkur, Sindh, has died of septic influenza. She entered the London (Royal Free Hospital) School of Medicine for Women in the spring of 1897, and graduated M.B.Lond. in 1902. She first went to India at the end of 1905, taking temporary work in the Church of England Zenana Mission Hospital in Bangalore for over two years. After a time in England she returned to India and worked in the Church of England Zenana Mission hospitals in Bangalore, Quetta, and in Khammamett in the Nizam's Dominions; of this last hospital she was in charge during the furlough of another doctor. In 1912 she was appointed to the Church of England Zenana Mission hospital in Sukkur as the first qualified medical woman there, and, except during a furlough of some months in 1914–15, she remained there till her death. In her work in India she was much beloved by fellow workers and patients. Her mental power was great, and her charm of manner endeared her to all who were privileged to know her. Her death is a great loss both to Sukkur, where there is no medical woman to take charge of the Mission Hospital, and to her many friends.

MR. A. REGINALD F. EVERSHED, M.R.C.S., L.R.C.P., died on January 25th at Parkstone, aged 55, from broncho-pneumonia following an attack of influenza. He was the eldest son of the late Dr. Arthur Evershed. He studied medicine at Guy's Hospital, and joined his father at Hampstead for a short time before starting practice in Penzance. After establishing a large connexion the work proved too great for his health, and he went to London, where he was able to fulfil his ambition to specialize as an oculist. After six years in the City he removed to Harley Street, where his practice so greatly increased that it was a bitter disappointment to be forced to withdraw from his work by a breakdown in health in November, 1919. Among appointments he held were honorary oculist to the Cripples' Home, Winchmore Hill, oculist to the Stock Exchange Benevolent Fund, honorary oculist to the Brixton Dispensary, and for many years clinical assistant at the Royal Westminster Ophthalmic Hospital. His work was well known to amateur photographers, especially among members of the Camera Club (in the resuscitation of which he was instrumental) and the South London Photographic Society. As a member of an old Sussex family he helped in the institution of the "Men of Sussex" Society.

CAPTAIN WILBERFORCE VAUGHAN EAVES, M.B.E., R.A.M.C., died on February 10th in a nursing home, after an operation, aged 52. He was born in Australia in 1867, but came to England in early life, and took the M.R.C.S. and L.R.C.P.Lond. in 1889, subsequently the M.R.C.P. and M.D. He served in the South African war, and took a temporary commission in the R.A.M.C. in the first week of the late war, on August 10th, 1914, being promoted to captain after a year's service. For most of his service he was employed at Woolwich Arsenal. He was well known as a lawn-tennis player. He was in the very first rank for over twenty years, and retained his skill to a much later age than most men. Though he never succeeded in winning the championship, he came within one point of doing so, against Mr. W. Baddeley, in 1895. In his time he had gained the championships of Scotland, Ireland, Wales, New South Wales, and Victoria; he won the covered courts championship in 1897–98–99, represented England against Ireland in 1895 and 1896, was a member of an English team which played against America in 1897, and of the All England team which toured in South Africa in 1908–09, and represented the British Isles in the Davis Cup matches of 1907.

Medical News.

A CONFERENCE of the medical superintendents of sanatoriums, training colonies, and other residental institutions for cases of tuberculosis will be held on Monday, February 23rd, at 4 p.m., at 122, Harley Street, to discuss the problems which specially concern such institutions, and to consider by what machinery similar periodical conferences may be arranged.

AN Order in Council, dated February 9th, 1920, and made under the provisions of the Anthrax Prevention Act, 1919, prohibits the importation into the United Kingdom of shaving brushes manufactured in, or exported from, the Empire of Japan, whether such shaving brushes are exported direct to the United Kingdom or otherwise. This Order may be cited as the Anthrax Prevention (Shaving Brushes) Order, 1920.

THE Ministry of Health has set up a Joint Committee representing the departmental Advisory Committee on the Welfare of the Blind and the National Institute for the Blind, of which Sir Arthur Pearson is president, in order to co-ordinate effort and to advise on the grants the Ministry now makes in aid of the blind. It is hoped that ways of diminishing overlapping and preventing waste of effort in the collection of voluntary contributions will be devised.

THE Automobile Association is organizing a petition to the Prime Minister protesting against the present high price of motor spirit, which is as much a national necessity as gas or electricity, and praying that legislation may be at once introduced to ensure the immediate production of benzol and power alcohol in large quantities. Copies of the petition can be obtained from the Secretary at Fanum House, Whitcomb Street, London, W.C.2.

THE President of the French Republic has conferred the Cross of Officer of the Legion of Honour on Dr. James H. Nicoll, consulting Surgeon to the Western Infirmary, and Rector's Assessor in the University Court from 1914 to 1919. The Royal permission to accept and wear the decoration has been granted to Dr. Nicoll.

THE anniversary dinner of the Medical Society of London will be held at the Wharncliffe Rooms, Hotel Great Central, Marylebone, on Wednesday, March 17th, at 7.30 o'clock.

TWO Emeritus lectures will be delivered at the Middlesex Hospital Medical School, the first, by Sir Alfred Pearce Gould, K.C.V.O., F.R.C.S., on February 26th, and the second, by Sir Richard Douglas Powell, Bt., K.C.V.O., M.D., F.R.C.P., on March 5th. The lectures will be delivered at 3 p.m. on each day.

OFFICERS who were attached to No. 20 General Hospital, B.E.F., during the war, will dine together in London on Saturday, March 13th. The chair will be taken by Major-General Guise Moores, C.B., C.M.G., A.M.S., now Commandant of the Royal Army Medical College. Those who wish to attend are asked to write to Dr. H. Drinkwater at 7, Cavendish Place, London, W.1.

THE Federation of Medical and Allied Societies will give a dinner at the Café Royal, Regent Street, on Wednesday, February 25th, when Lord Dawson of Penn (Sir Bertrand Dawson), G.C.V.O., K.C.M.G., C.B., M.D., will be the guest of honour. Dr. Addison, Lord Astor, and Sir Robert Morant are among those intending to be present.

THE Silvanus Thompson Memorial Lecture of the Röntgen Society will be delivered on March 2nd by Professor W. H. Bragg, C.B.E., F.R.S. The subject is "Analysis by x rays." A discussion on electric apparatus in relation to x rays will take place at a joint meeting of the Röntgen Society, the Institution of Electrical Engineers, and the Therapeutic Section of the Royal Society of Medicine on Thursday, February 26th. The meeting will be held at the Royal Society of Medicine at 5 p.m., when Dr. Reginald Morton will open the discussion.

AT the meeting of the Zoological Society of London on February 10th, Mr. F. Martin Duncan, F.Z.S., demonstrated a series of photomicrographs of acari from the lungs of *Macacus rhesus*, illustrating the larval, nymph, and adult stage of the acarid. Both young and adult monkeys appeared to be infected, but so far as his observations had gone, the presence of the mites in the lungs had in no case been the cause of death. Eggs had not been observed in the vesicles formed by the presence of the mites, though serial sections of adult acarids had shown the egg in an advanced state of development, pointing to the probability of this stage being completed within the body of the female.

THE Society of Apothecaries has awarded the Gillson scholarship for original research in pathology, of the annual value of £105, to A. L. Urquhart, of St. Thomas's Hospital.

THE No. 19 Casualty Clearing Station dinner will be held in London on Saturday, February 28th, at the Trocadero Restaurant, Piccadilly Circus, at 7.30 p.m. It is hoped that all officers of the unit will be able to be present. Members of other casualty clearing stations, and all who were associated with No. 19 C.C.S., are cordially invited. Applications for tickets should be made as soon as possible to the Rev. E. C. Doddrell, 6, Alexandra House, Regent's Park Road, Finchley, N.3. Dress, dinner jackets. Tickets 50s., to include wines, etc.

THE annual dinner of past and present students of the Royal London Ophthalmic Hospital will be held at the Criterian Restaurant, Piccadilly, on Thursday, March 11th, when Mr. William Lang, consulting surgeon to the hospital, will take the chair at 7.30 p.m. Tickets, 12s. 6d. (excluding wine), can be obtained from Mr. Charles Goulden, 42, Welbeck Street, W.1.

LORD ASHTON has forwarded a cheque for £5,000 towards the extension and improvements of the Preston and County of Lancashire Royal Infirmary. Just over a year ago he paid off a debt of £2,000 in the maintenance account.

IN the appointment of professors to German universities precedence is at present being given to university teachers who have left towns which have passed out of Germany's possession. The anatomist, Professor Hugo Fuchs, who had recently been appointed to Königsberg, has thus been transferred to Göttingen as Merkel's successor.

A DINNER will be held on Monday, March 1st, at the Wharncliffe Rooms, Hotel Great Central, at 7.30 o'clock, to give an opportunity for social reunion for those who worked abroad during the war on behalf of Serbia. Most of the medical missions will be represented, and the committee includes a number of medical men and women. The honorary secretary is Miss Marx, 24, Melcombe Court, Dorset Square, N.W.1, from whom tickets (price 15s., exclusive of wine) may be obtained. Evening dress or uniform will be worn, with decorations.

THE customary course of lectures arranged by the Child-Study Society has begun at the Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1. The lectures on March 11th and 25th will deal with adolescence, and on April 29th Dr. A. E. Shipley, F.R.S., will give a lantern lecture on biting insects and children. The lectures begin at 6 p.m.

AS already announced, the Royal Society of Medicine will entertain Sir John Y. W. MacAlister at dinner at the Connaught Rooms, Great Queen Street, W.C., on Thursday, March 18th, at 7.30 p.m. It has been decided to admit guests, both ladies and gentlemen. Applications for tickets, price 15s. each, must be received by the Honorary Secretaries of the Dinner Committee, 1, Wimpole Street, London, W.1, before March 16th.

A MEETING of the Pathological Society of Manchester will be held in the Medical School, Manchester University, on Tuesday, February 24th, at 5 p.m., when Sir Walter Fletcher, K.B.E., M.D., F.R.S., Secretary of the Medical Research Committee, will deliver an address on Medical Research after the War. All medical practitioners and medical students are cordially invited.

THE Minister of Health has issued amended regulations designed to reduce the expenses connected with the preliminary proceedings for obtaining land compulsorily for housing in rural districts when the extent of the land does not exceed five acres.

The D.D.M.S. of the London District has lately appointed a special board for the purpose of advising the authorities as to the disposal of long standing cases in military hospitals and as to the treatment of chronic cases. The president of the board is Brevet-Colonel H. J. Waring, R.A.M.C.(T.F.), surgeon to St. Bartholomew's Hospital; the other members are Brevet-Colonel F. MacLennan, D.S.O., R.A.M.C., Major W. Essex Wynter, R.A.M.C.(T.F.), physician to the Middlesex Hospital, and Captain C. M. Hinds Howell, R.A.M.C.(T.F.), physician to the Great Northern Hospital. Colonel T. H. Openshaw, A.M.S., surgeon to the London Hospital, joins the board when orthopaedic cases are under consideration. The board has already done a considerable amount of work in visiting military hospitals in the London District and examining patients.

THE date fixed for the health week, organized by the Royal Sanitary Institute, is May 2nd to 8th.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin, and of the Scottish Office, 6, Rutland Square, Edinburgh.

QUERIES AND ANSWERS.

PARAESTHESIA.

"A. R. J." describes a case of numbness and tingling of both lower limbs, with a transverse band across the abdomen and another across the limbs in a man aged 46, and asks for advice.

*** It is presumed that there is no question in this case of any organic disease. Formication is so frequently a very early symptom of disseminated sclerosis that its recurrence in a marked degree must often be regarded with some anxiety. When the formication is limited to the extremities and there are no other signs of involvement of the central nervous system, it most frequently occurs as a form of disturbance of the autonomic system in patients past middle age, and most frequently in women. Small doses of thyroid extract are occasionally of benefit, but belladonna and tincture of hyoscyamus, together with small doses of potassium iodide, usually give the best results. The diet should be plain and restricted as to meat, and alcohol should be avoided.

INCOME TAX.

"V. V. V." inquires (1) whether he can deduct as a business expense one-half the annual value of his residence as a professional expense, and (2) what deduction can be made in respect of the cost of servants' keep, wages, etc.

*** (1) Yes. "V. V. V." is assessed to income tax under Schedule A as being in receipt of the rent of the house, and is entitled to charge *qua* practitioner one-half of the rent assessed on him *qua* owner of the house. (2) A reasonable proportion can be charged both of wages and of the cost of food, laundry, etc. A practice which is fairly frequent is to regard one maid as employed solely for professional purposes, and to charge for one servant accordingly—for example, if three servants are kept, to charge one-third of the total expense against the practice. Of course, a great deal depends on the actual circumstances of each case.

LOCAL RATING.

"J. M. P." has been asked by the local borough council to make a declaration for the purpose of rating his residence, and in doing so to divide the rental between the private and professional portions of the total. He has also a surgery half a mile away.

*** As the surgery is not situated on the premises, we suggest that not more than £30 should be allotted to the professional portion. Where the surgery is included in the total rent, a common practice in rural and suburban localities is to regard the rent as equally attributable to private and professional use, so far as income tax is concerned. In any case, the exact apportionment can only be conjectured and is a matter of opinion, and the income-tax practice, modified as suggested in this particular case, seems to provide a reasonable basis of division.

ERYSIPELAS.

DR. F. S. ARNOLD (Berkhamsted) writes: If "X. Y. Z." will try buttermilk as a local application in erysipelas he will, I think, be led to the conclusion that it is far superior to any other treatment. I do not know any other local treatment which can be regarded as certain, though many give

quite good results on occasion. I have used buttermilk in erysipelas for the past twenty-four years, and have so far never seen it fail to give immediate relief to pain and rapidly to abort the whole morbid process. I have just had under treatment a case of eczema of the face and scalp in a man aged 77, and another of the leg in a woman aged 60, and in both the buttermilk treatment has been brilliantly successful. The buttermilk should be applied on soft rags or butter-muslin, renewed often enough to keep the part constantly wet. The buttermilk must, of course, be free from salt. The action is so uniform that one cannot help regarding it as specific, and the question arises to what element in the buttermilk it is due. I am myself inclined to regard it as microbic.

DR. J. W. DUNCAN (Hockley, Birmingham) writes: In reply to "X. Y. Z.," but not exactly to the point, I think the general treatment as useful as the local. I have not tried either alone. In two cases lately notified by me (February 1st and 2nd), one had only a local dusting powder (zinc iodide) and medicine; the other had ichthyol ointment and the dusting powder as well as medicine. In my experience no cases of erysipelas have died, even although in one case the disease ran over face and neck and body to the legs. In it ichthyol, dusting, and medicine were employed, while a disinfecting lotion was also used, if memory is true. The medicine is a preparation of liquor ferri perchloridi, with or without liquor strychninae hydrochloridi.

DR. F. S. JACKSON (Aberdovey) writes in answer to "X. Y. Z.": In a fairly extensive experience at a base hospital in France I found that: (1) General treatment was of very little service; 5 grains of quinine, if the temperature rose to 104° or over, seemed to be of benefit, but as the temperature is apt to be erratic it was difficult to say for certain. In a few cases I gave antistreptococcic serum with marked benefit, but as the supply of serum was called in I was not able to treat many cases. (2) Ichthyol ointment seemed to answer all requirements, so that I did not experiment with anything else, but it is not possible to say that it will cure all cases. (3) There were three or four deaths among my patients—all cases of severe facial erysipelas and all treated with ichthyol. They died from general septic poisoning, and there was no *post-mortem* evidence of meningitis or other complications. It is necessary to apply the ointment until every trace of inflammation has subsided, otherwise there is apt to be recrudescence and further spread of the disease.

LETTERS, NOTES, ETC.

"NEW LAMPS FOR OLD" IN OBSTETRICS.

DR. W. M. MACILRAITH (Bradford) in the course of a letter on this subject remarks: I quite agree with "G. P." in your issue of January 17th, 1920, that forceps have often to be used by a general practitioner, and that when used with discretion and proper precautions no ill results. Let consultant surgeons say what they will, they only get worst cases, not the general run. The general practitioner's work is practically unknown land for a "surgeon"; let each criticize his own field.

ADJUSTING THE MATTER.

AT Tower Bridge police court this week a kitchen porter was charged with biting a piece out of the ear of his brother during a family quarrel. The prosecutor said he felt some pain in his left ear and afterwards found that a piece had been bitten out. According to *The Times* report the magistrate said that "there was no excuse for such a cannibal act, but the parties concerned all being relatives, he should remand the prisoner for a week on one surety in £25, to see if the matter could not be adjusted." A week seems rather long to wait for restoration of the missing piece of ear by a plastic operation, if that is what the magistrate meant by his dark hint about "adjusting" the matter. Sir J. O. Skevington recorded in our issue of September 27th, 1919, the successful suturing of the end of a man's nose cut off an hour before by a falling skylight; and a fortnight later Dr. W. E. Hadden capped this by relating how his father successfully stitched on the tip of a man's nose bitten off a few minutes before in a street row.

COELUM NON ANIMUM.

MR. THOS. FREDK. I. BLAKER, M.R.C.S. (Brighton), writes: There is a passage in Dr. Bernard Hart's lecture on anxiety neuroses in the current number of the BRITISH MEDICAL JOURNAL in which he says: "The futility of rest cures and voyages is immediately apparent, for the patient's troubles are in his mind, and he takes them with him wherever he may be sent." This reminds me of a clever rhyme in two languages, which appeared in *The Isis*, an Oxford publication, some thirty years ago. I quote from memory. Life has rubbed them well into me:

> Who can fly from himself? Bitter cares when we feel 'em,
> Are not cured by travel. As Horace says, "Coelum
> Non animum mutant, qui currunt trans mare."
> 'Tis climate, not mind, that, by roaming, men vary.

A PLEA FOR THE NOTIFICATION OF MEASLES.

DR. A. G. NEWILL (Harringay) writes: At present in some areas the notification of measles is being continued whilst in others it has ceased. Such differentiation of action can be of no general benefit to the public, though of local utility. The days of the argument that notification of this disease is useless because you could not isolate them or because the infection had already spread I trust are gone. The notification of measles since the war has had an educative value. It has shown the ignorant that measles cannot be trifled with as it kills from complication. Further, in these days with existing staffs of health visitors, sanitary inspectors, nurses, it gives an opportunity to lessen the spread of the disease by permitting them to follow up the cases and prevent their early entrance to schools, etc. If our national asset remains in every succeeding generation it behoves us in public health affairs to utilize all means in safeguarding the infant and child welfare. I would therefore seek the co-operation of all those interested, especially medical officers of health, in getting their local authority to maintain the notification of measles as a permanent measure. The public so far has been educated by notification, and it would be a pity to revert to pre-war measures or arguments. I shall be pleased to hear what medical officers of health think.

PREGNANCY DURING AMENORRHOEA.

DRS. WILLIAM F. GRANT and GEORGE Y. OLIVER (Sydenham, S.E.) write: Mrs. S., aged 41, and married twenty years, had had four children and no miscarriage. The fourth child, born in August, 1915, was suckled until May, 1916. The first and only menstrual period after the birth of this child occurred in October, 1916, so that since that date there had been complete amenorrhoea. The husband, who had served during the war, was demobilized in January, 1919. The patient was delivered of her fifth child on January 20th, 1920, and as prior to this menstruation had been in abeyance since October, 1916, it is assumed that impregnation occurred about the middle of April, 1919, and that the ovum which was then fertilized was that belonging to an oncoming menstruation which was held in abeyance because fertilization had taken place.

EXCRETION OF QUININE IN THE FAECES.

MR. M. NIERENSTEIN, Ph.D. (The University, Bristol) writes: In my report entitled "Excretion of quinine in the urine," recently published by the War Office in *Observations on Malaria* (pp. 4–79), edited by Sir Ronald Ross, I have limited myself to observations on the excretion of quinine in the urine. It has, however, been pointed out to me by Major F. P. Mackie, I.M.S., that the fact that I only found traces or no quinine in the faeces will be of interest to those engaged in the treatment of malaria, and I therefore mention that of sixteen stools examined by me eleven contained only traces of quinine, whereas in the remaining five stools I entirely failed to detect quinine. All stools came from patients who had taken 30 grains of quinine sulphate daily, and who were found to excrete daily 35 to 50 per cent. of quinine in the urine. The quinine was recovered from the faeces by Giemsa and Schaumann's method for identification (*Arch. f. Schiffs- und Tropen-Hyg.*, 1907, vol. xi, p. 44), and tested qualitatively by Herepath's method as modified by Ramsden and Lipkin (*Ann. Trop. Med. and Parasit.*, 1918, vol. xi, p. 444). As will be seen from my report (p. 13), this test gave on reinvestigation most satisfactory results, and was found never to fail. My results are therefore in full agreement with those of Giemsa and Schaumann (loc. cit.), Ramsden, Lipkin, and Whitley (*Ann. Trop. Med. and Parasit.*, 1918, vol. xii, p. 248), and others, that the amount which is excreted with the faeces is so small as to be negligible.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 42, 46, 47, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 43, 44, and 45.

THE following appointments of certifying factory surgeons are vacant: Hungerford (Berks), North Walsham (Norfolk).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Lecture
ON
THE DIAGNOSIS OF GLAUCOMA.

Given at the North-East London Post-Graduate College, Tottenham, January 20th, 1920.

BY

Lieut.-Colonel R. H. ELLIOT, I.M.S.(ret.).

The teaching of post-graduates differs from that of students in one very important particular—namely, that of the angle from which we approach the subject. The teaching of the student is synthetic. An idea is presented to his mind under the cover of the name of a disease—for example, glaucoma. Round that idea we build up a number of items of knowledge having reference to the symptoms, the diagnosis, the pathology, the prognosis, the treatment, etc., of the disease we are studying. Such a line of study is made easy for the student by the fact that when he enters the wards he finds the cases allotted to him already marked with the diagnoses which have been made by his teachers.

The post-graduate practitioner is in a very different position. His patient comes to him with a complaint of one or more signs or symptoms, any or all of which may be, and indeed usually are, common to many diseases. Starting from one or more of the clues thus offered, the medical man has to work his laborious way in a search for the cause of the trouble. Very often he has to do so through a tangle which time and study alone will enable him to unravel.

One of the tragedies of ophthalmic practice lies in the frequency with which we meet men and women blinded by glaucoma, simply owing to the failure of the medical men in charge to make an early diagnosis of the condition and to take unflinching action thereon. It is not that there is any real difficulty in recognizing what is wrong, but rather that the possibility of the existence of the disease is too often forgotten, with the result that the symptoms are ascribed to some more commonly met with condition. It is therefore from this angle that we shall approach our subject to-day. First, we shall take the outstanding signs of glaucoma which first impress themselves on the attention of the patient and of his doctor; then we shall show what steps the practitioner can and should take in order either to make a firm diagnosis of glaucoma, or to exclude the presence of that disease. On another occasion we shall study the means at the disposal of the expert for the assistance of the practitioner who consults him.

Headache.

This may be of various kinds.

(A) *A Passing Morning Headache.*

The patient complains that he awakes in the morning with a dull headache, which passes away after he has been up and about for a while; sometimes he will volunteer the information that it is gone by the time he has finished shaving, or that he has forgotten it after reading the paper on his way down to office. On questioning him he will admit that the sight of that eye is dim whilst the headache is on. Rarely he will have noticed dilatation of the pupil and still more rarely haloes round lights. I am far from wishing to suggest that all morning headaches, or even the majority of those headaches which undoubtedly emanate from eye trouble, are due to glaucoma; for, strange as it may seem, headaches due to an error in refraction are sometimes most complained of in the morning, though, as a rule, they are worse at night and relieved by sleep. We have also to take account of the large numbers of other causes of morning headache which are in no way connected with the eyes.

The points of diagnosis have already been indicated. The patient should be warned to look out for the association of headache, misty vision, dilatation of the pupil, slight circumcorneal congestion and haloes round lights; and an ophthalmoscopic examination should be made to ascertain whether there is cupping of the disc, or abnormal pulsation of the retinal vessels.

The explanation of this early morning glaucoma is of interest. Throughout life the clear fluid which fills the chambers of the eye (both the aqueous and vitreous chambers) is being continually derived from the blood circulating through the ciliary body. With equal regularity it is steadily oozing away at the angle of the chamber through the pectinate ligament into the canal of Schlemm, and thence into the vessels which lead the blood out from the eye. If the rates of inflow and outflow correspond, the amount of fluid retained within the eye remains constant, and the intraocular pressure continues at the same level; but if there is any obstruction to the outflow of the fluid, whilst the rate of inflow remains the same, the tunic of the eye will become overstretched by this increase in the mass of the fluid it contains, and the intraocular pressure will rise correspondingly. If I may be permitted to use a simile: We take a rubber globe like a football, and to it we attach two pipes; one of these leads fluid into it from a tap, which is kept constantly running at an even rate, the other allows fluid to escape at exactly the same rate. The pressure of the fluid within the ball remains the same, and the tension of the coat of that ball does not alter. If now, we slightly pinch the exit tube, more fluid accumulates within the globe than before; the walls are distended in consequence; the pressure of the fluid within the ball rises; and the coat, as felt from outside, becomes harder. If we increase the rate of outflow, the previous condition of affairs is restored.

Professor Arthur Thomson has shown strong reason to believe that during our waking hours there is constantly at work a mechanism whereby the intraocular fluid is pumped out of the eye. The motive force of this pump is supplied by the movements of the iris, and by the contraction of the ciliary muscle. Every time that the pupil contracts and expands under varying conditions of light, and every time that we bring our ciliary muscle into play, as we adjust the eye for sight at varying distances, fluid is being sucked from within the globe into the canal of Schlemm and is again being driven out of the canal of Schlemm into the efferent vessels. During the hours of sleep this pump action ceases, but a normal eye is capable of providing sufficient outflow even without the aid of this mechanism. It is when the excretory channels are, for one reason or another, becoming less efficient, that danger arises. The cessation of the pump action during the hours of sleep may then determine the onset of a condition in which excretion is insufficient for the needs of the eye. A slight addition to the fluid accumulated within the globe will then give rise to moderate attacks of increased tension during the hours of sleep. The consequence is that the patient awakes with a slight attack of glaucoma, as evinced by the headache, the dimness of vision, etc. When he gets up, and begins to use his eyes, the pump action is restored, excretion is hastened, and the symptoms pass away for the time, only to return with increasing frequency and severity as time goes on. Here we have (1) a ready explanation of these morning headaches, and (2) an obvious direction as to the timing of our meiotic drops when we use them.

Diagnosis.

It is only when the headaches are accompanied by the other signs and symptoms of glaucoma that we are justified in making a diagnosis of that disease. In any and every case of the kind one of the first things to do is to have the patient's refraction carefully estimated and any errors corrected. It must never be forgotten that an error in refraction may be a cause of congestion of the eye, and so may be a predisposing factor in the onset of glaucoma.

You will ask me why it is that medical men consider it an axiom that sleep is good for glaucomatous patients, and how I reconcile this with the statements I have just made. The answer is simple. Glaucomatous attacks usually depend on the onset of a state of congestion of the eye; sleep quiets the whole nervous system, inclusive of its vasomotor mechanism, and so gives the eye a chance of recovering its normal condition of vascular equilibrium. On the other hand, if the channels of excretion are gradually becoming too constricted for their work, and if, in consequence, instead of being free enough to allow of the ready escape of the necessary amount of intraocular fluid they are so far constricted that they need the assistance of the pump action above outlined, the patient has reached a condition in which sleep brings a constant and steadily increasing danger. I say steadily increasing because (1) it increases more and more as the constriction

of the channels becomes aggravated with the advance of life, and (2) in any one night it increases in proportion to the length of sleep the patient indulges in. The order of events is here as follows: Cessation of the pump action; overfilling of the eye with fluid; consequent obstacle to the outflow of blood through the overstretched coat of the globe; and thus increase of intraocular pressure produced in a double manner and with the establishment of a vicious circle.

(B) *Headaches after Near Work.*

As a man advances in life small errors in refraction, which have not troubled him hitherto, give rise to symptoms, prominent among which are headache, pains in the eyes, a feeling of ocular fatigue, and increased lacrymation. The onset of presbyopia, too, takes its toll of his energy. If his refraction is carefully corrected, and suitable glasses are prescribed, and if any error in muscle balance is likewise attended to, the symptoms should pass away completely, leaving the patient once again forgetful that he even possesses eyes. If, however, the symptoms do not completely subside, and especially if the presbyopia increases more rapidly than we should normally expect it to do, we must look further afield for the cause of the trouble, and one of the many possibilities we should bear in mind should always be the occurrence of high tension in the eye. Such a suspicion should lead us to examine the fundi with great care. The presence of a glaucomatous cup would at once put us on our guard, but, even apart from this, an increase in the pulsation of the retinal vessels, especially if arterial in character, would have a marked significance for the careful observer. Increased pulsation—especially when arterial—is probably invariably the earliest sign of glaucoma, though it cannot always be elicited, owing to the fact that the increase in tension is often intermittent in character. The moral of all this is: Be suspicious of headaches in elderly patients when these persist in spite of careful correction in errors of refraction and muscle-balance.

(C) *Severe Headaches often attended by Vomiting.*

These are often taken to be due to some form of gastro-intestinal disturbance, and are then spoken of as "bilious headaches." At other times they are caused by a tumour of the brain, or by some other form of cerebral disturbance. There are many other possibilities, into which we have no time to enter. The one lesson I desire to drive home to-day is that whenever you see an elderly patient suffering from severe headache, whether accompanied by vomiting or otherwise, you should at once rank glaucoma as one of the possibilities to be considered and to be excluded if possible. Other causes of severe headache come and go, leaving the patient little the worse, except for the memory of his experience. It is far otherwise with glaucoma. The headache and the sickness are mere passing events in comparison with the appalling possibilities that loom before your patient if you leave one of these severe bouts of increased tension untreated.

You must obtain a good view of your patient's eyes and, if necessary, you must instil a 4 per cent. solution of cocaine to enable him to face the light for the purpose.

If the eye is congested, and especially if the circumcorneal zone stands out pink, as contrasted with the rest of the eye, two ideas should flash into your mind, namely, acute iritis and glaucoma. Is the pupil widely and evenly dilated? If so, the probability is that you are dealing with a case of glaucoma. But remember the possibility that a mydriatic may have been used very early for iritis. Search the anterior capsule for evidences of adherent iris pigment; and look also for any characteristic irregularity in the outline of the pupil.

Take the tension of the eye with your hand, especially in comparison with its fellow. The acute glaucomatous eye is stony hard. There are many cases of glaucoma in which the rise in tension is so small that two or more medical men may well argue whether it is present or not. No such doubt exists in these cases. The student can recognize the hard eyeball without fail.

Then look at the cornea! In the glaucomatous eye it is steamy; most unmistakably so, indeed. Its polished lustre is gone; the beautiful mirror of the eye looks as if it had been breathed upon; the details of the iris pattern are lost. At the same time we observe that the anterior chamber is abnormally shallow.

In less severe cases, where the media are still transparent, an ophthalmoscopic examination will probably show cupping of the disc. It will not necessarily do so, for, though rarely, glaucoma may make its first appearance as an acute attack, and then the disc has not had time to be depressed, but arterial pulsation will be well seen if the media are clear enough to permit examination.

It is not that there is the least difficulty in making a diagnosis. Certainly not. The trouble is that the busy practitioner may for a moment allow himself to forget that whenever he meets with severe headache of this type, glaucoma is one of the possibilities that should at once flash through his mind. Forewarned will be forearmed.

Just a word or two more on the differential diagnosis between glaucoma and acute iritis. In the latter the pupil, unless it has been artificially dilated, tends to be severely contracted; at an early stage it fills up with plastic exudate If a mydriatic has been used evidences of irregularity of outline of the pupil, or at least of pigmentary deposit on the anterior capsule, will rarely be lacking. The cornea will be clear, while the pattern of the iris will be muddy; engorged vessels will be seen to stand out on the surface of the iris; the anterior chamber will be of normal depth and not shallow, as it is in acute glaucoma.

There remain the cases in which glaucoma is secondary to iridocyclitis. The wise practitioner will hasten to share the responsibility of such with his specialist colleague at the earliest possible moment.

Loss of Sight.

This, like the headaches, may vary greatly in different patients. We shall consider the typical varieties in turn.

(A) *Gradual Loss of Sight without any Apparent Cause.*

Let me pause here to explain that when a patient comes to you complaining that his "sight is not so good as it used to be," you should not be content merely to set a Snellen type up before him and to ask him to read it down to the 6 m. line. Many a surgeon, under these conditions, will endeavour to reassure his patient, and will then send him away. Those who do so are taking grave risks, for the patient may be right and the surgeon may be wrong, despite the test that has been applied. Let me elaborate the subject. Sight does not merely consist of central visual acuity as measured by a standard card. On the contrary, there are a number of elements to be considered:

(i) *The rapid increase in presbyopia* met with in glaucoma we have already referred to; this is doubtless due to the numbing pressure exerted on the third nerve endings in the ciliary muscle, which gradually robs that structure of its contractile power.

(ii) *The visual field may gradually shrink in area*, thus robbing the patient of one of the safeguards of his daily life, whenever he is on the move amongst other people or even amongst inanimate objects. He does not realize what his trouble is, so naturally he cannot explain it to you, but he is conscious that he is more apt to run into people or things than he used to be. Using even a rough test you may learn that one or both of his fields is contracted. No apparatus is needed. You bid him stand opposite to you, and fix your right eye with his left or vice versa; at the same time you both shut the other eye, then, moving each hand in turn midway between him and you, you roughly map out his field, making your own the standard of comparison; any great contraction of the visual area will be thus easily revealed.

(iii) *The light sense may be greatly reduced.* This is a characteristic of glaucoma, though but little attention is usually paid to it. From the patient's point of view it is a matter of great importance. Print or writing no longer stands out vividly like it used to do, even in a good light, and he finds great difficulty in reading when the illumination is of poor quality. When he passes from bright light into darkness, or comparative darkness, he has great difficulty in seeing until his eyes have become dark adapted. On the other hand, when he passes from a poor light into a bright one, he is dazzled, and must wait until he can get accustomed to the glare.

(iv) *Reading test.* In spite of the fact that the patient can make out all the letters on the 6 m. line of a test

card, he may be conscious, perhaps only dimly so, that he does it more slowly, and with more difficulty, than he used to do formerly; or perhaps he may in past time have had vision well above the normal, and be dimly conscious of the change in his visual power, though he would find it difficult to express the change to a sceptical surgeon.

To sum the matter up: When a patient, who you have reason to believe is honest, thinks that his sight is failing, it is unwise to dismiss him as a *malade imaginaire*. Remember that simple glaucoma may be far advanced, with nothing to indicate its presence but what I have ventured to call "the triad of glaucoma signs"—(*a*) contraction of the visual field; (*b*) cupping of the disc, and (*c*) failure of central visual acuity. Even then the last named defect may be but poorly marked.

Differential Diagnosis.

We shall now shift our ground and assume that the gradual loss of sight has not only been complained of by the patient, but has also been recognized as a clinical fact by the doctor. What dangers still attend us? In other words, with what other conditions are we likely to confuse a chronic glaucoma? I speak from frequently repeated practical experience, when I answer: (1) Cataract, (2) refraction errors, (3) brain trouble, and (4) optic atrophy. We shall consider these in turn.

1. *Cataract.*

Not a great while ago I saw a patient who had been sent to see a specialist by her doctor. She was told she had cataract, and must wait until she was worse before she could be made better. Six months later the patient made the striking and alarming observation that her "sight was at some times much worse than at others"; her doctor found she had cupped discs; the specialist confirmed it, and I had no difficulty in agreeing. Such a mistake should not occur. A cataract can always be seen, and that quite easily, by a method which I do not think you will find in the textbooks. Put a + 10 lens behind the eyehole of your ophthalmoscope, and examine the eye (preferably with the pupil dilated) at a distance of five or six inches, moving backwards and forwards until sharp focus is obtained; every detail of the lens opacity will stand out clear to your view against the bright fundus reflex. Your diagnosis is a positive one, and is very easily made. As time goes on you will be able to follow the increase in the strokes or dots that make up the opacity. On the other hand, the cupping of the disc and, what is often more marked still, its pallor will put you on your guard against glaucoma.

2. *Refraction Errors.*

When a man finds that his sight is steadily failing, and that the careful correction of any errors present does not help him to see again, you may assume that something is wrong either with his media, or with his retina and optic nerve. Once again the diagnosis is not difficult in most cases; what is important is that the possibility of the presence of glaucoma should be borne in mind, and that the examination of the patient should be careful and on routine lines. There is a great deal of rubbish being sold the public to-day—probably more than ever in history—and medical advice must sometimes be included in the category. It is not that men—specialists as well as practitioners—cannot do good work if they choose; what is wrong is that the hurry and bustle of an aeroplane age lead many to give too little time to their cases, with the result that they do bad work. To put it on the lowest of all grounds: It does not pay. Make up your mind that you will not do it! I knew a chemist who advertised, "I cork my reputation in every bottle of medicine I send out." Try that in your practice.

3 and 4. *Brain Tumours and Optic Neuritis.*

What has just been said applies here again. Any man can use an electric ophthalmoscope; it requires no learning; any intelligent man can see an optic neuritis and distinguish it from a glaucoma.

5. *Optic Atrophy.*

Now, here we come to the one real difficulty—namely, the differential diagnosis between the various forms of optic atrophy, inclusive of that due to chronic glaucoma. If the discs are pale and the cupping is not pronounced, do not hesitate to call in expert aid. You will be wise in your own interests and kind to your patients if you do so as early as possible.

A word may be said about "tobacco amblyopia," because it is so very susceptible to satisfactory treatment. A rough test will suffice in most cases. Take a clean sheet of white paper; on it make a number of dots with black ink, and then a number of similar dots with red ink; give your patient a pencil, and bid him rapidly tick off the red dots; if he can do so without hesitation, it is most unlikely that he has tobacco trouble. If he cannot do so, and if he is an excessive smoker and has been gradually losing his sight without a recognizable cause, except possibly pallor of the outer quadrant of his disc, you may win much kudos by treating him firmly and promptly for tobacco poisoning.

(B) *Gradual Loss of Sight, with Intermittent Headaches.*

In all such cases be on the look-out for glaucoma as a possible causative factor. Do not be content to treat your patient for biliousness, or for a nerve breakdown—that blessed modern refuge of the diagnostically destitute—until you have at least thought of glaucoma and cerebral tumour. With regard to the former, as it is our subject for to-day, make a point of seeing your patient in an attack, and look for the dilated pupil, the rise in tension, the shallow chamber, and the evidences of ocular congestion that attend rises in intraocular pressure. In the intervals examine his discs and his visual fields. If you are still in doubt, get an expert opinion.

(C) *Marked Losses of Sight, clearly following Severe Attacks of Headache.*

We have already discussed this subject under the heading of "headaches," and need only now mention the possibility of the eye condition being altogether missed. If the surgeon bears the possibility of its occurrence in mind, he will not go wrong.

Entoptic Phenomena.

Photopsiae, or subjective sensations of light, are a common and early symptom of congestive glaucoma. They may take many forms, one or more of which may be described by the same patient. Thus we may hear of flashes of light, compared to summer lightning, or in the tropics to dancing fireflies; of a ball of fire that rolls across the field of vision from side to side, of sudden flash-like spots of light, or of a continuous luminous glow, which may last for seconds, minutes, or even longer. The patient may volunteer the information that he sees these phenomena most when he is tired, and that they are especially common when he is getting into bed, or has just turned out the light, or soon after he has lain down to sleep. It is to be remembered that photopsiae are seen under many conditions other than glaucoma; in fact, they are likely to appear whenever the retina is irritated, dragged upon, or in any way interfered with. Nor must we forget that similar phenomena, but of central origin, are met with in neurasthenic patients under many conditions. The moral is that such phenomena always indicate the necessity for a careful ophthalmoscopic examination, as well as for a thorough investigation of the patient's refraction, and of the state of his general health.

Rainbows Round Lights.

These are seen when anything occurs to interfere with the natural transparency of the cornea. They are best observed when the patient looks from a little distance at a bright light in the dark. At least two colours are discernible—an inner blue or violet and an outer red; a yellowish band is generally seen between them. The diameter of the halo is from 7 to 8 degrees. Sometimes the patient has to be warned to look for them before he can observe them; in other cases they are so brilliant that every tiny flickering flame in the firelight is iridescent with colours. Some patients speak of them with amused interest, whilst others are inspired by them with deep alarm. Any one of you can observe the phenomenon for yourselves by breathing on your glasses and holding them up to a bright flame or electric light. Anything which interferes with the transparency of the cornea may be productive of haloes, and these may therefore be seen in other conditions beside glaucoma. They are invariably

to be found after treating the iris with silver nitrate. They are also, though not commonly, seen in the early stages of cataract. It must not be forgotten that there are apparently healthy eyes which habitually see haloes round lights in the dark; this phenomenon is probably connected with a faulty state of the patient's refraction. Transient haloes round lights are often complained of by those who suffer from conjunctivitis associated with mucous discharge. Wiping or washing away the offending flake of mucus from in front of the cornea will abolish the symptom.

CONCLUSION.

It is not pretended that this lecture is exhaustive; it merely touches the fringe of a large subject, but it is an effort to help you, by drawing your attention to matters which may too easily be relegated to the background of your mind, with harmful results to your patient's sight and with damage to your own reputation.

NEUROLOGICAL JOTTINGS.*

BY

JAMES TAYLOR, M.A., M.D., F.R.C.P.,

PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN SQUARE; CONSULTING PHYSICIAN TO MOORFIELDS EYE HOSPITAL, AND TO THE QUEEN'S HOSPITAL FOR CHILDREN.

I WISH in these notes to direct attention to some points of interest that have come under my notice in the course of neurological work.

Complications of Epilepsy.

When I was seeing, through a long course of years, many epileptics every week at Queen Square, I was not infrequently surprised by curious developments. I remember, for example, one man, treated for many years before I saw him as a chronic epileptic. He had been attending the hospital for seventeen years, and there was nothing in his history to suggest that his case was anything more than one of chronic epilepsy. But one day he appeared at the out-patient room complaining of severe headache, and ophthalmoscopic examination revealed the presence of marked optic neuritis. He was admitted to the hospital, and died in a few weeks of a large tumour of the right hemisphere. Another case which surprised and interested me was that of a healthy looking young man, a railway signalman, who came as an out-patient one afternoon with the history that he had had an attack characterized by loss of consciousness, convulsions, and tongue biting. There was no family history of any such illness, and his personal history was uneventful. He had never had syphilis, and he had no optic neuritis. There was no doubt that the attack was of the nature of epilepsy, and naturally he could not remain at his work as a signalman. He became a barrier ticket collector, and for over four years attended the hospital regularly, and was treated with bromide. At first the attacks occurred about once a month, but they gradually disappeared under treatment. He continued to attend, and one day complained of severe headache which he said he had had for two or three weeks. He had not been subject to headaches before. I examined his eyes then (they had been carefully examined from time to time before, but nothing abnormal discovered) and I found a flaring optic neuritis in each eye. He was admitted, and a decompression operation done to relieve his headaches. He had a large growth in the left hemisphere, from which he died in a few weeks.

I could record a good many similar cases, and I feel sure my colleagues at Queen Square have had similar experiences. I suspect they are cases characteristic of a large group, and the existence of such cases shows how necessary it is not to be content with the diagnosis of "ordinary epilepsy." I remember Dr. Hughlings Jackson remarking on one occasion that there is no such thing as a case of "ordinary epilepsy," and that every case of convulsion or so-called fainting ought to be investigated most fully and carefully, and kept under observation. These cases would seem to "point the moral," but it is obvious that diagnosis of the true cause of the convulsion is in the first instance impossible.

Variability in Response to Treatment in Epilepsy.

I have frequently been struck with the variability in response to treatment of some cases of recurrent loss of consciousness with or without convulsion. One case will not be influenced by bromide until he is getting up to something like 30 grains thrice daily. It may then be found that such a patient not only remains free from attacks with such treatment, but improves greatly in general health. I have a patient I see now about twice a year who for the last seven years has taken 35 grains twice a day, and has remained well, and able to carry out responsible duties in a City office. I have another patient, a lady, who for five years has remained well although taking 30 grains thrice daily.

On the other hand, one has seen patients who, with large doses of bromide, become progressively worse, but who improved on different treatment. One little girl was brought to me at the hospital some years ago who suffered from frequent attacks, several a day, of loss of consciousness without convulsion. She was only 6, and I put her on 10 grains of bromide thrice daily. In a month I saw her again. The attacks had become more frequent. I stopped the bromide for a month and saw her again. The attacks were not so frequent as while she was taking the bromide, but as frequent as when I saw her first. I then put her on 5 minims of tincture of belladonna thrice daily and saw her again in a month. There had been no attacks during that time and she remained well. Of course, I cannot explain this. I only state the facts. I understand that a similar result not infrequently follows the administration of *Adonis vernalis*.

Another interesting point I have observed about so-called "nocturnal" epilepsy. I may say, in passing, that this is an unfortunate term and really incorrect. It would seem to indicate that in these cases the fits occur only at night, but this is not the case. It is really sleep which determines the onset of an attack, for in many of these cases of so-called nocturnal epilepsy inquiry will elicit the fact that a fit occasionally occurs during the day, but only if the patient has happened to go to sleep during the day. The point, however, which I wished to emphasize is that while bromide alone is very useful in these cases, its effect seems to be reinforced by the addition of tincture of digitalis, and 30 grains of bromide with 5 minims of tincture of digitalis taken nightly are, as a rule, effective in controlling the attacks.

Dislocation in Epilepsy.

There is one point about epilepsy which is worth remembering. As is well known, after a Jacksonian fit affecting one side and starting in the arm there is frequently temporary weakness of the affected side, usually more marked in the limb in which the convulsions started—that is to say, in the arm in such a case as I refer to. But it must also be remembered that dislocation at the shoulder-joint not infrequently occurs in the course of a convulsion. I remember one case in which one of these conditions was remembered by the observer but the other forgotten. A junior colleague of mine, in my absence on one occasion, saw my out-patients. One of them was a young man subject to occasional fits. He came up on this occasion saying that he had had a fit the previous week and found that after it he could not use his arm. There was a note made to the effect that weakness of the right arm was present, and that although the right leg was not complained of there seemed to be an exaggerated knee-jerk on that side. Obviously my colleague, who had not seen the patient before, thought he was dealing with a Jacksonian fit with weakness of the affected side following the fits. But when the patient came up the following week it was found that he had only a dislocation at the shoulder-joint, and when this was reduced the weakness cleared up.

Recurrent Attacks of Herpes.

I have been considerably interested in herpes, and one or two jottings on this disease are, I think, of interest. I rather think we were all taught that a second attack of herpes is practically unknown. I think I am right in saying that that great observer, Jonathan Hutchinson, was in the habit of telling us that second attacks of herpes did not occur. I have seen three cases which certainly controvert this. One is the case of a man whom I saw at the Moorfields Eye Hospital for some eye condition unrelated

* Part of this paper constituted the Presidential address to the Harveian Society.

to herpes, who came up one day complaining of an eruption on his neck. I told him it was an attack of "shingles"—cervical herpes—and he told me that he had had an attack on his chest some years before. On stripping him it was obvious from the marked scarring that he had had a severe attack of herpes zoster. The second case was that of a friend of mine—a medical man—whom I saw about twenty years ago with herpes frontalis. About two years ago he had another attack of herpes frontalis on the other side, and he told me that in the intervening years he had had two other attacks of herpes, one in the deltoid region and one of herpes zoster. So that this patient had had in all four separate distinct attacks of herpes, two of which I saw myself.

In a patient whom I saw with Dr. Melvill Green a few years ago—an old lady of 80—a condition was present which I have never seen before—namely, herpes of three different distributions. She had had, about two years before I saw her, not only herpes frontalis but also herpes in the deltoid region and herpes zoster. It was on account of the very severe post-herpetic pain that I was asked to see her, and the scarring in all three regions was extremely severe. The eruption in all three distributions in this case occurred at the same time. She died soon after I saw her, exhausted by the severe and intractable pain. I have also recently seen, with Dr. Robertson-Fullarton, a lady with facial herpes and severe post-herpetic pain who a year ago had an attack of herpes zoster.

This leads me to remark on another point—namely, the curious variability in the occurrence of post-herpetic pain. Such pain in children is, in my experience, practically unknown; in the majority of adults it is severe, but sometimes of comparatively short duration. In a certain number it is not only severe but persistent, and not infrequently leads to a great impairment of health. In old people especially post-herpetic pain is always fraught with a certain amount of anxiety because of the exhaustion to which the pain and consequent loss of sleep give rise. On the other hand one has met some adults, by no means young, who have experienced no pain at all after an attack of herpes.

Herpes and Chicken-pox.

A very interesting point about shingles is its relationship to chicken-pox. Of this relationship the evidence seems convincing, but its explanation is still very difficult. In the *British Journal of Dermatology and Syphilis*, October to December, 1917, there is a most interesting paper by Dr. W. P. Le Feuvre, in which he actually urges that "shingles should be recognized as an infectious disease, and one under certain unknown conditions likely to become a starting point for a chicken-pox epidemic." Reference to the possible connexion of these diseases has been made, especially in the correspondence columns of the BRITISH MEDICAL JOURNAL, and evidence in favour of it adduced. The points common to all the cases brought forward were three in number—

1. Chicken-pox in one individual followed shingles in another within the ordinary incubation period of chicken-pox—namely, twenty-one days.
2. No other source of infection was discovered; and
3. Chicken-pox in a child followed an attack of shingles in an adult.

In Dr. Le Feuvre's paper fifty cases in all are referred to. Before seeing this I myself had been struck by the curious coincident occurrence of these diseases, and I had notes of four instances. One of these—a lady with a very severe attack of herpes of the fifth nerve affecting all its branches—I saw in consultation with Dr. Woollerton. A fortnight later I was asked to see the same lady again, and the doctor asked me also to see her daughter, a young lady of 28, who had such a severe attack of chicken-pox that he had been afraid it might be small-pox. I also saw, in consultation with Dr. Haward, a patient suffering with severe neuralgia after herpes zoster. Being interested in the matter, I asked Dr. Haward if there had been any cases of chicken-pox in the house at or about the same time. He was surprised at the question, but on my explaining the reason for it, he said that three children in the house certainly had had chicken-pox, but he could not remember whether it was about the same time. He promised to look into the matter of dates, and was kind enough to write me to the effect that chicken-pox in two children in the house had appeared about a fortnight after the shingles eruption in the father. Another patient I saw in consultation with Dr. Hewetson on account of pain and actual muscular wasting following a severe attack of herpes in the deltoid region. He also was surprised at my question, but was able to tell me that two children in the house had suffered from chicken-pox within a week or two of the attack of herpes in the adult. Of course I cannot explain this curiosity. The vesicles of herpes are almost, if not quite, indistinguishable from those of chicken-pox except that in the former disease they are so often confluent. Yet one frequently sees in cases of herpes isolated vesicles in parts of the body even remote from the herpetic area—a fact which was brought to my notice some years ago by Dr. Pernet. Dr. Pernet saw with me the medical man to whose case I have already referred, who had four attacks of herpes, and this doctor's only daughter within three weeks of her father's fourth attack of herpes had an attack of chicken-pox. It is stated in the paper I have referred to that shingles may occur in an individual in the house in which chicken-pox is present, and that shingles and chicken-pox may occur coincidently in the same individual. I have not myself seen either of those occurrences, unless the isolated vesicles in remote parts of the body in cases of shingles are really vesicles of chicken-pox.

Lethargic Encephalitis.

Those of us who are working amongst neurological cases are unfortunately only too familiar in these days with cases of lethargic encephalitis. In some of them the condition is fatal, and the changes in the central nervous system now regarded as characteristic are found. In another class of cases recovery takes place, but the patients are gravely altered, and this alteration remains permanent. In most of them the condition established by the disease is practically indistinguishable from paralysis agitans, although when tremor is present it is not of the regular rhythmical type usually met with in paralysis agitans. In many, however, tremor is absent, but the stiff gait, the mask-like immobile face, the low monotonous voice, and often the everted, dribbling lip, make the resemblance to paralysis agitans very striking.

I wish, however, to call attention to what I believe are examples of this illness of a very mild type which apparently make a good recovery. I had recently under my care at Queen Square a young woman admitted on account of diplopia who on examination presented no abnormality except the presence of nystagmus and some general weakness. All the reflexes were normal, and this, of course, excluded the diagnosis first thought of—namely, disseminated sclerosis. And the history was significant; it was to the effect that a few weeks before admission she had become ill—very drowsy, but could be roused to take her food. After partaking of it she at once went to sleep again. This sleepiness had passed off before she came to the hospital. The diplopia gradually ceased to trouble her, but a little nystagmoid jerking still remained when she left the hospital. I cannot but think that this was a mild case of encephalitis lethargica.

Another case I saw in private, a young healthy man of 35 who had been working very hard for a long time. Diplopia in his case was the first trouble, and when I saw him he had obvious weakness of one sixth nerve. He had been sleeping badly. I advised his going to bed. At first his sleep was not good, then it became unusually good, and there was rise of temperature and slight delirium. When I last saw him, however, he was improving in the most satisfactory way. His father was a medical man, and I think I should have heard had there been any relapse. This also I am inclined to think was probably of the same nature, although not so definitely as the other cases I have related.

A SERIES of congresses will be held at Monaco on April 15th and following days. They include congresses of hygiene and climatology, mineral spas, and seaside resorts.

THE Council of l'Assistance Publique has drafted a scheme for the improvement and extension of the hospitals of Paris. Extensive alterations in existing hospitals are proposed in order to bring their various departments up to date, both for the treatment of patients and for clinical instruction; it is intended also to provide several new hospitals, built and equipped in the best manner.

INTRAVENOUS PROTEIN THERAPY.*

BY

A. E. GOW, M.D., F.R.C.P.,

FIRST ASSISTANT IN MEDICAL CLINIC, ST. BARTHOLOMEW'S HOSPITAL, LONDON.

By "intravenous protein therapy" is implied the intravenous injection of a "foreign" protein in the treatment of disease. A "foreign" protein is one not normally present in the tissues of man. Intravenous injection of certain proteins in certain doses gives rise to a chain of symptoms and signs to which the expressive but misleading term "protein shock" has been applied by American workers.

Various proteins have been employed, mainly in the form of bacterial emulsions, though peptone is of value in several conditions. Of bacterial emulsions, the protein complex of the coli-typhoid group of micro-organisms is more efficacious in inducing this "shock" reaction than is that of other species; and when such a reaction is desired, it is a vaccine of typhoid or colon bacilli that is most frequently employed, and the remarks immediately following apply solely to the reaction induced by that type of antigen which may be given either plain or sensitized.

Dosage.

Within fairly wide limits the size of the dose has but little effect on the severity of the reaction. Thus a higher temperature response has been experienced after an initial dose of 50 million killed *B. coli* vaccine in one patient than after 200 million of the same vaccine in another, though it must be admitted the general constitutional disturbance was greater in the latter. The initial dose for an average adult may with perfect safety lie between 50 and 100 million, though Gay,[1] in the treatment of typhoid fever, advocates 150 million sensitized typhoid vaccine as a first dose. Cecil[2] mentions that by an error in technique 400 or 500 million killed typhoid bacilli were given as a first dose to three of his patients with arthritis, yet the reaction was little, if any, more severe than that caused by smaller doses, and the therapeutic effect was no better.

In order to effect the desired result it is necessary to produce a moderate reaction. The dosage in successive injections must be progressively slightly increased so that a like train of symptoms may follow each inoculation.

Technique of the Injection.

The patient is confined to bed for twenty-four hours at least. In order to lessen as far as possible the nausea and liability to vomiting commonly met with, especially after a first injection, a mild aperient is given the evening before. A light breakfast is advisable, and the injection should be made, if possible, before midday, so that the transitory unpleasantness of the reaction may be over before night.

The requirements are: (1) Ether and wool to clean the skin. (2) A sterilized needle and syringe of 10 c.cm. capacity. (3) The vaccine containing, say, 100 million coli or typhoid bacilli per cubic centimetre. (4) Ten c.cm. of sterile warm normal saline solution. This is for diluting the vaccine, as it is more convenient if the volume of the injection measures 10 c.cm. rather than ½ or 1 c.cm., as the larger quantity is easier to handle, and the dose of protein can be given more slowly. (5) Adrenalin solution 1 in 1,000, or $\frac{1}{100}$ grain tabloids of atropin sulphate. (6) An assistant to help in filling the syringe and to constrict the patient's arm, and thus render prominent the veins in the antecubital fossa, is also desirable. Dr. R. G. Canti has designed a very simple tourniquet, easy to release, which is admirably suited for the latter purpose.

Method.—The skin over the selected vein is cleansed, and the desired dose of vaccine, whether ¼, ½, or 1 c.cm., is drawn into the syringe, and the volume made up to 10 c.cm. with normal saline. The assistant now applies the tourniquet, or constricts the upper arm, which is lying flat on the bed fully extended, and the patient is told to open and clench the fist several times until the vein on the front of the elbow becomes prominent; in some individuals the veins are more easily felt than seen. The needle of the syringe is inserted into the vein in the usual manner of vein puncture; a successful puncture is indicated by a flow of blood into the syringe. The assistant now relaxes the tourniquet (or his hold on the arm), and the injection is made very slowly; that the fluid is entering the vein and not the perivascular tissues is shown by complete absence of swelling in the region of the needle point. When the contents of the syringe have been pushed into the vein the needle is withdrawn and the arm held vertically upwards for a few minutes to prevent extravasation of blood; no dressing is required.

The Reaction.

General.—In the afebrile human subject the intravenous injection of from 50 to 100 million killed coli vaccine is followed by a very definite train of symptoms which comprise the so-called "protein shock reaction." For a period varying from three-quarters of an hour to five hours the patient will experience no abnormal sensations, but after that symptoms will appear somewhat suddenly. The earliest symptom is commonly an involuntary twitching of the muscles of the legs. This may spread to the trunk and become general without the patient at first feeling cold, and last, perhaps intermittently, for from fifteen to forty-five minutes; the onset of the rigor is occasionally preceded by a dull ache in the back or shins.

Before the shivering is finished the patient commonly has abdominal discomfort with nausea and, not infrequently, vomiting; he has headache, which is usually frontal and sometimes pronounced. In a reaction of unusual severity the patient may be restless with dyspnoea and cyanosis. Such symptoms are speedily relieved by a hypodermic injection of 0.75 c.cm. of 1 in 1,000 adrenalin or $\frac{1}{100}$ grain atropin sulphate.

As the reaction passes off, especially if it be after a second or third injection, general pains in the limbs, with cutaneous hyperaesthesia, may be complained of for a short time; yawning is frequently seen. As a rule the patient is quite free from headache and other discomfort after the seventh hour, though exceptionally facial herpes may develop two or three days later, with or without tender areas in the skin.

Just prior to the onset of the shivering the *temperature* begins to rise, and continues to do so until about the sixth hour. It commonly reaches 103° or 104° before returning to normal at the end of twenty-four hours; defervescence may be interrupted by a short secondary rise of a degree or so. With succeeding injections of increased dose the fever, though reaching an equal height, is apt to be of shorter duration, and the whole reaction is more quickly completed.

The *pulse frequency* also is increased during the reaction, and extra-systoles may occur during the rigor, and for a short time afterwards. The increase of the pulse frequency is generally of somewhat longer duration than is the raised temperature.

Blood Pressure Changes.[3]—The systolic blood pressure usually shows a fall of a few millimetres before any symptoms are evident. During the rigor I have met with a small rise on two occasions only, and that either to the preinjection figure or a few millimetres above it; more generally the fall continues for twelve hours or so, the reading then being about 20 mm. below the initial figure. The systolic blood pressure is commonly normal again after twenty-four hours. The diastolic pressure generally rises appreciably within the first half-hour. The rise may continue until the end of the rigor, but more frequently this pressure drops rapidly after the first half-hour, and may be at its lowest by the end of the second hour—perhaps a drop of 30 mm. in an hour and a half. It tends to remain at this level for twelve hours or so, but is normal again in twenty-four hours.

Cytological Changes in the Blood.[3]—The intravenous injection of *B. coli* vaccine causes an almost immediate fall in the white blood cells. Following a first injection the retreat of the polymorphonuclears from the peripheral circulation is hurried, and by the end of the first hour they may be outnumbered by the lymphocytes. A rapid increase follows the rigor, and the maximum of 20,000 to 30,000 per cubic millimetre is reached in twenty-four hours; during the leucocytosis neutrophil myelocytes frequently appear, and normoblasts have also been met with. The rise in the number of the circulating leucocytes is succeeded by a steady fall, the preinjection figure being reached in approximately seventy-two hours. Though the fall in the lymphocytes is less abrupt, it is a very striking feature of the blood picture, and of far longer duration than is the polynuclear leucopenia. It is not followed, however, by a lymphocytosis.

The intravenous injection of *peptone* must be made very slowly, or somewhat alarming symptoms may arise rapidly. When giving peptone as a 10 per cent. solution I use a very fine needle, a No. 28 or 30, and, as recommended by Nolf,[5] a nurse keeps constant observation on the pulse frequency, calling out the number of beats in each quarter of a

* An abstract of a paper read before the Hunterian Society on January 28th, 1920.

minute. If this exceeds 35 per quarter the injection is temporarily stopped.

On one occasion when giving the fourth of a series of peptone injections to a patient with streptococcus infective endocarditis, when 10 c.cm. had been given the pulse frequency suddenly increased. In successive quarter minutes the figures were 26, 26, 28, 34—injection stopped—38, 43, 36, 34, 34, 28, 26—injection restarted—28, 26, 26, and, shortly after, 22. The patient, not highly intelligent, said that during this time he felt giddy and "as though his head were going to blow open." He experienced a tickling in the throat, a stomach-ache, and he began to cough, the face became suffused and he sweated a little. The subjective disturbance lasted not more than three minutes.

These symptoms accompany, and are doubtless the outward and visible sign of, a considerable drop in blood pressure and a very rapid fall in the circulating leucocytes induced by the peptone, or primary proteose present with it in solution.

Just as the populace fled from the streets for cover in the tubes on the warning of an air raid, so on the approach of peptone do the leucocytes decamp from the peripheral circulation for the shelter of the pulmonary capillaries, and it is not until an "all clear" is sounded that they emerge from their retreat, accompanied by others, to mark the result of the invasion. With certain doses of peptone these changes take place with extreme rapidity—so much so that it is difficult to obtain accurate records of them—in a moment, in the twinkling of an eye, they are passed. And it is very surprising that in most instances they are unaccompanied by any symptoms whatever appreciable to the patient, who remains in all respects oblivious to the ferment within him. The injection of peptone may likewise be followed by a rigor an hour or so later, but I have never found peptonuria.

It is obvious from the foregoing description of the clinical symptoms and signs that are wont to follow upon the intravenous injection of certain proteins in certain doses that the reaction is in no sense a "shock" in the usually accepted surgical application of the term. Following immediately on a surgical operation, if the patient survive, three phases are commonly seen, termed respectively, "Shock," "Reaction," and "Traumatic Fever." The stage of "Shock" is characterized in the main by subnormal temperature, high pulse frequency, and lowered blood pressure. This is succeeded by "Reaction," in which there is a return of the temperature to normal and a fall in the pulse frequency. Nor does the reaction come under the heading of the so-called "Anaphylactic Shock," which is brought about in the animal body by the reinjection of a foreign protein after the lapse of a certain period of time. Following the initial or sensitizing injection the animal may become "hypersensitive" to the specific protein, so that it reacts in a peculiar fashion to a second or intoxicating dose. Such a reaction may on occasion resemble that of "protein shock" in certain important features, but it differs from it in other essentials. To avoid confusion Auld[4] has suggested "pyrogenic" as a distinguishing term for the reaction under consideration, but this also is not without objection. Fever may follow the intravenous injection of a number of substances containing no protein, and further, the clinical improvement consequent on the injection cannot be ascribed to the short bout of fever produced thereby. A cumbersome but expressive and non-committal title would be the "Intravenous Protein Reaction," and its practical application, "Intravenous Protein Therapy."

Types of Cases Benefited.

The diseases in which benefit by this form of treatment has been reported fall into four main groups:

1. Infective disease in which the causal organism is known and in which the vaccine is given intravenously both for its specific and possible "shock" effect; for example, typhoid fever, coliform infections of the urinary tract, and the septicaemias.
2. Infective disease in which the causal organism is unknown or not certainly determined. Here the protein is given solely as a non-specific factor in the treatment of the affection. This group includes rheumatic fever and multiple infective and rheumatoid arthritis.
3. Infective disease in which the causal organism is known but in which specific vaccine therapy is of little value. Here also a protein is given entirely for its shock effect; for example, pneumonia, gonorrhoeal arthritis.
4. Chronic disorders of doubtful or unknown etiology: psoriasis, pemphigus, lupus erythematosus, bronchial asthma.

In *typhoid fever* both sensitized and unsensitized typhoid vaccine has been used by several workers; Gay[1] summarizes their results, and adds 98 cases of his own, which show a mortality of 6.6 per cent. and 13 complications.

Gay states that the milder cases of the disease react better to the treatment than the more severe, but even the most severe will, in some instances at least, be benefited and even aborted. The usual dose of the initial injection was 150 million, and the dosage in successive inoculations was slightly increased in order to produce a similar reaction. He states that in typhoid fever the injection is followed in from fifteen minutes to an hour by a chill, which may last for a quarter of an hour, and is accompanied by a rise in temperature of one to three degrees, reaching its maximum within three hours and then falling, reaching normal or subnormal in about twelve hours, with sweating and usually improvement of such symptoms as headache, delirium, etc. If the temperature again rises over a period of two or three days, a slightly increased dose is given; if no striking result follows three or four injections at two or three days' interval, very little improvement from further treatment on the same lines is to be expected. The disease in one-third of the cases in his series was aborted, benefited in another third, while in the remainder it was unaffected; the liability to complications appeared to be diminished, but as a means of preventing relapses the injections are of little value.

Nolf[6] speaks highly of the value of peptone in the treatment of the typhoid fevers. He found morning injections more efficacious than those made in the afternoon, possibly because the patient was fasting, and acting on this hypothesis he is accustomed to allow his subjects nothing but water from the night before.

The reaction induced by peptone is proportional to the dose; in an adult 5 to 6 c.cm. of a 10 per cent. solution produce a rise in temperature in one to two hours lasting for several hours; 7 to 10 c.cm. have the same immediate effect, but possibly in addition a rigor followed by sweating and a rapid fall of temperature to normal. Other things being equal it seems that a complete reaction—that is, one accompanied by a marked and persistent fall in temperature—is more difficult to produce in the first ten days of typhoid than later.

Thus it would seem that in the early stages of the disease the best effects may be expected from sensitized vaccine and in the later from peptone; perhaps peptone and vaccine should be given together after the second week of the fever.

I have employed an autogenous coli vaccine intravenously in the treatment of *pyelonephritis* with good result on several occasions. One case of two months' duration in a man showed a tender swelling in the right renal region, pyrexia, and 10 per cent. of pus in the urine. After four injections the urine became free from cells and bacilli and was still sterile when last examined six months later.

A female, aged 38, was admitted to the medical clinic of St. Bartholomew's under Sir Archibald Garrod, with the history of a sudden onset of pain during, and frequency of, micturition five weeks previously, associated with haematuria and a temperature stated to have been 105°. Her right kidney was palpable and a little tender; she had red blood cells and an abundance of pus and coliform bacilli in the urine. As her condition did not clear up on alkalis and urinary antiseptics, she was given an autogenous plain vaccine intravenously. The first dose of 100 million gave rise to no abnormal sensations for five hours, but then mild shivering began, which lasted an hour, associated with slight headache and nausea; there was no abdominal pain, but some increase in frequency on micturition during the night—she was not quite comfortable again for forty-eight hours.

This reaction is mentioned in some detail as it shows that when an autogenous coliform vaccine is employed the onset of the reaction is apt to be considerably delayed in point of time. Two further injections were given to this patient at seven and five days' interval, and she was discharged free from pyuria and bacilluria.

In *pyogenic infections*, both local and general, vaccine may be administered by the intravenous route. In cases of septicaemia, using a plain or sensitized vaccine alone, it is difficult to produce a rigor; I am convinced on clinical grounds that the ultimate results are better, in really desperate streptococcal cases, when such a reaction occurs. As to the nature of a rigor I am in ignorance, but one is more likely to ensue if, in addition to the sensitized vaccine intravenously, anti-streptococcus pyogenes serum is given subcutaneously at the same time, possibly owing to the more rapid liberation of endotoxin. The improvement of the patient on such treatment may not be entirely recorded on the chart, for the general condition is bettered before the temperature falls—the dusky look is lost, the tongue moistens, the patient sleeps

and eats much better than before; indeed, in those cases which are going to respond a striking improvement in the general condition takes place in a couple of hours or so.

Local streptococcal infections are also often abated by intravenous vaccine.

A patient who had miscarried at the sixth week was admitted five days later to hospital, under Mr. Rawling, with a rapidly spreading cellulitis of both arms and the right calf and severe constitutional disturbance. Blood culture was negative. Twenty-four hours after an intravenous injection of 500×10^6 sensitized streptococcus vaccine her general condition was much improved; she had lost her pain and the redness and swelling had greatly diminished. A second dose, of 1,000 million, was given, and the inflammation in the left arm entirely disappeared, and in the right arm and leg it became localized with pus formation, which subsequently required draining.

In the febrile subject it is exceptional for the intravenous injection of streptococcus vaccine to produce a sharp rise in temperature, but in the afebrile a brisk thermal reaction may result.

A traumatic ulcer of the foot, consequent on a wound sustained in the Zeebrugge raid, which resisted subcutaneous vaccine and antiseptic treatment for five and a half months, healed rapidly after one intravenous injection of autogenous sensitized streptococcus vaccine. The dose of 100×10^6 produced a sharp reaction—shivering at the nineteenth hour and a rise of temperature which lasted for eighty hours, reaching its maximum of 104.2° at the twentieth hour.

I have given peptone intravenously in conjunction with sensitized vaccine subcutaneously in streptococcal septicaemia, and am convinced of its value in such cases. Nolf[7] maintains that intravenous injections of peptone not only check the course of streptococcal and staphylococcal septicaemias, but are also useful in severe local infections as a stimulant to the forces of defence.

In certain forms of *arthritis* great benefit may be derived from intravenous protein therapy. Here the vaccine is given entirely for a shock effect. The type of joint disease which responds best, in my experience, is the multiple infective arthritis for which no active source of primary infection or septic absorption is demonstrable. The patients are free from pyorrhoea, tonsillitis, sinusitis, chronic skin or urogenital infections, and present no other suggestion of intestinal toxaemia.

The disease syndrome comprises muscular wasting around, pain in, and deformity of, both smaller and larger joints, the main lesion being in the soft periarticular tissues rather than in the bones or cartilage, and osteophyte formation with erosion of cartilage characteristic of senile osteo-arthritis is not seen. These changes are prone to begin symmetrically in the proximal interphalangeal or other small distal joints before the larger articulations are involved. A low fever, increased pulse frequency, and slight enlargement of superficial lymphatic glands may accompany the joint changes. Albuminuria is a late development.

In such cases, provided treatment is instituted sufficiently early, I believe one is justified in saying that there is a good chance that the course of the disease may be arrested and the pain and fever abolished. In a certain proportion the periarticular swelling will be considerably reduced and the range of movement correspondingly increased, but it is obvious that when marked structural alteration has already occurred, leading to subluxation, deflection, etc., one cannot hope for complete anatomical restoration. The following are examples of those so treated by me:

A. P., male, aged 13, under the care of Dr. James Calvert. Eight months' duration; steadily progressive, involving both hands, wrists, ankles and knees, and the cervical spine. Was just able to walk with the aid of two sticks. Much pain. Evening temperature rarely above 100°, though occasionally 101° F. No albuminuria. After the fourth injection the note says, "he has lost pain in and stiffness of joints, and has abandoned his sticks when walking. Left knee can be straightened completely and the right nearly. Neck is improved. Both wrists less swollen, especially the left. Interphalangeal joints still much swollen, but swelling quite gone from ankles and very nearly from knees. No fever." Eleven injections were given altogether. He is now well, able to play football and the violin.

A. A., female, aged 29. (Dr. Morley Fletcher.) Twelve months' duration. Both hands, knees, elbows and shoulders. No albuminuria. Low irregular fever, not above 100° F. Much pain, especially at night. Given seven injections; the first of 100×10^6 T.A.B. was followed by a temperature of 104.2° F. and herpes of the lower lip. Fever and pain quickly stopped, swelling slowly disappeared, and she was able to sew and walk without pain or difficulty on her discharge.

E. J., female, aged 40. (Sir Archibald Garrod.) Seven years' duration. Both wrists, metacarpo- and inter-phalangeal joints and both knees. No fever. Four injections given. Joints stiff in morning, but not painful; much less periarticular swelling, and is able to sew. Middle finger of left hand, which was flexed, is now straight.

The next is a case in which an immediate improvement was not maintained.

Mrs. N., aged 60. Six years' duration. All joints of extremities involved. Walked with difficulty; unable to dress herself; much pain. Trace of albumin in urine. She was considerably improved for a couple of months, being quite free from pain and able to walk and dress herself without difficulty. But the latest report says the pain and swelling in the knees has returned.

In the following case the pain was relieved and the fever abated, but there was no obvious change in the swelling or deformity, and the patient remained bedridden.

A. B., female, aged 22. (Dr. Morley Fletcher.) Fourteen months' duration. All joints of extremities involved, with much flexion of knees and elbows. Low irregular fever and albuminuria. Twelve injections of T.A.B.; also given rheumatism "phylacogen" both subcutaneously and intravenously.

These cases may be supplemented by a brief summary of some of the records published by others.

Cecil[2] reports on 40 cases of rheumatic fever, acute toxic arthritis, and gonorrhoeal arthritis treated by intravenous injection of typhoid vaccine. In rheumatic fever and "non-specific" arthritis about 40 per cent. are stated to have recovered completely in two to ten days without salicylate, and most of the others were much improved. In rheumatic fever the average number of injections required was two, the dose varying from 30 to 100 million; salicylate was given if one or two doses of vaccine proved incapable of producing recovery. His seven patients with gonorrhoeal arthritis were benefited but little if at all. In one case of chronic gonorrhoeal arthritis and fibrositis marked improvement in the pain and stiffness followed the intravenous injection of a diphtheroid bacillus which I isolated from the urine after prostatic massage.

Peterson[8] records a case of "acute multiple arthritis" which received at intervals doses of typhoid vaccine intravenously on three occasions and was thereby much improved. The precise nature of the arthritis is not revealed.

Miller and Lusk[9] also report favourable results in the treatment of acute and chronic arthritis by the injection of foreign protein.

Nolf[5] considers that the addition of peptone intravenously to salicylate treatment renders the latter more efficacious in certain obstinate cases of articular rheumatism, and that peptone in association with salicylate enlarges the group of acute arthritides amenable to salicylate treatment.

Certain other acute infections have been treated, in some instances with success, by the intravenous injection of typhoid vaccine.

Squier[10] mentions two cases of influenzal pneumonia in which two transfusions with immune blood caused no reaction or change in the patients' temperature, pulse, respiration rate, or general condition, yet the injection of typhoid vaccine was followed immediately by a dramatic improvement.

Cowie and Bevan,[11] using typhoid vaccine in influenzal pneumonia, obtained no improvement in cases injected after the third day of the pneumonia, while all recovered who were so treated before the third day.

The skin lesions of psoriasis and lupus erythematosus may be relieved temporarily by injections of coli-typhoid vaccine. The condition apparently always relapses during the course of a few weeks or months.

Auld[12] has reported good results in the treatment of bronchial asthma by the intravenous injection of small doses of peptone. He states:

The cases best suited are those characterized by favourable intervals, with freedom from bronchitis and much attendant emphysema. The more recent the disease and the more regularly spaced the intervals the better the result. . . . Peptone stops the attacks over a period roughly proportionate to their former frequency. Generally speaking, the initial dose is 0.3 c.cm. of a 2 per cent. solution of Witte's peptone, increased by 0.2 c.cm. every fifth day until six injections have been given. Three or four more injections are to be given, employing in each the same dose as that given in the sixth injection. No reaction appreciable to the patient occurs. No injection is to be given during attacks, and when the latter occur at long intervals begin the treatment about three weeks before one is expected.

While I believe intravenous protein therapy to be of great value in certain carefully selected cases—more particularly of arthritis, the septicaemias, and coliform infections—I do most emphatically say that it is not a panacea for all ills; and even in those diseases in which it is of

use it is to be regarded solely as an accessory weapon in our armament for employment in conjunction with, not to the displacement of, other remedies.

I wish to express my thanks to those members of the staff of St. Bartholomew's who have allowed me to refer to patients who have been in their charge.

REFERENCES.

[1] Gay, *Typhoid Fever*, New York, 1918. [2] Cecil, Report on Forty Cases of Acute Arthritis treated by Intravenous Injection of Foreign Protein, *Arch. Int. Med.*, 1917, xx, 951. [3] Gow, Certain Phenomena Associated with Protein Shock Reaction, *Quart. Journ. Med.*, Oxford, xiii, 49, 82. [4] Auld, Pyrogenic Therapy, BRITISH MEDICAL JOURNAL, 1918, i, 195. [5] Nolf, *Presse Médicale*, liii. 485. [6] Nolf, Ibid., 1919, ii, 93. [7] Nolf, *Ambulance de l'Océan*, 1917, i, 197. [8] Peterson, Protein Shock Therapy, *Arch. Int. Med.*, Chicago, 1917, xx, 716. [9] Miller and Lusk, Foreign Protein in the Treatment of Arthritis, *Journ. Amer. Med. Assoc.*, 1916, lxvi, 1756. [10] Squier, *Michigan Med. Soc. Journ.*, 18, 6, 328. [11] Cowie and Bevan, *Journ. Amer. Med. Assoc.*, lxxii, 16, 1117. [12] Auld, BRITISH MEDICAL JOURNAL, July 20th, 1918.

THE POISON OF THE SPINY DOG-FISH.

A CASE OF ACUTE OEDEMA THE RESULT OF A PRICK BY A DOG-FISH, AND A PRELIMINARY NOTE ON THE POISON GLAND OF THE SPINY DOG-FISH.

BY

H. MUIR EVANS, M.D.LOND.

TOWARDS the end of October, 1919, a fisherman came up to the Lowestoft Hospital complaining of a poisoned hand. There was a punctured wound at the base of the thumb

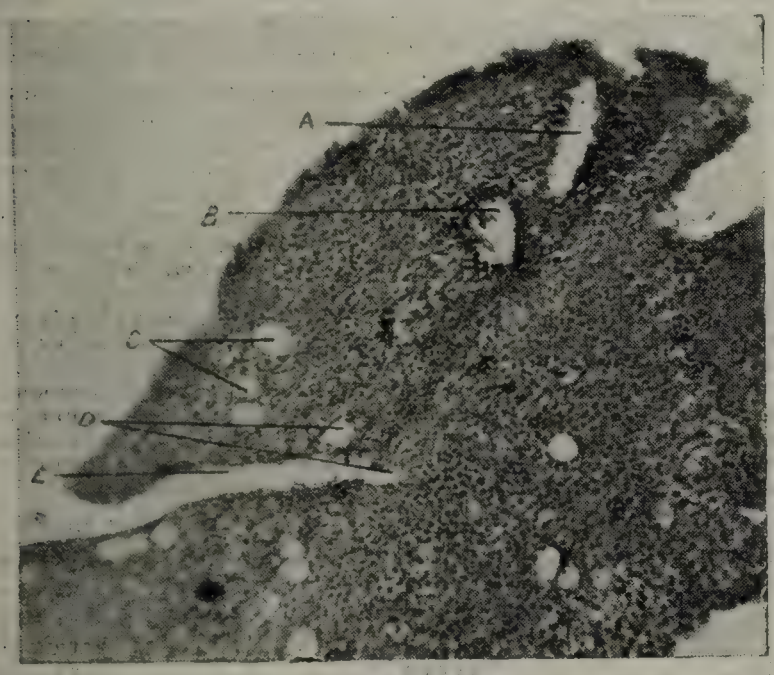


FIG. 1.—Section of gland showing ducts and vacuoles. A, Duct cut obliquely. B, Duct cut transversely. C, Vacuoles. D, Vacuoles bursting into inner end of duct. E, Duct. (From a micro-photograph by Dr. D. Hutchinson of a section by the author.)

six hours previously he had been pricked by a dog-fish. The injury was followed by acute stabbing pain in the part which lasted four or five hours; the hand then began to swell, and when he arrived at the hospital there was great swelling and oedema of the back of the hand, and the front of the wrist and forearm were painful, tender, red, and oedematous.

This acute inflammatory oedema lasted for four days and for a time it seemed that suppuration would occur. On the fifth day the oedema at the back of the hand had subsided, but it was not until seven days had elapsed that the tenderness and swelling over the wrist had disappeared and the patient was convalescent.

The treatment adopted was to paint the hand and the front of the wrist and forearm with liniment and solution of iodine in equal parts and to apply hot fomentations.

Owing to the length of time that had elapsed since the injury no special treatment was applied to the wound; if the case had been seen earlier a weak solution of potassium permanganate would have been injected into the site of the puncture, as this is known to have an immediate effect on the pain and symptoms of poisoning in cases of the sting from the envenomed spines of the greater and lesser weever.

As this was the first case of injury by a dog-fish that had occurred in my experience, I was anxious to investigate the nature of the poison if any existed, and for this purpose I obtained a number of fresh spines, which at that time could be easily obtained from the steam trawlers which were landing large catches of dog-fish.

The Spines and Poison Gland of the Spiny Dog-fish or Spur-dog, Acanthias vulgaris (Gray, *Cat. British Museum*).

This, the commonest dog-fish, also known as the picked dog-fish, under which name it is described and pictured by Couch,[2] has a sharp, strong spine in front of each of the two dorsal fins. The usual length of the fish is from 18 in. to 2 ft.



Spiny dog-fish. After Cunningham.

The accompanying sketch is taken from Cunningham's *Marketable Marine Fishes*,[1] and shows diagrammatically the position of the two dorsal spines.

The anterior spine is the longer, is slightly curved, and measures an inch or more in length, while the posterior is nearly straight, and is shorter—from half an inch to three-eighths of an inch in length. The posterior aspect of each spine is grooved, the groove becoming more shallow towards the point.

When examined with the naked eye, each groove is seen

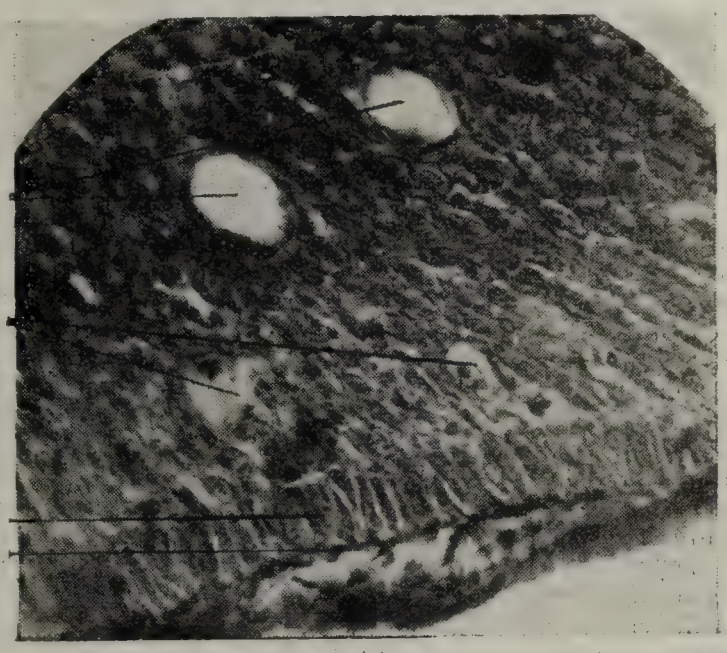


FIG. 2.—Section of gland showing basement membrane and columnar cells. A, Vacuoles. B, Commencing formation of vacuoles. C, Columnar cells. D, Basement membrane. (From a photograph by Dr. D. Hutchinson of a section by the author.)

to be occupied by a glistening, pearly-white substance, and towards the base there may be seen in its centre a small linear depression about one-sixteenth of an inch long, which is often discoloured, possibly by the presence of a secretion poured out by the glandular structure in the centre of which it lies.

This pearly-white structure was removed from the groove and teased on a slide; the teased gland showed follicles in which layers of epithelial cells could be demonstrated surrounding a central mass of cells and granular matter staining by the van Gieson method, just as does the secretion of the weever's poison gland. Small detached portions showed columnar cells against a basement membrane, and upon them layers upon layers of round and cubical cells, some vacuolated, and some distended with granular matter in which the nuclei alone were distinguishable.

I have cut a series of sections of the hardened gland, the details of which I hope to publish elsewhere. The gland consists of a number of follicles which discharge their contents into the groove. It commences at the junction of fin and groove, and here it is partially enclosed in a chitinous framework; it gradually becomes smaller and finer as the tip of the spine is approached, to the apex of which it does not reach for a variable distance, usually about one-eighth of an inch or more.

I have at present no experiments to publish on the nature of the secretion, but it seems a justifiable conclusion to attribute the acute pain and inflammatory oedema, the result of the prick by the spine, to some venom produced by this remarkable glandular structure lying in the groove.

As far as I am aware there is no previous description, in the literature of fish with poison organs, of a poison gland in Acanthias. Dr. Tate Regan, of the British Museum of

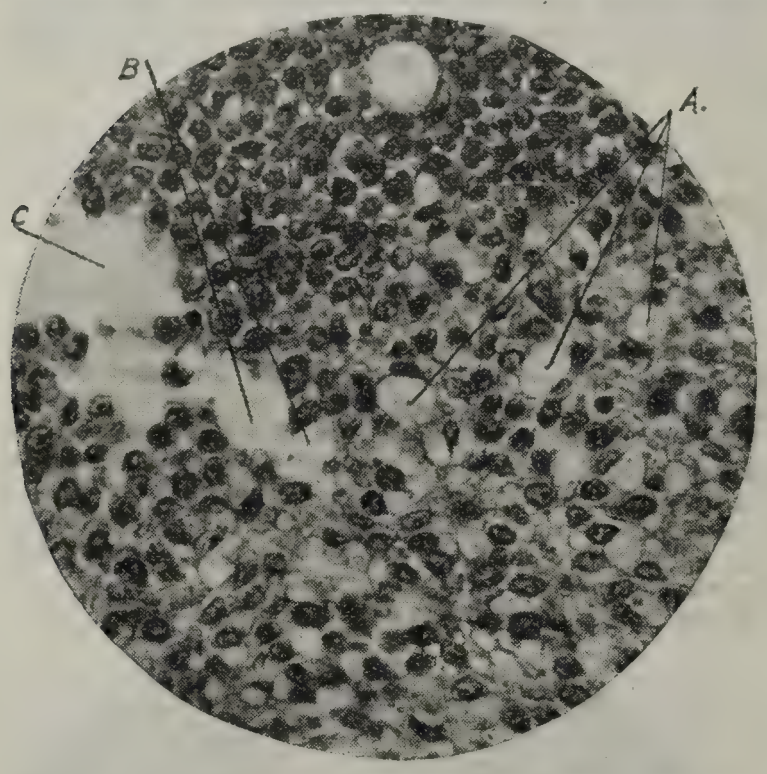


FIG. 3.—Section of gland stained with haemalum and counterstained by van Gieson method. A, Vacuoles. B, Vacuoles bursting into commencement of duct. C, Duct.

Natural History, kindly referred to such sources of reference as were unavailable to me, and to him my thanks are due for always extending ready help and advice to those engaged in research.

Description of the Gland.

The histological appearances of the gland lying in the grooved spine of the spur-dog are as follows: The two low-power microphotographs show the general structure, and the high-power the changes in the cells which take place during secretion. That portion of the gland lying deepest in the groove consists of cylindrical cells on a basement membrane. Superficial to these cells are several layers of round cells the nuclei of which stain



FIG. 4.—Section showing root of fin where it joins the base of spine (semi-diagrammatic). A, Gland dipping into recesses formed by (B) chitinous processes at base of fin. (The spine is not shown as the base of the fin is cut off where it joins the groove.) C, Large pigment cells. D, Connective tissue joining chitinous processes to (E) cartilage of the fin.

readily with haemalum, and in some areas the nuclei show marked evidence of activity, as exemplified by the presence of mitotic figures. Well-marked ducts dip into the substance of the gland, around which the cells become definitely flattened. These three types of cell are obviously transition forms of the same cell. In the neighbourhood of the duct areas are seen in which the cells are breaking down or disintegrating so as to give rise to a sponge-like appearance, and in these areas are also seen round lacunae in which phantoms of pale cells may be distinguished, and in one section one can see one of these lacunae bursting into the apex of a duct into which it is apparently discharging its contents.

If my observations are confirmed, the dog-fish adds one more to the examples of fish with poison organs, in the ranks of which the sting-ray has so recently found a place after centuries of scientific doubt.[3]

REFERENCES.

[1] Cunningham: *Marketable Marine Fishes.* [2] Couch: *Fishes of British Islands*, vol. i. [3] Evans: *Transactions* of Zoological Society of London, 1916.

METASTATIC STAPHYLOCOCCAL INFECTION OF THE KIDNEY.

BY

H. R. SOUPER, M.A., M.B., CH.B.ABERD.,

TEMPORARY CAPTAIN R.A.M.C.,

SPECIAL MILITARY SURGICAL HOSPITAL, NEWCASTLE-UPON-TYNE.

AN account of the following case may be of interest as illustrating infection of the kidney following upon operative interference with an infected wound of the forearm, the difficulty of making an early and accurate diagnosis of the condition, and the success of treatment by an autogenous vaccine.

A pensioner, aged 32, had undergone amputation through the lower third of the right thigh, and had an old gunshot wound of the left forearm, with an ununited fracture of the ulna in its upper third. He was wounded in both these situations on November 10th, 1917, in France, and the leg had been amputated at the casualty clearing station within a day or two of his wound; the forearm was cleaned and splinted. The subsequent history of the thigh is that it was reamputated and sutured at a general hospital in France on December 8th, 1917, and an abscess of the stump drained in January, 1918. An artificial limb was supplied in May, 1918, and the stump had not given any further trouble.

The fractured left forearm was put in good position, and the wound sutured in January, 1918, at a hospital in England; though the wound apparently healed at this time, the ulna remained ununited, and for this disability he was admitted as a pensioner to the Special Military Surgical Section of the 1st Northern General Hospital on December 19th, 1918.

On February 5th, 1919, the ends of the ulna were freshened and the bone plated; the wound subsequently became septic. In the beginning of May the patient came under my care, and, as a sinus was still present in the forearm leading down to the site of operation, and *x*-ray examination showed that union of the bone was apparently proceeding satisfactorily, I operated on May 6th, excised the sinus completely, removed the screws and plate, applied bipp to the wound, and closed it completely without drainage.

The wound healed by first intention, and has given no trouble since; but on the evening of May 19th the temperature, which had been normal since the third day after operation, rose to 100° and continued to rise in "step-ladder" fashion till, on the evening of May 23rd, it reached 104.4°. This pyrexia was accompanied by malaise, slight vomiting, vague pain in the bladder region, frequency of micturition, and strangury; the patient stated that on May 19th he had "passed a few drops of blood with the urine," but, as this specimen was not saved, the statement could not be confirmed. Though he felt "shivery" there was never any actual rigor. No abnormal physical signs could be detected in any system, and he was put on light diet and a simple diaphoretic mixture.

Naked-eye and chemical examination of the urine revealed no abnormality; but on May 23rd a trace of albumin and some pus were present, and on the following day a specimen was taken for bacteriological examination. Hexamine, gr. x thrice a day, with large quantities of fluid, was then prescribed. No abnormal physical sign was detected till, on May 26th, he complained of pain in the left loin, and bimanual palpation of the left kidney region elicited marked tenderness, though no tumour could be made out. The laboratory report received on May 27th stated: "Few red corpuscles and a fair number of pus cells present; no tubercle bacilli or *B. coli* detected; *Staphylococcus pyogenes aureus* present."

The diagnosis of acute metastatic pyelonephritis could now be made. A second specimen of urine was sent to the bacteriologist for the preparation of an autogenous vaccine.

Meantime the temperature had been gradually falling since May 26th, reaching 99° or 100° in the morning, but rising to 102° to 103° in the evening; and on May 29th the daily range settled down to between 99° and 100°. The second laboratory report was identical with the first, except that pus was present in greater quantity; and, pending the preparation of the autogenous vaccine, I gave 125 million of a stock staphylococcal vaccine on June 3rd; this produced a slight general reaction; no reaction followed 250 million given on June 7th and 500 million on June 11th.

The patient's general condition meantime was still unsatisfactory; he was anaemic and very weak, suffered from profuse sweats, loss of appetite, and vomiting after practically every meal. The hexamine was discontinued on June 11th, as it was thought that it might be the cause of the vomiting. Kidney tenderness was still present, but no tumour or enlargement of the organ could be made out.

The sickness improved, but recurred on June 16th, when a mixture containing bismuth and soda with nux vomica was ordered. On this day also the administration of the autogenous vaccine was started, 250 million being given; only a slight general reaction followed (evening rise of temperature to 100°). The pyrexia had altogether subsided by June 20th, but culture of the urine still revealed the presence of staphylococci; the general condition showed signs of slow improvement. The autogenous vaccine was continued at weekly intervals, in gradually increasing doses, till a dose of 1,000 million was reached on July 28th, and repeated on August 2nd; the vaccine treatment was then discontinued.

As on June 28th patient still complained of left lumbar pain, and the sickness had disappeared, he was again ordered hexamine gr. x, with acid sodium phosphate gr. xv. This was continued till the end of July, when the patient had completely recovered, and was able on August 6th to begin work in the curative workshops of the hospital.

Since that date the renal symptoms have not recurred; the urine has remained free from pus. The left ulna has firmly united and the patient has full use of the forearm.

Although the diagnosis of this condition was for some days very difficult, I think there can be no doubt, in view of the laboratory findings and the few physical signs which eventually developed, that the diagnosis finally reached was correct. During the later period of the patient's illness it was of interest to note the correspondence which started in the *Lancet* of June 7th, 1919, and continued for the three following weeks, on "Epidemic perinephric suppuration"; and in some ways this case resembled cases instanced in that correspondence. But, as in the cases of perinephric abscess, it was stated that it is rare to find pus in the urine, and as in my case there was no evidence of any abscess in the loin, that diagnosis could almost certainly be ruled out; and the symptoms and signs of my case were practically identical with those of acute haematogenous pyelonephritis described by Thomson Walker in Choyce's *System of Surgery*. The primary focus of infection was undoubtedly the sepsis in the forearm, and the metastasis followed operation on this site. But it is remarkable that the pyelonephritis should have followed only after the second operation, and that, by the time the pyelonephritis developed, the primary focus, never clinically of great intensity, had cleared up. Horder, in the correspondence referred to, states that "the point of primary infection may be easily overlooked" (apparently owing to its slight character) in cases of perinephric abscess, so that staphylococcal metastasis in or around the kidney is known to arise from a primary focus so slight that its discovery may require careful investigation. Pasteur, in the same correspondence, states that "staphylococcal infection of this type (*S. aureus*) never seems to give rise to staphylococcal septicaemia." Though there was no evidence of septicaemia in my case, it is unfortunate that cultural examination of the blood was not made when the pyelonephritis developed, nor of the pus from the forearm at the time of operation. A blood count might also have been of assistance in the diagnosis.

Finally, it is interesting to note how well the condition cleared up on treatment with an autogenous vaccine. Thomson Walker (*loc. cit.*) states that such treatment is suitable only for chronic cases, but in this acute case it answered remarkably well. Herringham (*Kidney Diseases*, p. 302) describes a case of acute pyelonephritis due to a coliform bacillus (which, he states, is the commonest causal organism of such conditions) treated by an autogenous vaccine which produced gradual improvement; but three months after the onset there was still a slight amount of pus in the urine, and a considerable number of bacilli; so that the patient could not be considered cured. The cases, however, are scarcely analogous, and there is no doubt that in this staphylococcal case the vaccine treatment produced a complete cure.

I have to thank my Commanding Officer, Lieut.-Colonel D. Wells Patterson, O.B.E., R.A.M.C.(T.), for permission to publish this case; and Dr. P. C. W. Laws, bacteriologist to this hospital, for the bacteriological investigations, and the preparation of the vaccine.

PROFESSOR AUGUST BIER has addressed a memorandum to the Prussian authorities pointing out that as the abolition of compulsory military service robs the growing generation of beneficial physical training, compulsory physical training for all young men should be enforced, beginning, if possible, in early boyhood. He advocates the inclusion of physical exercises by the University of Berlin as a compulsory subject.

VOLVULUS OF THE CAECUM: DOUBLE OBSTRUCTION.

BY

R. ECCLES SMITH, O.B.E., M.B., F.R.C.S.,

SURGEON TO THE BARRY HOSPITAL.

IN view of the recent article by Sir Arbuthnot Lane[1] on the evolution of disease, I think the following case worthy of note by reason of its rarity, the unusual way in which it was produced (only fully recognized at autopsy), the surprising condition of obstruction of the small and large bowel at two distinct sites, and the associated atypical gastric symptoms over a period of years.

Lieutenant R.N.R., aged 33, gave a history which was a little meagre owing to his general condition. For a period of some years he had had attacks of "indigestion," never sufficient to cause him to report sick. Associated with this was a marked intestinal stasis and obstinacy of the bowels; pain and discomfort after meals, with occasional vomiting, were quite common features. One night he was suddenly seized with acute abdominal pain, at first spasmodic and later continuous, with vomiting of everything taken. He was transferred to me twenty hours after the onset of the attack.

Condition on Admission.

He was in extreme pain, with all the symptoms and signs of an acute abdominal catastrophe. The abdomen was full, rigid, distended, and tender. Fluid in the flanks and the complete absence of liver dullness suggested, in view of the prior gastric symptoms, perforation of a viscus. The bowels had been relaxed prior to the sudden onset of the acute pain.

The vomit on arrival was not faecal, but consisted of stagnant stomach contents. The temperature was 100°, the pulse 120 to 130, feeble and thready.

Operation.

A right paramedian incision was made in the epigastrium. The stomach and duodenum were found to be normal. The incision was enlarged downwards, and a large black balloon emerged from the abdomen. This consisted of the much distended caecum and ascending colon, which were turned over towards the middle line as on a hinge at the inner border, forming a definite volvulus. The transverse colon was empty, the small gut was moderately distended. The hepatic flexure, being obviously the seat of obstruction, was explored. There was an acute "kink," and on the inner side of the "kink" a mass, first thought to be malignant, but on section found to be a calcareous gland outside the lumen of the gut. Further exploration and interference being impossible, a Paul's tube was tied into the caecum, the contents of the colon drained, and the abdomen closed.

After-Treatment and Result.

The colon drained freely, and the patient's general condition improved for the first twenty-four hours. The liver dullness returned immediately. Then symptoms of further obstruction came on, the abdomen became distended, vomiting returned and became faecal. In spite of all treatment the patient died forty-eight hours after operation.

Post-mortem Examination.

The caecum and ascending colon were completely deflated. The caecum was very mobile, and had a definite mesentery. The small gut was distended in its entirety, a condition not present at the operation.

The hepatic flexure was a potential tube by virtue of the pull from outside at the site of the gland noted, rather than by any organic obstruction. From the calcareous gland there stretched a thick, organized adhesion passing across and adherent to the anterior leaf of the mesentery, and fixed firmly to the ileum about two inches from the ileo-caecal valve. At this point the small gut was acutely kinked in a similar manner to that at the hepatic flexure. All other organs were apparently normal.

There is no doubt that the original lesion in this case was a tuberculous affection of the mesenteric glands leading to a strong adhesion between the hepatic flexure and the last two inches of the ileum. The early stages of this were noted in the atypical gastric symptoms due to an ileal "kink" and obstruction to the ileal efflux, so often mentioned in the literature. Some indiscretion of diet, followed by decomposition of the contents of the caecum produced a "balloon" of this viscus, which, being mobile, rose up, turned on a hinge and became a volvulus, producing further obstruction at the already kinked hepatic flexure.

Relief of this obstruction and the replacing of the caecum away from the ileum brought into force the second kink—that in the ileum from which ensued the intestinal obstruction. I think that this was not a paralytic distension of gut, but originated from the ileal obstruction.

---

[1] *Lancet*, December, 1919.

THE USE OF IMMUNIZED BLOOD DONORS IN THE TREATMENT OF PYOGENIC INFECTIONS BY WHOLE BLOOD TRANSFUSION.

BY

H. J. B. FRY, M.D.OXON.,
CAPTAIN R.A.M.C.(T.F.).

SEVERE septicaemia, generally of streptococcal origin, was a wound complication which was only too frequent and fatal during the war.

The usually desperate condition of such cases and their high mortality made an urgent appeal for attempts at a cure, and almost any method which promised success worthy of trial. The marked benefit attendant upon whole blood transfusions which were being performed in large numbers in No. 8 General Hospital in the summer of 1918, suggested the use of immunized blood donors for transfusion in cases of septicaemia and chronic wound infections.

The large number of transfusions and the wide field for selection of blood donors afforded by numerous light duty patients gave an unusually favourable opportunity for a trial of the method. This so-called "vaccination" transfusion had been tried by Ransom Hooker[1] in five cases of staphylococcal septicaemia, three of which recovered. A successful result had been reported by Heyd[2] in a case of endocarditis with a positive *Streptococcus viridans* blood culture, and McClure and Dunn[3] had experienced satisfactory results with cases of typhoid fever.

The hypothetical advantages envisaged in the present series by the use of this method were:

1. The antibacterial mass action obtained by the use of a large volume of immune serum—for example, 900 c.cm. as against the 20 to 40 c.cm. of antistreptococcal serum usually employed.
2. A "protein shock therapy" on a considerable scale, and the use of a homologous serum.
3. The possible "sensitizing" of the patient towards a vaccine by means of the immune serum, the same vaccine being used for the patient as was employed for the production of immunity in the blood donor.
4. The replacement of red blood cells in the circulation of the patient instead of those broken down by the haemolytic activity of streptococci, thus directly combating the anaemia caused by the infection.

Methods Employed.

1. *Blood donors* were light duty patients. All those selected were volunteers, who fully understood what was necessary and performed their part with enthusiasm. Their age varied from 20 to 36. Their medical history was investigated, and only those free from malaria and trench fever or any recent infectious disease were taken. Wassermann reactions were done in all cases and were negative in all the donors selected.

2. *Blood matching* was performed by the method of Lee.[4] For donors only men of Class IV (universal donors) were taken. The blood of the recipients was similarly tested before transfusion to determine their class.

3. The *vaccine* employed for the immunization of the donors was a polyvalent one prepared as follows:

Purity of culture of the various strains having been determined by broth and agar cultures, the strains were inoculated into 5 c.cm. broth containing 1 c.cm. fresh sterile human serum. They were incubated at 37° C. for twenty-four hours, in which time sufficient growth was usually obtained. The tubes were centrifuged at high speed and the supernatant fluid was pipetted off and 5 c.cm. sterile saline added. The emulsion was well shaken and allowed to stand a quarter of an hour to permit large particles to sediment. Upper layers of fluid were taken for the vaccine, which was sterilized by cold in the ice chest, with the addition of 0.1 c.cm. of 1 in 20 carbolic acid for each 1 c.cm. of vaccine. The vaccine was then incubated twenty-four hours, tested for sterility, and diluted to required strength. The vaccine was estimated by Wright's method or in the counting chamber.

Strains of streptococci from the following series were employed for vaccines, together with one strain of staphylococcus:

Series 1:
1. Fatal streptococcal infection in a case of cerebro-spinal fever.
2. Wound of knee-joint. Pure culture from fluid from joint.
3. Wound of knee-joint. Pure culture from pus from joint.
4. Fatal septicaemia following gunshot wounds. Blood culture.
5. *Staphylococcus aureus* from case of furunculosis.

Series 2:
1. Streptococcal septicaemia following gunshot wounds. Blood culture.
2. Gunshot wound of knee. Pure culture from pus from joint.
3. Fatal streptococcal septicaemia. Blood culture.
4. Gunshot wound of chest. Isolated from haemothorax.
5. Gunshot wound of leg and fatal septicaemia. Isolated from thrombus in femoral vein and by blood culture.
6. Gunshot wound of chest. Isolated from haemothorax.

TABLE I.—*Bacteriology of Strains Employed.*

	Lactose.	Cane Sugar.	Salicin.	Mannite.	Inulin.	Litmus Milk. Acid.	Litmus Milk. Clot.	Length of Chain.	Haemolysis.
Series 1:									
1	+	+	+	+		+	0	Medium	+
2	+	+	−	−	−	+	0	Short	−
3	+	+	−	+	−	+	+	Short	−
4	+	+	−	−	−	+	0	Medium	+
Series 2:									
1	+		−	+		+	0	Short	+
2	+		−	+		+	0	Short	−
3	+		−	−		+	0	Medium	+
4	+		−	+		+	0	Medium	−
5	+		−	−		+	0	Medium	+
6	+		−	+		+	+	Medium	−

Strength of Vaccine.—Series 1: 60 million streptococci and 105 million *Staphylococcus aureus* per 1 c.cm. Series 2: 120 million streptococci per 1 c.cm.

Dosage.

The total number of injections given to each donor was on the average 6, the greatest number being 9 and the least 3, the injections being given at intervals of five days. The amount of the final dose was on the average 120–150 million streptococci and 400 million staphylococci where a mixed vaccine was used. The period of immunization was about one month or more. None of the donors were the worse for the administration of the vaccines and some appeared to be benefited. The lapse of time between the last dose of vaccine and the giving of blood was on an average five days, but varied from one to thirty-one days, according to the exigency of circumstances.

Determination of Immunity.

The necessity was felt of an accurate method for rapidly determining the changes in the immunity reaction, both in the donors in response to the vaccine, and in the patient before and after the transfusions and during the course of the treatment. Complement fixation tests were not practicable. Various other methods were tried, such as estimates of the haemophagocytic index and increase in the agglutinins in the serum. No sufficiently accurate results were however obtained, and the attempt was abandoned. In this respect the investigation is lacking in accurate data. Ransom Hooker (loc. cit.) states the want of a method for determining the immunity response under these conditions.

Transfusion was in all cases performed by means of the Kimpton paraffined tube with the usual technique. The amount of blood transfused was generally 900 c.cm., but varied from 450 c.cm. upwards.

The total number of cases treated by transfusion with the blood of immunized donors was nine, of which six were acute septicaemia and three severe suppurative wounds of the thigh.

Following is an account of the cases mentioned in Table II.

A. ACUTE INFECTIONS.

CASE 1.—*Septicaemia: Haemolytic Streptococcus: Complete Recovery.*

Lieut. W., aged 22; gunshot wound of chest and right arm, July 23rd, 1918.

Admitted July 25th. Condition: Wounds very foul; temperature high. Wounds opened up and damaged muscle cut away. Fractured right humerus above surgical neck. Large foreign body removed from under right pectoralis major. Axillary and brachial vessels and nerves exposed for about three

TABLE II.—*Analysis of Cases.*

Class of Case.	Bacteriology (Blood Culture).	Result.
A. *Acute Infections.*		
1. Septicaemia	Haemolytic streptococcus	Complete recovery.
2. Septicaemia	Ditto	Died.
3. Septicaemia	Ditto	Died.
4. Septicaemia	Ditto	Died.
5. Septicaemia	Ditto	Died.
6. Septicaemia	Staphylococcus	Died.
B. *Chronic Infections.*		
7. Acute suppurative arthritis of right knee-joint: gunshot wounds of leg	Pus from joint; streptococcus—pure culture	Rapid recovery.
8. Chronic suppurative wounds of left thigh: fractured femur	Pus from wounds; mixed streptococcci and staphylococci	Rapid recovery.
9. Wound of right buttock: fractured neck of femur	—	Rapid recovery.

Mortality of streptococcal cases (Cases 1–5) = 80 per cent.; of all cases of septicaemia (Cases 1–6) = 83.5 per cent.

inches. Wounds packed with Dakin's gauze. July 25th to August 8th: Temperature 100° to 102°. Thrombosis left femoral artery. On August 9th there was secondary haemorrhage from third part of right axillary artery; rapidly controlled and vessel tied.

Transfused; ordinary donor, Class IV, amount 600 c.cm. August 11th: Temperature 105° F. and remaining high. August 15th: Conscious but drowsy; pale and anaemic, tremulous and twitching, occasional delirium. Left thigh very swollen. Blood culture positive—haemolytic streptococcus, medium length of chains. Blood group, Class IV.

August 18th: Apparently moribund, delirious, twitching, Hippocratic facies, sordes on lips. The following day transfused, immunized donor, Class IV, 600 c.cm. The donor had received five injections—highest dose 90 million streptococci, 150 million staphylococci; blood donation eleven days after last injection. August 20th: Slept quietly after transfusion, conscious on waking, tremor and twitching absent, colour improved, appetite improved. August 22nd: Condition again becoming unsatisfactory; marked tremor, drowsy, semi-conscious, incontinence of urine and faeces.

August 23rd: Transfused; immunized donor, Class IV, 800 c.cm. The donor received five injections—highest dose 90 million streptococci, 150 million staphylococci; blood donation fifteen days after last injection.

August 24th: Result of transfusion again very good; slept well, delirium and tremor absent, appetite returned. Satisfactory condition maintained on August 26th, but on the following day his condition was again grave; temperature high, unconscious and delirious; marked oedema of left ankle and leg from thrombosis of vessels.

August 28th: Transfused; immunized donor, Class IV, 900 c.cm. The donor had received six injections—highest dose 120 million streptococci; blood donation two days after last injection. Result again excellent; slept well, consciousness recovered, free from twitching, good appetite. His condition still good on August 31st, when an autogenous vaccine was given.

September 3rd: Thrombosis of left femoral vein extending; veins prominent on abdomen, great oedema of left thigh and leg. September 5th: General condition improved; drowsy, but quite conscious; autogenous vaccine. On the 9th he had a rigor, but general condition was satisfactory. On the 13th he was better, temperature remaining on lower level; autogenous vaccine.

September 16th: Autogenous vaccine. Condition improved; thigh softer and less swollen. September 21st: Condition unchanged; autogenous vaccine.

September 27th: Thrombosis of right femoral vein and swelling of right leg and groin; abscess in right arm evacuated and drained. Autogenous vaccine was injected on this date and again on October 3rd. On the 4th a large abscess of the left thigh was evacuated and drained; the right leg and foot were swollen from thrombosis of the right femoral vein.

Autogenous vaccine was injected on October 7th and 12th, when the patient's condition was much improved. A blood culture taken four days later proved sterile. October 17th: Autogenous vaccine; condition still improving. The temperature was normal on the 19th, and on the 22nd the last dose of vaccine was given. On November 1st the drainage tubes were removed from the right arm, and two days later he was evacuated to the United Kingdom, the temperature having been normal since October 19th; pulse about 100.

Subsequent history, 1919: Alive and well and walking with the aid of a stick.

CASE 2.—*Streptococcal Septicaemia: Death.*

Pte. T.; gunshot wound of thigh, compound fracture of left femur, October 18th, 1918. Injured portion of left femoral artery ligatured and excised at casualty clearing station.

Admitted October 28th with gangrene of left foot, suppurating fracture of left femur, and acute bilateral bronchitis. Amputation; bipp; sutured. The same day secondary haemorrhage occurred, and the left common femoral was tied. Transfusion 900 c.cm. from ordinary donor. A blood culture on November 1st resulted in the growth of a haemolytic streptococcus. Blood group, Class IV.

November 2nd: Temperature 104°–105°, rapid respiration, tremor, muttering delirium. Transfused 900 c.cm. from immunized donor, Class IV. The donor had received eight injections—highest 150 million streptococci, 160 million staphylococci; blood donation three days after last injection. On the following day the patient died in coma.

Autopsy.—Thin blood-stained oedema below subcutaneous tissue near wound of thigh. Left ilio-psoas muscle soft and oedematous. Spleen enlarged (17 oz.) and contained recent infarcts. Parenchyma necrotic. Liver large, with pin-point multiple abscesses. Lungs: Subserous petechiae, nodular abscesses along posterior borders from which *B. welchii* was isolated. The pleural and pericardial cavities contained blood-stained fluid.

CASE 3.—*Streptococcal Septicaemia: Death.*

Pte. B.; gunshot wound of thigh, October 13th, 1918; fractured left femur.

Admitted October 16th. Temperature 99° to 101°. Wounds apparently clean; bipp and suture above knee. On October 28th the wounds were broken down; temperature 102° to 104°. Three days later metastatic abscess of hand opened; urine contained albumin, blood, and granular casts. A blood culture, on November 2nd, produced a growth of a haemolytic streptococcus. Blood group, Class IV.

November 3rd: Drowsy, semi-delirious, twitching; urine scanty, casts numerous. Transfused (800 c.cm.) from immunized donor, Class IV. The donor had received seven injections—highest 150 million streptococci, 160 million staphylococci; blood donation four days after last injection. The following day the patient's condition very bad—tremulous, respiration rapid.

On November 5th he was again transfused (900 c.cm.); immunized donor, Class IV. The donor had received seven injections—highest 150 million streptococci, 360 million staphylococci; blood donation one day after last dose. The patient died two days later.

Autopsy.—The left pleural cavity contained 20 oz. of turbid fluid. Left lung collapsed; bronchitis both lungs. The heart showed an old fibrous nodular vegetation on the mitral valve. Kidneys showed a chronic mixed nephritis with cysts and a calcareous patch in the left kidney. The spleen showed interstitial haemorrhages.

CASE 4.—*Streptococcal Septicaemia: Death.*

Pte. P.; gunshot wound of right knee, fractured left femur, September 30th, 1918.

Admitted October 10th with single suppurating anterior wound of left thigh; oblique fracture of middle third of left femur in fair position. Wound of right knee partly sutured, partly packed with flavine gauze; bipp. Left leg, Carrel's tubes and bent Thomas's splint.

On October 26th posterior drainage to left thigh. On the 28th the temperature rose rapidly to 104° and remained high; pulse rate 160. On November 6th blood culture resulted in the growth of a haemolytic streptococcus. Blood group, Class IV. Condition very grave—pallid, semi-conscious, sordes on lips, dry furred tongue; very tremulous and unable to speak; wounds clean. The following day he was bled 500 c.cm. and then transfused (immunized donor, Class IV), receiving 900 c.cm. The donor had received seven injections—highest dose 150 million streptococci, 360 million staphylococci; blood donation three days after last dose. The next day the temperature was a little lower, but his condition still very bad; semi-conscious and unable to speak.

On November 10th the temperature rose to 106°; pulse 160. The patient died on the 11th.

Autopsy.—Turbid fluid in right pleural cavity, blood-stained fluid in left. Lungs showed tuberculous, caseous and cicatricial, foci at apices; recent small infarct at base of left lower lobe. Spleen soft and friable.

CASE 5.—*Streptococcal Septicaemia: Death.*

Capt. L., aged 22; gunshot wound of right leg, November 1st, 1918. Vessels tied; supracondylar amputation right thigh.

Admitted November 5th; temperature 101°, pulse 86. The next day the stump was cleaned with spirit and flavine; delayed primary suture. On the 7th the temperature rose to 104°, pulse 120; stump clean. Blood culture showed growth of a haemolytic streptococcus. Blood group, Class IV.

On November 13th his condition was fair: conscious, not tremulous, no marked pallor. Temperature 103°, pulse 120; stump clean. The following day he was bled 200 c.cm. and then transfused; immunized donor Class IV. The donor had received eight injections—highest dose 150 million streptococci, 400 million staphylococci; blood donation four days after last injection. Patient slept well after the transfusion, but there was no marked improvement.

November 16th: Pleural effusion at base of right lung; fluid from right pleural cavity gave pure culture of a streptococcus with same fermentation reactions as were given by the organism obtained by blood culture. On the 17th he was given a polyvalent vaccine—the same as was used for immunizing donor. The next day there was a marked fall of temperature, and his condition showed great improvement. On the 19th the tempera-

ture was normal, respiration more rapid but easy; slept well. On the 20th, temperature rising, respiration rapid; left-sided parotitis. Vaccine given. The next day he was delirious and very restless; respiration increased. On the 22nd he was better—conscious, parotitis diminishing, no cough or pain in chest. On the 24th the respiration was rapid and rather laboured; 300 c.cm. purulent fluid removed from right side of chest. The patient died the next day.

Autopsy.—Left pleural cavity contained 60 oz. of purulent fluid; right 30 oz. Lungs collapsed; some small abscesses with bronchopneumonia at base of right lung; three small infarcts at base of left lung. Spleen large, soft and friable.

CASE 6.—*Staphylococcal Septicaemia: Death.*

Lce.-Cpl. F., aged 21; gunshot penetrating wound of right chest, August 1st, 1918.

Admitted August 5th with basal pleurisy of left side of chest. *X* rays showed foreign body on left side under left dome of diaphragm; no haemothorax. Entry wound right side of chest. Temperature 102° to 104.2°.

On August 28th abscess of liver drained along track of foreign body; about 4 oz. of purulent fluid in cavity. On September 2nd patient was semi-delirious, emaciated and pale; temperature 102° to 104°, pulse 130. Blood culture gave a growth of *Staphylococcus pyogenes* in pure culture. On September 5th he was transfused (900 c.cm.) from immunized donor, Class IV. The donor had received seven injections—highest dose 155 million staphylococci, 150 million streptococci; blood donation five days after last injection. The next day patient's condition was still bad; semi-conscious. He died on September 7th.

Autopsy.—Fragment of metal (weight 9 grams) lying in gastro-splenic omentum; partly closed suppurating track through liver. Spleen much enlarged through pressure on splenic vessels. Pylephlebitis. Semi-purulent fluid in right ventricle; recent vegetations on auricular surface of cusps of tricuspid valve; *Staphlococcus pyogenes* isolated from heart blood of left ventricle.

B. CHRONIC INFECTIONS.

CASE 7.—*Suppurative Arthritis (Streptococcal): Rapid Recovery.*

Pte. K., aged 20; gunshot wound of right knee and multiple wounds, July 7th, 1918. Foreign body removed from external condyle of right femur; joint not involved; bipp.

Admitted July 7th with suppurative arthritis of right knee-joint. Joint laid open and drained; leg oedematous below right knee. Temperature 104°; drowsy. Pus from joint gave pure culture of streptococcus. Blood group, Class IV.

On July 12th he was transfused (450 c.cm.) from immunized donor, Class IV. The donor had received five injections—highest dose 90 million streptococci, 150 staphylococci; blood donation five days after last injection. Two days later patient's condition satisfactory; autogenous vaccine given. On July 18th the temperature was normal; condition improved; wounds very clean and healthy. On the 19th autogenous vaccine again given. Two days later abscess in calf opened. On July 31st the wounds were healing rapidly; general condition good, temperature normal; vaccine discontinued.

CASE 8.—*Chronic Suppuration (Wound Sinus): Mixed Infection: Rapid Recovery.*

Pte. P., aged 20; gunshot wound of left thigh, August 23rd, 1918. Perforating shell wound above left knee-joint; compound fracture of femur. Wounds freely excised; Carrel's tubes and gauze packs.

Admitted August 25th. Wounds appeared clean; completely closed by delayed primary suture. On September 17th one large loose fragment of bone was removed; backward, displaced lower fragment of femur suspended by silver wire loop.

October 28th: Sutured wounds broken down ten days after suture. Large open sinuses discharging profuse thick greenish pus. Patient very pale, anaemic, and rather emaciated. Blood culture sterile. Pus from wound yielded streptococci, medium length chains, and staphylococci. The following day he was transfused (900 c.cm.) from immunized donor, Class IV. The donor had received nine injections—highest dose 150 million streptococci, 250 million staphylococci; blood donation twenty-six days after last injection. The transfusion was followed by a sharp rise of temperature, which immediately returned to normal. Patient looked and felt better.

On November 2nd a polyvalent mixed vaccine was given, similar to that used for immunizing donors; no marked reaction. On the 5th, sinus in thigh opened up. On the 7th, polyvalent mixed vaccine again given; temperature down to normal. On the 10th the discharge from sinuses was much less. Polyvalent mixed vaccine was again given on the 12th and 17th, when the condition was much improved. The last dose of vaccine was given on the 22nd, when the wounds were very clean and discharge slight; temperature normal.

CASE 9.—*Chronic Suppuration (Wound Sinus): Mixed Infection; Rapid Recovery.*

Lieut. L., aged 29; gunshot wound of right buttock, November 1st, 1918.

Admitted November 7th with penetrating wound of right buttock and right inguinal region; bulging of right buttock. On the 13th the posterior wound was discharging thick greenish pus. *X* rays showed fracture of right acetabulum. Posterior wound incised; cavity granulating; fragments of bone removed and bare bone felt. Two days later wound enlarged obliquely down and inwards; fairly large infected cavity; posterior half of wound sewn up; bipp and gauze packs.

On December 14th *x* rays showed necrosis of head of right femur. Temperature swinging. Head of right femur excised; through drainage established. On December 24th the patient looked anaemic and thin; temperature 102°. Blood culture sterile. Transfused (900 c.cm.) from immunized donor, Class IV. The donor had received five injections—highest dose 120 million streptococci, 480 million staphylococci; blood donation twenty-four days after last injection. The next day the temperature was lower and patient's condition satisfactory. He continued to improve. On December 31st he was again transfused (900 c.cm.) from a donor of the same class as before who had received five injections—highest dose 120 million streptococci, 960 million staphylococci; blood donation thirty-one days after last injection. The patient was evacuated to England on January 8th, 1919; colour good and general condition much improved: temperature 98° to 100° F.

DISCUSSION.

A superficial examination of the above results obtained by the use of immunized donors in septicaemia suggests that the method is not of any value. If, however, the case and *post-mortem* reports are analysed it will be noted that in all except two cases the conditions of the patients were absolutely hopeless before the transfusions, and that they were, indeed, practically moribund. In the first case, which appeared equally desperate, a completely successful result was, however, achieved, a result which alone was worth the trouble of immunization, and justified the trial of the method. Without personal knowledge of the case a just estimate of the result obtained in this instance can hardly be conveyed. In the previous experience of none of the observers of the case has a patient in such a condition recovered.

It is true that cases of septicaemia due to infection by haemolytic streptococci may recover by their own powers, as in one case investigated by the writer which had no special treatment; but the patient in this instance never presented very grave symptoms. In all except two instances the method was adopted as a last resort, too late for any hope of success.

Some details of technique suggest themselves as a result of the trial of this method. The treatment should be commenced as early as possible. Donors of the same group as the patient are probably to be preferred.

The transfusion should be done very slowly to prevent a sudden overfilling of the venous system with a consequent transudation into the serous cavities. Such transudations might be rapidly converted into purulent fluids owing to the presence of circulating pyogenic organisms. For this reason, prior to the transfusion, bleeding the patient is, perhaps, advisable if his condition permits.

Care should be taken to guard against the formation of small clots during the transfusion in order to prevent the formation of septic emboli.

The cases of chronic suppurative infections of wounds which were treated by this method all made a rapid and satisfactory recovery.

Precise evidence as to the value of the treatment in these conditions is lacking, but the fact remains that the patients were in a stationary and chronic condition before the adoption of the method, and that the wound surfaces appeared to become rapidly more healthy, to heal quickly, and the discharge to diminish after the treatment had been instituted.

The use of the method in civil practice may be rather limited by the difficulty in obtaining suitable donors. It seems worthy of further trial and may prove of value in the treatment of malignant endocarditis, acute and chronic suppurative bone or joint infections, or puerperal septicaemia.

I am indebted to Lieut.-Colonel S. G. Butler, D.S.O., R.A.M.C., for permission to use the notes of these cases, and desire to emphasize my acknowledgements to Major Taylor, R.A.M.C., Officer in Charge Surgical Division, and to the surgeons to whose skill and care the success in the treatment of certain of these cases was largely due.

REFERENCES.

[1] Ransom Hooker, *Ann. of Surg.*, vol. lxvi, 1917, November, p. 513. [2] Heyd, quoted by L. B. Robertson, *Lancet*, 1918, i, p. 761. [3] McClure and Dunn, *Bull. Johns Hopkins Hosp.*, xxviii, 1917, p. 99. [4] Lee, BRITISH MEDICAL JOURNAL, 1917, ii, p. 586.

THE FUNCTIONAL CONNEXION BETWEEN THE REPRODUCTIVE ORGANS AND OTHER GLANDS OF INTERNAL SECRETION.

BY

EVELYN E. HEWER, M.Sc.,

LECTURER IN HISTOLOGY AT THE LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

It has been shown previously that there is some definite connexion in white rats between the thymus gland and the gonads, more particularly in the male. In animals where a condition of hyperthymism had been established, there was found to be marked degeneration of gonads in the male, and sterility in the female; or—if the animal were young—delayed sexual development.[1] Further experiments, with *x* rays, failed to show that any very marked influence is exerted by the thymus directly on the gonads, but irradiation of the testes or ovaries determined hypertrophy of the thymus.[2] At the same time changes in the pancreas and suprarenal glands were usually observed, and it was to follow up the connexion between the suprarenal glands, pancreas, thymus, and gonads, that the present series of experiments was begun.

In the series previously reported it was thought that some of the changes observed in the female might have been due to the influence of pregnancy rather than to an indirect action of *x* rays through the ovaries. Consequently material has been collected from a large series of pregnant rats at various stages of pregnancy, and the results, it is hoped, will shortly be published.

At the same time a series of experiments was begun to investigate directly the functional connexion said to exist between the suprarenal cortex and the gonads. Owing to the difficulty of obtaining fresh material for feeding experiments, inoculation with various preparations of suprarenal cortex was tried. Full details of the preparations, method of experiment, and findings will be published later, but it was thought that the following preliminary note might be of interest. White rats only have been used up to the present.

Results.

1. In nearly every case the hair began to come out, although the coat was usually very fine and glossy. In a few cases, however, with young animals, the hair came out so much that the whole coat looked quite ragged.

2. The animals appeared to be perfectly healthy. There have been a very few exceptions, where the inoculations were pushed.

3. *Thymus.*—Macroscopically, no constant variation has yet been found. Microscopically, the whole gland appears unusually vascular, but otherwise normal.

4. *Pancreas.*—Hypertrophy of the islets of Langerhans has been observed, but is inconstant. Since the distribution and size of the islets varies so much in normal animals, further investigation of this point must be carried out before it will be possible to arrive at any conclusion.

5. *Suprarenals.*—The gland does not appear to be altered in size. Histologically the medulla is normal. The cortex, particularly the zona reticularis, is unusually vascular. Large spaces have been seen in the zona glomerulosa between the cells, the spaces containing blood and débris. Signs of disintegration are present in the two outer layers of the cortex.

6. *Testes.*—Very marked degeneration has been obtained. The degree of disintegration appears to depend on the duration of treatment, and the stages so far observed are exactly similar to the degenerative changes previously obtained under the action of *x* rays in graduated doses.

7. *Spleen and Liver.*—Normal.

The material from the female rats has not yet been examined microscopically.

In another series of experiments feeding the animals with desiccated suprarenal cortex brought about some change in the rate of growth.

If the feeding was begun at the age of about 4½ weeks, the rate of increase of weight was less, both in males and females, than in the controls. On the other hand, if the feeding was begun either earlier (at 3 to 3½ weeks) or later (at 5½ weeks), the rate of increase of weight was markedly greater in both males and females than in the controls.

The possibility of breeding from these treated animals and the microscopic examination of the glands is still under investigation.

The expenses of this research are being defrayed by a grant from the Royal Society.

REFERENCES.

[1] *Journ. of Phys.*, xlvii, 6, 1914. [2] Ibid., l, 7, 1916.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

APPENDICECTOMY.

THE ileo-inguinal incision described by Mr. Whitelocke,[1] like the oblique inguinal incision of McBurney, may prove quite successful in uncomplicated cases of appendicitis, but very few surgeons nowadays would, I am sure, like to pin their faith to a definite diagnosis of an uncomplicated appendicitis. In fact, the mimicry of appendicitis by many different pathological conditions is so great that it is sound surgery to adopt an incision which will enable the surgeon to deal not only with a diseased appendix, but also with any accompanying pathological lesion which may be present.

Mr. Whitelocke seems to emphasize the fact that the ileo-inguinal incision will prevent the occurrence of hernia, but surely the well-tried incision of Battle—where the rectus muscle is left intact—is much to be preferred, seeing that the occurrence of hernia after Battle's incision is relatively very uncommon, even after appendicectomy for suppurative appendicitis. Through the same incision also any complication can be dealt with at the same operation, and thus prevent the surgeon from performing an incomplete operation.

I recently had under my care at the Victoria Hospital, Keighley, three patients who well showed the advantages of Battle's incision. In each case the doctor sent the patient to hospital with a diagnosis of acute suppurative appendicitis, but in the first case there was a well marked gangrenous appendix firmly adherent to an ovarian dermoid cyst with torsion of its pedicle. The second was a gangrenous appendix adherent to a pyosalpinx, and the third a gangrenous appendix adherent to the bladder. In each case I am convinced that the complete surgical treatment required would have been quite unsatisfactorily performed by the ilio-inguinal incision.

Another patient, a young lady aged 22 years, was operated upon by me at a nursing home for what was clinically an ordinary recurrent appendicitis. My diagnosis in this case was confirmed before operation by a very eminent surgeon. At the time of operation the appendix showed the ordinary signs of chronic inflammation with two faecal concretions in its lumen. Having used Battle's incision, I examined the other abdominal organs, and found a shrunken gall bladder full of stones. By extending the original incision upwards I also performed cholecystectomy. In this way the patient was in all probability saved the necessity for a further operation at a later date.

Similar experiences are common to every surgeon, so that, unless we have more certain evidence for the diagnosis of a definite uncomplicated appendicitis, surgeons will, I have no doubt, prefer to use an incision with a much wider application than that afforded by the ilio-inguinal one suggested by Mr. Whitelocke.

H. STEWART BRANDER, M.A., M.D., Ch.B.,
Honorary Surgeon, Victoria Hospital, Keighley.

ACUTE OEDEMA OF THE LUNGS.

THE cases described in recent issues under the title "Acute suffocative catarrh," especially those of Dr. Anderson and Dr. Gale, appear to me to be identical with the disease called "acute oedema of the lungs," of which a description is to be found in the latest edition of Osler's *Practice of Medicine*.

Some years ago I had the opportunity of observing the following case: A man, aged 57, previously strong and healthy, was awakened about midnight by a feeling of suffocation. Almost immediately after large quantities of

[1] BRITISH MEDICAL JOURNAL, February 14th, 1920. p. 211.

frothy watery fluid poured from his mouth and nostrils; there was no evidence of blood in the fluid. The complexion was extremely pallid and the skin was cold and clammy; dyspnoea was intense. In spite of all assistance the patient died in about a quarter of an hour.

About four years ago I read for the first time Dr. Langdon Brown's *Physiological Principles in Treatment.* In the notes upon the condition termed "acute oedema of the lungs" I at once recognized the diagnosis of my case.

The condition has been explained upon a theory that the left side of the heart, for some reason or other, fails, whilst the right side continues to work as usual. In this way it is presumed that the lungs become engorged, so that the fluid contents of the blood are forced into the air spaces, thus accounting for the great amount of frothy watery expectoration which is so noticeable a feature in these cases.

I must confess that, to me at any rate, this theory is not satisfactory. In the entire absence of past evidence, why should the heart be constantly the first organ called upon to afford an explanation for so many cases of death which may be difficult otherwise to account for?

In urticaria following food poisoning, and in so-called angioneurotic oedema no person would call immediately upon the heart for an explanation of the oedema. I fail to see why the lungs should not be the site of the oedema in some of the cases. Such an occurrence would account fully for the rapidity of onset and the usual early fatal termination which seems to be so frequent in the cases recorded.

One point which the correspondence on the subject has brought out is, that the disease is probably more common than it is usually thought to be.

The very nature of the cases necessitates their falling into the care of general practitioners much more frequently than hospitals. Upon this point of view, however, Sir James Mackenzie, in his address on "Clinical Research," dwells much more eloquently than I can. "I saw," he states, "that I must look for assistance to those who had undergone experiences similar to my own, and it is for this reason that I seek the help of the general practitioner."

STEWART MCNAUGHTON, M.D.Edin., D.P.H.Camb.,
Honorary Physician, Monkwearmouth Hospital, Sunderland.

TREATMENT OF THE RUNNING EAR.

I HAVE just received the JOURNAL of August 23rd, 1919, and read "Efficient treatment of the chronic running ear," by Mr. A. J. Wright, F.R.C.S., of Bristol, and I feel bound to ask certain questions and state my own experiences:

1. When does Mr. Wright consider a discharge from an ear chronic? On reading his letter I am not clear whether he has not mixed up chronic cases with long-lasting acute cases.
2. Does Mr. Wright seriously wish us to believe that syringing ears is modern treatment, and that syringing will "prevent stagnation of discharge in the middle ear"? How does the lotion get into the recesses of the middle ear?
3. Does Mr. Wright deny that the antrum is, in a great number of cases, the cause of the persistence of the discharge? If he do not, how can syringing affect the antrum?

I agree most heartily that greater care should be given to the treatment and the treatment carried out at least twice daily, and that by a specialist who knows every move in the game. I disagree most strongly with the use of hydrogen peroxide and syringing. Both, in my opinion, do harm. If the doctor have patience, he should sit down and carefully sponge out the discharge, using Politzer's bag to expel gently what is in the middle ear, and leave the meatus and membrana dry. Painting with ether—despite its stinging, which I warn my patients about—or alcohol will harden the skin and prevent or cure external otitis, which is so common, and obviate softening and proliferation of the epithelium of the membranes.

What I complain about is that the acute discharges are not attended to properly. I agree with many otologists that if the acute discharges last more than ten days without showing signs of clearing up, or if the temperature remains elevated and accompanied with middle-ear or mastoid pain, the mastoid should be opened up. This has been my practice and I can truthfully say that the results have been excellent, the perforation closing and excellent hearing resulting.

But I cannot understand the bringing about of cessation of chronic discharges in two to three weeks. I have secured that with profuse acute discharges. In my opinion chronic discharges are due to three things chiefly: first, to infections of the Eustachian tubes and nasopharynx; secondly, to infection of one or more of the mucous spaces in the attic, with bone trouble among the ossicles; and thirdly, infections of the antrum, including the lining and bone. In the case of Eustachian trouble cure may be looked for, but the nose and throat must receive attention—a point not mentioned in Mr. Wright's letter. In the other two instances I agree with Mr. Adair Dighton that nothing short of a mastoid operation will cure most of these cases, as I believe that the majority have bone infection at bottom.

If Mr. Wright can persuade specialists to give more personal attention to these cases, and not to leave them to house men or inexperienced persons, he will benefit humanity.

I am sorry I cannot agree with his statements. My simple mastoid operations, numbering about 200, show easily 75 per cent. of cessation of discharge and healing of the perforation with excellent hearing.

Christchurch, N.Z. T. A. MACGIBBON, M.D.

Reports of Societies.

ALCOHOL AS A THERAPEUTIC AGENT.

AT a meeting of the Therapeutical Section of the Royal Society of Medicine on February 17th, Dr. H. H. DALE presiding, a discussion took place on the value of alcohol as a therapeutic agent.

Dr. DALE said that many such discussions had been complicated by the intrusion of views on the common use of alcohol. It ought to be possible to hold strong opinions as to the value or the danger of alcohol in daily life without committing oneself to the admission or rejection of it in therapeutics. The known actions of alcohol might be divided into those of a food and those of a drug. Beyond dispute alcohol could be used by the body as a source of energy. There were limitations to the power of the body to use alcohol in this way, but there was no longer any room for doubt that the body could oxidize considerable amounts. As a source of energy alcohol had certain peculiarities. Like dextrose alone among ordinary constituents of diet, it required no digestion; it could be rapidly and completely absorbed, and it was not susceptible to fermentation by yeasts and bacteria. The mere value of alcohol as an emergency food, therefore, should give it a place in rational therapeutics. One very specialized type of treatment in which alcohol was used purely for the supply of energy was during the preliminary period of starvation which introduced the modern treatment of diabetes. As for the use of alcohol in convalescent diet, when they had once dismissed as quite unsupported by evidence the traditional notion crediting alcohol with a specific effect on metabolism or a special body-building power, they were left to individual opinions that would be coloured by the relative importance attached to the immediate comfort of the patient on the one hand, and the danger of habit-formation on the other. It was still a debatable question how alcohol influenced respiration. The good effects might be attributed not to direct action on the respiratory centre, but to such indirect actions as the lessening of an excessive reflex excitability; in so far as alcohol could restore a quiet, deep breathing, it ought to be of value. Among the several conditions which were probably confused under the vague expression "shock" it might be expected that those in which inhibitions were predominant would get some benefit from alcohol; in others, in which a toxaemia causing peripheral stagnation in the blood was the predominant factor, there seemed no likelihood of alcohol doing good. It would not be without value if the Section registered a protest against what he held to be the superstitious view that alcohol was a sort of specific against infection, influenza in particular. There was no evidence for a specific prophylactic action of any kind. Alcohol was a mild sedative and narcotic, and a superficial vaso-dilator. On the lines of these demonstrated actions he believed that such therapeutic value as it possessed could be explained, and its inclusion in the pharmacopoeia could be defended. The value of alcohol in therapeutics had, however, been discounted by its indiscriminate and unreasonable use.

Clinical Experience.

Sir WILLIAM HALE-WHITE said that therapeutically it seemed to him alcohol was of great value as a food, for example, in the anorexia and vomiting met with in phthisis or cancer. It must not be given, of course, in functional anorexia or vomiting, because such patients were just those who would form an alcohol habit; but in an acute fever when anorexia and vomiting or indigestion were present, and therefore limited the food which the patient could take in, alcohol was an admirable food, requiring no digestion. Being easily absorbed it had the inestimable advantage of making the patient feel comfortable and sending him to sleep. The disadvantage was that occasionally headache followed, and in some cases sleep was not obtained. On the whole, however, in acute fevers, where the patient could not take food well, alcohol was beneficial, and had no deleterious effects. In convalescence it often did much good. The patient just recovering from a severe illness or an attack of influenza or diarrhoea often felt better for a glass of wine with his meals. His digestion was left weak, and he described himself as "all on edge," which, translated into physiological language, meant that all sorts of peripheral stimuli were worrying him as they would not were he in health. A glass of wine would lull these peripheral stimuli without doing any appreciable harm; the patient would feel better and more comfortable. Personally he had never known the alcohol habit contracted through taking alcohol during convalescence in the way he had described. Its therapeutic action on the circulation was difficult to estimate, save in the simple case of strongly concentrated alcohol given during fainting, when the alcohol seemed to act reflexly. When he entered the profession large amounts of alcohol were given in pneumonia. To-day most cases received no alcohol, but he was unaware that the outlook in pneumonia was better. He was not convinced, from watching many patients, that it did any grievous harm, but he was convinced that most patients suffering from pneumonia could do very well without it. The effect of alcohol on the respiratory centre did not appear to him to be of very much clinical significance. The chief effect of alcohol therapeutically was as a pleasant depressant, particularly efficacious in inhibiting peripheral impulses, such as a pain here and a discomfort there, and diminishing the trifling worries that bothered the sick. In small doses it was useful for the convalescent; in larger doses it was useful for the patient acutely ill; in larger doses still it had the advantage of making the patient sleep. But in all these discussions they were faced with two difficulties—the one that it by no means followed that the effect of a drug in health was the same as in disease, while its effect in disease was often very difficult to estimate; the other, that no person, whether acutely ill or convalescent, was ever given pure alcohol and water. Perhaps the other bodies present in wines and spirits had their actions; certainly there was a widespread belief that brandy was the best form of alcohol in diarrhoea, just as the glass of wine was acceptable to those with tired digestions, and there was a firm belief among the laity, and among some doctors, that old brandy was more efficacious than new.

Alcohol a Food?

Dr. E. MELLANBY, after relating some observations on dogs, said it was proved that alcohol could supply up to 40 per cent. of the total energy of the human body lost in the course of the day; but it differed from other foodstuffs in that its rate of combustion was independent of the amount of alcohol in the body (in order to get the maximum food value out of alcohol it was only necessary to give small quantities). It had no specific dynamic action, no stimulating effect on metabolism, it did not increase the amount of energy available at any particular moment (if only alcohol were given to a starving man there would be no increased production of heat in his body); its rate of oxidation was independent of all other metabolizing processes; and, finally, if it was desired to use alcohol as a source of muscular energy, this could only be done with relatively small amounts. He did not think it was clear that any substance which was only a source of energy was of any value at all to the body, and he doubted whether it could justifiably be called a foodstuff.

Dr. R. HUTCHISON claimed that therapeutically alcohol should be considered as a food; if it was a sparer of protein and fat, that was just the kind of action which was wanted in acute fevers. It was agreed that alcohol was a digestive stimulant; many people took food better with a certain amount of alcohol than without. With a tired stomach a glass of wine was a direct aid to digestion, and this was valuable in convalescence. Alcohol was also of clinical use in dilating the superficial blood vessels. With people who had been exposed to cold and ran the risk of congestion of their internal organs, alcohol undoubtedly did good, and the same was true in rigor and during an acute attack of angina pectoris. The main difference of opinion would come in with the question whether alcohol could be regarded clinically as a heart stimulant in acute illness. If alcohol had no direct stimulating effect, might not the heart benefit from the indirect effect upon the patient as a whole, whereby mental calm and sleep were promoted?

Dr. W. H. WILLCOX dealt simply with the use of alcohol as a therapeutic remedy in the form of vapour when combined with oxygen. He was convinced that the value of this combination was considerable in cases where there was cardiac failure. The desirable percentage of alcohol in vapour was from 3 to 5. The use of brandy or whisky was of little value because it gave such low percentages. He did not suggest that this mixture of alcohol vapour and oxygen had any physiological action on the normal person, but there was no question of its markedly beneficial effect in profound cardiac failure associated with various severe diseases.

Dr. LANGDON BROWN said that the four definite points on which alcohol might be regarded as having real therapeutic action were (1) in the fasting treatment of diabetes; (2) in convalescence, in promoting a flow of gastric juice; (3) in the occasional removal of temporary inhibitions of a troublesome kind; (4) in pneumonia, in which alcohol was combined in administration with oxygen.

Dr. ESTHER HARDING said that in the treatment of children alcohol was useful in certain definite respects. Small doses were useful in bronchopneumonia in infants and young children. In the form of brandy alcohol was an efficient sedative drug in the case of young children. Alcohol was also of use in some cases of marasmus, when a child could not take milk; its digestion could be started and got back through whey and other foods to milk again. Great care, of course, had to be exercised because of the effect of alcohol on the liver in small children.

Dr. O. LEYTON described a case of diabetes mellitus in which he gave alcohol with useful results during the period of alimentary rest. Professor W. E. DIXON, in a brief comment on the discussion, said that two points of disagreement had made an impression on him—the one, as to the possible stimulating action of alcohol on the heart; the other, as to the definition of a food. He thought it was quibbling with the question to say, as Dr. Mellanby had said, that alcohol was not a food, though it could be a sparer of other foods. Dr. C. F. HARFORD thought that the discussion had shown that the profession was only on the threshold in its study of the subject. He laid stress upon the fact which had been brought out that alcohol was naturally a narcotic and not a stimulant.

Dr. DALE, in closing, confessed himself still unconverted as to the directly stimulating action of alcohol on the heart. With regard to Dr. Harford's emphasis on the newly elucidated fact that alcohol was purely a narcotic, he reminded him that from the point of view of therapeutics—he was not talking of common life—there was no inherent desirability in a stimulant action and no inherent drawback in a narcotic action.

ANAESTHESIA IN THROAT OPERATIONS.

A MEETING of the Section of Anaesthetics of the Royal Society of Medicine was held on February 6th, with Dr. LLEWELYN POWELL, the President, in the chair.

Mr. A. L. FLEMMING showed a regulating dropper for the supply of ether, consisting of a container, a side dripper, a small tap to control dropping, and a nozzle; the whole could be connected with a stand attached to the anaesthetic or operating table.

Dr. FELIX ROOD read a paper on "Anaesthesia in throat and nose operations," in which he argued that ether was the proper anaesthetic. It could be used to produce a light or a very deep anaesthesia; the latter being the form to be employed for the modern operation for removal of tonsils and adenoids. He described a modified "open

ether" technique for securing the requisite depth of narcosis, in which with a fresh colour there were dilated pupils, quiet automatic breathing, and widely abducted vocal cords. The correct position of the patient was a necessary adjunct of this deep anaesthesia; the head should be extended over a firm pillow so as to rest on the vertex. The surgeon should have all the leisure and facility ordinarily supplied to him in such operations as that for cure of cleft palate.

Mr. HERBERT TILLEY said that primarily the safety of the patient, and secondly the convenience of the surgeon, must be considered. Ether was indisputably safer than chloroform or any mixture containing it. He had seen eleven deaths with chloroform, and one could never tell when one of these tragedies might occur. Ether caused a little more oozing of blood at the time of operation, but this was preferable to the greater risk of haemorrhage after chloroform. In five years he had only had to return to two patients on account of bleeding. To prevent blood entering the air passages the position described in the paper was essential.

Dr. WILLIAM HILL criticized the length of time necessary for induction by Dr. Rood's method; it would render out-patient operating impossible on its present scale. Rapid operations could be done very satisfactorily under ethyl chloride.

Dr. G. H. A. BARTON warmly supported the method, but preferred to start induction with small doses of ethyl chloride. For intralaryngeal operations he approved of rectal anaesthesia.

Sir STCLAIR THOMSON said that operations on the nose, where the blood could be cut off from the air passages by post-nasal sponges, differed little from any other surgical operation. Similarly, when laryngotomy or laryngo-fissure was done, and packing put on top of the tracheotomy tube, the anaesthesia was one of the smoothest and least risky possible. Anxiety came with operations on the pharynx. He had been associated with three fatalities, all in private practice; in no case was death due to blood entering the larynx, nor to traction, nor could he say the patient was too profoundly under; in all three cases an independent pathologist found status lymphaticus after death. In America, where ether was so universally used, one of the most skilful operators on the tonsils had gone back to chloroform. Chevalier Jackson carried out his endoscopic operations without any anaesthetic either general or local.

Dr. F. W. SILK was convinced of the truth of Dr. Rood's advocacy of ether. He held that the upright sitting position was good for many cases. Ethyl chloride was to be objected to only if given from a bag. He advocated the addition of a minute quantity of chloroform to ether, and urged the advantage that often arose from using Kuhn's intubation tube.

Mr. W. STUART-LOW believed in the importance of atropine beforehand, of warmth and quiet in the room, and of an early morning hour for operating. He upheld the merits of chloroform.

Dr. P. WATSON-WILLIAMS referred to blocking the nerves by injection of branches of the fifth nerve, and to injection of adrenalin. He felt strongly that ether was the best anaesthetic for operation on the respiratory tract.

Sir WILLIAM MILLIGAN said that no operation, however slight, should be regarded as trivial; it never was so from the patient's point of view. He had a leaning towards chloroform, but thought that ether and chloroform were used about equally often by the anaesthetists with whom he worked. He used Kuhn's tube on all possible occasions; it enabled one to obviate all risk of blood entering the air passages. A considerable amount of gauze must be packed into the pharynx; when this was taken out there was always a clot of blood, which must be removed lest it be sucked in. Adrenalin was extremely dangerous if injected during anaesthesia; placed on the mucous membrane it was innocuous. Before ether he insisted on preliminary injection of morphine and atropine.

Mr. H. E. G. BOYLE described a combination of anaesthetics which he had used for the last two years in nose and throat operations. A hypodermic was given beforehand and anaesthesia induced with gas and oxygen, and maintained by gas and oxygen in conjunction with ether or C.E. mixture or chloroform, according to the case. He used chloroform whenever the diathermic cautery was to be employed. Anaesthesia was maintained by endobuccal or endopharyngeal methods. The anaesthesia was light and the patient was kept pink all the time.

Mr. HAROLD BARWELL considered that ether given by modern methods and preceded by atropine was on the whole the best anaesthetic in nose and throat cases. For such operations as resection of the septum the intra-tracheal method was inconvenient; the post-nasal plug was embarrassing and unnecessary if proper ischaemia were secured. He used cocaine a quarter of an hour before operation and injected adrenalin (1 to 15,000) beneath the mucous membrane before anaesthesia was started. This was perfectly safe; it was injection during anaesthesia that had been shown to be dangerous. He did not agree that the position demonstrated was the only proper one for dissection of tonsils. Hyperextension of the head caused discomfort and congestion and made the removal of adenoids difficult. The side position was perfectly safe and more comfortable for the patient if slightly less so for the surgeon.

Dr. BROWN KELLY recommended ethyl bromide for operations on children requiring only brief anaesthesia. He had used this drug for twenty-five years in large numbers of cases. A child of 6 required about one drachm and a child of 12 about two. Induction took about a minute and recovery was extremely rapid.

Dr. Z. MENNELL preferred to start with gas and oxygen, continuing with ether. He considered the position with head over-extended essential. Wide abduction of the cords took place only in very deep anaesthesia, and the pink colour came only when pupils were widely dilated and inactive to light. He knew of two deaths this year under ethyl chloride in one hospital. In operating theatres of the Royal Infirmary, Edinburgh, a notice was put up forbidding the use of chloroform without special permission.

Dr. CECIL HUGHES said that when anaesthesia had been induced with ether, or gas and ether, a moderate anaesthesia could be safely maintained with chloroform.

PUERPERAL SEPSIS.

AT a meeting of the Edinburgh Obstetrical Society, held on February 11th, with Dr. WILLIAM FORDYCE, president, in the chair, Dr. BERRY HART read a paper on suggestions as to the causes of the persistence of puerperal septicaemia since the end of the pre-antiseptic period. The question of antisepsis and asepsis was considered. These only give a relative not an absolute asepsis. In this connexion the importance of using gloves, a sterilized gown, aseptic sheets, instruments, and the minimization of internal examination were all emphasized. In connexion with the mechanism of labour it was important to remember that the study of casts and frozen sections showed that Naegele's flexion did not occur during labour. "Our management must be altered accordingly. Deflection begins even in the first stage (Braune, Chiari, and many others). It is marked at crowning." Dr. Berry Hart claimed that the placenta was always normally separated during the intervals between the pains. For this reason the Credé method should be abandoned as a means of separating the placenta. It was pointed out that this method was associated with great danger when applied early in the third stage. It tended to cause retention of membranes and subsequent infection. The statement that retention of pieces of membranes did no harm, that antiseptic management would prevent mischief, was dangerously fallacious. For these reasons a return to the old waiting policy must be made. A maximum of three-quarters of an hour to an hour must be given for the third stage of labour.

In the subsequent discussion Drs. BARBOUR, LOWRY (Belfast), RITCHIE, HAIG FERGUSON, LACKIE, PATERSON, ROBERTSON, NICHOLSON, JOHNSTONE, YOUNG, DAVIDSON, and ARMOUR spoke. It was held by some speakers that the indiscriminate use of gloves by those who had not a special training in aseptic methods might be fraught with great dangers. Dr. Berry Hart's explanation of the separation of the placenta was criticized by some speakers, and it was pointed out that the placenta might be separated in the course of one pain, for example, after pituitary extract.

THE congress of French-speaking members of the medical profession which was to have been held in Brussels on September 30th, 1914, will take place in that city at Whitsuntide.

Reviews.

PSYCHIATRY AND PSYCHO-ANALYSIS.

THE third edition of Dr. STODDART'S manual of *Mind and its Disorders*[1] will disappoint many who would have been prepared to welcome a revision and possible amplification of what was an excellent textbook, written by an author of great experience as a psychiatrist and at the same time a sound neurologist. It would seem, however, that since the appearance of the last edition Dr. Stoddart has become a convert to the sexual theory of Freud and that he finds it to be of general application in the study of neuroses and psycho-neuroses.

This is no place to discuss the validity of the Freudian view, but it is not without interest to note its effects on the mind of an acute and scientifically trained observer. It would be a thankless task to set out at length the opinions to which the whole-hearted adoption of Freud's doctrines may lead; they have been made sufficiently familiar by the utterances of the Freudian extremists. In the book before us we read that "ten per cent. of females" are "homosexual" (p. 187); that "psychoanalysis reveals that neurasthenia is always due to partially or completely repressed auto-eroticism" (p. 212); that "anxiety neurosis is begotten of sexual excitations which are unable or not allowed to follow their natural course" (p. 219); that "the most superficial analysis of such patients [cases of anxiety neurosis] reveals the phallic significance or symbolism (in their minds) of Zeppelins, aeroplanes, and bombs" (p. 220); that, in children, "psychoanalysis reveals this instinct to retain the faeces to be the first attempt at economy, for such persons invariably grow up thrifty and methodical, and it is remarkable how frequently it is found during a psychoanalysis that faeces symbolizes money" (p. 74). The views expressed may or may not be the logical outcome of the Freudian theory, but they will seem to many to verge on the ludicrous. However this may be, we had supposed that experience gained during the war had proved beyond peradventure that Freud and his disciples had made a rather serious mistake in asserting that the sexual content is always discovered. We believe we are right in saying that in some of his writings before the war Freud himself admitted that the content was not always sexual, but any admission of this nature seems to have produced very little effect on many of his disciples, who appear to have treated it as qualifying the theory to so small an extent that it might be ignored.

The key to the problem lies in the recognition of the essentially mechanical basis of the Freudian hypothesis. The attempt to translate the mind in terms of mechanical causation has resulted in a *reductio ad absurdum*. It is a true product of German scientific materialism. The French as it is the British understanding of the issues of the great war has been summed up by Bergson as a struggle of spirit against matter, but the incubus of mechanism still weighs heavily on psychology as studied by the psychiatrist. The brilliant work of our great English psychologist, James Ward, seems to be unknown to the average writer on psychotherapy, for otherwise the dull monstrosities conjured up by Teutonic mechanism would hardly obtain the credit they do. So long as it is recognized that psycho-analysis like any other scientific method is purely an intellectual shorthand for expressing certain aspects of phenomena in terms of mechanical causation no one would care to dispute its value to psychology; it is when we forget this truism and mistake the mechanical aspect for the whole that we are landed in a morass of paradoxes. Freudians have, in defending their theories, sometimes accused those who disagree with them of being inspired by repressed sexual complexes, and it may clear the atmosphere if the writer of this review admits that there is no argument without emotional tone, and that in his case the complex is a belief in the ultimate rationality of humanity.

It seems a rather serious omission from a textbook written for senior students and junior practitioners, in which psycho-analysis is recommended as a standard method of treatment, that mention is not made of the pitfalls that surround the analyst. Given a suggestible subject and an inexperienced investigator, it is probably an even chance whether the data of the psycho-analysis may not be furnished by the examiner himself. It is not, however, with the ultimate truth of the Freudian theory that we are at present concerned, but with the fashion in which the medical public is advised to use a two-edged weapon such as sexual psycho-analysis. There is a risk of unmerited public discredit falling on psychotherapy generally. It is time to say plainly that where neurologists gather together tales are heard of young minds soiled and perverted by the reckless use of gross sexual suggestions by inexperienced or ill-balanced followers of Freud. It is no answer to say that in the hands of men of the character and attainments of Dr. Stoddart no harm can come. There are many men mindful of their patients' welfare who yet cannot safely be exposed to the strain involved in the elucidation of sexual complexes. Dr. Stoddart would be ready to admit the incalculable influence that preoccupation with the sexual instinct may exercise on otherwise well-balanced minds. We must regard the present position in respect to the Freudian doctrines as most unsatisfactory and even dangerous. It is unsatisfactory because the lack of discrimination with which a considerable number of physicians have adopted the most extreme views of Freud as to the sexual content must tend to divert the attention of others from the merits of psycho-analysis, whatever those merits may be; and it is dangerous because in injudicious hands treatment founded on the theory of the sexual origin of all neuroses may lead to much mischief.

In the meantime we can only counsel the younger members of our profession who may read Dr. Stoddart's book, and quite properly wish to study the analytic method in psycho-pathology, to remember that the Freudian view is by no means generally accepted, and that by acting upon it they may accept a responsibility which they might be better advised not to incur.

[1] *Mind and its Disorders.* A Textbook for Students and Practitioners of Medicine. By W. H. B. Stoddart, M.D., F.R.C.P. Third edition. London: H. K. Lewis. 1919. (Demy 8vo, pp. xx + 580; 81 figures, including 9 plates. 18s. net.)

THE TRANSMUTATION OF BACTERIA.

THE phenomena of bacterial variation offer a field of study of constantly increasing interest, and present problems of the greatest practical importance.

In his recently published monograph on *The Transmutation of Bacteria*[2] Dr. S. GURNEY-DIXON discusses systematically the evidences of bacterial variation which he has collected from the literature in relation to their bearing on the possibility of transmutation of species among bacteria. He also records some experiments of his own tending to illustrate the difficulties met with in interpreting the results of animal experimentation, bearing on the supposed occurrence of transmutation in the living body. It may be said at once that his book is a valuable contribution to the study of the meaning of variation in bacteria and the importance to be attached to it. It is remarkable as much for lucidity of expression and arrangement, and for acumen of criticism, as for the moderation of the general conclusions. A large amount of very useful information has been brought together and summarized in its pages, which cannot fail to be of great assistance to other workers.

Dr. Gurney-Dixon originally undertook his investigation in the hope of finding an answer to the question whether actual transmutation—meaning by that term the changing of members of one recognized species into those of another—may not occur among bacteria. In prosecuting this inquiry an endeavour was first made to collect the published records of experiments in which transmutation was alleged to have occurred. They proved to be few in number. In the second place, a series of experiments was carried out with the object of disproving the contention put forward in one of these cases. Thirdly, with a view to criticizing the claim made in the remaining cases, and in the hope that it might throw some light on the problem of transmutation as a whole, a general study of the subject of variation amongst bacteria was undertaken.

In the book itself the author presents his material in the reverse of the order just named, beginning, as was most natural and logical, with an account of the conditions which have been found to modify the characters of

[2] *The Transmutation of Bacteria.* By S. Gurney-Dixon, M.A., M.D. Cantab. Cambridge: University Press. 1919. (Demy 8vo, pp. xviii + 180. 10s. net.)

bacteria, followed by a discussion of the numerous instances of variation in morphology, chemical activity, virulence and pathogenicity which have been recorded by observers. Then he proceeds to the critical examination of supposed instances of transmutation, and the detailed consideration of the possibilities regarding its occurrence in the living body. The concluding chapters are devoted to a general review of the whole subject, to a discussion of the enzyme theory of disease and its bearing on the problem of transmutation, and to a statement of the author's own conclusions.

The chapter on the enzyme theory of disease is largely speculative, and forms much the weakest and least satisfying part of Dr. Gurney-Dixon's essay. In it he puts forward a remarkable hypothesis. Starting from a consideration of the diversity of "symptoms" which one and the same micro-organism may produce in different individuals, or in different epidemics, he suggests that each separate symptom of disease may be attributable to a separate and distinct bacterial enzyme. He discusses the question whether these enzymes may not be dissociable from the specific organism of the disease, and if completely dissociable, whether they may not be able to produce the disease—symptoms and lesion—in the entire absence of the specific organism. He believes that the considerations he puts forward "lend some measure, if not of certainty at least of probability, to the supposition that the organisms associated with certain diseases are not themselves the causal agents of these diseases, but merely act as carriers of ultra-microscopic bodies, possibly parasitic in character, which have hitherto eluded detection, but which are the real causal agents of the lesions and symptoms produced." It will follow from this that "obviously if it is possible for the enzyme or enzymes which produce a certain disease to become dissociated from the organism to which that disease is commonly attributed, and to become attached to some other organism, the effect, though not the actual process of transmutation, would be brought about." Dr. Gurney-Dixon adds, "A transference of this kind would present certain difficulties"; and we may add that it is difficult to see what is gained by propounding purely speculatively the hypothesis that bacterial enzymes are ultra-microscopic parasites of the bacteria—smaller microbes within the microbes we already know. It may be that:

> The bigger fleas have little fleas
> Upon their backs to bite 'em,
> The little fleas have lesser fleas,
> And so *ad infinitum*.

But however much that idea might commend itself to our ultimate sense of justice in relation to those ravenous insects, we do not put it forward as a scientific proposition in the absence of the necessary evidence.

In his discussion of supposed instances of transmutation the author is on surer ground. In particular his analysis and criticism of certain experiments of Horrocks, which were put forward as evidence of the transmutation of *B. typhosus* at one time into an organism intermediate between *B. typhosus* and *B. coli*, and at other times into *B. faecalis alkaligenes* or a Gram-positive coccus, is clear, concise, and destructive. It is shown that in the experiments on animals the only evidence of transmutation afforded was that on some occasions, after the intraperitoneal injection of living *B. typhosus*, a different organism was subsequently recovered from the infected peritoneal cavity. Dr. Gurney-Dixon characterizes Horrocks's statements as startling, and the criticism is fully justified.

But the main part (nearly two-thirds) of the book is occupied with the author's study of the conditions, instances, and principles of bacterial variation, and these chapters constitute, as already stated, the most generally useful portion of the work. They form a valuable and often suggestive contribution to the study of general bacteriology, which we can confidently commend to the attention of other workers in the same field of study.

...OLOGICAL EFFECTS OF HIGH ALTITUDES.

Altitude and Health[3] is the title of an interesting work by M. F. F. ROGET of Geneva, founded on the Chadwick ... he gave in 1914. Sir William Collins, in a prefatory note, cites the opinion of Farr, who was a contemporary of Chadwick, and established the correlation between crowding and high mortality, to the effect that "the vigour of their own lives is the best security men have against the invasion of their organization by low corpuscular forms of life; quarantine, vaccination, and other preventives are subordinate as means of subduing mortality."

M. Roget has much of interest to say on the immunity of natives of high tablelands from consumption and lung diseases and on the climate of the Alps and its stimulating effect. In winter there are occasional snowstorms, lasting, perhaps, two or three days, but usually followed by calm sunny weather day after day for weeks at a time. In the upper Alps in winter pure cold dry air surrounds the body; sunlight warms the body by day, and at night the air is dry and cold; usually the air is calm, and wind can be avoided in sheltered sunny nooks. The snow on the ground reflects and intensifies the sunlight and catches dust. The air is so dry and germ-free that meat can be dried in strips in the sun, and joints of meat will not go bad if kept out of the sun. The peasants show cheeses 100 years old. There are no flies or mosquitos. The cold dry air and the sun dry up catarrhs, sores, moist eczema, etc.; the skin thickens and hardens and the hair grows in exposed parts. The evaporative and cooling power of the air has a most beneficial effect on the respiratory passages, promoting the flow of blood and secretion, as has been pointed out by Leonard Hill.

The value of M. Roget's book depends on the account he gives of the climate and health of high Alpine villages and at the St. Bernard's Hospice. He is, however, not sufficiently acquainted with recent physiological research. For example, he writes: "Press the blood out of your ear, the rays (of the sun) will all pass through it—the ultra-violet rays are retained by the blood." The experimental evidence adduced by J. E. Barnard and others shows, however, that the ultra-violet rays do not penetrate the outer surface of the skin. In speaking of sunburn M. Roget says: "The composition of pigment has not been accurately gauged so far. Is it a carbon deposit in the cells ensuing upon oxidation of the blood?" It is known that the pigment is melanin, probably derived from tyrosin and so of protein origin. The carbon idea has long been exploded.

M. Roget mentions Barcroft's work on respiration and the blood at high altitudes, and draws attention to the evidence of "acidosis" in connexion with mountain sickness. "Acidosis" of the blood is now recognized to be a diminution of its sodium bicarbonate content produced by increased pulmonary ventilation and consequent "washing out" of CO_2. The resulting sodium carbonate is removed from the blood by the tissues. CO_2 is washed out in order to get in more oxygen by raising the alveolar partial pressure of oxygen. The result is increased alkalosis, not acidosis of the body, as has been pointed out by B. Moore and Haldane. A moderate altitude regenerates the blood, like the old-fashioned habit of blood-letting, by stimulating the formation of new blood cells.

[3] *Altitude and Health.* By F. F. Roget. London: Constable and Co., Ltd. 1919. (Demy 8vo, pp. xii + 186. 12s. net.)

EPIDEMIC DISEASES IN MAURITIUS.

The Epidemics of Mauritius,[4] by Dr. D. E. ANDERSON, will be found interesting. Islands are specially suitable sites for studying epidemics, and Mauritius is no exception to the rule, the introduction of surra and malaria into it forming one of the most interesting epidemiological studies in tropical medicine. In the preface the author states that he has purposely written in a popular style in order that the book may be interesting to readers who do not belong to the medical profession. It is as well, however, to be accurate even when addressing the laity. We cannot accept as accurate, statements such as "the seven days Phlebotomic Mediterranean fever resembling dengue" (p. 217), and "the consensus of opinion as to the carrier or transmitter" (of dengue) "is that it is a *Phlebotomus*, probably the *Papatasii*," which is also believed to carry the micro-organism of the so-called "seven days Mediterranean fever," and possibly of the *Micrococcus melitensis* (p. 221). Phlebotomus fever is "three-day" fever, not

[4] *The Epidemics of Mauritius.* With a descriptive and historical account of the island. By Daniel E. Anderson, M.D., B.A., B.Sc., F.R.S.E., F.R.C.S. London: H. K. Lewis and Co., Ltd. 1918. (Demy 8vo, pp. xvi + 312; maps and other illustrations. 16s. net.)

seven-day fever, and we know of no evidence that the *P. papatasii*, the carrier of three-day fever, also carries dengue or undulant fever. The recent work by Clelland and his fellow workers in Australia clearly shows that *S. fasciata* is the carrier of dengue. Throughout the book specific names are rendered with capitals: *Plasmodium Malariae* (p. 185), *Myzorhynchus Mauritianus* (p. 191), *Micrococcus Melitensis* (p. 221), etc. All these second or species names should be written in small letters. Apart from some minor defects, such as those pointed out, the book contains a mass of interesting detail both as regards epidemics and other points. In an appendix will be found the fauna, flora, and conchology of the island, and a bibliography; not only so, but a photograph of the author adorns the frontispiece of the work.

NOTES ON BOOKS.

IN an appendix to *Nursery Schools*[5] the Board of Education's Regulations of 1918, including the important prefatory Memorandum, are reprinted. The bulk of the volume consists of seven papers (based on articles appearing originally in *Maternity and Child Welfare*) in which various writers discuss the ways in which the provisions of the Act may be made to bridge the gap which exists in child welfare work between the age of 1 or 2—when infant consultation centres cease to help—and that of 5. This gap, its dangers and their remedy, are allegorically depicted by the late Mr. Byam Shaw in an interesting frontispiece. Turning to the text, we find Miss Margaret Macmillan dealing inspiringly with principles and ideals and courageously with the question of finance. Miss C. E. Grant points out very clearly the evil features of the present infant school system; Dr. W. J. Howarth and Miss Grace Owen, B.Sc., contribute practical suggestions from the medical and educational points of view respectively, and the crucial difficulty—the training of the nursery school teacher—is fully discussed in a chapter by Miss Freda Hawtrey.

Rear Admiral STITT'S little book on the *Diagnostics and Treatment of Tropical Diseases*[6] has now reached a third edition. As when the second edition was published, less than a year ago, a very thorough revision was made, no material changes have been made in the third. The subject of trench fever has been rewritten, a number of changes have been made in paragraphs of various sections, and two new illustrations and a plate of the malarial parasites have been added. There are some new observations that have appeared, however, between the two editions, and as these are important it would have been better had they been incorporated. For example, in the account of schistosomiasis (page 422), no mention is made of the febrile invasion that has been recently noted in infections by *S. haematobium* and *S. mansoni*. Again, in the remarks on ova in faeces (page 503), it is stated: "It is in the faeces we examine either for the parasites or for their ova in connexion with practically all the flukes except the lung fluke and the bladder fluke"; but the latter are often found in the faeces, and the former are sometimes met with there also. There are some other similar statements throughout the book which require emending. New discoveries and new work on tropical medicine succeed each other with such rapidity at the present day that we can sympathize with any author for not getting them all collated for his new edition. The book is a very useful one and deservedly popular.

The latest addition to the Notable Trials Series is the *Trial of Hawley Harvey Crippen*,[7] edited, with notes and an introduction, by Mr. FILSON YOUNG, who has previously shown his aptitude for this kind of task. It may be said that he has done the work well, though we wonder why he should take so much trouble to show that there is a spiritual side to the Crippen affair "which is good and heroic"; nor can we quite agree as to the "extraordinary human and dramatic interest with which the story is packed." Why Crippen murdered his wife, why he left any of the remains under the cellar floor, and why when he had thrown the police off the scent he suddenly lost his nerve and bolted, will never be known for certain. To the medical reader, however, the main interest in this sordid story lies in the medical and scientific evidence, and Mr. Filson Young does not exaggerate when he speaks of the brilliant and laborious analysis which proved that those few pieces of flesh and skin had been part of a body which had contained a fatal dose of hyoscine. As for the suggestion that has been so often made, that Crippen was a qualified medical practitioner in the English sense of that phrase, it may be well to quote from the paragraph in *Truth Cautionary List for 1911*: "He had been engaged at one quack establishment or another for many years, having first come under the notice of the editor of *Truth* in connexion with the Drouet Institute. At the time of his flight from justice Crippen was in the employment of one of the largest quack advertisers in the kingdom, a man named Marr, who has carried on business under the aliases of Keith Harvey, Erasmus Colman, Ohrsorb, and the Aural Remedies Co., for the purpose of victimizing the deaf." There is no doubt that for twenty-seven years Crippen picked up a living by the practice of various low forms of nostrum-mongery.

[5] *Nursery Schools: a Practical Handbook*. London: John Bale, Sons, and Danielsson. 1920. (Demy 8vo, pp. 106. 5s. net.)

[6] *The Diagnostics and Treatment of Tropical Diseases*. By E. R. Stitt, M.D., LL.D., Rear Admiral, Medical Corps, U.S. Navy, etc. Third edition revised. London: H. K. Lewis and Co., Ltd. 1919. (Post 8vo, pp. xvi + 534; 119 figures, 1 plate. 14s. net.)

[7] *The Trial of Hawley Harvey Crippen*. Edited, with Notes and Introduction, by Filson Young. Notable Trial Series. Edinburgh and London: W. Hodge and Co., Limited. 1920. (Demy 8vo, pp. xxxv + 211; 7 illustrations. 10s. 6d. net.)

MATERNITY HOMES AND HOSPITALS.

THE publication by the Ministry of Health of a *Memorandum on Maternity Hospitals and Homes*[1] is timely, for in many districts there is a movement to establish such institutions, and hitherto there has been no publication to which the promoters could be referred. The Memorandum is illustrated by plans for buildings of various sizes, to provide from 8 to 120 beds.

Maternity Homes.

The limit for a maternity home is put at from six to twenty beds; maternity hospitals having from twenty-five to fifty beds, or a greater number, will be required in the large towns. Maternity homes will be chiefly required in the smaller towns and rural districts. Their size must be determined by a consideration of the needs of the district. Homes will be needed also in outlying districts of large towns to supplement the maternity hospital. The opinion is expressed that while an ordinary domestic building may, without great difficulty, be converted into a maternity home for six or eight patients with a fairly satisfactory result, when the requirements are greater considerable difficulties will arise, among them the provision of adequate sanitary accommodation and facilities for isolation and separation. Such homes may have an out-patient department to serve as a maternity centre for the neighbourhood, and also as a centre for district nursing, district midwifery, and for the training of pupils and students.

Maternity Hospitals.

A maternity hospital, it is said, should in the same way become the centre of the midwifery service of the town and be made available for training. Such hospitals should be fully equipped for the treatment of all complications and disorders of pregnancy and labour, and for clinical teaching. Their primary purpose should be to provide for abnormal or difficult cases, but not to the exclusion of straightforward confinements. Each should have an out-patient department for the treatment of patients referred by doctors or midwives, or sent from antenatal clinics.

Medical Staff.

The medical staff of a maternity hospital used as a training hospital for students must be competent to teach as well as to conduct the ordinary medical duties of the institution. Such a hospital of twenty-five or thirty beds, or over, especially when admitting mainly abnormal cases, should have one or more resident medical officers, as well as a visiting medical staff, on which pediatrics as well as obstetrics should be represented. A maternity home will not as a rule require a resident medical officer, but two or more medical practitioners having special experience of midwifery should be available when required. Normal cases should be treated by the nurse midwives on the staff unless the patient desires to be treated by her own doctor. It is suggested that one woman doctor should be associated with a maternity hospital or home whenever possible, and

[1] H.M. Stationery Office. Through any bookseller, price 9d. net.

also that a medical officer attached to a maternity home or hospital should have held a resident post in an obstetric hospital.

Nursing Staff.

It is recognized that adequate trained supervision is essential, and it is laid down that the matron should be a trained nurse and an experienced midwife, and that the sisters should also have had training in general nursing as well as midwifery. The number of nurses will depend on whether pupil midwives are taken, but as a general estimate it is said that the minimum staff should be such as will provide on the average one nurse for every three mothers and their babies by day, and for every eight to ten mothers and their babies by night. Small homes as well as maternity hospitals must be provided with a labour ward or wards, for which a special nursing staff will be needed. It is urged that all maternity institutions should have a detached isolation block, or at least an isolation or separation room. The practice of treating cases of puerperal fever in ordinary isolation hospitals is deprecated; such cases should remain under the supervision of the maternity hospital, for skilled obstetrical treatment is needed, and the midwives should observe the course and conduct of the septic as well as of the normal cases. It is recognized, however, that a special nursing staff, as well as separate accommodation, will be required, and the smaller maternity homes, therefore, are not encouraged to retain such cases. While all institutions should be prepared to admit normal cases a maternity hospital should be fully equipped from the point of view of nursing and treatment to deal with all types.

Site.

It is recommended that a maternity home should be on a secluded site, with a garden, but yet reasonably central and easily accessible. In towns the site should be fairly central, but with quiet and clean surroundings, away from a road with heavy traffic. The area of a site for a hospital of twenty to thirty beds should be not less than two acres; for a home or hospital of twelve to eighteen beds not less than an acre and a half.

Buildings.

A plan, with elevation, is given for a self-contained maternity hospital for eight beds, and we reproduce the elevation and the ground floor plan. The building consists of a two-story building with two wings; in the wing on the one side is a ward for six beds opening on to a verandah, in the other wing a kitchen and domestic offices are provided. On the ground floor of the central building is a labour ward and two separation wards, as well as a nurses' sitting-room and office. The first floor provides bedrooms for matron and nurses. A plan is given also for a maternity home to provide twenty-two beds comprised in a single building. It contains on the ground floor ordinary offices, kitchen, a nurses' dining room, a nursery, a ward with four beds, two wards with two beds, two wards with one bed each, a labour room, and a receiving room. On the first floor there is a ward with four beds, three with two beds, and two with one bed each; a labour room is shown on the one side of the building, and on the other rooms for matron, sister, and maids; on the second floor is a series of bedrooms for nurses.

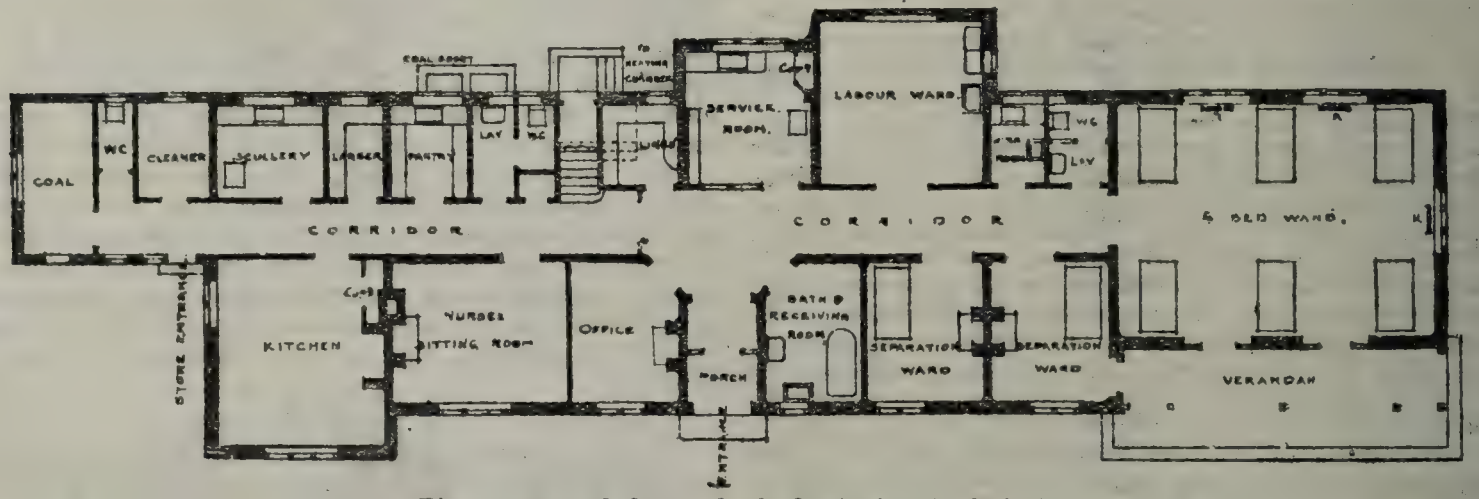
An elevation and plan for a one-story double pavilion with thirty beds to form part of a maternity hospital shows two labour wards, a ward with eight beds, another with six, two with four beds, two with two beds, a separation ward with two beds, as well as a receiving room and service room. This is apparently intended to form part of a larger hospital, for which a sketch plan is provided, showing four pavilions, providing altogether 120 beds, with vacant space for the erection of one other pavilion, which would raise the total to 150 beds. It is recommended that the nurses' quarters should form a separate unit, and that a separate isolation block should also be provided for a large hospital. Sketch plans are given for both of these buildings, and also for a combined children's hostel and maternity and child welfare centre in one building. The hostel part would provide a night nursery and a day nursery, opening on to a verandah; the maternity and child welfare part, a waiting room, doctors' room, and also a room for dental treatment.

The area of wards to contain patients with their infants should, assuming ventilation to be adequate, be calculated on the basis of 96 square ft. per bed, with a height of 10 ft., giving 960 cubic ft. per bed. In the case of lying-in wards to contain only mothers at night, the area per bed may, it is thought, be reduced to 80 square ft., and in the case of wards to contain antenatal cases only to 60 square ft., with the same height of room in each case. An ordinary labour room, it is said, should be not less than 14 ft. by 14 ft. It is noted that the labour room must be suitably warmed, and for this purpose, as for other rooms in the hospital, radiators or suitable gas fires are to be preferred to coal fires. It is noted also as desirable that in every maternity home there should be a separate room available as a second labour room in an emergency.

MATERNITY HOME FOR EIGHT BEDS.



Elevation.



Plan of ground floor. Scale $2\frac{13}{16}$ inches to 60 feet.

British Medical Journal.

SATURDAY, FEBRUARY 28TH, 1920.

THE FOOD SUPPLY OF GERMANY.

IN August last we published an article giving some account of a report on the food position in Germany made by Professor E. H. Starling, F.R.S., with the assistance of Mr. Guillebaud and Mr. McDougall, after a visit to that country. The significance of the statistics it contained was pointed out. Professor Starling, in a paper read at a meeting of the Royal Statistical Society on February 18th, on the food supply of Germany during the war, did not give much additional statistical information, but took the opportunity of recording his final judgement on events which will deeply interest the historian of civilization.

The material facts are these: Before the war the food supply of Germany was abundant; it is probable indeed that the peace time estimates of the Imperial Statistical Department were exaggerated, partly because their commissioners, who were particularly competent farmers, judged others by themselves, partly because of the competition of local representatives to put the best possible face upon their results. Further, in estimating the effects of a stoppage of imports, the consequences of a loss of manures and concentrated fodders were not sufficiently attended to. These disadvantages might have been predicted; but, in addition, unpredictable disasters occurred in consequence of the bad weather conditions which, even in normal times, must have impaired the agricultural yield, and in the state of war were especially prejudicial.

But even when all these discounts are allowed there should still have been available some 3,054 calories per "man" in 1917–18. Such a diet, "if evenly and equitably divided according to the actual needs of the population, should have been sufficient to keep them from semi-starvation, although the low content of fat would have given rise to discomfort, and the protein, which was also necessarily low, might not have been enough to maintain full mental and bodily activity." But no such equitable distribution took place. The producing class consumed their full peace-time ration and did not even release the surplus for equitable distribution. From a quarter to a third of the surplus was disposed of at enormous prices in illicit trade. The result was that the farmers thrived, the very rich ate as much as they chose, and the urban poor and middle classes starved.

In so far as lack of food brought Germany to her knees, the German nation may attribute its ruin to the lack of patriotism of its own citizens. There is a grim irony in the thought that the very nation which made of nationalism a god, which bragged of its patriotism as nobler than that of all other peoples, should be ruined by class and individual selfishness. We need not, however, attribute the greater efficiency of our system of food control and distribution altogether to our superior civic virtues or genius for organization. To control the apportionment of food supplies, the bulk of which comes from abroad to a small number of great ports, is a very much easier task than to deal with home producers. A secondary inference is that, *if* the Germans had been as patriotic as they supposed themselves to be, the war could not have been ended, or at least could not have been ended in 1918, by mere famine.

With regard to the future, we cannot do better than quote Professor Starling's words: "As might have been expected, three years on a diet insufficient as to quantity and quality, indigestible, tasteless, and monotonous, had a marked influence on the vitality and efficiency of the great bulk of the urban population, which finally resulted in that changed mentality which rendered impossible any further efforts of attack or even resistance. In the condition of dull apathy and mental prostration resulting from the deprivation of food the course of the war no longer seemed of importance. Food filled their thoughts by day and their dreams by night, and the only desire was to end the war by any possible means that might lead to a slackening of the blockade and the free entry of food into the country. No means could have been more effective in breaking the spirit of a nation, which had been regarded as a danger to European civilization. Nor need we believe that the effects will be only transitory. Many years with plentiful supplies of food must elapse before the previous conditions of nourishment and health can be restored, and this recovery will be rendered difficult by the diminished fertility of the soil, and the impossibility, for a long time to come, of raising again the industrial productivity to the height necessary in order that the requisite supplies can be obtained by purchase from foreign countries. It is not surprising, therefore, that the German people, essentially docile and industrious, sick of war and of the rulers who led them into a painful enterprise, are seeking only methods by which they can restore to some extent their economic conditions and the health and comfort of the population. It will be long before this nation will be in any condition to be regarded again as a menace to the peace of Europe."

This passage starts a train of thought which is not particularly reassuring. Is it not possible that we too, although not so far advanced along the road to destruction as Germany, are nevertheless treading the same path? The problem of feeding a nation such as ours mainly dependent upon overseas supplies, burdened with debt and distracted by domestic controversy, is at least a very grave one. We should like to see some indication that this really vital problem is receiving the attention it deserves. The sort of evidence that has been tendered by both sides to the Commission inquiring into the standard of living of dock labourers is sufficient proof that we have much to learn. Before the armistice Professor Starling and other scientific men pointed out how radically defective was our knowledge of national dietetics, and on several occasions attention was forcibly drawn to the matter in our columns. Since then hardly any additions have been made, and nothing more has been heard of the proposal to create a national institute of research into the problems of nutrition. We should like to feel sure that the ends that institute was intended to compass will really be attained.

THE DOGS' PROTECTION BILL.

THE Dogs' Protection Bill, entitled "A Bill to Prohibit the Vivisection of Dogs," introduced by Sir Frederick Banbury (City of London) and supported by Sir John Butcher, K.C. (York), and Mr. Frederick Green (Leicester, West), reproduces the text of the bill of last year as it left the Standing Committee on April 3rd, 1919.

The course of the bill of 1919 was fully reported in our columns at the time. As originally introduced by Sir Frederick Banbury last year, the penalty

clause proposed that a person guilty of an offence against the provision of the first clause of the bill, which would have forbidden any experiment of a nature causing or likely to cause pain or disease to any dog, either with or without anaesthetics, should for a second offence be liable to imprisonment for three months, and for any subsequent offence to imprisonment for one year. The penalty clause as amended in Standing Committee omitted special penalties, and provided that a person violating the enacting clause should be considered guilty of an offence under the principal Act, and punished accordingly. When the bill as amended by the Standing Committee came up in the House of Commons on the report stage on May 23rd, Sir Hamar Greenwood moved an amendment on behalf of the Government to insert the words "except as hereinafter provided" in the first clause. There was a long debate, during which Sir Hamar Greenwood's proposals were supported by, among others, Mr. Rawlinson, Captain Elliot, and Sir Auckland Geddes. When winding up the debate Sir Hamar Greenwood, speaking not only as a representative of the Government but as "a willing champion of the honour of the noble profession of medicine," appealed to the House to support the amendment. To pass the bill as it stood would, he said, cast an undeserved stigma on that profession; he invited the House to make it possible for experiments to be continued because in the past they had done great good, and would in the future, he believed, do even greater good. On a division the amendment was agreed to by 147 to 69.

Another Government amendment was then accepted without a division, omitting the words in the first clause forbidding any person or place to be licensed for the purpose of performing experiments on dogs in any circumstances, and providing that such experiments might be performed on a special certificate containing a statement of reasons why the object of the experiments would necessarily be frustrated unless performed on a dog, and that no other animal was available for such experiment. The title of the bill was altered also, and as thus amended by the House of Commons the bill came up for third reading on June 27th, when its adoption was moved by Sir Frederick Banbury. Sir Watson Cheyne moved the rejection of the bill, inviting the House to decline to proceed further with a measure which would impose an unnecessary and vexatious obstacle to medical research. The motion, which was seconded by Sir Philip Magnus, who had throughout taken an active part in opposing the bill, was carried, and the bill was rejected by 101 votes to 62, but not before Sir Frederick Banbury had appealed to the House to accept it, on the ground that the bill had been greatly changed during the report stage on May 23rd. In the interval the Ministry of Health had been established, and speaking as Minister of Health Dr. Addison said that the Government, after fully and carefully considering the measure, recommended the House to reject the bill. He enumerated the precautions enforced under the principal Act; certificate (A) provided that the animal experimented upon must be fully anaesthetized and remain under the anaesthetic. That provision might be suspended by certificate (B), under which the animal might be allowed to recover from the anaesthetic. Further, in the case of a dog another certificate (E) must be obtained. It was not, he said, to the interests of science or for the promotion of the health of the people that the bill should be passed, even in its present form. The damage which would have been done had been minimized as much as possible on the report stage (May 23rd), but the Government still felt that the words as they stood would make research difficult and embarrassing, and so be contrary to the best interests of the well-being of the people. On that account the Government had no hesitation in asking the House to reject the bill, and, as already stated, it was rejected by a substantial majority.

Sir Frederick Banbury now brings up the bill again in exactly the form in which it left the Standing Committee, before the Government amendments were introduced. This fresh attempt to impede research in medicine and preventive medicine will be opposed as vigorously as last year, and Sir Frederick Banbury has placed himself, as it appears to us, in opposition not only to public opinion, but to the Government and the House of Commons. Sir Frederick Banbury was very angry when Dr. Addison said that he had concealed facts with regard to the safeguards against possible cruelty contained in the provisions of the principal Act, but he accepted the substituted phrase "failed to mention." The opponents of research habitually not only fail to mention but deliberately conceal benefits derived from it.

About the opinion of the medical profession on the matter there can be no doubt whatever. As an example of what is really thought we may recall the resolution adopted at the Clinical and Scientific Meeting of the British Medical Association in London last April. It was adopted at a conjoint meeting of the Sections of Medicine and Preventive Medicine and Pathology, over which Colonel Haven Emerson, of the Medical Corps U.S.A., presided. It was proposed by Sir William Osler, seconded by Professor C. J. Martin, Director of the Lister Institute, and supported by Sir George Makins, President of the Royal College of Surgeons of England. In putting it to the meeting Colonel Emerson said that though the bill was British the success of faddists here would encourage their kind in other countries. The same resolution was put to the Section of Surgery by its chairman, Sir Anthony Bowlby, on the proposition of Professor Bayliss, seconded by Dr. H. H. Dale. At both these meetings it was carried unanimously. The resolution affirmed that the possibility of the passage through the House of Commons of a bill to prohibit experiments on dogs was viewed with dismay, and proceeded to point out that the anatomical structure and omnivorous habit of the dog, together with the fact that it can be kept in health and comfort under the conditions imposed by laboratory work, render the larger sort the only available subject for experiment in important fields of physiological and pathological investigation. The prohibition of experiments upon dogs, in the opinion of the meeting, would have the deplorable effect of hampering the progress of medicine, and of rendering Britain alone, among the civilized nations of the world, unable to contribute to progress in a department of medical research in which it has hitherto played a distinguished part.

Sir Frederick Banbury's bill is down for second reading on Friday, March 19th, as the second order. The first order is the Shops (Early Closing) Bill, introduced by Mr. F. Briant. It may happen that this measure will absorb the time of the Friday sitting, and in any case it seems improbable that with discussion Sir Frederick Banbury will get a second reading for his bill within this sitting. If he does not its prospects of going to Grand Committee will be distinctly unfavourable; but it must be remembered that he is a past master of strategy and procedure, and that last year the bill he then brought forward made unexpected progress.

HARD HIT.

THE medical War Emergency Fund is administered by the Royal Medical Benevolent Fund, but it is a distinct fund. It is not a charity, but exists to help men to carry on who have suffered through the service they have given to the country during the war—in which the very existence of the country was at stake. The position may be expressed in the terms in which the purpose of the special parliamentary grant in aid of universities, colleges, and medical schools are set out—namely, "to meet the need of special assistance in order that they may, as far as possible, resume their full work under favourable conditions, and may not be hampered by extraordinary expenditure involved by the prolonged interruption of their activities and development caused by the war." Let it be repeated that the fund is not a charity, but an attempt to discharge the country's debt to men who have served it, and that its purpose is to help them to get back to their active part in the country's life. The fund has recently received a grant from the National Relief Fund. The medical War Emergency Fund grants will, as before, be limited to persons who have held commissions in the medical services during the war, but the contribution from the Prince of Wales's Fund will enable the committee of management to make more liberal allowances, especially for the education of children, the payment of insurance premiums, and of interest on loans. We are given to understand that the medical men for whose benefit this war tribute exists are not applying as they should for assistance in these three respects. Those who have hitherto failed to do so are invited to communicate with the secretary of the War Emergency Fund, 11, Chandos Street, London, W.1.

SPECIAL DIPLOMAS.

THE change which is coming over the organization of the practice of medicine in its several departments or specialties must be obvious to everyone who will compare the present with even the recent past. The change began before the war, and we are not sure that it can be said to have been accelerated by it, but the needs of local authorities, due only in the smaller part to State regulations and legislation, have undoubtedly intensified it. The D.P.H. has become practically essential for all undertaking public health work. Long before the war the need of specialization in tropical medicine and hygiene for the members of the medical services of tropical colonies led to the establishment of special tropical medical schools, and eventually to the institution of a diploma in tropical medicine and hygiene. The need for a similar diploma in psychiatry was for a time met by the certificate of the Medico-Psychological Association of Great Britain and Ireland, but it will be replaced eventually by diplomas granted by the universities and examining bodies. The same sequence of events is occurring with regard to tuberculosis officers and radiologists, and the policy will, without doubt, presently be extended. Thus we find that in the Ministry of Health's *Memorandum on Maternity Homes and Hospitals*, of which we give some account at p. 299, it is proposed that a medical officer attached to a maternity home or hospital should have held a resident post in an obstetric hospital; and this in all probability will eventually lead to the demand, and before long to the institution, of an advanced diploma in obstetrics for graduates. It is understood that the licensing bodies are disposed to meet the need which appears to be arising out of the new activities of the Ministry of Health and its related local authorities. Already the University of Cambridge has established diplomas in psychiatry and in radiology, and we shall we surprised if the Conjoint Board of England does not presently institute diplomas in these and other specialties as the demand grows. For some few years past Oxford has granted a diploma in ophthalmology. One moral obviously is that the need for post-graduate, or, as we should prefer to say, graduate medical schools must steadily increase. For such instruction in tropical medicine provision is made by the London School of Tropical Medicine and the sister school in Liverpool; at the Maudsley Hospital, under the direction of Sir Frederick Mott, a course of instruction, including lectures and practical work, has been instituted, based on the requirements for the Cambridge diploma in psychological medicine. Courses for the diploma in radiology instituted by the same university are being given in Cambridge and London. These enterprises are signs of the times.

SMOKE ABATEMENT.

THE Ministry of Health has resolved to make further inquiry into the smoke nuisance. There have been many such inquiries and some good has followed, but as the recent experience of London—which for several mornings this week has been smothered in a yellow fog almost as bad as a typical November infliction—shows, there is still much to be done. The law as it stands gives considerable power to check pollution by factories, and when there are a sufficient number of public-spirited persons in a district to enforce it much can be done; but it leaves the pollution of the atmosphere by domestic fires untouched. As to the relative importance of pollution by factories and domestic fires there is a difference of opinion, but the ordinary observer is driven to the conclusion that the factory chimney is not everywhere the chief offender. The Ministry of Health in another connexion has recently stated that open fires at the present time are expensive luxuries, wasteful in fuel, the cause of unnecessary noise and dust, and ineffective as sources of heat. At the present time the best substitute is gas; electricity, convenient and clean as it is, must be put aside owing to the cost of installation and current. Much more progress would have been made in using gas for cooking had the gas engineers realized that a gas cooking stove does not warm the kitchen, and that on this account people who use the kitchen much prefer the coal cooking range. This has often been pointed out, but nothing is done. In 1914 the then President of the Local Government Board (Mr. Herbert Samuel) appointed a Departmental Committee to inquire into the subject of the pollution of the air by smoke and other noxious vapours, and it had made some progress in taking evidence when the war broke out, and its proceedings were discontinued. The new committee, which has a similar reference, will have Lord Newton as its chairman; the other members are Captain Hamilton Benn, C.B., D.S.O., M.P., Professor J. B. Cohen, F.R.S., of Leeds, Mr. W. S. Curphey, chief alkali inspector Ministry of Health, Sir John Lithiby, late legal adviser to the Local Government Board, Mr. J. F. McCabe, of the Local Government Board in Ireland, Mrs. Gilbert Samuel, Mr. E. D. Simon of Manchester, Bailie W. B. Smith of Glasgow, and Mr. F. J. Willis, C.B., chief assistant secretary, Ministry of Health. The secretary is Mr. E. C. H. Salmon, to whom all communications should be addressed at the Ministry of Health, Whitehall, S.W.1.

EUSOL IN SUBTERTIAN MALARIA.

THE beneficial results that attended the intravenous administration of eusol in septicaemia inspired Lieut.-Colonel P. S. Vickerman to test it in the treatment of subtertian malaria, with highly gratifying results. Some cases were cured by one injection, others required two or sometimes three.[1] In none of the cases was quinine used whilst the patient was under treatment, nor did they require it afterwards. The number of injections had no apparent relation to the number of rings and crescents found. During treatment the crescents seemed to disappear first and the rings rather later. It was found

[1] *Journal of the R.A.M.C.*, January, 1920

to be essential that the eusol should contain at least 5 per cent. of available hypochlorous acid; it should be freshly prepared, boiled, filtered, or distilled water being used, with bleaching powder containing not less than 22 per cent. of free chlorine. The best results were obtained with the "Eupad" prepared at Edinburgh University and sent out in stoppered bottles. The technique of injection is very simple. Using an ordinary intravenous saline apparatus, the funnel and tube are first filled with saline and the needle introduced into the vein, and then 40 c.cm. of well filtered eusol are run in, sufficient saline being afterwards poured into the funnel to ensure that all the eusol enters the vein. In a case of malaria a typical attack of fever with rigor follows on the same day, and then the temperature settles down at once, although the organisms may not all disappear from the blood until ten days afterwards. In the meantime the patient feels well and has no fever attacks. Colonel Vickerman has also found eusol very efficacious in the old chronic type with large spleen and pronounced cachexia and anæmia, often showing very few or no parasites in the blood microscopically. He considers that 60 c.cm. of eusol is the maximum that can be given with safety.

THE NAVAL MEDICAL SERVICE.

DURING the past few months reference has been made, both in the JOURNAL and SUPPLEMENT, to the work of the Naval Subcommittee appointed by the Naval and Military Committee of the British Medical Association to examine and report on the new regulations for pay and retirement of naval officers. The chief matter before the subcommittee has been the position in which senior surgeon commanders find themselves under the new scheme. The new pension for these officers works out at less than 10 per cent. above the old rate fixed more than forty years ago. There is even a possibility of a deduction of 20 per cent. from this increase, giving finally an actual reduction of pension by some 10 per cent.! In its letter to the Admiralty on December 2nd, 1919, the Association made representations also as to the new ages for compulsory retirement, and the consequent loss of full-pay service and chance of promotion to higher rank. We recorded last week that the Admiralty has replied declining to deal with the case of medical officers apart from the rest of their comrades in the other branches of the service. In this connexion we are asked to draw the attention of retired naval surgeons to the fact that an Association of Retired Naval Officers exists to safeguard the interests of naval officers and their dependants, and that its policy includes an appeal that the whole question of pensions shall be reopened and reconsidered. The committee of this body is composed of representatives of the various branches of the service. Surgeon Captain E. H. Meaden, C.M.G., R.N. (retired), who is the medical member, informs us that he is bringing forward more especially the injustice done to the senior surgeon commanders. The Naval and Military Committee of the British Medical Association has referred the Admiralty's letter to the Naval Subcommittee with certain suggestions; the subcommittee feels that this matter should not be left where it is; and the Naval and Military Committee is about to consider it further with a view to taking steps to bring it again to notice. Some additional information has been received within the last few days, but we would repeat the invitation to any naval medical officer who considers that he is seriously affected to send particulars to the Medical Secretary of the British Medical Association, 429, Strand, W.C.2.

OXFORD MEMORIAL TO SIR WILLIAM OSLER.

A PUBLIC meeting will be held in the Lecture Theatre, The Museum, Oxford, on Saturday afternoon, March 6th, at 3.30 o'clock, to consider what steps should be taken to perpetuate in some appropriate manner the memory of the late Sir William Osler, Bt., Regius Professor of Medicine in the University of Oxford for the past fifteen years. The notice of the meeting is signed by the teachers in the Medical Faculty at Oxford, including Professor Arthur Thomson (anatomy), Professor G. Dreyer (pathology), Professor C. S. Sherrington (physiology), Professor J. A. Gunn (pharmacology), Dr. William Collier (Litchfield lecturer in medicine), Dr. H. C. Bazett (Welsh lecturer in clinical physiology), the lecturers in pathology, applied anatomy and morbid anatomy, and the reader in ophthalmology. The meeting will be attended by the Vice-Chancellor, the heads of colleges, Bodley's librarian, and the treasurer of the Radcliffe Infirmary. The action taken in Oxford will, we believe, command the approval of the profession generally, for William Osler was a man who had not only held a commanding position in medicine in this country during the fifteen years of his work here, but had also won the affectionate regard of members of his profession of all ages and schools. Communications should be addressed to Dr. J. A. Gunn, Professor of Pharmacology, The Museum, Oxford, who is acting as interim secretary.

PENSIONERS' RECORDS.

THE Ministry of Pensions has prepared a pensioner's record card (M.P. x 9) in respect of every pensioner for whom treatment at a hospital is arranged. This should prove of much value to the medical officer in charge of the case, as on it will be entered a brief but accurate record of the man's past medical history. The card will be issued through the Commissioners of Medical Services to the secretaries of hospitals which are not under the Ministry's control but which treat pensioners. Besides giving a summary of the pensioner's medical history, spaces are provided for the findings and recommendations of medical referees. The record card is for the information of medical officers of hospitals, but is not intended for their clinical notes; it should be kept in the special envelope provided. A medical case sheet (M.P. x 10) has also been designed to furnish medical officers with a convenient means of keeping current notes of progress and treatment. As the value of each pensioner's medical record depends largely upon its continuity, the Ministry of Pensions expresses the hope that medical officers will regularly write short notes of the cases under their care in the spaces provided. These documents—the record card, the case sheet, and the envelope with instructions—seem to us well designed for the purpose in view. In return for the valuable information given him on the card the medical officer of the hospital may not unreasonably be expected to make brief notes of progress and treatment upon the case sheet. All three documents, on completion, are intended to be returned at once to the Deputy Commissioner of Medical Services for the area.

BRITISH HONOUR FOR PROFESSOR TUFFIER.

THE announcement that the King has appointed Professor Tuffier to be an Honorary Knight Commander of the Order of the British Empire will give great pleasure to the profession in this country. Professor Tuffier is one of the most distinguished of French surgeons and is held in the highest esteem by British surgeons, not only for his learning and skill, but also for his character, in which geniality and strength are blended. During the war he rendered conspicuous services to the medical corps of the French Army, and his advice was of the utmost value in guiding the organization of the surgical hospitals from front to base. But the King's act is doubtless a recognition of Professor Tuffier's work for the wounded British officers and men brought into Paris during the early phases of the war and of his kindly and untiring efforts to make the Inter-Allied Surgical Conferences a success. It will be regarded with general satisfaction by all those who enjoyed the pleasure and privilege of working in

association with him. The appropriate insignia have been forwarded to His Majesty's Ambassador at Paris for presentation.

THE INTERNATIONAL SOCIETY OF SURGERY.

The fifth meeting of the International Society of Surgery will be held in Paris from July 19th to 23rd, under the presidency of Professor W. W. Keen of Philadelphia. The following subjects will be discussed: (1) Surgery of the heart and great vessels. (2) Treatment of tumours by *x* rays and radium, introduced by Dr. Neville S. Finzi. (3) Analysis of the blood and biological reactions in surgical affections. (4) Treatment of fractures of the thigh, introduced by Major Meurice Sinclair, C.M.G., D.S.O., R.A.M.C. (5) Prophylaxis and treatment of tetanus, introduced by Professor S. L. Cummins, C.B., C.M.G., Colonel A.M.S. A tour of seven days has been organized to visit the battlefields, at an inclusive cost of 815 francs a person. Surgeons who wish to be nominated for election to the society are requested to communicate with Sir D'Arcy Power, K.B.E., F.R.C.S.Eng., 10A, Chandos Street, Cavendish Square, W. The subscription is 50 francs.

CHADWICK LECTURES AND MEDALS.

Lieut.-General Sir John Goodwin, K.C.B., Director-General A.M.S., will next month give three Chadwick public lectures on military hygiene in peace and war. The first will deal with army hygiene prior to the recent war, the second with army hygiene during the recent war, and the third with the future of army hygiene. The lectures will be given at the Royal Society of Arts, John Street, Adelphi, on Mondays, March 8th, 15th, and 22nd, at 5.15 p.m. The Chadwick trustees have awarded Chadwick gold medals and prizes of £100 to Surgeon Commander Edward L. Atkinson, D.S.O., R.N., and Brigadier-General W. W. O. Beveridge, C.B., D.S.O., A.M.S., for services in promoting the health of the men of the navy and army. The nomination for these presentations has been made by the Directors-General of the naval and military medical services respectively.

The honorary Fellowship of the Society of Medical Officers of Health has been conferred on Brigadier-General Sir William Heaton Horrocks, K.C.M.G., C.B., M.B., D.P.H., "in recognition of his invaluable services as chief of the Army Sanitary Department throughout the great war"; and on Dr. Henry Edward Armstrong, formerly Medical Officer of Health for Newcastle-upon-Tyne, "for his long and distinguished services in connexion with public health administration and the advancement of sanitary science."

Since the beginning of this year the Registrar-General's weekly returns of deaths from influenza in the ninety-six great towns of England and Wales have been as follows: 52, 73, 62, 85, 66, 98, 109, 161. The figures for London, which are included in the foregoing totals, have been 19, 16, 19, 24, 15, 20, 25, 37.

On January 20th the second centenary of the death of the famous Roman physician Giovanni Maria Lancisi was celebrated in the hall of the Bibliotheca Lancisiana in Rome. Marchiafava, as official orator, pointed out that Lancisi was the herald of many modern discoveries in the fields of malaria, syphilis, and alcoholism.

The first general meeting of the association formed by the amalgamation of the Fellowship of Medicine and the Post-Graduate Medical Association was held last week and a general council formed, nominated partly by various medical schools and hospitals and partly from the original council of the Fellowship of Medicine. The first meeting of the general council will be held on March 5th for the election of officers and the executive committee.

Medical Notes in Parliament.

Census.—Dr. Addison announced on February 18th that he hoped shortly to introduce a bill for the census of next year.

The Registrar-General's Department.—Dr. Addison stated, on February 18th, that the reorganization of the Registrar-General's Department had been receiving close attention, but no increase in the statutory fees payable by the public was contemplated. It would in any case require legislation.

The Dogs' Protection Bill.—The bill to "prohibit the vivisection of dogs," introduced into the House of Commons by Sir Frederick Banbury, with the support of Sir John Butcher and Mr. Frederick Green, is the second order of the day for March 19th. The first order of that day is the Shops (Early Closing) Bill, introduced by Mr. Briant, which may or may not occupy a large part of the session. The text of the Dogs' Protection Bill is as follows:

A Bill to Prohibit the Vivisection of Dogs.

Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. *Prohibition of Experiments upon Dogs.*—Notwithstanding anything in the Cruelty to Animals Act, 1876 (hereinafter referred to as "the principal Act"), it shall be unlawful to perform any experiment of a nature calculated to give pain or disease to any dog for any purpose whatsoever, either with or without anaesthetics, and no person or place shall be licensed for the purpose of performing any such experiments.

2. *Penalties.*—Any person performing or assisting or taking part in performing any such experiment on any dog shall be guilty of an offence against the principal Act and punishable accordingly, and the provisions of this Act shall have effect as though they formed part of that Act.

3. *Short Title.*—This Act may be cited for all purposes as the Dogs' (Protection) Act, 1920, and the principal Act and this Act may be cited together as the Cruelty to Animals Acts, 1876 to 1920.

Experiments on Animals.—In reply to Sir Frederick Banbury, the Home Secretary said that the form of the returns relating to experiments on animals would be considered in due course. He hoped it might be possible to give nearly the same information as was given before the war, but he must have regard to the requirements of the Select Committee of the House on Publications.

Maternity Homes.—In reply to Mr. Clough, Dr. Addison said that his department had for some time pressed upon local authorities, both in general circulars and in individual letters, the importance of providing and maintaining maternity homes, and had obtained Treasury sanction for a grant of half the approved expenditure on these purposes. During the last year or so about twenty-five such homes were established by municipal authorities, and about twenty by voluntary bodies, who as a rule received financial assistance from local authorities. Many similar homes had been planned, and were likely to be established in the near future. (An account is given at page 299 of the Memorandum issued by the Ministry on the planning and organization of maternity homes and hospitals.)

Proposed Dental Legislation.—Asked by Mr. Raffan, on February 19th, whether legislation would be introduced this session to carry out the recommendations of the Departmental Committee on the Dentists Act, 1877, Dr. Addison said it was hoped to introduce legislation during the session, but he could not yet make a definite statement.

Retired Naval Officers' Pensions and Income Tax.—Mr. Long, in answer to Rear-Admiral Adair, on February 18th, said that retired naval officers who were called out during the war were not eligible to count such service for increase of retired pay, but, in lieu thereof, were granted a bonus of 25 per cent. upon their full pay during service. All such officers, however, were eligible to have their retired pay in respect of service before retirement re-assessed upon the revised scale introduced last year. The Government had decided that as from April 1st next income tax was to be charged on the assessable service emoluments of naval officers at the ordinary rates applicable to the rest of the community. The principle was decided upon when the new increased rates of pay were sanctioned. Viscount Curzon asked whether in Admiral Halsey's report it was recommended that if the service rate of income tax were no longer to be charged the question of pay would have to be reconsidered. Mr. Long replied that when the question was finally considered that recommendation was not adopted. Sir E. Carson put it that in some cases the income tax would nearly swallow up the increased pay. Mr. Long did not accept this, and said that new rates always at first affected some old conditions.

Precautions against Influenza.—In reply to Lieut.-Colonel Raw, Dr. Addison, on February 23rd, said there had been a slight increase in the number of deaths from influenza during recent weeks and a few outbreaks in schools and other institutions, but otherwise there was no evidence of unusual prevalence of the disease in this country comparable to the definite new waves of influenza which were occurring in American cities and on the Continent. The Ministry of Health kept a constant watch on the occurrence of influenza at home and abroad. Information was derived from returns, from consular agents, and other

official sources all over the world. Information as to the prevalence of the disease at home was obtained from the weekly return of influenza mortality in the ninety-six great towns, issued by the Registrar-General, and from returns of cases of acute influenzal pneumonia, the notification of which was now obligatory in England and Wales. Returns of cases of influenza were also furnished voluntarily every week by a number of schools, institutions, and representatives of industrial firms throughout the country. All data on the subject, statistical as well as scientific, came before an Influenza Committee, a medical standing committee of the Ministry of Health, holding frequent meetings, and on which sat medical representatives of various Government departments. A vaccine against influenza was now being issued on demand to medical officers of health for distribution free of charge among medical practitioners. All practicable means of protecting the country from the introduction of influenza through the ports had been considered. The knowledge and experience accumulated during recent epidemics had been collected and issued to local authorities. A memorandum had been issued to local authorities explaining the measures (both administrative and personal) which were deemed best calculated to prevent the spread of the disease and lessen its mortality. A popular leaflet had also been issued and widely circulated to local authorities setting out the best measures of guarding against infection, with advice to patients as to the best known means of securing a speedy return to convalescence and the avoidance of those complications which constituted the special danger of influenza. Special inquiries were being pursued in selected districts into such questions as immunity, the effects of overcrowding, and incidence according to age. In certain of these areas arrangements had been made, in consultation with the Medical Research Committee, for the co-operation of medical officers of the Ministry, medical officers of health, and bacteriologists, in the investigation of the origin, the spread, and the best means of combating the disease.

Ministry of Health Expenditure.—Dr. Addison, in reply to Mr. Godfrey Locker-Lampson on February 18th, said that the recent establishment of the Ministry of Health obviously made it impossible to reduce the staff. Every effort, however, had been made, to the satisfaction of the Treasury, with whom the detail of the organization was worked out, to secure the utmost economy in the staffing arrangements.

Vaccination Statistics.—Mr. Charles Edwards, on February 18th, asked the Minister of Health if he were aware that more than half the children born at the present time were withheld from vaccination; whether the proportion of unvaccinated children of each year's birth was steadily increasing; whether nearly 40 per cent. of the births each year were exempted from vaccination by the statutory declaration of objection by the parents; and whether in the circumstances the compulsory clauses of the Vaccination Acts should not be repealed. Dr. Addison replied that the figures were approximately as stated. He was, however, of opinion that the repeal of the compulsory clauses would result in a still larger proportion of children remaining unvaccinated, and thus the whole community would be less protected. Small-pox was prevalent at the present time in various parts of Europe, Canada, and America, and in view of the risks of the introduction of the disease into this country he was not prepared to take any action which would tend to increase the number of persons in this country who were unprotected.

National Insurance Finance.—In answer to Captain Coote, on February 18th, Dr. Addison said that the revision of Health Insurance contributions and benefits had been under consideration for some time, and he hoped to introduce an amending bil at an early date.

Treatment in Army Mental Hospitals.—In reply to Major Steel, on February 18th, the Secretary of State for War said that strict inquiry had been made into every complaint, whatever its nature, made with regard to the treatment of men in army mental hospitals. In no case had it been found that there was ground for serious complaint, and the suggestions of careless treatment and of deliberate ill treatment in these hospitals were unjustified. The utmost care had been taken in the treatment of soldiers suffering from early mental disorders, and the system of treatment followed, which was adopted after consultation with the most expert authorities on the subject, had been acknowledged by those best qualified to judge to be in some respects an improvement on the system generally adopted in civil mental hospitals. The results had been highly satisfactory, as was evidenced by the higher recovery rate and lower death rate as compared with civil institutions of similar type. The general allegations made against the officials of the army mental hospitals and the Army Medical Service were entirely unjustified, and he saw no occasion for ordering an inquiry of the nature suggested. The matter was raised again during the debate on the Army Estimates on February 23rd, when the Financial Secretary (Sir Archibald Williamson) said that the War Office was prepared to offer every facility for the fullest inquiry and investigation on a prima facie case being shown. It was not prepared to hold inquiries without some grounds for such action being shown, but if any responsible body of people could bring forward an allegation which seemed to have some basis the War Office would at once order an investigation. In the course of the debate on the Army Estimates in the House of Commons, on February 23rd, Mr. Spoor (a Labour member) raised the question of the treatment by the War Office of mental cases. He quoted a statement from a newspaper to the effect that between twenty and thirty thousand shell-shock patients had been treated in the military hospitals, and that many of the brave men sent back from France, speechless or witless for the time being through shock, were given the treatment of prisoners in gaol. The paragraph went on to say that many of the men spent long weeks or months in solitary confinement, in cells destitute of furniture, and not even provided with a chamber utensil; further, that all letters written were subject to severe censorship, and that the patients were "at the mercy of callous and arrogant warders, who punished the least complaint or reluctant obedience by physical violence of an inhuman kind." Asked the name of the journal he was quoting, Mr. Spoor stated it was the *Daily Herald*, and this announcement being greeted with laughter, Mr. Spoor said he could not understand that there was any reason for that laughter. If there was the slightest element of truth in the allegations—and other papers had also quoted examples—there was every justification for an immediate inquiry. Sir Archibald Williamson (Financial Secretary to the War Office), replying, said that he had a document before him which dealt with the whole treatment of neurasthenic and mental cases in detail. In 1915 the President of the Royal College of Physicians, at the invitation of the Army Council, arranged for a Committee of Members of the College to visit the various military hospitals in which nerve shock and mental cases were being treated, and to submit a report on the adequacy or otherwise of the arrangements made for the care and treatment of the patients. There was a report which was satisfactory, and further supervision had been had of these hospitals and asylums and patients.

Service Women's Compensation.—Mr. Stanley Baldwin, Financial Secretary of the Treasury, made a statement on February 19th as to compensation to women disabled and discharged from Queen Mary's Auxiliary Corps, the Women's Royal Naval Service, and the Women's Royal Air Force. The women who entered these corps were enrolled, like other persons engaged in ancillary services, on a footing that differed little from that of ordinary employment, except in the case of those enrolled for service overseas, for whom a special scheme of compensation, under the Injuries in War Compensation Act, was framed. Under the Workmen's Compensation (Addition) Amendment Act, recently passed, an addition of 75 per cent. instead of 25 per cent. was being made to the weekly amount payable under that Act, and this applied to the three women's corps whose employment brought them within the scope of that Act, and who were disabled by injuries sustained in the United Kingdom.

The Professional Training of ex-Service Men.—In reply to Mr. Alfred Davies, on February 23rd, Sir Robert Horne said that assistance in training for the professions was given to disabled and able-bodied ex-service men by the Appointments Department of the Ministry of Labour, in conjunction with the Board of Education and the Agricultural Department. Advice was given as to appropriate training, vacancies or classes, and the payment of maintenance grants to suitable candidates. Grants had been made by the Labour Department to 1,138 men training as solicitors and to 1,920 training as accountants. The President of the Board of Education had sanctioned grants to some 2,408 men training for the medical and dental professions.

Pensions Medical Officers' Remuneration.—In answer to Major Henderson, Sir James Craig, on February 23rd, said that in the London area half-time medical officers employed by the Ministry of Pensions were paid a fee by session of 2½ hours. The fee varied from 1¼ guineas to 2 guineas according to the class of work required. Whole-time medical officers in the London area were paid annual salaries ranging from £750 to £1,200.

The Cost of Quinine.—Asked by Mr. Glanville, on February 23rd, why an official of the Ministry of Munitions was on the Profiteering Committee, and whether all files and documents appertaining to quinine in the Foreign Office, Ministry of Munitions, and the War Office were submitted to the Committee, Mr. Kellaway replied that an official of the Ministry conversant with the dealings in quinine was asked by the Board of Trade to serve on the Committee of Inquiry. So far as the Ministry of Munitions (War Office contract section) was concerned, no information was withheld. Mr. Glanville inquired whether Mr. Kellaway had any statement to make as to the quinine transaction conducted by his department with the British Quinine Corporation, criticized in the Board of Trade Profiteering Report. Mr. Kellaway thought that the report did not call for any statement.

Army Masseuses. — Sir A. Williamson (the new Financial Secretary to the War Office), on a question by Major Hurst, said war gratuities, broadly speaking, were given to commissioned officers and enlisted soldiers, and were not given to the very large numbers of civilians, men and women, who in various ways worked for the army during the war. An exception to this rule was made in the case of Queen Alexandra's Imperial Military Nursing Service and other staff performing similar duties, for special reasons and in accordance with precedent; but after full consideration he was not prepared to extend this exception.

Hospitals in India.—In reply to Colonel Yate, the Secretary of State for India stated, on February 16th, that the extra hospital accommodation and equipment and the appointment of fully trained nurses for family hospitals formed part of an extensive programme for the improvement of hospitals in India which had been accepted on the recommendations of the Makins Committee, and was being undertaken as funds permitted.

England and Wales.

DISTRICT NURSING IN LONDON.

THE annual meeting of the Central Council for District Nursing in London is being held in London this week. The chairman is Sir William J. Collins, and the vice-chairman Sir Thomas Barlow. The executive committee has elected as its chairman Mr. E. B. Turner, F.R.C.S., who, together with Dr. T. W. H. Garstang and Dr. M. G. Biggs, represent the British Medical Association upon the Council. The fifth annual report states that the year 1919 was full of new problems and of fresh needs and opportunities brought about by the advent of peace and the abnormal state of the country. Amongst the sections of the community in need of assistance at the present time are the so-called "new poor." The attention of the executive committee was drawn afresh to the needs of "visiting nurses" for persons of limited income by letters in the press from Sir Richard Douglas Powell, who, at the request of the committee, has now joined the Council; with his aid it is hoped that effective action may be taken in the matter this year. The release of numbers of nurses from military service has done much to ease the pressure of work on the staffs of the District Nursing Associations, but the difficulty of meeting emergency and special cases by their regular staffs is still very great. The time was therefore thought ripe to organize a panel of nurses willing to undertake temporary work. The report states that from the surplus funds of the British Red Cross Society £10,000 will be entrusted to the Council for distribution to the metropolitan nursing associations, special consideration being given to the work done on behalf of ex-service men. Further steps will be taken to supply nurses for the areas in London still unprovided with nursing services. The Council records its sense of severe loss in the departure of Sir Arthur Downes, who has left England and can no longer give further active assistance, but his interest in the work is unchanged.

HOSPITALS AND CLINICS AT CARDIFF.

The financial position of hospitals, which renders acute the need for a settled policy for their future development and maintenance, is engaging attention in every part of Great Britain. It was discussed last week at a meeting of the Health Committee of the Cardiff City Council, when Dr. Edward Walford, Medical Officer of Health for Cardiff City and Port, and lecturer in public health in the Welsh Medical School, referred to the difficulty of housing the clinics. The premises of the tuberculosis dispensary maintained by the Welsh National Memorial were, he said, unsuitable; the sanitary authority hoped that the clinics supported by it might all eventually be conducted in connexion with the out-patient department of King Edward VII Hospital, Cardiff; Dr. Walford suggested that the hospital authorities should be asked to include the tuberculosis clinic. If this were done all the clinics supported or subsidized by the sanitary authority would be under the same roof. It was, however, clear that the hospital authorities were not at present in a position to offer facilities for this plan. Alderman Dr. J. Robinson, who was in the chair, expressed the opinion that the King Edward VII Hospital should be converted into a casualty clearing station to receive emergency cases, and to serve as head quarters for the various clinics, all other cases being provided for in a building somewhere outside the town. It was objected that the provision of another building would necessitate an expenditure of three-quarters of a million; but Dr. Walford observed that the sanitary authority would contribute largely, and that there would be a saving to the ratepayers in cost and a gain of efficiency in the working of the various clinics. Dr. Robinson, in suggesting the establishment of a hospital for all save emergency cases outside the city, was no doubt thinking of the Rookwood scheme, which was initiated in September, 1918, for the benefit of wounded soldiers and sailors requiring prolonged treatment, and afterwards for pensioners, but with an eye to its use for civilian patients in the future. The estate, which extends to some twenty-five acres, is situated on the outskirts of Cardiff, and is easily accessible from the centre of the city. It would provide a site sufficiently large to allow differentiation of buildings so as to adapt them to various classes of cases.

Correspondence.

MEMORIAL TO THE OFFICERS AND MEN OF THE R.A.M.C. WHO FELL IN THE WAR.

SIR,—May I venture to bring to the notice of any of your readers who may be unaware of the active prosecution of the above project the following particulars:

A committee representing every branch of the R.A.M.C. has been formed under the presidency of the Director-General Medical Services. This committee has decided to erect a memorial bearing the names of all officers and men who fell during the war, and place this upon a prominent site in London, and if funds permit to erect replicas in Edinburgh and Dublin.

The monument will stand in honour of the entire profession, and the project should also appeal to the many who received help at its hands in the hour of strenuous need.

A sum of some £10,000 has been already collected by army commands, but it is estimated that at least £30,000 will be required if the monument is to be made worthy of the men to whose honour it is to be dedicated.

Subscriptions may be sent to army commands or direct to the treasurers of the fund, Messrs. Holt and Co., 3, Whitehall Place, S.W.1, marked "R.A.M.C. War Memorial Fund."—I am, etc.,

London, S.W., Feb. 20th. G. H. MAKINS.

THE INDIAN MEDICAL SERVICE: IS IT WORTH WHILE?

SIR,—In your issue of September 13th last there is an announcement that the Secretary of State for India requires 206 men for the Indian Medical Service, and that 33⅓ per cent. increase in the grade pay had been sanctioned. Since then (see SUPPLEMENT to BRITISH MEDICAL JOURNAL, November 8th, 1919, p. 105) the interesting information has been elicited that, according to India Office calculations, an average increase of 22 to 26 per cent. only is being received by I.M.S. officers—that is, taking their whole pay into account.

This is brought about by the conferring of a flat rate of pay irrespective of the work done by the officer, and the abolition of all allowances for charge of followers, cantonment hospitals, or vacant regiments. The result has been the creation of a sense of grievance in the service, for the general belief was that as grade pay only was affected by the increase, the allowances would remain as before, or when the station hospital system was introduced, that compensation for these allowances would be given, so that officers should not suffer loss through change of system.

For many years before the war, owing to insufficient cadre, it was the rule for officers to have charge of other regiments than their own, and often more than one during the hot weather, and so to draw Rs. 100 a month extra on the average throughout the year.

Let us take an actual concrete case—a major of thirteen to fourteen years' service in medical charge of a cavalry regiment. At the old rates of pay this officer received:

Grade pay	...	...	Rs. 650 per mensem
Staff pay	...	...	,, 150 ,, ,,
Horse allowance	...	...	,, 90 ,, ,,
Estimated average of extra charge allowance	...	...	,, 100 ,, ,,
Total	...	...	Rs. 990 per mensem

When the first revision of pay was made in December, 1919, on the introduction of the station hospital system, which allowed charge pay for command and second in command of station hospitals, the above officer received the following:

Grade pay	...	...	Rs. 750 per mensem
Charge pay for first-class station hospital	...	...	,, 240 ,, ,,
Total	...	...	Rs. 990 per mensem

It will be clear, then, that this officer drew exactly the same pay under the station hospital system as he did under the regimental system. The second revision of pay which is now in force allows this officer a consolidated pay of Rs. 1,000 per mensem, however he is employed. Thus this officer has received an increase of Rs. 10 a month only, and not an increase equal to 33⅓ per cent. of his old

grade pay. When such a case is possible can you wonder, Sir, that the service grumbles.

Let us now examine the financial position of the above major. If he is a bachelor he can manage comfortably on his pay. If recently married or has no family, then he can probably just clear expenses. But let us suppose he married at 30, after five years' service, and has now three children, aged 8, 6, and 4 years respectively. Two of these children must be kept in England, the elder probably at a preparatory boarding school.

The father must remit money for these two children, and this may be put at £300 a year as a minimum. At present, of course, this remitting is more easily done than formerly, owing to the fall in exchange, but for the sake of argument let us take the value of the rupee at 1s. 8d. His monthly expenditure will probably be:

Deduction for income tax and family pension fund	Rs. 78 per mensem
Home remittance at £300 a year ...	,, 300 ,, ,,
Insurances, say £22 a year ...	,, 22 ,, ,,
Total	Rs. 400 per mensem

This leaves a balance of Rs. 600 a month for the living expenses of himself, wife, and youngest child in India. Now it is doubtful whether, with the present increased cost of living in India, this family could live in a plains station on this amount, but we will suppose that with rigid economy it is *just* possible. There remains to be considered how our friend is to meet the expenses of sending his wife and child to the hills for, say, four months in the hot weather. This is an essential minimum in most parts of India.

Cost of wife and one child in a hill station	Rs. 450 per mensem
Expenses of husband in the plains	,, 300 ,, ,,
Total	Rs. 750 per mensem

That this is not an exaggerated estimate may be judged by the fact that only the hotel expenses of wife and child are taken into account; nothing is allowed for expense of journey, provision of warm clothing for child and servants, pocket money, social duties, etc.

The husband must keep on the house in the plains and most of the servants, so that to keep within the Rs. 300 he will have to live more or less the life of a hermit. You yourself say that, "We are advised that an officer without a family should be able to live on 400 rupees a month in India" (BRITISH MEDICAL JOURNAL, January 17th, 1920, p. 93). It is evident, then, that during the four months of hot weather separation he has to spend at the lowest estimate Rs. 750 a month with only Rs. 600 available. In four months he will be 600 rupees in debt. The position of this officer—and the case is an actual one—is financially appalling, yet it is a common one. Instead of being forced into debt he ought to be saving up money for home passages and the cost of keeping himself and family during his furlough.

That this stringency is not confined to the I.M.S. is evident from the recent revision of pay sanctioned for all other officers of the Indian army and various of the civil services in India. The following comparative table shows these revised rates. It will be seen that the I.M.S. is the lowest paid of any.

Rank.	Indian Cavalry.	Indian Infantry.	Supply and Transport	I.M.S.
	Rs.	Rs.	Rs.	Rs.
Lieutenant	625	575	725	550
Captain	850	800	950	700
Captain after nine years ...	950	950	1,050	800
Major	1,150	1,100	1,300	1,000
Major after five years, second in command	1,250	1,200	1,450	1,150
Lieut.-Colonel in command.	1,850	1,750	1,700–1,950	1,500-1,650

The Educational and Forest Services have also had revised rates of pay sanctioned for them. The former begins on Rs. 550 and the latter on Rs. 450 a month, and both receive annually an increase of fifty rupees a month. Thus an educational officer after eight years' service draws Rs. 1,000 a month, and a forest officer does so after ten years. The I.M.S. officer does not do so till after twelve years' service. At twenty years' service the educational officer draws Rs. 1,500, while the I.M.S. officer is still drawing only 1,150. Why is this difference made? Does this represent the comparative values of the services as estimated by the Government of India?

It thus appears that the medical officer is the worst paid of any of the principal services in India. This fact should be known to the profession, and when it is known it does not appear likely that Mr. Montagu will get the recruits he is asking for, and which are so urgently required to allow of the overwrought officers getting their overdue leave. Is the public aware that over 120 I.M.S. officers are at present home on sick leave, and that only eight months' leave is being granted to anyone at present serving in the I.M.S. in India? Many officers have not been home for over ten years, and yet these same officers were promised furlough every five years when they joined.

Facts like the above should be made known to intending recruits so that men may realize what they are letting themselves in for. Nothing less than the terms stated by Colonel Elliot before the Secretary of State at the India Office on October 30th last will satisfy the I.M.S. These terms are: (1) Increase of pensions; (2) free passages to and from India; and (3) an increase of pay of 50 per cent. on the total pre-war pay.—I am, etc.,

"I.M.S. RETIRED."

PUBLIC HEALTH VERSUS THE STATE.

SIR,—I am obliged to Dr. Davies for his criticism. If he admits that destitution has been a large factor in tuberculosis mortality he has gone far towards accepting my position. If destitution destroys then surely privation predisposes. Destitution is a comparatively simple problem if you may spend public money lavishly. But "what the State gives to the working class it first takes from the working class, and returns it *minus* the cost of collection and of (far more important) distribution." The problem of the borderland class, not actually but easily becoming destitute, is of an infinite complexity. It is they who feel taxation, especially indirect taxation, most acutely. If real wages have been reduced in their case by paternalism, Dr. Davies cannot argue that the cost of municipal and State benevolence falls on the rich. His admission that they have been so reduced is the concession of my position. It is but a question of degree.

My paper had to be condensed else he would have known that housing was one part of my indictment. I had compared the conditions of twenty years ago—landlords competing for tenants—with to-day when tenants are competing for landlords. Let him compare the successful work of agencies like the Peabody, which cost the public nothing, with the municipal schemes involving a heavy burden on the rates, and ask himself how far the pre-war checking of private enterprise has been the cause of the frightful *impasse* of to-day. Given high real wages the houses would have been built, and were, while they were high, in excess.

The chief causes of the present rise, he says, are alcoholism, bad housing, and the like. He boasts that all these have been ameliorated, which necessarily means they were worse while the rate was falling. He cannot have it both ways.

The gravamen of my charge is that meddlesome legislation aims at stamping out the disease rapidly—in vain: it can only be by patient service of natural law. It is not reasonable to accuse me of pursuing the lightning tactics. Infection probably plays some, if not a great, part; with a drop of well on to 2,000 per million in fifty years, we had a right to expect an accelerating fall. But I left it at the arithmetical progression. If the rate had steadily fallen for so long by 200 in each five years, by now it should have been in the neighbourhood of 400. We are entitled to ask officialdom, now that it can control us so much more than ever it did before, why it should be about 1,200. It is no answer to plead the continuance of old conditions when in the same breath you boast that they have been vastly improved.

The "cult of the child" began long before the State and municipality adopted it as their own. Dr. Davies is hardly fair to ignore the immense effect of voluntary effort. Paternalism came too late into the field to be able to claim the entire credit of the advance in the

tuberculosis of childhood; but it is already possible, if you relentlessly track it down, to trace some of the mischief it has done in other directions, while perhaps relieving individual children.

Condensation again has given an erroneous impression of what I had said. I submitted that two to three years was not an excessive estimate for the length of time in fatal cases from the date your patient first comes to you to his death. It is about the average in my own experience, and the submission met with no objection from my audience. I am ready to admit that adverse influences may act more quickly to depress than favouring to raise. But we are dealing with thousands of cases, and it can scarcely be a coincidence that the charts bear out so many men's experience.

Of the list of diseases he gives, except for cancer, I cannot believe that any would fail to be influenced for the good by the more equable distribution of wealth which has been proved in England and America to accompany *laissez faire*. The cause of cancer we do not know; let me remind Dr. Davies that we do know that of tubercle, and that at one time it was plainly being checked.

He says that the rate of the fall of tuberculosis was not appreciably checked before 1913. It is sufficient, since the Registrar's figures do not convince him, to remind him that Professor Karl Pearson pointed out the fact, certainly before 1913. If it was appreciated, it must have been appreciable.—I am, etc.,

Rayleigh, Essex, Feb. 22nd. B. G. M. BASKETT.

P.S.—Since writing this I have received from a correspondent in the United States, who is leading the opposition to a stupid attempt to introduce an "Insurance Act" into America, some additional tuberculosis charts. It therein appears that in Massachusetts the rate from 1890 to 1913 has fallen by 57 per cent.; that New York had by 1913 passed Berlin, Massachusetts, Prussia, Newark, and Leipzig; and that over the United States registration area the general rate had fallen in 1912 to 1,370 per million. Surely, with all the other facts, this should be conclusive. If we are no longer to set examples, in the name of common sense let us imitate the voluntaryism of Denmark with its lowest of all rates, or of the United States with its rapidest of progress.

THE TERRITORIAL FORCE.

SIR,—A campaign is commencing, having for its object the formation of the new Territorial Army. Many doctors will be debating mentally the advisability of joining, and perhaps the experience of some of the older T.F. officers will help them to make up their minds. Early in the present war it was a common thing for the Boer war men to say that the War Office would find some way of doing the volunteer out of his pay and gratuity; in fact, I know of one man who sold his gratuity for £5. He made a bad speculation certainly, but, now that the war has officially ended, one can definitely say that the R.A.M.C. officer who was a Territorial was shabbily treated. One cannot criticize the matter of honours, for they are given, deservedly or not, only on the recommendation of one's superior; but hard cash as received by the individual officer forms a definite means of comparison. During the war the question of T.F. pay was always hidden by the answer that at the end of the war everything would be evened up.

My experience has been this. In August, 1914, I was a specialist on the staff of a general hospital, and had held a commission in the T.F. for five years. I pushed off with my field ambulance, and in November, 1914, was promoted lieutenant-colonel (temporary). I commanded a field ambulance for nearly two and a half years, and was then transferred to a certain post, and, of course, reverted to my permanent rank of captain. In March, 1919, I was demobilized. My pay, *plus* allowances at the end of the war, was exactly 4s. a day less than the lieutenant R.A.M.C. qualified in 1918. My gratuity was that of a captain, and, in spite of Army Order 117 of 1919, I cannot draw the higher rate because, like all the early promotions, mine was gazetted as "temporary," whereas later, to avoid confusion between temporary commission and temporary promotions, the wording was altered to "acting," and in the Army Order "acting" is referred to.

Now, Sir, if I had, instead of joining the T.F., remained at my hospital I should have held the same rank (at least) and I should have retained my practice, and been able to keep my house instead of having to sell it for £1,500 less than I can now buy it back for. Incidentally, I should have been doing useful work instead of absolutely wasting five years, at work that any competent civilian could have done, in a field ambulance. My colleagues on the hospital staff automatically became lieutenant-colonels and majors, drawing the pay and also the gratuity of their ranks. It may be asked, why did I not ask for special work at my hospital? In August, 1914, I was told no specialists were required, and in 1917, when I applied to the D.D.M.S. Western Command for my appointment no answer was received. My advice to any young doctor who thinks of taking a commission in the Territorial Force is that it will pay him far better to wait until he is conscripted.—I am, etc.,

February 24th. "T.F."

PROTECTIVE INOCULATIONS AGAINST INFLUENZA.

SIR,—Sir William Leishman's article upon the results of protective inoculations against influenza raises many interesting points. First, it seems to prove that Pfeiffer's bacillus, as I have consistently maintained on the strength of my own bacteriological investigations, is the essential cause of influenza—the parallelism of the intensity of the epidemic and the dominance of the influenza bacilli, and the protection apparently afforded by the increased strength of the influenza "vaccine," greatly strengthening the claims of this bacillus to this doubtful honour. Further, there may be some justification for extending these observations in the army, because efficient control can be exercised, and the incidence of the disease is likely to be greater among soldiers congregated in masses than in the general population.

Even these army records disclose some striking dissimilarities. The Western Command, the Scottish Command, and the London District, aggregating over 8,000 soldiers, show 600 cases of influenza and not a single death, and the incidence of influenza is even greater among the inoculated. Again, the great majority of deaths occur in two districts—York and Maidstone—among 7,297 units—that is, among 11 per cent. of the total (59,144). What local influence was at work to explain this high death rate? Was the influenza bacillus working in virgin soil? It is most important to determine whether the soldiers have ever suffered from influenza.

It cannot be argued that these inoculations protected unless we know for certain that the said soldiers had not been protected by an attack of influenza at some previous period; and it is conceivable that those who had had influenza already would be the more ready to submit to inoculation. The value of antityphoid inoculations could not be proved by inoculating those who had had typhoid fever before inoculation. The immunizing effect of antityphoid and anticholera vaccines can be demonstrated in the guinea-pig. I know of no experiments in animals which show the immunizing action of specific vaccines in influenza and its streptococcal complications. It is quite possible that Sir W. Leishman has positive evidence of this kind. If so, it should certainly be published in the interests of science.

However, I am not concerned with the wisdom of this procedure for the safety of soldiers. I wish to view the problem as it affects the civil population. The Ministry of Health has given its approval in a Memorandum, and its action is open to serious criticism. Ordinary people accept the approval of the health authorities as a substantial argument in favour of wholesale inoculation, and well-to-do people are keeping their doctors busy. I cannot think that doctors fully explain the reasons for and against inoculation. Perhaps they have not thought them out. The public have a right to know the common sense of wholesale inoculations, and then can decide for themselves.

If the policy of the Health Department is sound, inoculations should be widely practised among the poorer classes, because they suffer most and die most from influenza. If it is in the nature of an experiment, the experiment would be far more useful and instructive in hospitals and schools, when the patients could be controlled and supervised, than in private practice, when the work is casual

and uncontrolled. At hospitals there is also the control of the laboratory and the mortuary.

I will now briefly state the obvious objections to preventive inoculations against influenza:

1. Not I, but many, hold that the cause of influenza is not known. Non-specific "vaccines" are of no avail. But it is urged that the streptococcal complications are the cause of death. Perhaps sometimes, not always. But granted they are, what experiments upon animals prove that specific streptococcal "vaccines" protect against a virulent attack of the haemolytic streptococcus? In the case of typhoid fever, cholera, diphtheria, and tetanus the protective agent is specific, and its virtues can be demonstrated in animals. Not so with regard to the "vaccine" of either influenza or its complications.

2. What is the chance of an epidemic of influenza appearing in such a form and spreading so widely that protective inoculation would justify itself and its advocates? Very small. The epidemic is not likely to be even as severe as the epidemic of 1917. In 1917 influenza caused 750 deaths in London with a population of 4,000,000, measles 1,900 deaths in children under 5, whooping-cough 550 in children under 5, diphtheria 350 deaths in those under 5, puerperal fever 873 deaths in a select group of women. Now, if the policy of protective inoculation is sound, there is far greater reason for applying the principle to these restricted groups than to the protection of the whole population against influenza. Why is this "plunge in the dark" justified in the case of influenza if it is not made to protect the individuals belonging to a far smaller and more easily defined group, and suffering from diseases of a similar nature? The experts will find it difficult to supply an answer.

3. But there is another point, which should give this protective inoculation, as a public health measure, its quietus. In London's population of 4,000,000 persons there were 750 deaths from influenza in 1917. Thus, if protective inoculation is perfect, it is necessary to inoculate 5,330 persons—once, twice, or thrice—to save one life. To save one life a single doctor would have to give 100 inoculations a day, or double or treble that number, and work continuously for two months, not counting Sundays. He himself might die in the attempt, or—still worse—one or more of the inoculated multitude might die from the inoculation itself. Personally I think that if the doctor has to become a slave of this sort the risk of one or more deaths in 10,000 or more inoculations is more than probable. And what a waste of energy and money! At least £10,000 spent on the advice of the Ministry of Health for such a futile object as the inoculation of 5,330 persons out of a population of 4,000,000 in a vain effort to save one life.

If physicians are still inclined to recommend protective inoculations to their patients who are afraid of influenza, I trust that the patients may learn for themselves the common-sense view of this proposal, and think twice.—I am, etc.,

W. CAMAC WILKINSON, M.D., F.R.C.P.

London, W., Feb. 19th.

NASAL DRILL.

SIR,—Dr. Hickling's interesting paper in the JOURNAL of January 31st will, it may be hoped, lead to improved methods in this increasingly popular mode of treatment; but I feel that sufficient stress has not been laid upon the two essential features of the drill—namely, not to close the nostrils when blowing, and to breathe in. The old tradition of mothers and nurses that children should be taught to blow their noses thoroughly is responsible for an immense amount of damage to nasal mucous membrane. A handkerchief used in the ordinary manner does much harm to the nose, and yet the majority of people seem to think that nasal drill consists mainly of forcible nose-blowing. The ordinary method consists of alternately closing and opening the nostrils during a fierce expiratory effort. The effect of this, in addition to expelling the excretion, is to fill up with blood the turbinated bodies and the nasal mucous membrane generally. This causes further secretion. Then follows more nose-blowing, and a vicious circle is established. Forcible inspiration depletes the nose of blood and stops secretion.

Almost anyone can produce a chronic nasal catarrh by continued nose-blowing in the ordinary way, and the majority of nasal catarrhs can be stopped by a course of deep inspirations, blowing the nose only when absolutely necessary and then without closing the nostrils. For instance:

I saw a girl who was in constant misery on account of an old-standing nasal catarrh. The turbinated bodies were engorged, and secretion was pouring from her nose in an almost constant stream. I horrified the child's mother by saying that the chief thing she needed was not to possess a handkerchief. I was told that she would not be fit to be seen without a handkerchief, so I advised her to shut herself up in her house for a few days and follow the instructions I laid down with regard to blowing and deep inspirations. Three weeks later I saw the child again, when the mother said that an extraordinary change had come about. Before I saw her she used twenty-four handkerchiefs a day and never had a dry one; now she had only one handkerchief a day and never had a wet one.

In another case a lady complained that all her children suffered from severe nasal catarrh which no remedies or nose-blowing would relieve. All were very susceptible to taking fresh colds, and one boy had frequent nose-bleeding. Recently the lady told me that for two years after following my directions all the catarrh and nose-bleeding had ceased, and the children had remained entirely free from fresh colds until a few weeks ago, when all the troubles returned as badly as ever. It was then found that a new governess had instituted a system of nasal drill every morning before beginning lessons. When this was stopped the nasal troubles ceased at once.

It is doubtful whether any benefit is derived from induced sneezing, and I am sure that Dr. Hickling makes a mistake in including menthol in the snuff she uses. The continued use of any preparation containing menthol is harmful. The immediate effect is pleasing, but there follows a hyperaemic reaction which ultimately becomes the predominating factor. The only other commonly used drug, which has a more deleterious effect, is adrenalin.

I believe that Dr. Lapage is mistaken in his opinion that "the majority of tonsils and adenoids are due to infection" (BRITISH MEDICAL JOURNAL, January 31st, p. 148). There is, I consider, convincing evidence that enlarged tonsils and adenoids are mainly due to orthodox nose-blowing and too much night air, which produce a constant hyperaemia and increased activity of the adenoid tissue.—I am, etc.,

London, W., Feb. 9th. ALEXANDER FRANCIS.

TICKS AND RELAPSING FEVER.

SIR,—I can confirm the statements made by Colonel Mackenzie, in his letter of February 7th, and by Captain Nicholson, in his original article of December 20th, that spirochaetes were scanty and often difficult to find in the British cases of relapsing fever contracted in Palestine.

I was at the Military Laboratory, Port Tewfik (Suez), during two seasons of relapsing fever. Among the British cases occurring in that neighbourhood the parasites were rarely abundant, and they were never present in such numbers as were frequently found in Egyptian cases; there was, however, no difficulty in detecting them. But while I was at the Military Laboratory, Kantara, in the winter of 1917, as soon as British cases of relapsing fever began coming down the line from Palestine, a marked difference in this respect was noticeable. The parasites were nearly always extremely scarce, and sometimes could not be found at all until the second or even third examination. While I was at Jaffa, during the following spring, the same condition obtained. Indeed, I had such difficulty in finding the spirochaetes that I adopted the "thick drop" method for their detection (*vide* BRITISH MEDICAL JOURNAL, May 25th, 1918).

On the other hand, this difference was not noticeable in the Egyptian Labour Corps cases in Palestine. The spirochaetes in these patients could be found as readily as they were in the Egyptian cases dealt with at Kantara or Suez. Of course it happened now and again that the parasites were not numerous, but often they were swarming. May one offer the suggestion that the relapsing fever amongst the Egyptian Labour Corps in their camps in Palestine was louse-borne, while the British cases—to some extent, at any rate—were infected by ticks in the Judean caves?

This scarcity in number of the parasites, in the British cases from Palestine, was noticed, I think, also in other laboratories; in fact, I recollect that a memorandum dealing with the matter and emphasizing the necessity for repeated examination in the Palestine cases was officially circulated. As the same human host was concerned, it appears, on the ground of this difference alone, not to refer to other points, as though there were a

distinction somewhere in connexion with the parasite or its transmission in the two sets of British cases. It is quite true, as Colonel Balfour has pointed out (February 14th) that on the present data the question cannot be regarded as settled; still, I remember thinking at the time that the circumstances attending the particular infections detailed by Captain Nicholson did support strongly his view that these owed their origin to *Argas*.—I am, etc.,

London, Feb. 21st. H. M. WOODCOCK.

PREVENTION OF VENEREAL DISEASE.

SIR,—Lately the Women's Medical Federation has expressed its fear that the application of certain methods of prevention of venereal disease would rot the very foundations of society, and already that fear seems justified by Dr. McWalter's experience (February 21st, p. 273). His reference to "the seeming security of the packet" expresses what some of us have feared since such schemes were advertised. We foresee an increased demand for prostitution, with increased pressure brought upon young women and girls to surrender their chastity. Should not the medical profession pause before it gives the weight of its authority to a propaganda which may bring such dire results? Without discussing deeply what is necessary or unnecessary to the males, we may say at once that not only is sexual irregularity unnecessary to women, but that unchastity in her is most gravely and deeply harmful to the triple aspect of nature—body, mind, and spirit. Degradation, through sexual immorality, in her more sensitive and complex organization, is always painfully obvious. Nay more, we may say with fair confidence that the only two states in which she may develop in grace and favour are virginity and marriage. Seeing that this is the case with woman, is it not a grave thing for our learned profession to risk the encouragement of her sacrifice and prostitution? Could not the whole medical profession consider the question before such serious steps are taken? There must be many men who would scorn to admit their own defeat, even though in circumstances of such difficulty and complexity. A great number of men are led by public opinion, and possibly the incidence of venereal disease would not have been so great had medical men taken a different attitude in earlier days. Is it not possible to appeal to those higher instincts, which are the gift of humanity, and which can rule to the subjection of the lower? If the Church has failed, so much greater is the opportunity of our profession now!

The psychic effect of any new venture might probably be more accurately gauged by woman than by man, and she may therefore possibly be the best judge as to the mental development of a young man equipped with a prophylactic apparatus and fully instructed in its uses, and also as to his mentality and behaviour in the married state at a later period.

In the last sentence of his letter Dr. McWalter states that he has found the result that women feared—sexual depravity. His discovery that venereal disease increased with the prophylactic system was also foreseen by medical women among others.

I should like to add that, in my view, the above remarks apply to any propaganda designed to teach men how sexual irregularity may be indulged in with a lessened risk of venereal infection. Increased indulgence in man, causing increased degradation to woman, must react at last in degrading man. Man's nature, too, can be stunted in a certain development by indulgence in vice.—I am, etc.,

FLORENCE E. INGLIS, M.B., Ch.B.Edin.

Portsmouth, Feb. 22nd.

CLINICAL RESEARCH.

SIR,—If the first step towards knowledge be the knowledge of our own ignorance, there is some hope that the address of Sir James Mackenzie, delivered at the opening of the St. Andrews Institute for Clinical Research, will be epoch making, for no confession of ignorance could be more complete. Sir James, I think, wastes his time in trying to trace the origin of different diseases. The only difference I recognize is the difference between health and disease. When the environment of every individual is perfect there will be more chance of health being preserved as regards the macrocosm; but what of the microcosm? When the slums are all done away with, and the breath of heaven blows round every house: when drainage is perfect and our water supply pure; when our rivers once more become silvery streams instead of sewers, as some are at present; when, indeed, there is nothing but accident or climatic influences left even in our largest cities to interfere with health, will there be an end of disease? There will not; for when we have a perfect macrocosm and a perfect microcosm at birth, how long will it be before the microcosm is upset? Pythagoras, wisest of the Greeks, said a man ought to be ashamed of being ill—meaning that he alone, through ignorance or folly, was to blame; and the proverb that "a man is either a fool or a physician at forty" points to food as a cause of disease. In his classification of symptoms Sir James Mackenzie made three groups: (1) structural, (2) functional, and (3) reflex. He confesses that, although we can detect neither change of structure nor function, we can recognize the particular disease with great accuracy, and he mentions gastric ulcer as an illustration; and then comes what seems to me the most important sentence in his long address. He says (January 24th, p. 110):

> There may be no structural sign, nor sign of functional disturbance. Such symptoms (as those of gastric ulcer) are produced by an irritation of a limited portion of the central nervous system, in a reflex manner, the source of irritation being in the ulcer.

That is just the theory that I have been preaching for years. Many years ago, at a clinical meeting of the Edinburgh Branch of the British Medical Association, when the late Professor Gibson read a paper on angina pectoris, regarding it as a structural disease, I ventured to say that it was not structural but reflex, due to some irritation in the stomach, or intestinal canal. He would not believe me, and I do not wonder, for medical faith handicaps us all; but what are we to do when we have made up our minds that we have to do with an ulcer in the stomach? Send the patient to the surgeon to have it excised? I suppose that is what Sir James Mackenzie would do, and what is being done daily; but in spite of the success of the operation, so long as the primary cause of the ulcer is not discovered and removed, what guarantee can anyone have that another ulcer, or something worse, will not supervene? In my book published in 1911 I prove that food is the chief cause of disease, and there can be no doubt that improper food causes many symptoms reflexly before any structural, or perhaps even functional, change can be detected in the stomach. How food causes disease is the question which this century will see solved. Meantime I would suggest that it does so by spoiling the environment of some cells in the body, and with abnormal environment there will be abnormal functioning.—I am, etc.,

Hawick, Jan. 28th. JOHN HADDON, M.D.

INTRASPINAL PRESSURE IN ACUTE DISEASE.

SIR,—I desire again to direct the attention of the profession to the injurious effect of intraspinal pressure in many acute diseases. In an article published in the BRITISH MEDICAL JOURNAL of May 5th, 1917, on the cause of death in acute pneumonia, I attempted to show that the physical conditions, such as consolidation of the lung, were not the cause of the symptoms, for the former persist after the acute symptoms have disappeared, often quite suddenly. I also pointed out that increased intraspinal pressure was well known to be present in a large proportion of cases. In spinal meningitis the immediate relief resulting from tapping is another instance of benefit derived from the temporary removal of pressure from the vital centres.

In the Epitome of Current Medical Literature, January 10th, 1920 (paragraph 29), there appears a note by Herrick and Dannenberg on the subject of increased intraspinal pressure in acute diseases; they emphasize its frequency, and infer that "the increased pressure in the subarachnoid system may be a protective reaction in the early stage of infection," and warn against the possible danger of reducing it. But if their theory and their deduction from it be true, and the increased pressure is due to increased secretion of spinal fluid as the result of a "protective reaction"—that is, to prevent invasion of the meninges by the active toxin—it is not effective, and does not affect the argument that intraspinal pressure is injurious and may be relieved beneficially by tapping, as in the case of spinal meningitis, in which the injurious toxin is removed and the pressure at the same time reduced, which many reliable observers consider to be as beneficial, without the subsequent intro-

duction of serum, or even more so. I have no wish, however, to raise controversial points, but I hope, in view of the disastrous results to the community, both military and civil, of the last outbreak of influenza, that attempts will be made in the next epidemic to reduce the mortality by judicious tapping in suitable cases; this will, I believe, include the majority of bad ones; if properly done it is without risk.

Increased pressure on the vital centres in the medulla, if severe or prolonged, cannot be anything but disastrous, and if positive and reliable evidence is required in support of such an obvious proposal, no stronger fact can be adduced than the immediately beneficial effect of a satisfactory flow from a spinal puncture in spinal meningitis.

As a profession we are conservative, and rightly so, for by following those lines we exclude quackery; but it is well to remember that it took 300 years to apply a ligature to a bleeding vessel, and with all respect to authority we are prone to repeat in our textbooks fallacies which have been handed down year after year, to the detriment of the public and also to the reputation of the profession.—I am, etc.,

Broadstairs, Feb. 1st. H. V. DREW, F.R.C.S.

WAR HONOURS.

SIR,—I am quite in sympathy with your correspondent upon the above subject. I acted for nearly two years as A.M.O. to one of our largest county council mental hospitals, as did others of my friends, like myself upwards of 70 years of age, and was responsible at night for 1,000 patients, several of them shell-shock cases. The Army Council decline to bestow any medal upon the doctors, as they were not appointed by it but by the county council. I consider this rather straining a point. Soldiers were received daily and at all times, and examined on the spot. I press this, being one who contracted illness, which has nearly cost me my life, as was the case with others at my age (some died). It is a great satisfaction to have done something by way of help in this unprecedented war; nevertheless I think the authorities should bestow some sort of decoration upon those who volunteered for some duty at the onset.—I am, etc.,

February 18th. ANOTHER M.R.C.S.

SIR,—May I ask a question—namely, how is it that one never sees or hears mention of the excellent services rendered by the Admiralty surgeons and agents during the war—men whose care in the selection of recruits for the navy accounts to a great extent for its physical and mental constitution? Surely those men who have rendered such conspicuous service to the nation deserve some recognition from the Government. Not being connected with the navy, I have no other interest beyond wishing for fair play.—I am, etc.,

February 22nd. EXPOSTULATOR.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on February 20th the degree of M.D. was conferred upon T. E. Sandall, E. E. Paget-Tomlinson, and J. T. Fox.

UNIVERSITY OF ABERDEEN.

AMONG those upon whom the Senatus of the University of Aberdeen has decided to confer the honorary degree of LL.D. are Dr. William Bulloch, F.R.S., professor of bacteriology in the University of London; Major-General Sir Robert Jones, K.B.E., C.B., inspector of Military Orthopaedics, A.M.S.; Dr. David Nicolson, C.B., Lord Chancellor's visitor in lunacy; Sir Daniel Hall, K.C.B., F.R.S., secretary of the Ministry of Agriculture; Mr. J. H. Jeans, secretary of the Royal Society; and Sir J. C. Bose, D.Sc., founder director of the Bose Research Institute, Calcutta.

THE Finnish medical journal *Duodecim*, which has hitherto been published monthly in Finnish, will in the future appear as *Acta Societatis Medicorum Fennicae Duodecim*. Contributions to this journal will be published in English, French, or German. This change in the Finnish journal is in response to the growing determination on the part of Finnish scientists to publish their investigations under their own auspices and yet to make them accessible to the world at large.

The Services.

ROYAL ARMY MEDICAL CORPS.

STRENGTH AND ARRANGEMENTS FOR THE FUTURE.

A MEMORANDUM[1] giving details of the work of the various departments of the War Office in connexion with the reconstruction of the Army since the armistice has been issued, amplifying the speech of the Secretary of State in introducing the Army Estimates for 1920–21 on February 23rd. In a note attached to the memorandum Mr. Churchill says that the work of demobilizing the large forces on foot at the armistice and of bringing into being the army of the future was so gigantic that he had been compelled to confine himself in his speech to the larger issues.

Territorial R.A.M.C.

In dealing with the Royal Army Medical Corps, the memorandum notes that a Territorial Section has been added to the War Office, which it is hoped will be a permanent section to deal with medical questions and personnel of the new Territorial army. The medical section of that army will be reorganized on its pre-war basis, with such additions and alterations as the war had shown to be necessary. The war showed the importance of casualty clearing stations, and it is proposed to form and maintain these medical units. Regimental medical officers will be appointed to battalions and will be carried on a Divisional List, which will include also officers of field ambulances and casualty clearing stations, and will show their seniority. Field ambulances will be organized with a head quarters and two sections. Sanitary Sections will be allowed to each Division; it is proposed to form them into companies and place them under the Director of Hygiene for technical training. Specially qualified medical officers, such as pathologists, *x*-ray specialists and hygienists, will be allowed for in the organization. General hospitals will be formed in connexion with universities and medical schools. A large number of physicians and surgeons of universities and hospitals will be required, and will be given the opportunity of training in the military duties of hospital administration. They will be carried on a special list.

Dental Corps.

It is proposed to form a dental corps, consisting of 110 officers and 132 other ranks (mechanics and orderlies).

Directorates of Pathology and Hygiene.

Reference is made to the establishment of Directorates of Hygiene and Pathology, according to the plan we announced some time ago. For each there will be a Director and Deputy at head quarters, and Assistants and Deputy Assistants in the important commands and districts at home and abroad. Officers will henceforth be able to continue to work in these special subjects throughout their service, instead of being compelled, as has hitherto been the case, to abandon them in order to take up administrative duties on attaining a certain seniority. Promotion to the higher ranks is now open to such specialists, and it is hoped that this will attract to these branches men from whose labours the army may expect to reap constantly increasing benefit. Each Director will have the aid of a strong Advisory Committee of experts, both civil and military, which will not only strengthen his hands in technical matters, but help to secure effective collaboration with other workers in these subjects, whether in a civil profession or in the medical branches of other departments of the State.

Strength: Officers.

The pre-war establishment of officers R.A.M.C. was 1,068; on the date of the armistice the strength was 14,461, and in addition 1,524 civil medical practitioners were employed. At present 3,338 officers and 322 civil medical practitioners are employed, and the number is continually being reduced in conformity with the reduction in hospital population. At the armistice the number of patients in the military hospitals in the United Kingdom was 316,000; on May 1st, 1919, it had been reduced to 112,000, and on February 1st, 1920, to 28,000. The policy had been to close the smaller hospitals and transfer the patients to hospitals which could be retained, and in this way the number of vacant beds had been kept as low as possible. In order to

[1] [Cmd. 565.] Price 3d.

replace wastage of officers and to provide for garrisons in Mesopotamia and Palestine permanent commissions in the R.A.M.C. had been offered to Territorial, Special Reserve, and temporarily commissioned officers, and in this way a number of most valuable and experienced officers had been added to the Corps. As far as possible the higher appointments in the Corps will, it is stated, be made by selection from amongst the officers who have proved themselves on active service.

Other Ranks.

The pre-war establishment of warrant officers, non-commissioned officers and men R.A.M.C. was 3,895: at the armistice they numbered 131,361. In addition there were 18,660 Voluntary Aid Detachment general service women in hospitals and other formations in the United Kingdom. Large numbers of such women were employed also in France, Salonica, and Malta. The strength of other ranks in February, 1920, had been reduced to 18,412 and the number of Voluntary Aid Detachment general service women to 4,771, considerable numbers of them being employed in the Rhine army, Black Sea, and Malta. After the armistice measures were taken to enrol further numbers of Voluntary Aid Detachment general service women in order to set free other ranks who were demobilizable, and the system is being followed to the utmost extent.

Vaccine Department.

The Vaccine Department of the Royal Army Medical College produced more than thirty-three million doses of vaccines against typhoid, cholera, dysentery, and other conditions during the war. The success of the vaccines was most conspicuous against the typhoid group of fevers, and is believed to have been a large, if not the largest, factor in the remarkable freedom of the British armies from this scourge. From the beginning of the war down to the end of 1918 there were only 7,423 cases of typhoid and paratyphoid fever, with 266 deaths, in the British armies in France. In the French army before it was fully protected by anti-typhoid vaccination there were from the beginning of hostilities to the end of October, 1915, 95,809 cases, with 11,690 deaths. Afterwards the rates of the French army were more comparable with the British. Recent German statistics of mortality in their armies during the war mention 7,751 deaths from typhoid fever.

HONOURS.

C.B.E.

Temporary Lieut.-Colonel Richard Jones Morris, R.A.M.C., has been appointed C.B.E. (military) in recognition of valuable services rendered in connexion with the war.

FOREIGN DECORATIONS.

The following decorations have been conferred upon officers of the R.A.M.C. by the Allied Powers for distinguished services rendered during the war:

By the President of the Republic of China.

Order of Wen-Hu (4th Class): Temporary Majors (acting Lieut.-Colonels) William Harold Graham Aspland, and George Douglas Gray, O.B.E. Temporary Majors Stafford Mouritz Cox and Thomas Norton Frood. *(5th Class):* Temporary Captains Percy Campbell Leslie, Henry Delahunt Matthews, Ernest John Peill, John William Pell, and William Robert Reeds.

By the Government of the Republic of Panama.

Medal of La Solidaridad (3rd Class): Captain and Brevet Major (acting Major) William Leckie Webster; Captains (acting Majors) William Kealty Campbell, D.S.O., M.C., and John Murray Weddell.

The name of Dr. E. A. Montgomery has been brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war.

OUT of the 130,000 men in the Italian navy, 2,936 were wounded and 3,169 died during the war: 2,524 of the deaths were due to drowning. These figures are in accordance with the fact observed in previous wars that in naval forces the number of deaths exceeds the number of wounded. Three per cent. of the losses were due to tuberculosis. There were twelve cases of small-pox with three deaths among 125,000 men. The incidence of gonorrhoea and soft sore was 38.8 per cent., and of syphilis 19.4 per cent. In the period preceding the system of prophylaxis now in force the figures were 55.3 and 24.5 per cent. respectively.

Obituary.

DR. JAMES ADAMSON, who was an outstanding figure among the general practitioners in the North of England, died on February 13th at Hetton-le-Hole. He was born at Ballydoughan, co. Down, in 1843, and received his medical education at Belfast and Glasgow, graduating M.D. of the University of Glasgow and taking the L.R.C.S.Edin. and L.M. diplomas in 1869. He went to Hetton in that year as assistant to Dr. Edgar; afterwards he became his partner, and succeeded him in 1878. Dr. Adamson was surgeon to the Hetton and North Hetton Collieries up to the time of his death; for the last ninety-four years these collieries have only had two surgeons—probably a record in its way. Dr. Adamson took the keenest interest in, and was one of the pioneers of, ambulance work in the county of Durham. He started his first ambulance course in 1877, and continued the classes until within the last few years. The Hetton Division of the St. John Ambulance Brigade was founded by him in 1901, and he acted as first honorary surgeon and superintendent. He held the appointment as M.O.H. for Hetton Urban District Council, resigning his position in 1914. At the time of his death he was medical officer and public vaccinator for Hetton-le-Hole district Houghton-le-Spring Union, and medical superintendent o the Houghton and Hetton small-pox hospital. He was an ex-president of the Sunderland and North Durham Medical Society and of the Northumberland and Durham Medical Society.

WE regret to record the death, in his seventy-fifth year, of Dr. JOHN WILLIAM HEMBROUGH, M.O.H. for the county of Northumberland, which took place on February 13th, at Newcastle-on-Tyne. Dr. Hembrough was the son of a doctor, and was born in Lincolnshire. He received his medical education at St. Bartholomew's Hospital, where he was a fellow student with the late Sir Richard Thorne-Thorne and Sir William Power. He obtained the L.S.A. diploma in 1865, and the M.R.C.S. in the following year. In 1885 he graduated M.D.Durh., and in 1890 he obtained the D.P.H. diploma. After some years of general practice he devoted himself to public health work, and twenty-six years ago was appointed medical officer of health to the Northumberland County Council. He was a member of the council of the Society of Medical Officers of Health, of which he had long been an active member, and was a member of the Newcastle-on-Tyne Division of the British Medical Association. He was an examiner in public health to the University of Durham, and a member of the examining board of the Royal Sanitary Institute. Dr. Hembrough was well known among his colleagues for his devotion to duty and the thoroughness of his work. Notwithstanding ill health and much pain during recent years, he remained at his post up to the day of his death. His wife died many years ago, and he leaves a married daughter.

WE regret to announce that Dr. JAMES PINKERTON, of West Kirby, died on February 16th. After studying medicine at Queen's College, Belfast, he graduated M.D. (with honours) and M.Ch. at the Royal University of Ireland in 1881, and won the Malcolm and Coulter exhibitions at the Belfast Royal Hospital. He began practice in Birkenhead about thirty-two years ago, and was for twenty-one years honorary medical officer to the Wirral Children's Hospital; he was also honorary surgeon to the Birkenhead Eye and Ear Hospital. On his retirement in 1909 Dr. Pinkerton removed to West Kirby, where he held the post of honorary medical officer to the Children's Convalescent Home; during the war he acted as school medical officer under the Liverpool Corporation. He was a member of the Cheshire Panel Committee, and of the local Division of the British Medical Association. He is survived by his widow, a daughter, and two sons, one of whom, Dr. P. B. Pinkerton, served in German East Africa as a captain in the R.A.M.C.(S.R.).

DR. THOMAS MCCUBBIN of Gillingham, who died from pneumonia and cerebral haemorrhage on February 14th, aged 40, was educated at St. Mungo's College, Glasgow, and took the Scottish triple qualification in 1902, after which he acted as house-surgeon and house-physician to

the Glasgow Royal Infirmary. He practised in Liverpool for ten years before going to Australia, whence he returned on the outbreak of the war and took a temporary commission in the R.A.M.C. After serving in France Dr. McCubbin began practice in May, 1917, at Gillingham, where he made many friends. He was a member of the local Division of the British Medical Association.

DR. JOHN ALEXANDER BOYD, of Upper Gloucester Place' London, died in Ireland on January 22nd, where he had gone in the hope of regaining strength. He was the son of the late Nathaniel Boyd, of Carntall, co. Antrim, Ireland. Through his mother he was grand-nephew of Dr. James McHenry, physician, playwright, novelist, whose book, *O'Haloran, the Insurgent Chief*, contains an account of the Irish rebellion of 1798, which is, we are informed, incorporated in the official history of Ireland. He graduated M.B., B.Ch., B.A.O. in the Royal University of Ireland in 1907. After spending four years in various hospitals he began private practice in 1911. To those who knew him intimately his loss is as great as was the privilege of his acquaintance.

LIEUT.-COLONEL JOSHUA DUKE, Bengal Medical Service (retired), died at Guernsey on February 13th, aged 72. He was the third of eight sons of the late Dr. T. O. Duke of Clapham, and was born in 1847. He was educated at St. Paul's School and at St. Thomas's and Guy's Hospitals, and took the diplomas of M.R.C.S. and L.S.A. in 1868. He subsequently went as a ship surgeon to Melbourne and served as resident assistant surgeon to the Bendigo Hospital. On his return to England he joined the I.M.S. in 1872, retiring with the rank of brigade surgeon lieutenant-colonel in November, 1902. He was very unfortunate as regards promotion, for he had been officiating in the administrative grade as full colonel for several months, when he attained the age of 55, on June 14th, 1902, and was thus barred by age from further promotion, though the next vacancy for promotion to full colonel took place only two days later, when the next on the list got the step. He was allowed an extension of service up to November 1st, 1902, and received one of the extra compensation pensions of £100 a year. The last twenty years of his service was spent chiefly in political employment; he was for several years residency surgeon in Kashmir, and accompanied a special mission to Gilgit. He served in the Afghan war of 1878–80, taking part in the action at Charasiah, in the operations at and around Kabul, in the famous march under General Roberts from Kabul to Kandahar, in the battle of Kandahar, and in the operations against the Marri tribes; was mentioned in dispatches, in G.G.O. No. 137 of 1879, and received the medal with three clasps and the special Kabul-Kandahar bronze star. He rejoined for service in the recent war on December 3rd, 1914, and served in York Place Indian hospital at Brighton from that date till it was closed on December 31st, 1915, and afterwards in a hospital at Bermondsey. He was the author of several works: *Queries at a Mess Table: What shall I Eat? What shall I Drink?* 1878; *Banting in India: Recollections of the Kabul Campaign*, 1883; *The Prevention of Cholera*, 1900; and also rewrote and edited the fourth, fifth, sixth, and seventh editions of Ince's *Kashmir Handbook*, 1888 to 1908, the two last being published under his own name. He is survived by his widow, one son—Dr. H. L. Duke, of the Colonial Service (Uganda)—and three daughters. He was buried in Guernsey Cemetery on February 17th, his coffin covered with the flag, and the "Last Post" given by a detachment of the Loyal North Lancashire Regiment.

SURGEON-GENERAL JAMES ALBERT CLERY, C.B., A.M.S., died at Blackheath on February 10th, aged 73. He was born on December 21st, 1846, the son of the late Thomas Clery of Ballynahinch House, county Limerick, and was educated at Stonyhurst and at Trinity College, Dublin, where he graduated M.B. and M.Ch. in 1870. He entered the army as assistant surgeon in 1871, and reached the rank of surgeon-general in 1902. He was placed on temporary half pay at the end of 1905, and retired at the end of 1906. He served in the Sudan campaign of 1884–85; in the Nile expedition, receiving the medal with a clasp, and the Khedive's bronze star; in the Sudan campaign of 1898, when he gained the medal, with the special Khedive's medal, and was mentioned in dispatches; and in South Africa, where he was principal medical officer on the lines of communication, took part in the relief of Ladysmith, and in operations in the Transvaal, the Orange River Colony, and in Natal; was twice mentioned in dispatches, and received the Queen's medal with six clasps, the King's medal with two clasps, and the C.B. He rejoined for service in the recent war on July 17th, 1915.

CAPTAIN ALLAN WATSON, D.S.O., R.A.M.C., died on January 18th at Tembura, in the Southern Sudan. He was the eldest son of the late Rev. William Watson of Kilbearn, Ross-shire, and was educated at Edinburgh University, where he graduated M.B. and B.Ch. in 1909 and M.D., with high commendation for his thesis, in 1914; he took the diploma in tropical medicine and hygiene in 1910, and the D.P.H. of the Edinburgh Colleges in 1912. After filling the posts of house-surgeon of the Royal Bucks Hospital at Aylesbury, of assistant house-surgeon of the Guest Hospital at Dudley, and of senior house-surgeon of the East Suffolk Hospital at Ipswich, he entered the R.A.M.C. as lieutenant on January 30th, 1914. While going through the R.A.M.C. school he gained the Herbert prize as the first student of his term, the De Chaumont prize in hygiene, and the second Montefiore prize in surgery. He was promoted captain on March 30th, 1915, and received the D.S.O. on March 10th, 1917, for service in Mesopotamia.

Medico-Legal.

A DRUGLESS HEALER SENTENCED.

AT Stafford Assizes, on February 18th and 19th, Arthur Barker of Tunstall, aged 34, described as a quack doctor, was indicted before Mr. Justice Sankey for the manslaughter of Mrs. Sharples at Burslem on September 30th. The prisoner pleaded not guilty. Mr. Vachell, K.C., alleged for the prosecution that the woman's death was due to Barker's incompetence and insufficient attention to her when he had undertaken the sole duties of medical attendant. Three years ago the deceased woman was attended by a regular practitioner for jaundice and later for pleurisy. In the spring of 1919 she was attended by Dr. Garvey, who saw her last in May but might have sent her medicine during June. Mr. and Mrs. Sharples then heard of the prisoner, who was generally known as "Dr. Barker"; he was not qualified, and had no hospital practice or training. For five years or so he had been undertaking treatment of medical and surgical cases in Tunstall. For ten years before that he had been a miner working in the pits, and when he quitted that work he put up a brass plate on which he described himself as a professional hypnotist and drugless healer. Among the letters he put after his name were "M.T.," which counsel gathered stood for mechano-therapy, the system by which he professed to cure people. He was consulted by the husband, and paid his first visit to the wife on July 3rd, continuing to attend about twice a week until her death; he was paid 7s. or 10s. a visit. He had the sole medical care of the woman, and never suggested that anyone else should be called in, or admitted the case was beyond his powers. A fortnight before her death the woman's condition became very serious, and the accused gave her injections, and afterwards used an unsterilized rubber catheter. Towards the end he took the husband to his dispensary, told him that he had no medicine to offer him owing to the railway strike, and added that he would not stand in the way of further help being sought. The husband at once sent for Dr. T. W. Richmond, who attended with Dr. Blackie; they found the woman dying. A *post-mortem* examination showed extensive bedsores, growths in various organs, and eighty-one gall stones in the gall bladder; but the immediate cause of death was acute cystitis. Dr. Richmond was closely questioned by Sir E. Marshall Hall for the defence, with regard to the prisoner's practice, the cause of death, the exclusion of the prisoner from the *post-mortem* examination, the proceedings in the coroner's court, the communication with the Director of Public Prosecutions, and "bloodless surgery" and "the profession of osteopathy." Dr. John Russell, who made the necropsy, said in cross-examination that he took no steps to acquaint the medical authorities of the circumstances of the case, and denied that he and other members of the medical profession had got their knives into the accused, either consciously or unconsciously; he believed that whatever action had been taken was in the interests of the public. He maintained that the use of an unsterilized catheter caused the cystitis from which the woman died; the treatment by the accused amounted to gross negligence. Dr. E. C. Myott, pathologist to the North Staffordshire Infirmary, said the woman had cystitis, and the catheter produced was not a proper instrument to use owing to the extreme difficulty of sterilization. Dr. B. H. Spilsbury said he had no reason to doubt the conclusion drawn by the medical witnesses that death was due to cystitis. External pressure was an improper mode of treatment; and it was gross negligence to try it. The catheter produced, if unsterilized, would suffice to account

for the introduction of micro-organisms from without, under the existing conditions of the case. Neglect of any of the recognized remedies for cystitis would tend to shorten life. Death was due to cystitis, and not to malignant disease. Sir E. Marshall Hall, after an unsuccessful submission that there was no case to go to the jury, intimated that he would call no evidence. Having objected to the expression quack doctor, he argued that this was an attempt to burk any form of medical practice not carried on by a duly registered member of the medical profession. The whole principle underlying this prosecution was "Down with the unregistered man! Protection for the members of the medical profession!" In the course of his summing up the judge said that the law was that when a person, licensed or unlicensed, dealt with the health of another he was bound to use competent skill and give sufficient attention, and if the patient died from want of either, the person was guilty of manslaughter. The jury found the prisoner guilty, and in sentencing him to four months' imprisonment with hard labour, his Lordship said he quite agreed with the verdict; had they not returned it the jury would have been doing something quite wrong and against the public interest. The real danger of unqualified men was when they got a really dangerous case and they did not know much about it, and the patient kept on getting worse, and a proper doctor was not called in until it was too late. He could not help thinking the prisoner was more misguided than anything else. He knew the effect of this conviction would be to destroy the prisoner's practice.

Medical News.

THE annual meeting of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, London, W.1, on Tuesday, March 16th, at 5.30 p.m.

A Society of Medical Officers of Maternity and Child Welfare Centres has been formed, and a draft constitution will be submitted to a meeting at Bedford College, Regent's Park, London, on Friday, March 26th, at 5 p.m. Medical officers in charge of centres who have not received an invitation to join the society are asked to communicate with the secretary, Miss Halford, National League for Health Maternity and Child Welfare, 4, Tavistock Square, London, W.C.1.

AT a meeting of the Central Midwives Board for England and Wales held on February 19th, Sir Francis Champneys in the chair, it was announced that Sir Francis Champneys, Dr. W. S. A. Griffith, and Mr. C. Sangster had respectively been re-elected as their representatives on the Board by the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries of London.

A SECOND post-graduate course of instruction in the diagnosis and treatment of venereal disease is being arranged by Mr. K. M. Walker at St. Bartholomew's Hospital Clinic, Golden Lane, E.C., established by the Corporation of London. The course will be held on Thursday afternoons at 5.30 p.m., commencing Thursday, March 4th. The beds attached to the clinic are available for the reception and study of suitable cases in addition to work in the out-patient department. There are still a certain number of vacancies. Any medical practitioner wishing to attend is invited to send his name to the Secretary, National Council for Combating Venereal Diseases, 81, Avenue Chambers, Southampton Row, London, W.C.1.

STEPS have been taken to form a properly constituted Old Students' Association at King's College, London. A committee was lately formed which has drawn up a provisional constitution, and a general meeting will be held on Thursday, March 4th, at 6 p.m., at the College, to ratify it. It has been possible to send notices of this meeting only to those old students whose names are on the register, but it is hoped that the meeting will be made widely known, and that as many old students as possible will be there.

A DEPARTMENT for diseases of children and a child welfare consultative centre will be opened at the Great Northern Central Hospital, Holloway Road, N., on March 1st. There will be two sections—medical and surgical—and patients, who must be children under 12 years of age, will be received on Monday afternoons at 2.30 p.m.

A PRACTICAL advanced course in operative ophthalmology will be given during May and June at the Hôtel-Dieu, Paris, by Professors De Lapersonne and Terrien, with the assistance of the heads of the clinic and laboratory. The course is open to foreign as well as French doctors and students. The class will be limited to forty and the fee is 100 francs. Communications should be addressed to the Secrétariat de la Faculté de Médecine, Paris.

THE Huddersfield Royal Infirmary has received an anonymous gift of £1,000 for the endowment of a bed in memory of the late Dr. Peter MacGregor of Huddersfield.

THE Senate of the University of London has appointed Dr. James McIntosh to the University chair of pathology tenable at the Middlesex Hospital Medical School, and Dr. Sidney Russ to be the first incumbent of the Joel chair of physics at the Middlesex Hospital Medical School.

THE Brighton Division of the British Medical Association has arranged a series of six clinical demonstrations, beginning March 4th, to be held at the Sussex County Hospital and the Children's Hospital. The demonstrations are open to all members of the profession.

QUEEN ALEXANDRA'S Field Force Fund, which was brought into existence in November, 1914, was demobilized last month. During the five years of its existence it sent out parcels to the number of nearly a quarter of a million to regiments in Europe, Asia, Egypt, Africa and the Cameroons. The surplus in hand is £3,000, and Queen Alexandra has decided that the annual interest shall, with certain limitations, be paid to the Village Centres Council for the benefit of the disabled ex-service men at the Village Centre, Enham, Hampshire.

IT is proposed to hold a reunion dinner in London, towards the end of April, for all ranks, men and women, of No. 34 (the Welsh) General Hospital and the Welsh Hospital, Netley. No. 34 General served as an Indian hospital of 3,000 beds, under the War Office, and the Welsh Hospital, Netley, was supported by Wales throughout the war. Colonel A. W. Sheen, A.M.S., formerly officer commanding successively the two hospitals, will preside at the dinner. Those wishing to attend are asked to notify Dr. R. L. Mackenzie Wallis, 55, Townshend Road, N.W.8.

AT a meeting of the Vienna Medical Society on January 30th Professor K. F. Wenckebach delivered a eulogium on the late Sir William Osler, the audience rising from their seats as a token of mourning.

THE Ministry of Health have been notified of a case of plague on the ss. *Alps Maru*, which arrived in the Port of London on February 9th from Japan, and entered the Millwall Dock on February 14th. One of the crew fell sick on February 15th, and as he was suspected on February 17th to be suffering from plague he was removed to the isolation hospital. The diagnosis of plague has been confirmed by the Bacteriologist of the Ministry from material obtained from the patient. The vessel has been removed to the Port Mooring Station for infected ships, and all necessary precautions have been taken by the port sanitary authority to prevent spread of infection.

PUBLICATION of the *Revue de la Tuberculose*, suspended during the war, is about to be resumed. It is the organ of the French tuberculosis society (Œuvres de la Tuberculose), and publishes its scientific proceedings. The *Revue* will be enlarged, and will in future publish original articles, as well as abstracts from other periodicals.

THE second number of *Discovery* (London: Murray, 6d. net; 7s. 6d. a year post free) is an advance on the first. It contains articles by Professor W. L. Bragg on crystal structure and by Mr. C. G. Darwin, of Cambridge, on the number of the elements, which seem to us exactly to fulfil the need which the periodical is intended to meet.

DR. MARCEL LABBÉ has been nominated professor of pathology and therapeutics in the Paris Faculty of Medicine.

THE Prussian Diet has appointed a commission consisting of Abderhalden, Lubarsch, Morawitz, Posner, Schittenhelm, Stephan, Stolte, Uhlenhuth, and others, to investigate the value of Friedmann's remedy for tuberculosis.

THE Hague bookselling firm of M. Nijhoff has celebrated the third centenary of the foundation of Batavia by issuing a catalogue of books concerning Netherlands India. It includes a section on medicine and on anthropology, containing books chiefly in Dutch, many of them on subjects concerned with tropical medicine.

AT a session of the "Gesellschaft für soziale Medizin, Hygiene und Medizinalstatistik," Professor Kayserling of Berlin proposed that a tuberculosis law should be enacted in Germany. It should aim exclusively at the prevention of tuberculosis, and no clause should be accepted which did not take into consideration the welfare of the patient. His principal points were (1) compulsory notification of every infectious case; (2) official organization of a network of dispensaries through which the law could be administered on a provident basis; (3) provision of hospital accommodation, free of charge, for advanced cases, dangerous to their home surroundings; (4) exclusion of infectious cases from employment bringing them into intimate contact with children; and (5) introduction of general measures affecting occupations and public health.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London:* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin, and of the Scottish Office, 6, Rutland Square, Edinburgh.

QUERIES AND ANSWERS.

INCOME TAX.

"W. B. C." inquires as to the assessment of income entirely derived from service on pensions boards.

*** As the appointment is not held directly under the War Office it would presumably be impracticable to support a claim to the special "service" rates of tax, and the income would be liable at the ordinary earned rates—that is, 2s. 3d. in the £ if the total income does not exceed £500, and 3s. if it is between that amount and £1,000. A reasonable sum to represent the additional cost of hotel board and residence would be an admissible deduction if the duties of the appointment—it is assumed that there is only one appointment—involve travelling from place to place.

"J. S." has been residing abroad as a missionary, and has been in this country on full salary since last June. What is his liability to income tax?

*** We assume that our correspondent has not maintained a residence in this country during his absence abroad. He is liable for the financial year ending April 5th, 1920, as a British resident. The appropriate form for his declaration is No. 12, and he can obtain one from the local inspector of taxes. He will be assessable on the amount of his salary so far as received in this country, less the abatement according to the usual scale, wife allowance of £50, provided that the total joint income of himself and his wife does not exceed £800 per annum, and life assurance allowance; the rate of tax will, of course, be on the earned scale, and he will apparently have a right to set off some excess tax suffered on his income from investments. A personal call at the office of the inspector of taxes might serve to clear up these questions conveniently.

LETTERS, NOTES, ETC.

A WARNING.

DR. W. J. O'SULLIVAN (16, William Street, Limerick, Ireland) writes to put medical men on their guard against a scheme for extracting money from their pockets. A well dressed man, he says, calls upon a medical practitioner (usually an Anglo-Irishman), stating that he has just been released on parole from an English prison, where he was interned for a seditious utterance, or tells some such story. He expresses great anxiety to get back to Ireland to resume his practice. In two cases in which Dr. O'Sullivan says his name was used, money was obtained, but not repaid as promised.

TREATMENT OF PSOROPTIC MANGE (PSOROPTES COMMUNIS, VAR. CUNICULI).

MR. J. E. M. MELLOR, B.A. (Gonville and Caius College, Cambridge), writes: The following note on a simple and successful treatment of psoroptic mange in a rabbit may be of interest.

On February 11th, 1919, a laboratory attendant brought me a rabbit, one ear of which was in the condition described by Cranston Low in 1911 (An Investigation into Scabies in Laboratory Animals, *Journ. of Path. and Bact.*, vol. xv, p. 338). The whole of the inside of the ear was filled with a mass of dry crusts like flakes of pastry. There was an offensive smell and the ear was tender and warmer to the touch than the unaffected one. There were a few dry scurfy scales on the outside of the ear, but these contained no acari. The head was sometimes carried slightly inclined to the side of the affected ear which hung down limply. The rabbit was observed to scratch occasionally and shake its head, when portions of the scaly débris would be shaken out.

On February 11th, portions of the pastry-like flakes were carefully removed from the ear with forceps (one piece removed measured 1.5 inches long and was 0.5 inch thick). Below these dry scales there was a soft whitish-yellow substance. This material and the crusts were examined under the microscope and found to contain large numbers of acari. A small bunch of acari was placed on a slide under the microscope and a drop of a solution composed of 1 per cent. creosote oil mixture, 0.25 per cent. bile, and 10 per cent. soft soap was run in. All the mites were dead in four minutes. (For the composition of creosote oil mixture see "Investigations on the Prevention of Nuisances arising from Flies and Putrefaction," by F. W. Foreman and G. S. Graham-Smith, *Journ. Hygiene*, 1917, xvi, 2, pp. 109–226.)

A few drops were therefore applied to the inside of the rabbit's ear with a small pipette. On February 12th and 13th the same treatment was repeated. Only a few drops of the solution were used, as it was not certain whether it would irritate the tender surface of the animal's ear. On February 14th mites found were sluggish. Since no signs of irritation were observed and the animal did not seem worried by the treatment, more solution was used on February 14th and 15th. The ear was held up by an attendant, and a few cubic centimetres of the liquid kept in for four minutes on both occasions. No mites were found on February 15th. On February 18th the ear was quite clean, save for two lump-like scabs on the outside and back of the ear. These scabs were slightly raised off the surface of the skin and treated with a few drops of solution.

On March 5th the rabbit was again examined carefully. No parasites were seen, and the ear was clean, though it still felt a little warmer than the unaffected one.

The cure was therefore effected in four days. After the first treatment on February 11th the rabbit was placed in a clean hutch. The infected hutch was cleaned out and all the scrapings burnt. The inside of the hutch was then thoroughly sprayed with creosote oil mixture undiluted. A healthy rabbit placed in the disinfected hutch and rabbits in the adjoining hutch remained clean.

A mangy rabbit taken from another hutch was later completely cured by similar treatment administered by an attendant when I was away. Less than 50 c.cm. of solution were used, so that the cost of treatment of the rabbit amounted to less than a penny.

These mites are very active; one mite dragging its mate *in copulo* was timed with a stop-watch on the small striations on the back of a linen-covered book. It was found to cover 6 mm. in five seconds.

A GRATEFUL COUNTRY.

A CASE recently brought to notice is that of a medical officer who sustained a serious wound of the head causing hemiplegia. He recovered sufficiently to return to military service, but was again wounded, this time in the foot. He has been discharged with a pension of £170 a year. He is a married man with children. The National Relief Fund exists to help men who have thus suffered for the country, and it has recently made a grant to the medical War Emergency Fund, and from this fund something may be done for this individual medical officer. But is it right, and is it in accord with the intention of the country, that men who have served so well and suffered so much should have to seek help to supplement their pension? Ought not the pension itself to be adequate? It may be said that this officer's pension is nearly as much as a man in the ranks will receive if totally disabled. But is it good national economy to put a professional man in such a position that he cannot educate his son to succeed him in his profession?

ERYSIPELAS: A CORRECTION.

DR. F. S. ARNOLD calls attention to an error in his reply to "X.Y.Z." in last week's JOURNAL. The word "eczema" (p. 278, col. 1, line 5) should, of course, be "erysipelas."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 38, 39, 40, 41, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 36, 37, and 38.

THE following appointments of certifying factory surgeons are vacant: Belturbet (Cavan), Berkeley (Gloucester), Bruff (Limerick), Clonakilty (Cork), Halstead (Essex), Lochgilphead (Argyll), Romford (Essex), Stock (Essex), Stourport (Worcester), Toddington (Bedford).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

DYSPEPTIC AND OTHER REFERRED SYMPTOMS ASSOCIATED WITH DISEASE OF THE GALL BLADDER AND OF THE APPENDIX.

A BRITISH MEDICAL ASSOCIATION LECTURE GIVEN TO THE NORFOLK BRANCH AT NORWICH, DEC. 19TH, 1919.

BY

SIR HUMPHRY ROLLESTON, K.C.B., M.D., F.R.C.P.,

EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL; PRESIDENT OF THE ROYAL SOCIETY OF MEDICINE.

By referred symptoms is meant those that do not at once suggest local disease of the organ really responsible or that are remote in point of place; they might be described as masked or, as they are often the first manifestations of disease, inaugural, or as larval or *fruste*.

The discussion of this subject has its difficulties; to consider separately the gall bladder and the referred symptoms caused by its disease and then appendicitis and its referred symptoms might be the simplest course; but as this would lead to some tedious repetition it appears advisable to take the symptoms and to refer incidentally to their causation. Most of the infective complications of gall bladder and appendix disease, such as the various forms of hepatic suppuration, empyema and fistulae, and intestinal obstruction due to adhesions, bands or gall stones, will not be mentioned. Except when specially stated, the disease of the gall bladder and appendix is not acute but either the result of a past attack of acute inflammation, such as fibrosis, adhesions or calculi, or a recurrent or chronic inflammation. Further, it may be pointed out that what we commonly call a "chronic appendix" is more often the result of a past attack than a progressive and chronic inflammatory process.

Mechanism of the Production of Symptoms.

The question how morbid changes in the gall bladder and appendix induce symptoms in other viscera and distant parts will be touched on in connexion with these manifestations, but the various mechanisms that may be at work in different cases may be tabulated here as (1) Reflex, (2) Mechanical, (3) Toxic, (4) Infective.

1. *Reflex.*—Irritation in the appendix or gall bladder may cause hypertonus of the stomach and spasm of, or failure to relax on the part of, the pyloric or ileo-caecal sphincter, leading to gastric or ileal stasis and so to excess of acid or to toxaemia. Vigorous contraction of the stomach extending to the pylorus has been watched by Moynihan, during the course of laparotomy on patients with appendix dyspepsia, and Hurst[9] has seen visible spasm of the middle of the stomach when the appendix is manipulated under the *x*-rays. The pyloric spasm or want of relaxation of the pylorus has been regarded as a protective mechanism. In the case of chronic appendicitis failure of relaxation of the ileo-caecal sphincter is thought by Hurst to be commoner than spasm. Caecal stasis from inhibition of peristalsis or from enterospasm (spastic constipation) may be due to chronic appendicitis; when situated in the pelvis a chronically inflamed appendix may reflexly inhibit defaecation (dyschezia, Hurst[10]). Appendicitis may reflexly lead to increased frequency or inhibition of micturition through an irritated focus in the spinal cord (Mackenzie); and chronic irritation of the appendix may be responsible for cardiac irregularities.

The reflex pain in the epigastrium, which is so common in appendix and gall-bladder dyspepsia, has given rise to some discussion; Mackenzie maintains that it is in the peripheral terminations of the sixth and seventh dorsal nerves in the abdominal wall, and that this depends on the irritated focus in the spinal cord, whereas Hurst[11] argues that the pain is visceral, in the pyloric end of the stomach, and due to the peristalsis. They both, however, agree that the epigastric tenderness is due, not to pressure on the stomach, but to the irritated focus in the spinal cord which causes an exaggerated sensory effect when the skin, and especially the muscles and the underlying subperitoneal tissues, are pressed on. The referred cutaneous pain in gall-bladder disease may occasionally spread to the top of the right shoulder, and extend down the outside of the arm, so that patients may for years be treated for "neuritis" until the passage of a gall stone at once brings relief (Mackenzie).

Very often the appendix when removed shows little naked-eye change to correspond with the prominent symptoms that then disappear; microscopic examination may be necessary to reveal the evidence of past inflammation in its walls, especially fibrosis in the submucous coat, and often, as I have seen in many sections, the changes are very slight. The ganglion cells of Auerbach and Meissner's plexuses have been found to show degeneration (Pfeiffer). Stimuli generated in the appendix travel by the sympathetic to the spinal cord, and by constant repetition give rise to a persistent irritable focus in the spinal cord, and so to a reflex extension of impulses. In women the right ovary and tube are very often matted together with the appendix, infection readily passing from one to the other. Ovarian and uterine dyspepsia, analogous to those now under consideration, have been described.

2. *Mechanical.*—Pericholecystitic adhesions may embarrass the movements of the stomach, interfere with the passage of food through the pylorus, or even lead to an hour-glass stomach. Though often the legacy left by cholecystitis, these adhesions may be due to duodenal or gastric ulcer. Peri-appendicular adhesions may cause intestinal stasis and so toxaemia, and the same result, only in a more marked degree, may be produced by an appendix adherent across the lower part of the ileum. In some cases adhesions about the appendix or the gall bladder may possibly alter the radiation of pain; adhesions around an inflamed gall bladder have been thought to cause left-sided pain, and adhesions between an inflamed gall bladder and the peritoneal coat of the appendix to explain the pain referred to the right iliac fossa (Tripier and Paviot).

3. *Toxic.*—Absorption of bacterial toxins from the gall bladder or appendix may set up general toxaemia, cause myocarditis, and damage the mucous membrane of the stomach and intestines, thus giving rise to haemorrhage. Toxic absorption from the inside of the organ is probably more often an important factor in the case of the gall bladder than of the appendix.

4. *Infective.*—Micro-organisms from the appendix or gall bladder may infect the kidneys, especially the right. Infection of the gall bladder is prone to spread to the pancreas, and local thrombo-phlebitis of branches of the iliac veins, secondary to appendicitis, may give rise to small pulmonary emboli and pleurisy; malignant endocarditis has been found to be associated with gall-bladder infection (Leva collected nine cases as long ago as 1892) and with appendicitis. As is well known, inflammation of the appendix and gall bladder are often associated; although the true relations of the two infections may vary, it seems probable that most commonly the appendix is the earlier affected and that from this focus the gall bladder becomes infected. The changes left in the appendix may be comparatively slight while there is considerable cholecystitis.

Dyspepsia.

The general recognition that disease of these two appendages of the alimentary canal may produce definite symptoms of gastric and duodenal disorder with few or no localizing symptoms is comparatively recent and is due to the observations on "the pathology of the living" (W. J. Mayo, Moynihan, Paterson, S. Fenwick); though had abdominal surgery been active in his time there can be little doubt that John Hilton would have expanded his conclusions on "sympathetic pains on the surface of the body connected with derangements of the internal viscera," and would have laid stress on the connexion between reflection of pain from the gall bladder to the stomach and duodenum on the one hand and the origin of the hepatic diverticulum from the foregut on the other.

As the dyspeptic symptoms in a certain number of cases depend on an organic lesion, resist symptomatic treatment, but yield to operative interference, the term "surgical dyspepsia" has arisen.

This attractive explanation, however, must not lead to the conclusion that dyspepsia is always, or, indeed, usually, due to an organic cause, and that the short cut to a cure is by way of the knife. A high estimate, at least for a physician, is that of M. J. Lichty, among whose 1,500 patients with gastro-intestinal disorders 600, or 40 per cent., were found at operation to have disease of the gall

bladder or appendix. It is, moreover, important to consider how far medicine can re-assert its position by in its turn preventing infection of the gall bladder and appendix. With regard to the gall bladder we know that cholecystitis is due to various foci of infection: from the vermiform appendix, from the intestines, particularly in enteric fever, from the stomach and teeth, and from the tonsils by the blood stream; for Rosenow and Brown have shown the great frequency of haemolytic streptococci in inflamed gall bladders, argue that *B. coli*, formerly considered as one of the two commonest causal organisms of cholecystitis, is often a secondary invader, and from experimental observation believe that these streptococci in the tonsils have a special tendency to settle down in the gall bladder. The etiology of appendicitis has been much debated; probably several causes are at work; but the elimination of septic foci in the mouth, tonsils, and nasopharynx, the supervision of food supplies, and early attention to signs of intestinal infection and constipation would diminish the frequency of this surgical disease. In connexion with the prevention of tonsillitis it is appropriate to refer here to Dr. G. I. T. Stewart's observations showing the causal relation of bad teeth to inflammation of the tonsils.

Gall-bladder dyspepsia is sometimes spoken of as the result of gall stones rather to the exclusion of cholecystitis, whereas a broader view holds the field as regards appendix dyspepsia, which is ascribed to appendicitis, and not solely to the faecal concretions. The correct view is that in the main the cholecystitis causes both the symptoms and the gall stones. It is of course true that single cholesterin calculi may form without any antecedent inflammation of the gall bladder, though they may subsequently favour the occurrence of cholecystitis. These calculi are much less common than those due to cholecystitis, and, I believe, may form an exception to Sir Berkeley Moynihan's dictum that gall stones always cause symptoms.

The evidence that referred dyspepsia is due to disease of the appendix or gall bladder rests on the disappearance of the symptoms after removal of a chronic inflamed appendix or gall bladder, and is analogous to the familiar relief of headache by removal of a decayed tooth. Cases not relieved by gastro-enterostomy have subsequently been cured by appendicectomy, and it has been urged that no laparotomy for disease of the stomach or duodenum, especially if no obvious disease in these organs be found, is complete without examination of the gall bladder and appendix. It was noted by Soltau Fenwick that patients with a peculiar form of gastric hypersecretion were prone to die from appendicitis, the real explanation apparently being that the hypersecretion was due to latent appendicitis which subsequently flared up. The diagnosis of gall bladder or appendix disease as the cause of dyspepsia in a given case may be very difficult; in both instances the primary lesion may be latent, there may be an absence of any history of an acute abdominal attack, and there may be no local tenderness over the gall bladder or appendix.

The dyspeptic symptoms associated with chronic disease of the gall bladder and appendix, which are commoner in women, show considerable variation, and it is very doubtful if any differential diagnosis as to which organ is primarily at fault can be made on the characters of the subjective manifestations only. Pain and tenderness on pressure in the epigastrium and flatulence are the most constant symptoms; the pain may be persistent, but is often at once made worse by food; or it may come on after an interval of hours, as in duodenal ulcer; possibly the pain directly after a meal in cases of cholecystitis or gall stones may be caused by vigorous contractions in the gall bladder as well as in the stomach. Heartburn is common, and vomiting may follow. The symptoms are often of long duration, and their obstinate resistance to remedies, such as bismuth, alkalis and food, that relieve ordinary indigestion, is a prominent feature. The prolonged pain and toxaemia, especially in cases with appendicitic adhesions, may induce neurasthenia and recurrent headaches. The condition of the gastric juice varies; there may be hyperchlorhydria, a normal or a much diminished amount of hydrochloric acid. Among 156 cases of gall-bladder disease, J. A. Lichty found that 84, or 54 per cent., showed hyperchlorhydria; 41, or 26 per cent., a normal; and 31, or 20 per cent., a diminished amount of HCl. Among Sherren's 20 cases of gall-bladder disease there was an absence of free HCl in 16.

There is a similar variation in appendix dyspepsia, and Fenwick considers that the condition of the appendix is an important determining factor; when there is active irritation, such as an enterolith or ulceration, hyperchlorhydria results, whereas with a merely thickened, adherent, or kinked appendix the symptoms are those of chronic gastritis with diminution or absence of HCl. He regards the hypersecretion as reflex, but there is the alternative view that spasm, or failure to relax on the part, of the pylorus leads to retention of food and accumulation of HCl. In a comparatively small number of cases there is haematemesis, which may be considerable and suggest gastric or duodenal ulcer. In my limited experience this has seemed less rare in appendix than in gall-bladder dyspepsia, but in a large series of cases operated upon in the Mayo clinic gastric haemorrhage and symptoms were present in 5 per cent. of gall-bladder infections and in 2 per cent. of appendicitis cases (Crispin). It is tempting to regard the haemorrhage as due to toxaemia, but the source of the poison is not always obvious, as the appendix may be merely obliterated. It is true that Paterson and others ascribe the symptoms of appendix dyspepsia to toxaemia due to intestinal stasis, and on this hypothesis an exacerbation in the intestinal toxaemia might be postulated as the exciting cause of haematemesis. But considerable gastro-intestinal haemorrhage is rare in acute appendicitis in which the toxaemia is so much more obvious. It is somewhat fanciful to imagine that there is sufficient reflex dilatation of the vessels in the gastric mucosa to produce weeping, but this is perhaps suggested by the peritoneal flush over the pylorus in these cases of appendix dyspepsia. Soltau Fenwick's explanation of gastric haemorrhage is probably more satisfactory—namely, that as a result of long-continued exposure to gastric juice with two to five times the normal percentage of free hydrochloric acid the gastric mucous membrane becomes inflamed, acutely congested, and shows haemorrhagic erosions. In some instances a gastric or duodenal ulcer is associated with appendicitis or gall-bladder disease. Among 1,078 cases of gastric and duodenal ulcer at the Mayo clinic 40 per cent. showed disease of the appendix and 9.7 per cent. disease of the gall bladder (Eusterman). These figures perhaps explain my impression that haematemesis is less rare in appendix than in gall-bladder dyspepsia. In rare cases gastro-intestinal haemorrhage may be due to ulceration of the gall bladder or of the ampulla of Vater when a gall stone is impacted there, but in the latter instance the symptoms would be those of intermittent hepatic fever.

Diagnosis.

The differential diagnosis of appendix and gall-bladder dyspepsia from gastric and duodenal ulcer presents considerable difficulties, but an *x*-ray bismuth or barium meal may give valuable assistance in providing the positive evidence of gastric or duodenal ulcer on the one hand, or of appendix or gall-bladder disease on the other. Hurst[9] has tabulated the *x*-ray results in favour of the presence of a chronic lesion of the appendix, and points out that the tenderness of the appendix—the most important sign—may be missed without the guidance of *x*-rays, as the organ may be displaced when pressure is applied; other signs are those of adhesions, ileal and caecal stasis, and though hypertonus of the stomach, which empties itself with abnormal rapidity, may be present, this is both much less frequent and less well marked than in duodenal ulcer, the spasm due to chronic appendicitis being more commonly in the middle of the stomach. From careful examination of a large number of cases Spriggs finds that the following indications of chronic disease—namely, partial filling of and stasis of barium in the appendix, constrictions, dilatations, and concretions—can be demonstrated by the *x*-rays. Adhesions around the gall bladder are characterized by a high position of the stomach, displacement of the pylorus to the right, distortion of the duodenal cap and of the hepatic flexure of the colon, and retention of food in the stomach for six to eight hours. Opinion differs as to the value of *x*-rays in the detection of gall stones; some American skiagraphists claim that 75 per cent. of gall stones can be thus diagnosed, and Pancoast and Pfahler regard 50 per cent. as a conservative estimate.

Turning to the other means of diagnosis, the pain of gastric ulcer is relieved by food and by alkalis, and in

duodenal ulcer there are usually periods of complete freedom from symptoms and hyperchlorhydria; in both these conditions occult blood in the faeces is much more likely to be present than it is in the referred dyspepsias. In favour of an appendicular origin are radiation of pain towards the right iliac fossa, with local tenderness there or on rectal examination, and Bastedo's sign—namely, localized pain and tenderness on pressure in the right iliac fossa on inflation of the colon. Deep tenderness to the right of the spine between the seventh and eleventh ribs is regarded as pathognomonic of pericholecystitic adhesions by Friedman, who considers it more valuable than *x*-rays. The tenderness has been ascribed to extension of inflammation to the chest wall so as to set up a mild neuritis.

It must of course be borne in mind that both the appendix and the gall bladder may be diseased, and that removal of one may not cure the symptoms. A few words may be said about the way in which disease of the gall bladder and appendix may imitate each other. An elongated gall bladder with a Riedel's lobe or peritoneal adhesions between the two organs may explain why in some cases of cholecystitis a diagnosis of appendicitis is corrected only at laparotomy. The converse mistake is less common, but may be due to an appendicitis close to the right lobe of the liver so that it becomes adherent to the gall bladder, or to other less obvious causes. In this connexion the following case is interesting.

A man aged 32 years had jaundice when 14 years of age, and since then had had repeated attacks of jaundice, much flatulence, and general ill health. Two months before I saw him he had had an acute abdominal attack regarded as appendicitis, and was much jaundiced. When seen there was tenderness over the gall bladder, and there was nothing palpable or any tenderness on the right side per rectum. The pre-operative diagnosis was recurrent cholecystitis, but the gall bladder was found to be perfectly normal, and there was a tense mucocele of the appendix. He then completely recovered, went through the war, and was reputed to be well in December, 1919. Possibly the attacks of jaundice were due to disturbance of Meltzer's law of contrary innervation. The sphincter at the lower end of the common bile duct and the muscular fibres of the gall bladder are antagonistic; when the gall bladder contracts the sphincter relaxes; if from reflex disturbance the sphincter fails to relax during contraction of the gall bladder, the pressure of bile in the ducts will rise, and jaundice, and even colic, will result.

Chronic Colitis.

Chronic colitis with exhausting diarrhoea is occasionally due to continued infection from the gall bladder or appendicitis. This diarrhoea and serious wasting may occur without any localizing symptoms, and with little in the history to suggest the responsible focus. Martin reported one of the first cases of this kind in a man without any signs pointing to appendicitis; exploratory laparotomy showed a thickened appendix with a dilated cavity communicating with the caecum; the appendix contained one or two enteroliths and extremely foul-smelling material, resembling in this respect the motions. Frequent bulky offensive motions with excess of fat occur in chronic pancreatitis, which may result from gall-bladder infection, or from a stone in the common duct.

Glycosuria and Diabetes.

It is now recognized that glycosuria or diabetes, if, indeed, any real distinction between them should be drawn, may be due to pancreatitis set up by infection associated with gall stones. It is not a common sequel, and, though a calculus may get into the common bile duct without obvious symptoms, it must be very rare for gall stones to cause diabetes when their presence is entirely unsuspected. The surgical treatment of certain cases of diabetes practised by Sir A. W. Mayo-Robson is an illustration of preventive surgery, as it aims at the removal of the cause before the resulting pancreatitis has reached an extreme stage.

Cardiac Symptoms.

The dyspepsia due to appendix or gall-bladder disease may be associated with palpitation, irregularity, and substernal distress. M. J. Lichty found that in appendix cases the cardiac disturbance was usually functional only, whereas in gall-bladder disease, either alone or combined with appendicitis, the resulting cardiac disease was more serious. Absorption of toxins from an inflamed gall bladder or ducts may cause myocarditis, anginoid symptoms, and cardiac failure. In a paper on chronic cholecystitis as a cause of myocardial incompetence, Babcock records thirteen cases, medical advice being sought, with two exceptions in which biliary colic occurred, for cardiac disorder without any suspicion of gall-bladder trouble. Angina or anginoid symptoms in patients with gall-bladder disease may be due to exhaustion of the poisoned myocardium; a specially interesting case, as it raises the question of Graves's disease as a result of gall-bladder infection, is reported by Sears: a woman had intense precordial pain spreading to the left shoulder, a raised pulse rate, an enlarged thyroid, and other symptoms suggesting Graves's disease; an attack of biliary colic led to operative removal of two gall stones and disappearance of all the symptoms. Babcock described a group of his cases in which attacks of angina preceded cardiac failure. The pain of biliary colic sometimes imitates angina, and cases in which attacks of angina have cleared off after frank biliary colic are on record; it has been suggested that as the result of adhesions the pain of biliary colic may be felt on the left side. The symptoms of existing valvular disease may be intensified; or compensation may be broken down by toxic myocarditis due to gall-bladder infection. It is important to remember this, and also that the cardiac weakness is often entirely due to the gall-bladder disease, and will be cured by surgical treatment; for operation may be considered to be contraindicated by the condition of the heart. Janeway spoke hopefully of operation in these cases if performed under a local and not a general anaesthetic, the danger being more often from post-anaesthetic pulmonary complications. By waiting time may be lost without improvement in the cardiac condition; but in one case of this kind a vaccine made from organisms isolated from the faeces appeared to do good.

Pyelitis and Pyelonephritis.

Pyelitis and pyelonephritis may be due to infection with *B. coli*, either from the gall bladder or from the appendix; as far as I know, this usually occurs in the right kidney and then suggests a local extension of infection. I have seen right-sided pyelitis in a patient with chronic gall-bladder disease and from the comparative severity of the symptoms suggest acute cholecystitis; the difficulty in such cases is to be sure that both conditions are not present. By becoming adherent to the right ureter an inflamed appendix may cause pyelitis and the aspect of the case may be chiefly renal, and from the free haemorrhage even suggest a calculus; cases of this kind, usually after acute appendicitis, have been described by Hunner. I have been told of a case in which the appendix perforated into the ureter. An inflamed appendix situated high up and close to the kidney may possibly infect the pelvis of the organ.

Synovitis and Arthritis.

In common with other infective conditions of the stomach and intestines, appendicitis and cholecystitis very seldom give rise to a chronic or subacute arthritis such as is associated with oral sepsis. Dysentery is the disease in which the most extensive destruction of mucous membrane and opportunities for absorption occur, and yet synovitis is neither common nor, as a rule, severe. Arthritis in enteric fever is somewhat rare, and might be explained as the result of the early septicaemic stage. It seems plausible to suggest that the liver may protect the joints from damage due to intestinal infections. This hypothesis would naturally at once raise the objection that oral sepsis is an, if not the most, important cause of arthritis, and probably acts by infecting the stomach. On this point I would urge that the discharge of pus from the gums into the mouth, though a frequent cause of gastritis, is not so effective in producing arthritis as infection at the roots causing absorption into the blood stream. In rare instances appendicitis, usually acute, is associated with synovitis; this at first gave rise to the view that inflammation of the appendix, like that of the tonsil, both of which are rich in lymphoid tissue, was rheumatic in origin. But some years ago Poynton in discussing the association of

appendicitis with arthritis came to the conclusion that the articular affection was probably secondary to the appendicitis.

REFERENCES.

[1] Babcock, *Trans. Assoc. Amer. Phys.*, Phila., 1909, xxiv, 43. [2] Brown, *Arch. Int. Med.*, Chicago, 1919, xxiii, 185. [3] Crispin, *Collected Papers of the Mayo Clinic*, 1916, viii, 88. [4] Eusterman, Ibid., 1915, vii, 183. [5] S. Fenwick, *Lancet*, London, 1910, i, 706. [6] Friedman, *New York Med. Journ.*, 1918, cvii, 341. [7] Hilton, *Rest and Pain*, 74, 1863. [8] Hunner, *Journ. Amer. Med. Assoc.*, Chicago, 1908, l, 1328. [9] Hurst, *Arch. Röntgen Ray*, London, 1914-5, xix, 249. [10] Idem, *Constipation and Allied Disorders*, London, 162, 1919. [11] Idem, *Sensibility of the Alimentary Canal*, London, 43 et seq., 1911. [12] Janeway, *Trans. Assoc. Amer. Phys.*, Phila., 1909, xxiv, 69. [13] Leva, *Deut. med. Woch.*, 1892, xvii, 228. [14] J. A. Lichty, *Amer. Journ. Med. Sci.*, Phila., 1911, cxli, 72. [15] M. J. Lichty, *Ohio Med. Journ.*, Columbus, 1915, xi, 779. [16] J. Mackenzie, *Symptoms and their Interpretation*, 1909, 67. [17] S. Martin, *Med.-Chir. Trans.*, London, 1901, lxxxiv, 197. [18] W. J. Mayo, quoted by Paterson, vide infra. [19] S. J. Meltzer, *Amer. Journ. Med. Sci.*, Phila., 1917, cliii, 469. [20] Moynihan, BRITISH MEDICAL JOURNAL, 1908, ii, 1597 (Gall stones); 1910, i, 241 (Appendicitis); and 1919, ii, 765. [21] Pancoast, *Trans. Coll. Phys.*, Phila., 1917, xxxix, 257. [22] H. J. Paterson, *Lancet*, London, 1910, i, 708. [23] Pfahler, *Journ. Amer. Med. Assoc.*, Chicago, 1918, lxxi, 1951. [24] D. B. Pfeiffer, *Ann. Surg.*, 1915, lxi, 438. [25] A. W. M. Robson, BRITISH MEDICAL JOURNAL, 1910, i, 973. [26] Rosenow, *Journ. Amer. Med. Assoc.*, Chicago, 1914, lviii, 908. [27] Sears, *Boston Med. and Surg. Journ.*, 1913, clxix, 866. [28] Sherren, *Practitioner*, London, 1913, xc, 522. [29] E. I. Spriggs, *Lancet*, London, 1919, i, 98. [30] G. I. Stewart, *Lancet*, London, 1909 i, 1822. [31] Tripier et Paviot, *Semaine méd.*, Paris, 1903, xxiii, 29.

The Lettsomian Lectures

ON

TUMOURS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON,

BY

HERBERT R. SPENCER, M.D., B.S., F.R.C.P.,
OBSTETRIC PHYSICIAN, UNIVERSITY COLLEGE HOSPITAL.

(Abstract.)

LECTURE III.—CANCER OF THE UTERUS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.*

THE lecturer presented two tables, reproduced on page 323, giving brief particulars of the ten cases of cancer of the cervix complicating pregnancy, labour, and the puerperium which he had had under his care at University College Hospital. He had not met with a case in private practice. He related the details in each case, but it appears sufficient here to reproduce those with regard to the three cases, observed in advanced pregnancy, in which the patients, after high amputation of the cervix, survived for twenty-five, twenty-two, and nineteen years respectively.



FIG. 1.—Case 1, Table F. Cervix just before the operation. From a drawing by the author. (Natural size.) *Obstet. Soc. Trans.*, xlvi.

Patient Alive 25 Years after Operation.

E. W. (Table F, No. 1), aged 33 (children 4, abortion 1) was delivered on March 25th, 1893, by forceps through a cancerous cervix, of a full-term living child, which died of whooping-cough when 11 months old. The labour was slow. The patient had had a discharge of blood for eight months. There was no *post-partum* haemorrhage.

On April 8th, 1893, high amputation was performed with the Paquelin cautery (see Figs. 1 and 2). On June 6th, 1894, she became pregnant in the body, which had been left behind. On March 6th, 1895, I delivered her by Caesarean section, terminated as a Porro's operation, with extra-peritoneal treatment of the stump. This child grew up and served as a soldier in the great war, 1914–18. In 1918, twenty-five years after the high amputation, the mother was examined by me and found to be in excellent health.

Patient Alive 22 Years after Operation.

A. C. (Table F, No. 2), aged 35 (children 8, abortion 0), was admitted to University College Hospital on January 3rd, 1896, when seven months pregnant. She had had haemorrhage on coitus for seven months, and a thin, watery offensive blood-stained discharge for six months. There was a large cancerous growth on the posterior lip and left side of the cervix. Labour was induced by de Ribes's bag; the child (3 lb. 7 oz.) lived only thirty-eight minutes.

On January 28th, 1896, I removed the cervix by the high amputation with the Paquelin cautery (see Figs. 3 and 4).

I have seen this patient many times since the operation. I examined her in 1918, twenty-two years after the operation, and found her free from recurrence and in excellent health.

Patient Alive 19 Years after Operation.

M. S. (Table F, No. 3), aged 38 (children 9, abortion 0), was delivered in the maternity of University College Hospital on January 25th, 1896, naturally, of a living child. She had had no bleeding during the pregnancy, but blood and shreds were passed every day afterwards. On June 5th—four months and eleven days after delivery—she was examined and found to have cancer of the cervix. High amputation was performed on June 30th, 1896. (See Figs. 5 and 6.) In 1915—nineteen years after the operation—I examined the patient and found her free from recurrence and in excellent health. The child lived at least to the age of 8 years. I have no further note about her, and the mother's present address is unknown.

(These three cases were published in the *Obstetrical Society's Transactions*, vol. xi, 1904.)

* Delivered March 1st.

The rarity of the combination of cancer of the uterus with pregnancy is shown by the fact that few gynaecologists have published a list of even ten cases. Moreover, their cases have not been all personally treated by the authors, but are often the collected cases of clinics published in inaugural dissertations and theses, the inexperienced writers of which are wanting in the intimate knowledge which only personal attendance can give. In the clinic of Professor Wertheim, who has had such an extensive experience of this disease, amongst 250 cases of cancer of the cervix, only six were complicated with pregnancy, and some of these were not treated by him. The largest series attended at one clinic I have been able to find is that published by Glockner,[1] consisting of seventeen cases from the Zweifel's Gynaecological Clinic at Leipzig, followed by a series of ten cases from the same clinic by Aulhorn.[2] In 1904 Sarwey[3] had been able to collect from the literature only 240 cases of this combination which had been subjected to operation, and gives the frequency (84,000 labours) as 1 in 1,600 labours.

AGE.

Of the ten patients two were between the ages of 20 and 30 (20 per cent.); seven between the ages of 30 and 40 (70 per cent.); and one was aged 40 (10 per cent.). Of Sarwey's collected series 17.8 per cent. were between 20 and 30, 64.4 per cent. were between 31 and 40, and 17.8 per cent. were between 41 and 50. From the ages of 3,442 cases of cancer not complicated with pregnancy, Sarwey shows that only 3 per cent. were between 20 and 30, 22.4 per cent. were between 31 and 43; 34 per cent. were between 41 and 50.

These figures indicate that in the child-bearing period of life cancer not combined with pregnancy is at its maximum in patients over 40, but when combined with pregnancy, under 40; and that below 30 the frequency of cancer is six times as great in the pregnant as in the non-pregnant.

The youngest of my patients was 26 years of age. I have never met with cancer of the cervix at an earlier age than this. Of Sarwey's collected cases the youngest was only 22; the oldest was 47.

NUMBER OF PREGNANCIES.

Cancer of the cervix is very rare in women who have not been impregnated. Olshausen and Döderlein have published cases of cancer complicating the first pregnancy. Cancer even in the second pregnancy is rare, having been found only six times in Sarwey's 180 cases. To these may be added my Case 3. My 10 cases had had in all 70 children and 11 miscarriages—that is, an average of 7 children and over 8 pregnancies. Six out of the 10 patients had had 8 children, and half of them had had 9 or more children, the greatest number of pregnancies being

15 (Case 9). The influence of multiparity is thus shown, as in all other statistics dealing with this combination.

The reason why cancer of the cervix should be almost confined to parous women and so extremely rare in virgins has been much discussed. Lacerations during labour and abortion have been supposed by many to be the causes, but observations on this point are few; Sir John Williams published a striking case in which the laceration was the only part of the os not affected. It seems probable that lacerations, by exposing the cervical mucous membrane to external irritation, may tend to favour the development of cancer, but its influence is probably small; for cancer often develops in cases in which there is no sign of previous laceration, and in situations where lacerations do not occur; and, moreover, cancer of similar structure occurs in the body of the uterus, where lacerations do not arise.

Erosions have been thought by some to be a pre-cancerous condition, and very radical methods of treatment have been suggested. As erosions are very common in virgins, in whom cancer of the cervix is extremely rare, it is quite certain that erosions rarely develop into cancer. Nevertheless, in erosions are sometimes found both metaplasia and hyperplasia and even slight downgrowth of the epithelium, so that occasionally the differential diagnosis from early carcinoma is difficult. To the naked eye a case of this kind sometimes shows papillary, club-like, or finger-like processes, or even extensive papillomatous growths which may closely resemble cancer. These growths are, I think, sometimes the result of excessive sexual irritation and of venereal infection. And I am inclined to think that when the question of the causation of cancer of the cervix is solved it will be found that the reason why this disease is almost limited to women who have had coitus is that local venereal infection is almost limited to them. I do not know of a series of scientific investigations into the relations of syphilis, soft sores, and gonorrhoea to cancer of the cervix, but I believe it will be found to be close. I have twice seen cancer of the cervix develop in patients who had previously had a chancre of the cervix.

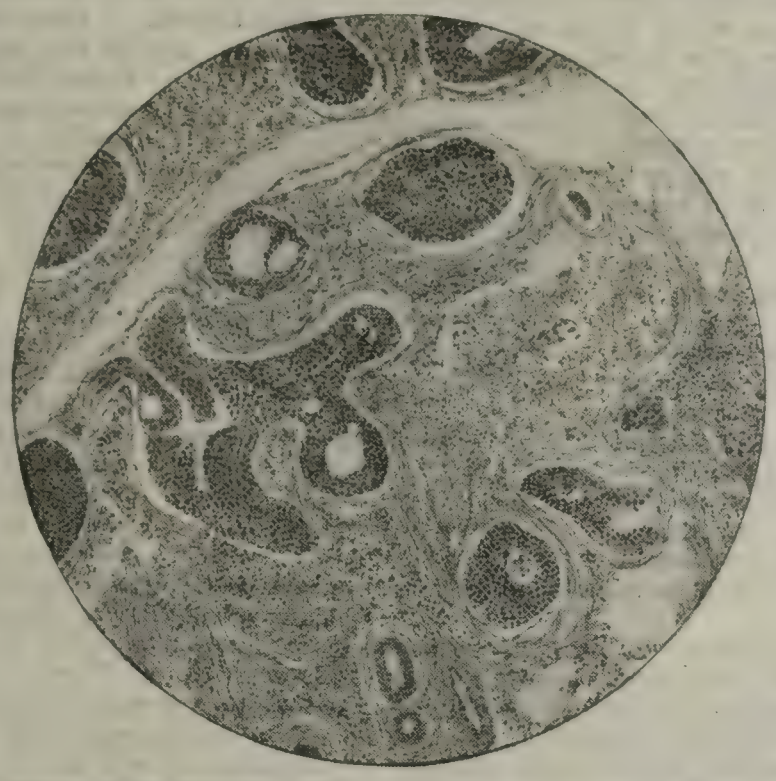


FIG. 2.—Case 1, Table F. Microscopical drawing, low power, showing squamous-cell carcinoma. *Obstet. Soc. Trans.*, xlvi.



FIG. 3.—Case 2, Table F. Cervix just before the operation. From a drawing by the author. (Natural size.) *Obstet. Soc. Trans.*, xlvi.

Influence of the Cancer on the Pregnancy.

Cancer of the cervix, by obstructing the canal, by the haemorrhages and discharges to which it gives rise, and the infection and inflammation which often accompany it, tends to prevent the occurrence of pregnancy, and, when it occurs, to produce abortion or premature labour.

Of my ten cases two aborted spontaneously at the fifth and sixth month. Both were septic on admission to the hospital, and it is probable that the infection brought on the abortion. Apart from this there does not appear to be a great tendency for abortion to occur in the early months. Of the six cases of pregnancy in the eighth and ninth calendar months in no fewer than three labour came on prematurely; this seems to show a great tendency to premature delivery. The growth may in some cases be so extensive as to prevent the delivery of the child, and "missed labour" may occur. In one case the uterus ruptured during labour. The high mortality is due to haemorrhage, sepsis, and rupture of the uterus.

Influence of the Pregnancy on the Cancer.

The influence of the pregnancy on the cancer has varied in different cases. The three cases which were inoperable survived from seven to twelve months, which does not show any marked rapidity of growth after delivery, seeing that in all the cases the growth had reached an advanced stage at the time of delivery, which was difficult (forceps, Caesarean section, forceps for rupture of uterus).

SYMPTOMS.

Of the three chief symptoms of cancer of the cervix—haemorrhage, discharge, and pain—the most important is haemorrhage. When the cancer complicates pregnancy the haemorrhage may lead the patient to think she is not pregnant or has miscarried.

Haemorrhage as a result of coitus is a symptom of the greatest importance. It occurred as the first symptom in Case 6 (Table F, No. 2) and was followed by a characteristic thin watery, offensive, blood-stained discharge, which after it had existed for six months led the patient to seek advice. In some cases, however, the growth does not bleed as a result of pressure upon it. An instance of this was Case 9 (Table F, No. 5), and Kreps has published a similar case (*Inaug. Diss.*, Berlin, 1905). In some cases haemorrhage occurs at approximately monthly periods and thus leads the patient into error with regard to the presence or duration of pregnancy.

Discharge is often the earliest symptom, but is unnoticed by the patient, owing to the frequency with which it occurs from other causes. When, however, it is watery and discoloured, or bloodstained, it should at once arouse suspicion; an offensive discharge is due to necrosis, and often occurs only in the later stages of the growth.

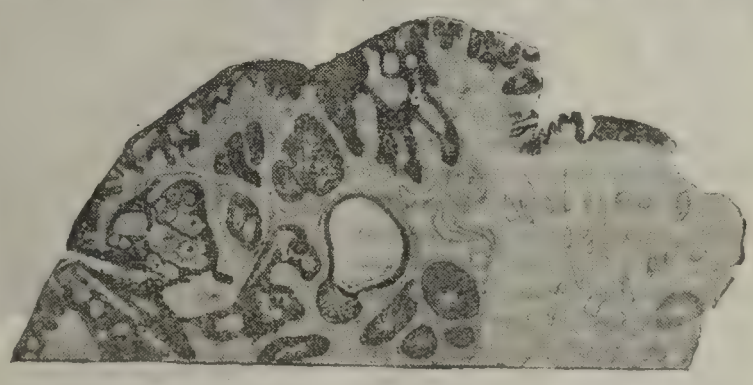


FIG. 4.—Case 2, Table F. Microscopical drawing of edge of growth showing squamous-cell carcinoma. *Med. Soc. Trans.*, xliii.

Ordinarily pain does not occur in cancer of the unimpregnated uterus until the growth has extended beyond the organ; occasionally inflammation resulting from bacterial infection will cause it to appear while the growth is limited to the cervix. In cases complicated by pregnancy, pain may occur at an earlier date; it is due to contractions of the uterus or to a threatened or actual abortion, as well as to septicaemic infection, which is very prone to occur in these cases. The secondary symptoms—wasting, malaise, cachexia, pressure symptoms—do not differ from those met with apart from pregnancy.

DIAGNOSIS.

Cancer of the uterus complicating pregnancy always affects the cervix; there is, so far as I know, no case recorded of cancer of the body complicating pregnancy which will stand investigation. The cases formerly published were either cases of chorion-epithelioma or sarcoma.

In the early months it may be difficult to make out the condition of the pregnant uterus on account of the presence of the growth and the bleeding to which bimanual examination may give rise. On the other hand, the uterus is not rarely distended by pus (pyometra) in cases of cancer of the cervix, and it may then closely simulate a pregnant uterus, especially if menstruation has stopped. This will rarely occur apart from pregnancy until the age of the menopause (47), and pregnancy at this age is so exceedingly rare that only one case was recorded in Sarwey's collection.

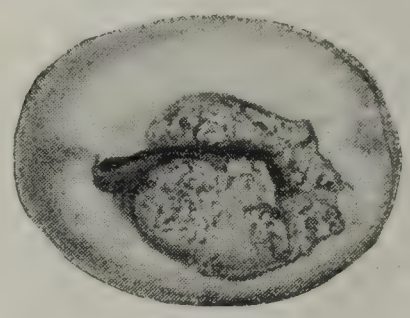


FIG. 5.—Case 3, Table F. Cervix. Drawing by the author after specimen had been five years in spirit. (Natural size.) *Obstet. Soc. Trans.*, xlvi.

On vaginal examination, either a growth or an ulcer will be felt, both differing markedly from the normal cervix by being comparatively hard and brittle, breaking down under the finger, and bleeding on pressure with the finger or the point of a sound. In later stages the uterus may be fixed by inflammation or growth in the cellular tissue; this is most easily made out by rectal examination.

On inspection through a speculum—a large Fergusson speculum, with the patient in the lithotomy position, is best for this purpose—an irregular growth with nodular or club-like processes, with or without ulceration, may be found. The colour of the growth is livid red, often sloughy on the surface, and may contrast with the purple colour of the vaginal cervix. The surface of the growth should be dried with absorbent cotton-wool, and the overhanging edge, the bleeding, and breaking down on pressure noted. If ulceration be present, the only conditions likely to be mistaken for it, namely, tubercle and syphilis, are rare.

In some cases only a hard, smooth enlargement of the cervix is met with; there is neither a projecting irregular breaking-down growth nor ulceration, the growth being in the wall of the uterus. In these cases the finger is easily passed into the cervical canal and recognizes the bleeding growth. A piece of this should be removed for microscopical examination in all cases. This is especially necessary, because the syphilitic and tuberculous affections cannot be distinguished by clinical methods, but are easily recognized under the microscope.

In ordinary cases the diagnosis of the growth is quite easy; the marked contrast of the brittle, bleeding growth with the soft tissues of the cervix of pregnancy leaves no doubt. There are, however, certain diseases of the cervix which closely resemble cancer and certain cases of cancer which lack the usual signs.

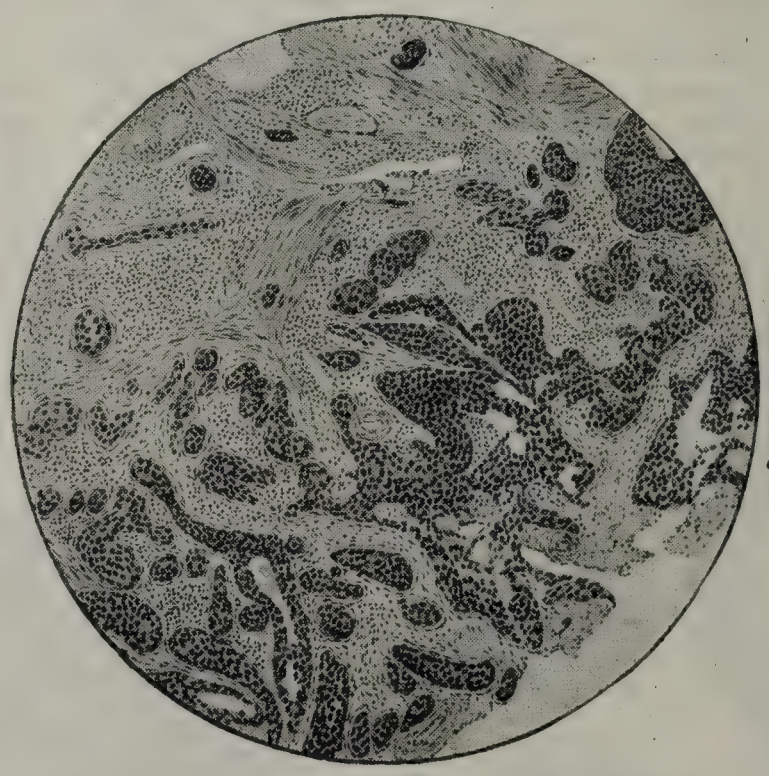


FIG. 6.—Case 3, Table F. Microscopical drawing showing squamous-cell carcinoma. *Med. Soc. Trans.*, xliii.

Conditions Resembling Early Cancer of the Cervix.

Hypertrophied papillary or nodular erosions, hypertrophied and inflamed glandular erosions, and papillomata (simple and diffuse) may closely simulate cancer.

By *hypertrophied papillary or nodular erosions* I mean a growth with club-like processes or lobules made up of thick connective tissue centres, often containing dilated glands, covered with a single layer of columnar or cubical epithelium. I have not met with this form during pregnancy, but the diagnosis would be difficult without microscopical examination. This form, however, is not friable.

By *hypertrophied and inflamed glandular erosion* I mean a granular condition similar to the ordinary glandular erosion, but much larger and more vascular; it sometimes measures as much as 1½ in. across, and can be broken into with the point of a sound, and bleeds readily on examination. It does not break down to the extent that cancer does, and the growth does not project from the surface, but in some cases it is necessary to excise a piece in order to exclude cancer. I have not met with this condition in pregnancy, but in the impregnated uterus have several times mistaken it for cancer until the microscope showed the nature of the condition.

Papillary growths are met with in several forms. The pedunculated papillomata of gonorrhoea are occasionally found on the cervix, but rarely, I think, without being present on the vulva or vagina. This scattered distribution is an aid to diagnosis. Broad flat papillomata with a finely granular surface may be met with both in gonorrhoea and soft sores, and, I believe, as a result of masturbation. They bleed and break down under the finger, are generally softer and more friable than cancerous growths, and can be often pinched off the surface of the cervix with forceps, leaving a raw red surface fairly smooth and bleeding freely. Under the microscope a central vascular stem supported by connective tissue is seen surrounded by a mass of large epithelial cells often oedematous or vacuolated.

More solid isolated polypoid or sessile nodules in the cervical canal and at the external os occur occasionally; they consist of stroma of the cervix covered by many layers of squamous epithelial cells (metaplasia of cervical columnar epithelium). In the substance of these growths gland spaces may be cut across of which the epithelium has also undergone metaplasia, so that the spaces are filled with squamous epithelium. If these growths be cut without the subjacent and adjacent tissue the appearance is not distinguishable from squamous-cell carcinoma, although a deeper section shows no such invasion of the deeper tissue of the organ as occurs in true carcinoma. In excising a portion of the cervix for microscopical examination a wedge-shaped piece should be removed including the edge of the suspected growth; care should be taken that the microscopic sections are cut vertically to the free surface and not parallel to one side of the wedge.

Lastly, I would like to direct attention to the unusual features of Case 5, Table F, which led to an erroneous diagnosis. The peculiar features were (1) the smooth surface of the growth pitted by several holes from which a pus-like fluid escaped in considerable quantity; (2) the fact that the growth did not bleed at all, although it was dressed almost daily for nearly two months; (3) that the growth did not break down under moderate pressure; (4) that it did not apparently increase at all during two months' observation, and in the puerperium at first diminished in size. I do not remember to have seen another case of cancer of the cervix in which these "pus" holes were present, although I have seen several in cancer of the vulva. In this case it is to be regretted that a piece was not excised; this would at once have shown that the growth was a columnar-cell carcinoma, and that the pus was the liquefied central epithelial cores.

Although the microscope is of the highest value and is

TABLE E.—*Author's Cases of Early Pregnancy (before the Eighth Calendar Month) complicated by Cancer of the Cervix at University College Hospital, from July, 1887, to October, 1919.*

No.	Age.	Children.	Abortion.	Month of Pregnancy.	Result to Mother.		Result to Child.		Mode of Delivery.	Operation Performed.
					Immediate.	Remote.	Immediate.	Remote		
1	6	9	2	5th	Died (sepsis, Sept 26, 1891)	—	Died	—	Natural	No; too far advanced for curative operation; natural abortion, Sept. 8, 1891. Admitted with fever, 103°; septic; rigor.
2	40	9	1	6th	Died (sepsis, Feb. 1, 1895)	—	Lived	Died (in two days)	Natural	No; too far advanced for curative operation; natural abortion, Jan. 23, 1895. Admitted febrile, 100°, pulse 116.
3	29	1	0	6th	Died (Nov. 25, 1906. undelivered)	—	Died	—	Undelivered	No; too far advanced for curative operation.
4	26	2	0	4th	Lived	Died (of recurrence, Sept. 24, 1907)	Died	—	Pregnant uterus removed	Vaginal hysterectomy with the galvan-cautery, March 15, 1906.

TABLE F.—*Author's Cases of Advanced Pregnancy (in the Eighth or Ninth Calendar Month) complicated by Cancer of the Cervix at University College Hospital, from July, 1887, to October, 1919.*

No.	Age.	No. of Pregnancies	Month of Pregnancy.	Result to Mother.		Result to Child.		Mode of Delivery.	Operation Performed.
				Immediate.	Remote.	Immediate	Remote.		
1	33	5	Term	Lived	Well 25 years after high amputation of cervix	Lived	Died of whooping-cough 11 mths. later	Per vaginam, forceps	High amputation of cervix (April 8, 1893), a fortnight after delivery. Two years later, Porro-Caesarean section with living child, who served as a soldier in the war 1914–18.
2	35	8	8th	Lived	Well 22 years after high amputation of cervix	Lived	Died in 38 mins.	Per vaginam, induction of labour by de Ribes's bag	High amputation of cervix (Jan. 28, 1896), 18 days after delivery.
3	38	9	Term	Lived	Well 19 years after high amputation of cervix	Lived	Well 8 years later	Per vaginam, unassisted, easy	High amputation of cervix (June 30, 1896), 5 months after delivery.
4	30	9	8th	Lived	Died 7 months later	Lived	Living 6 mths. later	Per vaginam, forceps	No; too far advanced for curative operation.
5	39	15	8th	Lived	Died 12 months later	Lived	Living 6 mths. later	Per vaginam, forceps; rupture of uterus	No; too far advanced for curative operation. Rupture packed with iodoform gauze.
6	34	11	8th	Lived	Died 7 months later	Lived	Died 15 days later	Per abdomen, by Porro-Caesarean section, with use of serre-noeud	No; too far advanced for curative operation.

indispensable for the diagnosis of certain cases, clinical examination is also of great importance. For want of this I have known a distinguished pathologist decide, as the result of the examination of a microscopical section, that only normal cervical glands were present, when clinical examination showed a deeply invading cancer. In this case the rare form of cancer, "carcinoma adenomatodes," in which the glands are lined with a single layer of columnar epithelium, would have led to a serious error if reliance had been placed on the microscopic examination alone and the clinical signs had been neglected.

STATISTICS.

I have published tables of cancer of the cervix in advanced pregnancy—that is, in the eighth, ninth, or tenth month—treated by vaginal or combined abdominal and vaginal hysterectomy, from the papers of Glockner (10 cases), Olshausen and Kaussmann (8 cases), in the Obstetrical Society's *Transactions* (vol. lvi, pages 369-371). The percentage of cures in the 18 cases, operable and inoperable, is 5.5. The total immediate mortality is 33.3 per cent., operation mortality 16.6 per cent.

E. Aulhorn's[4] 10 cases from Zweifel's clinic give the results of abdominal hysterectomy: 1 of 3 cases in "advanced" pregnancy remained well after "a good five years"; of 7 early cases 2 recurred and 5 remained free from recurrence after two to three and a quarter years.

E. Wertheim[5] gives 6 cases: 1 advanced case, operated on by Micholitsch, remained well after five years. Of the 5 early cases 1 died of embolism, 1 recurred, the other 3 were "cured."

P. Glarner[6] has recorded 8 cases: 3 in advanced pregnancy were treated by Caesarean section; 5 early cases were treated by abortion and vaginal and abdominal hysterectomy. All the cases recurred.

Trotta[7] gives a list of 26 cases (1879-1905) in advanced pregnancy treated by Caesarean section and total abdominal hysterectomy. The maternal mortality was 33 per cent., the fetal 22 per cent. Of cases operated on in labour the maternal mortality was 53.3 per cent. He showed that the maternal mortality after abdominal operation was more than double and the fetal mortality only half that of the vaginal operation.

Sarwey,[8] in 1908, gave a list of 29 cases of extended abdominal hysterectomy in all of which the mothers survived; it is made up of cases published between 1900 and 1908, but does not contain Wertheim's case of fatal embolism (1905).

Vitanza[9] published in 1898 a paper on amputation of the cervix of the cancerous pregnant uterus. Of 7 cases seen, 4 were treated by high amputation of the cervix; the pregnancy continued and the patients bore living children. Two years later, in a paper on high amputation for cancer, he stated that of 15 early cases only 2 recurred; 9 remained free from recurrence for three to twelve years. In 6 of them pregnancy occurred from 6 months to three years after the operation. The Paquelin cautery was used in all cases after the amputation.

The preservation of the fetus and the possibility of pregnancy following high amputation, as shown by Vitanza's cases and one of mine, are valuable advantages of high amputation which should not be overlooked in considering the question of treatment.

TREATMENT.

The treatment of cancer of the cervix complicating pregnancy varies according as the case is "operable" or "inoperable" and the child is viable or not. The question of operability is usually decided by the absence of fixation of the uterus and of thickening in the parametric tissue, though operation, both vaginal and abdominal, permits the removal of the uterus in certain cases where these conditions are found. The age of viability of the child may be taken for practical purposes as in the last three lunar or two calendar months of pregnancy, in this paper called "advanced pregnancy," pregnancy of shorter duration being called "early pregnancy." In advanced pregnancy the interests of the child and the large size and vascularity of the uterus introduce special problems of treatment and increase the danger of the operation, which is especially great during the course of labour.

Modes of Treatment.

The chief modes of operative treatment which have been employed for cancer complicating pregnancy are by high amputation, vaginal hysterectomy, extended vaginal hysterectomy, abdominal hysterectomy, extended abdominal hysterectomy, and combined abdominal and vaginal hysterectomy.

In the course of the last ten years great advance has been made in the treatment of cancer of the cervix by radium, mesothorium, and *x* rays, and for the last five years in several of the chief clinics of Europe operation has been almost entirely abandoned in favour of radiation treatment. It would seem to entail some risk to the fetus, and I am not aware that it has been employed during the course of pregnancy.

The patients are on the average younger, and therefore presumably stronger than non-pregnant patients, but the disease is apt to be more malignant in the young. The glands are, however, comparatively rarely affected (Wertheim).

Treatment during "Early Pregnancy."

(*a*) "Operable" cases should be operated on at once. The opinion once held that cancer complicating pregnancy was inevitably fatal can no longer be maintained. The best results have been obtained by the extended abdominal hysterectomy, Wertheim's results having been unequalled by any other method. In view of the fact that the glands are rarely affected, vaginal hysterectomy (preferably performed with the cautery) may be employed in feeble or fat patients, as it has a much lower mortality than the abdominal operation, and amputation of the cervix may be performed in early cases of squamous carcinoma, in which there is a desire to preserve the life of the child and the fertility of the mother. During labour or abortion the same operations may be performed if the case is not infected; if infected, the whole womb should be removed.

(*b*) "Inoperable" cases. If the case is not accompanied by bleeding or infection, the patient should be kept at rest and Porro's operation with the serre-nœud be performed when the pregnancy is "advanced." *During labour or abortion* the case should be treated on general principles, with a view of preventing infection, and subsequently treated during the puerperium with the cautery, radium, and *x* rays.

Treatment during "Late Pregnancy."

(*a*) "Operable" cases should be treated by Caesarean section, followed by extended abdominal hysterectomy. If the patient is in fair condition, the operation is indicated equally on the ground of science and humanity.

If the patient is feeble or the growth infected, it might be preferable to remove the cervix by the cautery, and then remove the child by the vagina or by the abdomen, and apply radium after, or without, the removal of the uterus. This procedure would probably be safer to the mother than the performance of abdominal Caesarean section and the removal of the uterus (or the cervix after amputation) by the vagina, but would involve some increased risk to the child. Vaginal Caesarean section entails too great a risk of implantation of cancer cells, and no case is recorded in which it has been followed by cure.

During labour the risk to the patient is greatly increased. In the early stages of labour Caesarean section, followed by the extended abdominal hysterectomy, will usually be the best treatment. But if the labour be advanced and the growth not extensive, it may be safer to deliver the patient *per vias naturales*, and afterwards, at an early period of the puerperium, to treat the diseases by one of the methods mentioned. It is noteworthy that five of the seven advanced cases "cured" were operated on after delivery.

(*b*) "Inoperable" cases should be treated by Porro's operation with the use of the serre-nœud. It has the advantage over the conservative Caesarean section that it removes the placental site from the risk of infection, and over Caesarean hysterectomy with intraperitoneal stump that, in case of infection, discharges will readily escape by the side of the wire, which can be placed on any height above the growth, provided the placental site be removed. In the case of a dead or putrid child it would be possible by the Porro method to close the peritoneal wound above and around the uterus before the body of the organ was opened or amputated.

During the puerperium the treatment does not differ essentially from the treatment of cases of cancer in the unimpregnated.

At the present time there is a great tendency abroad to treat these cases with radium, mesothorium, and *x* rays, a reaction having set in against the extended abdominal hysterectomy on account of its high rate of mortality. The late Dr. Pozzi[10] proposed a restricted vaginal hysterectomy completed by radium therapy in cases of cancer of the uterus. Although such an operation is unsuitable for some cases of cancer during pregnancy, I believe that in the puerperium vaginal hysterectomy, or high amputation, performed with the cautery and completed by the application of radium and *x* rays, will be found to give better results than the extensive operations now usually practised.

The three cases of high amputation described in this lecture which have remained free from recurrence for twenty-five, twenty-two, and nineteen years, are instances of the possibility of cure by simple operations, which are free from danger. As far as I know only two other cases of cancer complicating labour in advanced pregnancy are recorded which have remained well for five years after operation—namely, Olshausen's (five and three-quarter years), and Von Ott's (eight and a half years) both operated on by vaginal hysterectomy in the puerperium. Two additional cases have been cured—namely, Micholitch's (five years) and Aulhorn's (five years), both operated on by the extended abdominal hysterectomy. The former was in advanced pregnancy but not in labour; no information as to the presence of labour was given in Aulhorn's case. I attribute the result in my cases to the use of the cautery (in two of the cases) and of antiseptic douches, and also to the fact that the operation was performed after delivery when the tissues were involuting.

The rarity of cure of cancer complicating labour in advanced pregnancy seems to justify the republication of these cases with a later after-history.

Sarwey, in Veit's *Handbuch der Gynäkologie*, while mentioning the title of my former paper in the bibliography, does not allude to the cases in the text. Perhaps the after-history of Case 5 may lead the next German writer on the subject to consider the cases worthy of mention.

REFERENCES.

[1] *Beiträge für Geb. und Gyn.*, Leipzig, 1902. [2] *Archiv für Gyn.*, vol. xcii, p. 242. [3] Veit's *Handbuch der Gyn.*, vol. ii, p. 850 (1908). [4] *Archiv für Gyn.*, vol. xcii, p. 242. [5] Die erweiterte abdominelle Operation bei Carcinoma Colli Uteri, 1911, p. 196. [6] *Inaug. Diss.*, Zürich, 1907. [7] *Archiv di Ost. e Ginecol.*, April, 1906, p. 172. [8] Loc. cit. [9] *Archiv di Ost. e Ginecol.*, 1898, p. 670, and 1900, p. 257. [10] *Revue de Gynécologie*, vol. xxiii, p. 209 (1915).

THE THERAPEUTIC VALUE OF OXYGEN IN PULMONARY LESIONS.

PRELIMINARY NOTE.

BY

JONATHAN C. MEAKINS, M.D., F.R.C.P.EDIN.,

CHRISTISON PROFESSOR OF THERAPEUTICS, UNIVERSITY OF EDINBURGH.

It has been demonstrated by Stadie[1] that in cases of pneumonia with cyanosis there may be a considerable deficiency in the oxygen content of the arterial blood. He determined this by examining blood taken from the radial artery, using the technique of Van Slyke.[2] Using due precautions during collection against exposure to air, he estimated in one sample of the blood the oxygen content and in another sample the total oxygen capacity of the blood; then by comparison of the two results he determined the degree to which the arterial blood was unsaturated with oxygen.[5] In normal persons he found this to average 5 per cent. His results showed that there was a close relation between the degree of unsaturation of the blood with oxygen and the degree of cyanosis; while in addition there was a direct relation between the intensity of the cyanosis and the condition of the patient. In other words, the greater the degree of oxygen unsaturation of the arterial blood the more critical was the patient's condition.

The value of oxygen administration in pneumonia has been a subject of much controversy, and the present

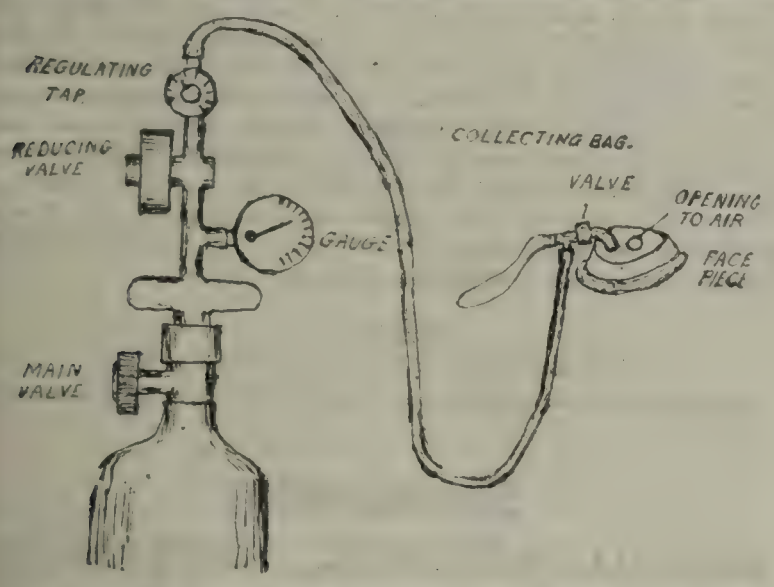
Table showing Effect of Oxygen Inhalation on Oxygen Content of Arterial Blood.

Case No. and Disease	Date.	Cyanosis.	Respirations.	Oxygen given per Minute.	Haemoglobin. Per Cent.	C.cm Oxygen at 760 mm. Hg and 0° C. taken up by 100 c cm. of Blood.	C.cm. Oxygen Capacity at 760 mm. Hg and 0° C. of 100 c.cm. of Blood.	Percentage of Oxygen Unsaturation.	Percentage of Oxygen Saturation.
I. Pneumonia.	1920 January 23	Slight	42	None	80	2.24	14.73	15.1	84.9
	,, 26	++	44	None		2.62	14.64	17.9	82.1
	,, 26	0	44	2 litres for 4 hrs.		1.33	14.64	9.08	90.92
	,, 27	0	42	1 litre for 18 hrs.		1.32	14.67	9 0	91.0
	,, 28	+	42	None for 4 hrs.		2.33	14.77	15 5	84.5
	,, 29	0	36	3 litres for 24 hrs.		0.44	14 76	3.05	96 95
II. Pneumonia.	February 11	Slight	48	None	98	1 94	18.23	10.6	89.4
	,, 12	−	36	2 litres for 20 hrs.		0.341	18.40	1.85	98.15
III. Acute and chronic bronchitis.	February 10	+	38	None	97	2.08	18.16	11.4	88.6
	,, 11	−	34	2 litres for 4 hrs.		0.55	18.27	3.01	96 99
IV. Normal.	February 13	−	16	None	104	0 852	19.40	4 4	95.6
	,, 13	−	15	2 litres for 100 minutes		0.37	19.7	1.87	98.13

investigations were undertaken to determine whether oxygen adequately administered would increase the oxygen saturation of the arterial blood in this condition.

Effect of Oxygen Inhalation in Lobar Pneumonia and in Bronchitis.

The following cases illustrate the results which may be obtained when oxygen is administered in an efficient manner. The method of administration was that devised by Haldane.[3] No difficulty was experienced by the patients provided the apparatus was in efficient working order.



Dr. Haldane's apparatus, reproduced from his paper in the BRITISH MEDICAL JOURNAL, July 19th, 1919. The gauge shows the amount of oxygen in the cylinder. The reducing valve reduces the pressure to a small amount, which remains constant till the cylinder is empty. The regulating tap shows the flow of oxygen in litres per minute. The tube is of thick-walled rubber. The face-piece is provided with elastic straps and a rubber pneumatic cushion which can be removed for disinfection. The collecting bag, of flexible rubber, is small, and is connected with the face-piece through a mica valve which prevents expired air from entering it. The face-piece has a rubber flap to cause a very s ight resistance. During expiration the oxygen collects in the bag and is sucked into the face-piece at the beginning of inspiration. From the movements of the bag it can be seen at any moment whether the patient is receiving the oxygen. The apparatus is put into action by opening the main valve freely and adjusting the tap to give two litres a minute, or whatever greater or less amount may be desired. With a delivery of two litres a minute a 40-foot cylinder lasts nearly ten hours.

The blood of the patients so treated was obtained by the procedure described by Hürter.[4] The method for estimating the oxygen content and the oxygen capacity of the arterial blood used in the present observations will be described in a future communication. The main principle of the method was to determine the amount of oxygen which a known quantity of arterial blood would take up, taking proper precautions to avoid exposure to air before the estimation was made. Then the total oxygen capacity of the same sample of blood was determined by the ferricyanide method, and the ratio between the two gave the percentage of saturation or unsaturation with oxygen of the arterial blood.

EXAMPLE OF METHOD.

Amount of blood taken, 2.025 c cm. Haemoglobin = 103 %.
Amount of gas absorbed, 0.039 c.cm. Bar. 29.76 in. of mercury; temperature 10° C.
Amount of gas absorbed, 0.03697 c.cm. at 760 mm. Hg and 0° C.
Amount of gas physically dissolved, 0.0186 c.cm.
∴ Amount of oxygen taken up by haemoglobin of 100 c.cm. of blood = 0.907 c.cm.
Total oxygen capacity of 2.025 c.cm. of blood = 0.410 c.cm.
Total oxygen capacity of 2.025 c.cm. of blood reduced to 760 mm. Hg and 0° C. = 0.38704 c.cm.
∴ Total oxygen capacity of 100 c.cm. of blood reduced to 760 mm. Hg and 0° C. = 19.11 c.cm.
∴ Unsaturation of arterial blood with oxygen = 4.8 %.
∴ Saturation of arterial blood with oxygen = 95.2 %.

CASE I.—*Lobar Pneumonia.*

The patient came under observation on the fifth day of the disease. He was suffering from lobar pneumonia, which involved the whole left lung except for a small portion of the apex of the upper lobe. The respirations were 42; there was no orthopnoea, but slight cyanosis. The degree of oxygen unsaturation of the blood from the radial artery was 15 per cent. of the total oxygen capacity.

On the eighth day of disease the cyanosis was more evident, and the arterial blood was 17.9 per cent. unsaturated with oxygen. At 3 p.m. of this day oxygen was first given to the patient by the Haldane apparatus. It was set to deliver 2.5 litres of oxygen a minute. At 5 p.m. another sample of arterial blood was examined and was found to be only 9.08 per cent. unsaturated with oxygen. During the night the oxygen administration was continued at 2 litres of oxygen per minute, and on the ninth day of disease the oxygen unsaturation of the arterial blood was 9.0 per cent. The oxygen was continued till 11 a.m. on the tenth day of disease, when it was stopped. Blood was drawn from the radial artery at 3 p.m., and it was found to be 15.5 per cent. unsaturated with oxygen. Cyanosis was present at this time. Oxygen amounting to 3 litres a minute was now administered and continued until next day, when it was found that the cyanosis had disappeared and that the arterial blood was only 3.05 per cent. unsaturated with oxygen. During the next night the patient had the crisis.

It is evident from this case that the degree of cyanosis and arterial blood unsaturation with oxygen may be readily regulated by the administration of oxygen in sufficient quantities by the Haldane apparatus.

CASE II.—*Lobar Pneumonia.*

This patient had pneumonia which involved the left lower lobe and part of the right lower lobe. There was slight cyanosis, and the arterial blood unsaturation with oxygen was 10.6 per cent. This was on the sixth day of the disease. The patient was given oxygen, amounting to 2 litres a minute, until the next day, when all signs of cyanosis had disappeared, and the arterial blood was found to have an oxygen unsaturation

amounting only to 1.85 per cent. The oxygen was continued, and the next day the patient had the crisis.

CASE III.—*Acute Exacerbation of Chronic Bronchitis.*

This patient was suffering from an acute exacerbation of a chronic bronchitis associated with moderate cardiac failure. There was slight orthopnoea and cyanosis, with an irregular distribution. The hands and ears were purplish in hue, while the lips were only slightly so. The arterial blood was unsaturated with oxygen to 10 9 per cent. Two litres of oxygen a minute were administered by the Haldane apparatus during the next twelve hours, when the cyanosis had completely disappeared, and the orthopnoea was practically gone. The arterial blood at this time was unsaturated with oxygen to 3.01 per cent.

EFFECT OF OXYGEN INHALATION IN HEALTH.

The degree of unsaturation with oxygen of the arterial blood of five normal cases was determined. It was found to average 5.1 per cent., ranging from 4.4 per cent. to 5.6 per cent. It will be noticed that in the pathological cases outlined above the arterial blood oxygen unsaturation showed an appreciable decrease from normal when a sufficient oxygen concentration of the inspired air was administered. Therefore it was considered of importance to determine whether the administration of oxygen would reduce the oxygen unsaturation of the arterial blood of a normal person. Arterial blood of a normal adult was examined and the oxygen unsaturation was found to be 4.4 per cent. Two litres of oxygen a minute were administered by the Haldane apparatus for 100 minutes and the arterial blood again tested for the arterial oxygen unsaturation, which was then found to be only 1.87 per cent. This confirmed the previous observations in the abnormal cases that the inhalation of inspired air sufficiently enriched with oxygen may diminish the oxygen unsaturation of arterial blood beyond the normal limits.

CONCLUSIONS.

1. In certain respiratory diseases where there is anoxaemia of the arterial blood the efficient administration of oxygen will diminish this anoxaemia and so relieve the cyanosis.

2. If the oxygen be given in sufficient concentration in the inspired air the arterial saturation with oxygen may be raised above normal.

3. This result may be obtained both in normal individuals and also in certain of those suffering from certain respiratory diseases.

REFERENCES.

[1] Stadie, *Journ. of Exper. Med.*, vol. xxx, No. 3, 215, 1919. [2] D. D. Van Slyke, *Journ. Biol. Chem.*, 1918, xxxiii, 127. [3] Haldane, BRITISH MEDICAL JOURNAL, July 19th, 1919. [4] Hürter, *Deutsch Arch. klin. Med.*, 1912, cviii, 1. [5] C. Lundsgaard, *Journ. Biol. Chem.*, 1918, xxxiii, 133; *Journ. Exper. Med.*, 1918, xxvii, 179, 219.

CUTANEOUS MANIFESTATIONS IN A CASE OF CERVICAL FISTULA.

BY

ALFRED EDDOWES, M.D., M.R.C.P.,

LONDON.

THE following case raises some points of general importance:

In September, 1919, Nurse M., aged 30, consulted me for loss of hair, and complained of being "run down." I found falling of the hair of the scalp and eyebrows and some loss of eyelashes. The skin generally was dry and rather scaly; the cheeks were not flushed, but the complexion was muddy and the face wanting in expression; the voice was normal. The front and sides of the neck, as well as a V-shaped exposed portion of skin over the sternum, were very red, suggesting at first sight sunburn, but on closer inspection the redness was seen to be due to dilated venules without heat, swelling, oedema, or pigmentation. On the right side above the head of the clavicle was a very white patch 2 in. in diameter and nearly circular; it resembled leucodermia, but there was no trace of excessive pigmentation at its margin as occurs in true leucodermia.

Below and internal to the centre of this white area was a round puckered patch of thin skin about 1.5 cm. in diameter, situated about 1.5 cm. above the head of the right clavicle and nearly 3 cm. from the middle line of the neck. On deglutition, this bit of overstretched skin was drawn in and formed a tubular dimple, half an inch deep. Several medical men had, the patient stated, seen it and been unable to explain it. Passing upwards, backwards, and inwards, I felt a firm round band apparently as large as a No. 2 gum-elastic catheter. She said she was liable to occasional regurgitation of matter into her mouth "like the discharge from a gumboil." The diagnosis was obvious—a pouch at the upper end of a cervical (branchial) fistula. She stated that her father told her that her "grandmother had something like it." I prescribed a lotion for the scalp, and internally iron and one grain of thyroid extract at bedtime.

When seen on November 17th she looked and said she felt much better, had found benefit quickly from the treatment and release from nursing a mental case. Her complexion was clear, colour good, and the hair had much improved. The redness of the neck had nearly gone, and there was now no contrast between white and red. The overstretched (often so-called atrophic) skin had become red, as if recovering normal nutrition. The round, firm, rod-like band was thinner and more distinctly fibrous. The dimpling on deglutition was not so marked, only a quarter of an inch.

A few years previously the patient had the appendix removed and after the operation was told that she had better never take another anaesthetic, as she had then taken it badly. Seven years ago she had "faintings and a suspicion of hyperthyroidism and mitral disease." She believes the cervical fistula discharged, until the age of ten years, through a little lump the size of half a pea. Sometimes, if she leans forward on a stiff collar, "a discharge is felt coming from the throat into the mouth." I think the right thyroid was more prominent than it was in September (two months earlier).

I do not think I ever met with such a change in nutrition before and in such a short time; the oddest point to me being the change found in the round ligamentous band and its attachment to the skin. Is Nature trying to absorb the band or reopen it as a sinus? It is so obvious that the patient, whose physique is otherwise good, is having her health ruined by the filthy pouch that I have passed her on to a surgeon's care.

The red area of skin on the sides and front of the neck, already referred to, was too peculiarly localized and delimited to be attributable solely to exposure to light and weather. It corresponds to the area of referred "choking pain" described by Head in connexion with the passage of an oesophageal bougie.[1] It is also a blushing area, as is well shown in some young women. That vasomotor pathological changes should take place there is not so surprising when we consider that it is probably at the "seaming-up of the segments" that such affections as linear naevi, ichthyosis hystrix, linear papillomata, and even occasionally lichen planus (in lines) occur. In one very rare case I have seen a line of lichen planus reached from the hip to the foot. No one nerve or blood vessel will account for such changes of distribution, but "the seaming-up of segments" and the closing of clefts during fetal life give a clue. During last year I called attention to a rare form of tuberculide, and suggested for it the clinically descriptive term "lichenoid." It closely imitates lichen planus and tends to develop in lines.

REFERENCE.

[1] *Brain*, 1893, vol. xvi, p. 1, and Fig. 12, p. 364.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SUBCUTANEOUS RUPTURE OF THE SUBCLAVIAN ARTERY.

ON January 16th, 1918, a heavy, muscular man, aged 48, weir keeper at one of the up-river locks, was hurriedly pulling up one of the sluices during rising water when he suddenly felt a severe pain in the right arm and at once experienced considerable loss of power. There was no mark of injury and no swelling to be detected, but the whole hand and forearm felt cold, numb, and weak, and he had to stop work at once. Five weeks after the injury I found that the right arm was quite cold and pale. There was no muscular wasting, and all ordinary movements could be carried out with precision. No pulse at all could be detected anywhere in the arm from the axilla downwards, but the subclavian pulse was readily felt and appeared to be equal to that on the other side. No aneurysmal or other swelling could be detected, and, in fact, beyond the absence of pulse and the pallor and chilliness of the arm, nothing abnormal was to be found. There was no evidence of any cardio-vascular disease.

I saw the man again on May 4th, sixteen weeks after the injury, and by this time colour, warmth, and a good deal of power had returned. The right radial pulse had reappeared but was smaller than the left, and could not be traced up the arm beyond a point about one inch above the bend of the elbow.

I did not see him again until January, 1920, exactly two years after the injury, and the pulse by this time could be felt throughout the limb, but appeared to be weaker than on the other side from the middle of the brachial artery upwards. There was no sign of aneurysm and, in fact, the patient was normal in all respects, except that he found himself unable to use the arm in cold weather without discomfort.

The history of this case seems to make it quite clear that what occurred was a rupture of the subclavian artery at the point where it crosses the first rib, and from the absence of haematoma or other evidence of extravasation it seems probable that only the inner and middle coats of the vessel had suffered. The mechanism of the injury is probably explained by powerful muscular contraction bringing the clavicle into forcible contact with the first rib and so crushing the artery. I find, from experiments upon myself, that contraction of the shoulder muscles while in such an attitude as would be adopted in pulling up a heavy sluice gate does cause obliteration of the radial pulse. Whether this is a common phenomenon, or whether it is present only in those of a particular build or particular degree of muscular development, I am unable to say.

CECIL ROWNTREE, F.R.C.S.,
Surgeon to the Cancer Hospital and to the Dreadnought Hospital.

LOCALIZATION OF FOREIGN BODY.

IN the review of Captain Harold C. Gage's book in the BRITISH MEDICAL JOURNAL of January 31st, p. 154, it is said that the author had convinced himself "that the usual report from the radiographic department—that a foreign body was situated so many centimetres under a certain mark made on the skin—was insufficient for the operating surgeon."

But provided the mark on the skin is correctly made and the depth properly calculated by any method of localization, and provided an atlas of sectional anatomy of the body is at hand, there is a very simple method of conveying sufficient information in anatomical form to the operating surgeon. Suppose, for example, in the case of a chest the mark on the skin is made at the level of the eighth dorsal vertebra on the right side posteriorly 10 cm. from the middle line, and that the depth perpendicularly in therefrom is calculated to be 15 cm., and that the antero-posterior thickness of the chest at the level of the mark is 30 cm., then we have only to work out these data by simple proportion (the rule of three) on a drawing of the transverse section of the normal anatomy of the chest at the level of the eighth dorsal vertebra, on the same side in any reliable atlas of sectional anatomy. If the corresponding thickness of the chest at this level in the atlas is 7.5 cm., then the depth in from the surface point corresponding to the mark on the patient's skin becomes 3.75 cm. at a proportional distance from the middle line of 2.5 cm., and we can at once actually demonstrate to the surgeon in charge of the case the probable anatomical position of the foreign body in question, and its relation to the organs and tissues around, on the section as on a chart.

The atlas latterly supplied to the British *x*-ray departments in France unfortunately did not portray the limbs. The principles of what may be called the "trigraphic" method of localization could evidently be applied to all parts of the body in suitable (mostly quiescent) cases. The dimension in the patient chosen for comparison with the corresponding dimension in the chart might be thickness, or circumference, or the distance between recognizable prominences of bone.

This method had long been in my thoughts; I managed in the press of other duties to verify it in 1918 when abroad. It enables the radiographer to answer without mere guessing the oft-repeated questions: "Is the foreign body within or without the ribs?" "Is it below or superficial to the blade of the scapula?" and the like.

Bishopston, Bristol. W. COTTON, M.D.

Reports of Societies.

EYESIGHT OF MINERS.

A DISCUSSION on illumination in mines, with special reference to the eyesight of miners, arranged by the Illuminating Engineering Society and attended by many ophthalmic surgeons as well as mining representatives and lighting engineers, was held at the Royal Society of Arts on February 24th, with Mr. J. H. PARSONS in the chair.

The discussion was opened by Dr. T. LISTER LLEWELLYN, who, in dealing with the photometric values of the lighting in use to-day in mines. said that the lighting values were extremely low owing to two factors—first, the insufficiency of the light generated; secondly, very feeble illumination that entered the eye of the miner owing to the high proportion of light absorbed by the blackness of the coal face. These two conditions presented the problem to be overcome. Of the light given by a naked tallow candle about one-tenth reached the coal face, and one-tenth of this, or one-hundredth part of the original source of light, entered the miner's eye. In the safety-lamp mines only one-fiftieth of the value of the illuminant reached the coal face, and only one-five-hundredth part the eye of the miner. They needed to increase the value of the lighting in the safety-lamp mines five-fold, and then it would equal in value the light in the naked-light mines. He showed the various forms of light in use and compared their values and relative advantages. Of those shown, the best appeared to be of the head lamp variety. The electric battery was carried on the belt of the miner and the current carried by a flexible wire to the lamp fitted to the miner's cap. The lamp in this position gave a good field of light, close to the miner's work, and therefore in far greater power than was possible with a hand lamp, and, further, a light quite free from shadows. Calculating the injury and loss sustained by miner's nystagmus he showed that on pre-war values the economic loss to the country from this disease was at least £1,000,000 per annum.

Dr. H. S. ELWORTHY communicated some researches into the different values of light as affected by colour relief. The coal was nearly black, and there was a total absence of colour relief. He believed this of itself accounted for much eye fatigue. Whitewashing the posts and roofs of the workings would give much relief. Various tests which he described indicated that the rich yellow light with a tinge of red in it given by the oil lamp was a most comfortable light, but that in the bad air of a deep working this light became bluish. This blue light and the bad air were particularly irritating. Further observations indicated that there was more nystagmus in mines. where the coal face was of a bluish tint—for example, in the steam coal mines.

Dr. J. S. HALDANE said that he did not think that the quality of the air in mines had much to do with nystagmus. The air on the coal face of a decently ventilated mine (and they were mostly so now) was very pure. He considered the disease was a local neurasthenia induced by the fatigue of trying to see in darkness. He instanced the analogy of certain respiratory troubles following gas injuries at the war.

Mr. ARMITAGE, a representative of a Yorkshire colliery company, said a prize of £1,000 was offered by the Government in 1911 for the best electric lamp; £600 was awarded to the C.E.A.G. lamp and smaller sums to others His company ordered 10,000 lamps; they had been working since then, and the facts obtained seemed to warrant a definite decision being arrived at. The use of the lamp was followed by (1) reduction of nystagmus, (2) fewer accidents, (3) quicker movement of the men from the pit bottom. The whole costs of their use for six years worked out at 1.29d. per shift—a very reasonable figure.

Dr. F. SHUFFLEBOTHAM commented on the great increase of interest in the disease shown in recent years. He thought Dr. Llewellyn underestimated the loss caused by the disease; the number of certified cases did not give the full tale. He considered it a general nervous disease and not an eye disease.

Mr. FUDGE, the secretary of the committee of inquiry now sitting, stated their chief object was the improvement of the miner's lamp, and he thought they were getting on.

Lamp makers had taken great interest in the matter. But there was a limit of improvement possible on present lines. The weight of the battery limited it, and one line of improvement might be better batteries. Flame lamps had been made to give 2½ candle power, but they were found to get so hot that they could not be held. He thought there were possibilities in the extension of white-washing. Mr. ELLWOOD commented on the fact that there had been a great increase in the disease since the war, notwithstanding that the electric lamp was more in use than ever. He thought this must indicate some causation other than light. A member of the audience, who stated he had been a working miner, spoke of the benefit of the electric lamp, and believed his testimony was not biassed by the fact that he was now an agent for a lamp company.

Dr. LEYTON DAVIS of Cardiff thought there must be some condition other than bad light as a cause of these cases. He had taken observations on the fields of vision, and found a striking similarity between those of miners and those of the subjects of toxic diseases. He thought that chronic gas poisoning had a serious influence. Mr. HARRISON BUTLER said miner's nystagmus took some ten to twenty-five years to develop, therefore they could not expect great improvement in this generation of miners. Dr. HARFORD stated that miners who were free from disease on enlistment had subsequently, under the stress of war, developed the symptoms, so that there was evidence of latency. His inquiries amongst Belgian and French miners showed their great belief in the efficacy of the better electric lamps.

Dr. H. POOLEY stated that miners did not give up and claim compensation until they could not work. He thought the disease was a cerebral irritability caused by bad light and bad air. He confirmed the evidence of latency. Dr. ETTIE SAYER spoke of the comfort of yellow light, particularly as evidenced by the use of very powerful lights in the treatment of skin diseases. Dr. BERNARD CRIDLAND thought there was room for a joint inquiry by ophthalmic surgeons and lighting engineers. Dr. WHITEHEAD said the problem was not an easy one to solve. But he had no doubt that the disease was due to trying to see under disadvantageous conditions.

Mr. BISHOP HARMAN asked if the head lamp shown by Dr. Llewellyn would be considered safe in fiery mines; the length of flex seemed vulnerable. Further, he commented adversely on the trend in improvements in electric lamps being limited to more powerfully glowing filaments. Why did not inventors turn their attention to the vapour lamps, which in experimental form were remarkable? He thought that the work of Josiah Court had long ago demonstrated that bad light was the one important cause of the disease, and that to spend time on adjuvant factors until the light was bettered was to draw a red herring across the trail.

Dr. LLEWELLYN, in reply, thought that the future lay with the head lamp; he believed it to be as safe as any lamp (there were expressions of dissent from the mining representatives). Finally he called attention to an experiment which had been carried out before their eyes; during the meeting the oil lamps had burned out, but the electric lamps were glowing as well as ever.

ACCESSORY FOOD FACTORS IN INFANT FEEDING.

A DISCUSSION on the influence of vitamines in infant feeding took place at a meeting of the Section for the Study of Diseases of Children, of the Royal Society of Medicine, on February 27th, Mr. J. P. LOCKHART-MUMMERY presiding.

Dr. E. MELLANBY, who opened the discussion, confined himself to the question of fat-soluble A. Its distribution in foodstuffs, he said, rendered it the most important factor from the point of view of child nutrition. It had not been decided whether fat-soluble A and the anti-rachitic factor were the same, but he believed that this was the case. The results of his experiments on dogs differed from those of some workers who had experimented on other animals, notably on rats. This factor did not appear to be necessary to growth, and he had found a distinct amount of anti-rachitic factor present in some, not all, vegetable fats. The relation of the anti-rachitic factor to the age of the animal was clearly brought out. It was practically impossible to produce rickets in dogs more than four or five months old by the methods he had adopted. With increasing age the animal became less dependent upon an anti-rachitic factor, and any rickets which had previously developed tended to cure itself. The relation of the anti-rachitic factor to the energy-producing power of the diet was also sharply defined. In animals which were fed on a deficiency diet under exactly the same conditions, the only variable element in the diet being bread, which was given *ad libitum*, it was found that the animals which ate most bread got most pronounced rickets. The carbohydrates appeared to accentuate the rachitic tendency, while protein diminished it. Exercise had the same effect as protein; it increased the energy output, while carbohydrates increased the laying on of tissue. Dr. Mellanby cited certain statistics collected some years ago by Dr. William Hall, of Leeds, upon the comparative conditions as to rickets among Jewish and Gentile children. A much smaller percentage of Jewish children showed evidence of rickets and bad teeth, and this was true alike of a poor district and a better-class district. The evidence that diet was the deciding factor in this instance was very strong. In Jewish households large quantities of oil were used in cooking; potatoes were never boiled in water, but in milk, or were fried in fat, and the ordinary beverage was cocoa made with milk. He considered that diet was the most important element in child nutrition in the first year of life, and that the anti-rachitic factor was an important part of this diet. It was assisted in its action by anything which increased the energy output of the child, such as increased protein or exercise, and was prevented by increased carbohydrates or anything which tended to make the child put on flesh.

Professor NOËL PATON held strongly that evidence was still lacking for the theory that rickets was due to dietary deficiency alone. No far-reaching conclusions could be drawn from such evidence as was at present available. He considered that to compare animals of different litters and to group puppies of different ages was unjustifiable. More experimental evidence, the value of which could be definitely estimated, was wanted. Further work on the association of fats with energy values must be undertaken. The evidence was far from being complete that milk contained an accessory factor protective against the development of rickets. A series of inquiries which he had addressed to the larger hunts in the country, the returns covering 600 whelps, failed to support the idea that deficiency of fat-soluble substance was a causal factor. He recapitulated the observations which, with Findlay and Watson, he had already published in the BRITISH MEDICAL JOURNAL (December 7th, 1918, page 625), and said that to his mind more and better co-ordinated investigation was necessary before the etiology of rickets could be adequately discussed. The possibility that it might be primarily an infective disease, due to some non-specific organism, must be borne in mind. Certainly in experiments on puppies, the more scrupulously clean the kennels were kept the less did rickets develop.

Dr. ROBERT HUTCHISON thought that most clinicians would agree that the dietetic factor was essential in rickets, but he was not convinced that the fat-soluble accessory factor was alone concerned. The fault that produced rickets was an ill-balanced diet, in which there was a relative excess of carbohydrates. By cutting down the carbohydrates, even though the rest of the diet was left much as it was before, the clinical cure of the condition could be effected. It seemed to be unnecessary, therefore, to evoke as an explanation some elusive thing named a vitamine. The vitamine theory must not be overdone. It was the latest dietetic "stunt." There had been previous "stunts," each of which had had its day. He did not dispute that there were such things as vitamines, but to make far-reaching application of the theory was not yet justifiable.

Dr. C. J. MARTIN held that there was no doubt that rickets was a dietetic disease. From the epidemiology of the disease and the clinical results obtained by altering the diet it was difficult to come to any other conclusion. Dr. Mellanby's experiments were of the first importance to orientate future inquiry. He did not think Professor Paton had made a serious assault upon the position taken by the opener, which, in his opinion, was a moderate one. What was really wanted was to put the vitamine question on a quantitative basis. For many years

at the Lister Institute his colleagues had been endeavouring to place this question on such a basis so far as beri-beri and scurvy were concerned. He described the work on the antiscorbutic vitamine, showing how widely the results varied with different animals. If the work were done on rats, the conclusion might be that there was no such thing as an antiscorbutic vitamine; if on guinea-pigs, that it was the most essential thing in the diet. The quantitative line of investigation had made it possible to estimate the value of certain foodstuffs; for example, if the value of lemon juice from the point of view of antiscorbutic factor were taken as 100, that of equal weights of cabbage juice would be the same, that of swede juice 60, that of carrot juice 7.5, a lightly cooked potato and beef juice 7.5, and that of fresh milk 1.0 or 1.5.

Dr. E. A. BARTON exhibited two preparations which had proved of considerable use in the Child Welfare Department of University College Hospital during the war when the raids and deficient food disturbed lactation. Dried milks seemed to satisfy the children, but the diet was devitaminized, and the question was what should be added. Orange juice was used, the whole orange being minced, with pulp and rind, the latter containing the essential oil of orange which acted as a preservative of the juice. The mass was passed through a tincture press, and one teaspoonful of the juice expressed was given twice a day to infants under three months and two teaspoonfuls to those over three months. When oranges were scarce and juiceless he tried vegetable juices, but as these seemed to be culture media, the result was a good deal of diarrhoea. The other substance he brought forward was an artificial cream made of beef suet. The trouble in making this was that suet had a very high melting point, but by adding about 12 per cent. of inert olive oil it was got down to a suitable emulsion. The children took it very well, and it was now being made commercially as "university cream." This cream had the same percentage of fat as skimmed cream, would keep for months, was free of tubercle, and would mix with any dilution of milk. It was not expensive, and quite palatable.

The method of manufacture is as follows, quoted from Mr. Hampshire and Mr. Hawker in *Transactions* of the British Pharmaceutical Conference, 1919:

Beef suet	40 oz.
Olive oil	5 oz.
Syrup	25 fl. oz.
Benzoic acid	35 gr.
Decoction of Irish moss	70 fl. oz.
Water...	to 1 gallon

The oil is added to the melted suet and the benzoic acid dissolved in the mixture. The decoction is heated to about 60° C. and placed in the emulsifier, and the fats are then added at about the same temperature. The emulsion is then worked up and the syrup and water added last.

Dr. ERIC PRITCHARD also exhibited a form of artificial cream made with oils containing a rich supply of fat-soluble A factor, and of chemical composition closely analogous to human butter-fat. He objected to the application of the word "anti-rachitic" to any particular vitamine. The particular symptoms of malnutrition which followed from deprivation of this accessory factor ought to be ascertained. The majority of cases of malnutrition were due not to deficiencies but to excesses. To label any one accessory factor the anti-rachitic factor was a retrograde step, because it induced people to think that rickets was a perfectly simple disease only due to one cause, and capable of being cured by a teaspoonful of cod-liver oil.

Dr. LAWSON DICK called attention to the geographical distribution of rickets. The area from 40 deg. N. to 58 deg. N. across Europe and America included the whole of the rickets zone. This was the temperate zone, the zone of deciduous trees, the wheat-growing zone, but, above all, it was the great industrial zone of the world. Four hundred millions of Asiatics lived on rice, under ideal conditions for diseases due to want of vitamines, but rickets did not develop.

Dr. MELLANBY, in reviewing the discussion, said that he wished to disclaim any responsibility for the excessive importance attached to vitamines by some people. In reply to one speaker who had suggested a hereditary element in rickets, Dr. Mellanby said that heredity was the very last hypothesis he was going to adopt. It was true that some of his animals were more susceptible to rickets than others under comparable conditions, but he took it that this was because some animals grew more rapidly.

EARLY SIGNS OF SCURVY.

AT the meeting of the Section of Medicine of the Royal Society of Medicine on February 24th, Dr. A. F. VOELCKER presiding, a paper was read on "Early manifestations of scurvy," by Colonel RANSOM PICKARD and Dr. G. W. LLOYD. The authors described a group of cases which they encountered in the middle of 1915 at a divisional rest station in France. Thirty-two cases in all were observed, but the authors devoted most of the paper to a detailed discussion of the appearances seen in twenty of them. Out of a first series of twelve cases anaemia was present in ten, pyorrhoea in seven, bleeding gums in three, muscular pains in nine, ecchymosis in two, rash in three, and night blindness in nine. Out of a second series of eight cases, all had a definite anaemia, four had pyorrhoea, six had bleeding gums, six had muscular pains, and seven had night blindness. Special attention was drawn to the symptom of night blindness, as this was the symptom which finally decided the diagnosis. The authors described in detail the tests they made of the night vision of these patients, compared with controls. The circumstances in which the cases arose were that during the summer of 1915 the troops of the division from which these men were drawn were in the trenches from four to six days at a spell, during which time they had no fresh meat or vegetables, though when out of the trenches they had an ample supply. All but one of the cases investigated belonged to infantry battalions, which had these spells of trench work, and consequently diet which intermittently was deficient. By the autumn of that year (1915) the cases had practically ceased, and on inquiry it was found that the men were able to obtain fresh provisions locally, and afterwards arrangements were made for an ample supply of fresh meat and vegetables while the men were in the trenches. In the first half of 1916 a few isolated cases occurred; after that practically none.

Dr. FREDERICK LANGMEAD noted that no mention had been made of slight symptoms of peripheral neuritis, which some regarded as among the early symptoms of scurvy. Peripheral neuritis was a symptom of beri-beri, and he believed that when it occurred in scurvy it was because there was a deficiency of both varieties of the accessory food factor. Dr. VOELCKER was struck with the rapidity with which the condition developed in these cases; in stories of expeditions the occurrence of scurvy seemed much more tardy.

Colonel PICKARD said, in reply, that the men were several months overseas before the symptoms appeared; it was not a matter of one spell of four or five days, but of a succession of spells of deficient diet. The diet in the trenches was the ordinary ration *minus* fresh meat and vegetables; it consisted of bread and butter or margarine, "bully," sugar, and other oddments. Dr. G. W. LLOYD said that there were no symptoms of neuritis. He added that although, when recited, the symptoms struck one as a perfect picture of scurvy, out in the field they were by no means so clear. The symptoms were all minor manifestations, quite different from the appearance in pronounced scurvy.

Dr. S. DUTTON read a paper on "Some deficiency diseases and leprosy," in which he suggested that leprosy was, to some extent at least, a deficiency disease. The fish diet of the people who were particularly subject to the disease did not contain—except in the form of shellfish, and there probably in insufficient quantities—any carbohydrates. A diet chiefly composed of fish was not efficient, especially when the fish was salted. Dr. H. THURSFIELD agreed that there were in leprosy many features of a deficiency disease. Possibly the sporadic cases occurring in this country might be explained more easily on this ground than by the chance infection of a leprosy bacillus.

THE annual meeting and conversazione of the Harveian Society was held at the Medical Society's Rooms on Thursday, January 22nd. The following were elected officers of the society for the ensuing year: President, Dr. William Hill; secretaries, Dr. C. D. B. Hale, Mr. Kenneth Lees. The retiring President (Dr. James Taylor) then delivered an address entitled "Neurological Jottings," printed in last week's JOURNAL. The Harveian Oration will be delivered by Sir Thomas Horder on Friday, March 12th, at 8.30 p.m., on "The diagnostic significance of nerve symptoms in acute infections."

Reviews.

MAN, PAST AND PRESENT.

THE Cambridge University Press has been well advised to bring out a new edition of *Man, Past and Present*,[1] by the late Dr. KEANE, for it is the standard English book on human races and peoples. The first edition appeared in 1899 and much has been added to our knowledge of mankind in the twenty years which have elapsed since then. Every year our information regarding the geographical distribution and physical characteristics of native races becomes more exact; scarcely a week passes without an addition to our knowledge of ancient civilization, and occasionally comes authentic news of a discovery of the remains of fossil man.

It is clear, then, that the preparation of a new edition of a work which embraces all of these subjects—not to mention a knowledge of languages, of writing, religion, folklore, marriage customs, primitive culture, palaeoliths and eoliths—requires an editor with an uncommon range of qualifications. No one in England is so well fitted to supervise such a task as Dr. A. C. HADDON, round whom a strong anthropological school has grown up in Cambridge. Dr. Haddon was trained as a zoologist, but fully thirty years ago, when he held the chair of zoology in the Royal College of Science in Dublin, he became interested in the zoology of mankind, and organized anthropological expeditions to the West of Ireland and thereby laid the foundation—one which has been but little built upon—of an accurate knowledge of the Irish people. Then at a later period he led an expedition to Torres Straits and showed the world how a successful and profitable survey of native peoples should be made and how a sound science of anthropology should be built up. Clearly he is the man to continue the great work commenced by that very remarkable man who, living a secluded and penurious life in Hampstead, wrote the first edition of *Man, Past and Present*. Dr. Haddon was fortunate in having a very able pupil—Mrs. HINGSTON QUIGGIN—to relieve him of the toil involved in the revision of such a work, for the task of incorporating into the old text the discoveries of twenty years is one that very few are qualified to undertake. Mrs. Hingston Quiggin has performed her task most ably, and by giving references to all recent literature has produced for serious students of ethnology just such a reference work as they now need. In such a book we must not expect, or look for, new or revolutionary doctrines; the aim of the editors, as it was of the original author, has been to give a faithful, perhaps a somewhat cautious, reflection of the opinion held by leading experts.

The groundwork of this book is the geographical distribution of the various races and peoples of the world—a careful analysis of the physical and mental characters, and of the religion and culture of each variety being duly noted. The classification of human races originally adopted by Dr. Keane has been retained in the present edition with only minor alterations. That system was one founded on the characters of the hair; for Dr. Keane mankind fell into three main stocks or types—the woolly-haired, the straight-haired, and the wavy haired. He began his survey with the most sharply differentiated type—the woolly-haired, or negro. Planting himself, in imagination, in Ceylon, he looked southwards and saw that his woolly-haired black-skinned stock was split into two great divisions—a western, centred in the heart of Africa, and an eastern, lying scattered in the islands north and east of Australia. He drew the legitimate conclusion that these two branches were growths from a common human stem which had been rooted in Southern Asia when land distribution and climate were very different from what they are to-day.

Then, turning his back, as it were, on the Indian Ocean, he took up a stance on the Himalayas and looked northwards over the Tibetan plateau. That plateau he supposed to be the cradle of another human stock—the Mongolian, which had ultimately found its chief centre in China, and had spread until it extended from Lapland in the West to Japan in the East, from the Siberian coast in the North to the warm islands of the Pacific in the South.

Next passing to the American continent, he seems to have hesitated for a moment, uncertain as to the place of the American Indian in his scheme of classification. But he boldly faced the circumstances of the situation. He came to the conclusion that the native peoples of America were descendants of Northern Asiatics who had made their way to the new continent before the differentiation and spread of the Mongolian type. He therefore placed American aborigines in a separate group. Dr. Haddon and Mrs. Hingston Quiggin have done Dr. Keane's prescience less than justice by substituting Dr. Hrdlicka's ultra-cautious statements regarding the origin of the American Indian for the well-reasoned conclusions of the original author.

Having marked off these three stocks of humanity—the Negro, the Mongol, and the Red Indian—Dr. Keane swept the remainder into a fourth stock—the Caucasian. How heterogeneous this stock is we see by bringing together its extremes. The fair-haired Norwegian finds himself side by side with the black-skinned native of Central Africa; the Prussian, the Slav, the Englishman, are bracketed with the Egyptian, the Afghan, the ebony-skinned native of India, and the Easter Islander. Clearly Dr. Keane's Caucasian group is a hotch-potch of humanity, and certainly should have undergone a radical revision in the preparation of the present edition.

But where are we to draw the line between a member of the Masai in Central Africa and a fair-haired Highlander of Scotland? If we start from the north of Europe and make towards the Mediterranean, the tall and fair-skinned people gradually change in type until a short, dark-haired, and bronzed type is reached in the southern shores of Greece. Nor does the change stop there, for if we follow the coast lands of the Levant all the way from Greece to Egypt, we shall find no sharp break to form a border-line between one type and another, and yet at every stage of our progress the physical characters of the people are some degree different. If we ascend the Nile for some distance, and then pass to Central Africa by the Red Sea littoral and Somaliland, we shall find all the grades which link the Egyptians to the Masai and Bahima, and even then we shall have difficulty in finding a break in the line which leads us on to the Zulu. Now, the Hamitic tribes of Uganda may be most estimable people, but there must be something wrong with the scheme of classification which sets them side by side with so different a type of humanity as that found in north-west Europe.

In its ultimate solution the differentiation of mankind into races and varieties is a medical problem. Unless we agree that evolution is constantly at work and has been in operation since living things appeared on the earth, we can give no explanation of the present state of the zoological kingdom of which man is a part. We do see that under certain disordered conditions of the glands of internal secretion the physical characters of the human body can be altered, and we are therefore justified in presuming that the endocrine system is part of Nature's mechanism for manipulating the body and mind, and thus adapting mankind to his surroundings. We should expect, if Nature's mechanism for the differentiation of mankind into races is of the kind we suspect, that the most clearly evolved types should be found as the nuclei or centres of the most densely populated areas of the world. We find the purest Negro in the heart of Africa, the purest Mongolian in the real heart of Asia, and the round-headed Caucasian in the heart of Europe. Then there should be, and there are, subsidiary and intermediate centres—some of them waxing, others waning. It is when we apply such a theory to the distribution of human types and varieties that we reach a satisfying explanation of the present geographical arrangement of racial types. Sooner or later medical men, or men with a full training in the basal subjects of medical education, must apply themselves to the task of arranging mankind in natural groups, and they must begin, not by attempting to mark out the world as sharply defined areas, but start at the centres where types are being evolved and work from the clearly marked human type in the centre of evolution to the more generalized varieties at the circumference.

In such a system we shall not find the impossible mixture of human types presented to us at present under the name of Caucasian.

[1] *Man, Past and Present*. By A. H. Keane. Revised and largely rewritten by A. Hingston Quiggin and A. C. Haddon, F.R.S. Cambridge University Press. 1920. (Roy. 8vo, pp. xi + 582; 16 plates. 36s. net.)

A MANUAL OF VENEREAL DISEASES.

DR. MAGIAN in his *Manual of Venereal Diseases*[2] follows the usual practice of dividing the volume into two parts, the first part dealing with gonococcal infections, the second with syphilis. It is essentially a practical textbook, and this is as it should be, for we are told in the preface that it has been written for the use of the general practitioner. Whether all the elaborate mechanism required for the modern treatment of these disorders—and this is particularly true of gonorrhoea—is likely to be available for those dealing with occasional cases may be open to question; but the author has rightly taken the view that this does not absolve him from describing them and their use.

The first section contains much sound advice; the criticism on page 32 of the routine treatment of gonorrhoea by santal, cubebs, or copaiba, followed by some favourite astringent injection, will be endorsed by those accustomed to see the results of these methods. In the second and larger part syphilitic infections are considered; on page 169 is given a complete scheme for an average case seen shortly after the primary sore. It is recommended that a combined course of mercury and salvarsan—or one of its substitutes—extending over fifty days, should be followed by the administration of potassium iodide for a further six weeks. While such a plan is advocated by some authorities, general opinion now rather favours the continued employment of mercury over longer periods, up to two years in some cases, even where the Wassermann reaction is negative. Since relapse is by no means infrequent after the short "intensive" methods, these long courses appear to be justified.

Apart from this criticism, with which all may not agree, the views set forth should meet with general acceptance. The author's pleasant and entertaining manner of presenting his facts makes reading easy and adds to the value of the book.

NOTES ON BOOKS.

A VOLUME containing the *Minutes* of the General Medical Council[3] and of its various committees for the year 1919 has been issued. The proceedings of the Council were reported from time to time in our columns. In appendices, occupying about half the volume, reports presented by various committees are given, together with the usual financial statement and report. The Council has also issued a *General Index*[3] to its minutes for the years 1903–1919. The convenience of these periodical indexes is well known to all interested in the work of the Council.

The new number of *Medical Science*[4] (March, 1920) contains reviews of recent literature on typhus, dysentery, alimentary diseases, and diseases of the liver, and on the surgical treatment of bronchiectasis and pulmonary abscess, and the management of unreduced obturator dislocations of the hip. These reviews are followed by some seventy pages of abstracts. It is announced that an index to Volume I will be issued with the first number of Volume II.

The *British Journal Photographic Almanac* for 1920,[5] now in its fifty-ninth issue, is full of information essential to working photographers all the world over. The amateur photographer also will find much to instruct him in this volume. We wish the *Almanac* continuance of the wide circulation and success it deserves and has enjoyed.

The Letters of a Widowed Physician to his Daughter,[6] issuable to her at puberty, maturity, marriage, and motherhood, contain a quantity of sound advice conveyed with adequate emphasis and excellent brevity. There is a great demand nowadays for the early education and enlightenment of boys and girls in all sorts of matters that not so many years ago they were left to learn by chance. These *Letters* appear quite suitable for the perusal of the many girls for whom they have been written.

[2] *The Practitioner's Manual of Venereal Diseases.* By A. C. Magian, M.D. London: William Heinemann (Medical Books), Limited. 1919. (Demy 8vo, pp. viii + 215; 61 figures. 10s. 6d. net.)
[3] London: Constable and Co., Ltd. (12s. and 2s. 6d. respectively.)
[4] Annual subscription 21s.; a single number 2s.
[5] *The British Journal Photographic Almanac and Photographer's Daily Companion, 1920.* Edited by George E. Brown, F.I.C. London: Henry Greenwood and Co., Ltd. 1920. (Paper cover, 1s. 6d. net; cloth bound, 2s. 6d. net.)
[6] *The Letters of a Widowed Physician to his Daughter.* London: Baillière, Tindall, and Cox. 1919. (Fcap. 8vo, pp. 64; 2s. 6d. net.)

The fourth edition of DA COSTA'S *Principles and Practice of Physical Diagnosis*[7] has been revised and enlarged. It is designed for the use of medical students, is clearly written, conservative, and covers the ground adequately. The first seventy pages deal with the methods and technique of physical examination in general; then follow two chapters on the examination of the thorax and broncho-pulmonary system, and after that the various diseases of this system are described in detail from the point of view of physical signs. The next two chapters are given to the examination of the cardio-vascular system and its diseases; the last seventy pages of the volume describe the examination of the abdomen and its viscera. The description of the physical signs is assisted in many cases by photographs of *post-mortem* specimens admirably reproduced, and by photographs of typical cases taken from the life. We doubt, however, if it is really desirable to employ so many photographs of the nude in exhibiting mere diagrams of physical signs as is the author's practice in this volume.

[7] *Principles and Practice of Physical Diagnosis.* By John C. Da Costa, Jr., M.D., Ex-Associate Professor of Medicine, Jefferson Medical College, etc. Fourth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Co. 1919. (Med. 8vo, p. 602; 225 figures. 20s. net.)

A PHYSICAL CENSUS OF THE MALE POPULATION.

VOLUME I is published this week of the Report upon the Physical Examination of Men of Military Age by National Service Medical Boards, covering the period from November 1st, 1917, to October 31st, 1918.[1] In order to understand the genesis of this important work it is necessary to recapitulate briefly the recent history of recruiting in this country, and the phases through which it has passed.

THE PRE-WAR STANDARD.

Before the war we had a voluntary army, and only men of good physique and free from any physical defect were accepted for enlistment. Recruits were required to possess all the following physical qualifications:

Good intelligence; a high standard of vision with either eye; good hearing; speech without impediment; no glandular swellings; capacious and well formed chest; sound heart and lungs; freedom from rupture in any degree or form; well formed and fully developed limbs; free and perfect action of all the joints; well formed feet and toes; no congenital malformation or defects; no sign of an impaired constitution; and a sufficient number of sound teeth for efficient mastication.

Men presenting any of the following conditions were rejected:

Indication of tuberculous disease; constitutional syphilis; bronchial or laryngeal disease; palpitation or other diseases of the heart; generally impaired constitution; under standard of vision; defects of voice or hearing; pronounced stammering; loss or decay of teeth to such an extent as to materially interfere with efficient mastication; contraction or deformity of chest or joints; abnormal curvature of spine; defective intelligence; hernia; haemorrhoids; varicose veins or varicocele if severe; inveterate cutaneous disease; chronic ulcers; fistula; traces of corporal punishment; or any disease or physical defect calculated to unfit them for the duties of a soldier.

It was laid down that the height, weight, and chest measurements of each recruit should accord with each other and with his age in conformity with the official table of standards.

It will thus be seen that the medical examination of recruits was a simple and straightforward matter, as the examiner was only required to certify that the candidate was possessed of certain definite physical characteristics and was free from other equally definite defects. Each recruit who fulfilled these conditions was passed "fit" and accepted for service. Each recruit whose physical condition did not conform to these standards was regarded as "unfit" and not accepted for service. In short, the army only accepted for service the best human material judged by a high standard and declined all recruits who did not conform to this criterion. The examination itself was carried out by medical officers of the Regular Forces and of the Special Reserve and Territorial Forces (under certain conditions) and by civilian practitioners specially appointed for the purpose; it is evident that theirs was a simple task which required only ordinary attention to the

[1] Cmd. 504, H.M. Stationery Office, 1920. To be purchased through any bookseller. Price 2s. 6d. in paper covers; 6s. bound.

regulations and a straightforward physical examination for its efficient performance; the definite question "fit" or "unfit," without qualification, was capable of a definite answer in each case.

The Outbreak of War: Recruiting Chaos.

Such was the position of affairs at the outbreak of war in August, 1914. Immediately there was a tremendous rush of recruits to the colours, and it was inevitable that they should be dealt with on the existing, almost ingenuously simple, system, which had to be expanded precipitately in order to cope with the immense requirements of the situation. The result was chaos; tens of thousands of recruits were besieging the recruiting offices to get into the army; the army was in urgent need of men, and doctors were called upon to "examine" as many as 200 recruits per diem; the whole tendency of the situation was to expedite and reduce to a minimum the medical examination. The medical problems involved had been visualized no more than the purely military problems. It is becoming difficult now even to remember the immensity of our unpreparedness for the war, and in no department was this unpreparedness greater than in that of recruiting. In these circumstances thousands of men were passed "fit" into the army every week without any medical examination worth the name. As the weeks went on the army itself began, as was inevitable, to realize that it was confronted with a new problem—that the old simple standard by which the authorities had selected fit recruits was no longer applicable, and that they were being flooded with men who after a few weeks' or months' military service broke down and contributed an ever-growing quota to the sick return and casualty lists.

In October, 1915, the "Derby scheme" came into operation; men were placed in groups according to their age and marital status, and the different groups called up as required. By this time public enthusiasm for military service had cooled down considerably, and instead of pressing for admission to the army men were beginning to raise the question whether they were or were not physically "fit." In response to the public criticism of the methods of medical examination, medical boards were established by the War Office at the end of 1915 to replace the examination by single medical officers. Early in 1916 appeared the first instructions for the classification of recruits by categories; this marked a great advance in the realization of the recruiting medical problem, though the fact that it was proposed that 200 examinations should be carried out per diem by each board shows clearly how much there still remained to be learnt upon the subject.

On January 27th, 1916, the first Military Service Act, which provided for the compulsory service of unmarried men between the ages of 18 and 41, became law; this was followed on May 25th by Session 2 of the same Act, which extended the obligation to all married men. Throughout that year various modifications of the categories were introduced, and their number was increased. On looking back, however, it is evident that there was no real uniformity in the practice of different recruiting boards, and little real appreciation of the difficulties and importance of the problems presented by the medical examination and classification of recruits. The inevitable dissatisfaction with this state of things was brought to a climax by the Review of Exceptions Act, April 5th, 1917. Under this Act a very large number of men previously exempt from military service were called up for examination, the methods of which called forth a storm of adverse criticism. The result was the appointment of the Shortt Committee, which in due course recommended to the House of Commons that recruiting medical boards should be placed under civilian control.

The National Service Organization.

By this time the difficulties attending the provision of recruits for the army were recognized, and also the existence and vital importance of the man-power problem. The great fundamental industries of the country, including munition works, had to be adequately manned, and it was evident that one of the principal factors in deciding the issue of the war would be the extent to which each of the belligerents succeeded in allocating every available man to the work in which he would be most useful. A special civilian department—the Ministry of National Service—was reconstituted under Sir Auckland Geddes to regulate the man-power of the country, and entered upon its task on November 1st, 1917, with Sir James Galloway as Chief Commissioner of Medical Services, at the head of the Medical Department. Great Britain was divided up into ten regions as follows:

Northern, North-Western, Yorkshire and East Midland, South-Western, South-Eastern, London, East Anglian, West Midland, Scotland, and Wales.

In each region a commissioner of medical services was appointed to administer the medical work. These regions were further subdivided into areas which generally corresponded to counties, and a deputy commissioner of medical services was appointed to administer the medical work in each area under the commissioner of the region. The requisite number of boards was set up in each area to examine recruits, the doctors of the board being drawn from a panel of selected local practitioners so as to spread the work, and, by employing local doctors on a part-time basis, to economize to the utmost the medical man-power of the country.

Each board consisted of four members and a chairman, each of whom saw every recruit at some stage in his examination. It was recognized that much of the difficulty of the past had been due to the complex nature of a category which was partly medical and partly administrative; the new recruiting boards were therefore instructed that every recruit was to be placed in one of the four grades in accordance wholly and solely with his physical condition, without regard to any administrative consideration, such as his fitness for any particular arm or branch of the service. It is evident that this definition of the duties of the medical boards—namely, to grade the men brought before them solely in accordance with their physical condition—laid the foundation of a physical census of the men of military age throughout the country, and it is the collective result of these examinations that forms the basis of the present report.

SCOPE OF THE REPORT.

The first volume of the Report consists of 159 quarto pages, with a frontispiece, many charts and graphs throughout the text, a map, and five beautifully executed large coloured graphs. There is ample material to justify division of the Report into two parts, for the present volume contains an enormous mass of information obviously representing a still larger mass of crude material which has been condensed, sorted, and tabulated. The second volume will analyse in detail the disabilities for which a quarter of a million men were found totally and permanently unfit for military service, and the reasons for which men were placed in Grades II and III; it will present also anthropometrical observations upon large numbers of men in the various parts of the country, together with such information as is available upon the physique of women examined for the various women's corps.

The frontispiece shows examples of men in each of the four grades; this, with the glossary of medical terms, will enable the general reader to follow the argument of the text and give him at the outset a correct idea of the main characteristics of the men in each grade. The prefatory letter, addressed by Sir James Galloway to Sir Auckland Geddes, explains briefly the origin of the whole inquiry; by reading between the lines it is sufficiently evident how much valuable work lies behind this report. The concluding paragraph observes truly that it represents the only survey of the physical fitness of our male population in the history of our country, and should stimulate interest in the vital problem of the health of the nation.

The actual contents are divided into two main parts. The first consists of an introduction, describing briefly but clearly how it came about that every man called up under the Military Service Acts after November 1st, 1917, was placed by National Service Medical Boards in one of four grades in accordance with his physical condition alone. Then follow four chapters upon (1) grading as a criterion of health, (2) the comparison and analysis of grading results, (3) the relations of occupation and health, (4) the causes of low grading and rejection.

Grading and Health.

Immediate difficulties arise in considering grading as a criterion of health. Physical fitness is a complex quality

incapable of exact measurement. Furthermore, certain disabilities, such as deformities of the feet, are serious from the standpoint of grading for military work but of slight account in considering physical fitness as regards life insurance. This necessity for looking upon disabilities in their military aspect has to be kept in mind throughout a perusal of the Report, and whilst the general fitness of recruits from a civilian standpoint is also fully investigated and commented on, it must be remembered that a certain number of men were necessarily placed in lower grades than would have been the case had the grading been based solely on their capacity for carrying on efficiently their own civilian employment. Nevertheless, even after allowing for this factor, it is sufficiently depressing to find that only 36 per cent. of the men could be placed in Grade I as being up to the full normal standard of health and strength for their age, and that rather more than 10 per cent. were judged to be totally and permanently unfit for any form of military service, even when it was assumed that if a man was physically fit for any civilian work he was fit for some sort of army work.

Broadly, the men examined during the last year of the war were either those combed out of protected industries, those refused further exemption by tribunals, and youths attaining the age of 18, or, on the other hand, men previously rejected or between 43 and 51. The standard of physical fitness of the former and larger group will be above the average and of the latter below the average, so that the argument that the results of these examinations give a fair picture of the manhood of military age seems to be justified.

It is clearly a first necessity in such an inquiry to have some definite idea as to what ratio the different grades should bear to each other in a community of satisfactory average physique. In order to attempt an accurate estimate of this required ratio the reports of the work for the first eight months were submitted to Professor Arthur Keith, whose memorandum is included in the Report. The general result of his most interesting study of the problem is that a normally healthy community should produce 70 per cent. Grade I, 20 per cent. Grade II, 7.5 per cent. Grade III, and 2.5 per cent. Grade IV men. The actual percentages for these grades, as shown in the total results of 2,425,184 examinations, were 36, 22.5, 31.3, 10.2, indicating only too plainly the widespread prevalence of a physique much below that which ought to exist in a healthy community. Expressing these percentages in actual figures we find a shortage of 825,000 Grade I men and an excess of 575,000 Grade III men, and of 190,000 Grade IV men—truly a disquieting result.

The general physique of any group of men may be expressed by the estimation of what Professor Keith calls the "index of fitness." Without detailing the method by which this index is calculated it may here be stated that for a normally healthy group this index should be 89.3. The actual index for the whole of the United Kingdom was found to be 70.9, a deficit of 18.4 on Keith's standard. A table of graphs is given showing the total grading, numbers, and percentages for each region, and from this it is seen that the lowest index of fitness was in the London and South-Eastern Region—namely, 66.7—and the highest in Wales—namely, 76.3.

Chapter III contains an able summary of the relations of occupation to health, miners and agriculturists being specially considered. These two occupations head the poll in grading results, and give indices of fitness closely approximating to Keith's standard; whereas tailors, for example, are far below this standard. The application of this standard of fitness to various trades is very illuminating in its results and affords a valuable method of expressing clearly and concisely the relation of occupation to health.

The causes of low grading and rejection are considered from a general point of view in Chapter IV, especial emphasis being laid on the deplorably low standard of health found amongst youths. From the examination of 260,000 lads of 18 it was found that, in contrast with the results to be expected from Keith's standard, there was a deficit of nearly 13,000 Grade I and an excess of over 6,000 Grade IV youths. In other words, there were almost twice as many youths totally and permanently unfit for any form of military service as there should have been.

Comparison of Regions.

The second part of this Report gives the detailed information upon which the general conclusions of the first are based; it consists of statistical and general reports furnished by the Commissioners of Medical Services and other medical officers of the various regions into which the country was divided for administrative purposes. Each regional report contains a valuable collection of statistical and general medical detail judiciously selected and arranged from the bewildering mass of isolated facts which accumulated in the course of the work. The sifting of the grain from the chaff in order to present the essential facts in clear and intelligible form must have involved immense labour on the part of the medical officers concerned, and they are to be congratulated on the clarity of the statistical tables and graphs and on the way in which they have brought to life these dry bones of figures, infusing them with the vital energy of their own zeal for research.

The report of the Commissioner of Medical Services for the London and South-Eastern Region is conspicuous for the wholly admirable series of coloured charts with which it is illustrated, reflecting great credit on the foresight and enthusiasm of the Commissioner of Medical Services and his staff. So comprehensively and clearly do these charts bring out the salient features of the inquiry that but little textual elaboration is necessary, and they constitute a masterpiece in the art of graphic presentation of complicated facts.

An analysis of about 230,000 consecutive examinations was made in this region, the basis of the analysis being a division according to occupations, diseases, and ages, the inter-relation of these factors being exhaustively worked out. It was found necessary to limit the more detailed analysis to men placed in Grades III and IV only, but important figures are also given relative to Grades I and II.

Special attention was directed in the London areas to any evidence obtainable as regards a correlation between particular diseases and overcrowding associated with bad hygienic conditions. An area in the East End of London, comprising Mile End, Whitechapel, Stepney, London Docks, Bethnal Green, and Bow was mapped out as a "Black List" area and all facts relative to this area were separately analysed. The area thus delimited corresponded closely with the distribution of the alien population, and thus an indication of the effect of racial factors was also obtained. In general it was found that the "Black List" area compared with other areas showed a higher percentage of all diseases, and especially of pulmonary tuberculosis and other respiratory diseases. This is according to expectation, and affords further evidence, were such required, of the urgent need of drastic action in regard to housing and sanitation. A further disquieting, though less commonly appreciated, fact brought out in these statistics is the unhealthiness of the group of trades comprised under the heading "barbers," and including Turkish bath attendants, masseurs, manicurists, chiropodists, and complexion specialists. This trade group showed the highest percentage in relation to almost every disease—an unwelcome thought when one recalls the many opportunities afforded to these trades for conveying infection by close contact with their customers.

Venereal Disease among Recruits.

Venereal diseases are seen to have exerted only a very slight influence as a factor in relegating a man to Grade III or IV, and it is noticeable that the impression given by the reports from all regions is that the prevalence of venereal disease is small. It must be observed at once that these returns furnish no real evidence on this point; men were examined primarily with regard to diseases and disabilities which limit or abolish military efficiency. Active venereal disease, granted that appropriate treatment is given, rarely has such an effect except for a short while, and men with active venereal disease were placed in the grade for which they were otherwise suited, and recommended to have their disease properly treated; if they were called up for service at once, they were admitted straight away into a military hospital. Furthermore, it must be remembered that, except in its acute stages, the diagnosis of venereal disease requires considerable time and skill, with the aid of a fully equipped pathological laboratory, and rapid accuracy in its diagnosis, even by such methods, has only

been attained since the beginning of the war. It was no part of the duty of medical recruiting boards, faced with the urgent necessity of examining and grading tens of thousands of men as rapidly as possible, to make any special investigation into the general prevalence of such diseases. In fact, it is evident that this Report furnishes as little direct evidence of the prevalence of venereal disease, as it does of the exanthemata or other acute infections.

The real evidence regarding the prevalence of venereal disease, as brought to light in this Report, is to be found in the statistics as to the health of older men, in the frequency with which they were found to be suffering from diseases of the circulatory and nervous systems, and other disabilities in the causation of which venereal disease plays an important part. Further, the records of venereal disease in the army show clearly the extent to which latent disease, which could not be detected by the boards, became manifest under army conditions.

In the section devoted to the London and South-Eastern Region an interesting report is also furnished in regard to a period prior to the Military Service Acts. This is important in connexion with the question as to how far the men examined during the last year of the war may be regarded as a fair sample of the population. Defective feet were found in 23.8 per cent. of these recruits, at least 18 per cent. of which were apparently due to causes easily preventable in early life. No fewer than 42.5 per cent. suffered from dental defects affecting their general health, again largely as the result of early neglect. An instructive table is given, showing the relative grading percentages of Russian Jews as compared with British recruits, 70.1 per cent. of the latter being up to Grade I or II, whereas only 30.4 per cent. of the former attained that standard.

"Overtime" Research.

The Commissioner of Medical Services for the North-Western Region, comprising Lancashire and Cheshire, presents in his report a long series of most detailed and comprehensive statistical tables. These deal chiefly with the work of the Liverpool Boards, and the medical officer in charge of them may be complimented on the minute accuracy with which his records were kept. In reading these reports on the work of National Service Medical Boards it is easy to forget the circumstances under which the work was done. The primary, and indeed from the official War Office point of view the only, duty of the Boards was to extract from the male population a maximum number of men physically capable of fighting, or assisting to fight, the Germans. The compilation of any other statistical returns beyond those dealing directly with this necessity (and they were no small number in themselves) was subsidiary and outside the ordinary daily work. No official time or place was recognized for research of a general medical or statistical nature; "there was a war on," and research must take a back place. Such was the general and natural attitude of the authorities; though Commissioners of Medical Services were directed to concern themselves with the local conditions and social circumstances of the population in regard to their bearing on the health and physical fitness of the people, it is manifest that this unique and fleeting opportunity of collecting and collating invaluable information was seized only when the personal energy and enthusiasm of individual medical officers led them to devote their scanty leisure to this work. It is therefore the more remarkable that, with but two exceptions, all the regions are able to show results which must have cost much labour out of office hours, and show that the medical officers concerned realized the unique opportunity presented for research. In the North-Western Region, for example, the age-incidence of tuberculosis, pulmonary and non-pulmonary, is fully worked out, and an elaborate investigation into the frequency distribution of height, weight, and chest measurements is set forth in full.

The fact that, by specially analysing the statistics relative to youths who had just attained military age, information could be obtained in regard to a soil which had not been dug over by previous recruiting was fully made use of, and the details given of physique and disabilities in youths provide a basis upon which the general health of the young men in this region can be accurately gauged. The results of this analysis are sufficiently deplorable. "Out of 1,070 recruits of 18 years of age no fewer than 451 (equal to 42 per cent.) were less than 112 lb. in weight, and 142 of them (equal to 13 per cent.) were less than 100 lb. in weight." Such figures only need to be mentioned to bring home with full force the alarming and widespread existence of a youthful C3 population.

The sad results of so low a standard of health amongst youths are further exemplfied in a memorandum on the health of men over 43 years of age in Manchester and Stockport. Here again a "virgin soil," unaffected by previous recruiting, was studied, and the conclusion was arrived at that "the aver ge man here is, for military purposes, an old man before he reaches the age of 40." Very severe varicose veins were exceedingly common, as were also rheumatic troubles and cardiac disabilities. In Salford, out of 1,877 cases, only 8 per cent. showed no disability of any sort! The writer of the memorandum suggests that the root cause of this low standard in health is to be found in the early age at which boys commence hard and exhausting work, no opportunity being given for any form of physical culture either as games or otherwise. Unfortunately, these lads accept this state of affairs with dull contentment, and appear to take almost a pride in their disabilities.

The Commissioner of Medical Services for the West Midland Region made a special study of military age in its relation to weight, height, and grading, and also the details of occupation and disease, with special analysis of tuberculosis and venereal disease, amongst the men rejected (Grade IV). The results are shown in a series of tables and graphs, each being subdivided into the ten main areas of the region—namely, Birmingham, Burslem, Dudley, Worcester, Coventry, Shrewsbury, Hereford, Leamington, Walsall, and Wolverhampton. Nearly 233,000 men were examined during the twelve months (November, 1917, to November, 1918) to which the report refers. Reference must be made to the tables and graphs themselves in order fully to appreciate the intricacy of the investigation and the admirable way in which the essential points brought out therein are discussed. In regard to the figures for weights and heights comparison is made with previous work on the subject by the Anthropometrical Committee of the British Association in 1883, and it is regrettably clear that the standard of weight and height in this region falls far short of that previously worked out (in much smaller figures) for the average general population by that Committee. The conditions of labour in the Potteries and in the brass and allied trades in Birmingham are discussed at some length, and the conclusion is reached that the general conditions in these trades are definitely inimical to health, and, combined with overcrowding in houses which are damp and dirty, produce a high percentage of diseased and disabled individuals. The need for organized physical culture is emphasized here as in the North-Western Region. A report is given from a tuberculosis officer who examined 874 cases referred to him. He calls attention to the large proportion (15 per cent.) of those suffering from tuberculosis who were unaware of the fact, though in a good many the disease was fairly advanced, and considers that there is a serious danger to the community in this ignorance.

The report on the Yorkshire and East Midland Region is chiefly concerned with the work done in the Leeds and Barnsley areas, the D.C.M.S. of Leeds commenting especially on the bad housing conditions in that area, there being no fewer than 60.000 "back-to-back" houses. He considers that the Jews in Leeds are becoming "a menace to the welfare of the city," on account of their lack of sanitation and the prevalence of tuberculosis amongst them. An interesting note is made on the prevalence of an artificially produced glycosuria amongst recruits. He estimates that there must be 10,000 to 12,000 sufferers from tuberculosis in Leeds. As regards the Barnsley area, an exhaustive analysis was made of the mental and physical disabilities of 1,844 men placed in Grade IV. Here again pulmonary tuberculosis is very prevalent, accounting for over 25 per cent. of the rejections, and amongst them 2 were found to be retailing milk, 35 were clerks, 4 hairdressers, and 5 school teachers, all presumably propagating infection through their work. The Commissioner of Medical Services of the region makes a detailed criticism of the memorandum by Professor Arthur Keith, given in Part I of the Report, and specially discusses the

causes of difference in the gradings in Leeds and Sheffield. The criticism is interesting and relevant, and an alternative method of estimating physical fitness is given at some length.

The report on the Eastern Region, though comparatively short, is very concise, and contains much useful and interesting information in regard to the areas of the region. Tuberculosis here accounted for about 13 per cent. of the rejections, whilst cardiac disabilities were responsible for 11 per cent. As was found in the London and South-Eastern Region, there is here also evidence that the majority of cases of defective feet could have been prevented by intelligent footwear and treatment in early life. Housing conditions in the Oxford area are described as very unsatisfactory, and in Buckinghamshire it was remarked that whereas the young farm labourer of 18 to 21 is usually of splendid physique, the same class of man at 40 is middle aged, and suffers from such disabilities as myalgia, arthritis, varicose veins, hernia, and flat-feet. The statement made that Buckinghamshire is "remarkably free from venereal disease," though possibly true, is not, however, supported by any adequate evidence.

No written report is given on the work in the Northern and South-Western Regions, but graphs showing the gradings, actual numbers and percentages for each month of the period November 1st, 1917, to October 31st, 1918, are given in respect of both regions.

The Scottish Findings.

Scotland, on the other hand, is dealt with in a full and comprehensive report. Visual defects were analysed in regard to 16,000 examinations in the Edinburgh area, and, taking $\frac{6}{12}$ and better in both eyes as an average standard of efficient sight, it was found that 23.8 per cent. fell below this mark. High myopia was common and chronic blepharitis widespread; ten cases of trachoma were recorded. Special stress is laid on the progressive nature of myopic defects, a factor of importance in subsequent claims for pension, and the large number of eyes damaged by corneal nebulae and scars following on the common eczematous keratitis of childhood, furnishing another example of adult disability due to preventable disease in early life. One thousand entries in the recruiting register of Glasgow were summarized, and, as in other industrial areas, the prevalence of poor physique and the need for systematic physical culture is strikingly shown.

The recruits from Ayrshire and Wigtownshire, 18 432 in number, were studied as regards the relation of age and occupation to grading, and full tables of the results obtained are given. It is a pleasant contrast to the usually depressing results of these investigations to find that, at least as regards the Ayrshire miners, there is a predominance of high mental and physical efficiency, due, it is considered, to improved conditions of labour. In general the standard of physique in these areas was fairly good, and, apart from their fitness for military life, it was considered that 67.6 per cent. were fit for ordinary civilian occupations, 23.5 per cent. moderately handicapped, and 8.8 per cent. seriously handicapped. Severe varicose veins are again noted as very common.

A chairman of a medical board dealing with industrial areas in Scotland, notably Dundee, Perth, Fifeshire, and Stirlingshire, records his impressions, and once more the widespread occurrence of preventable disabilities, the bad influence of early full-time labour amongst boys with a lack of good housing accommodation and opportunities for recreation and sports, are emphasized. Dealing with a period prior to the institution of National Service Medical Boards, namely, from August, 1916, to May, 1917, a lengthy analysis is given of the physical defects found amongst 10,000 men between 18 and 41 years of age in Scotland, drawn from both agricultural and industrial districts. Only 20 per cent. were found free from noteworthy physical defect. Valvular defects of the heart were found in 2.4 per cent., varicose veins in 5 per cent., pulmonary tuberculosis in 1.07 per cent., and deformities of various kinds in 7.4 per cent. These are only a few samples of the diseases considered. An interesting note on malingering is added showing that it usually consisted of the exaggeration of a slight defect.

Wales: the Healthy Miner.

The Commissioner of Medical Services for Wales, in dealing with recruiting during the period November 1st, 1917, to June 30th, 1918, divides it into four phases according to the order in which miners and other men in protected industries were called up. Miners as a whole proved to be an excellent type of recruit. They were, however, whilst otherwise fit, very subject to affections of the metatarso-phalangeal joints, hypertrophy of the heart, the results of old fractures, and miners' nystagmus. The occurrence of nystagmus varied with the type of mine, being very prevalent when safety lamps had been used, the light being then more or less fixed, with the result that the miner constantly changes his visual accommodation as he moves about, in contrast to what occurs when a steady illumination is provided by a naked light carried about by the miner. The Commissioner considers that it is extremely doubtful whether a man suffering from any degree of nystagmus should be passed as fit for combatant work on account of its liability to become severe at any time and the great difficulty in vision experienced in dim light.

Agriculturists in Wales provided a good type of recruit, especially those from the pasturage farms. In spite, however, of the good general physique of recruits from Wales, as far as mining and agriculture are concerned, there appeared to be good evidence that diseases of blood vessels and valvular disease of the heart were alarmingly common, while the industrial regions again demonstrated the evil effects of long hours and too severe labour at an early age in producing premature age and general deterioration of physique. The results of grading of this region are clearly set out in graphic form, enabling them to be easily and rapidly comprehended.

THE ASSOCIATION OF CERTIFYING FACTORY SURGEONS.

THE Council of the Association of Certifying Factory Surgeons, of which Sir Thomas Flitcroft of Bolton is now President, has published a report for the years 1914–19 inclusive. As with other associations of a similar character, active operations were suspended to as great an extent as possible during the war; Dr. J. Hedley occupied the position of president for three years in succession, and Dr. Thomas Watts for two years in succession. The Council, however, despite war handicaps involving the whole profession, was compelled to resume its activities on three separate occasions.

In 1916 a very strenuous resistance was made to the abolition of accident reports when the Police, etc. (Miscellaneous Provisions) Bill was brought before Parliament. With the assistance of the British Medical Association and many members of Parliament, the objectionable clause was fought in the House of Commons through each stage of the bill, and, although it was somewhat modified in order to retain the investigation of poisonings due to accident and to allow the Secretary of State to schedule any particular class of accident for investigation, when the bill was passed this important function of the certifying surgeon had practically disappeared. The British Medical Association organized an opposition in the House of Lords, but the spirit of economy was even stronger in that House, and no further alteration was made in the clause as it left the House of Commons. The case for compensation was subsequently laid before the Home Secretary, who, however, stated that the terms of appointment precluded compensation. By this action of the Government certifying surgeons as a whole lost £12,000 per annum, and those responsible were no doubt able to congratulate themselves on effecting a very valuable war economy. Nevertheless, it was rather a severe tax on a small section of the medical profession.

In 1918 the Council were stimulated to further action, owing to the diminishing value of the fees paid for certifying and other work. It was felt that the basis of payment for certifying, which was fixed in 1833 at 6d. a case, was wofully inadequate to meet the present day increase in cost of commodities. A conference with the Chief Inspector of Factories was held in July, 1918, when the circumstances were fully laid before him. Since then it is pointed out that the Home Secretary had made no move whatever to assist these doctors by raising this ancient scale of fees or by ordering a bonus. It is admitted that certifying surgeons can, under Section 124 of the Factory Act of 1901,

make agreements with employers respecting the amount of fee to be paid, and it is stated that such arrangements have in many cases been made. This power is, however, not regarded as sufficient, in face of the fact that employers have the right to adhere to the minimum scale scheduled in the Act, and it is held that there should not be any variation of fee in different parts of the country, the necessity for increase being equally pressing everywhere. The Council is of opinion that the financial stress is much greater at the present time than was the case when the interview with the Chief Inspector took place, and that the suggested increase of fees then made would be quite insufficient to meet the needs of to-day. It is pointed out that the Civil Service scale of grants for local Government technical officials now amounts to a bonus on ordinary remuneration of £60, *plus* 30 per cent. of the income, and that it cannot be regarded as fair that certifying surgeons, who are undoubtedly Government officials, should be expected to carry on with fees established in 1833. At the recent annual meeting, when the position was laid before the members, the opinion was practically unanimous that nothing less than doubling of the statutory amounts allowed would meet the situation, and we are informed that representations on these lines have now been made to the Home Office.

The report describes the action taken by the Council when the Ministry of Health Bill was before Parliament, and expresses satisfaction with the intention of the Government to transfer the Factory Department to a Ministry of Employment.

The honorary secretary is Dr. W. F. Dearden, 168, Trafford Road, Manchester.

PURE AND CLEAN MILK.

THE medical profession is in a dilemma with regard to the prescription of milk. The dilemma is this, that, on the one hand, it is generally agreed that for infants fresh cow's milk is the best available substitute for mother's milk, and that it is a most valuable, almost indispensable, part of the diet of young children. On the other hand, cow's milk, as ordinarily available, has dangers of its own; there is the risk of tuberculosis and the risk of contamination by other organisms, especially those of the *B. enteritidis sporogenes* and organisms of the food-poisoning group, but including the enteric group, during milking and the subsequent manipulations. It is difficult to eliminate these risks. The fact that tuberculosis is exceedingly common among our herds has to be admitted, and the difficulty of eliminating it faced. Under ordinary dairy farm conditions milk is always subject to faecal contamination and almost without exception contains *B. coli*, the contamination being often heavy, even in the early stages, and rapidly increasing under trade and domestic conditions. Though difficult, it is not impossible to eliminate these risks; scientific management is necessary, a herd free from tubercle must be obtained, and every one employed on the dairy farm must be imbued with the principles by the observance of which success can alone be attained. In practice the difficulty hitherto has been, as a rule, so great that the medical profession has been compelled to advise boiling, pasteurization, or sterilization as the only safe course. By bringing milk to the boil a certain number of the organisms in it are destroyed, and by boiling for two or three minutes all harmful organisms are destroyed, though some spores may survive. There is evidence that if the milk is of good quality and free from gross contamination to begin with, and if the distribution and method of feeding is under careful medical supervision, infants will grow at about the normal rate after the fourth month if fed on milk which has been brought to the boil. But these are serious "ifs," and there are questions as to nutrition of the infant or child, and as to the relation of such diseases as rickets to the condition of the milk given, at present undecided. It is obvious that if contamination of the milk could be avoided—that is, if it were both clean and free from the infection of tubercle—it would be in every way better. No risk need be run if the collection and distribution of milk is so conducted that the need for submitting it to such processes as boiling is avoided.

It is possible to supply a clean fresh milk, free from the virus of tubercle or any other disease, and certain public-spirited milk producers in this country have succeeded in doing so, and are anxious that other dairy farmers all over the country should follow their example. A meeting called by a few of the leaders in the matter * a short time ago was attended by a number of farmers all keen to observe the conditions required to be fulfilled and to increase the supply of pure clean milk until it becomes sufficiently large to be within the reach of all classes.

The Food Controller, acting in consultation with the Ministry of Health and the Scottish Board of Health, has been granting licences permitting the use of the designations "Grade A" and "Grade B" in connexion with the sale of milk of high hygienic quality. This system will come to an end on March 14th, and will be replaced by a modified plan comprising regulations not less strict. The Food Controller will in future issue licences for two sorts of milk—"Grade A milk" and "Grade A (certified) milk"—and no person will be permitted to use these designations except under licence by the Ministry of Food.

Grade A Milk.

Grade A milk is milk produced under specially clean and hygienic conditions from a herd free from tuberculosis. The licence requires that the herd from which the milk is obtained must contain no cow or any bovine animal kept in contact with the herd which has not passed the specified tuberculin test, and certain other prescribed requirements. While the licence is in force every facility must be afforded for taking samples of the milk of any cow in the herd, or of the mixed milk of the herd, or of any milk sold under the licence at any time or place that may be thought necessary during the progress of the milk from the producer to the consumer. The farm must be open to inspection by a representative of the Ministry of Health or in Scotland of the Board of Health, or a local authority acting on behalf of the Ministry or Board, and must attain a certain standard in respect of equipment and methods. The licence in the first place is granted after such an inspection, and if at a later inspection the standard is found to have deteriorated the licence may be withdrawn. The milk must be cooled on the farm and consigned in a sealed container having a label giving the address of the farm, the day of production, and whether from the morning or evening milking. Dealers, other than producers, who desire to obtain a licence to sell milk under the designation Grade A milk must show that their equipment and methods are found satisfactory on inspection, that the milk is delivered to the consumer in the vessel in which it is received, or in bottles sterilized by steam, filled on the premises of the retailer and closed by discs or caps, showing the day of production.

Grade A (Certified) Milk.

In the production of Grade A (certified) milk certain additional precautions are enforced, and it is this certified milk which will probably have most interest for members of the medical profession. The milk after cooling is bottled on the producer's premises in sterilized bottles, and labelled to show the day of production and the time of day. The milk on examination at any time before delivery to the consumer must not contain *B. coli* in one-tenth of a cubic centimetre (in each of two tubes) or more than 30,000 bacteria per cubic centimetre. Further, the milk must not be delivered to the consumer as Grade A (certified) milk more than two days after the day of production. We are told, however, by an independent observer that milk fulfilling these conditions will in fact keep sweet much longer. This Grade A (certified) milk must be delivered to the purchaser in the bottles in which it has been received from the producer, with caps intact.

Tuberculin Tests.

The conditions with regard to the application of tuberculin tests on the health of the herd laid down by the Food Controller with the concurrence of the Ministry of Health and of the Scottish Board of Health are rigid; they include careful record of the temperature after injection

* One of the first dairy farms conducted on the principles governing the production of Grade A (certified) milk was that of Mr. Wilfred Buckley, Director of Milk Supplies, Ministry of Food. Milk of this quality is known to some physicians as Moundsmere milk, from the name of his farm, but milk is now being produced under the required conditions at a number of dairy farms, including those of Viscount Astor and Lord Elveden. It is hoped that the number of farms producing Grade A (certified) milk will soon be largely increased.

as compared with the normal. The name of the manufacturer of the tuberculin must be stated, and no animal injected with tuberculin within the previous thirty days is to be included in the test. The report must contain a statement with regard to any cow that appears to be suffering from tuberculosis, induration, or other chronic disease of the udder, and as to any bovine animal suffering from tuberculous emaciation, or from chronic cough, and showing definite clinical signs of tuberculosis. Should any animal react to the tuberculin tests it must immediately be removed to another farm or otherwise disposed of. Animals which show no reaction at the first test must be retested after an interval of three months, and should any animal then react it must be removed and the remainder of the herd again tested after another interval of three months. When, after two successive tests of a herd at intervals of three months, no animal reacts, the test must be reapplied at intervals of six months, except when only home-bred animals from a clean herd are introduced, when the interval may be twelve months. Every animal added to the herd must be retested. Certificates, accompanied by temperature sheets, must be sent to the Ministry of Food immediately after completion of each test. Finally, herds must be subject to periodical veterinary examinations at intervals of not less than six months, and a report of each such examination forwarded to the Ministry of Food.

DINNER TO LORD DAWSON.

The Federation of Medical and Allied Societies met at dinner at the Café Royal on February 25th for the purpose of congratulating one of the original members of its Council, Lord Dawson of Penn, G.C.V.O., K.C.M.G., on his recent elevation to the peerage. Sir Malcolm Morris, Chairman of the Federation, presided, and amongst those present were Dr. Addison, M.P., Lord Astor, Lord Charnwood, and Sir Robert Morant. Between fifty and sixty sat down at the tables.

The Chairman, in proposing the health of the guest, said that Lord Dawson went to the House of Lords with a very big reputation behind him as a practising physician, who intended to go on practising his profession. The nation to-day was suffering from great prostration as a result of the war. Its mentality was wrong; its system deranged. Lord Dawson was going to take his share in bringing the nation back again to its proper moral and physical condition. The medical profession in the past had not done all that it might have done for the nation, and one of the objects with which the Federation was started was to encourage medical men to take a larger share in the work of the State. Some were found declaring that the only duty of the doctor was by the bedside, but a new conscience was manifesting itself and medical men were responding to the higher claims of citizenship. He urged medical men to give of their best to the local councils of their town and county; work at the periphery was important as well as work at the centre.

Lord Dawson, in reply, said that there was for any man scarcely a delight in life greater than that of having earned to some degree the confidence and approval of the members of his own profession. It was a special pleasure to him to be the guest of that Federation. He regarded it as remarkable that a body so young should show such vigour, but he attributed that to the fact that it met the needs of the time. He himself would be an egoist indeed if he looked upon the honour which had come to him merely in the light of personal recognition. It was a recognition of the great profession to which he had the honour to belong. It was also an invitation from the State to the medical profession to take that bigger share in national life from which hitherto it had held aloof. And, yet again, it was in line with the tendency towards vocational representation as a factor in national government. Such vocational representation was an inevitable result of the progress of knowledge. The greater the progress of knowledge, the more technical did life become. And as civilization advanced and knowledge played an increasing part, it seemed to him absolutely essential that that knowledge should in some way be at the State's disposal. Matters of government must not be left entirely to amateurs, however brilliant. Each skilled calling in the land should find some collective expression in national councils. The Federation was an effort to bring together the collective voice of the medical and the professions allied to it, and its other function was to educate the profession in public affairs. Dr. Addison as Minister of Health had not only set up a consultative medical council in association with his Ministry, but had given it a generous measure of freedom. That was only a beginning, but it did bring the profession in some organic relationship with administration, and for this the profession owed a debt to Dr. Addison, the full extent of which it did not yet appreciate. In a short time the council would issue an interim report, and the Minister was going to publish it substantially as received by him, so that there again the profession would be given an opportunity of expressing its view on constructive policy. The profession was about to enter on a new era of opportunity.

The Chairman proposed the health of Dr. Addison. He said that he was not the first of his name to be Minister of the Crown. The other Addison, the essayist, won his position by Court influence and the writing of essays for his party. Their own Dr. Addison had won his position by sheer hard work and parliamentary ability.

Dr. Addison, after a reference to the housing question, in which he said that he was certain that the Ministry of Health would win through its present difficulties, went on to speak of the consultative council of which Lord Dawson was the head. It was the first time that any body of medical men in any country had been asked to give its advice to the State on matters such as those which the consultative council was envisaging. But if Lord Dawson thought that what he and his council were going to recommend for the health organization of the nation would meet with universal approbation, he could only tell him, as an old hand, that he was a very sanguine man. The Ministry of Health looked to the Federation, amongst other agencies, to bring a considered opinion to bear upon the proposals which would be published. One of the grave defects in the profession in the past, which it was sought tentatively to remedy, was the absence of any body of men who could be appealed to for judgement on a great public issue. The Ministry of Health was determined on a programme of health service which, although it might take a generation to accomplish in full, would at least commit the State to a course of action from which it could not turn back. If this work could be started on the right lines and with a bold plan, the Ministry would have done well.

Colonel C. J. Bond proposed the toast of "The Federation," and commented upon its achievements. The fact that it had forty allied societies behind it gave it a great driving force. The former conditions of medical work had fostered a crude individualism, and a true perspective of public duty must be obtained. The Federation would make up for this deficiency, and give the profession itself a sense of solidarity and of public duty and citizenship.

Dr. Howard Mummery, the general secretary, who responded to the toast, said that the Federation stood in no rivalry to any existing body. Nor was it party-political in character. At a recent by-election it supported a Labour candidate, and at another a Coalition Unionist. Out of the ten medical members of Parliament (excluding the two Cabinet ministers) seven were on the council. He regretted that certain organizations whose co-operation was sought had not yet seen their way to render it.

Mr. E. B. Turner, in felicitous terms, proposed the health of the Chairman, and Sir Malcolm Morris, in responding, said it was a great privilege at three score years and ten—the last lap of life—to be allowed to take some part in such a big cause.

We announced a fortnight ago that the first meeting of the General Council of the League of Red Cross Societies would begin on March 2nd, and that the thirty Red Cross Societies now comprising the League had been invited to send representatives. The Hon. Sir Arthur Stanley left for Switzerland at the close of last week in order to take part in the conference on behalf of the British Red Cross Society. The Japanese Red Cross is represented by the Marquis Kuniloshi Tokugawa, with Dr. A. Ninagawa as his adviser. We take this opportunity to correct a slip. In announcing the appointment of Mr. Charles R. Hewitt as librarian to the League of Red Cross Societies, he was stated to have been assistant librarian of the Royal Society of Medicine, whereas he was in fact librarian, having held that post since 1907.

British Medical Journal.

SATURDAY, MARCH 6TH, 1920.

PHYSICAL EDUCATION.

INTEREST in physical education has increased of late, and the medical profession has been rightly urged to take an active part in its development and extension. Physi al education is, indeed, one of the various instruments to be used in the prevention of ill health among children, and it is most important that doctors, and especially those engaged in the school medical service, should bring the light of their knowledge and experience to bear upon the phyical education and training which is now in vogue insthe state schools.

Broadly, there are two periods when facilities for physical training are needed: first, during school life, and secondly, during adolescent and adult life. Obviously a wholly different organization is required during each of these periods. During school life physical education can be imposed upon the child as part of the school routine; the instruction should not only be based upon correct physiological principles, so as to promote the healthy all-round bodily development of the growing child, but it should be given a sufficiently wide interpretation and application to make it interesting to children of different tastes, and thus implant such a genuine love of physical exercise, in one form or another, for its own sake, that the individual will seek opportunities of wholesome outdoor recreation, games, and sports in after-life. Upon the "compulsory" foundation which is laid in the school will depend the permanent success of any "voluntary" organization of adult recreation, and it is therefore important that the opportunities thus provided shall be utilized to the greatest advantage.

Physical training in the schools under the Board of Education was first organized in 1909, though physical "drill" had been carried out in a haphazard way in elementary schools for many years before this. The influence of the training on the health of the children was considered to be so important that the responsibility for the arrangements was in that year placed upon the chief medical officer, Sir George Newman, who was assisted by one of his medical officers and a staff of expert inspectors. For ten years past report has been made to Parliament in the Board's medical reports.

The essentials of a national scheme of physical training as conceived by the Board of Education have included: (*a*) An official *Syllabus* of physical exercises, by means of which reasonable uniformity of instruction might be secured in all schools; (*b*) a minimum of training in physical exercises for all students attending training colleges, special classes, and holiday courses for school teachers desiring further instruction; (*c*) supervision, advice, and constructive criticism from expert gymnastic teachers acting as "organizers" in local areas under the education authorities; and (*d*) reasonable facilities (including sufficient time) and equipment in schools for games, play, dancing, and swimming, as well as for the more formal gymnastic exercises. A revised syllabus, issued in 1909, was adopted by practically all schools throughout the country. This *Syllabus* was based in a general way on the Swedish system; the exercises were simple to perform and teach, and were graded for children from 7 to 14 years of age. Model lesson tables and many excellent illustrations were included for the guidance of teachers, and the teaching of games and dance steps was introduced. The volume soon secured an immense circulation.

During the war the teaching of physical training naturally suffered, especially in the boys' schools, but progress was made, nevertheless, and a few weeks ago the Board's Medical Department issued a new, revised, and enlarged *Syllabus of Physical Training*, accompanied by two separate pamphlets dealing respectively with the teaching in infants' schools and with games.[1] The experience gained in the schools during the previous ten years, and the results of recreational training given in the army during the war, have made it clear that the lessons in physical exercises should be made less formal and more recreative, and that greater attention should be given to games and free exercises. In the new lesson tables, therefore, it is suggested that half the time shall be given to easy Swedish movements and the remainder to gymnastic games, dancing, "general activity exercises," and so forth. It is considered important to have a nucleus of formal exercises, in order to obtain the corrective, disciplinary, and mental effects of such training, but it is now recommended that gymnastics should be supplemented by vigorous, enjoyable free movements. In addition to physical training lessons, many schools have provided swimming instruction or organized games in parks or playing fields. The value of evening play centres has been recognized, and their number is rapidly increasing. Boy Scouts and Girl Guides have become associated with the schools in many cases. School Camps have been started and are likely to multiply. This organization has applied mainly to elementary schools, but in 1911 and 1914 the Board of Education issued advisory memoranda on the subject to secondary schools. The establishment of schools which provide whole-time education up to the age of 16, and of day continuation schools, where part-time education will be compulsory until 16, and eventually until 18, will lead to the extension of physical training organization to an age-period when it is most important to supervise the health, to attract the interest and arouse the enthusiasm of the growing adolescent. Further, under the Education Act of 1918 education authorities have wide powers to promote social and physical training by means of holiday and school camps, centres and equipment for physical training, playing fields and school swimming baths, and by providing other facilities for social and physical training in the day or evening. The importance of providing class teachers in elementary schools with expert guidance was recognized, and the Board has encouraged the appointment of well qualified organizers of physical training (men and women) to supervise the teaching in the schools, to demonstrate, advise, encourage, and stimulate. Special grants in aid are given towards the salaries of these organizers. Several well known physical training colleges exist for women—at Dartford, Bedford, Chelsea, and elsewhere; no suitable training school for men teachers of physical training has hitherto existed, but a special course has been instituted at Sheffield Municipal Training College.

It is thus evident that considerable progress has already been made towards a national system of

[1] The publications referred to are the *Syllabus of Physical Training for Schools, 1919*, price 1s. net; *Suggestions in regard to Games*, price 4d. net; and *Physical Exercises for Children under 7 Years of Age, with Typical Lessons*, price 3d. net. The pamphlets are published for the Board of Education by H.M. Stationery Office, and can be obtained through any bookseller.

physical training, and that when Local Education Authorities fully utilize the powers they now possess there will be a continuous system through childhood and adolescence, combining the advantages of formal gymnastics with recreative activities, and including facilities for games, sports, social intercourse, etc., after school hours. Then comes the break. After school days no systematic provision is made. What now seems to be needed is the effective organization of physical exercises and recreation for the great mass of the people. That such provision is practicable has been proved at the front during the war, but there seem to be divided counsels as to ways and means. Some things, however, are evident. Any organization of adult physical recreation must be voluntary and free from Government control. A directorate under the Ministry of Health or Board of Education appears to be both unwise and inexpedient. What seems to be required is a voluntary representative body of experts and others, prepared to work in co-operation with the Local Education Authorities, and willing and able to continue their schemes beyond the age of 18. The duties and powers of Education Authorities should be fully realized by the promoters of all arrangements for providing adult recreation, and advantage should be taken of the existing school organization to induce young people to continue after school life the outdoor games and pursuits for which they have already acquired taste and talent.

THE PHYSIQUE OF BRITISH MANHOOD.

WE print elsewhere this week (p. 331) a full account of the Report upon the physical examination of men of military age by National Service medical boards during the last year of hostilities. This most important document had its origin in the work of a committee set up in March, 1918, by Sir Auckland Geddes when Minister of National Service. Sir James Galloway was the chairman, and Dr. H. W. Kaye the secretary of the committee. Its reference was to consider the best method of utilizing the data obtained from the work of recruiting medical boards, with the intention of making these data readily available for the use of officials of the Ministry, and of placing the information as to the physical fitness of the nation so obtained on record for future use and reference. When the medical department of the Ministry of National Service was transferred to the Ministry of Pensions a year ago, it was decided that this work should be continued by the staff which had been engaged upon it for the previous year, and the responsibility of carrying on the committee's investigations devolved entirely on the secretary, to whose enthusiasm and perseverance a well-earned tribute is paid. The volume now issued represents the first portion of the completed work; the two together will furnish an elaborate physical census of the men of military age, and much more besides. The first volume, amplifying the preliminary communication which we published on September 28th, 1918, throws a flood of light upon the physical condition of the people of Great Britain. The material is analysed in such a way as to reveal the nature and distribution of disabilities among our manhood, and to show how far the national health falls below an attainable standard. This information, compiled with great pains and skill, will, no doubt, form a logical starting-point for future efforts to improve the national health.

It must be said at once that the Report is far from pleasant reading; the message it conveys as to the physical fitness of the British stock will shatter any feeling of complacency. The chief lesson for the future seems to arise from the large proportion of defects clearly due to preventable disease and unhealthy modes of life. As the result of nearly 2,500,000 examinations less than 872,000 men were placed in Grade I—that is to say, only 36 per cent. attained the full normal standard of health and strength and were judged capable of enduring physical exertion suitable to their age; 250,000 were judged to be totally and permanently unfit for any form of military service, and accordingly placed in Grade IV. The method of grading was such that the conclusions drawn from the figures are more likely to err on the side of overrating than underrating the physical fitness of our manhood. It is especially disquieting to find that the physique of the youths called up as they reached the age of 18 was far below the standard of health we had a right to expect. There were twice as many lads totally and permanently unfit for any form of military service as there should have been. If such be the state of physique amongst our youths, what are we to assume as to the condition of older men who have had to undergo the full stress of industrial life? Such facts as are recorded in the Report bring out with startling clearness the magnitude of the need for social, economic, and medical work before the country can take to itself credit for having attained even a normal standard of national physique.

The Report contains a vast amount of hitherto unknown or unclassified information relating to the general physical condition of the male population of the United Kingdom. It forms, as we have already implied, a foundation upon which it should be possible to base sound projects for the amelioration of preventable disease and for the extension of an effective health organization. As a work of reference, as a handbook essential to social and health work, and as a landmark in the history of medical investigation, the Report occupies a unique position. It demands careful study, and should be at hand for frequent reference. We await with interest the publication of the second volume, which, it is understood, will give in yet further detail the statistical and other facts embodied in the Report now before the medical profession and the public.

THE OPIUM QUESTION AND THE PEACE TREATY.

THERE is every prospect that during this year substantial progress will at last be achieved towards putting into operation the International Opium Convention which was signed at the Hague in 1912. In an article which appeared in the JOURNAL on September 20th, 1919, on "The international control of drugs of addiction," Sir William Collins indicated the advance which had been made towards bringing that Convention into effect under Article 295 of the Treaty of Peace and Article 23 (*c*) of the Covenant of the League of Nations. By the former all signatories of the Peace of Versailles who had not ratified the Opium Convention were held to be bound by a Special Protocol, opened at the Hague after the third Opium Conference, and to be under obligation to enact the legislation required by the Convention within twelve months. By the latter the general supervision over the execution of the Opium Convention was entrusted to the League of Nations.

In a letter which appeared in *The Times* on January 3rd last Mrs. Hamilton Wright showed that the United States, which is one of the five Powers party

to the Special Protocol binding its signatories to enforce the Convention without waiting for other Powers, had enacted its own legislation for that purpose as well as for its consular districts in China. The so-called Harrison Bill, it appears, was largely the work of the late Dr. Hamilton Wright, who represented the United States at the Shanghai Commission as well as at the first and second Hague Conferences.

Whatever fate may attend the League of Nations at the hands of the American Senate, there is, as *The Times* recently pointed out in a leading article, "no necessity to wait until the League is fully at work. In fact, if legislation is to be passed within the prescribed period, the Governments concerned must begin at once." We gather from a letter from Sir William Collins in the same newspaper of January 6th that our own Government takes the view that Article 295 implies that Powers like Great Britain, Belgium, Italy, and some eleven others which had ratified the Opium Convention, are also bound by the Special Protocol. Thus it would appear that France, Japan, Greece, Serbia, Rumania, Bolivia, Haiti, Panama, Peru, and Germany, are now under obligation to enact pharmacy laws, within twelve months from January 10th last, to give effect to the restrictions on traffic in noxious drugs laid down by the Opium Convention. And further, that these Powers are now to be supported by Great Britain, Belgium, Brazil, Denmark, Ecuador, Guatemala, Italy, Nicaragua, Portugal, Siam, Spain, Sweden, Uruguay, and Venezuela in proceeding to enforce the Convention without waiting for the few remaining Powers which are neither parties to the Treaty nor to the Protocol.

It is clearly high time for Great Britain to get ready her pharmacy legislation as required by the Opium Convention. The Home Secretary has stated that he is sanguine that the necessary Bill will be introduced early this session. It would ill become this country, whose delegates at the Hague were instructed to press—and did press successfully—for the inclusion of strict regulations of the traffic in morphine and cocaine as well as in opium, to be backward in giving effect to the requirements of the Convention. Should any Power be slack in carrying out its obligations it would apparently rest with the Government of the Netherlands, under Article 24 of the Convention, or the Council of the League of Nations, under Article 23 (*c*) of the Peace Treaty, to put the necessary machinery in operation.

When we remember that the Convention requires the Powers which are parties to it so to supervise the manufacture, import, sale, or export of these potent drugs as to restrict their use to medical and legitimate purposes only, and when we recall the wholesale abuse of these drugs, as disclosed in the daily papers, we cannot fail to be impressed with the urgent need for action.

Only last week it was officially stated on behalf of the Board of Trade in the House of Commons that more than 300,000 ounces of British-made morphine were exported from these shores last year. It requires a large draft upon our credulity to believe that any considerable portion of this can have been utilized for medical and legitimate purposes only. In years prior to the war British morphine, it is believed, found its way, by the ton, into China, while the import of Indian opium was being religiously precluded. Recent reports from China show that the poppy is being again extensively cultivated in parts of that country, while the area under poppy cultivation in India appears also to be extending. Indeed, the need for the restrictions laid down in the Convention in 1912, which were amply justified then, is even more imperative to-day, and we look to the Government to lose no time in handling this question effectively.

THE ANNUAL MEETING AT CAMBRIDGE.

WE are now able to give some further details with regard to the programme that is being drawn up by the local committee for the Annual Meeting of the British Medical Association to be held in Cambridge next summer. The Annual Representative Meeting will, as already announced, begin on Friday, June 25th, at 10 a.m., and the members of the Representative Body will dine together that evening. The session will be continued on Saturday morning at 9.30, and, if necessary, on the Monday and Tuesday. The Examination Halls will be available for the Representative Meeting, and also for the statutory Annual General Meeting, which will take place at 2 p.m. on Tuesday, June 29th. On that evening Sir Clifford Allbutt, after his presidential address to the Association in the Senate House, will receive distinguished foreign guests, and a reception will be given by the local Branch in King's College. The sectional scientific meetings will be held in the New Museums on Wednesday, June 30th, Thursday, July 1st, and Friday, July 2nd; the mornings from 10 till 1 being devoted to discussions, and the afternoons from 2.30 to laboratory and clinical demonstrations, which will form a special feature of the meeting. On Wednesday, at 5 p.m., religious services will be held in the University Church—Great St. Mary's—and in the Roman Catholic Church. On the same evening the Vice-Chancellor of the University will give a soirée at Emmanuel College, and the honorary secretaries of Branches and Divisions will hold their conference and dine together. On Thursday evening, at 7.30 o'clock, the annual dinner of the Association will be held in the hall of St. John's College, the numbers being limited to 200. On Friday evening there will be the popular lecture, by Dr. G. S. Graham-Smith, F.R.S., a soirée given by the Master and Fellows of Trinity College, and an entertainment for Freemasons. According to present arrangements the Guildhall, which has been placed at the disposal of the Association by the Mayor and Corporation, will be used as the reception room for members and guests; it is situated in the Market Square at the centre of the town. The Corn Exchange, near at hand, has been secured for the Annual Exhibition, and the Art Schools will be used for offices. Local entertainments—garden parties and the like—will be given on several afternoons, and a visit is being arranged to the tuberculosis colony at Papworth. Saturday, July 3rd, the last day of the meeting, has been set apart for excursions to places of interest in the neighbourhood. The various college authorities have generously offered bedrooms for a thousand visitors, and to provide them with meals at an inclusive daily charge; this will ensure accommodation for all members unaccompanied by ladies. There are also a large number of university lodgings in the town, and the local committee will engage as many of these as are needed by visitors for whom private hospitality cannot be provided. An announcement will be made in due course in this JOURNAL when arrangements are sufficiently advanced for the acceptance by the local authorities of names of those proposing to attend the meeting.

TEACHING OF OPHTHALMOLOGY.

CONSIDERABLE interest is being shown at the present time in this country in schemes for what is called "post-graduate" medical teaching. It is not a new subject in this country, but it has recently received an impetus, owing partly to the wish shown by many civil practitioners to have an opportunity of refreshing their knowledge,

partly to the demand arising among medical men who served during the war, and partly no doubt to the observations on the subject in Sir George Newman's Memorandum on Medical Education in England, and the developments expected to arise out of the policy the Ministry of Health is shortly to make public. The subject has many aspects: one of them is discussed in the *Archives of Ophthalmology*, which contains three papers on the subject—by Verhoeff of Boston, Wiener of St. Louis, and Duane of New York. The former concerns himself with the whole teaching of his subject in the case of undergraduates and graduates; the two latter deal with graduates only. Verhoeff divides those who desired to be taught into four groups: (1) medical undergraduates, (2) general practitioners who wish to take up this special subject, (3) practising ophthalmologists anxious to repair deficiencies in their training, (4) recent medical graduates who propose to qualify themselves for the practice of ophthalmology. For the first group he recommends a short comprehensive general course; the men in the second group, he says, are usually persons who have not succeeded in other branches of the profession, and think that a six weeks' course in eyes will render them fit to practise ophthalmology, for these he advises a complete graduate course; for the third group special courses of short duration, say, in the summer months; for the fourth group, the most important of all in his view, a thorough training spread over four years, in two parts. In the first part, lasting two years, there should be degree work in higher algebra, trigonometry, physics, chemis ry, plane and solid geometry; practical clinical experience in general medicine and surgery; and such an acquaintance with special subjects, neurology and dermatology, as can be gained in the out-patient clinics of a large general hospital in a period of six months. Verhoeff insists that in this preliminary part of the course there must be elasticity of detail, as he considers it undesirable to try to cast all students in the same mould. This preliminary course should be the first step towards the degree of Doctor of Ophthalmology, and the succeeding two years should be spent, for the first year, from 9 a.m. to noon, three days a week, in practical clinical work in the out-patients' room, and three days a week in the study of in-patients and operations; the afternoons should be given to laboratory work, anatomy, physiological optics, set operations on animals' eyes, and so on. During the second year the student would act as house-surgeon to an eye hospital, and might be allowed to take part in elementary teaching, for it is in the teaching that the chief difficulty lies at present. Wiener's paper is a plea for more thorough graduate teaching in the U.S.A.; so is that of Duane, who outlines a plan on which a post-graduate course could be worked; he advocates "quizzing" in all stages of training. Verhoeff's scheme appears ideal, but difficult to work at present; it is obviously impossible for one man, or even a body of men, to see all the patients and at the same time do all the teaching. A good deal depends upon the type of student to be taught. Some assimilate the theory by "spoon feeding"; others prefer the more laborious method of getting their experience from a long service of drudgery, doing the actual work in out-patient rooms; generally speaking, this has been the method of most of us. It may be taken as a fact that the man recently qualified, who starts at an eye hospital, saying that he is specially interested in, say, fundus cases, will not go very far unless he is also willing to undertake the preliminary part of the examination of an eye case, by which the fundus examination must be preceded. Most ophthalmic surgeons have taken to their special subject fortuitously, as it were; we all have to live, and unless adequate remuneration is forthcoming for the teacher, a man cannot be expected to give up much of his time to this form of work, unless, of course, he happens to possess private means.

THE SCIENTIFIC STUDY OF RADIOLOGY.

WE welcome the announcement that a chair of medical radiology has been established in the Middlesex Hospital Medical School to work in conjunction with the Joel chair of physics there, because we believe that radiotherapy must be got out of the empirical rut into which it seems to have slipped in this country. With regard to the treatment of new growths alone, it seems clear that progress can only be achieved if a definite plan of research is carefully thought out by the therapist and physicist in consultation and carried through by them conjointly. The efficacy of radium in the treatment of rodent ulcer is well established, but with regard to both sarcoma and carcinoma we are still in the empirical stage. Why is it that some cases of sarcoma are either cured or kept at bay for many years, while in others the treatment totally fails? Again, why is it that in some few cases radium seems to arrest and, in exceptional instances, to cure carcinoma, whereas in the majority it fails entirely? There must be some difference in the mode of application of the radium or in the growth itself, or in the general condition of the patient. The importance of the matter is illustrated by the statement Dr. Herbert Spencer makes in his third Lettsomian Lecture (p. 324), to the effect that owing to the great advance made in the treatment of cancer of the cervix of the uterus by radium, mesothorium, and x rays, operation for this condition has been entirely abandoned in favour of treatment by radiation in several of the chief clinics of Europe. The chair of radiology at the Middlesex Hospital Medical School was formally instituted by the Senate of the University of London on February 25th. The authorities of that hospital have, we learn, felt for some time that if real progress is to be made in radiology in this country an expert in this branch of medicine and therapeutics should be able to devote his whole time to the department and to the work of education and research. The hospital affords great opportunities for the investigation of the possibilities of radiotherapy. Over one hundred beds are constantly occupied by cases of cancer. The hospital possesses a large supply of radium, and in the physics department there are special laboratories for the investigation of the physiological and pathological problems that arise. We recorded a short time ago the endowment of a university chair of physics in the Middlesex Hospital Medical School by Mr. J. B. and Mr. S. B. Joel. The new department and the professor of radiology will work in close association with the Joel professor (Dr. Sidney Russ) and the department of physics, and it is hoped that some other millionaire will seize the opportunity to associate his name with the medical chair.

MACKENZIE DAVIDSON MEMORIAL FUND.

A COMMITTEE has been formed to establish a memorial to the late Sir James Mackenzie Davidson. His death while still in the full vigour of life deprived radiology of one of its pioneers whose single-hearted devotion to its advancement never abated. His name is especially associated with the development of radiographic methods, particularly stereoscopic radiography, and with the perfecting of the use of x rays for the localization of foreign bodies. He was rightly regarded as the head of his department in this country, but his reputation was international. Throughout his career he was unsparing in his efforts to raise the status of radiology among the sciences and was insistent on the fundamental value of physics in the study and application of radiology to medicine, particularly in regard to methods of measurement and the designing of equipment. Of his ingenuity in designing, of his enthusiasm for every scheme to advance the subject, and of his readiness to impart his knowledge to others, all who came into contact with Mackenzie Davidson are well aware. We have no doubt that the appeal, made by many occupied in his own branch of the profession, by

physicists, and by a number of his personal friends, to found another University Chair of Radiology will meet with a ready response. Had he lived Mackenzie Davidson would himself have been among the first actively and generously to support the foundation of an institute for research and teaching in radiology, and it is hoped, if funds permit, to establish such an institute to which the chair might be attached. It would not be confined to purely medical questions, for research has shown that the *x* rays may be of value to a number of industries. It has already been employed in detecting faults in wood and slovenly workmanship in the building of aeroplanes and other appliances. Only recently it has been found to offer great possibilities for the examination of the internal structure of metals, and has been turned to account by the steel manufacturer, the metallurgist, and the engineer. A chair of radiology at an *x* ray institute may be expected to play a great part in the development of these new branches of radiology. The appeal is signed by, among others, Mr. Bonar Law, Sir J. J. Thomson (President of the Royal Society), Sir Clifford Allbutt (President of the British Medical Association), Sir Alexander Ogston (who was associated with Mackenzie Davidson during his life in Aberdeen), Sir Robert Hadfield, Dr. Christopher Addison, Lord Harcourt, Lord Dawson, Sir W. Watson Cheyne, Sir F. W. Mott, Sir Anderson Critchett, Professor Sir Ernest Rutherford, and many others associated with the study and application of the principles of radiology. Subscriptions will be received by Dr. Robert Knox, 38, Harley Street, W.1. Cheques should be made payable to the London Joint City and Midland Bank, crossed and marked "The Mackenzie Davidson Memorial Fund." There is plenty of room both for this proposed radiological institute and for the radio-therapeutic scheme now to be carried out at the Middlesex Hospital. There will be ample work for both.

MEDICAL ENDOWMENTS IN AMERICA.

MR. BALFOUR, in his reply to the deputation from the British Medical Association and the British Science Guild, which laid before him reasons for the provision by the State of suitable rewards for scientific discoverers, referred to the liberality with which American millionaires had given money to universities, especially to meet the ever-advancing needs of medical education and research. We cannot profess to give anything like a complete list even of recent benefactions, but we may quote a few instances which happen to be at hand. The medical school of Harvard University has received an anonymous gift of £10,000 for the establishment of the James C. Melvin fund for tropical medicine. The income is to be used in research. The school has also received the income of the residuary estate of Horace Fletcher, to be used to "foster knowledge of healthful nutrition." The university proposes to adopt this year a programme of compulsory athletics or physical training, in view of the fact that 40 per cent. of the young men of the United States were turned down after examination by medical boards as unfit for military service. The basis of the programme is expressed in the formula "Get everybody into the game." The Washington University Medical School, in addition to several small sums for special researches, has received £60,000 for the endowment of the department of pharmacology. The trustees of the University of Tennessee have decided to erect a building for the department of medicine at Memphis, at a cost of £20,000. The medical department of the University of Louisville has received from one of the members of the faculty a gift of £1,000, payable in instalments of £100 annually. The first will be expended in the equipment of a research laboratory in which medical and surgical diagnostic problems are to be worked out. The University of Cincinnati has established in its medical school a department of industrial medicine and public health. The training is intended to make students competent social and medical engineers and to enable them to educate the public in the importance of sound health. Yale University Medical School has enlarged its library. It now contains 26,000 volumes, including 14,000 bound volumes of medical journals and translations. It has over 250 medical periodicals, including European as well as American journals. Though not strictly germane it may be noted that the Michigan State Legislature recently appropriated £200,000 towards the erection of a new hospital with 800 beds, to be connected with the Medical School of the University of Michigan. It is estimated that the building and equipment will cost between £400,000 and £600,000.

CHARLES MERCIER.

FOR the memoir of Dr. Mercier, printed in the JOURNAL of September 13th, 1919, we were fortunate in securing the ready help of Sir Bryan Donkin, who wrote an appreciation of his friend as psychologist, physician, and logician. We were able to publish also a brief but illuminating note sent to us by Sir William Osler, who was then on a holiday in Jersey; this was, we believe, his last published writing; within a few weeks he, too, passed into the valley of the shadow. So unlike in so many respects, Osler and Mercier had yet much in common that shone out in the genial after-dinner talk at Oxford: each personified in his own way the union of medicine and letters. We are pleased to find in the current number of the *Journal of Mental Science* a longer notice in memory of Dr. Mercier, written by Sir Bryan Donkin from his full knowledge of the man and his work. He notes the likeness in intellectual power and gifts between Charles Mercier and Henry Maudsley. Both, he says, possessed in a large measure the scientific mind, and their works were marked alike by dominant determination to search out as thoroughly, and explain as clearly and fully as their powers allowed, the subject they had chosen for the chief labour of their lives. Both men were trenchant and alert in controversy, and both excelled in their wide and intimate knowledge of the best of English literature. Both, too, had a mass of readily quotable knowledge of the Bible, Shakespeare, and many other classics, to an extent not often attained even by purely literary specialists. From this apt comparison Sir Bryan Donkin passes to sketch in bold outline Mercier's life of strenuous effort, and his special qualities as an alienist, a scientific philosopher, and a man of letters. He enlarges on one matter in order to clear up a misunderstanding for which Mercier himself was partly to blame. It has been sometimes implied that Mercier looked upon disease of the mind as the result of disordered conduct; but even in his early writings he maintained that disorder of mind could and did exist without insanity; the gist of his teaching was that a man is rightly judged as insane from evidence of what he says and does, not from what one may infer or guess that he thinks or feels. This sympathetic and discerning obituary notice is rounded off with a note on Mercier's literary style by the secretary of the Casual Club; with Osler's tribute quoted from our columns; and with a fitting extract from one of Henley's *Echoes*, which must often have passed through the minds of those aware of Mercier's indomitable courage "under the bludgeoning of chance."

INFLUENZA.

Too late for notice in our last week's issue, the Ministry of Health issued a statement as to the present position of influenza in this country. The weekly returns of deaths from influenza (which we believe include all deaths in the certification of which the diagnosis of influenza as a primary or associated cause occurs) have increased since the beginning of the year, but the actual numbers are small, indeed smaller than during the period following the

epidemics of 1890–92, so that the Ministry does not think they need give rise to apprehension. On the other hand, there has been a fairly large increase of the notifications of pneumonia; these, however, cannot be checked by comparison with previous years, owing to the recent introduction of compulsory notification. The Ministry has information of epidemics of influenza in certain large schools situated in the south and south-west of England, and, although there are no immediate indications of a general recrudescence, it again directs attention to the general warning previously issued, and re-emphasizes the importance of attention to the measures therein advised. The Ministry goes on to report that public health authorities and the medical profession have already widely availed themselves of its assistance or advice in concerting appropriate measures to deal with a possible emergency. At the time of writing we have no information which would lead us to modify the official diagnosis of the position. It is true, we believe, that the increase of notifications of pneumonia has been arrested, but the deaths from both influenza and all forms of pneumonia are still increasing. It is, of course, normal for the mortality from respiratory diseases to increase through the first quarter of the year, but whether the actual rate of increase is within the limits of probable chance fluctuation is a question only to be answered after a minute inquiry, which is no doubt being carried out by the official committee. In most of the American cities which have experienced severe epidemics the disease is now subsiding. In New York, where 24,385 cases were notified in the week ending January 31st, and 21,674 in the following week, only 8,637 were returned for the week ending February 14th. Chicago reached its maximum as early as the week ending January 24th, Detroit in the following week. The American epidemics seem to have been widespread but less fatal than in the last wave. In New York the largest number of deaths was 956, in the week ending February 7th. Of course, these figures (as indeed those of notifications) are mere indices and have no pretension to be exact. Information as to the European position is vague, but at Copenhagen the notifications declined from 11,038 in the week ending February 7th to 8,368 in the following week. In the official statement it is said that competent American medical authorities consider the disease to be the same as that which was prevalent eighteen months ago, but of a less severe type. From the epidemiological point of view a most interesting feature is the fact that, despite the wide dissemination of the disease in epidemic form in America and the intercourse between the two countries, the only manifestations here so far have been in communities little exposed to foreign importation. This is not, indeed, a novel point, but it is none the less remarkable.

THE PORTAL FOR ACUTE POLIOMYELITIS.

THE low morbidity of acute poliomyelitis, even during severe epidemics, has been ascribed to a relative insusceptibility which is no real explanation, or to a specific protection, due to an unperceived active immunization by the virus, of the community. No systematic study of the blood of exposed persons who have remained free from poliomyelitis has been published; some observations on the blood of doctors, nurses, and others repeatedly exposed during the epidemic of 1916 were made by Flexner, but they did not yield definite evidence of the presence of specific antibodies. In 1917 Amoss and Taylor showed that in man the nasal mucous membrane exerts a local protective action and neutralizes or destroys the virus of acute poliomyelitis. In order to throw light on this defensive power Flexner and Amoss[1] have carried out a number of experiments on monkeys. Although the intranasal introduction of cotton-wool containing the active poliomyelitis virus may infect the monkey, all the monkeys thus treated are not affected, and the successes are less than by the intra-cerebral route, and it appears that an efficiently acting nasal mucosa both prevents the passage of an energetically applied virus to the brain and spinal cord and also leads to the disappearance of the virus from the nasal mucosa in a relatively short time, whereas an inefficient mucosa allows the virus to persist for an undetermined period. The incidence of healthy and chronic carriers of the poliomyelitis virus is probably determined by the protective power of the nasal mucous membrane. It is important to recognize that the application to the mucosa of chemical antiseptics does not exert any beneficial influence and may, indeed, do harm by unfavourably modifying the protective powers of the mucous surface. Some further experiments showed that infection with the virus of poliomyelitis, applied to the nasal mucosa under conditions favourable to extension to the central nervous system and to multiplication there, can be prevented by the intravenous injection of poliomyelitis immune serum, the meeting place of the virus and the serum being probably in the subarachnoid space.

[1] S. Flexner and H. L. Amoss, *Journ. Exper. Med.*, Baltimore, 1920, xxxi, 123-134.

NATURE AND TREATMENT OF HYPERPYREXIAL HEATSTROKE.

To the first number of the *British Journal of Experimental Pathology* Dr. W. Cramer contributes the results of an investigation on the mode of action of a chemical substance, beta-tetrahydronaphthylamine, which produces fever. He found that it caused prolonged sympathetic stimulation associated with over-activity of the thyroid-adrenal apparatus, and that the increased production of heat and diminished loss resulting from this induces pyrexia, which from its origin he called "sympathetic fever." If experimental animals are kept in a cool atmosphere the increased loss of heat diminishes the height of the fever and may even prevent the body temperature from rising. Exposure to a warm atmosphere or crowding the animals together, by interfering with the rate of cooling, elicits a rapidly fatal hyperpyrexia. The circumstances under which it is produced and the conditions found *post mortem* present a striking resemblance to hyperpyrexial heatstroke in man. The explanation of hyperpyrexial heatstroke in man suggests that an extrinsic factor (deficient cooling due to conditions of environment) acts upon an organism which is under the influence of prolonged sympathetic stimulation due to the excessive activity of the thyroid-adrenal apparatus. In the treatment of the condition in man the first essential is to reduce the temperature by drastic cooling, which should be instituted during the prodromal stage described by Hearne in our columns (vol. i, 1919, p. 516). The principal symptom in this stage is suppression of sweating, which may be present from one to forty-eight hours before the attack. In discussing accessory methods of treatment Cramer condemns the injection of saline or other fluids, and observes that it is not clear how venesection can combat the condition, though it may relieve the symptoms. Morphine was found useless to arrest experimental heatstroke. A chart of the effect on a rat shows an initial fall of temperature, followed within two hours by a rapid rise, which, however, was not accompanied by excitement; the temperature eventually rose higher than in another animal which had not received morphine, and both died at about the same time within four hours of the beginning of the experiment. Chloral was found a much more suitable drug in experimental heatstroke. In mice and rats it was found possible to delay the onset or prevent heatstroke altogether by a dose of chloral, which produces slight anaesthesia if given alone. It was necessary, however, to repeat the dose, for as soon as the narcotic effect passed off the temperature began to rise. The effect of chloral is

thought not to be specific, but to be due to the condition of anaesthesia it produces, for there is evidence that in anaesthesia the effect of a given dose of adrenin is less than in a normal animal. Whether this observation can be applied to man is not known.

PROPOSED ALL INDIA RESEARCH INSTITUTE.

PROFESSOR E. H. STARLING, F.R.S., has sailed for India to advise as to the locality and equipment of an All India Research Institute. The Government of India already maintains several research institutes, but the Director-General stated a year ago that it was a matter of urgency to establish an additional research institute in a central position, where opportunities for clinical investigations would be available. Delhi, the new capital of India, was suggested as a site for a new institute to serve as the head quarters of the research organization, but other places have been mentioned. It may be added that the Indian Medical Research Fund Association, which has an income of five lakhs (approximately £33,000) a year, will continue to organize research in India by engaging, financing, and equipping men for special research work. The bacteriological department, a central organization under the Government of India in the Department of Education, has a staff of thirty officers employed to staff the research institute at Kasauli, the Pasteur Institute of India, the provincial laboratories, the provincial Pasteur institutes, and for pure research work. The Imperial Research Institute, which it is now proposed to establish, will be directly under the Central Government, but it is hoped that provincial governments will develop existing facilities for research by establishing additional research institutes of their own. Professor Starling, we understand, expects to be absent from this country for about three months. It was understood some time ago that Sir D. J. Tata, senior partner of Tata, Sons, and Co., of Bombay, contemplated the foundation and endowment of a large independent research institute in medicine as a complement to the chemical and physical research institute at Bangalore. Nothing has been heard recently of this proposal.

THE NOTIFICATION FEE AND THE END OF THE WAR.

WE announced at the time that the Ministry of Health, in a circular dated December 20th last, stated that the medical practitioner's fee for notification of a case of infectious disease would revert to 2s. 6d. on the date of the termination of the war as fixed by Order in Council. There is as yet no indication when that Order in Council is likely to be issued. As long ago as last July the War Office assumed that the official date of the termination of "the present emergency" would be August 4th, 1919. It may be a convenience to the bureaucracy, but we cannot see that it is in the public interest to delay fixing the official date of the end of the war until the formalities of peace have been ratified with countries which ceased to be in arms against us sixteen months ago. It is to be hoped that this matter will soon be raised in Parliament. It is possible that the real motive, whatever it be, for postponing the issue of the Order in Council will, even so, not be brought to light; but if the House of Commons presses for an explanation the bureaucrats may find it convenient to stop further inquiry by getting the Order issued before the last solemnity is concluded with Turkey or Bulgaria, or whichever of the beaten nations happens in theory to be still at war with us. Unless awkward questions are put in public, the continuance of frontier skirmishes with some hill tribe in North-West India will, perhaps, seem to the official mind a good enough pretext for holding civilian doctors in the army abroad, and for paying a shilling for notification of infectious diseases at home.

THE REGIUS CHAIR OF MEDICINE AT OXFORD.

THE King, on the recommendation of the Prime Minister, has approved the appointment of Sir Archibald E. Garrod, K.C.M.G., M.D., F.R.S., to be Regius Professor of Medicine in the University of Oxford, in the room of the late Sir William Osler. We congratulate Oxford on securing for its chair of medicine so distinguished a scientific physician, and a teacher held in such affection by his pupils. Sir Archibald Garrod is physician to St. Bartholomew's Hospital, and consulting physician to the Hospital for Sick Children, Great Ormond Street. He served during the war as consulting physician to the Mediterranean Forces with the rank of Temporary Colonel, A.M.S., and after his return was appointed Director of the newly formed medical "element" in the clinical teaching unit at St. Bartholomew's. He was Bradshaw lecturer in 1900 and Croonian lecturer in 1908 at the Royal College of Physicians of London, and was elected a Fellow of the Royal Society ten years ago, largely in recognition of his work in chemical pathology. In 1914 he gave the address in medicine at the Annual Meeting of the British Medical Association at Aberdeen, and received the LL.D. of that University *honoris causâ*. His war services were rewarded with the C.M.G., and later the knighthood of the same Order; and the University of Malta conferred on him the honorary M.D. degree. All who have been associated with him at home and in the army will welcome Sir Archibald Garrod's appointment to be the head of the medical school in his own great University, and will wish him success and happiness in a post so well suited to his character and attainments.

WE understand that Captain W. E. Elliot, M.C., has succeeded Dr. A. C. Farquharson as Secretary of the Committee of Medical Members of the House of Commons. We understand also that Lord Dawson of Penn has consented to co-operate with the committee.

THE lectures and practical instruction for a diploma in psychological medicine at the Maudsley Hospital, Denmark Hill, S.E.5, having now been arranged, Sir Frederick Mott will be glad to meet medical officers of asylums and practitioners desirous of attending the course on Wednesday, March 10th, at 2 p.m., at the hospital, in order to arrange the days and hours to suit the convenience of the greatest number.

AMONG those recommended by the Council of the Royal Society for election as Fellows are Dr. E. P. Cathcart, professor of chemical physiology in the University of Glasgow, and Dr. J. J. W. Stephens, professor of tropical medicine in the University of Liverpool. The other new Fellows include Dr. F. H. A. Marshall, lecturer in agricultural physiology, Cambridge, Mr. A. W. Hill, assistant director, Kew Gardens, and Dr. Robert Robinson, professor of organic chemistry in the University of Liverpool.

THE appointment of the Right Hon. Sir Auckland Geddes, K.C.B., M.D., as His Majesty's ambassador extraordinary and plenipotentiary in Washington, is announced this week. The broad details of his career, both as teacher of anatomy before the war, and as administrator and statesman during the past five years, are well enough known to our readers. No member of the medical profession, so far as we are aware, has hitherto served as British Ambassador to a foreign country. In consequence of this appointment Sir Auckland Geddes has resigned the post of Principal of McGill University, accepted by him last year with the intention of returning to Montreal on his release from Cabinet office in London.

Medical Notes in Parliament.

National Insurance Amending Bill.—Dr. Addison, on March 1st, formally introduced the National Health Insurance Bill "to amend the Acts relating to National Health Insurance." It was backed by Mr. Munro (Secretary for Scotland) and by Mr. Macpherson (Chief Secretary for Ireland), and ordered to be printed. The main provisions were stated in the SUPPLEMENT of January 24th, page 20.

Insurance Administration.—In reply to Mr. Charles Edwards, Dr. Addison said, on February 24th, that in response to representations received from a large number of approved societies he hoped at a very early date to introduce a bill to revise the present scales of insurance benefits and contributions, and this would make it possible to increase the amount for administration.

Infectious Diseases at British Ports.—In reply to a question by Lieut.-Colonel Raw, Dr. Addison, on February 26th, said detailed consideration was being given to the danger of the introduction of infectious diseases through the ports of this country in view of the widespread prevalence of small-pox, typhus, and other epidemic diseases abroad. Special arrangements have been made with the Foreign Office and the Colonial Office whereby periodical and continuous information was received and appropriate action taken. A weekly bulletin was forwarded from the Ministry to the medical officers of health of the Port Sanitary Authorities in this country, and special bulletins when occasion required. The powers at present possessed by Port Sanitary Authorities were inadequate. Regulations would shortly be issued with the object of obtaining a greater security against the introduction of infectious diseases in this country from abroad and of increasing the efficiency of Port Sanitary Administration, and arrangements had been made with the Treasury for the provision of special financial assistance.

The Welsh Board of Health.—Dr. Addison, on February 26th, informed Mr. A. T. Davies that the Welsh Board of Health did not include a woman representative. An increase in its membership was being considered, and the point referred to would be borne in mind.

The Training of the Blind.—Dr. Addison, in reply to Mr. R. Young, on February 25th, said it was not possible to give figures as to the expenditure of the Poor Law authorities on the training of the blind, as no separate record was kept by the authorities. On March 1st Mr. Lloyd George said that the Minister of Health was giving special consideration to the matter of the training of the blind, in consultation with the Advisory Committee on the Blind, and it was hoped that some satisfactory steps might be taken in the near future to deal practically with the matter.

Morphine, Morphine Salts, and Opium.—In a written reply to Mr. Gilbert, on February 24th, Mr. Bridgman stated that the quantity of morphine and morphine salts registered as exported from the United Kingdom in the year 1919 was 322,970 oz., of which 121,474 oz. went to the United States. The records show that no morphine and morphine salts were exported to Japan. No particulars were available with regard to consignments by post. The quantities of opium registered as imported in the United Kingdom during 1919 from British India, Persia, and Turkey respectively were as follows: British India, 466,475 lb.; Persia, 30,558 lb.; Turkey (European), 204,966 lb.; Turkey (Asiatic), 133,157 lb.

Naval Medical Service Promotions.—Sir Watson Cheyne asked the First Lord of the Admiralty, on February 25th, if he was aware that the proportion of surgeon captains to surgeon commanders was 1 to 19, of paymaster captains to paymaster commanders was 1 to 11, of engineer captains to engineer commanders 1 to 9½, and of executive captains to executive commanders 5 to 9; and whether he realized that this point was a serious matter for the Naval Medical Service and might markedly increase the difficulty of recruiting for that service; and whether any steps were being taken to remedy this disparity between the various branches of the service and at least to place the surgeon captains on the same basis as the paymaster and engineer captains. Dr. Macnamara gave a written reply as follows: "The proportions are approximately as stated, though the proportion of surgeon captains to surgeon commanders is more correctly 1 to 17.4. At the present time, however, there is a considerable surplus in the number of surgeon commanders and a shortage in the junior ranks, so that normally the proportion of surgeon commanders would be very much less. The question of the number of higher ranks in the Naval Medical Service has been under consideration, and it has been decided to increase the number of surgeon rear admirals to 6, and the number of surgeon captains to 16, excluding one officer specially promoted to that rank for service during the war. The numbers will be further considered as necessity arises, dependent in all cases on the requirements of the Naval Service. It may be pointed out that the conditions of service of medical officers in the Royal Navy have been very appreciably improved as a result of the recommendations of the Jerram-Halsey Committee, as not only have the rates of pay been increased but the period of service for promotion from surgeon lieutenant to surgeon lieutenant commander has been reduced from eight years to six years and similarly that for promotion from surgeon lieutenant commander to surgeon commander, a reduction of four years in all. The earlier advancement to surgeon commander thus authorized has increased the apparent disparity of numbers of the higher ranks."

Naval Officers' Income Tax.—Mr. Long, replying to several questions on February 25th, said it was considered by the Government that there was no justification for treating naval officers in the matter of income tax differently from the rest of the community, and it was therefore decided that tax at the ordinary civilian rate should be charged as from the beginning of the ensuing financial year. The rates of pay approved were substantially those recommended by the Halsey Committee, and were deemed adequate, notwithstanding the Committee's report that any increase in the rate of income tax would necessitate increased scales of pay. Mr. Long demurred to Viscount Curzon's suggestion that owing to the present position of naval officers with regard to income and the withdrawal of children's allowances the increase of pay would all be absorbed.

Officers' Pensions on Continued Service.—Mr. Long, on a question by Rear Admiral Adair, on February 25th, said that a naval officer due to retire during the war, but who was kept on, could count such kept-on time for increase of pension, in accordance with pre-war regulations, if it were to his advantage. Alternatively, he might under the concession recently granted to these officers, as the result of a recommendation of the Officers Pay Committee, receive a bonus of 25 per cent. on his full pay in lieu of counting such kept-on time for increase of pension. Officers retired before the war, on the other hand, were entitled only to receive the bonus of 25 per cent. on their full pay in lieu of counting their service for increase of retired pay. The 25 per cent. bonus was calculated on the full pay of an officer's rank on the retired list and not upon his pension. It was granted in lieu of counting service for increase of retired pay, and was not in the nature of compensation for disturbance.

Disability Partly Due to Military Service.—Sir L. Worthington-Evans, on February 26th, in reply to Captain Loseby, said that in the case of a man suffering from two disabilities, one of which was attributable to or aggravated by service and the other not so attributable or aggravated, pension was awarded in respect of that disability which was connected, either wholly or in part, with military service. In the case of a man who suffered from a disability prior to enlistment, and on or after discharge was found to be suffering from the same disability in an aggravated form, the increase in disablement was considered attributable to military service, and pension was assessed on the total extent of the disability.

Army Officers in India.—In answer to Lieut.-Colonel Brickley, on March 1st, Mr. Churchill said there were in India forty-one officers of the Royal Army Medical Corps whose tour of service had expired. Twenty-four regular officers were under orders for India, and would be employed for the relief of tour-expired officers and towards completing the permanent establishment of the Royal Army Medical Corps in India.

Territorial and Special Reserve Officers R.A.M.C. in Mesopotamia.—Sir Watson Cheyne asked, on March 2nd, whether the War Secretary was aware of the grave discontent among the Special Reserve and Territorial Force officers of the Royal Army Medical Corps in Mesopotamia, owing to the fact that they could not be relieved, some having spent two or even three hot seasons in Mesopotamia without leave, and especially in view of the prospect of having to spend another hot season, and whether steps would be taken to give relief to them. Mr. Churchill replied that some of these officers, in common with the regular Royal Army Medical Corps and the Indian Medical Service, had leave due to them. This was a matter for the local military authorities, but the granting of leave necessarily interfered with the release of officers eligible for demobilization. Regular officers of the Royal Army Medical Corps were being sent out as they became available to replace officers of the Special Reserve and Territorial Force where demobilization had been applied for.

Lunacy Statistics.—Major Baird (Under-Secretary to the Home Office) on March 1st informed Major Wedgwood that on January 1st, 1920, there were in public or private lunatic asylums in England and Wales 96,344 patients (42,294 males and 54,050 females). The total included 3,739 ex-service men classified as "service" patients, and a small number of ex-service men, whose classification as "service" patients the Ministry of Pensions had found themselves unable to sanction, or whose classification as such was pending. There were on the same date 270 persons (males 108, females 162) voluntary boarders in private asylums, but none temporarily detained. Dr. Addison, in reply to Mr. Hurd on March 1st, said there was no legal authority under which boards of guardians should be repaid at least one-half of the actual cost to them of every pauper lunatic maintained in a county asylum. Dr. Addison added, in reply to another question, that in view of contemplated Poor Law reform legislation could not now be undertaken.

The Administration of the King's Fund.—The Minister of Pensions, on February 26th, stated, in answer to Captain Coote, that the total number of grants made from the King's Fund was 36,303 and the payments amounted to £1,137,459 0s. 3d.

The cost of administration did not fall on the fund, but was borne as part of the general administrative expenses of the Pensions Minister. It was estimated at about £35,000, exclusive of an additional administrative expenditure by Local Committees.

Treatment of Syphilis.—On February 24th Mr. Waterson asked a question with regard to the deaths recorded by Colonel L. W. Harrison in his paper on army medical experience of venereal disease during the war, contributed to the Special Clinical and Scientific Meeting of the British Medical Association in London last April, and published in the *Proceedings* of that meeting. (It appeared that there had been 36 deaths among 39,377 cases treated.) Dr. Addison said that a special committee had been appointed by the Medical Research Committee, and that part of its reference was to inquire into the toxic effects of arsenobenzol compounds. Mr. Waterson then made an inquiry with regard to the report of the German Commission, the substance of which we published some time ago. Dr. Addison said that he intended to procure the report, and would consider whether a translation should be made.

Hospitality for Austrian Destitute Orphans.—The Prime Minister, in answer to Mr. Ormsby-Gore on February 26th, stated that a scheme had been submitted by responsible persons to the Home Secretary for bringing a number of Austrian children to the United Kingdom, where they could be placed in suitable surroundings. Subject to the Ministry of Health being satisfied that the proper precautions would be taken to safeguard the health of the people in our own country, the scheme had been approved, and the details were now being worked out in consultation between the Home Office and the Ministry of Health. He understood that large numbers of Austrian children had been sent to other countries, but he had no information as to the arrangements made for their reception. Asked by Sir Clement Kinloch-Cooke if care would be taken to see that there was enough milk to go round, Mr. Lloyd George said that was a consideration that the Health Ministry would take into account.

Insanitary Conditions at Theatres.—In answer to Mr. Jesson, on February 26th, Dr. Addison said he had received communications from the Actors' Association complaining of insanitary conditions in some provincial theatres, and he had told them that if they failed to get such conditions remedied by the local authorities of the district, and would bring the case before him, he would consider whether he could take it up with the local authority.

The Taxation of Invalid Chairs (Motor Driven).—Mr. Maclean asked, on February 26th, whether the revenue authorities were levying a tax on all disabled persons who attached a motor to their invalid chair; and whether, in view of the number of disabled soldiers compelled to use this method of conveyance, the Chancellor of the Exchequer could see his way to exempt them from taxation. Mr. Chamberlain subsequently replied that mechanically-propelled invalid chairs, if used upon the public highway, were liable to motor car licence duty. The whole question of the taxation of mechanically-propelled vehicles was under the consideration of a departmental committee appointed by the Minister of Transport, and a particular point raised must await the report of the committee.

Drunkenness Statistics.—Mr. Shortt, on March 1st, gave the following figures for England and Wales:

	1913.	1914.	1919.
England ...	177,971	174,451	54,947
Wales ...	—	—	2,964

The figures for Greater London during the month of January for seven years were:

January, 1914	...	5,066	January, 1919	... 1,037
January, 1918	...	1,015	January, 1920	... 2,762

Small-pox in Germany.—At the instance of Mr. Lunn, Dr. Addison, on March 1st, gave the following information as to small-pox in Germany: There was an epidemic during 1917 comprising some 3,000 cases, the origin of which was traced to infection brought into Germany by Russian prisoners. During 1918 cases continued to occur, and numbered (so far as his information went) to about 300. In December of that year there was a recrudescence of the disease, and down to the end of 1919 about 4,344 cases had been reported. Of these some 800 occurred at Dresden and about 164 in Danzig. Amongst the other places at which small-pox was prevalent in 1919 were Oppeln (311 cases), Königsberg (88), Stettin (24), Breslau (58), Berlin (25), and Cassel (34), but the number of deaths had not been reported. In 1917 and 1918 there were many foreigners in Germany—prisoners, refugees, and others, including Russians, Poles, Austrians, Italians, Belgians, and French—and it was more than probable that many of these foreigners were unprotected by vaccination. Separate statistics as to Germans and foreigners attacked were not available.

THE book on *The Chamberlens and the Midwifery Forceps*, by the late Dr. Aveling, published in 1881, has become rare. Mr. Alban Doran has recently presented to the Library of the Royal College of Surgeons of England a copy in memory of the late Charles Louis Taylor, Assistant Editor of the BRITISH MEDICAL JOURNAL, from whom he had received it as a gift some years ago.

STATE GRANTS FOR SCIENTIFIC INVESTIGATION.

DEPUTATION TO THE LORD PRESIDENT.

A JOINT deputation from the British Medical Association and the British Science Guild waited upon the Right Hon. A. J. Balfour, Lord President of the Council, at the offices of the Privy Council on March 2nd, to place before him certain considerations with regard to State awards for scientific research. Sir WATSON CHEYNE, Bt., M.P., introduced the deputation, which included Sir Clifford Allbutt, K.C.B. (President of the British Medical Association), Sir Ronald Ross, K.C.B., Professor Benjamin Moore, F.R.S., Mr. E. B. Turner, F.R.C.S., Sir Richard Gregory, F.R.A.S., Dr. R. T. Leiper, Lieut.-Colonel W. A. J. O'Meara, M.Inst.C.E., Dr. D. Sommerville, and Dr. G. C. Anderson, Deputy Medical Secretary of the British Medical Association. The following members of Parliament were present: Sir Philip Magnus, Dr. Nathan Raw, and Dr. W. E. Elliot. Mr. Balfour was accompanied by Sir George Newman, K.C.B., M.D.

Sir WATSON CHEYNE said that the object of the deputation was to bring forward the question of State awards for scientific work after such work had been done. Scientific workers were assisted by scholarships and so forth while doing their work, but after it was done there was at present no provision for them, although, excited by the interest of their investigation, they had often neglected to make any provision for themselves. Moreover, it was the tradition that a scientific man should immediately publish his discoveries, making no attempt to conceal any knowledge in order to secure personal advantage.

Sir CLIFFORD ALLBUTT referred in particular to the conditions under which medical men worked. Those conditions were governed by the very high standard of ethics maintained in the profession. No medical man could have honour in the profession if he descended to any kind of direct or indirect advertisement. No medical man was permitted to take out a patent. The large hospitals no doubt gave a field to the clinical worker which might offer considerable indirect reward, but that did not apply to the research worker, who was rather hidden behind his work. He knew men of very high academic attainments working enthusiastically at research who were declining lucrative appointments in order that they might finish—which they never did, of course—their experimental investigations. It was from such disinterested research—not utilitarian nor aimed at sensational or immediate results—that the greatest benefits accrued to mankind. He himself was chairman for some years of the Scientific Relief Committee of the Royal Society. Mr. Balfour would perhaps be surprised if he were to tell him privately the names of the very distinguished scientists who, or whose representatives, came forward to ask for grants in order to tide over a time of great difficulty. It was desirable to attract a great many more potential workers. The field of comparative pathology, for example, lay untilled; at present it offered no reward, direct or indirect. It would be said that the Treasury must be careful about expenditure, but he feared that the expenditure under this head would not be very great. He was afraid that the highest kind of intellectual research was rather scarce, and consequently the demands for grants would not be so heavy as might be anticipated.

Sir RICHARD GREGORY said that in medicine the great experimental work was rarely done by the successful practitioner or consultant. It was carried out in the research laboratories by men who occupied posts carrying only moderate salaries. There was the further consideration that the highest type of worker—the genius—in medicine or any other department of science was precisely the man who was not amenable to control—the free worker who followed up a clue in some department of knowledge to the willing sacrifice of himself. There should be a fund of some kind for making suitable awards, to be considered as payment for results achieved, and not as grants for favours to come. The scientific worker (he added), unlike the worker in literature or art, could not dispose of his achievement to the public for profit.

MR. BALFOUR'S REPLY.

Mr. BALFOUR said that he had always been an advocate—even a vehement advocate—of two things which, until quite recent years, the British public had been very slow to realize: the one, that the material progress of mankind depended upon the applications of science, and the other, that there must be pure science before these could be applied. While that was still worth saying even now on the public platform, it was a commonplace to everybody sitting around that table. They were all agreed that the State—which, after all, represented the people of the country and could not be in advance of them by more than a certain amount at any given time—had been backward in the past in its support of science. The only difference among them, if there was any difference, was as to the way in which the stimulus could best be given to those brains in the country best qualified to further scientific research and the subsequent industrial research based upon it. The view of the deputation, as he understood, was that when a man whose opportunities and genius permitted him to work at research had turned out some brilliant discovery the State should give him a reward.

Everybody must feel that the straits to which many distinguished men of science were reduced after devoting their whole lives to research without any desire for pecuniary reward were rather pathetic, and in many cases discreditable. For his own part he thought it most desirable that some remedy should be found. But he wondered how many such people would get the reward under the scheme which in rough outline had been laid before him that day. He thought the truth was that in the case of the very great discoveries, while it was often possible to go back to the individual who started the train which led to the great result, he himself had not directly produced that result. Faraday did not discover the telephone or wireless telegraphy or a practical method of electric lighting; what Faraday did was to make all those things possible, to lay the scientific basis of them. It was not easy to see how the reward was always or even commonly to be got into the right pocket. The amazing progress which medical science had recently made in stamping out certain forms of zymotic disease was, indeed, a wonderful triumph; but it was very hard to pick out the individuals to whom that triumph was due. If he might put himself in the unfortunate position of a Prime Minister, the difficulty of saying that A. should have the money which was available, or that B. should have it, would be very great, even though he took the best advice obtainable. There would be certain dramatic cases in which the whole public would be behind the Prime Minister in apportioning a particular reward, and yet when the historian came to look back upon the long labours which had made the triumph possible, might not he have to say that the genius to whose intuition and inspiration the achievement was really due had died unrewarded? Did anybody think that Maxwell, for instance, would ever have come in for any share of this parliamentary grant, seeing that his discoveries were such as very few were capable of comprehending in the form in which he gave them to the world? Yet his discoveries lay at the root of much of the subsequent progress in physical science. Sir Clifford Allbutt had pointed out that this was not asking very much from the taxpayer, because the number of people who would actually get the reward was so small. But, looked at from the point of view of the encouragement of research, that meant that a young man, going into research, and surveying the possibilities of reward, would find he had the chance only of one in ten thousand. He might contribute himself as a collaborator to the great discovery for which somebody else, quite properly, got the chief credit. The collaborator, on this plan, got nothing, yet without the collaboration of people not in the first rank could progress be made? Germany had never excelled this country—he would like to use a stronger phrase, but he would be nationally modest—in the production of those genuises who started original discovery; but it had surpassed this country in the organization of men not of the front rank whom it had brought together in co-operation towards a common end. He did not see how the investigations of a body of co-operative workers could be stimulated by rewarding a few isolated individuals. At any rate, he saw difficulties. Was there not more to be said for some attempt to stimulate research by improving the position of the researchers while they were doing their work? He was told the other day that there were people carrying on research work at Cambridge for a smaller remuneration than the town council of Cambridge paid to its unskilled employees. This showed that there was still a great deal to be done in the way of aiding research while it was proceeding. He agreed entirely with Sir Richard Gregory that while the State might aid research it would only destroy research if it were resolved to control it. The best men would not be controlled. The State was incapable of forming a judgement on the merits of an abstruse physical or physiological inquiry. That must be left to the genius of the men themselves. But he hoped it did not follow that it was quite impossible to combine with that independence of the worker some better reward for the work he was doing. He was afraid, however, that if the Treasury were represented at that assembly, it would say it preferred the original scheme laid before him by Sir Watson Cheyne. The framing of any such ideal scheme would require a great deal of thought.

In conclusion, Mr. Balfour said that while he had spoken for himself alone, he was also there in some sense as representing the Prime Minister, and he would like to add that there was no man living who had shown a greater sympathy with scientific development than Mr. Lloyd George, who had been responsible for some of the greatest advances which had been made in the direction of State aid for scientific and medical research. When he reported to him what had passed that day, they might be sure the Prime Minister would give it the most sympathetic consideration. He was far from laying it down that the State should not on occasion imitate our forefathers in the case of Jenner and offer a pecuniary reward to some great man of science whose services had been exceptional and whose achievements were obviously his own. But he would not wish that to be a part of the regular system of dealing with discovery in this country. He hoped that what the Government had already done would be found to be far greater in its ultimate results than perhaps the public at large, or even men of science, as yet had realized. He feared that they had not been supported as they might have been by men of great wealth in this country. There had been admirable exceptions, but either we had fewer millionaires than the Americans or we were less lucky in them, for there was no doubt that private individuals across the Atlantic had contributed on a scale which did justice to their generosity and was likely to produce great results for the whole world. Probably it was out of the question to hope completely to emulate them, but he did not despair that among the wealthy men in this country some might be found, in addition to those who had already shown themselves generous benefactors, who would do much to aid and stimulate that research into the laws of nature and that application of those laws upon which our main hopes for the amelioration of the lot of the human race must depend.

Sir RONALD ROSS said, with regard to the difficulty of selecting men for these prizes, that the proposal of the deputation was that the £20,000 suggested should be divided into ten pensions of £1,000 each and twenty pensions of £500 each, or, of course, it could be further subdivided. The selection of participants was simply a matter of thorough examination of details. The Royal Society gave, not pensions but honours, and the most careful examination was made. The Nobel prizes also were given with very great care, a register being kept even more elaborate than that of the Royal Society. He suggested that a committee be appointed, preferably consisting of the medical members of the House of Commons, to draw up the best possible scheme for giving these prizes.

Mr. BALFOUR said that he took it that what was proposed was in the nature of an addition to the Civil List Fund. The deputation was asking the Government to take a course with regard to the medical profession; but it could not stop at the medical profession. The provision must cover all branches of scientific research. Sir RONALD ROSS agreed.

Sir WATSON CHEYNE having thanked Mr. Balfour, the deputation withdrew.

England and Wales.

DISTRICT NURSING IN LONDON.

THE annual meeting of the Central Council for District Nursing in London was held on February 26th, Sir William J. Collins presiding. The fifth annual report (summarized in our last issue) was adopted on the motion of Mr. E. B. Turner, chairman of the Executive Committee. In reply to a question by the Rev. G. Bell Doughty with regard to the sum of £10,000 entrusted to the Council by the British Red Cross Society, Mr. Turner said that the distribution was still under consideration. The decision would be announced at the earliest possible moment. Replying to a further question regarding the grant of £500 from the London Insurance Committee, Mr. Turner said that it was hoped it was only a beginning, and that approved societies also would help. The nurses controlled by the various associations affiliated with the Council nursed insured persons in the same way as others. As the funds at disposal increased it was hoped to add to the staff of nurses and to improve the general service. The meeting resolved to make arrangements with the District Nursing Association for securing home nursing services for insured persons in all parts of London, and to continue the negotiations with a view of obtaining contributions from approved societies for the nursing of their members. The meeting approved the decision of the Executive Committee informing district nursing associations that a condition of a grant would be that the minimum salary of a resident nurse should be not less than £50 clear, and of a non-resident nurse not less than £50, with a reasonable allowance for board and lodging. It was reported that an informal conference on maternity nursing had been held with the medical officers of health of the metropolitan boroughs. The matter was inextricably connected with the provision of midwives. The fact that medical practitioners were abandoning midwifery work except as consultants made the demand for nurses for cases attended by doctors smaller. A fully-trained nurse would not work under a midwife with six months' training, yet the midwife was frequently unable to nurse all her patients adequately. Dr. D. S. Roxburgh suggested that the attention of the Minister of Health should be drawn to the serious result of recent legislation in diminishing the attendance of medical practitioners in midwifery cases. The Chairman promised a further report on the matter, also on the adequacy and efficiency of the district nursing provision in London, and on the desirability of extending the work of the Central Council beyond the county area.

EARLY CARE OF MENTAL CASES IN SOUTH WALES.

The movement to establish a clinic in psychiatry in Cardiff is making progress. The Committee which has the matter in hand contains representatives of the Cardiff City Mental Hospital at Whitchurch and the University College of South Wales; it recently asked the Board of Management of King Edward VII Hospital (formerly known as the Cardiff Infirmary) to allow the out-patient department of the clinic to be instituted at the hospital as part of the present out-patient department. The Medical Board recommended that the request should be granted, and the Board of Management has now unanimously agreed. The effect of this will be that as soon as the necessary arrangements have been made, cases of mental disorder in their early phases will receive advice and treatment in the out-patient department of King Edward VII Hospital. When in due course an in-patient psychiatric clinic is established, it is intended that the out-patient department shall still remain at the hospital. Cardiff is the centre for a very large part of South Wales, including many of the mining districts, so that the advantage of this new out-patient clinic will be enjoyed by a large population. The progress of the movement will be watched with interest by all who know the importance of early treatment of mental disorder, and realize that the arrangements at present existing are inadequate. We have no doubt that the new out-patient clinic will eventually, and we hope before long, lead to the establishment of an indoor clinic.

MEDICAL PRACTITIONERS' FEES IN MIDWIVES' CASES.

The Midwives Acts Committee of the London County Council has reported its general agreement with the amended scale of fees to medical practitioners called in by midwives to assist in cases of emergency, as given in the circular letter which the chief medical officer of the Ministry of Health has addressed to the local supervising authorities under the Midwives Acts. The principal representations which the Ministry of Health has transmitted to these bodies for consideration are (1) that it is undesirable to distinguish between operative and other confinements; (2) that a special fee should be prescribed for certain operations usually performed after the birth of the child for which the fees for ordinary subsequent visits do not afford a sufficient remuneration; and (3) that in view of the rise in prices the fee for visits should be increased. The Midwives Acts Committee, however, does not agree with the proposal in the circular letter to fix the fee for all attendances at parturition at a flat rate of £2 2s. In some cases this would not be adequate; in others it would be comparatively high. The Committee proposed to ask the Ministry to allow the scale in this respect to remain as at present, but that local supervising authorities should have a discretionary power to pay a higher fee in operative or difficult cases.

Scotland.

THE EDINBURGH BRANCH.

THE winter clinical meeting of the Edinburgh and some other Scottish Branches of the British Medical Association was held in the Royal Infirmary in Edinburgh on February 27th, and proved a conspicuous success. The museum, in the pathological department, was visited by a great many members during the day. From 11 a.m. until 3.15 p.m. a number of excellent demonstrations, arranged by Dr. John Eason, were given in the wards and special departments by Mr. D. Lees, Dr. William Sym, Dr. Dawson Turner, Dr. Hope Fowler, Dr. A. McKendrick, Dr. Norman Walker, and Professor Meakins. At the clinical meeting in the afternoon the large surgical theatre was almost completely filled. Lieut.-Colonel John Keay, President of the Branch, was in the chair, and a number of interesting cases were shown. At 5 o'clock Dr. Alexander Blackhall-Morison gave an address on "The passive mechanical factor in heart disease: its influence and management," which we hope to print in a subsequent issue. A cordial vote of thanks and appreciation of the lecture was passed, on the motion of Dr. James Ritchie, a former president of the Branch. In the evening a dinner was held in the Royal College of Physicians, with Colonel Keay in the chair. At this enjoyable function fifty-two were present, including eight guests, among them being Dr. Blackhall-Morison, the Scottish Medical Secretary (Dr. J. R. Drever), the Chairman of the Scottish Committee, and representatives from other Branches in Scotland. The toast of the Imperial Forces was proposed by Dr. Playfair, and responded to by Surgeon Lieutenant-Commander Wilkie, R.N.V.R,, and Colonel Wade, A.M.S. The toast of the British Medical Association was proposed by Dr. George Mackay, President of the Royal College of Surgeons, Edinburgh, and acknowledged by Dr. Drever. The health of the guests was submitted by the President, and responded to by Dr. Blackhall-Morison and Dr. Matheson, President of the Royal Medical Society. The President's health was proposed by Dr. G. M. Robertson, professor of mental diseases in the University. Earlier in the proceedings Dr. A. H. F. Barbour, Vice-President of the Royal College of Physicians, in the unavoidable absence of the President, expressed the kindly welcome of the College to the Edinburgh Branch, and on the motion of Mr. F. M. Caird, emeritus professor of surgery, a former president of the Branch, a cordial vote of thanks was passed to the Royal College of Physicians for hospitably placing its hall at their disposal for the dinner. Many appreciative letters on the success of the whole day's programme have been received by Dr. John Stevens, honorary secretary of the Edinburgh Branch.

GRADUATE COURSES, EDINBURGH.

Short advanced courses for graduates will be held in connexion with the University and Royal Colleges in Edinburgh during the summer and autumn terms and the summer vacation if a sufficient number of graduates enter for the several courses. In certain instances a maximum limit will also be imposed. The courses will be conducted by teams of teachers and the following subjects will be included, namely: Clinical therapeutics, tuberculosis, diseases of the blood, diseases of the renal system, diseases of the alimentary system, diseases of the circulatory system, diseases of the ductless glands, abdominal surgery, genito-urinary surgery, surgery of children, clinical gynaecology and c inical obstetrics; diseases of the larynx, ear, and nose; ophthalmoscopy and errors of refraction, venereal diseases, advanced bacteriology, advanced medical anatomy, advan ed surgical anatomy, child welfare. Arrangements will also be made, if necessary, for special instruction in antenatal maternity work, psychiatry, and dermatology. Full particulars may be had on application to the Honorary Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

Correspondence.

ADENOIDS, NASAL CATARRH, AND INFLUENZA.

SIR,—Recent discussion in your columns as to adenoids and nasal catarrh seems to have taken one of those humorous turns which occasionally brighten the austerity of science, for it has tended to resolve itself into the question of to blow or not to blow the nose, and if the answer be in the affirmative, whether or not the drill master be required. Some laryngologists remember the suggestion made years ago that adenoids could be cured by respiratory exercises. Of course most of us knew that this was impossible, but we realized that where the amount of lymphoid tissue was small training in nasal respiration might turn the balance in doubtful cases and make operation unnecessary. The immediate result of the suggestion was, however, that breathing exercises began to be taught and the teachers developed systems. Now it followed that the simple became complex, and all sorts of unnecessary movements were introduced, this being required on behalf of the systems. As a matter of fact, breathing exercises are quite simple, but as we do not desire to produce good tone in one set of muscles only, they should form part of a course of physical culture; the instructor should at the same time be directed to devote special attention to nasal respiration.

Untold harm may be done if, owing to recent publications as to the efficacy of any form of breathing exercise or medicinal treatment, well marked adenoids which cause symptoms are not removed. We all realize that those symptoms vary from time to time, and this may have misled the more sanguine believers in nasal drill and medicinal treatment.

The striking letter of Dr. Wilkinson in your issue of February 28th touches a question of great interest. We hear and have heard a great deal about vaccines both for colds and influenza, but it has always appeared to me that the proof of their efficacy leaves much to be desired. We all know what is meant by influenza from one point of view, but to prove that one patient has a feverish catarrh and that another has influenza seems wellnigh impossible. I have taken more than a purely academic interest in this matter, for, after some years of leading an open-air life, I went back to hospital work during the war. In one year I suffered from three attacks, each presenting the features of influenza. One of my medical friends suggested the use of a vaccine, but I argued that probably immunity might have ensued from these attacks. During the remainder of my period of work I was not again affected, but had I been inoculated my case might have been quoted in favour of this method of prophylactic treatment.

The question of the definite diagnosis of influenza seems to present great difficulties, and as our confrères are but human may there not be a tendency to catalogue indefinite acute cases as influenza in the same way as the word "gout" is by some employed to embrace many chronic troubles? Years ago, when Pfeiffer's bacillus seemed to have an assured position as the etiological factor, I was confronted by this difficulty of diagnosis when I desired to make some observations on the effects of influenza.

I am, etc.,

Harrogate, March 1st. P. MCBRIDE.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—Dr. Baskett and I are agreed that poverty due to low wages was the chief cause of tuberculosis. We also are both of opinion that free trade was a main cause in the diminution of poverty and cheapening of food which produced the remarkable reduction in the death-rate. But while Dr. Baskett fixes his attention on this one factor, I cannot forget the numerous other causes—more or less independent of wages—which produce consumption. Take infection. Sir A. Newsholme has shown the close connexion between isolation in Poor Law infirmaries and the diminution of this disease, and this was due to paternal legislation and not to *laisser faire*. Then there are alcoholism, housing, workshop conditions, smoke, etc., which cannot be remedied by increased wages alone; they can only be dealt with by paternal legislation.

But Dr. Baskett is far from being an anarchist as one might have feared from his choice of watchword. He approves of Truck Acts and other legislation which does not increase taxation. He also, I take it, approves of voluntary insurance by friendly societies. Granted that such societies can do for 1d. what the State charges 1½d. for, does not the 1d. diminish real wages, even if to a lesser extent, and is it no compensation to the masses that for the extra ½d. the improvident are compelled to be provident?

Surely Dr. Baskett does not wish to abolish municipal isolation hospitals, public health departments, notification of disease, municipal sewers, water supplies, etc. But there are other means of insurance against disease, equally costly, and they must lower real wages just as much as the Insurance Act. Granted the Act is very imperfect and wants amending; but once admit—and I am sure Dr. Baskett admits—the brotherhood of man and the co-operative motto, "Each for all and all for each," I utterly fail to see that an Insurance Act is necessarily wrong in principle.

And do not Trusts increase the cost of living? Would Dr. Baskett apply *laisser faire* to these?

I am, Sir, appalled by the complexity of the question which Dr. Baskett finds so simple—"Oh, what a dusty answer gets the soul when hot for certainties in this our life." Dr. Baskett has made out an ingenious case for his theory, but I submit that it is not as simple as he would have it. He is too hot for certainties.—I am, etc.,

Worthing, March 2nd. SIDNEY DAVIES.

MALE STERILITY.

SIR,—In writing the brief article that appeared in your issue of January 3rd, under the heading of "Sterility in the Male," I little anticipated any danger of being drawn into the dust and turmoil of the battle at that time being waged in your correspondence columns over the subject of prophylaxis and venereal disease. But apparently the writers of the letter that appeared in your number of February 21st have discovered grave moral issues in my statement that prolonged and absolute continence has been said to produce a *temporary* azoöspermia or oligospermia. Surely my critics have overlooked the word in italics, for I cannot believe that the fear of incurring a temporary azoöspermia or oligospermia is likely to drive continent males from the paths of rectitude. However, lest such should happen, I would hasten to add that the evidence in favour of such a disability is very slender, for opportunities of proving or disproving the statement are naturally rare.

My article being on the subject of sterility in the male, and not on the relation of continence to health, I do not propose to be drawn into a discussion on the advantages and disadvantages of leading a virtuous life. Apologizing for trespassing on your valuable space, I am, etc.,

KENNETH WALKER, F.R.C.S.,
Medical Officer in charge of V.D. Department,
St. Bartholomew's Hospital.

London, March 1st.

THE TERRITORIAL FORCE.

SIR,—I was pleased to see "T.F." in the BRITISH MEDICAL JOURNAL, February 28th, p. 309, speaking out. While working in the weary Macedonian wilderness it was always a consolation to be assured in the belated BRITISH MEDICAL JOURNAL that remuneration to T.F.'s would in the end be righted by an increased gratuity. Alas! for hopes. It was disgusting enough there to see temporary medical officers leaving again and again "on leave," while the T.F. stuck year after weary year; never mind if paid less than temporaries and conscripts for his patriotism. The former cannot be undone, the latter can. I think it is certainly up to the able-bodied British Medical Association to organize all war-serving T.F.'s to strike against any other service save "conscript" (other medicals joining issue), the minimum demands being that every T.F. officer should have back pay for every day of service to bring his pay equal to that of equal temporary rank. Calculation is easy enough—for example, every T.F. captain received 15s. 6d. a day and 3s. 6d. field allowance while at home some of the time and extra allowances while abroad. These are recorded. The difference to bring it up to an average of 24s. a day should be paid. There never was any lack of patriotism on the part of medical men and there is no need to fear any in the future, on equal footing of payment, in time of England's distress. Personally I intend to resign my commission as soon as may be and refuse to have anything whatever to do with any Territorial service until I am paid for past services. It will not avail much, however, unless all do so. After four and a quarter years' service the "extra gratuity" held out to me (as a hope) would, if matured, have been a merciful boon, and to many others, to retrieve scattered fortune. Personally it was tragic (after comparative pre-war affluence) to commence over again almost beggared. I have always received from the Editor of the BRITISH MEDICAL JOURNAL courteous replies and helpful suggestions on whatever matter I have asked his help, and am grateful to his institution. When demobilized in March, 1919, and only beloved ones a preventive to considered self-effacement, the Editor of the BRITISH MEDICAL JOURNAL suggested applying to war benevolent funds. I did so. I cannot reconcile his article, "Hard Hit," in the same issue as "T.F.'s" letter, with the verdict in my case that "no grant could be made." Damn all charities! Pay the T.F.'s what they have earned first! Meanwhile my own right arm and own "left" brain, with still an overdraft of £450, are, I rejoice, slowly making good.—I am, etc.,

February 28th. "HARD HIT."

SIR,—While sympathizing with the bitterness of "T. F." (February 28th, p. 309), I venture to demur to his "advice to any young doctor who thinks of taking a commission in the Territorial Force, that it will pay him better to wait until he is conscripted." Nobody is more alive than I am to the inequitable treatment meted out to the Territorial during the war; probably in hard cash it paid better to be a conscript. But the consciousness that he did freely his duty to his country should go far to compensate the Territorial; while the treatment meted out to him by a soulless Government department should make him determined that the duty shall be carried out in future under better conditions.

The small Territorial army contemplated by the Government will require only a very small minority of practitioners as medical officers. Consequently the Government will again be in the position in any future emergency, of being able—or compelled—to offer more favourable terms to civilians, unless a Conscription Act is introduced at the beginning of the emergency. But Conscription Acts appear to be so distasteful that few Governments are likely to take the risk of conscription until driven to do so. We shall be wise, therefore, if we take forthwith such measures as are possible to prevent a repetition of the inequitable conditions at the beginning of the war without discouraging the soul of patriotism by advising men to refrain from joining the Territorial Army. It is probable that the Territorial section now added to the War Office will have some effect in this direction. But I have always maintained that representation of particular interests in a Government Department is not in itself sufficient. I believe it to be essential that outside the Department there should be a strong voluntary body which shall weigh the views of the various parties concerned; shall watch the proceedings of the Department; shall give friendly advice when necessary; but shall be prepared to act firmly and forcibly when need arises.

Such a body should be found in the Naval and Military Committee of the British Medical Association, which has already taken up questions connected with the reconstruction of the Territorial Army, and contains men capable of speaking on the views of the regular, the territorial, and of the civil profession. With such a body in existence it appears to me that we may advise all young doctors whose position allows it, and for whom room can be found, to join the new Territorial Army.—I am, etc.,

London, W., March 1st. CHAS. BUTTAR.

PROPOSED MEMORIAL TO SIR VICTOR HORSLEY.

SIR,—As an old colleague and friend of Sir Victor Horsley, the most scientific surgeon of our day, I heartily support the proposal of Mr. Domville.

> A combination, and a form indeed,
> . . . . . .
> To give the world assurance of a man.
>
> He was a man; take him for all in all
> I shall not look upon his like again.

—I am, etc.,

London, W., Feb. 23rd. W. CAMAC WILKINSON.

Obituary.

D. J. WILLIAMS, F.R.C.S.,

Llanelly.

WE announce with deep regret, a regret which will be felt throughout the profession in South Wales, the death on February 27th of Dr. D. J. Williams of Llanelly. He was a man of marked character and unusual ability, who, almost in spite of himself, won the respect and affection of a large circle of friends within and without the profession. A strong Welsh patriot, he did not display all the characteristics of his race. Reticent by temperament, he took little part in public life, but his high standard of professional conduct and attainment was evident, though seldom specifically expressed. When he was President of the South Wales and Monmouthshire Branch of the British Medical Association in 1909 he gave an address, the purpose of which was allegorically shown in the title, "Hercules and the Wagoner." In it he gave utterance to the conviction of his life that the profession of medicine was something greater than the passing show of politics and must work out its own salvation through the increase of its efficiency in the prevention and cure of disease. In this way only, he believed, could it surely reach and keep the position of influence in the community which in the best interests of all it should hold.

His life had few incidents. He was born sixty-eight years ago, received his early education at Llandovery College, and later entered University College, London, where he early showed a disposition to devote himself to science; he was a good histologist and held the post of demonstrator of physiology. Shortly after taking the diploma of M.R.C.S. in 1877 circumstances rendered it necessary for him to go immediately into practice, and he settled at Llanelly, where he already had some friends. There he remained for the rest of his life, going through, at first, all the hard work of a young medical man in a growing industrial town. Success encouraged him to take the diploma of F.R.C.S. in 1894, and afterwards he did much surgical work at the Llanelly Hospital. During his time Llanelly became a chief centre of the tin plate trade, and works and factories rapidly multiplied. It speaks well for his surgical acumen and the independence of his mind that he was among the first to appreciate the genius and apply the methods of Hugh Owen Thomas, the founder of the Liverpool School of Orthopaedics. In his later years failing health limited his activities and he gradually curtailed his practice, but his opinion continued to be sought far and wide throughout the area of which Llanelly is the centre.

He was a loyal member of the British Medical Association, and represented Wales on the Central Council for several years at the time when the Insurance Act caused

so much anxious discussion. The whole conception of that measure was distasteful to him, running counter as it did to his belief that the profession must remain master in its own house if it was to do its duty to the people. He never wavered in that belief and never worked under the Act.

His boyhood was spent in a remote Welsh valley with a trout stream at the bottom of the garth. His fishing hand never lost its cunning, and down to a few years ago he could charm trout to his fly on a day when others, accounted good fishermen, would go home with empty creels. His other recreation was literature; he was well read in Welsh, and his capacious memory held vast stores of the best of the English poets.

He was married but leaves no children. To his wife, the constant comrade of many years, the sympathy of many friends goes out.

DR. ROBERT J. BANNING, of Shoeburyness, who died on February 10th, was born in Liverpool in 1833. He received his medical education at the Liverpool Royal Infirmary, where he was a medallist and scholar, and at the Middlesex Hospital, taking the diploma of L.S.A. in 1854. He was a civil surgeon during the Crimean war, 1854–55, acted as surgeon on the Crimean transports, and saw fighting at Sebastopol. In 1857 he graduated M.D.St.Andrews, and in the following year took the diplomas of M.R.C.S., L.R.C.P. He began private practice at Gateshead in 1858, and subsequently removed to Shoeburyness, where he took great interest in local affairs, and held the post of medical referee under the Workmen's Compensation Act till May last. He was president of the West London Medico-Chirurgical Society in 1894–5.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Compulsory Greek.

THE statute modifying the regulations with regard to the Responsions Examination in respect of Greek was passed in Convocation on March 2nd by 434 votes to 359. The effect is that Greek is no longer a compulsory subject, except for candidates for classical and theological honours.

Medical News.

THE next Oxford Ophthalmological Congress will be held on July 15th and 16th. On the first day a discussion on perimetric methods will be opened by Dr. Luther C. Peter of Philadelphia. The Doyne lecture on "The nerve paths and centres concerned with sight" will be given on July 16th by Mr. F. Richardson Cross. Further particulars can be obtained from the honorary secretary, Mr. Bernard Cridland, Salisbury House, Wolverhampton.

A REPORT made by the honorary secretaries to the first general meeting of the Fellowship of Medicine and Post-Graduate Medical Association shows that altogether 663 graduates took advantage of the emergency courses instituted by the Fellowship of Medicine at the beginning of 1919, and continued to the present time. Of those attending 221 belonged to the United Kingdom, 215 to the Dominions, 30 to India, 179 to the United States, and 18 to the various European countries, Japan, and South America. The hope is entertained that one of the existing medical schools in London may become a graduate medical school, but it would be premature to make any announcement on this subject.

THE first number of the *British Journal of Experimental Pathology* has been issued. It is a quarto of seventy pages. The first paper is contributed from the Institute of Physiology, University College, London, by Professor W. M. Bayliss, who gives a negative answer to the question, Is haemolyzed blood toxic? His experiments lead him to the conclusion that the serious results of the transfusion of incompatible blood are not to be ascribed to the haemolysis as such, but are rather an aspect of the action of foreign serum-protein analogous to that responsible for anaphylactic shock. Other papers are contributed by Dr. James McIntosh and W. A. M. Smart on the determination of the reaction of bacteriological culture media, by Dr. H. MacLean and O. L. V. de Wesselow on the testing of renal efficiency, and by Dr. Cramer on hyperpyrexial heatstroke, to which we refer elsewhere more at length. In an appendix are some notes on laboratory methods.

THE annual meeting of the North-East Essex Division of the British Medical Association will be held at the Red Lion Hotel, Colchester, on Thursday next at 2.30 p.m.

AT the meeting of the Hunterian Society in the School of Oriental Languages, Finsbury Circus, E.C., on Wednesday next, at 9 p.m., papers will be read by Dr. Howard Humphris on "Modern physiotherapy," and by Mr. J. E. H. Roberts on "The treatment of septic fingers."

THE proposal to admit women to be Fellows of the Royal College of Surgeons of Edinburgh after examination, on the same conditions and with the same privileges as men, has been accepted.

AT the court of governors of the London Hospital on March 3rd it was decided to ask in-patients to pay 10s. a week towards the cost of their food; the alternative was said to be closure of one-half of the wards. The chairman, Lord Knutsford, urged that the proceeds of the Amusements Tax should be allotted to the hospitals.

VISCOUNT SANDHURST has accepted the presidency of the annual congress of the Royal Institute of Public Health to be held in the University of Brussels from May 19th to May 24th. The scientific work of the congress will be conducted in seven sections. The Harben lectures of the Institute will be delivered during the congress by Professor Maurice Nicolle of Paris.

SIR WILLIAM HALE-WHITE will open a discussion on idiosyncrasy to drugs at the meeting of the West London Medico-Chirurgical Society to be held at the West London Hospital, Hammersmith, this day (Friday, March 5th) at 8.30 p.m.

THE Home Secretary has appointed Dr. William C. Sullivan, medical superintendent of the State Criminal Lunatic Asylum, Rampton, to the post of medical superintendent of Broadmoor Asylum, vacant by the retirement of Sir John Baker, M.D. Dr. Sullivan was scientific adviser to the Central Control Board (Liquor Traffic) throughout the period of its existence. He has been associated with the prison medical service for many years, and is known for his authoritative writings on alcoholism.

THE Mayor of Kensington, Dr. A. J. Rice-Oxley, C.B.E., and Mrs. Rice-Oxley, held a very successful mayoral reception recently in the Kensington Town Hall. The function was attended by Princess Louise Duchess of Argyll, and Princess Beatrice, and a large number of his colleagues were present to support the first medical mayor of the royal borough.

AT a conference of medical superintendents of sanatoriums, training colonies, and hospitals for tuberculosis held in London on February 23rd it was decided to form a new society which should have as its aim the advancement of the standards and the improvement of the methods of administration, diagnosis, and treatment of tuberculosis in residential institutions. Membership was limited to medical men and women the chief part of whose duties lies in the medical charge of residential institutions mainly devoted to the treatment of tuberculosis. "Associate members" may be elected from among those who formerly held such posts, and from present junior officers of such institutions. The annual subscription was fixed at 10s. 6d. for members and 5s. for associate members. It is intended to hold quarterly meetings, and to circulate full reports of the conclusions and recommendations of the society and its committees. Dr. Jane Walker was elected president and Dr. James Watt secretary and treasurer.

THE full programme of the meeting of the International Society of Surgery, to be held in Paris on July 19th–23rd, has been issued. In the discussion on the surgery of the heart and great vessels M. Tuffier (Paris) will deal with the heart, M. Sencert (Strasbourg) with the great vessels, and M. Jembraux (Montpellier) with the transfusion of blood. The discussion on treatment of tumours by *x* rays and radium will be opened by M. Régaud of Paris, and Dr. N. S. Finzi of London. The discussion on analysis of the blood and biological reactions in surgical affections will be opened by Drs. A. Depage and Goovaerts of Brussels. In opening the discussion on fractures of the thigh Major Maurice Sinclair, C.M.G., D.S.O., R.A.M.C., will be associated with M. Patel of Lyons, and in that on the prophylaxis and treatment of tetanus Colonel Cummins, C.B., C.M.G., A.M.S., will be associated with M. Donati of Modena. Professor W. W. Keen of Philadelphia will preside over the meeting, and the names of American contributors to the discussions will be announced later. Particulars are also published of the visit to the battlefields after the congress; it will be made partly by train, partly by motor car. The first place visited will be Rheims, and the party will separate at Ostend seven days later.

A DEATH from lethargic encephalitis is reported from Donington, Lincolnshire. The patient was a young man who had been ill for ten days.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London:* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin, and of the Scottish Office, 6, Rutland Square, Edinburgh.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE "BRITISH MEDICAL JOURNAL."

THE charges for advertisements in the BRITISH MEDICAL JOURNAL will be increased at the end of March. The new charges will apply to all advertisements for insertion in the JOURNAL of April 3rd and subsequently. The rates will be as follows:

Six lines and under	7s. 6d.
Each additional line	1s. 3d.
Whole single column	£6 0s. 0d.
Whole page	£16 0s. 0d.

An average line contains six words.

From the issue of April 3rd the charge for announcements of births, marriages, and deaths will at the same time be increased to 7s. 6d.

QUERIES AND ANSWERS.

ERYSIPELAS.

"D. O. W." writes: I have read most of the treatments suggested for this ailment in the "Notes," but I have found that the administration of liq. ferri perchlor. ♏xx or ♏xxv thrice a day, or added to other appropriate ingredients in the mixture at the time and not already made in a stock mixture, always acts almost as a specific. Collodion applied locally, especially in facial erysipelas, helps. Even with temperatures of 103° and 104° I have never seen a fatal case.

LETTERS, NOTES, ETC.

THE TAGLIACOTIAN DOCTRINE.

COLONEL J. SMYTH, I.M.S. (Clifton, Bristol), writes: If Lieut.-Colonel Mills, R.A.M.C., will read the Puranas, especially the Brahmaraivarta and Matsya varaha, he will not only find the correct version of the account he gives of the manner in which Ganesha got an elephant's head, but several other different versions as well. One statement common to them all is that an elephant's head was substituted on Ganesha for his own head after it had been either burnt or cut off, and he remained quite happy ever after; these are the only points of any interest to us. The version of the story quoted by me I received from Mr. M. K. Lakshmana Chariar, a well known Brahman gentleman of Madras, and is doubtless as true as any of the others. According to the Puranas, the head is variously described as "clapped on" and "fixed" on.

WAR HONOURS.

"MAJOR R.A.M.C.(T.)" writes: The exclusion from any recognition is not confined to Territorial medical officers who served in the general hospitals at home. Similar treatment has been meted out to medical officers who were compelled (through no fault of their own) to serve in the field units of the Home army.

SURGICAL WAR HONOURS.

M.R.C.S. AND SURGICAL SPECIALIST" writes: My letter, published in the BRITISH MEDICAL JOURNAL, February 14th, p. 238, has been misunderstood. Recognition by the Government can only be by appointment to the Order of the British Empire—a compliment many of us have no desire to receive. My suggestion was that the Royal College of Surgeons of England should make a careful survey of the *surgical* work done by its members "and confer the higher diploma or some written appreciation." I fear the conservatism of the Council will prevent them entertaining such a proposal. Many members or "Stuff Gownmen" have done the work of "Silk" or Fellows. The latter body might be strengthened by electing to the higher diploma men who have proved themselves capable surgeons and good general practitioners The man makes the value of the diploma; no diploma has ever created a capable man.

THE PRICE OF PETROL.

THE Board of Trade has issued the report of the subcommittee appointed to investigate costs, prices, and profits at all stages in respect of petrol, benzol, and other motor fuels. The report states that the present high prices for motor fuel are mainly due to the demand which is tending to outstrip the world's present supply, but that powerful financial interests are taking advantage of this tendency to raise prices. Practically all the sources of supply, transport, and distribution of petrol are under the influence of two groups—the Standard Oil and the Royal Dutch Shell—which control a large number of companies. Rather more than half the petrol imported in 1919 came from the United States. It is believed that the price, free on board, at New York should be about 6d. a gallon, and the price of 1s. 4.6d. a gallon actually charged is held to show a grossly excessive profit. It is suggested that the production, price, and distribution of motor fuel should engage the attention of the League of Nations or, that failing, be made the subject of international agreement between the Governments of the principal importing nations. The importation from Persia was rather less than a fifth of that from the United States, but the British Government has a controlling interest in the Anglo-Persian Company, and when contracts by which it is bound expire two years hence it will be in the power of the British Government to give substantial protection to users of petrol in this country. The transport rates are considered to be at the present time double, or more than double, what they ought to be. The committee also considers that the profits made by the retail distributor are excessive. It finally advises that the retail price of No. 1 petrol should be fixed for the present at 2s. 10½d., and of No. 3 petrol at 2s. 8½d. a gallon. The price of benzol is regulated by agreement among the producers through the National Benzol Association, and is based on the price of petrol, not on the cost of production. It is recommended that the price of petrol or any spirit containing an admixture of benzol or of toluol should be fixed at 2s. 8d. a gallon, and that the export of benzol or toluol should be prohibited. The committee, however, recognizes that all these recommendations are merely palliative, and that the real remedy is to develop the production of power alcohol in this country or within the empire. The committee urges that its recommendations should immediately be put into force, and we note that the Automobile Association and Motor Union is very actively engaged in obtaining signatures to its petition asking the Prime Minister that strong Government action be taken.

PREVENTION OF VENEREAL DISEASE.

DR. FREDERICK H. PICKIN (London, S.W.) writes: The preacher of morality is a necessity, and plays the most important part in the campaign against venereal disease. But he only plays a part; he cannot succeed unaided. Venereal diseases are "dirt diseases" consequent upon immorality, and to prevent them all that is necessary, next to godliness, is cleanliness. If every brother who has had the misfortune to be tempted and fall would immediately afterwards thoroughly and repeatedly wash with plenty of soap and water and then perform the act of micturition venereal disease would rapidly become a negligible factor in the life of the community. Further, if every frail brother, in addition to using soap and water freely, would visit within twenty-four hours a doctor who understands these things and submit to an efficient irrigation, there would soon be no venereal disease to prevent.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 44, 45, 46, 47, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 42, 43, and 44.

THE following appointments of certifying factory surgeons are vacant: Caldbeck (Cumberland), Hull (York, East Riding), Shaftesbury (Dorset).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
WAR LESSONS FOR RADIOLOGY.

DELIVERED BEFORE THE ELECTRO-THERAPEUTIC SECTION OF THE ROYAL SOCIETY OF MEDICINE.

BY

C. THURSTAN HOLLAND,

HONORARY MEDICAL OFFICER, ELECTRICAL DEPARTMENT, ROYAL INFIRMARY, LIVERPOOL, ETC.

WHEN war broke out so suddenly in 1914 no one recognized the strain it was going to impose on every branch of the service. The rapidity with which one event followed another upset all calculations, so that measures taken to deal with conditions as they arose rapidly became obsolete, and others had to be improvised to take their place. In July, 1914, the schedule of army *x*-ray apparatus was practically that which had been in use during the Boer war, and few or no army medical officers were expert in *x*-ray work. No extra pay was granted for such work, and there was no special organization in the medical branch of the War Office to deal with it.

While it has been easy to criticize War Office administration adversely, it should be remembered that there had been nothing in previous wars, nothing in the army work during peace, and nothing done by any radiologist in this country to suggest to the authorities that an elaborate department should exist. The radiologists themselves had not realized what would be the necessities of *x*-ray work in a great European war.

Criticism of the War Office, though it found expression early, was more justly directed to want of action at a later date. Long before 1917 it had become evident that *x* rays were a prop on which much of the successful war surgery was being built up. Surgeons, especially the younger ones, were everywhere realizing that efficient *x*-ray work was essential to them; and yet, down to this time, and indeed even later, nothing had been done officially to ensure that the *x*-ray work, equipment, and organization should be controlled by an expert board or committee, and that the whole control and management of this branch of medical work should be in expert hands. It is in this direction that the permanent medical staff of the War Office failed badly. I recognize of course that my friend Sir Archibald Reid (Captain Reid then) had been attached to the War Office in an advisory capacity as early as November, 1914, and that later on certain physicists were called in to help him, and a small committee was formed. I recognize also very fully the splendid work he did for so many years, and rejoice in the honours which have been conferred upon him; but this does not alter what I consider to be the fact, that the expert radiologists of this country, as far as giving advice and helping to organize and control *x*-ray work, were entirely ignored.

It is possible that the War Office chiefs were not alone to blame. At that time many of the older surgeons were almost the only members of the profession who were consulted as advisers. Many of us are well acquainted with the attitude of many eminent surgeons towards radiology—it exists, in London especially, even to-day—the attitude which may be summed up as follows: "All we want is a good radiograph; this can be taken by a layman quite as well as by a medical expert, even better perhaps; give us this and we can read the plates ourselves, make our own diagnoses, draw our own conclusions." The committee of eminent surgeons which met at the War Office never had associated with it even one expert radiologist, and Reid did not sit upon this committee. In other words, advice on *x*-ray matters was a question for surgeons, and for surgeons alone. It is an open secret that the consulting surgeons reported to the War Office that "all was well with the *x*-ray work throughout the Home Commands." I have no doubt whatever that if, at this time, the expert *x*-ray men working in army hospitals at home had been asked to report, certain grave defects in the *x*-ray work, then existing, would have been pointed out. Most certainly if I had been asked—to make it a personal matter—my own experiences of the early years would have given me ample grounds for proving that things were anything but satisfactory. I will give some examples.

During the first year of the war an Army Order came to the hospital to which I was attached instructing me to receive two young students of physics, to give them one week's *x*-ray training, and then to report upon them as to their suitability for *x* ray work. I would emphasize the fact that they were physics, and not medical, students. They spent a week with us—wrecked several tubes, and incidentally the temper of the sister-in-charge. I then reported that I found them pleasant and intelligent students who had put in a week's work in the department. I did not commit myself further than this. Very shortly afterwards I received two letters of grateful thanks from two young gentlemen who had been appointed to take charge of two hospital *x*-ray departments at a salary of £250 per annum each.

A similar instance illustrating the official attitude towards *x*-ray work was that in which an elderly medical man came to me with a request for intensive instruction, as he had been ordered to take charge of the *x*-ray work on a very large hospital ship. For all practical purposes he knew nothing about *x*-ray work. There was no time to give him any instruction of value before his ship sailed; the day before it sailed the *x*-ray equipment arrived and was dumped on board. I saw this equipment at his urgent request; it was as beautiful as elaborately polished wood and metal work could make it; on the other hand, I do not know to this day what some of it was meant to be used for, and I am equally certain neither does the gentleman placed in charge. He had also been supplied with about £20 worth of 15 × 12 plates, and no dishes in which they could be developed.

Appointments of these kinds were common, and their direct results can be illustrated by the following:

1. I saw a man who had a large healed operation wound, 6 in. in length, to the left of his sternum and directly over his heart. He told me that he had been *x* rayed, and that a bullet had been seen and located, and the surgeon had attempted its removal. As a matter of fact the said bullet was exactly one inch deep in the muscles of the back.

2. I saw another man who had been trephined after an *x*-ray examination had shown a small foreign body inside the head. The man told me that he had had no symptoms whatever except a slight headache, and that at the time of the operation the original wound was quite healed. Now it seems to me fairly certain that no surgeon would have attempted such an operation if the *x*-ray report had been to the effect that the piece of metal, very small, was two inches deep in the frontal lobe, which was where it was.

3. An officer I once saw had a fairly large foreign body behind the upper part of the left lung; he had no symptoms calling for its removal; the wound was healed; we were not certain whether it was just inside or outside the pleura. Later on I saw this officer again, and this after an eminent surgeon, who had made his own screen examination, had decided upon the anterior route by means of a large incision in front just below the collar bone. I need hardly say that he did not find and remove the foreign body.

These are merely examples of what we were all of us more or less frequently seeing. They were inevitable under the circumstances, but they show quite clearly that all was not well with the *x*-ray work at the time when so favourable a report was furnished to head quarters. Later, in 1918, *x*-ray experts were appointed to the various commands as advisers to the D.D.M.S.'s, a sufficient acknowledgement of error, inasmuch as it showed that at this period the War Office had become alive to the fact that *x*-ray work should be organized and officered by experts, who should be responsible for the *x*-ray work to the heads of departments. I look upon this change of attitude, tardy though it was, as a very distinct recognition of the claims, which had all along been made, as to the status of radiology in the army.

This recognition was due to two causes—the sympathy extended towards *x*-ray work by Sir John Goodwin, and the support which the three surgical members of the advisory board (Sir Berkeley Moynihan, Sir Harold Stiles, and Sir Robert Jones) gave him in this matter. We radiologists owe a very great deal to these four men, more, perhaps, than many may be aware of.

These expert appointments—the addition of several experts to the War Office *X*-Ray Committee; the grading of all R.A.M.C. officers as regards their *x*-ray knowledge and abilities—came too late, for it was well on in 1918 before any of them became effectual, and events moved so rapidly from this time onwards that no great amount of reconstruction or reorganization was possible; still the

recognition of important facts will undoubtedly have a distinct bearing on the future.

Some recollection of what happened to ourselves in the first few years owing to the attitude of the authorities are not devoid of interest. Most of us older radiologists were, when the war broke out, *à la suite* Territorial officers, others joined up in a similar capacity as it became evident that there was a great deal of *x*-ray work to be done. Many of us were too old to go abroad or had already been damaged by *x* rays to such an extent as to make this impossible.

I joined in 1908, when the Territorial hospital staffs were first appointed. I took the junior rank of captain, looking upon it as merely honorary, and on the distinct understanding that I should, if ever required, perform such duties in a military hospital as I performed in civilian hospitals. Mr. Macpherson, then Under Secretary of State for War, in November, 1917, in the House of Commons, to all intents and purposes admitted that this assurance had been given; qualifying it only by saying that the "clinical" duties should not necessarily be identical. He further stated that he was not aware of any case in which *à la suite* officers were compelled to perform duties other than clinical, and later on that he was not aware that any of these officers were called upon to inspect hospitals administratively.

As he seemed to be so ignorant of what we all knew was going on in every Territorial hospital in the country, I wrote him the following letter in December, 1917:

"Sir,

"I beg to inform you that officers of the *à la suite* staff have been ordered to perform duties other than either clinical or medical. Ever since the war began many officers on the staff of the 1st Western General Hospital have been ordered to do (1) orderly duty, (2) inspect auxiliary hospitals.

"Consulting hospital physicians, specialists, such as physicians attached to general hospitals in the capacity of throat specialists, skin specialists, anaesthetists, *x*-ray specialists, and even dentists, have been detailed for these duties. Most of these men may be described without prejudice as well known leaders of the profession in their various lines—most of them men of about 50 years of age. These men, for the most part, took their commissions with a view to being able to offer their country skilled professional services of the most valuable kind in the event of national emergency. They were willing and anxious to render these services. They accepted the junior rank of captain to enable them to perform these services.

"(1) Orderly duty consists in, amongst other things, reclassifying wounded and sick discharged from the attached hospitals and already classified by the medical officers attached to these hospitals. In admitting cases sent to the base hospital by other hospitals. In signing railway warrants and the letters of the O.C. and the registrar of the hospital. In doing odd duties of all kinds.

"(2) Inspecting auxiliary hospitals they are instructed to report on the keeping of books, the condition of ashpits, the condition of kitchens, and many things entirely apart from clinical work.

"I would most respectfully point out that these officers were, and are, entirely ignorant of, and quite incapable of reporting on and doing much of the work required, and that in these respects much of the work they have done is absurd. Additionally, the waste of time valuable to the army and to the general community is obvious"—and so on.

I suppose I was fortunate to get any reply at all, but the fact remains that I did get one—from "the great man's" secretary. It read as follows:

Dear Sir,

I am requested by Mr. Macpherson to acknowledge your letter of the 18th instant.

What has been the Effect of the War on the Production of X-ray Apparatus, on the Invention of New Instruments, etc.?

The only outstanding advance in apparatus has been the American production of the standard mobile transformer unit with its radiator type of Coolidge tube. This may be said to be the direct result of the war, and it marks a distinct advance in apparatus. An *x*-ray generating outfit of this kind, working from a petrol engine or a lighting circuit, constructed to work at practically a fixed milliampèrage through the tube, almost fool proof—and this notwithstanding the recent lamentable accident to our French colleague—capable of doing all the work required at casualty clearing stations, advanced hospitals, and, indeed, most base hospitals, would have been invaluable had it been available at the beginning of the war as a standard apparatus for general use. An outstanding fault of our equipment, and a fault it appeared to be impossible to remedy, was that no standardization seemed to be possible. At the beginning the shortage was such that it was necessary to take almost any apparatus which the instrument makers could supply. Many attempts were made later on to get some of the things standardized; but the difficulties in manufacturing and the difficulties of labour, which got worse and worse as more and more men were called up, made such ideals impossible. Though the outbreak of war found out the weak points in our home *x*-ray industry, on the whole our manufacturers met the situation splendidly; and as far as concerned coils, interrupters, couches of various kinds, and most, if not all, of the minor accessories, the supply was reasonable and the quality very good.

Under the direction of the War Office Committee the petrol engine sets, chiefly for use abroad and in places where an electric current supply was not available, reached a high level of excellence and efficiency. Later the mobile car units were turned out in good numbers, and were remarkably useful and efficient. Their design and equipment left little to be desired, and they accomplished a great deal of most useful work, especially at casualty clearing stations. Plates and printing paper suffered somewhat in the earlier years. In the later part of the war both were excellent. Tubes threatened at first to be a serious question. We all know to what an extent we had relied upon Germany for our tube supply. The difficulty, however, was overcome, and whilst importations from America helped to a considerable extent, our own manufacturers rose to the occasion. Taking into consideration the position of the home industry in 1914, the glass difficulty, and the almost entire absence of any skilled tube makers, the results obtained were tremendous, and great credit is due to all those who took this matter in hand.

It is for us all, I think, to see that we give all possible support to our own manufacturers in the future, and do not buy foreign-made tubes. At the same time my personal experience is that some makes of home-manufactured tubes have not been so good or reliable during the past six or eight months as they were during the later years of the war. The faults I have had to complain of are: (1) An undue tendency to puncture, (2) a liability of the kathodal terminal inside the tube to loosen, and in some cases to break off, and (3) the very serious fault of the regulating device being quite inefficient. A word of warning to the manufacturers may be uttered that such faults must be overcome if we users are not to be driven by bitter experience, at a cost to both our pockets and our tempers, to buy in other markets. I have said that the plates and printing paper rose to a high degree of excellence during the war, but here again, and especially during the past six or eight months, *x*-ray plates, in my opinion, have undergone a serious deterioration in quality. I have been finding it necessary to increase times of exposure very considerably, and even then have not been able to obtain the same quality of negative as I did before the war. It is not only slowness but loss of quality of which I personally complain. Complaints to the makers produced at first only lame excuses, but eventually some improvement was noticeable.

What has been the Effect of the War on X-ray Work and on X-ray Workers?

Those who were already experienced in *x* ray work were not taught very much by the war; they gained great experience of the localization of foreign bodies and had many opportunities of perfecting the *x*-ray examination of bone injuries, but, without claiming to make a complete list, I may say that the following classes of cases seem to me to be those in which radiology proved of very great advantage, and in which the science and art of radiography was advanced:

I. In diaphragmatic hernia, a condition recognized occasionally before the war as within the scope of *x*-ray diagnosis, owing to the comparative frequency with which this condition has been seen following wounds of the diaphragm, our *x*-ray knowledge of the appearances, and of the methods of examination, and the diagnostic points has been advanced.

II. In "gas gangrene" an entirely new *x* ray advance was made. The possibilities of *x*-ray diagnosis in this condition were first of all established by my friend, Dr. Morrison, when serving with the Liverpool Merchants' Hospital (1915). Later, radiology became of great importance in the diagnosis and prognosis of gas gangrene, as is well shown in a masterly paper by Miss Ivens (1916).

III. The opportunities of examining cases of tropical abscess of the liver by *x* rays have increased enormously, as men returning from the East who have had dysentery, and have apparently completely recovered, later on develop these abscesses, in which an *x*-ray examination is often very definite.

IV. In therapeutic work the treatment of keloid condition by both radium and *x* rays has been much advanced, and the depilating power of *x* rays has proved of the utmost value after plastic operations on the face following war injuries. I would especially mention the work of our colleagues, Robert Knox, and Stevenson of Dublin.

I do not intend to say much about localization and the many and various instruments elaborated in its cause. Some little bits of apparatus were invented or designed with a view to facilitating either actual localization or the operations for the removal of foreign bodies; but when we come down to bedrock it is as well to pause and consider the position. In a paper by Dr. Remy of Paris in the *Archives of the Röntgen Ray* in August, 1900, and published still earlier in France, he showed the method of screen localization from below up by means of a tube shift—that is, the triangulation plan nearly all of us have used as the basis of our methods. Remy also used metal directors from above to indicate the paths of the *x* rays, and to point to the spot where the foreign body actually was—the forerunner of the Hirtz compass and all similar devices. Localization work during the war has been interesting; it has brought out much ingenuity, but I do not consider that it has brought about any real great advance in the science and art of radiography.

The Great Effects of the War on X-Ray Work.

The war brought radiology into very great prominence, and this notwithstanding the attitude of the authorities during the early years.

The enormous number of laymen and women who became interested in, and who took part in the work of, our war hospitals, both abroad and all over this country, altogether apart from the enormous number of wounded who were radiographed, means that the eyes of the general public have been very much opened to the importance of *x*-ray work in medicine and surgery, and in the large home hospitals the cases were by no means limited to war injuries.

The effect of this will tell in many ways. It will mean a large increase in *x*-ray work, as members of the lay public either themselves, or on account of the advice of friends, will increasingly insist upon having *x*-ray examinations made.

The whole of the medical profession also has had the same thing impressed upon them. It is really only within the last twelve years or so that the *x*-ray position as regards the kidneys, the stomach, and the thorax has gradually become firmly established. To the majority of the general practitioners scattered all over the country this work was not well known. All of them have now served in war hospitals at home or abroad, or have been intimately associated with the work in these hospitals, and they have been able to see and to realize the advantages to themselves and to their patients of an *x*-ray examination conducted by an expert. Thus, again, the direct result of the war will mean a great increase in *x*-ray work.

Surgeons and physicians, especially perhaps the former, have had it forcibly impressed upon them by what they have seen day after day—"the importance and scope of radiology." This again means increased work.

We may therefore in the future—indeed, I know from my own work, both hospital and private, that this is the case now—look forward to a greatly increased use of radiology for diagnostic purposes, and also to a demand that this work shall be of the very best quality.

There is, however, an important fact which should not be overlooked, whilst medical men generally—who do not intend to practise radiology—have seen for themselves the value of *x*-ray work, from two other classes of workers there is a possibility of harm resulting.

In the first place a very large number of lay assistants, males and females, have learnt a smattering of *x*-ray work; some of these have become really very efficient, but for the most part this is very far from having been the case. Many of them, however, efficient or otherwise, have a very exalted idea of their capabilities, and there is a danger that a certain number of these people may set up as unqualified practitioners to carry on the "art" of "*x*-ray photography." It is for the medical profession generally to see that, if this happens, success shall not be the result.

In the second place—and, to my mind, this is even more serious—a large number of qualified medical men have learnt certain parts of *x*-ray work very well. They have become very efficient at looking after coil outfits, in taking and interpreting radiographs of injuries to bones, in the localization of foreign bodies; but as to their general knowledge of radiography and its interpretation as regards the kidneys, the thorax, the abdomen and its contents, bone diseases and *x*-ray treatment, their knowledge is so small that they may rightly be described as knowing nothing whatever.

It is also quite evident, from some of the communications recently published, that many of them know nothing of the past literature of the subject. Some of them have already, I believe, started work as *x*-ray specialists; others are contemplating such a step. I would utter a word of warning and of advice. The University of Cambridge has published the syllabus of a comprehensive course in radiology and electro-therapeutics. At the end of six months' teaching an examination will be held and a diploma issued to those who are successful in passing it. My strong advice to all those who have learnt their *x*-ray work during the war is to take up this course of instruction, and to obtain the diploma, before starting on their *x*-ray careers. The six months sacrificed in learning will be as nothing; the advantages to themselves and to their future clients will be enormous. They will not then learn their *x*-ray work at the expense of much anxiety to themselves and of much harm to their patients, whether hospital or private.

This Cambridge diploma has been instituted at a very opportune time, and it should assist materially to raise the status of *x*-ray work and of *x*-ray workers.

CONCLUSIONS.

Let me briefly sum up the chief points.

In the first place, the war has taught us the tremendous value of radiographic work in war—that war surgery depends very largely for its success on efficient *x*-ray work which must be directly controlled by expert medical radiographers; that such work should be recognized by the army as expert work; that it has shown most conclusively that there is a necessity for a permanent staff at the War Office to organize (1) the teaching of *x*-ray work to officers, (2) the teaching of trained nurses and orderlies who should be available as assistants, (3) the standardization of army *x*-ray equipments; and with this goes the further point, that such equipment should be kept well abreast of the times.

In the second place it is our duty to see that in the future the teaching of radiology is put on a proper basis in all our medical schools; that not only should post-graduate work be firmly established, and that all who wish to practise as experts should of necessity be forced to undergo special training and take a special diploma, but that in addition a certain knowledge of *x*-ray work should be part of the ordinary curriculum of medical students; that teaching should be organized in view of this, and that in the examinations qualifying for practice *x*-ray work should not be ignored.

CHADWICK naval and military prizes, each of £100 and a gold medal, were presented by Sir William Collins, chairman of the Chadwick Trustees, on March 8th. The naval recipient was Surgeon Commander Edward L. Atkinson, who was a member of the Scott Antarctic Expedition. In 1914 he was one of an expedition sent by the Admiralty and Colonial Office to investigate diseases occurring in river gunboats in the tropics, and later introduced a system of electrolyzing sea water for use as a disinfectant. In 1915 he was appointed a health officer to the Royal Naval Division ashore. The army medal was presented to Brigadier-General W. W. O. Beveridge, C.B., who was assistant director for sanitation, and responsible adviser to the D.G.A.M.S., France, on all matters connected with sanitation and the prevention of disease. He is a permanent delegate for Great Britain to the Inter-Allied Sanitary Conference.

An Address

ON

SOME POINTS IN CONNEXION WITH RENAL DISEASE.

DELIVERED BEFORE THE LAMBETH DIVISION OF THE BRITISH MEDICAL ASSOCIATION.

BY

CHARLES R. BOX, M.D.LOND., F.R.C.P., F.R.C.S.,

PHYSICIAN TO ST. THOMAS'S HOSPITAL AND TO THE LONDON FEVER HOSPITAL.

SOME of the recent investigations on nephritis are of practical importance, and I have been fortunate in having the opportunity of proving their value both in treatment and prognosis. The opportunity arose from the fact that Dr. Hugh MacLean and Dr. De Wesselow have been and are still engaged at St. Thomas's Hospital in an investigation on war nephritis. With the greatest readiness they have collaborated in the investigation of my ward cases and placed their knowledge at my disposal. Before going further I hasten to express my indebtedness to their published results and to them personally for many facts gleaned during conversations with them.

It is well known that the predominant symptoms of renal disease fall into two main groups—the oedematous and the cardio-vascular. In acute nephritis both sets of symptoms may be present, although not always in equal degree; in chronic nephritis the predominance of symptoms of one or other of these groups enables us to recognize two distinct types—the chronic parenchymatous or tubal and the chronic interstitial or granular form.

Nephritis of the chronic parenchymatous type is characterized by profuse albuminuria and diminution of the quantity of urine passed, coupled with obtrusive oedema and effusions into the serous sacs, but cardio-vascular changes are not at all a pronounced feature. The chronic interstitial form, on the other hand, is distinguished by scanty albumin, increased excretion of urine of low specific gravity, cardiac hypertrophy, and raised arterial tension. Oedema is not present in this type until the terminal stages, and then is not of the renal distribution, but of that variety which is attributed to cardiac failure.

Whether these two forms of chronic nephritis originate as such or develop from the continued selective action of an antecedent attack of acute inflammation we will not now linger to discuss. I propose rather to direct your attention to some interesting facts which have a bearing on the symptomatology and treatment of the two types. For many years we had to be content with the results of urinary analysis alone when investigating cases of renal disease. Estimation of the quantity of albumin, the detection of blood, measurement of the amount of water passed, determination of the specific gravity, and, it may be, an estimation of the urea and chlorides, were the points to which, in conjunction with a microscopical examination of the sediment, attention was chiefly directed, and there is no doubt that in this way most instructive information may be obtained.

But a much clearer insight into what is happening may be gained by a combination of urinary analysis with periodical examinations of the blood. Improved methods now enable the clinical pathologist to estimate with accuracy the urea content, the chloride content, and the amount of protein in a small sample of the blood, and so to throw a flood of light on some of the problems of renal disease. The methods are laboratory procedures, and it is not my province to describe them, but they have important clinical bearings, and it is important that we should be acquainted with the main facts which have come to light, and see how they fit in with our clinical knowledge.

THE PERCENTAGE OF UREA IN THE URINE AND IN THE BLOOD IN NEPHRITIS.

In the early stage of acute nephritis all the functions of the kidney suffer, among them the power of excreting urea, so that there is generally a marked defect in the elimination of this body, together with a diminution of the amount of urine passed. In favourable cases this retention is transitory, and normal elimination is sooner or later re-established.

In chronic nephritis, however, observations on the urea excretion have led to discordant results. Attempts to correlate the urea excretion of chronic nephritic patients with their clinical condition met with no success. The reason of this failure gradually became obvious. The renal mechanism is such that under circumstances of stress the kidneys are capable, even though much damaged, of eliminating a quantity of urea which is approximately normal, but they do so—and this is the important point—by secreting an additional quantity of water. We must therefore, in attempting to gauge the renal efficiency, take into consideration both factors; in other words, the percentage of urea in the urine or the urea *concentration* is our criterion, and not merely the amount of urea excreted in the twenty-four hours.

The urine of a normal individual on ordinary diet contains about 2 per cent. of urea. For patients under observation in hospital an average of 1.6 per cent. is found to be nearer the mark if the kidneys are healthy. When the kidneys are damaged the concentration falls below this figure.

That the specific gravity of the urine is consistently low in cases of advanced granular kidney is a well recognized fact, and these are precisely the cases in which difficulty of urea excretion is particularly marked. It may be asked, therefore, Why not take the specific gravity of the urine as a criterion of renal efficiency in place of the more troublesome urea estimation? Although the determination of the specific gravity of one sample might not be reliable, the average over a week or longer might yield useful information. An objection to this method lies in the fact that the chlorides and sulphates form heavier solutions than does urea, so if these salts are deficient the specific gravity will fall, and also the specific gravity will be low if excessive fluid is being ingested and excreted, quite apart from urea defect. None the less there is a marked tendency for a low specific gravity to accompany low urea concentration, and it is difficult for an extremely granular kidney to secrete urine of a greater specific gravity than 1012 at the highest. I have several times found this test valuable in making the distinction between the granular kidney and the kidney of arterio-sclerotic heart failure.

The late Dr. Foxwell of Birmingham paid especial attention to the subject of urea excretion in conjunction with the amount of urine passed, and he concluded that an increase in quantity to 60 oz. per diem or more was indicative of renal fibrosis, just as was a specific gravity below 1012. Combining the specific gravity, the quantity of urine passed, and the percentage of urea, his analyses led him to the following formulae:

	Specific Gravity.	Quantity.	Urea Percentage.	Total Urea.
		Ounces.		Grains.
Healthy male	1019	39	2 1	—
Healthy female	1019	28	1.8	—
Moderate work possible ...	1012	50	1.4	310
Occasional light work ...	1011	45	1.3	238
Confined to bed...	1010	40	1.0	175

Although a patient suffering from chronic nephritis may, with the aid of polyuria, excrete as much urea in the twenty-four hours as does a patient with normal kidneys, examination of the blood brings to light a marked difference in the two cases. The normal individual on ordinary diet will have in his blood a urea content of 20 to 40 mg. per 100 c.cm., whereas in that form of chronic renal disease which leads to the retention of non-protein nitrogenous bodies, of which urea is the chief and is taken as the index, the urea content of the blood may rise to 100 mg. per 100 c.cm. or higher. A similar retention may occur in acute nephritis also, and in some cases of renal disease the percentage has been found to rise to 300 or even 600 mg. It appears that any rise above 300 mg. is of fatal prognostic import.

In all forms of acute nephritis urea retention is a very constant feature, but in chronic nephritis it is only characteristic of cirrhotic, granular, or fibrosed kidneys, as opposed to the chronic parenchymatous or chronic tubal variety of the disease.

On the facts which they have ascertained with regard to urea retention and urea excretion MacLean and De Wesselow have based a new and simple test which promises to be of much practical value in nephritis. Fifteen grams of urea are dissolved in 100 c.cm. of water. This draught, which may be flavoured with tincture of orange, is administered the first thing in the morning on an empty stomach, the urinary bladder at the same time being emptied. Two hours later the bladder is again emptied, and the concentration of urea in the specimen is determined. With normal kidneys the concentration will be from 2 to 3.5 per cent. With a concentration of 1.5 per cent. the kidney is only moderately efficient, whilst a concentration of 1 per cent. or less indicates that the kidneys are severely damaged. Low concentration is generally correlated with urea retention in the blood. There is one fallacy which must be guarded against—urea may cause considerable diuresis in some normal individuals. So, if the specimen obtained two hours after administration shows a low concentration, a further specimen should be obtained an hour later, by which time diuresis should have ceased. If the concentration is still low the kidney is not normal.

It may be mentioned that in cases in which urea retention occurs this substance is also found in excess in the cerebro-spinal fluid. The normal content of this fluid gauged by the hypobromite method is said to be 0.006 per cent., whilst in renal impermeability to urea it may rise to 0.1 per cent., and in some instances is as high as 0.6 per cent. In this fluid concentrations above 0.3 per cent. are said to indicate a fatal issue.

From what has been said it is evident that a knowledge of the amount of urea present in the blood, and incidentally also in the cerebro-spinal fluid, affords two important indications: In the first place, it tells us that a certain type of renal inadequacy is present, and in the second, it affords prognostic indications which, in a certain number of cases, cannot be arrived at by other means.

That urea itself produces toxic symptoms it is not possible to assert. The general opinion hitherto has been that urea itself is a comparatively harmless substance. We must not forget that urea retention goes hand in hand with the retention of other non-protein nitrogenous bodies such as uric acid, creatinin and purin bases; and we must also remember that those renal cases which have urea retention are sooner or later characterized by raised arterial pressure and cardiac hypertrophy. Some interesting considerations bearing on the absence of renal dropsy in cases of this type will be mentioned presently. That uraemic convulsions may occur when urea retention is present the following case well shows; but Dr. MacLean tells me that his investigations have led him to the conclusion that it is not possible to predict uraemic convulsions from the amount of urea found in the blood. Indeed, the chronic cases with the highest amount of urea retention are more likely to be characterized by uraemic twitching and coma than by explosive convulsion.

J. G., a delicate-looking lad of 12 years, was admitted under me in December, 1919, with oedema of face and ankles, and a history of two days' obvious haematuria. Five years ago he was laid up with pneumonia, and he went through a sharp attack of acute rheumatism twelve months before his present illness. A fortnight before admission he complained of sore throat, but had no pyrexia, rash, or other signs of scarlet fever.

On examination he was found to be pale, with moderate oedema of the face and ankles. There was evidence of a little fluid at the bases of the pleural sacs, and the heart was slightly enlarged. The blood pressure was 120 mm. The urine was diminished in quantity, an average of 30 oz. being passed in the twenty-four hours. Much albumin was present, also blood. The sediment contained epithelial, blood and hyaline casts in some quantity. The blood urea was 140 mg. per cubic centimetre, and the urine contained only the smallest trace of chloride, so both urea retention and chloride retention were marked. The temperature was slightly febrile; the tonsils were chronically enlarged.

Six days after admission he had, without warning, a series of severe convulsive fits followed by a state of semi-coma. Venesection to the amount of one pint followed by saline infusion of 30 oz. caused immediate improvement, and the fits did not recur. Profuse sweating was induced by hot packs, and nothing but milk and barley water allowed. Four days later the blood urea was found to have fallen to 54 mg. and the blood pressure to 112 mm. A week later still the blood urea was 35 mg. Coincident with this fall, and no doubt responsible for it, was an increasing polyuria rising to 70 or 80 oz. per diem. At the same time the albumin in the urine, which at first amounted to 7 grams per litre, had fallen to ½ gram, the fall being gradual. He is still under observation.

Salt Retention and its Results.

It has long been known that retention of chlorides in the body can produce oedema of the tissues and serous effusions, water being retained to keep the salt concentration in the tissues down to the normal limit of 0.6 per cent. sodium chloride solution. In other words, for every 6 grams of salt retained, the body will store up 1,000 c.cm. of water. A very important function of the kidney is the regulation of the concentration of salt in the plasma. In certain forms of nephritis the kidney appears to lose the power of excreting chloride in the normal manner; these forms of nephritis are those which are associated with oedema; they may be acute or chronic in character, but their essential characteristic is that they are parenchymatous or tubal in type.

Blood examination does not throw much light on chloride retention, because diminished chloride excretion does not produce an increased concentration of the salt in the blood and tissues owing to the simultaneous and inseparable retention of water, which acts as a diluent.

It may be mentioned in passing that a primary retention of water would also lead to a compensatory retention of salt, and it is believed that under certain circumstances this may occur, although, generally speaking, it may be said that in oedema water is retained to dilute the salt and not salt to salinate the water.

A normal kidney excretes the day's intake of salt (15 to 20 grams) within the next twenty-four hours, and in the non-oedematous forms of renal disease—that is, the granular kidney—salt is excreted equally well, the capability of excreting salt being quite independent of the power of excreting many other substances, such as urea, uric acid, and potassium iodide. The power of excreting phosphates and sulphates is, unlike that of excreting chlorides, roughly parallel with the capability of excreting urea. Salt retention is a characteristic of the oedematous or tubal type of nephritis, just as urea retention is characteristic of the chronic interstitial or cirrhotic type.

The accurate determination of salt retention is not such a simple matter as the estimation of urea retention. The amount of salt which will be excreted after a weighed dose of sodium chloride depends a great deal on the amount of fluid present in the tissues of the body at the time of administration. If the body is low in fluids, the salt may actually be retained, the body fluids correspondingly augmented, and the weight raised. So, for the estimation of salt retention, an equilibrium must first be established between intake and output by careful dieting, and then large doses of salt must be repeated on successive days. If salt is retained, an increase in weight at once takes place, owing to the retention of fluid; but in a healthy individual this increase is limited to a few days; it then ceases, and there is excreted in the urine a quantity of salt equivalent to that taken by the mouth. On the other hand, if salt retention is present, dropsy should ensue, and perhaps also serous effusions. The test obviously is a difficult one to apply, so for ordinary purposes reliance is placed simply on the estimation of the chlorides in the urine.

The following case, although not one of nephritis, is a striking example of the results of flooding the tissues with an excess of salt:

On November 4th, 1916, a girl aged 2½ years was brought to St. Thomas's Hospital on account of oedema of the feet and face. Her only previous illnesses were whooping-cough and chicken-pox.

For three weeks she had shown slight nasal catarrh; recently her face had been swollen in the mornings, and latterly her feet had become swollen also.

Physical examination revealed nothing to account for the oedema. The urine was free from albumin, its specific gravity was 1020; it was concentrated and full of urates. No sugar. As the oedema persisted and the urine remained non-albuminous, she was admitted for further observation. But meantime an important fact had come to light—it had been ascertained that the child was inordinately fond of salt, and would, when opportunity offered, empty the salt cellar as if it were a sugar basin.

On admission the temperature was 100°, but fell to normal before night. Slight bronchitis with some respiratory acceleration was present. The urine was still concentrated, but free from albumin. The child was placed on milk diet.

In a day or two sharp crepitation made its appearance in the lungs and gradually extended in area and intensity. The temperature became febrile. There was still no albumin, and the quantity of urine averaged 6 or 7 oz. a day—that is, at least a third, or possibly a fourth, of what it should have been.

The pulse and respiration rates gradually increased, the

former reaching 172 and the latter 96. Death of the asphyxial type occurred after she had been under observation for eight days.

Post-mortem Examination.

The legs were swollen and oedematous. There were several adhesions between the chest walls and lungs on both sides, evidently of old standing. With the exception of the lungs the thoracic and abdominal organs showed no gross signs of disease. The lungs were subcrepitant, and pitted all over with small cavities, on the average not much larger than the head of a pin.

I am indebted to Professor S. G. Shattock for the following histological report:

Kidney.—There are no marks of glomerular inflammation. The capillary endothelium is normal, and there is no exudate within the capsules. In all the convoluted tubules the epithelium is remarkably and coarsely vacuolated, but without destruction of the cell nuclei. The lumina of the tubules are in many cases obliterated by a coarse open spongework formed by the septa of the vacuolated parts of the cells. In some cases the whole of the cell is vacuolated, but as a rule the basal moiety containing the nucleus is affected to a lesser degree or not at all. There is nowhere any coagulated exudate within the tubules. Nor is there any vascular congestion. The condition present, therefore, cannot be viewed as one of inflammation, but represents one of dropsical vacuolation of the epithelium.

Lung.—The pulmonary alveoli and the infundibula, as well as certain of the bronchioles, are filled with cells. These cells within the alveoli and infundibula consist partly of proliferated epithelium but largely of polymorphonuclear leucocytes. There is no coagulum entangling the cells of the kind met with in a croupous inflammation. The condition may be classed as one of bronchopneumonia. Distributed through the solidified substance there are a conspicuous number of sharply defined spaces of circular, polygonal or elongated form which represent dilated infundibula and dilated bronchioles. With few exceptions the epithelium lining the spaces has been lost by desquamation. There is no necrosis in progress, and the condition may be regarded as one of infundibulo-bronchiolectasis.

The lesson to be learned from such cases as this is that excess of salt will produce subcutaneous oedema, and also oedema of the cells and framework of parenchymatous organs. Cases of a somewhat similar character have at times been reported by other observers. Also it is well known that heavy saline infusions can induce hydrothorax, hydroperitoneum, oedema of the lungs, and sometimes, too, of the subcutaneous tissues.

There being no doubt about the presence of salt retention in certain types of nephritis with oedema, the tendency to look upon this retention as the cause of the dropsical manifestations is natural. This is the view strongly taken by Widal and his school, a view which has supplanted the older idea that oedema is due to the inability of the kidneys to secrete sufficient water. A third hypothesis must be mentioned—that of Cohnheim—which attributes the oedema to an increased permeability of the walls of the capillary vessels, induced by malnutrition or by the retention of toxic products. But Cohnheim's view has not survived the test of experiment; this increased capillary permeability has been proved not to exist.

Widal's salt retention hypothesis is attractive, and there is no doubt that under certain circumstances a salt-free diet is beneficial in the treatment of dropsy and oedema, whilst administration of excess of salt will aggravate the condition. Clinically, however, this line of treatment has not led to the results which might have been expected. Moreover, in some conditions in which analysis of the urine indicates that salt retention is present, dropsy and oedema fail to appear; it is possible, however, that in such cases salt is being vicariously eliminated by the bowel.

There is strong reason to believe that something more than mere salt retention lies at the root of renal dropsy.

THE TREATMENT OF CHRONIC RENAL DROPSY.

Chronic parenchymatous nephritis—the large white kidney—affords the most striking example of oedema and serous effusions associated with renal disease. Sufferers from this disease become absolutely waterlogged, and there is no doubt that in many cases this oedema is an important factor in producing death, which is said, as a rule, to occur within two years or less of the recognition of the disease. Not only are mechanical disabilities produced by the effusions, but the waterlogged organs, subcutaneous tissues, and serous sacs also fall an easy prey to secondary inflammatory complications.

The dropsical effusions can, of course, be removed by mechanical means—that is, by puncture of the skin and subcutaneous tissues, by tapping the abdomen, and by aspirating the chest—but these procedures are merely palliative; they have to be repeated periodically, and, in addition to the discomfort inflicted, they carry a very real risk of septic infection. Attempts to reduce the dropsy by means of diuretics, diaphoretics, and purgatives are notoriously ineffectual, and the use of a salt-free diet, as above mentioned, has not led to the results expected.

There is, however, a means by which the effusions and oedema can be got rid of. This method we owe to Dr. Albert Epstein of New York, who, in an article published in the *American Journal of Medical Sciences* in November, 1917, urged the efficacy for this purpose of a dietary rich in proteins but poor in fats. Deferring for the present a consideration of the facts which led him to adopt this revolutionary method of dieting in nephritis, and also of its possible sequel, let me first give the details of an illustrative case:

A. H., a porter 36 years of age, was under my care in St. Thomas's Hospital from February 1st, 1918, until March 3rd, 1919—a period of fourteen months—and is still under observation as an out-patient. He is a married man with two healthy children. His only previous illness was an attack of rheumatic fever fourteen years ago. There is no history of renal disease in his family. His four brothers and sisters are healthy and his parents are said to have died "natural deaths." Despite careful inquiries no cause for nephritis could be traced. There was nothing in his occupation which had any bearing on it; his habits were apparently above reproach; no history of venereal disease was obtained, and the Wassermann reaction was negative. The mouth contained five septic stumps, which were at once removed.

The first sign of his illness was slight oedema of the feet and puffiness of the eyelids, noticed seven weeks before he was admitted to hospital. The dropsy steadily increased. He began to suffer from frontal headaches and developed a rather troublesome cough. He noticed that he passed but little urine.

When admitted, both legs were much swollen and pitted readily. A large cushion of oedema occupied the lumbar region. The abdomen was full of fluid and the face puffy. There were no obvious cardio-vascular changes and no retinitis or oedema of the optic discs. The blood pressure was 145 mm. The chest was moderately emphysematous and the lung bases showed signs of oedema. There was a small quantity of slightly blood-stained muco-purulent sputum, which, however, was free from tubercle bacilli. Both pulse and respirations were slightly accelerated. The temperature was normal. The urine was acid and clear; its specific gravity varied from 1015 to 1025, and the daily quantity averaged a little over 30 ounces; there was a dense cloud of albumin on boiling but no blood; a few granular and epithelial casts were found.

The ascites increased, and slight pleural effusions appeared on both sides. The penis and scrotum became highly oedematous, and at the same time the oedema of the legs, which at first was below the knees, invaded the thighs, the patient becoming completely waterlogged. The only uraemic symptoms consisted in the headache already mentioned and an occasional tendency to vomit.

For the first month his diet consisted of three pints of milk, a certain amount of carbohydrate, and occasionally fish; later some fowl was added. In succession, pituitary extract, caffeine citrate, diuretin, and a mixture of potassium nitrate, spirits of nitrous ether, and ammonium acetate were administered as diuretics without the slighest response; in fact, the average daily amount of urine diminished instead of increasing.

The bowels were kept well opened, the abdomen was tapped periodically, and the legs were drained by multiple punctures with aseptic precautions.

Diuretics having failed, a strict salt-free regimen was instituted and persevered with for a month, but no increase in diuresis or diminution of the dropsy resulted.

The ascites was such that tapping was necessary on an average once a fortnight. Altogether the abdomen was tapped twenty-one times, an average of ten pints of fluid being removed at each operation. In addition, a considerable quantity leaked from the abdominal punctures, and much escaped from the punctures in the legs.

In August, 1918, an examination of the blood showed no urea retention, but salt retention was pronounced.

In October Epstein's diet was adopted, and salt was allowed in moderation. For the first three weeks no result was apparent, so salt was again withdrawn. Gradually a change became noticeable in the patient's condition, the amount of urine excreted slowly rising and the dropsy gradually disappearing. The annexed table shows the average urinary excretion for successive three-weekly periods:

	Average amount of urine.
First three weeks Epstein diet	27 oz.
Second " " " (no salt)...	46 oz.
Third " " " "	51 oz.
Fourth " " " "	67 oz.
Fifth " " " "	77 oz.
Sixth " " " "	81 oz.
Seventh " " " "	108 oz.
Eighth " " " "	113 oz.

Only three tappings of the abdomen were necessary after commencing the diet, and the oedema of the legs, thighs, scrotum, and penis gradually subsided; the lumbar cushion also disappeared. A marked loss of weight, due no doubt to the elimination of fluid, was later succeeded by a steady gain as nutrition improved. Nothing could be more satisfactory than the way in which the fluid which waterlogged this patient was induced to disperse. His subsequent history is, however, well worth noting. It is over a twelvemonth since his last tapping. He continues his diet on much the same lines, remains free from ascites and oedema, has put on flesh and looks and feels much better, but his urine is still highly albuminous, and his blood pressure has gradually risen until the systolic pressure is 220 mm. of mercury.

There can be no doubt that the institution of a diet on Epstein's lines was completely successful in restoring this man to a condition of comfort when the ordinary means of treatment combined with salt deprivation had failed. Now, Epstein, as a result of his investigations on renal disease, came to the conclusion that the amount of protein in the blood was very seriously diminished in chronic parenchymatous nephritis, and that this diminution was the direct result of the loss of albumin in the urine. As the result of this there is a diminution in the osmotic pressure of the blood—that is, of the power of the blood to attract fluid from the tissues—a state of affairs which favours the imbibition and retention of fluid by the tissues themselves. Thus he accounts for the oedema and serous effusions met with in chronic parenchymatous nephritis, a form of renal disease in which it is well known that albuminuria is profuse.

Before specifying his diet another point has to be mentioned: Not only did he find blood protein deficient in these cases, but he also detected a remarkable increase in the lipoid—that is to say, the cholesterin content of the blood, which he attributed to the mobilization of the fatty deposits in the body, and perhaps also to tissue degeneration. Epstein's diet, therefore, is rich in protein and poor in fat to meet these conditions.

EPSTEIN'S DIET.

The daily food value is from 1,280 to 2,500 calories.
Protein from 120 to 240 grams.
Fat (unavoidable) 20 to 40 grams.
Carbohydrates 150 to 300 grams.
The articles used are lean veal, lean ham, whites of eggs, oysters, gelatin, Lima beans, lentils, split peas, green peas, mushrooms, rice, oatmeal, bananas, skimmed milk, coffee, tea, and cocoa.
Of fluid, 1,200 to 1,500 c.cm. are allowed, and the amount of salt is in quantity sufficient to make the food palatable.

Fortunately, at the time when this patient was in St. Thomas's Hospital, Drs. MacLean and De Wesselow were already engaged in their investigation on war nephritis which is being carried on there, and I obtained their ready assistance for the investigation of my case.

Two striking facts emerged: first, during the period of diuresis the already low protein content of the blood plasma tended rather to diminish than to increase; secondly, the urea content of the blood became augmented. The actual figures were as follows:

Date.	Protein in Blood Plasma.	Urea in Blood.
	Per cent.	
October 13th, 1918	6.29	27 mg. per 100 c.cm.
November 20th, 1918	6.20	64 mg. per 100 c.cm.
December 3rd, 1918	6.00	56 mg. per 100 c.cm.
January 3rd, 1919	—	81 mg. per 100 c.cm.
January 22nd, 1919	5.96	63 mg. per 100 c.cm.

These results led Dr. MacLean to infer that, in this instance at all events, Epstein's explanation of the disappearance of the dropsical effusions could not apply, and that the diuresis and consequent disappearance of the effused fluid from the subcutaneous tissues and the serous sacs which resulted from the adoption of the rich protein diet was to be attributed, not to an increased richness of the blood in protein, but to an increase in its urea content, which rose from 27 mg. per 100 c.cm. at the beginning of the new diet to an average of about 60 mg. per 100 c.cm. Urea is known to be a powerful diuretic, and the administration of fairly large doses of urea to patients who suffer from renal oedema has been found to set up a diuresis similar to that which occurred in the case just narrated.

Whether patients who are the subjects of oedematous renal disease can be injured by the adoption of the high protein diet is a question which calls for serious consideration. The institution of such a diet does not appear to increase in any appreciable degree the amount of albumin which is being lost by the kidneys, and which in itself must be a serious drain, but, as we have seen, it does undoubtedly increase the amount of urea, and presumably also the other non-protein nitrogenous bodies, in the blood. The administration of urea in large doses occasionally induces headache, but apparently, in healthy persons at all events, has no appreciable effect in raising the blood pressure. My patient, although free from oedema and serous effusions and making no complaint of headache or other discomfort, shows a gradually increasing blood pressure, which at the last observation has reached 220 mm. of mercury. It is tempting to associate this rise of pressure with the retention of the non-protein nitrogenous substances in the blood, and it is important to determine whether increased blood pressure is the usual sequel of a rich protein diet in such cases. There is some reason to suspect that it is.

At the same time it is well to bear in mind that patients with large white kidneys who survive the oedematous stage are described as passing into a condition comparable to that induced by contracted granular kidneys—that is to say, a condition in which increasing polyuria is associated with pronounced cardio-vascular changes. It might well be urged, therefore, that the present condition of my patient is but the natural result of the evolution of his disease. Whatever be the explanation, the fact remains that the adoption of the high protein diet enables these patients to survive the waterlogged stage and its associated dangers, a survival which experience has shown was rare before this type of diet was adopted.

As regards diet in *acute* nephritis we remain much where we were. A low protein supply is obviously indicated in the early stage of the disease owing to the presence of urea retention. Should dropsy be present, it is also advisable to restrict or eliminate salt, and not to allow *excessive* ingestion of fluids. The old warning against beef-tea and meat extracts is justified since they are rich in both salt and nitrogenous derivatives, whilst the idea that toxic products might be eliminated by considerably increasing the fluid intake is not supported by what we know about the mechanism of the oedema. Milk still remains our staple article of food at this stage, not because it is a non-nitrogenous diet, which it assuredly is not, but because it is easily assimilated, slightly diuretic, and by experience found to be least harmful. When the acute stage is passed, a rather more liberal protein diet appears to do no harm. The addition of some protein to the carbohydrates usually allowed at this stage does not appear to increase the albumin or produce other harmful effects.

As to chronic nephritis of the hydraemic type, Epstein's diet certainly affords slow and steady relief to the dropsical symptoms, but the ultimate outcome is still *sub judice*, whilst in that form of which the granular kidney is the type and urea retention the rule, the established treatment by reducing the protein and extractives is fully corroborated.

THE LIFE-HISTORY OF THE FIRST CASE OF MYXOEDEMA TREATED BY THYROID EXTRACT.

BY GEORGE R. MURRAY, M.D., D.C.L., F.R.C.P.,
PROFESSOR OF SYSTEMATIC MEDICINE IN THE VICTORIA UNIVERSITY, AND PHYSICIAN TO THE ROYAL INFIRMARY, MANCHESTER; LATELY COLONEL A.M.S. AND CONSULTING PHYSICIAN IN ITALY.

THE development of the principles and practice of endocrinology during the last thirty years has been rapid and progressive. The practice of this branch of medicine has unfortunately not always been based on sound physiological principles, so that glandular extracts have been given indiscriminately in many conditions with disappointing results. In the case of some preparations there is little evidence that the hormones they are supposed to contain are able to exert their normal physiological action when given by the mouth. It therefore may be

of interest to complete the life-history of the first case of myxoedema successfully treated by thyroid extract—it has recently terminated at the age of 74—as the results obtained in this case not only afforded definite proof that the thyroid gland produced an internal secretion, but showed that the thyroidal insufficiency of myxoedema in man could be made good by maintaining an adequate supply of thyroidal hormones from an external source.

During the war we learned to appreciate more fully the value of the collective investigation of disease for which the aggregation of large numbers of men under military discipline and the co-operation of groups of medical officers provided the opportunity. A striking example of the results to be obtained by this method had, however, already been furnished by the publication, in 1888, of the report of the special committee which was appointed by the Clinical Society[1] in 1883 to investigate the relation of myxoedema and allied conditions to the thyroid gland. The history of the subsequent developments of the treatment of these maladies as a direct result of the work of this committee has just been so clearly given by Mr. Stephen Paget[2] that further reference to it is not necessary. It is, of course, well known that the experimental work of Sir Victor Horsley, which was undertaken at the request of this committee, first definitely proved that myxoedema, cretinism, and cachexia strumipriva were due to loss of function of the thyroid gland. Although at that time it had not been proved that this function was to provide an internal secretion, he suggested that grafting a portion of healthy thyroid gland would be a rational method of treating these maladies.[3] The striking improvement which followed the adoption of this suggestion in Bettencourt and Serrano's[4] case led me to suggest and carry out the treatment of myxoedema by thyroid extract in the case whose complete life-history I now wish to record as an example of the value of observation of individual cases over long periods of time in the elucidation of certain problems in medicine.

Mrs. S., aged 46, was shown at a meeting of the Northumberland and Durham Medical Society on February 12th, 1891.[5] She had had a family of nine children, of whom six were living. At the age of 40 she had a miscarriage, after which she had menstruated once, at the age of 42. When she was 41 or 42 years of age her relations had noticed that she was becoming slow in speech and action, and she herself began to find that it required a great effort to carry on her ordinary housework. The features gradually became enlarged and thickened and the hands and feet increased in size and changed in shape, so that at the time of this meeting she presented the typical features of an advanced case of myxoedema of at least four years' duration. After showing the patient, I stated my intention of treating her with thyroid extract, and described the principles upon which this treatment was based and the reasons for expecting that it would be successful. The treatment was not commenced until two months later, and the following note taken on April 13th, 1891, describes her condition at that time:

> She complains of languor, a disinclination to see strangers, and great sensitiveness to cold. The temperature is subnormal, and varies between 95.6° and 97.2° in the mouth. The pulse varies between 60 and 70. The face is blank and expressionless and the features are notably thickened. This change is well seen in the alae nasi and lips. The subcutaneous connective tissue of the eyelids is so swollen that she finds it difficult to look upwards. There is also considerable swelling beneath the eyes and of the cheeks. The hands and feet are both enlarged; the former have that peculiar shape which has been described as spade-like. The skin is very dry, there is no perspiration, and the superficial layers of the epidermis are continually being shed as a fine white powder. The hair is very fine in texture, and a considerable quantity of it has been lost. She is slow in answering questions; all her actions are slow and are performed with difficulty. The speech is remarkably slow and drawling and the memory is bad. No thyroid gland can be felt in the neck. The urine contains no albumin or sugar.

The experimental nature of the treatment was explained, and the patient, realizing the otherwise hopeless outlook, promptly consented to its trial. In order to ensure that the extract was properly prepared, the thyroid gland was removed from a freshly killed sheep with sterilized instruments and conveyed at once in a sterilized bottle to the laboratory where the glycerin extract was prepared, as elsewhere described.[6] This extract was afterwards included in the *British Pharmacopoeia* of 1898 as "liquor thyroidei."

At that time care in obtaining the actual thyroid gland was necessary, as was shown by the experience of the late Dr. Michell Clarke, who, in the course of a discussion on a paper read by me at the annual meeting of the British Medical Association at Nottingham in 1892,[7] stated that he had carried out the treatment without any benefit in two cases. Several years later Dr. Clarke kindly told me he had subsequently discovered that his want of success was due to the fact that the butcher had been supplying thymus instead of thyroid gland for the preparation of the extract. Even in recent years some thyroid preparations have proved to be inactive. In the treatment of this first case a hypodermic injection of 25 minims of the extract was given twice a week at first, and later on at longer intervals. The patient steadily improved, and three months later, on July 13th, the condition was thus described:

> The swelling has gradually diminished, and has practically disappeared from the backs of the hands, the skin over them being now loose and freely movable. The lips are much smaller. The swelling of the upper eyelids has diminished so much that she can look upwards quite easily. The swelling beneath the eyes and of the cheeks has also much diminished. The face consequently, as a whole, has greatly improved in appearance and has much more expression, as many of the natural wrinkles, especially about the forehead, have returned. The speech has become more rapid and fluent, the drawl being scarcely noticeable at the present time. She answers questions much more readily, the mind has become more active, and the memory has improved. She is more active in all her movements, and finds that it requires much less effort than formerly to do her housework. She now walks about the streets without any hesitation without a companion.
>
> She has menstruated normally during the last six weeks at the regular interval. For the last four weeks the skin has been much less dry and she perspires when walking. The hair remains as before. She is no longer so sensitive to cold. Unfortunately owing to circumstances a daily record of the temperature has not been kept, but out of four observations that have been made lately, about 11 a.m., three times the temperature has been 98.2° F. and once 97.4.°

After this the injections were given at fortnightly intervals, and later on, when the oral administration had been shown by Dr. E. L. Fox and Dr. Hector Mackenzie[8] to be equally efficient, she took 10 minims by the mouth six nights a week, so that 1 drachm was consumed in the course of each week. On this dose she remained in good health, and free from the signs of myxoedema. I have only seen this patient once during the last eleven years, but Dr. Helen Gurney, medical registrar at the Royal Victoria Infirmary, Newcastle, has kindly kept her under observation, and has informed me that she continued to take liquid thyroid extract regularly until early in 1918, when it became difficult to obtain, so that she was given dry thyroid extract in a tablet instead. She enjoyed excellent health until early in 1919, when she developed oedema of the legs, and died in May of that year at the age of 74 from cardiac failure.

This patient was thus enabled, by the regular and continued use of thyroid extract, to live in good health for over twenty-eight years after she had reached an advanced stage of myxoedema. During this period she consumed over nine pints of liquid thyroid extract or its equivalent, prepared from the thyroid glands of more than 870 sheep.

The results obtained in this case show that:

1. The thyroid is purely an internal secretory gland.
2. The symptoms of myxoedema can be entirely removed, and the patient maintained in good health, by the continuous administration of thyroid extract.
3. The functions of this gland in man can be fully and permanently carried on by the continued supply of thyroidal hormones obtained from one of the lower animals.
4. The duration of life need not be shortened by atrophy of the thyroid gland provided this substitution treatment is fully maintained, and so under these circumstances the prognosis of myxoedema is very good.

REFERENCES.

[1] Clinical Society's *Transactions*, Supplement to vol. xxi. [2] *Sir Victor Horsley: A Study of His Life and Work*, by Stephen Paget, pp. 52–67. [3] BRITISH MEDICAL JOURNAL, February 8th, 1890, p. 287. [4] *La Semaine Médicale*, August 13th, 1890. [5] *Transactions* of the Northumberland and Durham Medical Society, February, 1891. [6] BRITISH MEDICAL JOURNAL, October 10th, 1891. [7] Ibid., August 27th, 1892. [8] Ibid., October 29th, 1892.

THE USE OF ANTISTREPTOCOCCIC SERUM IN QUINSY.

By NOEL C. FORSYTH, M.D.,
MALTON.

FIVE years ago it fell to my lot to treat a case of double quinsy which did not run the usual course. The report on a swab from the throat was: "Diphtheria bacilli not present; abundant growth of streptococcus." The patient, a man aged 32, was very ill; 2,000 units of antidiphtherial serum were injected when he was first seen. The second tonsil developed an abscess on the third day, and there was an abscess of the soft palate. Eventually the right cervical glands suppurated; he developed also extensive neuritis of the upper and lower limbs. He was invalided for eight months, and ultimately recovered. The ordinary treatment of quinsy was unavailing.

On the assumption that the primary cause was a streptococcus, it was determined to treat any subsequent cases of quinsy with antistreptococcic serum. Cases were selected in which the abscess had not perforated and in which the conditions were definitely acute.

The following routine was adopted: Serum (10 c.cm.) was injected at once; if there was any doubt of diphtheria 2,000 units of antidiphtherial serum were added. The injection was made in the thigh, hypodermically. As regards drugs, the usual initial purge was given; and thymol, carbolic lotion, and hydrogen peroxide were used for washing out and swabbing the mouth and throat. Ten cases only were treated.

A.-S. = Antistreptococcic serum, 10 c.cm.
A.-D. = Antidiphtherial serum.

CASE I.—*Double Quinsy.*

J. C., aged 31, farm wagoner, gave a history of quinsy once before. He had been ill one day. The temperature was 103.8° F. Both tonsils were much enlarged, the left most markedly; they met in the middle line. The soft palate was swollen and congested. A glairy translucent membrane covered the inflamed surfaces. A.-S. was injected.

Next morning he was improved. He could swallow his saliva and drink tea with some difficulty. He said that the acute pain over the tonsils and at the angles of the jaw had appreciably lessened some six hours after the injection. He had perspired freely throughout the night.

The left tonsil discharged twenty-four hours and the right forty-eight hours after the injection. The soft palate perforated and discharged a short time after. He went out for the first time on the seventh day. Between six and seven days after the injection urticaria developed all over the body and limbs. The throat was examined some months later; both tonsils were enlarged and pitted; operation was advised, but was refused.

CASE II.—*Double Quinsy.*

A farmer, aged 38, had had quinsy on one previous occasion. He had been ill one day. Both tonsils were enlarged and inflamed, as also were the fauces and soft palate. There was a translucent glairy membrane over the inflamed surfaces. The temperature was 103.8° F. A.-S. injected at 5 p.m.

Next morning he had improved. He could swallow fluids with some difficulty. He had perspired freely, and complained of a frontal headache. The acute pain in the throat had been appreciably eased during the night. The tonsils discharged some thirty-six hours after the injection. The rash appeared on the seventh day after the injection. He was out in the harvest field on the sixth day superintending his men.

CASE III.—*Double Quinsy.*

A soldier, aged 23, with no previous history of quinsy, had been ill two days. The temperature was 104° F. Both tonsils, the fauces, and soft palate were swollen and inflamed. The teeth were very septic—stumps with an overlying dental plate. A.-S. injected.

There was appreciable relief of pain in about ten hours. The tonsils discharged on the second day after the injection, the fourth day of the illness; the congested soft palate did not form an abscess. Urticaria developed on the seventh day after the serum. The man was not able to get about until the tenth day from the onset. The mouth was very much inflamed, with gingivitis and sordes.

CASE IV.—*Double Quinsy.*

F. P., aged 28, gave no history of a previous attack. He had suffered from "sore throat" for two days, but he had been able to go about. The temperature was 103.6° F. There was marked swelling of both tonsils, and of the soft palate; there was a glairy membrane over the inflamed surfaces. A swab was sent for cultivation. A.-S. 5 c.cm., with 2,000 units of A.-D., were injected at about midday. He experienced some slight relief by 7 p.m.

Next day the temperature was 101.8° F., and he was in great distress. A similar dose of both serums was injected. By the evening, eight hours later, there was marked relief. The abscesses were discharging pus on the fifth day of the illness. Urticaria developed in about six and a half days after the injection. The rash spread over the arms and thighs—first appearing there—thence over the whole body and head. It was apparent on the lips, and the eyelids were said to have been oedematous. The result of the swab was: "Diphtheria bacilli not present; a growth of streptococcus."

The man was able to do light office work on the eleventh day after the onset of his illness.

CASE V.—*Double Quinsy.*

A farm labourer, aged 24, had had no previous attack. Both tonsils were enlarged and reddened. A.-S. injected.

He said that the pain was much relieved some hours afterwards. Both tonsils discharged on the second day after the serum, the fourth of his illness. Urticaria appeared round the injection site and over the abdomen on the seventh day after injection. Operation later was refused.

CASE VI.—*Right Quinsy.*

Housemaid, aged 25, had had quinsy once before. She was first seen on the second day of her illness. The right tonsil was much swollen; the left swollen and inflamed, but not so markedly. The pain was on the right side. The temperature was 104° F. A.-S. was injected.

She said that the pain was appreciably relieved some ten hours afterwards. The right tonsil discharged on the fourth day of her illness. The left tonsil did not suppurate. Urticaria was said to have appeared on the seventh day after injection, but I did not see the rash. She left her situation on the eighth day after her illness and went home to another locality.

CASE VII.—*Right Quinsy.*

A lad, aged 17, who had had no previous attack, had been ill one day. The temperature was 104.2° F. A.-S. injected. The pain was much improved next morning. The tonsil discharged on the third day after injection, and urticaria appeared on the seventh day after.

CASE VIII.—*Left Quinsy.*

A lad, aged 16, was seen first on the third day of his illness. The temperature was 104.6° F. A.-S. injected. The pain was appreciably relieved some hours afterwards. The left tonsil discharged on the fourth day of his illness. Urticaria appeared on the seventh day after the serum; the rash was "out" for about twelve hours.

CASE IX.—*Right Quinsy.*

A fireman, aged 24, who gave no previous history of quinsy, had been ill one day. The temperature was 103.8° F. A.-S. injected. The tonsil discharged on the third day of his illness. The pain over the tonsil was much relieved before the abscess discharged. Urticaria appeared on the sixth day after the injection; it was confined to the right thigh and leg. He was off work for fourteen days.

CASE X.—*Left Quinsy.*

J. C., the same patient as recorded in Case I, two and a half years after his last attack developed an abscess of the left tonsil. He was seen the day after the onset, when the temperature was 103.6° F. Ten c.cm. A.-S. serum was injected. The left tonsil discharged on the fourth day of his illness. He again experienced definite relief of his pain some hours after injection. Urticaria appeared on the sixth day afterwards, but he thought the rash was not so acute as on the previous occasion.

This man agreed to have his tonsils removed, but he left the district shortly after without submitting to the operation.

It would appear that the most definite result obtained in these cases was the relief of pain—if an opinion may be formed from the small number treated with antistreptococcic serum. In all, pain was appreciably relieved in from six to twelve hours; the more or less acute pain when swallowing was eased some hours after that, but within a definite time before the abscess ruptured.

In no case was incision of the abscess required by reason of the severity of the symptoms, and in all so treated there was pus discharging from the abscess on the fourth day of the illness; except in Case IV, in which the discharge was on the fifth day.

The temperature was as a rule taken in the axilla, when there was marked distress. The temperature approximated to the normal one or two days after the serum injection. A four-hourly chart would have shown the serum reaction, but it was not possible to construct one because not one of the cases had a nurse sufficiently trained.

It is to be regretted that calcium lactate was not given three or four days after the serum, so as to have prevented or modified the urticaria, but at the time I did not know of the proper method of its administration.

The serum used throughout was antistreptococcic, polyvalent, manufactured at Evans and Webb's laboratory.

THREE CASES OF ACUTE PERFORATION OF DUODENAL ULCER: LAPAROTOMY: RECOVERY.

BY

E. HUNTLEY, B.S.LOND., CAPTAIN R.A.M.C.(T.C.),

SURGICAL SPECIALIST, MILITARY HOSPITAL, TIDWORTH, SALISBURY PLAIN.

THE notes of these cases illustrate the importance of early operation to secure a successful issue.

CASE I.

B. M., aged 32, a private A.I.F., was brought into hospital in the early hours of the morning of October 13th, 1919, cold and collapsed; he vomited some coffee-grounds fluid as he was being put to bed. He gave a history of being first taken ill with pains in the upper part of the abdomen on October 6th, and being sick once or twice. The pains came on worse two to three hours after taking food. He reported sick on October 7th, and was given a "dose of medicine." On October 8th he felt better, but vomited several times during the day, the vomiting relieving the pain in the epigastric region. He seems to have dragged about until the evening of October 12th, when he had a sudden acute pain just above the umbilicus, to the right of the middle line, and was very sick. On admission the whole abdomen was very hard and rigid, and abdominal respiratory movements were absent. There was acute tenderness above the umbilicus, distinctly greater towards the right of the middle line. There was no distension of the abdomen. Liver dullness was absent.

He was prepared for operation, and as soon as possible laparotomy was performed through the right rectus muscle. Immediately on opening the peritoneum gas escaped, as well as a certain amount of bile-stained fluid. The perforation was soon found in the first part of the duodenum, on its anterior aspect, through which gas and fluid were escaping. As much fluid as possible was mopped out of the right kidney pouch of the peritoneum and the perforation closed, a small tag of omentum being sutured immediately over the opening to strengthen the closure. A wick drainage tube was placed in the right kidney pouch and the incision closed. A second opening was made in the middle line, below the umbilicus, and a considerable quantity of thick bile-stained fluid was mopped out of the pelvis, into which a second wick drain was passed and the incision closed. This ulcer was found to be of quite recent origin, there being no marked hardness of its edges and very little recent lymph about.

This patient made an uninterrupted recovery; he did not vomit once after the operation down to his departure to a convalescent home on November 21st, 1919.

CASE II.

C. T. W., aged 22, a bombardier in R.F.A., was admitted to hospital on the evening of November 27th, 1919, in a mildly collapsed condition with pain in the upper part of the abdomen. He gave a history of having had "indigestion pains" of a griping nature for a week, but with no vomiting. He had taken aperient medicine which had acted. The pains were worse about four hours after food. On the morning of November 27th, 1919, they became suddenly more severe, and he reported sick. Marked rigidity of the whole abdominal wall was found with tenderness above and to the right of the middle line. During the examination he vomited some thin greenish fluid. There was no distension of the abdomen, but the liver dullness was absent.

Laparotomy was performed the same evening, but only after some delay, owing to patient refusing operation, as he said he did not feel ill enough and would give permission, if necessary, in the morning after he had had a good sleep. An incision was made through the right rectus muscle; on opening the peritoneum, gas escaped and a large quantity of fluid had to be mopped out of the right kidney pouch and elsewhere before any perforation could be found. It was seen to be situated at the junction of the first and second portions of the duodenum. There was much recent lymph about and the ulcer was hard edged and difficult to get at, partly owing to its position and partly to bile-stained fluid constantly welling up through the perforation. After closing this and soaking up as much fluid as possible in the right pouch and pelvis, both these regions were drained with wick drainage tubes and the incisions closed. A very large quantity of fluid had gravitated into the pelvis in this case.

The patient was very troubled for several days following the operation with vomiting and distension. Once the bowels had acted, however, he progressed quite happily, and was discharged from hospital on December 31st, 1919, to convalesce.

CASE III.

J. B., aged 34, a gunner, R.G.A., was brought into hospital at about 6 p.m. on January 17th, 1920. He stated that he had abdominal discomfort for three weeks, with pain, a feeling of nausea, distension above the level of the umbilicus, and occasional attacks of vomiting. The pain was worse several hours after food. He was able to carry on his duties until the morning of January 17th, 1920, when he was seized with violent pain about the epigastric region whilst he was sweeping out his hut. He vomited and went to lie down. The pains got worse, and he began to feel ill and reported sick. On examination the abdominal wall was very rigid all over, with considerable tenderness in the epigastrium almost directly in the middle line. There was decided distension of the abdomen, with dullness marked towards the right loin. The liver dullness was completely absent. He vomited some greenish fluid.

As soon as the patient could be got ready laparotomy was performed through the right rectus muscle above the level of the umbilicus. When the peritoneum was opened gas escaped, followed by a large quantity of thickish green fluid, which welled up from the right kidney pouch as well as from the lower part of the abdomen. The ulcer was soon found in the first part of the duodenum and closed. It was of recent origin, the edges being free from hardness, and hardly any lymph was about except on the liver and omentum. Both the right kidney pouch and the pelvis were drained as in the other cases.

Except for some slight suppuration at the upper end of the main incision, this patient recovered extremely well, considering the history he volunteered of a profound liking for alcohol. He is now quite convalescent.

The recovery of these three patients was, in my opinion, largely due to the great care and skill bestowed on them by the nursing staff, to whom I am greatly indebted.

For permission to publish these notes I have to thank Lieut.-Colonel Langford N. Lloyd, C.M.G., D.S.O., R.A.M.C., commanding Military Hospital, Tidworth.

PAPILLIFEROUS CARCINOMA OF THE THYROID GLAND.

BY

BASIL HUGHES, D.S.O., M.A., M.B., B.CH.CAMB., B.SC.LOND., F.R.C.S.,

ASSISTANT HONORARY SURGEON, CHILDREN'S HOSPITAL, BRADFORD; PATHOLOGIST, ROYAL INFIRMARY, BRADFORD.

PAPILLIFEROUS CARCINOMA is uncommon at any age, and must be extremely rare in a child of 13. It presents also certain clinical features of importance in prognosis to which attention may be called.

C. S., a girl aged 13, was seen first at the out-patient department of the Bradford Children's Hospital in October, 1918. Her mother stated that three years earlier a swelling appeared in the middle line of the neck; for ten months it had been noticed that not only was the swelling getting bigger but that additional swellings had appeared on the right side of the neck, and these had grown larger. There had been no pain, cough, dyspnoea, change in the voice, or difficulty in swallowing, and no loss of weight.

Examination showed a tumour confined to the right half of the thyroid gland, moving on deglutition, but adherent to the trachea. It appeared to surround the carotid sheath rather than displace it. It was peculiarly hard and knobby to the touch, and was wholly above the sternum. In addition there were three large easily movable and discrete lymphatic glands in the right side of the neck. The pupils were equal, and the vocal cords moved normally.

The patient was admitted to hospital and the enlarged lymphatic glands were removed without difficulty, as they shelled out with the greatest ease. Sections examined microscopically were remarkable in that there was no trace of any true lymphatic tissue to be seen, the whole gland substance being replaced by metastases from the primary growth in the thyroid gland.

A month later the right lobe of the thyroid gland was removed through a transverse incision. This procedure was more difficult as the growth was firmly adherent to the trachea and carotid sheath. The superior thyroid artery was first secured and ligatured, and the tumour was then attacked from below. With difficulty it was separated from the trachea and carotid sheath; during the process some of the contents of the tumour escaped. The whole area of operation was well protected with sterile gauze so that soiling of the wound was prevented. Branches of the inferior thyroid artery were ligatured as they were divided and the recurrent laryngeal nerve was carefully preserved. The resection completed, the wound was approximated with buried catgut sutures and the skin brought together with a subcutaneous stitch of fishing gut. Drainage was not employed. The wound healed by first intention and the subcutaneous stitch was removed on the sixth day.

Microscopical examination of the tumour showed it to be identical in structure with that in the lymphatic glands—that is, it was a true papilliferous carcinoma. The tumour itself was hard to the touch and contained on its surface numerous dark-coloured irregularities resembling cysts into which haemorrhage had occurred. On opening these a sanious fluid escaped, and slight pressure caused the exudation from them of a yellowish caseous material, which proved to be intracystic papilliferous growth. This was the naked eye structure of the tumour throughout, and in it no normal thyroid tissue appeared to exist. It was evidently these tense cystic structures that gave the knobby, irregular feel to the tumour.

In places where the tumour was firmly adherent to the trachea and carotid sheath this seemed to have come about in the following way. The cyst wall had ruptured and the papilliferous growth had directly grafted itself on to these structures.

The naked eye appearance of the lymphatic glands was interesting. On cutting them across they presented a peculiar arborescent appearance, and on squeezing them their contents escaped as a caseous, yellowish material.

It is now three months since I operated upon the child, and at present there is no sign of any recurrence and she is perfectly well.

The only other case I have seen of this disease was that of an elderly lady over 70 years of age. A portion of the thyroid gland had been removed eight years previously, and proved on section to be a papilliferous carcinoma.

Eight years later she had an extensive enlargement of the lymphatic glands on one side of her neck. They were easily removed, and on section proved to contain metastases from the growth removed eight years previously. This case was under the care of Mr. James Berry, who very kindly asked me to assist him at the latter operation.

During the six months in which I was Mr. Berry's house-surgeon, and in which period I saw many cases of goitre, this was the only instance of papilliferous disease. Very little has appeared in the literature about this condition, and the chief points of interest with regard to it, in addition to its extreme rarity, are that it usually occurs in patients over 40 years of age, and that it is usually far less malignant than the ordinary carcinomata, the history often extending over many years. For a long time these tumours show very little tendency to infiltrate; the metastases are local and situated in the glands of the neck, and they may appear years after the removal of the original growth. The infected glands remain movable and discrete, and their removal is easily accomplished. The original tumour, if removed before infiltration has occurred, shows little tendency to recur.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PROLONGED RETENTION OF FOREIGN BODY IN THE CORNEA.

A MAN, aged 21, applied for treatment at this hospital for pain in his right eye. There was some pericorneal injection, and situated in the central region of the cornea was a leucoma, which at the centre was brownish and looked necrotic. On further examination with the oblique light a metallic glitter was seen, and a foreign body of iron or steel 1½ mm. long and ½ mm. broad was removed from a distinct cavity in the centre of the leucoma.

The history showed that a hot metallic fragment entered the patient's eye in 1915, at which date the foreign body was not removed. This I have been able to verify by old hospital notes. Subsequent to this date no foreign body had entered the eye.

Between 1915 and 1920 the fragment remained in the cornea with no inconvenience to the patient except for the presence of the leucoma, which seems to have formed a fibrous capsule round the foreign body; ultimately the fragment became exposed by a natural process of ulceration.

I have not been able to find in the literature any case in which a metallic foreign body lay dormant in the cornea for so long a period as five years without causing any inconvenience to the patient.

I am indebted to Mr. C. Walker, F.R.C.S., surgeon to the hospital, for permission to publish this case.

E. R. CHAMBERS, M.R.C.S., L.R.C.P.,
House-Surgeon, Bristol Eye Hospital.

A CASE OF CERVICAL ABORTION.

A. B., aged 29, was admitted to Dundee Royal Infirmary, under the care of Dr. R. C. Buist, with bleeding of one week's duration, following a two months' period of amenorrhoea. She had had three miscarriages, the last nine months previously. On this occasion two days before admission she had pain in the lower part of the abdomen and back, and sharp bleeding came on.

On examination the cervix appeared in the vagina as a soft cystic swelling, about 2 in. in diameter, and above it the body of the uterus could be felt, empty and contracted. The external os was closed; only a very small part of discoloured blood-clot was protruding.

The os was dilated instrumentally to admit the finger, which entered a smooth cavity containing a soft mass. Beyond the cavity the finger entered a passage, which opened to meet it. This was recognized as the cavity of the uterus, the contracted body of which could be felt also bimanually. The soft mass was loose, except for a strand of slender tissue, which continued into the cavity of the uterus. As this strand did not separate easily, the cervix was plugged with flavine gauze. This was removed at the end of twenty-four hours. On examination twenty-four hours later again the cervix was found to be empty and flaccid, and the examining finger in the cervical canal could feel the cavity of the uterus leading off from it. The ovum had escaped unobserved.

The case is peculiar in the comparative infrequency of this form of abortion, and in that the patient was not a primipara, and there was no stenosis of os.

GLADYS J. C. RUSSELL, M.B., Ch.B.
Royal Infirmary, Dundee.

Reports of Societies.

CHRONIC HALLUCINATORY PSYCHOSIS.

AT the quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland, held at 11, Chandos Street, London, on February 24th, under the presidency of Dr. BEDFORD PIERCE, Professor R. HUNTER STEEN, M.D., read a paper on chronic hallucinatory psychosis, founded upon a series of cases in which the principal symptom was the presence of hallucinations. As the hallucinations caused slight depression, some of the cases might be included under melancholia, while the development of delusions of persecution might lead to a provisional diagnosis of paranoia. Others, again, might be swept into the wide net of dementia praecox. He set out to show that there were hallucinatory cases that could be grouped together into a well defined clinical entity, for which he proposed the term "chronic hallucinatory psychosis." The most prominent of the hallucinations were auditory. The patient might for years recognize that his hallucinations were morbid and unaccountable. These patients could not be termed insane, hence he preferred the word "psychosis" to "insanity." In the absence of an explanation the patient tried to account for their presence, and a delusion resulted, mostly one of persecution. In the early stages such a patient was quiet and orderly and his memory was good. The author quoted several typical cases. In most of them—for it could not be regarded as a rare affection—careful research into the family history revealed a strong hereditary tendency to nervous instability. It seemed an affection of adult life, usually beginning between 30 and 50. It was met with mostly in women, and not those of the lowest rank of life. The special morbid anatomy of the condition was unknown. Not one of Dr. Steen's cases had died, and he knew of no published accounts of *post-mortem* examinations in such cases.

Etiology, Diagnosis, Treatment.

The phenomena could be best understood if approached from the psychical side purely, though theories had been advanced founded upon material conceptions. A hallucination was the result of dissociation of the mind, directly produced by a mental conflict which had been sternly repressed, perhaps for a long time, in a person of congenitally unstable mind. Sleeplessness was not prominent except in the later stages. The expression became anxious, a listening attitude might be noted, and the voices might be conversed with; violence was sometimes threatened, and suicide suggested. Though there were periods of remission, on the whole the disease steadily progressed in intensity, and having reached its zenith, remained stationary for several years. Dr. Steen discussed the differential diagnosis of the condition from general paralysis of the insane, the manic-depressive group, true melancholia, the secondary and organic dementias, and paranoia, the last named being the most difficult to differentiate. The earlier a case was seen the more hopeful the outlook. When delusions had developed, but little could be done to avert chronicity. The general health was not affected, and there appeared to be no danger of terminal

dementia. In the early stages change of environment sometimes did good. Rest from work, freedom from anxiety, and change of air and scene should be advised; plenty of nourishing food should be taken, and the bowels kept regular. In some cases it was well to give an occasional hypnotic to secure sleep. If, however, small doses of the bromides or hydrobromic acid led to no improvement, a thorough mental examination must be made; it would probably bring to light a mental conflict which had caused the dissociation. The present difficulty of getting into touch with these cases in the early stage was likely to be less in the future, with the multiplication of mental out-patient departments attached to large hospitals.

The PRESIDENT did not consider that Dr. Steen had quite established the claim to regard the malady he described as a separate disease from paranoia. Paranoia was shown by Dr. Percy Smith, in his presidential address, to be an exact clinical entity. Was it possible for a mental conflict to produce dissociation?

Dr. MENZIES said this type of case became very demented in the course of twenty or twenty-five years, the patients becoming ordinary chronic lunatics. At necropsy more or less thickening and chronic resolution was always found. The cases were first called paranoiacs, and then chronic maniacs. These matters were not, he thought, to be regarded purely from the psychical standpoint; unless the anatomical, and especially the chemical, aspects were also considered there would not be much advance.

Dr. PERCY SMITH said that observers in various countries who described paranoia had referred to acute hallucinatory paranoia and chronic hallucinatory paranoia, and included in the writings upon paranoia were almost all the kinds of acute psychosis met with—even acute delirious conditions, which was absurd. It would be too sweeping to assert that in no cases of paranoia were there hallucinations. In the address referred to, he had pointed out that chronic hallucinatory cases, to which the term paranoia was properly applied, often began with a serious emotional disturbance. Many cases of paranoia had hallucinations. He thought psycho-analysis might help in the early stages of the cases described.

Dr. STEEN, in reply, said he was not prepared to explain how a mental conflict produced dissociation, but he had no doubt of the fact, especially when the conflict was strongly repressed. In one of his cases revelation of the source of conflict was followed by three years' relief. He agreed there were hallucinations in some cases of paranoia, but that was a disease characterized by delusions, with, as a rule, absence of hallucinations; certainly the latter were not characteristic of paranoia, while they were in the cases now described. An approach from the psychical side gave a better insight into the condition than the assumption of a causal physical basis. Early psycho-analysis, he believed, would enable many cases to recover.

EARLY DIAGNOSIS OF SYPHILIS.

THE third sessional meeting of the East Riding Division of the British Medical Association was held in the Board Room of the Hull Royal Infirmary on February 5th, with Dr. TURTON in the chair.

Dr. E. HARRISON, in the course of an address on the early diagnosis of syphilis, said that if a sore could be diagnosed within a few days of its appearance there was a very great probability that a course of "914" and mercury extending over six weeks would cure the disease. If, however, two or three weeks were allowed to pass before beginning treatment then one course of injections would probably not suffice, and if postponed until the commencement of the secondary stage much more prolonged treatment was necessary. He held that treatment should not be initiated until a diagnosis had been made. Early treatment following on early diagnosis was of importance to the community at large, as after a few injections the patient was no longer infective. Every sore found on the penis, however trifling in character, should be looked upon as a possible chancre. A genital sore might be syphilis, chancroid, scabies, herpes, or traumatic. The resources for arriving at a diagnosis were (1) the history, (2) the clinical signs, (3) the microscopic findings, (4) the Wassermann reaction, (5) the therapeutic test. The history was not often of much value. The clinical signs, in spite of the existence of modern methods of diagnosis, still remained the most important means of diagnosis. It must be remembered that the existence of a soft sore did not rule out syphilis. From his experience at the clinic Dr. Harrison concluded that, in Hull at any rate, chancroid pure and simple was a rare condition; nearly always there was syphilis at the back of it. He next gave a description of the method of collecting serum for microscopic examination, the manner of examination, and points of distinction between the *S. pallida* and other spironemes. The microscope served to confirm the diagnosis made on clinical grounds; it was of great value in all doubtful cases; and in soft sores it often yielded early positive evidence of syphilis. Until serum for the microscope had been taken no antiseptic should be used locally. The Wassermann reaction was of no value in the early diagnosis of syphilis, as it did not become positive for from two to six weeks after the appearance of the sore. Thus a negative report did not exclude syphilis for six weeks after the manifestation of symptoms.

Dr. TURTON, in thanking Dr. Harrison for his very excellent address, emphasized the uselessness and even danger of trusting to the Wassermann test in early syphilis. It was, however, of great value in the late stage; but even here, when the blood gave a negative reaction, the cerebro-spinal fluid might be positive.

Dr. RITCHIE RODGER said that symptoms sometimes appeared in the throat before the primary sore had disappeared; and sometimes, especially in women, these signs were the first thing to be observed; in such cases the Wassermann test was of some value.

Mr. HOWLETT remarked that the work done by Dr. Harrison at the venereal clinic was of very great value. They had there an argument in favour of State aided as against voluntary hospitals.

Dr. DENYER, Dr. MOIR, Dr. MACKAY, and Dr. LILLEY also spoke, and Dr. HARRISON replied.

DIAGNOSIS OF GONORRHOEA IN THE FEMALE.

AT a meeting of the North of England Obstetrical and Gynaecological Society, held at Liverpool on February 20th, Dr. W. W. KING (Sheffield) read a paper on the diagnosis of gonorrhoea, based upon an analysis of the first 500 cases under his care at the venereal clinic of the Jessop Hospital for Women, Sheffield. He divided the cases into two groups: those in which the gonococcus had been found—"proved" gonorrhoea; and those presenting the signs and symptoms of the disease, but where the specific organism had not been isolated—"clinical" gonorrhoea. The gonococcus was found in 60 per cent. of cases with clinical symptoms of gonorrhoea, but in a number of these was only isolated after repeated examinations. He estimated that from 70 to 80 per cent. of patients with the physical signs mentioned later were really suffering from gonorrhoea. Of the remaining 30 per cent. the majority were undoubtedly venereal, and in one case the infection appeared to be due to a diphtheroid bacillus present in the cervical and urethral discharge.

Clinical Diagnosis.

The symptoms complained of were discharge (yellow or white), pain on micturition, local pain and swelling, abdominal pain, menorrhagia, and irritation. Yellow discharge was present in over 70 per cent. and pain on micturition in about 30 per cent. of both "proved" and "clinical" cases. The physical signs noted were vaginal discharge, vulvitis, papillomata, leucoplakia, lesions of Bartholin's gland, urethral discharge or thickening, urethral caruncles, vaginitis, and affections of the cervix uteri. Vaginal discharge was present in 80 to 90 cent. of all cases. Acute gonococcal vulvitis was not often met with, most of the cases seen at the clinic being in the subacute or chronic stages. In about 80 per cent. of cases there was a purulent urethral discharge, but in a small number the discharge was white in colour and composed of epithelial cells, in which the gonococcus was sometimes found. Thickening of the urethra was most valuable evidence of past gonorrhoea in the female—comparable in this respect to stricture in the male. Infection of Bartholin's gland

was only met with in 10 per cent. of cases. The commonest evidence of cervical infection was purulent or mucopurulent discharge, usually associated with a patulous external os. The combination of purulent discharge and patulous cervix was a most helpful diagnostic sign, especially if the internal os was also sufficiently patent to admit a "dressed" probe into the uterine cavity. In more chronic cases the discharge consisted of a clear mucus, and this coming through a patulous external os, produced a bull's-eye lantern effect, which he had called a "magnifying" cervix. This was typically seen in nulliparae, but occurred also, though less strikingly, in women who had borne children. This condition corresponded to the gleet stage of gonorrhoea in the male, and occurred in about 15 per cent. of cases. The inguinal glands were rarely found enlarged in uncomplicated gonorrhoea. When enlargement was present he always suspected the presence of syphilis. Salpingitis was the most frequent complication of gonorrhoea met with (18 per cent. "proved" cases, 12 per cent. "clinical" cases). No case of gonococcal cystitis was noted in the series, although generally stated to be of fairly frequent occurrence.

Bacteriological Diagnosis.

Detection of the gonococcus in film preparation was at present the only certain method of diagnosis. The method of preparation of these films was important; "dressed" wires were used for collecting the material, which was dabbed—not rubbed—on to the slides. In this way the leucocytes were preserved intact and the intracellular features of the gonococcus more easily observed. The importance of the urethra in the bacteriological diagnosis was shown by the fact that the organism, when found, was present in the urethral discharge in over 70 per cent. of cases. If found at all, the gonococcus was generally detected in the first five examinations, but sometimes not until the eleventh or twelfth. Cultural methods were extremely difficult to carry out with the highly contaminated pus present in the female. Some serum reaction was needed to put the diagnosis of the disease on a surer footing than at present. The technique of the complement fixation test for gonorrhoea was so faulty that the Lister Institute, after examining a dozen or more specimens for him, had finally refused to carry out further tests.

INTUSSUSCEPTION OF THE APPENDIX.

AT a meeting of the Royal Medico-Chirurgical Society of Glasgow, held on February 6th, with the President, Mr. A. E. MAYLARD, in the chair, Mr. ARCHIBALD YOUNG described and showed a specimen removed by operation from a case of ulceration of the ileum, caecum, and ascending colon, with intussusception of the appendix.

The patient, a woman aged 34, had for two years suffered from progressive loss of weight and strength, and from persistent severe pain in the right iliac fossa. The bowels had for long been constipated, but latterly, when they moved, tended to be loose. On examination under an anaesthetic a tumour about the size of a chestnut was made out in the region of the first part of the ascending colon and suspected to be malignant. Laparotomy was performed, and as extensive glandular enlargement was found, the last four inches of ileum, the caecum, and ascending colon were excised. The mucous membrane of this portion of bowel showed extensive ulceration, typically tuberculous, both to the naked eye and on microscopic examination. Ulceration was specially marked in the caecum around the partly intussuscepted appendix. Convalescence was uneventful and the patient left hospital a month later greatly improved in health.

Mr. Young referred to three other cases of intussusception of the appendix, the first two of which he had reported to the society in 1911:

(1) A child, aged 4½, operated on for a suspected partial and recurrent obstruction of the bowel; (2) a woman, aged 24, operated on because of highly acute symptoms suggesting acute appendicitis; (3) a woman, aged 20, operated on in 1917 on account of appendicitis of more chronic type with recurrent attacks extending over several months. The specimen from this case also was shown to the meeting.

In all four cases it was probable that the exciting cause of the intussusception of the appendix was the local irritation exciting excessive peristalsis of the organ.

Dr. W. S. SYME, in a communication on malignant disease of the larynx, pointed out that in this country this disease was much commoner in men than in women, whereas malignant disease of the lower pharynx was commoner in women. Intrinsic disease—that is, affecting the cords, anterior fornix, subglottis, and false cords—might remain as a local condition for a long time, and hence could frequently be treated by thyrotomy and removal of the growth and surrounding tissue. But in extrinsic disease, affecting other portions of the larynx, glandular infection was very common, and the patient was often seen by the surgeon too late for operation. Hence the importance of early diagnosis in cases of persistent hoarseness. Dr. Syme showed a patient whose larynx he had removed two years ago for extrinsic disease. There had been no recurrence and the patient had developed a quite intelligible pharyngeal voice. He reported also three cases of removal of a vocal cord by thyrotomy, one two and a half years and the other three and a half years ago, without recurrence, and a third more recent case.

Dr. ADAM PATRICK described a case of multiple oriental sores (leishmaniasis) infected in Mesopotamia early in 1919 and treated by intravenous injections of antimony. The injections, eleven in all, were given twice weekly, beginning with a dose of 0.04 gram of tartar emetic and increasing to 0.12 gram. The seven ulcers present on hands, legs, etc., had healed satisfactorily.

Dr. W. F. SOMERVILLE described the Bergonié chair—an apparatus for producing a painless alternating interrupted electrical current—and demonstrated its application in treatment.

BACTERIOLOGY OF MILK.

AT a meeting of the Pathological Section of the Liverpool Medical Institution held on February 20th, with the President, Dr. J. F. GEMMELL, in the chair, Dr. R. STENHOUSE WILLIAMS read a note on the bacterial content and keeping qualities of clean milk produced for commercial purposes. He presented the results of work upon methods of milk production carried out by Miss K. Freear and Miss E. Knight at the Research Institute in Dairying at University College, Reading. A series of weekly examinations of clean bottled milk produced for commercial purposes, extending from November, 1916, to December, 1918, demonstrated that the bacterial content of such milk only rose above the 10,000 limit on three occasions, and was only really unsatisfactory in one instance. These results were obtained with milk taken in a special milking shed from washed cows, by clean workers, in steam-sterilized vessels. The cost and upkeep of a special milking shed was an added charge on the price of milk, and further experiments were detailed which demonstrated the possibility of producing clean milk in an ordinary cow byre. From these experiments the following facts emerged: (1) It was possible to produce clean milk in an ordinary cow byre; (2) to ensure success the cows should be clipped and washed, the workers clean, and the utensils steam-sterilized; (3) the covered milk bucket, when properly used, was of great assistance in keeping dirt out of the milk, but, in the hands of unskilled workers, might be an added source of contamination of the milk. This last observation was of special importance to the dairying farmer. Dr. Stenhouse Williams further contributed a paper on the presence of tubercle bacilli in the faeces of apparently healthy cows. He recorded an investigation carried out by himself, in collaboration with Mr. W. A. Hoy, on behalf of the Medical Research Committee. It was shown that about 2 per cent. of apparently healthy cows had been found to be excreting tubercle bacilli in the faeces. Five such cows had been found in four of the fourteen farms in which it had been possible to examine the faeces of nearly all the cows in milk. The results were subject to a considerable margin of error, inasmuch as each cow being examined on a single occasion only, a very small fraction of the daily excreta could be tested; and the method of examination (antiformin) adopted in the earlier stages of the work did not appear to be so satisfactory as the method (Petroff) finally utilized. He showed that the excreta of such cows, when kept in a dark cellar, remained infective for at least twelve months, and, when spread upon pasture land or added to liquid manure, remained infective for at least four months. The possible influence of such material upon the health of other beasts in the farm was pointed out. Both note and paper were copiously illustrated by charts.

MECHANO-THERAPY.

AT a meeting of the London Association of the Medical Women's Federation, on February 17th, the President, Mrs. FLEMMING, M.D., in the chair, Dr. HEDDA ALSTROM read a paper on mechano-therapeutics in general—its past, its present, and its possible future. She traced its history from the most ancient times, showing how, at various periods, it had been held in high esteem; at others it had been looked upon with indifference, until the weight of eminent authority and the pressure of popular opinion had again raised it from oblivion. In many countries medical men and women, high in their profession, specialized in it, and its theory and practice were taught at the universities. Until the same was done in England, the best would not be got out of a good thing.

Dr. BARRIE LAMBERT, C.B.E., spoke on the need for medical personnel in mechano-therapy. She gave an account of the various kinds of gymnastic training given in England, and said that the present-day remedial gymnast was very fully trained and efficient, provided she held the Incorporated Society of Trained Masseuses' triple qualification of massage, remedial exercises, and medical electricity. The better qualified the gymnasts were the more they asked for medical supervision, and few doctors had sufficient knowledge to make progressive work in this line anything but extremely difficult. Most doctors, with the exception of the specialists, might roughly be divided into those who had too little faith and those who had too much. The latter were the more dangerous, as they were apt to order treatment in unsuitable cases. The difficulty of finding medical officers with sufficient knowledge to supervise made the organization of remedial clinics extremely difficult. Dr. Lambert urged the importance of a short course for all medical students in the theory and practice of massage, remedial gymnastics, and medical electricity, and in the after-care of orthopaedic cases.

Dr. A. KELLGREN-CYRIAX spoke of the need for the extended application of mechano-therapy. She said that mechano-therapy rested on a sound physiological basis, and that there was no danger in prescribing and applying it if its laws and technique were understood. It could accomplish much that medicine and surgery could not do —for instance, promoting circulation, developing muscle, removing pus from tissues at a distance from the lesion, re-educating the neuro-muscular circuit, aiding air entry into almost solid pneumonic lung, toning up enteroptosed viscera. Were mechano-therapy practised by some of the profession the public would not be driven to charlatans and bonesetters. The highest forms should be taught at medical schools, and it should take its place beside the great systems of medicine and surgery.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on February 27th, the President, Dr. E. W. GOODALL, in the chair, Dr. MATTHEW YOUNG read a paper entitled, "An investigation into the periodicity of epidemics of whooping-cough from 1870 to 1910 by means of the periodogram." An investigation of the statistics of London and ten other large towns had afforded evidence of definite periodicity in several cases. In London the maximum amplitude by the periodogram method was in the neighbourhood of two years, and further analysis suggested that there were really two periods involved of approximately 102 and 107 weeks respectively. In Bristol a two-yearly period was not found, the main periods being of 95 and 124 weeks. In Newcastle, Liverpool, and Salford periods of about two years were revealed. The main period at Birmingham was of 99½ weeks, and Glasgow, Edinburgh, and Sheffield all showed maximum at intervals of more than two years. In Dublin the main period was as much as 135 weeks. Manchester, unlike most of the other towns, showed no outstanding amplitude. In Birmingham and Salford the chief periods of measles and whooping-cough were nearly identical, but this did not occur elsewhere. The paper was discussed by Mr. TRACHTENBERG, Dr. BROWNLEE, Dr. MAJOR GREENWOOD, Dr. CHALMERS, Dr. HAMER, and the PRESIDENT.

AT a meeting of the Assurance Medical Society, held on March 3rd, Dr. T. D. LISTER, C.B.E., in his presidential address, said the society stood in a peculiar and isolated position; its members were not representatives of a special branch of medicine, but dealt with many special branches. Their work was not concerned with the technology of any specialty; it was one of applied medicine only. Their function was to advise the great commercial undertakings employing them upon the medical considerations that had to be taken into account in assessing life risks. In their endeavour to hold the medical scales evenly in the assurance market between the public and the office they had to form a judgement on the importance of the medical facts as affected by the other facts, and vice versa.

AT a meeting of the Pathological Section of the Royal Society of Medicine, held on March 2nd, with the President, Dr. WILLIAM BULLOCH, F.R.S., in the chair, Dr. J. A. MURRAY gave a demonstration on the staining and constitution of mitochondria, illustrated by specimens and lantern slides. Dr. E. H. KETTLE demonstrated experimental aspergillosis in the rabbit. Dr. DA FANO gave a summary of the recent work on disseminated sclerosis.

Rebielus.

SYPHILIS IN CHILDHOOD.

IN a handy little volume on *Syphilis in Childhood*, Dr. LEONARD FINDLAY[1] has given a concise and remarkably practical account of the disease, founded on his experience at the Glasgow Hospital for Sick Children. Most of the space is given to symptomatology and treatment. The text is lavishly illustrated, several of the figures being in colour. In the chapter dealing with the mode of infection the author says that the view that stillbirths and miscarriages are evidence of a mother being syphilitic is likely to lead to serious error. In 97 syphilitic families under his care 19 per cent. of 427 pregnancies ended in abortion or stillbirth, and in 19 definitely non-syphilitic families 19 per cent. of 123 pregnancies also ended in a similar way. The high incidence of syphilis in Glasgow, which by clinical and serum tests has been calculated to be 10 per cent., as compared with 2 to 6 per cent. among hospital children in New York, St. Louis, San Francisco, and Chicago, is accounted for by the delicacy of the method used in carrying out the Wassermann reaction, and by the fact that the cases examined came from the poorest neighbourhoods. Dr. Findlay agrees with other writers in emphasizing the low degree of infectivity of congenital syphilis; he has, he says, never seen a case in which infection could be ascribed to association with a syphilitic infant. On the few occasions in which such a method of infection had been suggested by the parents, he invariably found a positive Wassermann reaction on examination of the serum of the father or mother. He admits, however, that though the infectivity is slight and infection rare, it is a danger which should be borne in mind and guarded against.

In discussing prophylaxis, Dr. Findlay maintains that no antivenereal campaign will be successful without notification of the disease, which he feels confident will be adopted sooner or later. He thinks that marriage may be permitted when a negative Wassermann reaction has been obtained after early and thorough treatment with salvarsan and the reaction has remained negative for a year. The antenatal treatment of pregnant women with intravenous injections of salvarsan and mercurial inunction which was carried out in seven cases resulted in the birth of absolutely healthy children, and in no instance did the treatment interfere with the course of gestation. Dr. Findlay regards inunction as the most efficacious method of administering mercury. He has frequently seen children, treated with mercury and chalk without any benefit, immediately improve when inunction with mercury ointment was substituted. In many cases he had continued inunction for about a year without seeing the slightest evidence of toxaemia in the form of stomatitis or proctitis. Salvarsan, which in combination with mercury he regards as practically indispensable in the treatment of syphilis in children, should never, in his opinion, be given to infants

[1] *Syphilis in Childhood.* By Leonard Findlay, M.D., D.Sc., F.R.F.P.S.G. London: H. Frowde, and Hodder and Stoughton. 1919. (Cr. 8vo, pp. xii + 164; 37 figures. 8s. 6d. net.)

by the intramuscular or subcutaneous route, if these can be avoided, as in the majority of cases induration followed by necrosis and sloughing is apt to ensue. He regards the intravenous route as the method of choice; he makes use of the scalp veins, as first recommended by Noeggerath in 1912.

We have noted a few misprints, such as *per utero* (pp. 3 and 7), *olis* for *oris* (p. 84), and Argyl-Robertson (p. 62). Several of the names of lesser known foreign authorities are wrongly spelt (pp. 8, 21, 67, 137). The statement on p. 1 that there is no reputed example of transmission of syphilis even to the third generation requires qualification, and it is not correct to speak of an eruption as a "macula" (p. 35). These, however, are comparatively trivial blemishes in a book which should prove of value to medical practitioners, especially those concerned with child welfare, for whom it is particularly intended.

NEW EDITION OF CUNNINGHAM'S ANATOMY.

THE issue of the first volume of the seventh edition of *Cunningham's Manual of Practical Anatomy*,[2] revised and edited by Professor ARTHUR ROBINSON, marks a definite stage in the evolution of this well known and deservedly popular work. This volume is concerned only with the extremities, and we are told that the change which is being made from two to three volumes has been deemed advisable because of the increase in size caused by the addition of many new figures and the amplification of the dissecting instructions.

We are glad to note that the number of radiographs—a new feature of the sixth edition—has been increased, and their value greatly enhanced by their dispersal throughout the volume. The plates include a fine series of radiographs of young joints displaying the epiphyses, and also a few of injected vessels, to show their relation to bones and some of the anastomosing channels. Another welcome addition is the increase in the space and in the number of figures devoted to the lymphatics. It is well that the attention of the student should be specially directed to the groups of glands that he can readily display for himself, and that, while doing so, he should be given an account of the lymph paths involved, informed of their importance, and warned that they can be studied effectively only by special methods.

The Basle nomenclature has been retained, with many of the old terms still in brackets. Measurements formerly given in inches are now translated into millimetres, but an indiscriminate application of this change to the metric system leads to some curious results which are hardly likely to recommend it—as, for example, on p. 62, where the student is advised to tie the divided axillary vessels and nerves to a piece of wood about 37.5 mm. long!

We are not quite sure of the advantage of using special type for dissecting instructions, which could be sufficiently marked off from the text proper by a special heading. A short experience of the use of the present volume suggests that students may find the particular type employed somewhat tiring—a point worthy of the careful consideration of the editor and publishers of a book so widely used.

We have said before that *Cunningham's Manual* holds a unique place in this country. The new edition bids fair to consolidate that reputation by continuing in its enlarged form the high standard achieved by the original author and maintained in successive editions by the present editor.

WEIR MITCHELL TREATMENT.

THE volume by Dr. DERCUM on *Rest, Suggestion, and Other Therapeutic Measures in Nervous and Mental Disease*[3] is concerned in the main with the application of the Weir Mitchell method for the treatment of the neuroses and psychoses. Following upon a brief survey on physiological lines of the process of fatigue, the author develops the view that neurasthenia, in so far as it is essentially a fatigue neurosis, must be treated by the simple physiologic measures of rest associated with exercise and feeding. In this section the practitioner will find the fullest possible directions for the treatment of cases along these lines. Minute details as to rest, diet, exercise, medicine, baths, isolation, massage, and electricity are given, and will be found helpful. When, however, the author advocates the routine treatment of hysteria on similar lines it becomes difficult to harmonize his suggestions with current conceptions as to the significance of hysterical manifestations. If neurasthenia be regarded as adequately explained on the basis of morbid physical fatigue, Weir Mitchell methods of treatment for the cure of the disorder are scientifically sound, but in no sense would it seem possible to regard hysteria from a similar pathological standpoint. Hysterical symptoms in soldiers have been treated by active measures directly opposed to those rest methods which tend to fix and perpetuate them. It is interesting to note that Dr. Dercum recently admitted in a paper on "Shell-shock"[4] that he would not adopt the methods he advocates in this volume for war cases, and it is therefore difficult to understand why he does so in respect to civil cases in which the mechanism is essentially the same. When he says that "Electricity also may prove of much value in given cases. . . . The slowly interrupted faradic current is conveniently used to stimulate the muscles. . . . It promotes the general nutrition and increases the general level of the muscular tone," is he not by this treatment unconsciously fixing the idea of illness in the mind of an hysterical patient?

Attention is given along similar lines to hypochondria—which is here regarded as a distinct entity—the drug habit and certain forms of mental disorder. The highly practical details in regard to treatment will be of value to the reader, though they suggest nothing particularly new. In discussing suggestion its use without hypnotism is advocated. In the last chapter consideration is given to shamanism, mesmerism, hypnotism, catharsis, psycho-analysis, metallo-therapy, mind-cure, Christian science and "mystic and religious methods generally." The inclusion of hypnotism and psycho-analysis in this group is sufficient to indicate the attitude of the author to these methods of treatment. Perhaps if he had criticized them with more restraint than is here the case his views would have exerted greater influence.

THE NURSERY SCHOOL.

No one can have a greater claim than Miss MARGARET MACMILLAN to speak with authority of *The Nursery School*,[5] and her book is a noteworthy contribution to the study of a problem which is of importance to every teacher and educational administrator, and concerns everyone who takes heed to the physical or moral welfare of the coming generation. Doctors (and not school doctors alone) are among those on whom this book should have a special claim for consideration.

In a congested urban or slum area the average household provides an atmosphere, physical and psychological, which is far from ideal for the development and unfolding of the child-mind; the function of the nursery school is to remedy this by providing for the "nurture" of the young child. At present nothing is done until the infant school claims the child at five, and Miss Macmillan thinks that this is too early an age for formal instruction, and makes out a strong case for the extension of nursery school training until the child reaches seven.

In the first chapters the author tells of her seven years' experience in Deptford; we learn with what appreciation and gratitude the mothers regard the work; we are shown how the material welfare and cleanliness of the children are cared for; the bathing, the feeding, the clothing, the breathing exercises, the afternoon sleep, are described, and we follow the "toddler" in the successive stages of his nurture until he becomes the seven-year old, differing from his brother of the well-to-do classes, we are told, only in his physical superiority and greater psychological advancement. The garden receives much attention, and Miss Macmillan's experience leads her to make an eloquent plea for open-air nursery schools. The second half of the

[2] *Cunningham's Manual of Practical Anatomy.* Revised and edited by Arthur Robinson. Seventh edition. Vol. I, Superior Extremity; Inferior Extremity. Edinburgh, Glasgow, and London: Henry Frowde, and Hodder and Stoughton. 1919. (Crown 8vo, pp. xxx + 451; 203 figures, many coloured. 12s. 6d. net.)

[3] *Rest, Suggestion, and Other Therapeutic Measures in Nervous and Mental Diseases.* By Francis X. Dercum, A.M., M.D., Ph.D. Second edition. London: Kegan Paul, Trench, Trübner, and Co., Ltd. 1919. (Med. 8vo, pp. ix + 395. 21s. net.)

[4] *Archives of Neurology and Psychiatry*, January, 1919.

[5] *The Nursery School.* By Margaret Macmillan. London: J. M. Dent and Sons. 1919. (Post 8vo, pp. 353; 16 illustrations. 7s. 6d. net.)

volume is chiefly devoted to the important question of the training of the teachers, and here the author's views, though founded on experience and clearly and decidedly expressed, will probably excite a good deal of contention.

This book is not written in the judicial manner of one who plans a textbook or frames a report, but is rather the work of a pioneer who seeks to inspire; its lack of strictly formal arrangement and the author's not infrequent digressions only serve to emphasize its purpose and mission, but it is a little irritating to find in Chapter xxviii nearly half a page of the text (p. 253) repeated, almost word for word, eight pages later.

NOTES ON BOOKS.

BOOKS ABOUT BABIES.

The Baby,[6] by Dr. E. A. SAUNDERS, is a short and thoroughly practical little book on the care of infants, well paragraphed and printed, and very suitable for the study of nurses and mothers on the look-out for a sound elementary handbook dealing with the subject. Every circumstance of the feeding, clothing, airing, housing, and general supervision of the infant seems to have received the author's attention. The book is well written, and deserves success.

The sixteenth edition of *Our Baby*,[7] by Mrs. LANGTON HEWER, provides mothers and nurses with an alternative handbook on the best ways of rearing infants and young children in a rational and scientific manner. The book has been before the public for thirty years, and really requires no other testimonial to its merits; it is full of practical and detailed advice, and undoubtedly deserves the success it has attained.

Mothercraft,[8] a selection of twenty-six lectures on infant care delivered under the auspices of the National Association for the Prevention of Infant Mortality, is a volume for intelligent mothers, nurses, health visitors, members of infant care committees of all sorts, and general readers who wish to be well informed on prenatal and infant hygiene and the care of young children. It is in its third edition, and deals with every aspect of the prevention of infant mortality; the National Association is to be congratulated upon the excellence of these lectures, each written by a well known specialist in its subjects.

Dr. ROBINSON'S book on *Baby Welfare*[9] is based on a series of lectures delivered at the Vincent Square Infants' Hospital, and is designed for the instruction of untrained nurses and mothers. Beginning with a brief account of the infant's anatomy and physiology, the author goes on to the subject of milk and its properties and adaptation to the needs of the child. The second half of the volume is given to the disorders of infancy and their general treatment. Dr. Robinson has succeeded in compressing a good deal of information and sound general advice into the book, which could be studied with advantage by well educated and thoughtful people; perhaps it would be found to try the intelligence of the average laywoman rather high.

The Baby's Food,[10] by Professor ABT, is a collection of recipes for nurses and cooks who have to feed infants and children, based on the author's practice in America and culled from various pediatric manuals. It is intended for the use of mothers and nurses, and, if its directions are followed, should provide their charges with numerous delectable dishes.

The eighteenth edition of *Dr. Chavasse's Advice to a Mother*,[11] edited by Dr. LISTER, presents nurses and lay-women with a great deal of sensible advice about the care and ailments of infants and young children, and some good instruction on the hygiene and general management of older boys and girls. It is provided with an unusually good index, and may be commended to the attention of those who realize their need of a nursery manual.

[6] *The Baby.* By E. A. Saunders, M.A., M.B.Oxon., D.P.H.Oxon. London: Methuen and Co., Ltd. 1917. (Fcap. 8vo, pp. xi + 132; 15 figures. 1s. 3d. net.)

[7] *Our Baby: For Mothers and Nurses.* By Mrs. J. Langton Hewer. Sixteenth edition, revised. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd.; Toronto: The Macmillan Company of Canada, Ltd. 1918. (Cr. 8vo, pp. 163. 2s. 6d. net.)

[8] *Mothercraft.* Third edition, revised and enlarged. London: National League for Health, Maternity, and Child Welfare. 1919. Cr. 8vo, pp. 324. 5s. net.)

[9] *Baby Welfare: A Guide to its Acquisition and Maintenance.* By W. E. Robinson, M.D. London: T. Fisher Unwin, Ltd. 1918. (Post 8vo, pp. xiv + 206. 7s. 6d. net.)

[10] *The Baby's Food.* Recipes for the Preparation of Food for Infants and Children. By Isaac A. Abt, M.D., North-Western University Medical School. Philadelphia and London: W. B. Saunders Co., Ltd. 1917. (Demy 8vo, pp. 143. 6s. net.)

[11] *Chavasse's Advice to a Mother.* Eighteenth authorized edition, rearranged and rewritten by Thomas David Lister, M.D.Lond. London: J. and A. Churchill, 1920. (Cr. 8vo, pp. 336. 2s. 6d. net.)

ASSOCIATION OF PUBLIC VACCINATORS.

AT the annual meeting of the Association of Public Vaccinators, held recently at Anderton's Hotel, London, when Dr. J. FOSTER PALMER, the President, was in the chair, the attendance was better than at any previous meeting since the war began in 1914. After formal business the financial statement, which was regarded as satisfactory under the circumstances, was adopted. It was stated that the decision of the extraordinary general meeting to increase the subscription had been favourably received by the members.

Dr. C. J. Palmer of Mansfield was, on the motion of Dr. A. E. COPE, unanimously elected president for the ensuing year.

On taking the chair, Dr. PALMER congratulated the Association on having obtained the Order of 1919 raising the minimum fee for vaccination. There still remained much to be accomplished in such matters as fixity of tenure and superannuation and the defence of vaccination. Endeavours in these directions would engage the constant attention of the association. The officers of the year were then re-elected, and three new members of the Council duly elected. Hearty votes of thanks were recorded to the editorial secretary (Dr. Arthur Drury) and the organizing secretary (Mr. Frank A. Briggs).

The Preparation of Calf Lymph.

Dr. H. S. FREMLIN, Assistant Pathologist, National Vaccine Establishment, Hendon, gave an address on the preparation of calf lymph for distribution. He described the difficulties which had been overcome and outlined the methods now in use. Great care was taken in the selection of calves. The animal, which must be perfectly healthy, was on arrival kept in quarantine and well away from those maturing vesicles. The process of vaccination of the calf, the variations in vesicles obtained, and the method of selection and cohection of the resulting lymph were described. Experience had enabled the establishment to effect considerable improvements. Each calf was slaughtered after the collection of the lymph pulp and a certificate as to the condition of the carcass was sent to the establishment by the officer in charge. Next came the emulsion process previous to storage. A mixture usually four times the weight of the lymph was used; it consisted of:

Glycerin	... ...	50 per cent. by weight.
Water	... ...	50 per cent. by weight.
Clove oil	... ...	1 per thousand.

After numerous experiments Dr. Blaxhall had found this the most suitable vehicle for the purpose; it acted as a rapid eliminator of extraneous bacteria. The pulp was pounded in a sterile Chalybäus lymph machine and the mixture added, and an apparently homogeneous fluid obtained, to which bacteriological tests were applied. The method of storage was a matter of great importance. The length of time during which the lymph remained active depended greatly on the temperature at which it was kept. In 1898 this was not known, and consequently much of the lymph then circulated was found to produce negative results. This defect had been overcome. Each tube sent out was charged with about 30 mg. of the emulsion. Particulars of all calves were kept in a register, which showed also the lymph with which each calf was vaccinated. Every calf was given a number, as was also the lymph taken from each calf. This number was sent to each public vaccinator. Details were also kept in regard to each lymph, showing to whom it was distributed and the results obtained. During the ten years ending March 31st, 1919, public vaccinators had furnished the establishment with reports on 2,900,000 primary vaccinations with establishment lymph, and these showed a "case" success of 99.4 per cent. and an insertion success of 96.2 per cent.

A discussion followed, and Dr. Fremlin was cordially thanked for his instructive address.

OXFORD MEMORIAL TO SIR WILLIAM OSLER.

OSLER INSTITUTE OF GENERAL PATHOLOGY AND PREVENTIVE MEDICINE.

THE meeting announced to be held in Oxford on March 6th to consider what steps should be taken to perpetuate there in some appropriate manner the memory of Sir William Osler was presided over by the VICE-CHANCELLOR (the President of Trinity College). It was attended by leading members of the University and representatives of the medical profession both in Oxford and London.

The VICE-CHANCELLOR said that the meeting was held to show the respect and affection felt for the late Regius Professor of Medicine, not only by the University of Oxford, but by other universities on more than one continent and by the London hospitals. Osler's name would always be associated not merely with the history of the chair he occupied, but with its actual existence by reason of the generous benefaction, of which the speaker thought he was the first person to hear from Sir William Osler himself. Whether Osler's name would be associated with the future history of the School of Medicine in Oxford would depend upon the result of the meeting.

Sir CLIFFORD ALLBUTT, Regius Professor of Physic in the University of Cambridge and President of the British Medical Association, in proposing a resolution to the effect that the distinguished services of the late Sir William Osler were deserving of a permanent memorial in Oxford, said that it would be impossible to sum up what made the real charm of Osler's character, and he would present only one point of view, which was the universality of his experience and of his sympathies.

Sir HERBERT WARREN, in seconding, said that the most remarkable trait in Sir William Osler's character was the combination in an eminent degree of theory and practice.

Ths following resolution was then proposed by Sir WILLIAM CHURCH, Bt., formerly President of the Royal College of Physicians of London:

> That in view of the intimate association of Sir William Osler's life work with the study of the origin and prevention of disease, the most appropriate form of memorial would be an Osler Institute of General Pathology and Preventive Medicine.

In commending it to the meeting Sir William Church said that it would be fitting that some permanent memorial should exist in Oxford of one who had played so important a part in the life of the university.

Professor ARTHUR THOMSON, who seconded, said that an institution of the kind indicated in the proposal typified Osler's career, for he began life by studying the causes of disease and ended it as an ardent advocate of the means of preventing disease. The one depended on the other, and the proposed institution would typify that intimate and close association.

The resolution was adopted, and, on the motion of the DEAN OF CHRIST CHURCH, seconded by Sir A. E. GARROD, Sir William Osler's successor to the chair of medicine, general and executive committees were appointed to issue an appeal. Professor GUNN, who is acting as interim secretary, said that he had been in communication with friends of Sir William Osler in America, and that a provisional committee had been appointed, consisting of Professors Welch (Baltimore), Harvey Cushing (Boston), Billings (Chicago), President Butler and Dr. Walter James (New York).

Among those who have expressed their sympathy with the proposal are the United States Ambassador, the British Ambassador to the United States, the High Commissioner for Canada, the President of the Royal College of Physicians of London (Sir Norman Moore), the Earl of Crawford, the Earl of Jersey, the Earl of Macclesfield, Viscount Harcourt, Lord Aberdare, Sir Donald MacAlister, Sir George Newman, Sir Walter Fletcher, Lieut.-General Sir John Goodwin, D.G.A.M.S., Sir Robert Hadfield, Sir William MacCormick, and the majority of the heads of houses in Oxford.

Communications may be addressed to Dr. J. A. Gunn, Professor of Pharmacology, The Museum, Oxford.

EIGHTY-EIGHTH ANNUAL MEETING OF THE British Medical Association, CAMBRIDGE, 1920.

WE print below the third of a series of historical and descriptive notes on Cambridge written for the benefit of members and guests attending the Annual Meeting of the British Medical Association to be held in Cambridge from June 29th to July 3rd, under the Presidency of Sir Clifford Allbutt, K.C.B., F.R.S. The first article, sketching the origin of the University and town, and describing the situation and climate of Cambridge, was printed in our issue of January 3rd, 1920, p. 17. The second article, on the development of the University, appeared on January 24th, p. 125. The fourth article will deal with the foundation of the professorships of anatomy and botany; and the history of these subjects, also of chemistry and physics, until the medical school was established on a satisfactory footing. Subsequent articles will be devoted to the medical school of to-day, and to the antiquities and architectural beauties of Cambridge and district.

EVOLUTION OF THE MEDICAL SCHOOL.

The history of the Cambridge Medical School has not yet been written; it is therefore hoped that the following sketch, compiled from many sources, may be found interesting and may prompt some antiquary to write an adequate history of the school.

The materials for construction of the history are scattered in many old records or their modern reprints, as well as in modern books and papers. For the great majority of references to documents from which this sketch has been compiled, we are indebted to the Rev. H. P. Stokes, LL.D., Litt.D., F.S.A., of Corpus Christi College, who by his researches and publications has contributed more than any man living to the history of Cambridge.

The first hint of medical teaching is found in the thirteenth century, apparently between 1270 and 1279, when Nigel de Thornton, doctor of physic, bequeathed property to the university, including some buildings close to the Schools of Divinity and Law. Dr. Stokes suggests that among these buildings would be a medical lecture room.

In early times the University conferred not only the degrees of M.B. and M.D., but also licences to practise surgery or medicine—"C.L." or "M.L."—which of course did not rank as degrees. An arts degree was always insisted on before the M.D. degree, nearly always before the M.B.; it was frequently taken by candidates for the M.L., much less so by candidates for the C.L.

For centuries the teaching consisted only of reading and exposition of theoretical works. The practice of medicine and surgery had to be learned by apprenticeship, and the student saw no hospital practice unless his master was attached to a hospital. Some of the medical students had learned the practice of the art beforehand, and came to the University to learn the theory and get a degree or licence. For a licence a very small knowledge of theory sufficed, the student being passed after oral examination on practical subjects and the production of evidence of practical instruction.

By the Cambridge Statutes of 1396 the student of medicine after graduating in arts, was required to hear *once*, in the schools, the book of Johannicius Philaretus *De Pulsibus*, Theophilus *De Urinis*, the Antidotarium of Nicholaus, with one of the books of Isaac (Israelita), whether *De Urinis*, *De Febribus*, or *De Dietis Particularibus*, or *De Viatico*. He was required also to hear *twice* the works of Galen with their glosses or comments (known only by their Latin translation from the Arabic as the works of Tegnus Galienus[1]), including his book of *Prognostics*, of *Aphorisms*, and *De Regimine*

[1] In passing through the Arabic the word τέχνη, the *art* of Galen, got mistaken for a part of his name, and the Latin translation of his works was known as "Liber Tegni Galieni." For further information on the early medical textbooks see lecture by Professor Alexander Macalister in the JOURNAL, October 22nd, 1904, p. 1094.

Acutorum. It was further required that he should read *cursorie*, within not less than three years of his readings in Arts, at least one book on the theory and another on the practice of medicine; that he should both oppose and respond in the schools of his faculty,[1] and should practise at least during one year; he was then admitted to his degree, after the usual deposition and forms.

There is also an additional provision to the same statute, that no one shall be admitted *ad incipiendum in medicina*, unless he had practised medicine at least during two years, a condition apparently inconsistent with that which is contained within the body of the statute, though it is very possible that one might refer to the degree of Bachelor and the other to that of Doctor, or the distinction may be between licences and degrees.[2]

With all these and various other elaborate statutory provisions, the number of graduates and licentiates in early times was very small. This may be attributed to the almost total absence of practical teaching; there is no early record of dissection or of practical pharmacy with its adjuncts—botany and (in those days) alchemy. The town was not large enough to provide work for many apprentices, and there was no public hospital. The Hospital of St. John was a home for the aged and infirm rather than a sick-house, and the Sturbridge Hospital was only for lepers, and therefore these institutions could provide only a limited field of study. The sick poor were treated in the several parish workhouses. But towards the end of the reign of Henry VIII there is a sudden increase in the numbers of licences and degrees conferred. This is possibly indirect evidence of the introduction of practical anatomy and other sciences.

In those days dissection, if done at all, must have been done secretly owing to popular prejudice; therefore it is no evidence, *pro* or *contra*, that there is no mention of it in the statutes of the University or the Colleges. But more enlightened times were approaching. In 1546 the King founded the Regius Professorship of Physic; and among the items proposed for the consideration of a Royal Commission in 1548, one was "To constitute a Medical College in some other fit place in the University" (after the foundation of a College of Civil Law) "by assigning one of the colleges for the study of medicine, and to make such of the fellows thereof as were willing to apply to that study and should be deemed fit, Fellows of the King's Medical College, and to transfer to other colleges those who were unwilling or should be considered unfit to follow that art, or to assign pensions to the Master or Fellows of such college."[3]



JOHANNES CAIUS, M.D. (DR JOHN KEYS).
(Reproduced from the portrait in Dr. Venn's biography, after the painting in Gonville and Caius College, by permission of the Master and Fellows.)

This scheme was not carried out; but the deficiency was met by the generosity of one of the great benefactors of English medical science, of whose life it is necessary to give an outline, for the better explanation of his work, influence, and bounty. John Keys, a native of Norwich, entered Gonville Hall in 1529, at the age of 19. There he latinized his name as Johannes Caius,[4] graduated B.A. 1533, M.A. 1535, was elected Fellow in 1533. After studying classics and probably medicine in Cambridge, and becoming a very proficient Greek scholar, he went to Padua in 1539, and graduated there as M.D. in 1541. In 1543 he left Padua, visited Florence, Pisa, and other Italian towns, returning to England in 1544 or 1545. He was admitted Fellow of the College of Physicians in 1547, and practised in London for some years. Then in 1558 he refounded Gonville Hall under the name of Gonville and Caius College, making special provision for the pursuit of medicine by its students.

His reputation as a physician was great, but it is difficult to suppose that in the eleven years of his practice in London he made money enough to endow a college. Moreover, from 1529 to 1547, eighteen years, he was pursuing his education; and though he was receiving some payment as a scholar, and later as a Fellow, of what he calls "that pore howse" Gonville Hall, it seems improbable that this was sufficient to pay for his foreign travels and the books and manuscripts he bought. It is justifiable therefore to suppose that he inherited considerable property. His entrance to the university at the age of 19, four or five years above the usual age at that time, rather looks as if he had previously spent a few years assisting his father in some kind of business, from the profits of which he afterwards derived an income.

As a student at Padua he lodged in the same house with André Vesale (or Vesalius), with whom or from whom he acquired an enthusiasm for anatomy, though it is not certain that he fully accepted the Vesalian innovations in the science. During his residence in London, and even before entering on medical practice, he gave lectures with practical demonstrations on anatomy at the hall of the Barber-Surgeons, who had a licence, by their original charter of 1540, to claim the bodies of four criminals annually for purposes of dissection.

In refounding his college he provided that two of the three new fellowships should be held by medical men. He also made elaborate arrangements for the study of anatomy, obtaining from Queen Elizabeth in 1564 a formal grant of bodies for dissection, to the effect that "they and their successors shall have for ever, at their free discretion and will, without the contradiction of anyone, two human

[1] This refers to the method of examination by questions and disputations in public. The term *opposal*, for a difficult question, was corrupted into *puzzle*. See Skeat's dictionary. *Cursorie legere*, Dr. Stokes informs us, was to read aloud in the schools the text of an author, with the customary glosses, but without comments of the reader's own.

[2] George Peacock, *On the Statutes of the University of Cambridge*. Appendix A, p. lii, footnote, in which other information on textbooks, etc., will be found.

[3] Cooper's *Annals of Cambridge*.

[4] His name occurs in ten different forms in the bursars' accounts of Gonville Hall; all the forms end with the sound of *s*. His college is always known as "Keys College," and the old spellings indicate that he was usually called Keys, in spite of his latinized name. But as the departure of English vowel sounds from the Continental type was not so complete in the sixteenth century as now, the names Keys and Caius were more nearly alike in his time. *Key* and *quay* were then pronounced *kay*; now both have degenerated into *kee*.

bodies for anatomy, condemned by law for theft or homicide, and dying in the town, castle, or county of Cambridge. And that they may freely dissect them at their will, with the reverence due to the human body, for the increase of medical knowledge; and this without any payment" (*Treasury*). He gave careful directions in his Statutes concerning these dissections, desiring that "every year, during the winter, there shall be spent by the students of our College, on anatomy and on the worthy burial of the dissected bodies at St. Michael's, 26s. 8d. The president and every one residing in college to attend the burial of the remains with as much respect and ceremony as if it were the body of some more dignified person; and this on account of the advantage they have thus received. And the master shall see that the students of medicine do not treat the body with any lack of respect or humanity.

Dr. Venn, from whose biography of Caius the above translation of the Latin statute is taken, expresses a fear that very inadequate use was made of this privilege. We take this opportunity to thank Dr. Venn for his courtesy in allowing us to make free use of his work in this outline of the life of Caius, and in particular for his permission to copy the portrait here presented. The biography will be found in the volume of the works of Caius, edited by John Venn, Sc.D., F.R.S., F.S.A., published by the Cambridge University Press.

Caius was admitted to the degree of M.D. at Cambridge, by incorporation from Padua, a few days after the opening of his new college. The master of the college dying a few months later, Caius was pressed by the Fellows and by other representative persons in Cambridge to undertake the mastership. He yielded unwillingly, refusing to accept a stipend or any other emoluments. He was master from January, 1558–9 until his death in 1573. His medical practice necessitated his spending much time away from Cambridge; but he did his duty conscientiously to the college, and continued to spend money upon it in building and in other ways.



WILLIAM HARVEY, M.D
(From Houbraken's engraving of the portrait by Bemmel.)

His noble benefaction did not make as great an impression on the study of medicine as it deserved. It was a very long time before any thorough medical training was attempted. Students still sought their medical education at Padua, Montpellier, and other foreign universities, and, after graduating there in arts and medicine, were admitted to the Cambridge M.D. "by incorporation." But be it noted that in these cases Cambridge always insisted on graduation in arts, either at home or abroad. These incorporated doctors swell the list of graduates of Cambridge without adding much to her credit.

The first important result of the work of Caius was the attraction to his college of Harvey, who was followed about twenty years later by Glisson. William Harvey graduated B.A. in 1597, and in the following year proceeded to Padua in search of the best medical education then obtainable. After graduating there as M.D. in 1602 he returned to England, was admitted to the degree of M.D. at Cambridge, and elected Fellow of the College of Physicians. Cambridge can only claim to have laid the foundation of his education. His interest in the circulation of the blood was awakened at Padua, and his researches on this and other subjects were carried on in his private laboratory in London.

But Glisson seems to have completed his education in England. He practised in Cambridge, and was Regius Professor of Physic from 1636 to 1677. Physic in those days included most of the subjects of medical study, and Glisson therefore taught, among other things, anatomy and the limited physiology of his day. So we find that by a Grace of the Cambridge Senate in 1646 the attendance at three dissections required by the University statutes (capp. 15, 17) as a qualification for M.D., and the attendance at two required from candidates for M.B., were revived, this exercise having fallen into disuse since the death of Caius.

During Glisson's professorship a great impetus was given to botany in Cambridge, and in England generally, by the work of John Ray, who was first a student of St. Catharine's Hall, then migrated to Trinity College, of which he became Fellow in 1649. He died in 1705.

Chemistry also became a popular study at Cambridge in the seventeenth century, but there is no record of lectures in the subject until, in the last twenty years of the century, it was successfully taught by a Veronese, John Francis Vigani. In 1702–3 his services were acknowledged by the University investing him with the title of Professor of Chemistry. Bentley, Master of Trinity College, soon after fitted up for him a laboratory in the "lumber hole" eastward of Trinity Bowling Green.

Then experimental physics and physiology received an important impulse from the work of Stephen Hales, who became Fellow of Corpus Christi College (or Benet Hall) in 1703, and F.R.S. in 1718. He carried out remarkable experiments in his private "elaboratory" in the College, also at Vigani's laboratory in Trinity College, and later during many years at his home at Teddington, of which parish he was incumbent. In later life he was admitted D.D. of Oxford. His chief publications were entitled: *Statical Experiments on the Sap in Vegetables, and an Attempt to Analyse the Air*, 1727, being vol. i of his Statical Essays; *Hydraulick and Hydrostatical Experiments on the Blood and Blood-vessels*; also the *Nature of Certain Concretions*, 1733, being vol. ii.

British Medical Journal.

SATURDAY, MARCH 13TH, 1920.

ORGANIZATION OF IN-PATIENT TREATMENT.

THE future of hospitals and the need for extension of accommodation and the better organization of that already provided is very much before the public at present, and Lord Knutsford, with his happy knack of getting to the centre of the stage, has had a good "press" for his announcement that it is intended in future to ask in-patients at the London Hospital to contribute 10s. a week towards the cost of maintenance. Many correspondents, he announces, have asked him to set aside some of the wards for paying patients and make an adequate charge, but he declares this impossible, because all the thousand beds at the London Hospital are sorely needed by persons who could not pay even the moderate charges of a pay ward. But with that other knack of his, perhaps not quite so happy, which reminds us of the machine in the tube railways to keep the London Hospital going for one second, he has promptly produced a scheme for a paying hospital where there would be a "menu" of operations at inclusive charges done by a resident surgeon paid £1,000 a year. Lord Knutsford, in disclaiming any originality for this idea, assigns it to Mr. Danvers Power, but it is fairly old, and many attempts have been made to carry it out. The home for paying patients at St. Thomas's Hospital has been in existence for many years, and has done much useful work. The Home Hospitals Association also must not be forgotten, although the provision it makes is on a relatively small scale. A few weeks ago[1] we were able to give a description of St. Chad's Hospital at Birmingham, where a building was specially erected for the purpose, and the plan has been tested for five years. There 90 per cent. of the patients pay an inclusive weekly fee for accommodation, nursing, and all professional attendance. The difficulty created by the need for considerable capital expenditure to erect the buildings has been got over there, and could, we have no doubt, be got over elsewhere if the right people went about it in the right way. The need is undoubtedly great, but we hardly think that Lord Knutsford's plan of a £1,000 a year resident surgeon is going to meet the requirements of the public, even with the proviso that anyone requiring an operation outside the resident surgeon's skill should call in a specialist.

The British Medical Association, in its pamphlet on a Ministry of Health published a couple of years ago,[2] recognized the need for the full provision of consultative, specialist, or institutional services, and went on to point out that "the maintenance or establishment of the true relation between the patient and his chosen practitioner is essential to the best utilization of such additional services, and their proper development would encourage many general practitioners, as is very desirable, in the continued cultivation of skill in some branch of advanced or specialized work or knowledge." Lord Dawson of Penn, in an address he gave at Birmingham a few weeks ago, said that hospitals must be more widely distributed and must be graded, a distinction being made between the primary institution, where a patient would be looked after by his own doctor, and the larger hospital to which he could be sent to be under the care of a staff of specialists when necessary. He asserted further that the present hospitals are not only insufficient in number, but are not performing the right functions, by which we understand him to mean that many of the large general hospitals are cumbered by cases which either from the first, or at the stage they have reached, could be as efficiently or more efficiently treated in less elaborate and expensive institutions. This belief, we think, is very widely entertained, perhaps more generally in the large provincial towns than in London. Lord Dawson referred to the importance from an economic standpoint of minor cases of injury or disease disabling for a time, but not dangerous to life nor calling for elaborate hospital treatment. It is obviously to the interests not only of the individual but of the community that the period of disability should not be lengthened owing to any want of skilled treatment; this was well exemplified during the war by the excellent results that followed immediate treatment of minor injuries to the eye in munition factories; the period of disability was reduced from weeks to days, with, obviously, a great diminution in the risk of serious complications.

There is another direction, however, in which the general hospitals might be relieved; it was well illustrated by the paper on "The Care of Crippled Children" contributed to our pages by Sir Robert Jones and Mr. Girdlestone last October. The treatment in such cases, the authors pointed out, is beyond the scope of the general hospitals, for it is impossible for them to provide the necessary conditions, which should include ample bed accommodation in open-air country hospitals. It is, they went on to say, characteristic of orthopaedic surgery that operation is often not an aim in itself, but one link in a chain of treatment, and that by early treatment operation may in many cases be avoided altogether. Somewhat similar considerations apply to a very considerable number of other classes of patients, including even many who, at the time of admission to the general hospital, are acutely ill, needing special treatment—perhaps operation and skilled nursing. The crisis passed, they ought to give place to other serious or acute cases awaiting admission. It has therefore been proposed in several cities that the central general hospital should be linked with another institution in the outskirts of the town adequately equipped for after-treatment, and near enough to render it possible for the physician or surgeon who saw the patient through the acute stage to follow up and maintain continuity of treatment. The war has at least taught us that patients can be transported in properly appointed ambulances without immediate risk on the journey and with great eventual benefit to themselves by being nursed to recovery in more tranquil surroundings. We showed a fortnight ago that a scheme of this kind had made considerable progress at Cardiff, where the general hospital in the centre of the town has already been overbuilt on the site, and where an estate of five-and-twenty acres a few miles away has been acquired. As we have said, similar schemes, particulars of which we are not at liberty to give, are in contemplation, and we hope that this method of contributing to the solution of the hospital question will receive the full consideration it deserves.

[1] February 21st, p. 263.
[2] London: The British Medical Association, pp. 16, 3d.

PYREXIA OF UNCERTAIN ORIGIN AND ENTERIC FEVER.

THE Great War provided a rigorous test of the accuracy of bacteriological methods in their relation to the prevention, diagnosis, and to a lesser extent to the specific treatment, of infections of military importance. The remarkable success with which typhoid and paratyphoid fevers were prevented in the British army is generally admitted to be the most brilliant of the many medical achievements of the war. But in order that a due perspective may be maintained it is important to realize the gaps that still exist in our knowledge, and among the dark patches upon which light is greatly to be desired few are more important than the group of cases included under the label "P.U.O."

When attempting to ascertain the precise nature of the infection in a case of pyrexia of cryptic origin, no method is more satisfactory than the actual isolation and identification of the infective micro-organism from the blood, tissues, or excreta of the patient. Should these investigations fail, serology can sometimes be of material help, and in the case of fevers of the enteric group the presence in the blood serum of the patient of specific agglutinins for the typhoid bacillus or for those of paratyphoid A or B, the relative abundance of such agglutinin or agglutinins, and the fluctuation shown by them as time goes on, are points that have been insisted on by Professor Dreyer and others as of the utmost value in effecting a correct diagnosis.

In a recent report to the Medical Research Committee[1] Dr. W. W. C. Topley, Dr. S. G. Plates, and Dr. C. G. Imrie describe the result of their investigation of cases of pyrexia of uncertain origin invalided from the Western front between October, 1916, and January, 1919. The majority of the cases examined were under treatment in the wards of Charing Cross Hospital, but some were in the Ontario Military Hospital at Orpington, others in the Italian Hospital, and others in the Military Heart Hospital at Hampstead. The chief question investigated was the proportion, if any, of these cases actually suffering from enteric infection. Since bacteriological examination of the stools of 327 patients only yielded positive results with regard to bacteria of the enteric group in two cases, the investigation became perforce entirely serological, and it may be said that the elaborate care with which Dr. Topley and his colleagues set themselves to exclude errors in the diagnosis of enteric fever from the agglutinin index is worthy of all praise.

A study was made of the accuracy of the agglutination test when carried out according to Dreyer's technique, with special reference to the "reduction factor" and the "agglutinin unit" introduced by him for the purpose of obtaining accurate, uniform, and comparable records. Repeated estimations were made of the agglutinin titre of a large number of serums by this procedure, and the percentage of error determined. The agglutinability of standard cultures was compared against various serums with a view to ascertaining the accuracy of the reduction factor, and as a result of these observations the conclusion was reached that the complexity of the various strains in this group is too great to permit of constant quantitative results by this method. For that reason chiefly, but also because they are by no means persuaded that agglutinins are independent of certain other antibodies present in serum, Dr. Topley and his colleagues prefer to record their results in terms of the dilution of serum which will produce a given result, rather than as agglutinin units.

An obvious source of error in an inquiry of this kind arises from the presence of "residual" agglutinin in the patient's serum, present as the result of previous inoculation with T.A.B. vaccine. It has been maintained by Dreyer and others that errors from this source can be excluded by making repeated observations and watching the fluctuation in the curve of agglutinin to the typhoid bacillus and to paratyphoid A and B respectively; the curve rising in the case of the particular organism infecting the patient, and subsequently falling. This matter accordingly was investigated, the effect of time and also of reinoculation being determined on the three agglutinins.

Having in this way prepared the ground and eliminated sources of error as far as possible, Dr. Topley and his colleagues made repeated examinations, usually at intervals of a week, of the serum of altogether 502 patients. The results obtained are fully recorded in tables attached to the report. A variation of 200 per cent. on the lowest reading was observed in 35 cases. After wisely considering all the other evidence available as well as the serological results, they conclude that out of 211 cases of atypical and undiagnosed pyrexia from the Western front examined by them agglutination tests pointed definitely to enteric infection in 10 cases, and more doubtfully to the same disease in 4 others. It would seem therefore that between 5 and 7 per cent. of the cases invalided from the Western front during the two and a half years in question with undiagnosed pyrexial illness were suffering from one or other of the enteric fevers. This proportion will strike most people as small; the etiology of P.U.O. has still to be adequately defined.

[1] Medical Research Committee. Special Report Series, No. 48. A Report on the Probable Proportion of Enteric Infections among Undiagnosed Febrile Cases invalided from the Western Front since October, 1916. H.M. Stationery Office. 1920. Pp. 88. Price 3s.

TUMOURS COMPLICATING PREGNANCY.

DR. HERBERT SPENCER'S Lettsomian lectures on tumours complicating pregnancy, labour, and the puerperium, the publication of which was concluded last week, form a characteristically valuable contribution to obstetrical and gynaecological literature, and one which, although dealing with rare conditions, should command the attention of practitioner and specialist alike. In them the profession is given the benefit of a considered statement of views that have ripened slowly in the light of a long and very full experience, and they possess all the soundness which such circumstances, combined with clear thinking, might be expected to bestow. His careful records and his habit of taking tracings of the size and situation of abdomino-pelvic tumours enabled him to present many illustrative cases in demonstrative detail. Indeed, this accuracy of record and the lengthy period over which his observations have extended in individual cases, are amongst the most valuable features of his review of the subject.

Fibroids are no rare complication of pregnancy and labour. Dr. Spencer estimates their frequency at one in a hundred and fifty cases, but in many their presence is entirely overlooked. With the exception of submucous tumours they do not, in his experience, tend particularly to produce abortion, although premature — and also, curiously enough, post-mature—labour is not uncommon. Labour in a uterus with fibroids is often surprisingly simple and easy, and the main warning to be remembered is the danger of attempting to drag a child past an obstructing tumour by forceps or after version. Where operation is necessary Caesarean

section at term, followed by hysterectomy, is generally the most advisable treatment. Incidentally it may be noted that Dr. Spencer lends the weight of his opinion to the view that fibroids are not so much a cause of sterility as is sterility a cause of fibroids.

Ovarian tumours, which formed the subject of the second lecture, are found to lead to abortion in 25 per cent. of the cases in which they complicate pregnancy. Dr. Spencer emphasized the value of pushing up the cyst out of the pelvis at the beginning of labour, and, once more, the risk of attempting forcible delivery past the tumour. Where laparotomy is necessary, complete dilatation of the cervix should first be secured, so that the child may be extracted with forceps while the ovariotomy is being finished and the patient is still under an anaesthetic. He pointed out also what has not previously emerged so clearly—namely, that the risk to the child is increased by operating during pregnancy, and that therefore operation should, if possible, be postponed until the child is at least viable.

The third lecture dealt with cancer of the cervix complicating pregnancy, labour, and the puerperium. The lecturer is dubious as to the part played either by lacerations or "erosions" of the cervix as etiological factors, and hazards the opinion that local venereal infection may prove to be a more adequate explanation of the fact that this condition is so predominantly an affection of parous rather than of nulliparous women. He related six cases of advanced pregnancy complicated by cancer of the cervix, which he had treated by high amputation of the cervix by the actual cautery with the extraordinarily proud result that three of the patients are alive and well after nineteen, twenty-two, and twenty-five years respectively. Unquestionably these results must give us reason to pause and think. The hopes based on the technique of Professor Wertheim, whose recent death the Vienna school is now mourning, have not been fulfilled, and throughout all gynaecological literature there is apparent a feeling almost of despair as to the powers of surgery in dealing with this particular form of cancer. Many gynaecologists have found in radium, either alone or in combination with hysterectomy—and here the lecturer's emphasis on the actual cautery as the instrument of amputation is to be noted—new promise of success. Recent reports from America contain a note of fresh and confident hope in regard to it. As yet, however, little systematized work on the problem has been done in this country, and it seems more than time that it should be undertaken. More and yet more radium should be obtained and made available at different large centres, where research on a definite plan could be instituted under the combined direction of competent physicists, pathologists, and operating gynaecologists and surgeons. Each of these points is essential, for not from more or less desultory work, controlled solely by the clinician or by the radiologist, can results be expected that will enable rapid and sure progress to be made. The matter is, indeed, a form of national debt, towards the extinction of which some of our wealthy philanthropists might well devote their attention and their means.

THE OXFORD MEMORIAL TO SIR WILLIAM OSLER.

THE meeting held last Saturday in the University Museum, Oxford, under the chairmanship of the Vice-Chancellor, arrived at the appropriate decision that his memory should there be commemorated by the establishment of an Osler Institute of General Pathology and Preventive Medicine. Professor Arthur Thomson justly said (p. 369) that an institute of this kind would typify Osler's life, beginning with the study of the causes of disease and winding up with increasing interest in prevention. Eloquent and sympathetic tributes were paid to the wide influence for good which Osler wielded—his unceasing and successful efforts to promote international amity, especially between America and this country, the wide range of his scientific and literary interests and attainments, his high ideals of the status and education of the medical profession, the unswerving optimism with which he looked back on the past and forward to the future, and, not least, the extraordinary charm and fascination of his own character, which laid under the spell of enduring friendship all those who were privileged to know him. It was unanimously felt that Osler was one of the "great men who mellow the whole age in which they live," and that it was just and salutary to do something, and something worthy, to carry down to future generations the fragrance of his memory and the brilliance of his achievements. To carry out the project a large sum of money will be required, but Oxford is in need of such an institute, and we do not doubt that the suggestion will thus make a double appeal—on the one hand to the multitude of friends that Osler gathered round him, and on the other to graduates of the university in all faculties. On the first head we are glad to learn that already some of the leaders of science and learning in the United States are forming a committee, and that a similar committee will shortly be established in Canada, where Osler began his career as a teacher of physiology, pathology, and clinical medicine. Oxford and its graduates all over the world are proud to have gained for their university the enthusiastic loyalty of one who had already earned his reputation as a great physician in Canada and the United States of America. The presence of the Vice-Chancellor in the chair and of many of the heads of colleges and other leading members of the university at the meeting last Saturday is evidence of this, and there are many other such evidences. The form the memorial is to take would have appealed to Osler himself; it will further the progress of two of his greatest interests in life. The building to be erected will in the first instance accommodate the University department of pathology, which is in need of expansion both for teaching and research. It is proposed that the present pathological laboratory shall be given over to pharmacology, now inadequately housed in temporary premises.

RARITY.

A VERY striking and rare condition is naturally prone to be reported relatively more often than a lesion of everyday occurrence. Accordingly confusion of at least two kinds may result: as the existence of such a condition is common knowledge, it is sometimes regarded as of common occurrence. On the other hand, a rare disease may come under the notice of several observers whose separate reports may go down to medical posterity as those of two or more distinct cases; thus a case of progressive myositis ossificans originally described by Dr. F. W. Burton-Fanning, subsequently visited most of the large London and some of the provincial hospitals, and accounts of this "brittle man" were published in two other medical papers and, it may be added, in the *Daily Mail* also. A case of hypernephroma with hirsuties, one of the earliest reported, in a girl aged 3 years, appears separately under the names of J. W. Ogle, W. H. Dickinson, and sometimes of H. Pitman, and so is apt to be counted twice or even thrice. References, too, have a knack of going wrong, and as a remarkable example of duplication in this way, Plass's[1] observation on the case of congenital obliteration of the oesophagus reported by C. K. Bowes

[1] E. D. Plass, *The Johns Hopkins Hospital Reports*, Baltimore, 1919, xviii, 259–286

may be quoted. The title reads "By C. K. Bowes, Oxon.," and the Germans especially have taken the "Oxon." as the last name of the author, and by further corrupting it to "Axon" have created a place for it in their literature, so that frequent references are made to two cases, Bowes's and Axon's! In reporting a case of congenital atresia of the oesophagus associated with fused kidney, Plass has consulted and verified the references to 136 cases. The lesion consists of a cul-de-sac, representing the upper part of the oesophagus, and projecting from 1 to 5 cm. or more below the level of the larynx, while the lower part of the oesophagus is in communication below with the stomach and above with the trachea, just above the bifurcation. These two portions may or may not be connected by a thin strand of tissue; in 51 cases such a connexion was present, in 41 it was absent, and in 44 no note was made about its presence. Other anomalies are commonly present, the most frequent being atresia ani; among 94 cases in which the point was mentioned, 59 presented some anomaly, and atresia ani was present in 24. The developmental error occurs at a very early stage, and has been observed in a fetus 18 mm. long. The incidence in the sexes is equal, and the infant had usually been born at full term. The symptoms are asphyxiation due to nasal or pharyngeal mucus, choking attacks, prompt regurgitation of food, inflation of stomach with each respiration, breath sounds more audible than normal over the abdomen, and cyanosis which may be either constant or periodic; the urine, though passed as usual, becomes reduced to an extremely small amount after a few days. There is wasting, often accompanied by inanition fever, and life is never prolonged more than fourteen days. Gastrostomy in 16 cases and jejunostomy in one case have been unsuccessful, and the only hope of rational therapy lies in advances in intra-thoracic surgery.

ETIOLOGY OF YELLOW FEVER.

IN previous reports noted here Noguchi has shown that yellow fever patients in Guayaquil have a filterable organism, *Leptospira icteroides*, in their blood; that after recovery from an attack their blood serum agglutinates and dissolves this organism when introduced into the peritoneal cavity of a normal guinea-pig; and that the organism produces in some experimental animals the characteristic symptoms and lesions of yellow fever in man. For these and other reasons, the probability that *Leptospira icteroides* stands in causal relation to the yellow fever of Guayaquil is great. In his tenth paper Noguchi[1] records immunological experiments undertaken with the view of deciding the relation between *Leptospira icteroides* and *Leptospira icterohaemorrhagiae*, the causal organism of spirochaetosis icterohaemorrhagica. The serums of animals immunized against single and also against several strains of these two organisms respectively showed a high titre of neutralizing power for cultures of the homologous groups; but the action of the serums was not absolutely specific, for injection of a sufficient amount of the anti-icteroid serum apparently prevented a fatal outcome in a guinea-pig inoculated with multiple minimum lethal doses of a culture of *Leptospira haemorrhagiae* and *vice versa*. More or less (though not absolute) specificity was shown also by the complement fixation reaction. On the other hand, guinea-pigs infected with *L. icteroides* may after recovery resist a subsequent inoculation with a virulent strain of *L. icterohaemorrhagiae*. It appears, then, that these two organisms, though closely allied, are distinct in their immunological reactions, the difference perhaps amounting to that between subspecies or races. Their pathogenic action also is somewhat different, inasmuch as *L. icteroides* produces chiefly jaundice and nephritis, and *L. icterohaemorrhagiae* haemorrhage and nephritis. In a further paper[2] Noguchi states that a multivalent anti-icteroid serum of high potency when given to guinea-pigs infected with *Leptospira icteroides* checked the progress of the disease; when administered intraperitoneally during the period of incubation it completely prevented its development, although subsequent examination of the guinea-pig when killed after recovery showed haemorrhagic lesions in the lungs; when given early in the course of the disease the fatal outcome was prevented, but when administered several days after the onset of jaundice and nephritis, the serum did not exert any beneficial effect; it appears probable that the serum would fail also in human yellow fever when the stage of multiple haemorrhages, cholaemia, and uraemia has been reached. In a clinical report on about 70 cases of yellow fever at Guayaquil by another member of the Rockefeller Commission—C. A. Elliott[3]—it is pointed out that although the mosquito has been regarded as the chief, if not the only, means of transmission of the disease, other means, such as direct transderm c infection, seem possible, in view of the apparent similarity between yellow fever and spirochaetosis icterohaemorrhagica. That many patients go habitually bare-footed; and that Noguchi produced the disease in experimental animals by inoculations through the unbroken skin, would seem to support this hypothesis.

[1] H. Noguchi, *Journ. Exper. Med.*, 1920, xxxi, pp. 135-158.

THE PHYSIOLOGICAL ACTION OF INTRAVENOUS INJECTIONS.

IN a recent number of *Le Monde Médical* (No. 560, p. 327) Dr. Laumonier discusses the effects of intravenous injections in general. The first and most salient feature is that the results, from a reactional point of view, are much the same whatever be the substance injected, whether of animal or vegetable or even of mineral origin—namely, shivering and a rise of temperature coinciding with more or less intense leucocytosis followed by a sweating stage, a fall of temperature, and copious diuresis. These symptoms are the same whether the vein be injected with an isotonic solution of sugar or with a metal in a state of fine division—for example, in a colloid state, with serum or plasma, with emulsions of living or dead bacilli, or with red corpuscles—and the therapeutical results, as manifested by an improvement of the patient's state, are similar. We are at liberty to infer that the reaction is not special to the substance injected, but is a protest on the part of the organism against the sudden introduction into the circulation of a heterogeneous something. Now the very fact that the organism reacts and resents the foreign invasion shows that it is in good posture for combating the septic or other pathogenic germ that has gained a footing in the tissues, and by furbishing up its defences against the one it enhances its defensive powers towards the other. The more pronounced the reaction after intravenous injections of the colloid metals, for instance, the more hopeful the prognosis. This being so, it may be argued that the reaction merely demonstrates the integrity of the means of organic defence without our having exerted any influence in creating or maintaining the latter. More or less intense leucocytosis, corresponding to an increase of white corpuscles from 5,000 or 7,000 to 25,000, is the constant and no doubt the efficacious consequence of the intravenous injection. There is no uniformity in this respect, and the substance which proves most leucogenous in one case may be less so in another, so that when a first injection fails to determine the desired reaction the substitution of some other substance may be attended by more satisfactory results. The fact that the therapeutical results are consequent upon reactions common to all intravenous injections proves pretty clearly that the reaction is not in any sense specific, and this may explain why various substances have been recommended in the

[2] Ibid., pp. 159-168.
[3] C. A. Elliott, *Arch. Int. Med.*, Chicago, 1920, xxv, 174.

treatment of a particular disease, and why one substance can be employed for all kinds of infection irrespective of their nature.

TREATMENT OF PERITONITIS.

IN a recent paper[1] Crile has outlined the treatment of peritoneal infection as carried out in his clinic. He believes that the general symptoms of peritonitis (rapid pulse and respiration, raised blood pressure, and heightened temperature) are due to blood acidosis. The local symptoms (pain, rigidity, etc.) are the sign of the effort of the organism to prevent the spread of infection by securing immobility. Crile is as insistent a believer as ever in his anoci-association theory, and adheres to his old technique. The war has amply proved the almost unassailable brief that he holds for gas and oxygen anaesthesia. He has fought a good fight on this point. As regards local infiltration in the anaesthetized subject, there are grounds for thinking that he can have but few true disciples to-day. The time taken in anaesthetizing the incision is too long to make it a very practicable step. Exponents of the art have been seen cutting as fast as ever their assistants can inject the novocain or procain solution—apparently in blissful ignorance that these drugs need several minutes in which to act as anaesthetizing agents. Such methods are a travesty of the practice of anoci-association. Crile's after-treatment of peritonitis is interesting; it consists of vast hot packs over the entire abdomen spreading well down over the sides; injection of 5 per cent. sodium bicarbonate and 5 per cent. glucose solution into the rectum as long as tolerated; gastric lavage if vomiting continues; the subcutaneous injection of 2,500 to 3,000 c.cm. saline solution every twenty-four hours till danger is past; and morphine by hypodermic injection until the respiration falls to 10 or 14 a minute. With this last point in treatment many will probably disagree. There is no definite dose; the drug is administered frequently until the respirations fall. It needs some courage in its application, but seems to act well in all save streptococcal cases. If the proof of the pudding is in the eating, Crile's recipe is the best yet made known, for at Cleveland they have treated 409 consecutive cases of acute appendicitis, with and without general peritonitis, without a death. He remarks that they have reduced their mortality by 67.6 per cent. for acute appendicitis alone. This was presumably their original mortality, but if so it was unduly high.

MANICURE INFECTION.

A serious indictment of manicure has lately been published by Körbl,[2] a Viennese surgeon, who has observed no fewer than 32 cases of infection, some very alarming, resulting from this practice. In most of his cases the infection led to severe inflammation, requiring prolonged treatment, and produced more or less serious functional disturbance. Most of his patients did not consult him till conservative treatment had failed, and even free incisions had proved incapable of limiting the disease. The history of these cases, and the observations he had the opportunity of making in early cases, convinced Körbl that in practically every case the disease began as a cutaneous whitlow. In three cases it began in the finger-tips; in all the others it began in the tissues near the nail. It is pointed out that every step in the practice of manicure is liable to produce infection. First the protecting epidermis is opened, and the thin film connecting the base of the nail with the skin is incised and trimmed. Then, in the act of polishing the nail with pastes and powders, micro-organisms which have gained access to the subcutaneous tissues are securely sealed in. Finally, the manicurist massages and polishes the nail, driving the infectious material deeper into the lymphatic system. Examination of the pus showed that the staphylococci usually associated with whitlow were seldom present; in most cases the infection was mixed. The most prevalent micro-organisms were streptococci, and anaërobic bacilli; colon bacilli, as well as influenza bacilli, were also comparatively common. In four cases, three of which developed erysipelas, streptococci were found in pure culture. Infection may occur either during the manicuring or afterward. Of the two, primary infection is thought to be by far the most important. In a family of four persons, all under his treatment, the patients had used the same manicure instruments, but only in nine of his cases had the patients manicured themselves; all the others, including the three patients with erysipelas, had been treated by professional manicurists. All three patients were Hungarian merchants staying at a hotel where they were manicured in turn by the same person. No cultures could be obtained from the instruments used (they had probably been cleaned with alcohol), but the paste employed yielded pure cultures of streptococci. Körbl, who observes that the popularity of manicure has increased enormously, concludes his case against it with a reference to the possibilities of the conveyance of tuberculosis and syphilis to the devotees of this rite.

[1] *Journ. Amer. Med. Assoc.*, 1919, 73, 1655.
[2] *Wien. klin. Woch.*, February 5th, 1920.

CONVALESCENT HOME FOR PROFESSIONAL CLASS CHILDREN.

THE Convalescent Home for Children, established at Broadstairs some years ago by Sir Alfred Yarrow, was taken over as a military hospital during the war, but has now been restored to its original purpose, which is to help the children of professional and well educated people whose means will not allow them without assistance to give their children the change of air needed on recovering from illness. The youngest children received are 4 years of age; boys continue to be eligible until the age of 12 and girls until the age of 14. The usual period of residence is four weeks, but may be extended on the advice of the medical officer of the home. Two wards—one for boys and one for girls—are set apart for the reception of a limited number of cases more serious than are usually admitted to a convalescent home, and to these a lengthy stay in exceptional cases is granted. Children suffering from pulmonary tuberculosis, advanced heart disease, or from incurable complaints or liable to fits are not eligible. Nor can children be admitted who have within a recent period suffered from scarlet fever, ringworm, or any other infectious or contagious disease, or who have been in homes or schools where such diseases exist or have existed within four weeks. The contribution made by the parents of the child is 15s. a week. An efficient new nursing and domestic staff has been got together, and the whole home will be working to its full capacity very shortly. It stands in beautiful grounds close to and facing the sea; it is open all the year round, being well adapted for winter as well as for summer residence. The London offices, at 6, Holborn Viaduct, E.C.1, are in charge of a former matron of the home, and full particulars will be supplied on application to the Secretary. Yarrow Home appears to us to meet the needs of classes who are suffering through the present high cost of living, and we believe that the advantages it offers have only to be more fully understood by the medical profession for it to be constantly full, and even tempt the generous founder to enlarge it.

THE MAUDSLEY COURSES IN MEDICAL PSYCHOLOGY.

THE final arrangements for the courses of lectures and demonstrations at the Maudsley Mental Hospital, Denmark Hill, S.E., of which some particulars have already been given, are now being completed. It is intended that the lectures and demonstrations shall be given in the afternoon between 2 and 5; the final arrangements will be announced shortly. The course will consist of two parts: Part I will be conducted by Sir Frederick Mott, Dr. F. Golla, and Dr. J. V. Lowson. Sir Frederick Mott will give twelve lectures on the anatomy of the nervous system,

followed by practical instruction and demonstrations occupying eight sessions of two hours each. Dr. Golla will give twelve lectures on the physiology of the nervous system, accompanied by demonstrations in practical physiology intended to put students in possession of methods employed in minor research work in mental diseases; they will occupy ten sessions. Similarly Dr. Lowson, who is demonstrator of psychology in the University of Cambridge, will give ten lectures on psychology and eight sessions of practical work and demonstrations in the subject. Part II will consist of a series of lectures and demonstrations by several other authorities. Thus Dr. Hubert Bond will give twelve lectures on the diagnosis, prognosis, and treatment of mental diseases, followed by demonstrations of clinical cases by the medical superintendents of the London County Council mental hospitals and the medical officers of the Maudsley Hospital. Sir H. Bryan Donkin will give two lectures on crime and responsibility; Dr. F. C. Shrubsall two lectures, with demonstrations of cases, illustrating the practical aspect of mental deficiency; Dr. William MacDougall will give eight lectures on the psychology of conduct, and Dr. Bernard Hart six on the psycho-neuroses. In this part of the course Sir Frederick Mott will give six lectures with demonstrations on the pathology of mental diseases, including the symptoms and treatment of brain syphilis, and, in association with Dr. Golla, twelve clinical demonstrations in neurology. Further information and full prospectus can be obtained on application to the Secretary of the Fellowship of Medicine and Post-Graduate Medical Association, 1, Wimpole Street, W., or to the Asylums Officer, 13, Arundel Street, Strand, W.C.2. The fee for Part I or Part II separately is ten guineas each; for both parts fifteen guineas. The course has been arranged to meet the requirements for the Cambridge diploma in psychological medicine.

THE GENEVA RED CROSS CONGRESS.

THE first general council meeting of the League of Red Cross Societies opened in Geneva on Tuesday, March 2nd, and closed on March 9th. The proceedings began with a general assembly of the delegates at the Hôtel de Ville, followed by the inaugural meeting. The various sections met in the mornings and afternoons for detailed discussion of their separate subjects. In the evenings there were receptions of the delegates by the chairman of the Board of Governors, Mr. Henry P. Davison; by the Director-General, Sir David Henderson; by the Secretary-General, Professor Rappard; by the city and canton of Geneva, and by the International Red Cross Committee. A general meeting open to the public was held on Sunday evening under the presidency of M. Motta, President of the Swiss Confederation, when M. Georges Milsom gave a lecture on the origin, organization, and purpose of the League. The British delegates attending the Congress were the Hon. Sir Arthur Stanley, Sir Robert Philip, P.R.C.P.Edin., Dr. F. N. Kay Menzies, Sir Arthur Lawley, and Mr. Baddeley. On February 16th the Secretary-General of the League of Nations, Sir Eric Drummond, addressed a letter to the Director-General of the League of Red Cross Societies, expressing his council's lively interest in the forthcoming meeting, and welcoming the idea of the closest co-operation in the future between the two leagues. It will be recalled that under Article 25 of the Covenant the members of the League of Nations agreed "to encourage and promote the establishment and co-operation of duly authorized, voluntary, national Red Cross organizations." During the congress a letter was received from Mr. Balfour, President of the Council of the League of Nations, appealing for the organization of an effort to relieve the terrible distress in Central and Eastern Europe. It was decided to formulate plans for extension of voluntary relief upon receipt of an assurance from the League of Nations that food, clothing, and transport would be furnished to the afflicted peoples.

SIR GEORGE MAKINS, G.C.M.G., C.B., President of the Royal College of Surgeons of England and Consulting Surgeon to St. Thomas's Hospital, has become President of the Fellowship of Medicine and Post-Graduate Medical Association, in succession to the late Sir William Osler.

Medical Notes in Parliament.

Hospital Provision in the Future.

LIEUT.-COLONEL FREMANTLE asked, on March 3rd, whether the Minister of Health was aware that the present uncertainty as to the future utilization of existing Poor Law infirmaries was hampering boards of guardians in their endeavours to make adequate provision for the needs of the sick, either by way of extension or improvement of their institutions; whether, in the interests of an early reorganization of health services, he would inform boards of guardians what was the policy of the Ministry with regard to these particular institutions, and the use to which they were destined to be put under the new scheme of health services which was contemplated; and whether the Minister was aware that the various health authorities in London and boards of guardians were particularly handicapped in making proper institutional provision for tuberculous persons owing to the failure of the Ministry as yet to carry into effect the declared policy of the Government with regard to the Poor Law. Dr. Addison replied that he was aware of the matters stated, but they involved questions of local government and other subjects of the first importance that could be dealt with only by legislation; and it was obviously necessary that he should lay proposals before Parliament and obtain its sanction thereto before he could properly adopt towards local bodies the attitudes suggested in the question.

Mr. Briant asked if the Minister of Health would take steps to co-ordinate the work of the Poor Law infirmaries and voluntary hospitals, so that persons requiring treatment should be sent direct to the most suitable institution, and should thus be saved the delay and danger of seeking admission at two or more institutions before obtaining the necessary treatment. Dr. Addison replied that he was aware of the case which Mr. Briant had in mind, and he would consider the question; but he had no jurisdiction over voluntary hospitals. Mr. Briant asked whether Dr. Addison did not realize that no effective medical administration in the country could be obtained if he did not draw a distinction between Poor Law infirmaries and hospitals. Dr. Addison responded that he was not quite sure that any effective administration would maintain that distinction. Mr. Briant invited Dr. Addison to introduce legislation to make it effective. The latter replied that no one was better acquainted with the complications of the subject than Mr. Briant.

Colonel Newman asked whether the Minister was aware that, owing to heavy taxation and the increase in the cost of living, large numbers of the middle class were unable to afford the expense of treatment and nursing in their own homes; whether he was aware that they were unable and unwilling to obtain admission to and further overcrowd the large hospitals maintained by voluntary contribution for the pre-war poorer classes of the community; and what action he proposed to take to meet their necessities. Dr. Addison said he was fully aware of the pressure upon the voluntary hospitals. The general question of the provision of hospital treatment had for some time been engaging the attention of the Medical Consultative Council, from whom he was expecting a report shortly.

The Revised Service Pensions.

The Government decisions on the second special report from the Select Committee on Pensions were announced, on March 4th, by Sir L. Worthington-Evans in a written answer of much detail to questions addressed by several members. This reply is given in full in Hansard of the date named, but cannot be understood without reference to the report already mentioned, which has been issued as a White Paper from the Stationery Office.[1]

The Government has accepted the majority of the forty-nine recommendations made by the Committee. The estimated cost of the committee's recommendations, including the continuance of the 20 per cent. bonus, would have been £3,000,000. The estimated cost of the improve-

[1] Parliamentary paper 247. H.M. Stationery Office. Price 3d.

ments accepted by the Government is £1,900,000. In particular it has accepted the whole of the recommendations as to the disability scales of pay of regular and temporary officers, contained in paragraphs 16 to 27 of the report. There were two methods by which a scale could be constructed where allowance was to be given both for service and rank, and for disability: (1) a service-and-rank scale, with additions for disablement, or (2) a disablement-and-rank scale, with additions for service. Broadly speaking, the first method was adopted in 1917, and the departmental committee hold that the existing scheme is appropriate and equitable; but they reviewed it to advise various alterations and alternatives providing for composite rates, and in some cases large additions to the scale. The recommendations with regard to officers' widows' pensions and allowances for children have been accepted with slight modifications. It is pointed out that officers and their dependants need not apply to the Ministry for the increased rates of retired pay or pension. The work of reassessment will be carried through as rapidly as possible, and payment will be made as from April 1st, with arrears from that date.

The suggested increases for matrons and nurses are approved. Proposals made to the Treasury on behalf of the Special Grants Committee that aid may be given where a service nurse's relatives are dependent on her for support are approved. It is agreed also that if existing powers under the Dispensing Warrant for dealing with civilian nurses disabled on war service are insufficient further consideration will be given to cases of hardship. The question of compensation to the general service section V.A.D.—that is, to women engaged on ancillary duties—will be considered by the War Office.

Part 3 of the report—dealing with treatment and training—has been referred to the Ministry of Labour. It raises the question of providing more buildings and land quickly by Government purchase.

National Insurance Arbitration.

In reply to Sir Philip Magnus, on March 8th, the Minister of Health stated the result of the arbitration on the rate of remuneration (reported in the SUPPLEMENT this week). Proposals, he said, would be submitted to Parliament in due course to give effect to the finding. The utmost goodwill existed on both sides, and he expressed sincere appreciation of the impartiality and services of the arbitrators.

Insurance Practices.—Major Prescott asked the Minister of Health, on March 3rd, when the Regulations 16/I.C. of the Government Insurance Act came into operation, medical panel practitioners would be deprived of the advantage of the capital values of their practice; whether a promise was given in 1913 to the effect that such an interest would be assured to the medical practitioner; whether panel practitioners were apprehensive of the effect of these regulations upon the disposal of their practices, and if so, would he take into consideration the expediency of reviewing the situation? Dr. Addison replied that he was not aware that any promise had been given in 1913 or, indeed, any time of the character indicated in the question. He was aware that some insurance practitioners were apprehensive—unnecessarily so—of the effect of the Regulations referred to, and he was sending Major Prescott a copy of a reply he had addressed to representations made to him on the subject on behalf of the Conference of Panel Committees.

Work of the Ministry of Health.—On a supplementary vote of token value for the Ministry of Health, on March 9th, Dr. Addison gave a short review of the work of the Ministry of Health. During demobilization Great Britain, like other countries, had been exposed to the risk of the introduction of diseases rampant in some of the famine districts in Europe, and it appeared that the Port Sanitary Authorities, owing to lack of funds, were unable to provide the necessary staff and apparatus. The scheme proposed would authorize the Ministry of Health to contribute 50 per cent.—probably a total of several thousand pounds—in next year's vote towards the approved expenditure of Port Sanitary Authorities for the purpose indicated. The Ministry had been encouraging the employment of nurses and health visitors at child welfare centres. During the past year 400 additional centres had been set up, and he hoped many more would be provided during the next financial year. Midwifery centres also were being extended, and additional midwifery services had been provided for populations of 200,000, and fifty additional maternity homes had also been established. The infant mortality rate last year was 98 per 1,000—the lowest on record. Turning to medical service under the Insurance Act, he said that medical men recognized that many patients were not getting good enough services, and the profession had heartily co-operated with the Ministry in seeking to attain a standard which would make it certain that insured persons would get as good treatment as ordinary patients. In conclusion, Dr. Addison referred with pleasure to the intended appointment of medical referees and consultants.

Small-pox in East London.—Sir Alfred Yeo asked the Minister of Health, on March 4th, what steps he proposed to take with regard to the serious state of affairs in connexion with the ex-Government stores being dumped at Bell Wharf, Bromley-by-Bow, E., and the reported death of one woman working in the wharf and the isolation of five other persons from the same place, one of whom was in the service of the medical officer of health of the Poplar Council, and what steps he proposed to take to rid the neighbourhood of the cause of the outbreak. Dr. Addison replied that the Minister, in conjunction with the sanitary authorities, had been taking active steps for some time past in endeavouring to check the spread of infection from the different centres to which it had been traced from the source indicated amongst the population largely unvaccinated. The value of the stores dumped was about £250,000. The small-pox had now spread to various other places in the district. Burning it up would not remove the danger.

The Inspection of Dairies.—Lieut.-Colonel Fremantle inquired, on March 3rd, on what date the Milk and Dairies Consolidation Act, 1915, and the Tuberculosis Order of 1913 should come into force; and whether under both the Acts and the Order whole-time veterinary surgeons were to be appointed to carry out the requisite inspections. Dr. Addison said that the question of the appointment of whole-time veterinary officers was under consideration in connexion with the bill which it was proposed to introduce to amend the Milk and Dairies Act before bringing that Act into operation. The part of the question relating to the Tuberculosis Order should be addressed to the Ministry of Agriculture and Fisheries. Operations must be delayed until the modifications proposed in the new bill are in force. Lieut.-Colonel Fremantle: Is there any chance of the bill being brought in this session? Dr. Addison: Yes, I hope so.

Death Rate of Illegitimate Infants.—Dr. Addison, asked on March 3rd by Mr. Raper whether the death rate of illegitimate children was double that of other children, stated that the death rate of children under one year of age during 1918 was 91 per 1,000 in the case of legitimate children, and 186 in the case of illegitimate.

Government Lymph.—In a written answer to Mr. R. Young, Dr. Addison, on March 4th, said he was not aware that a sample of calf lymph submitted to the Wassermann test had given a strong syphilitic reaction; he would be glad if the hon. member would give him full particulars of the case referred to.

Retired Surgeon Commanders.—Sir C. Kinloch-Cooke asked, on March 3rd, whether the First Lord of the Admiralty was aware that some twenty-five surgeon commanders (fleet surgeons) had been placed on the retired list after reaching the ages of 55, or completing thirty years' service, and notwithstanding that many of them were called up in August, 1914, and had served throughout the war, some as surgeon captains, their retired pension was only 10 per cent. higher than the rate fixed for surgeon commanders forty years ago; and whether the First Lord would consider the possibility of increasing the pensions as had been done in the case of officers in other branches of the service. Mr. Long replied that a number of surgeon commanders (fleet surgeons) who retired before the war on reaching the age of 55, or on completing thirty years' service, were called up during the war and served in the rank they held on the retired list, whether surgeon captain or surgeon commander. The exact number could not, however, be ascertained without examining each case separately. While re-employed, such officers received, in addition to the full pay and allowances of their rank, a bonus of 25 per cent. of their full pay, in lieu of counting the additional time served towards increase of retired pay. Under these conditions of service, they would not have been entitled to increase of retired pay; but, in accordance with the general arrangement made in the case of retired officers, who served in a service capacity during the war, their retired pay was reassessed on the new scale at the rates applicable to their age and rank at the date they originally retired. In the majority of cases the rate of retired pay was thus raised from £547 10s. to £600 per annum. The procedure adopted in reassessing the rates of retired pay of surgeon commanders called up for service in the war had been exactly the same as that adopted in the case of officers in other branches called up for service. It was true that the increase of retired pay was proportionately not so great in the case of the surgeon commanders in question as in the case of certain other ranks, but some dissimilarity in this respect was inherent in any scheme which was framed to put the different branches of the Naval Service as far as possible on the same basis.

National Service Medical Board.—Mr. Doyle, on March 3rd, asked the Minister of Health what action he proposed to take on the report of the National Service Medical Board, analysed in our issue of last week (p. 331) on the physical examination of men of military age in the year ended October 31st, 1918. Dr. Addison replied that it was quite impossible to set out within the limits of a reply to a parliamentary question the very large variety of ways in which the causes and the treatment of diseases were being taken up. The number of houses for which the acceptance of tenders had been approved had increased during the last three months from about 12,000 to about 60,000.

Pensions Medical Officers' Salary.—In reply to Captain Loseby, Sir L. Worthington-Evans said, on March 4th, that the salaries of all medical officers who had been duly appointed to the staff of the Ministry of Pensions were punctually paid at the end of each month. In some cases there had been delay in the formal appointment of medical officers who had taken up duty in advance of appointment, and were thus temporarily without pay. He was making inquiry into this.

England and Wales.

HEALTH OF LIVERPOOL.

THE Medical Officer of Health for Liverpool, Dr. Hope, considers that the Registrar-General's estimate of the population of the city, based on the last decennial census, is at least 70,000 below the real number. He goes on to express the opinion that a quinquennial census would be much more satisfactory from a public health point of view. Dr. Hope's return for the same week was 24.7 per 1,000 as compared with the Registrar-General's figure, 27.2. Measles is unfortunately prevalent in the city, and many of the patients are infants of 12 months old, whose removal from the mother to the hospital might endanger their recovery. The hospital accommodation is not sufficient to meet the requirements. Last week there were 842 cases of measles, and the previous week 720.

THE SPECIAL NEUROLOGICAL BOARD, LANCASTER GATE.

At a dinner held in the Great Central Hotel on February 28th Dr. W. A. Brend was the recipient of a presentation consisting of an inscribed album, a silver rose-bowl, and a complete edition of *Pepys's Diary*, from over sixty past and present members of the Special Neurological Board and Clinic. In making the presentation the Chairman (Dr. Muirhead Martin) expressed the personal regard of the staff for Dr. Brend and their admiration of his work during the term of his presidency of the board, now brought to a close by his appointment as Neurological D.C.M.S. for the London Region. Dr. Brend, in reply, referred to the difficulties overcome before the board attained its present influential position, and commented on the growing importance of its treatment branch and clinic in the development of psychotherapy. Dr. H. E. Davison, who succeeds to the post of President, was also a guest, and the other speakers were Drs. Charlton Briscoe, P. Bousfield, Danvers-Atkinson, Duncan, David Forsyth, Laing Gordon, and Travers-Smith.

MEDICAL STAFF OF THE LONDON COUNTY COUNCIL.

It was reported to the London County Council on March 2nd that the present medical staff of the Public Health Department was insufficient to meet the growing requirements of the work. It is proposed to have for the general work nine instead of seven divisional medical officers. Five of these nine will be in charge of the five geographical divisions, and the other four will be in charge of special departments of work—namely, one in the bacteriological laboratory in connexion with infectious diseases; another in connexion with venereal diseases, infant life protection, midwives, and lying-in homes; a third on tuberculosis work; and a fourth on special school medical work (treatment of ear cases). The special staff engaged on school medical work is also to be increased by creating eight whole-time officers in place of seven part-time ones. The salaries of the divisional medical officers are to be readjusted. The maximum will be £700 a year instead of £600; this increase is to take effect from January 1st, 1920. These figures are on the pre-war basis; with the temporary additions or war bonus the annual remuneration will be £650 to £875.

THE HOSPITAL QUESTION IN KENT.

We gather from the *Kent Messenger* that the question of hospital accommodation in the county of Kent is engaging attention. There are two aspects: in the first place the voluntary hospitals are in financial straits, and in the second place the accommodation is said to be insufficient. There are voluntary hospitals at Ashford, Folkestone, Canterbury, Margate, Tunbridge Wells, Maidstone, Rochester, Gravesend, and Sevenoaks. At the annual meeting of the West Kent General Hospital, Maidstone, an appeal was made for a sum of £100,000 to make additions to the present buildings so as to raise the number of beds to 105. Dr. Travers, in supporting the appeal, said that the hospital at present had fifty-five beds occupied, but that as many as seventeen urgent cases had been sent to the hospital in a single week, and there was at present a waiting list of seventy. He considered that a convalescent home at a distance would not meet the need, as many of the cases sent to the hospital required active surgical and medical treatment, and many could not be moved out to the country for some weeks. In a letter to the newspaper Dr. Barclay, who was formerly in charge of a state hospital in New Zealand, has suggested that the disused aerodrome buildings at Detling Hill should be utilized. The buildings, he says, are about to be sold; after visiting them he came to the opinion that they could be adapted without serious alteration for chronic cases and those needing chiefly nursing, fresh air, and good food. The hospital at Maidstone could then remain for the reception of acute cases. The proposal, as we have indicated elsewhere in this issue and on several other occasions, seems in principle on the lines of proposals made for several other towns.

Scotland.

CENTRAL MIDWIVES BOARD FOR SCOTLAND.

AT a meeting of the Central Midwives Board for Scotland, under the presidency of Sir Halliday Croom, a number of disciplinary cases were considered. In two instances certified midwives were charged with failure to notify ophthalmia neonatorum; one was suspended for three months and the local supervising authority instructed to report thereafter with reference to her ability to take and record the temperature and pulse. In the other case the Chairman said that such offences could not be adequately dealt with by censure or caution, but that the midwife would be allowed an opportunity of proving amendment, the local supervising authority being requested to report at the end of three months. A midwife who had failed to notify stillbirth was reprimanded, and judgement on other breaches of the rules was deferred, the local supervising authority being requested to furnish a report within three months. The name of another midwife, who was charged with having been in contact with a patient suffering from puerperal fever and failing to make the required notifications and take the necessary precautions, was removed from the roll of midwives and her certificate cancelled. The names of three other women were directed to be removed and their certificates cancelled. In one instance the woman had been convicted of keeping an improper house, another had been sentenced to three months' imprisonment for theft and fraud, and a third had been sentenced to eighteen months' imprisonment for using instruments with intent to procure abortion.

Ireland.

ULSTER MEDICAL SOCIETY.

AT the meeting of the Ulster Medical Society on February 26th, when the President, Mr. Andrew Fullerton, C.B., C.M.G., F.R.C.S.I., was in the chair, Dr. Thomas Houston read a paper on the classification of streptococci, in which he related the observations made by himself and Dr. J. McCloy in the Base Hospital, Etaples. Dr. H. P. Malcolm described his experiences of streptococcal septicaemia in France, and Dr. W. J. Wilson gave an account of the various organisms isolated in cases of gas gangrene. Before the close of the meeting one of the members referred to the purchase of "Graymount," Belfast, by the Corporation, as a sanatorium for surgical tuberculosis. Considerable discussion ensued, and dissatisfaction was expressed that the profession and the public had not been informed about the matter.

THE Ministry of Health has issued a handbook, entitled *Maternity and Child Welfare Centres in England and Wales* (H.M. Stationery Office, through any bookseller, 1s. net), which is a directory to such institutions. It appears that there are in London 203, in the county boroughs 391, and in the counties 1,124. Of the total, 679 are maintained by voluntary societies.

Correspondence.

DYSPEPSIA.

SIR,—As methods of precision in diagnosis develop the treatment of dyspepsia is falling increasingly into the hands of the surgeon. That tendency may prove a permanent or a passing phase. The diagnosis also, in obscure cases at least, of dyspepsia is being more and more laid on him, and he feels the need of help from physician, physiologist, and pathologist. The columns of the JOURNAL have recently contained two important articles, the one entitled "Disappointments after gastro-enterostomy," from the pen of Sir Berkeley Moynihan (BRITISH MEDICAL JOURNAL, July 12th, 1919), and the other, "Dyspeptic and other referred symptoms associated with disease of the gall bladder and of the appendix," from that of Sir Humphry Rolleston (BRITISH MEDICAL JOURNAL, March 6th, 1920). Both articles indicate the somewhat widely separated sources of origin of the symptoms of dyspepsia—the biliary apparatus, the appendix, the duodenum, etc., in addition to the stomach itself.

In the JOURNAL of November 15th, 1919, in an article entitled "Remarks on the frequency, diagnosis, and treatment of chronic pancreatitis," I indicated the pancreas as an important source of dyspeptic symptoms, and in that article, and the correspondence that followed, pled for systematic examination of the pancreas as possibly the sole or the associated source of obscure dyspeptic symptoms. Such systematic examination, by means of microscopic examination of a *fresh* portion removed by the surgeon from the living gland, has, as I indicated, convinced me that chronic or subacute pancreatitis is the sole or the associated source of the symptoms in many cases of dyspeptic troubles, and, further, that certain supposed signs of pancreatitis on which we have hitherto relied are either unreliable or present so rarely as to be valueless, more especially in the early stages of the trouble.

The structure and the functions of the pancreas are apparently complex and at present ill understood. It stands, as I recently pointed out (BRITISH MEDICAL JOURNAL, January 24th, 1920), somewhat alone amongst the tissues in the rapidity and intensity of *post-mortem* changes. Autolysis is so rapid that examination of fresh specimens taken from the living gland, in the course of an abdominal operation, alone yields reliable results as to the presence or absence of morbid changes, and therefore of the value of the various alleged signs of, and tests for, the existence of pancreatitis.

I venture to renew my plea for the routine examination by the surgeon of the pancreas in all cases operated on for actual or supposed gastric, appendicitic, duodenal, and biliary symptoms, and to suggest certain of the questions awaiting answer:

1. What proportion of cases of pancreatitis is accompanied by cholelithiasis? My results give it as small.
2. What proportion of cases of pancreatitis is accompanied by catarrhal gastric, duodenal, and biliary apparatus affections? My results give it as large.
3. What proportion of cases of pancreatitis is accompanied by excess of dextrines in the urine? Except in cases of advanced pancreatitic cirrhosis, my results give it as negligible.
4. Is excess of dextrine confined to cases in which the islands of Langerhans are affected?
5. Does the pancreas, in addition to its digestive secretion, produce an "internal secretion," and, if so, of what nature and function?

—I am, etc.,

Glasgow, March 6th. JAS. H. NICOLL.

"INTRAVENOUS PROTEIN THERAPY."

SIR,—Dr. A. E. Gow rightly laments the confusion which has arisen in applying such a nomenclature as "protein" or "protein shock" therapy to the various cases under consideration. The latter term was first coined in America, and seems to have stuck more or less. The protein is used in two forms—(1) as bacterial emulsions (to which, indeed, the application of the term "protein" is utterly unscientific), and (2) as cleavage products of the simple protein molecule (proteoses). Each of these substances is used therapeutically in two distinct and opposing ways—namely, (*a*) in minute doses for immunizing purposes, and (*b*) in single (or more) massive doses for the purposes of the pyrogenic reaction ("shock" of American writers). From this it is evident that the expression "protein therapy" may mean anything, and the addition of the word "shock" conveys a false impression. It is therefore necessary to indicate so far as we can, by some nomenclature, which of these methods of treatment is specified.

Dr. Gow apparently seems to think the term "pyrogenic therapy," as applicable to the massive reaction, is defective for two reasons. The first is that certain non-protein substances may produce fever, and the second, that the clinical improvement cannot be ascribed to the pyrexia. I venture to think that these objections may be fairly met. If a non-protein substance can produce the desired reaction it may be just as good for use as a protein. The experiments with non-protein substances have hitherto only been made on animals, but the effects appear to differ in no way from those of proteins. Quite recently, however, the typical reaction seems to have followed the use of hydrogen peroxide in the human subject, as described in the *Lancet* (vol. i, 1920, p. 432) by Drs. Oliver and Murphy. Even if the non-protein substances were not suitable clinically, this does not affect the issue. We use only such pyrogens as are therapeutically appropriate, just as for purposes of purgation (to take an example) we use only certain purgatives, though many poisonous drugs are likewise capable of acting as purgatives.

As regards Dr. Gow's second objection—that the clinical improvement cannot be due to the fever—it is an instructive fact that all other workers at this subject are unanimous that the temperature production is the essential factor. Without the pyrexia no good can be effected. It also may be pointed out that the term "pyrogenic" does not refer to a possibly chance production of the symptom pyrexia, but refers to those substances themselves which act as pyrogens—a name given them by the late Sir J. Burdon-Sanderson. Nor is their capacity to produce fever a secondary or subsidiary one, caused by the liberation and mobilization of toxins in diseased conditions, as the fever is equally produced in the healthy subject, showing the substance to be a pyrogen in the true sense.—I am, etc.,

London, W., March 1st. A. G. AULD.

THE TRANSMISSION OF RELAPSING FEVER.

SIR,—With reference to the remarks by Dr. W. H. Willcox in your issue of February 14th, p. 222-3, on the possibility of there being methods of transmission of relapsing fever other than the louse, I quote some evidence to support his suggestion.

During the years 1906–7, and part of 1908, I carried on an extensive investigation of Indian relapsing fever, which resulted in the discovery of the body louse as the natural transmitter of the disease.

In the earlier part of the inquiry many possible sources of infection were studied, and in particular the blood, to see whether the disease required the interposition of an insect vector, or whether it could be transmitted by simpler methods, such as by contamination with one or other of the excretions.

It was shown in various ways that the blood during the febrile period (and less so during the apyrexial) was very infective to monkeys. Such blood, when brought into contact with the healthy uninjured skin, did not produce the disease, but if a few hairs were pulled out or minute abrasions made on the skin, the application of infective blood invariably resulted in the infection of the experimental animal.

Similarly, if an infected and a healthy monkey were laid side by side and several passages made from the one to the other by pricks with a grooved needle, the healthy monkey became infected on each occasion.

It was found also that when a few cubic centimetres of infected blood were introduced with a soft, well-greased rubber catheter into the oesophagus of a monkey, the disease was regularly transmitted by this means, even though the risk of abrasion of the surfaces was almost certainly excluded.

During the course of these investigations two of my assistants developed relapsing fever in the laboratory after doing autopsies on infected animals. They had no recent cuts or abrasions visible to the eye, so that the spiro-

chaetes must have gained entry by means of microscopic abrasions such as may generally be found around the nails.

A case is on record from another laboratory in which an investigator received a spurt of blood into his eye from a cut vessel whilst operating on an infected animal. Notwithstanding the fact that the conjunctival sac was washed out, he developed relapsing fever after the usual incubation period.

These facts show that the spirochaete has no obligatory cycle of development before it becomes infective after leaving the mammalian host, though this does not disprove the possibility of an alternative cycle of development in its arthropod vector.

When my investigations had reached this stage and when a year's close study of the supposed potentialities of the bed-bug had yielded negative results, a series of cases of relapsing fever were observed to be occurring amongst the staff of a big lying-in hospital in Bombay, which I was directed by Government to investigate. It was shown that these cases were almost certainly being infected by contact with fresh blood. What happened was briefly as follows:

1. There was a small but widespread epidemic of relapsing fever in Bombay at the time.
2. This disease almost invariably produces abortion in pregnant women.
3. Women suffering from abortion and miscarriage were coming to the hospital in a highly infective state to be treated.
4. Spirochaetes could be found in the placental blood.
5. Doctors, students, and nurses who came into contact with fresh blood became infected. Cotton gloves (or none at all) were in use in the theatre.

None of the surgical staff of the big general hospital in the same compound contracted relapsing fever. This may have been due either to the fact that rubber gloves were worn at operations or more probably to the fact that operations would not be undertaken on patients who were suffering from relapsing fever or other pyrexial diseases.

It is true that at this time the real insect transmitter was not known, and it was not until some months later that I had the opportunity of investigating another epidemic with quite different epidemiological features, as the result of which I was able to point to the body louse as the true vector of relapsing fever. On reconsidering my evidence as to blood transmission in the light of these new facts, I was still able to adhere to my opinion that the series of cases in the lying-in hospital were due, not to insect transmission, but to contact with fresh blood.

Dr. Willcox's clinical acumen has led him to the same conclusion in his experience in Mesopotamia. His suggestion as to the transmission of relapsing fever through human faeces is not supported by experimental evidence, nor in my considerable experience by clinical evidence. I have repeatedly tried, but always failed, to infect monkeys by the subcutaneous injection of faeces, urine, and vomit taken from patients at the height of their infection. Microscopical evidence on this point would be valueless, as all these excretions contain spirochaetes under natural conditions. Experiments on monkeys, however, provide a very delicate test, as not one of my series of over a hundred monkeys failed to become infected even when the dose of virus was minute.

The practical point is that though the ordinary carrier of relapsing fever in Europe, Asia, and Northern Africa is assuredly the louse, a more direct transmission from person to person does take place under exceptional circumstances—namely, by the contact with, and subsequent absorption of the virus from, freshly shed infective blood.

Whilst on this subject I venture to refer to the question of priority of the discovery of the louse as the carrier of relapsing fever. This should fairly be placed to my credit (vide "The part played by *Pediculus corporis* in the transmission of relapsing fever," BRITISH MEDICAL JOURNAL, December 11th, 1907). This reference appears to have been overlooked by some writers on the subject, whilst some have referred to it merely as a "suggestion." The observations made in that paper were confirmed by Sergent, Graham Smith, and others, but particularly by Nicolle and his associates, who extended and amplified the original observations. The latter also corrected me as to the exact method of transmission by the insect, showing that it was brought about by the crushing of the body of the infected louse into an abraded skin surface rather than by the insect's bite. Other observations of mine showed that the buccal secretions of some infected lice swarm with spirochaetes, and the significance of this has yet to be explained.

It should be remembered that the transmission of relapsing fever was known before the louse hypothesis was applied to the transmission of typhus fever, and the close epidemiological similarity between the two diseases suggested their being carried by the same agency.—I am, etc.,

F. P. MACKIE,
Major, I.M.S.

Bristol, Feb. 29th.

THE TREATMENT OF MALARIA.

SIR,—In the expressions of opinion in your columns on the treatment of malarial fever in the tropics there seems to be little variance, but what concerns the general practitioner is the anti-relapse treatment in this country where reinfection is unlikely.

My experience of the treatment of malaria in tropical Africa from 1900 until recently is similar to that of Drs. Taylor, Law, and Collett, and, like the last-named, I have seldom had to resort to other than the oral method of administration. Cases do occur, but they are distinctly rare.

Since demobilization I have treated many hundreds of ex-soldiers suffering from recurrent malaria in this country. In the majority there has been little or no clinical evidence of the disease, but at the same time a considerable number show some splenic enlargement. The improvement in practically every genuine case is so marked that there can be no two opinions about the efficacy of the routine treatment which has been adopted by several of us working alongside each other. The treatment is simple. Every genuine case is given 10 grains of quinine sulphate in solution daily before breakfast; this is continued for a month. The patient is then seen again, when the same daily dose is repeated for another month or increased to 15 grains should the case require it. The treatment is completed at the end of three months should no relapse have occurred during that time. The patient is then given a tonic for as long as he requires it. Under this treatment I have only met with one case in which the spleen did not return to normal within three months. In the large majority of those who take their daily dose of quinine regularly no relapse occurs, but it has been found that in a small minority of the regular quinine takers slight relapses will occur, but that these will soon cease if the treatment is persevered in.—I am, etc.,

R. E. DRAKE-BROCKMAN, M.R.C.S.

London, S.W., Feb. 26th.

SIR,—As I find that the treatment of malaria by *intramuscular* injections of quinine salts is still recommended for certain classes of cases by some authorities, I wish to point out that this method was condemned by the medical service of the E.A.E.F. ("German" East Africa).

The intramuscular injection of quinine causes extensive necrosis of muscle, and its therapeutic value is negligible when compared with the other methods of administration, oral, intravenous, or subcutaneous.—I am, etc.,

AUGUSTUS R. BALMAIN, M.B., B.S.Lond.,
Captain R.A.M.C.(S.R.), late of E.A.E.F.

London, S.W., Feb. 28th.

MEASUREMENT OF EMOTION.

SIR,—The experiments of Professor A. D. Waller on the above subject (February 21st, p. 259) are very interesting to me as corroborative to a very small extent of the epoch making work of my friend Dr. Albert Abrams of San Francisco.

It is quite eight or ten years since Abrams showed that the electric discharge from the human body chiefly occurs at the tips of the fingers and toes; the discharge is greater in the light than in the dark, and, contrary to generally accepted opinions, greater in dry than in damp weather. As an absolutely dry atmosphere is a more or less perfect insulator, he legitimately concludes that human electric potential is high. He has also shown that the polarity in the normal male—I say normal because there are a good many asexual individuals about—is positive in the right hand and foot and negative in the left; in the normal female during the child-bearing age the polarity is

reversed; the polarity can also be reversed by throwing a yellow handkerchief over the head of the subject. In some highly strung individuals the discharge from the right hand in the male and the left in the female is sufficient to neutralize the south pole of a six-inch bar magnet.

Abrams ascribes these effects to electronic energy, not simply in the cell but in the atoms of which the cell is composed, and he holds that radio-activity is a universal property of matter, and not simply confined to the dozen elements or so to which physicists limit it.

I think it is within the experience of very many individuals that any painful or disagreeable emotion causes tingling or the so-called "pins and needles" at the tips of the fingers. In your own case, when Dr. Waller aroused a disagreeable memory, there was a great deflection in the mirror galvanometer. There must be a great many disagreeable reminiscences stored up in the substrata of your encephalon; get someone to rake them up, and you may be able to corroborate my observation at your finger-ends without any Wheatstone bridge or galvanometer.

In executions it has been long known that emissions of semen not infrequently take place. This has always been ascribed to the effects of strangulation congesting the penis and testicles, but it occurs as frequently in fracture of the neck as in the slow process of strangulation, and in my opinion takes place before the execution in the dread anticipation of what is going to happen.

In epileptics the high electric potential can be drawn off from any part of the cranium, and in order to lessen the electrical resistance of the scalp in such cases I have been lately having it rubbed night and morning with a 5 per cent. solution of acetic acid. I could easily fill several journals with an account of Abrams's valuable work, but this will perhaps suffice to whet the appetite of the curious for something new.—I am, etc.,

Liverpool, March 1st. JAMES BARR.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—In the argument which has followed the publication of Dr. Baskett's paper, I admire greatly the author's persistence in keeping his critics to the point. As I read it, the statement of his case is this: State "paternalism" is designed to assist the poorer classes; "paternalism" is costly; the larger part of the cost is passed on to the poorer classes in the increased price for commodities (the poorer classes being the largest consumers owing to their enormously preponderating numbers); thus the cost of "paternalism" tends to reduce "real" wages; reduction of real wages means destitution, or at all events privation.

As a corollary the mortality from any disease which depends on privation or destitution is bound to increase—or to fail to decrease as rapidly as it otherwise might—under any system of State "paternalism." Hardly any happening in Nature is due to one factor alone; and it is probable that in emphasizing—quite justly—what seems to him the most important factor, Dr. Baskett may be under-estimating the value of other factors. But the arguments of his opponents seem to me so unconvincing that I venture to make a deduction from Dr. Baskett's conclusions.

The financial difficulties of the country are supposed to be very great. Yet we are overwhelmed with the schemes of "reconstructionists." All these schemes are costly; nearly all involve interference by the State. There is a crusade in contemplation against a C3 population. In this crusade the Consultative Medical Council of the Ministry of Health is not unlikely to find itself involved. It is permissible, therefore, to hope that every member of that Council has duly weighed the argument put forward by Dr. Baskett, and that no scheme of medical services will be put forward in the report shortly to be published unless it is reasonably certain that the results will be in some measure commensurate with the costs involved. It seems too often forgotten that the greater part of State activity is unproductive, although we are assured on all hands that the need of the hour is production. If unproductive work is necessary, let it not be unreasonably costly.—I am, etc.,

London, W., March 5th. CHAS. BUTTAR.

TREATMENT OF THE RUNNING EAR.

SIR,—The object of my original letter (August 23rd, 1919, p. 253) was to emphasize the fact that non-operative treatment will produce surprisingly good results in many cases if thoroughly carried out. In my opinion the essence of such treatment is the cleansing and drying of the meatus, and in that respect Dr. MacGibbon (February 28th, 1920, p. 294) apparently agrees with me. Syringing is not a "modern" method, although probably more so than "sponging out the discharge." The object of each is the same, and they are probably equally effective, but, while the former can be carried out by others, the latter, to be efficient, requires the attendance of the surgeon twice daily. This I have found a practical bar. The figures I gave were based on the duration of discharge, because, under the circumstances, the records which I was able to keep did not allow of a classification into true clinically chronic cases and those of prolonged acute conditions. The former, however, predominated. I had no intention of implying that operative treatment had no place in the treatment of cases of suppurative otitis media, as that would be absurd. In my opinion the antrum is involved at some stage in all cases of otitis media. The important factor is the freedom or otherwise of drainage from this cavity. Failure of resolution in an acute case is usually due to deficient drainage from the antrum, and the drainage provided by an operation is necessary, and in my opinion increasingly employed. The results of operation in unresolved acute cases are almost uniformly successful. As to operation in chronic cases, the results of the radical operation are not nearly so good, discharge recurring or persisting in nearly 50 per cent. of cases. In my opinion this operation should be reserved for cases in which some decided indication exists.

No mention was made of the great importance of any necessary treatment to nose or nasopharynx, as this is generally recognized, and the object of the letter was to emphasize a particular point rather than to write an essay on the treatment of suppurative otitis media. Space and the tolerance of your readers limited me then and do so now.—I am, etc.,

Bristol, March 1st. A. J. WRIGHT, F.R.C.S.

COMMISSIONS IN THE INDIAN MEDICAL SERVICE.

SIR,—Would you kindly allow me to add my testimony to what has been stated by Lieut.-Colonel R. H. Elliot, I.M.S., in your issue of February 7th, and in a previous communication, regarding temporary commissions in the Indian Medical Service for young medical men? The conditions offered by the Government of India to approved candidates are as good, if not better, than those of any other Government service in India at present. It is possible that those conditions will be further improved. There are some of us who can remember drawing Rs. 286.10.8 for a year or so after joining the service. Notwithstanding the greatly decreased purchasing power of the rupee the pay now offered is in every way higher than it was.

There is, I believe, a desirable temporary career open in the Indian Medical Service to young men with the best professional attainments at the present time. I write with a knowledge of the arguments for and against such a career.

There are several special reasons for accepting temporary commissions. If at the end of two years the officer finds the Indian Medical Service unsuitable he has been through a useful experience. It may be that before long permanent Indian Medical Service officers after serving for seven or eight years will be allowed to relinquish their commissions with a substantial gratuity, as is the case in the Royal Naval and Royal Army Medical Services.

At the present moment no prudent person would have the temerity to prophesy what the Indian Medical Service is likely to be, say, ten years hence, or what changes may take place in the Medical Services of India as a whole during that time; if the improvements one has in mind regarding leave, study, duty, free passage home periodically, etc., are published, then I would strongly recommend the Indian Medical Service as a permanent career. These opinions are entirely personal.

I would advise young medical officers going out to join the Indian Medical Service not to purchase more clothes and boots than is absolutely necessary, as most articles of wear are cheaper in India than at home at present. I have recently returned from India, and regret not coming home with a replete wardrobe.—I am, etc.,

London, March 7th. P. HEHIR, Major-General I.M.S.

THE TERRITORIAL FORCE.

SIR,—I am in entire agreement with "Hard Hit" in his pungent criticism of the Territorial Medical Service. Dr. Buttar either takes things lying down or has not been a T.M.O. During the recent war I started as captain, saw four years nine months' service and was demobilized, still in the same rank, all for 5s. a day less than the conscripts. I am told that I cannot resign, but I mean to resign at the first opportunity and have done with such niggardly treatment, and I shall advise all my friends not to join the T.F. until patriotism is not counted for evil.

I am a specialist in a particular region of the human anatomy, but was I given a special job? Oh, dear no. For the greater part of my service I was doing work which any clerk could have done. Was this the case with the A.M.S.? Oh, dear no. A great many of the London men were made major-generals with corresponding emoluments, honours, and titles. Was any Territorial M.O. made a major-general? I think not. At any rate, I was not. I was only one of the poor fools who joined up twelve years ago. But "Hard Hit" and I both look to the British Medical Association to secure for us our arrears of pay.—I am, etc.,

March 8th. CONSULTING SURGEON.

*** So far as we can ascertain eight temporary colonels were promoted to be major-general, and one colonel of the Medical Service of the Territorial Force Reserve, Major-General Sir R. H. Luce, K.C.M.G., C.B.

THE END OF THE WAR.

SIR,—Judging by the article on the "Notification Fee and the End of the War" in your issue of the 6th instant, you appear to be ignorant of the fact that the termination of the war has been fixed by Order in Council as occurring on January 10th, 1920; at least, it was so announced in the press. I presume, therefore, that the medical practitioner's fee for notification of a case of infectious disease will revert to 2s. 6d. from that date.—I am, etc.,

Attleborough, March 7th. G. S. KEELING.

*** Our correspondent is mistaken. The Order in Council dated February 9th, 1920, and published in the *London Gazette* of the following day, declares January 10th, 1920, to be the date of the termination *of war with Germany*, and not that of the termination *of the present war*. We quote the last two paragraphs of the Order so that there may be no doubt about the matter:

"And whereas treaties of peace with other belligerents not having yet been ratified, it is desirable to declare the date which is to be treated as the date of the termination of war with Germany before declaring the date which is to be treated as the date of the termination of the present war:

"Now, therefore, His Majesty, by and with the advice of His Privy Council, is pleased to order, and it is hereby ordered, that the said tenth day of January shall be treated as the date of the termination of war between His Majesty and Germany."

EPIDEMIC DISEASES IN MAURITIUS.

SIR,—Your reviewer in criticizing (February 28th) my book on the *Epidemics of Mauritius* finds fault with the statement that the *Phlebotomus papatasii* is the carrier of dengue fever, and refers me to the recent work by Clelland and others in Australia who say that the *Stegomyia fasciata* is the carrier of that fever. Long before Clelland, Bancroft (of Australia) had accused the stegomyia, but both Daniels (*Tropical Medicine and Hygiene*, Part III, p. 130) and Manson (*Tropical Diseases*, p. 254) consider the experimental evidence inadequate, whilst Brumpt (*Précis de parasitologie*, p. 449) makes a distinct statement, which may be translated as follows:

The *Phlebotomus papatasii* transmits into man the pappataci fever, usually called dengue fever.

The researches of Doerr, Franz, and Taussig have shown that the phlebotomus after biting a patient with dengue fever can transmit the disease eight days after. They are the intermediary host of this affection.

The virus of dengue is transmitted by the phlebotomus, and also, according to Graham of Beyrouth and Ashburn and Craig of the Philippines, by certain mosquitos.

In *Memoranda of Medical Diseases in the War Areas* (Edition 1919, p. 199) it is stated that "dengue, undulant fever, etc., may be mistaken for phlebotomus fever"; and again (p. 48) that "the differential diagnosis between dengue and phlebotomus fever is not always easy, as both may assume atypical forms. Indeed, there are not wanting those who both in India and in Macedonia declare the two diseases to be identical. It must be admitted that the arguments adduced are very powerful, so much so that we are led to ask if the same disease may be transmitted by totally different insect vectors." Finally, Manson (pp. 324 and 326) draws attention to the possibility of mistaking three days' fever, seven days' fever, undulant fever, dengue, etc., for one another. Of course, I agree with the reviewer, the species' names should have been written in small letters. It was a lapsus.—I am, etc.,

London, W., March 1st. D. E. ANDERSON.

Medico-Legal.

DRUNKENNESS IN MURDER CASES.

THE House of Lords on Friday last delivered their reserved judgement in the Beard case which was argued towards the end of November and which raised points of considerable interest and importance.

Beard had been sentenced to death for the murder of a girl of 13 whom he had ravished and accidentally suffocated by placing his hand over her mouth, his object being to prevent her calling for help.

His defence had been that he was drunk, and on that ground his counsel had pleaded that the verdict should be one of manslaughter. Mr. Justice Bailhache, in leaving the case to the jury, had directed them that this defence could only prevail if as the result of his condition the prisoner did not know what he was doing or did not know that what he was doing was wrong. The jury, however, returned a verdict of murder and there was an appeal to the Court of Criminal Appeal.

It should perhaps be explained that a criminal intent or, as it is decribed in legal language, *mens rea* is of the essence of every crime, and this being so a lunatic is obviously incapable of committing a crime and the test which at law has long been accepted as determining the question as to a man's mental condition is that which Mr. Justice Bailhache applied when he summed up the case of Beard to the jury.

Now there had been a case in 1909—Meade's case—in which the defence of drunkenness to a charge of murder had been considered by the Court of Criminal Appeal. In that case the prisoner had, whilst drunk, so brutally ill-treated a woman that she died, and on his appeal against the sentence of death which was passed upon him the Court of Criminal Appeal pointed out that a man is taken to intend the natural consequences of his acts, but that in the case of a man who is drunk this might be rebutted by showing that his mind was so affected by the drink he had taken that he was incapable of knowing that what he was doing was dangerous. "If this is proved the presumption that he [Meade] intended to do grievous bodily harm is rebutted."

Here again it is necessary to explain, because of its bearing upon the view which the House of Lords took of the decision in Meade's case, that there are many crimes in English law in which an intention to do a specific act forms an essential element of the crime. A man charged with the murder of a woman upon whom he has performed an abortion cannot successfully plead that he did not intend to kill her. According to English law everyone is presumed to have intended the natural consequences of his actions.

But there are many crimes in which there is an element of what may be called a specific intention. Wounding with intent to kill is one, attempted suicide is another. As Chief Justice Jervis once said, "If the prisoner was so drunk as not to know what she was about how can you say that she intended to destroy herself?"

Beard's case came before the Court of Criminal Appeal and that court, considering itself bound by its own previous decision in Meade's case, held that Mr. Justice Bailhache had dealt with the case in his summing up to the jury as one of insanity, and that the defence of drunkenness had not been properly left to

the jury, and reduced the verdict to one of manslaughter, and from this decision the Crown appealed to the House of Lords.

In that House the Lord Chancellor pointed out that according to the law of England as it prevailed until early in the nineteenth century, voluntary drunkenness was never an excuse for criminal misconduct; and indeed the classic authorities had broadly asserted that voluntary drunkenness must be considered rather as an aggravation than a defence, and referred to a case reported in 1562, in which it was said:

> If a person that is drunk kills another, this shall be felony, and he shall be hanged for it, and yet he did it through ignorance, for when he was drunk he had no understanding nor memory; but inasmuch as that ignorance was occasioned by his own act and folly, and he might have avoided it, he shall not be privileged therefor.

The Lord Chancellor then reviewed the cases on the point, remarking that the old rigid rule of the nineteenth century appeared gradually to have been relaxed, from which he drew three conclusions:

First, that insanity, whether produced by drunkenness or not, afforded a defence. He pointed out that the insane could not be convicted of crime, but on a verdict of insanity were ordered to be detained during His Majesty's pleasure. If actual insanity in fact supervened as the result of alcoholic excess it furnished as good an answer to a criminal charge as insanity induced by any other cause; he quoted Mr. Justice Stephen, who said, in deciding a case in 1881:

> Drunkenness is one thing, and the diseases to which drunkenness leads are different things, and if a man by drunkenness brings on a state of disease which causes such a degree of madness, even for a time, as would have relieved him from responsibility if it had been caused in any other way, then he would not be criminally responsible. In my opinion in such a case the man is a madman and is to be treated as such, although his madness is only temporary. . . . If you think there was a distinct disease caused by drinking, but differing from drunkenness, and that by reason thereof he did not know that the act was wrong you will find a verdict of not guilty on the ground of insanity.

Secondly, that in cases where a specific intention formed an essential element of the crime, evidence of drunkenness which rendered the accused incapable of forming that intention should be taken into consideration, in order to determine whether he had the intention or not; and

Thirdly, that evidence of drunkenness, falling short of a proved incapacity in the accused to form an intention necessary to constitute the crime, and merely establishing that his mind was affected by drink so that he more readily gave way to some violent passion, did not rebut the presumption that a man intended the natural consequences of his acts.

He then came to Meade's case and, after referring to the facts of that case and to the judgement, pointed out that the crime charged in that case was that death arose from violence done with intent to do grievous bodily harm, so that it was necessary to prove the particular intention. In the case under consideration, on the other hand, the death arose from a violent act done in furtherance of what was in itself a crime of violence. Drunkenness could be no defence unless it could be established that Beard at the time of committing the rape was so drunk that he was incapable of forming the intent to commit it, which was not the fact and, manifestly, having regard to the evidence, could not be contended. He then dealt with the way in which Mr. Justice Bailhache had left the case to the jury and remarked that the judge's direction was one applicable only to a plea of insanity which had of course never been raised. The summing up was, in fact, unduly favourable to the prisoner, and he was not prepared to say that the jury was disabled from reaching a true conclusion upon the matters which required decision. He doubted whether there was any sufficient evidence that the prisoner was in the only relevant sense drunk at all. There was certainly no evidence that he was too drunk to form the intention of committing rape, and it was proved that death was caused by an act of violence done in furtherance of the felony of rape. This was, by the law of England, murder, and the appeal should be allowed and the conviction of murder restored.

In this conclusion the other lords concurred.

It is right to add that although the conviction of murder has now been restored, the House of Lords intimated at the close of the argument in November that whatever their decision the death sentence would not be carried out.

A VENEREAL "PROFESSOR" SENTENCED.

IN the Glasgow High Court of Justiciary, on February 24th, before Lord Salvesen, A. S. Eastburn was charged with having contravened the Venereal Diseases Act, 1917, by treating men for venereal diseases, he not being a duly qualified medical practitioner. The indictment contained twelve counts. His Lordship upheld objections raised against six of the counts, by counsel for the defence, and a plea of not guilty was raised in the other six counts. The counts dismissed were for "offering" to treat which was held not to come within the Act.

Lord Salvesen explained to the jury that the question was whether in each of the six cases in which evidence would be tendered the men were treated for venereal diseases by the accused; that used not to be an offence in common law, but it was so now for an unqualified man to treat such diseases. The question was whether the accused treated for venereal disease each of the six persons and prescribed for them, and also if he did so for reward. The amounts paid for treatment by one witness were read from the accused's ledger produced in court. Between March 1st, 1915, and September 20th, 1919, he paid £189 in five sums. He returned for further advice to the "professor," who asked for a fee of £265 for a new special treatment. This sum, the witness declared, he had paid over to the accused in full in September last; no entry for it was found in the ledger, but a slip from a bundle of documents relating to cases treated by the accused and seized on his premises by the police contained the words "£250 paid," and a clerk in Eastburn's employment, who kept the books, told the court this entry was in the accused's handwriting. Professor Glaister, called for the Crown, stated that samples of the blood of this man had lately been examined by himself and two other experts, and the result showed that he was not free from the disease for which he had apparently been treated. Another witness stated that he had paid £88 in all to the accused, and a third—a seaman from Liverpool—declared he had paid Eastburn £66 in five sums, and was then advised by him to undergo his "compound treatment," which would cost £42. At the end of two years he still felt very ill and went into a Liverpool hospital for free treatment. The medical evidence was to the effect that no signs of a previous treatment suitable to the disease could be found, but that if properly treated at the outset the man would almost certainly have been restored to health. Professor Glaister further stated in evidence that the tablets supplied to witnesses for treatment were shown on analysis to contain neither arsenic nor mercury, but some vegetable substance which the analyst could not determine.

In the course of his summing up Lord Salvesen said that for many years the accused had been making a livelihood by the treatment of these diseases in men; he had advertised himself as a specialist, had given private consultations, and prescribed treatment to any person who paid him his fees. The jury returned a unanimous verdict of guilty on three of the counts, and by a majority on one count; by a majority in the other two counts their verdict was "not proven." Lord Salvesen, in passing sentence, said he entirely agreed with this very discriminating verdict. It was obvious that the accused had for profit contravened the Venereal Diseases Act, well knowing what its provisions were and that it was applicable to him. His Lordship felt that he would not be doing his duty to society if he did not impose a sentence which, at all events, would be a deterrent. In the circumstances he could not make the penalty less than six months' imprisonment.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

DR. HENRY HEAD, F.R.S., has been elected an honorary Fellow of Trinity College.

At a congregation held on March 6th the following medical degrees were conferred:

M.B.—L. G. Jacob. B.CH.—R. Stansfeld, E. V. Gostling.

UNIVERSITY OF LONDON.

WAR MEMORIAL.

A COMMITTEE, of which Lord Rosebery (Chancellor) is president and Sir Edward Busk (Chairman of Convocation) vice-president, has issued an appeal for contributions to a war memorial to members of the University of London Officers' Training Corps who were killed or died on service. It is proposed to erect the principal memorial in the standing camp of the contingent at Great Kimble, near Princes Risborough, Buckinghamshire, and to arrange for the dedication of personal memorials there. It is intended to erect a memorial in London also.

The Military Education Committee of the University has in preparation a *Roll of War Service, 1914–19*, of the University of London Officers' Training Corps. The Roll will be in three sections, the first containing particulars of the 657 officers who fell in the war; the second will record the honours and distinctions gained in the war, to a number exceeding 1,600; in the third section the names of officers will be arranged in alphabetical order to an estimated number of 4,200. The subscription price for orders received on or before June 30th, 1920, is £1 1s., with 1s. extra for packing and postage. Any profit on the publication will be devoted to the War Memorial Fund.

The V.C. was won by five former cadets of the contingent, and the two survivors are among the honorary secretaries of the fund. The number of distinctions gained in the war is 1,650, including V.C., 5; D.S.O. and Bars, 54; D.S.C., 8; M.C. and Bars, 588; D.F.C. and Bars, 10; A.F.C., 9; Mentions in Dispatches, 707; *Croix de Guerre* (French) 27, (Belgian) 15; Silver Medal for Military Valour (Italian), 5; Distinguished Service Medal (United States), 2. In addition, a number of former cadets served in the ranks.

Contributions should be sent to the Honorary Treasurer, 46, Russell Square, London, W.C.1.

UNIVERSITY COLLEGE.

F. J. Fitzmaurice Barrington, M.S., F.R.C.S., assistant surgeon to University College Hospital, and T. H. C. Stevenson, M.D., C.B.E., superintendent of statistics, General Register Office, joint secretary of the Royal Statistical Society, have been elected Fellows of University College, London.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THE following were admitted (after examination) as Fellows: A. Allison, T. B. Gilchrist, J. C. Middleton, R. C. Robertson.

Dr. Thomas Forrest (Glasgow) has presented to the Royal Faculty a case of surgical instruments which had been the property of and were used by the late Lord Lister while he was a surgeon in the Glasgow Royal Infirmary. Dr. Freeland Fergus, president, accepted the gift with very great pleasure, and stated that it would be placed in the archives of the Faculty.

The Services.

ROYAL ARMY MEDICAL CORPS WAR MEMORIAL.

A COMMITTEE has been formed to deal with this question; this committee contained representatives of the Regular, Special Reserve, Territorial, and Civilian Medical Services, the Presidents of the Colleges of Physicians and Surgeons of England, and past and present Director-Generals of the Army. Ireland, Scotland, England, and Wales are all represented.

At a large and representative meeting the following decisions were agreed to:

1. That a permanent memorial should be erected in London, with replicas in Edinburgh and Dublin, if funds were available.
2. That the names of officers, non-commissioned officers, and men who had fallen in the war should be inscribed on the memorial.
3. That funds "ear-marked" for the benefit of families should be devoted to that purpose.
4. That it should be open to the public to subscribe such sums as they wish.
5. That subscriptions should be sent to the Honorary Secretary, R.A.M.C. War Memorial Fund, Captain A. R. Wright, D.S.O., War Office, Cornwall House, Stamford Street, S.E.1.

TREATMENT FOR DISABLED OFFICERS AND NURSES.

IN pursuance of the policy of decentralization, the Minister of Pensions has entrusted to the Commissioners of Medical Services in the various regions of the Ministry the responsibility of obtaining for disabled officers and nurses the medical or surgical treatment to which they are entitled under the Royal Warrant. A discharged officer or nurse who is claiming retired pay or pension on the ground that he or she is suffering from a disability which is either attributable to or aggravated by service, and who is in need of treatment for the disability, should also make application to the Commissioner of Medical Services at the regional office with a view to the necessary treatment being provided. Appended is a list of the addresses of the Regional Commissioners and the counties comprised in each region, but the local War Pensions Committee will supply any officer or nurse with the address of the appropriate regional office upon request.

1. *Scotland.*—All Scotland. Address: Adelphi Hotel, Cockburn Street, Edinburgh.
2. *Northern.*—Northumberland, Durham, Cumberland. Address: 14, Clayton Street West, Newcastle-on-Tyne.
3. *North-Western.*—Lancashire, Cheshire, Westmorland, Isle of Man. Address: 13, Piccadilly, Manchester.
4. *Yorkshire.*—Yorkshire. Address: 7, Boar Lane, Leeds.
5. *Wales.*—All Wales and Monmouthshire. Address: Angel Building, Cardiff.
6. *West Midlands.* — Staffordshire, Shropshire, Warwickshire, Worcestershire, Herefordshire. Address: Bethany Buildings, Loveday Street, Birmingham.
7. *East Midlands.*—Leicestershire, Lincolnshire, Nottinghamshire, Derbyshire, Northamptonshire, Rutlandshire. Address: Black's Building, Stoney Street, Nottingham.
8. *South-Western.*—Gloucestershire, Wiltshire, Dorsetshire, Somersetshire, Devonshire, Cornwall. Address: Clifton Down Buildings, Bristol.
9. *Eastern.*—Norfolk, Suffolk, Cambridgeshire, Huntingdonshire, Essex, Bedfordshire, Hertfordshire, Buckinghamshire, Oxfordshire, Berkshire. Address: 80, Westbourne Terrace, W.2.
10. *London.*—Metropolitan Area. Address: Crown Agents' Annexe, Westminster House, Millbank, S.W.1.
11. *South-Eastern.* — Kent, Surrey, Sussex, Hampshire, Isle of Wight, Channel Isles. Address: 48, Grosvenor Gardens, S.W.1.
12. *Ulster.*—Ulster. Address: Grand Central Hotel, Belfast.
13. *Ireland South.*—Munster, Leinster, Connaught. Address: Dunlop House, Abbey Street, Dublin.

The Regions in the above list are printed in italics.

Officers and nurses are advised that in the event of their making their own arrangements for treatment without the prior approval of the Commissioner of Medical Services of the Ministry of Pensions, it may not be possible to refund to them any of the expenses thereby incurred. Communications with regard to the award of retired pay or pension should be addressed to the Officers' Awards Branch, Cromwell House Annexe, Millbank, S.W.1.

HONOURS.

FOREIGN DECORATIONS.

THE following decorations have been conferred by the Allied Powers for distinguished services rendered during the course of the campaign.

By the King of the Belgians.

Ordre de la Couronne.—Officier: Temporary Major Cuthbert Christy, R.A.M.C.

Ordre de Leopold II.—Chevalier: Lieut.-Colonel Sir David Prain, C.M.G., C.I.E., F.R.S., I.M.S.(ret.).

Médaille du Roi Albert.—Captain Oswald Ryle Horwood, A.A.M.C.

By the King of Italy.

Order of the Crown of Italy.—Commander: Colonel Charles Alfred Hodgetts, C.M.G., C.A.M.C. *Officer:* Major Charles Bramhall, O.B.E., R.A.M.C. *Cavalier:* Captain Percy R. Bolus, R.A.M.C.(T.F.).

By the President of the United States.

Distinguished Service Medal: Lieut.-Colonel and Brevet Colonel Sir Edward Scott Worthington, K.C.V.O., C.B., C.M.G., R.A.M.C.

By the President of the Portuguese Republic.

Military Order of Avis.—Commander: Colonel Alexander D. Sharp, C.B., C.M.G., A.M.S.(T.F.), Captain John William McNee, D.S.O., R.A.M.C.(S.R.).

By the King of Serbia.

Distinguished Service Medal.—Lieut.-Colonel and Brevet Colonel Sir Edward Scott Worthington, K.C.V.O., C.B., C.M.G., R.A.M.C.

Order of St. Sava (5th Class).—Captain Charles Gunn Skinner, R.A.M.C.(T.F.).

By the Emperor of Japan.

Order of the Rising Sun (3rd Class).—Surgeon Captain George T. Broatch, C.B.E., R.N.

By the Sultan of Egypt.

Order of the Nile (4th Class).—Surgeon Commander John Thornhill, R.N.

By the King of the Hedjaz.

Order of El Nahda (4th Class).—Temporary Captain Graham Colville Ramsay, R.A.M.C.

Surgeon Lieutenant Henry Cyril Conwy Joyce, R.N., has been mentioned in dispatches for services in Siberia, 1919.

A HANDBOOK FOR THE DEMOBILIZED.

THE Service Handbook, compiled by Captain H. C. Baird, D.S.O., should prove a valuable guide for demobilized officers and their dependants. It summarizes in a convenient form information as to the qualification for all available grants, pensions, and allowances, the method of application and the quarter in which it should be made, and includes brief notes on the several voluntary funds and organizations existing for special purposes. The Handbook can be obtained from the office of the *Ex-Service Man*, 11, Regent Street, S.W.1, price 1s.

Obituary.

SAMUEL WEST, M.A., M.D.OXON., F.R.C.P.,

Consulting Physician to St. Bartholomew's Hospital; President of the Royal Medical Benevolent Fund.

WE much regret to record the death on March 2nd, at his house in Wimpole Street, of Dr. Samuel West, consulting physician to St. Bartholomew's Hospital, the Royal Free Hospital, the New Hospital for Women, King George Hospital, and King Edward VII Sanatorium.

Samuel Hatch West was born at Carlisle in 1848; his father was John West, Deputy Inspector-General of Mails to the General Post Office. He was a Queen's scholar of Westminster, and a junior student of Christchurch. At Oxford he gained first-class honours in the natural science school, was demonstrator of anatomy for a short while, and later Radcliffe Travelling Fellow. From Oxford he went to St. Bartholomew's, graduating M.B. of his University in 1875, and proceeding M.D. in 1882. He obtained the membership in 1877, and was elected a Fellow of the Royal College of Physicians of London in 1885. His tenure of the Radcliffe Fellowship enabled him to continue his studies at Berlin and Vienna.

Dr. Samuel West was appointed assistant physician to St. Bartholomew's Hospital in 1887, and full physician in 1903, retiring in 1913; for some years he was lecturer on the principles and practice of medicine in the medical school. During the earlier part of this period of service

on the active staff at St. Bartholomew's Dr. West was physician also to the Royal Free Hospital and to the City of London Hospital for Diseases of the Chest. He was for long an examiner in medicine to the English Conjoint Board, and to the Universities of Oxford, Cambridge, London, and Birmingham. At the Royal College of Physicians of London he was Bradshaw lecturer in 1887, councillor from 1904 to 1906, censor in 1911–12, and senior censor in 1917. In the Royal Society of Medicine he had held office as president of the Medical Section and of the Clinical Section. He was a former president of the Medical Society of London, and delivered the Lettsomian lectures in 1900 on the subject of granular kidney. Dr. West's long and great services to the Royal Medical Benevolent Fund as honorary secretary, treasurer, and president are recorded below by Dr. Newton Pitt. This charitable work occupied a very great share of his time and thought. During the war he represented the Council of the Fund upon the Professional Classes War Relief Council, bringing to this duty his experience, energy, and goodwill.

Of Dr. Samuel West's writings his book on *Diseases of the Organs of Respiration*, in two volumes, is, perhaps, the best known. It was first published in 1902, and a second and revised edition appeared seven years later. Both editions were characterized by careful observation and analysis of contemporary work happily blended with the personal impress of the author's ripe experience. In 1900 he revised and amplified his Lettsomian lectures and published them in a book with the title *Granular Kidney and Physiological Albuminuria*—a well-planned treatise of much practical value, clear and concise in its theoretical parts, and full of useful suggestions on the practical management of cases. Many years before he had produced a small handbook, *How to Examine the Chest*, which several generations of students found helpful in forming methodical habits of bedside investigation; it was, we believe, reprinted several times. Dr. West was the author of the article on "Treatment of Acute and Chronic Nephritis" in *Wright's Index of Treatment*. His many contributions to current medical literature included a paper on "Sulph-Haemoglobinaemia," printed in the *Medico-Chirurgical Transactions;* two papers on "Nitrogen Excretion," printed in the *Proceedings of the Royal Society;* several addresses—including one in 1906, on "Dilatation and Hypertrophy of the Heart,"—printed in this JOURNAL; and a series of "clinical jottings" which appeared from time to time in *St. Bartholomew's Hospital Journal*. His literary style was clear and easy, without affectation.

Dr. West was fond of outdoor sport and country pursuits, and, above all, of music. He had an agreeable well-trained tenor voice, and in former days no students' smoking concert was allowed to close without a song by him. He married a daughter of Sir Edward Frankland, K.C.B., F.R.S., and had three sons and three daughters. The first part of the funeral service was held on March 5th at St. Martin's in the Fields. He was a member of the Governing Body of Westminster School, and the Dean of Westminster conducted the service, which was attended by the President and other representatives of the Royal College of Physicians and by many colleagues representing the hospitals and other institutions with which he was connected. With great appropriateness the musical part of the service was very beautiful.

We are indebted to Dr. JAMES CALVERT for the following appreciation:

My earliest recollections of Dr. West date from the time when I was a student and he medical tutor. His classes were very well attended; every earnest student learnt a great deal from them, and he may be considered to be the pioneer of the present medical tutorial system at St. Bartholomew's. When I was house-physician to Sir Dyce Duckworth Dr. West was the corresponding assistant physician; and when, in the course of time, I became assistant physician, he was my chief. So that for many years we worked together, I am glad to say, in perfect harmony, for he was easy and pleasant and most kindly to work with. I shall always hold in grateful remembrance his unvarying consideration and helpfulness. He was a very accomplished physician and a very practical one, with a leaning, naturally enough, to chest diseases, but certainly not limiting his activities to them, as his record shows. He was devoted to his wards, and he never allowed, as some are inclined to do, the scientific aspect of the case to interfere with the personal interests of the patient. An excellent teacher, and with great experience in teaching, he was popular with the students; his clinical clerks were many, and he always had a substantial following round the wards. Outside the hospital he had a large consulting practice of the best kind, and I am sure there are many, especially among his old pupils, who in his death feel, as I feel, a sense of personal loss.

Dr. G. NEWTON PITT writes as follows:

Dr. Samuel West was intimately associated with the Royal Medical Benevolent Fund for thirty years, and under his skilful direction the funds of the society have steadily increased in amount, so that the annual income now exceeds that in 1900 by £3,000. From 1899 he held the office of Treasurer in succession to the late Sir William Broadbent, and was mainly responsible for the reorganization of the finances. From the first he insisted that all legacies should be invested and the income expended on the annuitants, while the current income from annual subscriptions and donations should be awarded as grants to necessitous cases. The amounts last year were £3,200 and £2,800 respectively. For the past three years he has been President and acting Treasurer of the Fund.

The profession also owes a deep debt of gratitude to Dr. West, for it was mainly through his initiative that the War Emergency Fund was started, and this has already made grants to the amount of £10,000 to assist doctors on their return from the war to re-establish themselves in practice. One of his last acts was to obtain a grant of £10,000 from the National Relief Fund for the same purpose, which will enable even more liberal grants to be made in the future.

COLONEL DENIS FRANCIS KEEGAN, I.M.S. (retired), who died recently, took the diploma of M.R.C.S. in 1861, and graduated M.B. of Trinity College, Dublin, in 1862, and M.D. three years later. He obtained the F.R.C.S.Eng. in 1891. Lieut.-Colonel Henry Smith, I.M.S., writes: The death of Colonel Keegan removes one of the grandest figures in the history of the Indian Medical Service. If you named the three biggest surgeons which the Indian Medical Service has produced, you must include the name of Keegan. The grand work he did will live for generations yet unborn, and he will be more honoured in his urn than he was when alive. This is the fate of all great pioneers. Death removes them from the field of jealousy. When he was doing the spadework he had to fight the world, and he did it and established his case. We all—or some of the older members of the profession rather—still remember how he and Freyer fought the controversy on litholapaxy. We are all familiar with the grand work Keegan did in rhinoplasty, and how he established the Indian operation as *the* operation for all time. He was a powerful, clear, and incisive though courteous controversialist. Keegan was a man with a fine imagination, a powerful and versatile intellect and a strong character. It is only a very able man in any public service who can go his own way and live as an official. Keegan did this. As a man he was one of the most kind-hearted, the most generous, and the most genial of men. As a friend he was one of the few capable of that genuine friendship, as distinguished from fair-weather friendship, who would life itself resign at the sacred call of friendship. He had too much pride for servility and too little prudence for selfishness. He was the finest type of Irishman. He did most of his service in Central India, where his fine personality was a political influence of the first magnitude. He died at the age of 80 years. The Government of India did not do themselves the honour of honouring him with a decoration. A man like Keegan does not require a decoration as his passport. He made no pretension to be what, in popular language, is called an "aristocrat." He belonged to a much higher order. He was an aristocrat of the moral code of the New Testament. He leaves a grand heritage to his son and his two daughters.

THE medical profession and the public of Middlesbrough-on-Tees have to regret the loss of Dr. W. J. WILLIAMS, who was a prominent practitioner in the town for over fifty years. William Jones Williams was born in Tremadoc,

North Wales, in 1841, the son of a Baptist minister. He was educated in Liverpool, Glasgow, and Edinburgh, and graduated M.D. at the latter university in 1866. He then sought experience in the wards of some of the London hospitals, and afterwards spent many months in Paris. He spoke French with ease and facility, and was familiar with German and German medical literature. He was appointed house-surgeon to the North Riding Infirmary, Middlesbrough, in 1867, and two years later commenced practice in the town. He was elected to the medical and surgical staff on the first vacancy, and for forty years filled this position with conspicuous ability. He then became vice-president and honorary consulting surgeon. Dr. Williams was an ardent Freemason, was the Past Provincial Senior Grand Warden of the North and East Ridings, and was also Past Master of the Ferrum Lodge, Middlesbrough. He was twice married, and leaves a widow, the daughter of the late Dr. Longbotham of Middlesbrough. He was a justice of the peace for the borough and a patron of most of the institutions of the town. Such (writes a colleague) is a brief summary of one who went about his work with a conscientious diligence and devotion which won for him the admiration of the whole of his professional brethren and the affection and respect of a whole community. He was a man of high character, of most amiable disposition, and leaves a great number of friends to regret his loss.

THE death has occurred of Dr. JAMES EMERSON REYNOLDS, F.R.S., the eminent chemist, who was a member also of the medical profession. He was the son of Dr. James Reynolds of Booterstown, co. Dublin, and received his medical education at the Royal College of Surgeons and the Ledwich Medical School, Dublin, obtaining the L.R.C.P. and L.R.C.S.Edin. diplomas in 1865, and the L.R.C.P.I. in 1873. Soon after qualifying he returned to pure science, was appointed Keeper of Minerals at the National Museum, Dublin, in 1867, professor of analytical chemistry to the Royal Dublin Society in 1870, and professor of chemistry in the Royal College of Surgeons in Ireland three years later. From 1875 to 1903 he was professor of chemistry and chemical philosophy in the University of Dublin. That university conferred upon him its honorary M.D. and D.Sc. degrees, and in 1880 he was elected Fellow of the Royal Society, becoming Vice-President in 1902; in the latter year he was elected president of the Chemical Society, having previously served as president of the Society of Chemical Industry, and president of the chemical section of the British Association. Dr. Emerson Reynolds's researches were recorded in a series of papers in the *Journal of the Chemical Society* and the *Proceedings of the Royal Society*, and other scientific publications. He published a volume of lectures on experimental chemistry in 1874, and his book on general experimental chemistry appeared in 1880. In former years he was examiner in chemistry to the Universities of Cambridge and London. Thus, save for his early medical studies in Dublin and his collaboration in a manual of public health for Ireland, Dr. Emerson Reynolds had little direct contact with the practice of medicine, devoting his working life almost wholly to chemical research and to the teaching of chemistry. After his retirement from the chair of chemistry at Trinity College, Dublin, he went to live in Kensington, where he died suddenly last week in his 77th year.

DR. ROBERT MORRIS WILLIAMS of Menai Bridge died on March 2nd, aged 52. He received his medical education at the University and the Royal College of Surgeons of Edinburgh and graduated M.B., C.M.Edin. in 1892, after which he acted as colliery surgeon at Ystrad Rhondda, where he won the esteem of all with whom he came in contact, and on his departure for Menai Bridge was presented with an illuminated address and a purse of gold. He was Commissioner of the Priory of St. John for the county of Anglesey, certifying factory surgeon, M.O.H. Menai Bridge Urban District Council, and medical officer to the Post Office and Education Department. He was chairman of the North Carnarvon and Anglesey Division of the British Medical Association and had served as Deputy Representative of the Division in the Representative Body. Only three days before his death Dr. Williams presided over a successful dinner given by the medical men of North Carnarvon and Anglesey in honour of their colleagues who served in the R.A.M.C. On the following day alarming symptoms showed themselves, and Dr. J. E. Thomas of Bangor, who had so lately proposed Dr. Williams's health, was called in. An operation was performed, but death occurred from toxaemia.

Medical News.

THE London County Council proposes to exercise its powers under Section 18 of the Education Act, 1918, to provide medical treatment for fee-paying pupils attending its own secondary schools, and medical inspection and treatment for fee-paying pupils attending aided secondary schools if so requested by the governing body, provided that the medical treatment shall only be given at the Council's centres to pupils whose parents cannot afford to make private arrangements.

AT a meeting of the Marylebone Division of the British Medical Association to be held at the Hospital for Epilepsy, Maida Vale, on Tuesday, March 16th, at 4.30 p.m., Dr. Charles Porter, M.O.H. Marylebone, will read a paper on "The practitioner, public health, and preventive medicine." The meeting is open to all medical practitioners.

IT is proposed to hold a reunion dinner of officers who were attached to No. 5 General Hospital, B.E.F., in London on Saturday, April 10th. Those who wish to attend are asked to write to Dr. G. T. Loughborough, 3, Lexham Gardens, Kensington, W.8.

AT the next meeting of the Chelsea Clinical Society to be held on Tuesday, March 16th, at 8.30 p.m., in St. George's Hospital Medical School, Dr. D. M. Barcroft will open a discussion on "Is asthma a disease of the chest?" in which Sir Thomas Horder, Dr. Leonard Williams, and Dr. Hernaman-Johnson will take part.

MR. C. A. MITCHELL recently read to the Society of Public Analysts a paper on the persistence of finger prints on documents, and showed specimens fifty-six years old. He discussed the various methods of detecting finger prints on documents, and also the persistence of stains on paper, including blood finger prints.

THE annual general meeting of the Medical Sickness Annuity and Life Assurance Society will be held in the rooms of the Medical Society of London, 11, Chandos Street, W.1, on Friday, March 26th, at 3 p.m.

THE annual general meeting of the London and Counties Medical Protection Society will be held at the offices, 32, Craven Street, Strand, W.C.2, on March 17th, at 4 p.m.

A FRANCO-JUGO-SLAV medical union has been formed in Paris with the threefold object of facilitating the medical studies of Jugo-Slavs in France, the diffusion of French science among the Jugo-Slav populations, and the establishment of direct professional relations between French and Jugo-Slav medical men.

AT a meeting of the Medical Officers of Schools' Association, to be held at the house of the Medical Society of London on Friday, March 26th, at 8 p.m., Dr. G. H. Lock will read a paper on the care of minor ailments in school children. Medical practitioners interested in the subject are invited to attend.

A MEETING of the North-Western Tuberculosis Society (formerly the Lancashire and Westmorland Tuberculosis Society) will be held on Thursday, March 18th, at the Houldsworth Hall, Deansgate, Manchester, at 2.30 p.m. Dr. T. H. Peyton will read a paper on the tuberculosis colony; the attendance of medical practitioners is invited. Information as to the society, the annual subscription to which is 5s., can be obtained from Dr. G. Jessel, County Tuberculosis Dispensary, Leigh, Lancashire.

THE annual general meeting of governors of the Royal Dental Hospital of London will be held at the hospital, Leicester Square, W.C., on Thursday, March 25th, at 5 p.m., when Sir Fisher Wentworth Dilke, Bt., will preside.

THE French Medical History Society, which was established in 1902, recently revised its constitution and renewed its activities. It admits members of either sex and any nationality, and is inviting British members to join; at present they are few in number. The society recently elected the late Mr. C. Louis Taylor, Assistant Editor of this JOURNAL, but the intimation arrived after his death.

AT the matriculation examination of the University of London in January there were 102 successful candidates in the first division and 807 in the second.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin, and of the Scottish Office, 6, Rutland Square, Edinburgh.

QUERIES AND ANSWERS.

"P." relates a case of poliomyelitis affecting the quadriceps and peronei which for the first two years was treated by muscular rest and relaxation by means of a Thomas splint. During the succeeding two years it has been treated with massage and some electricity. He asks for suggestions as to any other treatment.

"H. H. P." who has under treatment a factory girl suffering from hysterical paraplegia, asks whether there is a hospital or other place where treatment by psychotherapy could be got.

INCOME TAX.

"A. A. A." inquires as to the expenses he can deduct for income tax purposes from the salary received by him as an assistant school medical officer under a county council.

*** 1. "Running expenses of car when on duty where not covered by allowance from the council." If the allowance is at an annual rate or calculated in any other way other than for specific journeys we imagine that the revenue authorities would require very full proof before making a deduction that would in effect impugn the council allowance as insufficient; nevertheless our correspondent is entitled in law to any excess over the allowance of expenses incurred solely, exclusively, and necessarily in the performance of the duties of his office.

2. "Cost of purchase of car less price obtained for car sold on leaving practice to join the services during the war." Assuming that the council's allowance is intended to cover wear and tear, "A. A. A." will have to meet the difficulty mentioned above. Possibly he may be able to induce the local inspector of taxes to defer the question until he can show the results of twelve months' running of the car.

3 and 4. "Subscriptions to societies and cost of new books and subscriptions to medical library." It is necessary for "A. A. A." to expend something from year to year to maintain that degree of professional competence essential to the proper performance of his duties. So much of the subscriptions and cost of new books as can fairly be brought within that description he is, we conceive, entitled to deduct as expenses.

LETTERS, NOTES, ETC.

SUBCUTANEOUS INJECTIONS OF OIL OF CAMPHOR.

IN the EPITOME for January 31st (paragraph 111) the experience of Jensen in the treatment of sciatica by the subcutaneous injection of oil of camphor was noted. It was said that he injected 3 to 4 cm., which was raised in severe cases to 5 or 6 cm. daily. A correspondent asks as to the formula for this camphor oil. The preparation, though little used in this country, is largely employed in France and Germany in the treatment of heart failure, typhoid fever, and low forms of pneumonia. The usual prescription is 2 parts of camphor oil in 10 of sterile olive oil, and the dose is 10 minims, increased if necessary. Heroic doses up to 30 grains of camphor have been given but are dangerous. The firm of William Martindale supplies the oil for hypodermic use in sterules containing 1½ and 3 grains in sterile olive oil.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 39, 42, 43, 44, 45, 46, 47 and 48 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 40, 41, and 42.

SITES OF INOCULATION LESIONS IN SYPHILIS.

IN our issue of January 10th, p. 51, we gave some account of a report to the Medical Research Committee by Surgeon Lieutenant Commanders R. J. G. Parnell and P. Fildes, which dealt with the treatment of syphilis in the navy. Dr. Douglas White, honorary secretary of the National Council for Combating Venereal Disease, has obtained from Surgeon Lieutenant Commander Parnell statistics with regard to the site of inoculation in 2,743 consecutive cases at R.N. Hospital, Haslar. They are as follows:

Genital Inoculation Lesions:

In urethra (concealed)	2	
Within meatus (concealed)	25	
At meatus (visible)	94	
On glans penis	270	
On corona glandis	86	
In sulcus	420	
On prepuce (skin 328, m.m. 346)	674	
On fraenum preputii	192	
Under phimosed prepuce (concealed)	121	
	1,884	= 68.7%
Body of penis	209	
Root of penis	50	
Scrotum	20	
Peni-scrotal angle	13	
	292	= 10.6%
Site on penis not stated	238	
Combinations of above	283	
	521	= 19%

Extra-genital Inoculation Lesions:

Lip	20	
Eye (palpebral conjunctiva)	3	
Anus (at or near)	7	
Thigh	2	
Pubes	6	
Chin	1	
Finger	2	
Umbilicus	1	
Nose	1	
Neck	1	
Abdomen	1	
Buttock	1	
	46	= 1.7%

Remarks:

1. In addition 101 cases had manifest signs of syphilis or had cerebro-spinal syphilis, yet no site of the inoculation lesion was found; all the men denied a sore on the penis. A few of these men gave a history of "gonorrhoea." The majority denied having had venereal disease in any form, but admitted risks of infection. A very small number denied venereal disease, and stated that they had never exposed themselves to infection. Three of these had definite signs of congenital syphilis.
2. One case of both genital and extra-genital inoculation lesions occurred (lip and penis).
3. Of the 238 cases in which the site (on penis) was not stated, the vast majority were old infections giving a definite history of a sore on the penis, but no scar was found. In a few cases there was an indefinite amount of scarring at a site other than that at which the sore apparently had been.

THE following appointments of certifying factory surgeons are vacant: Currie (Edinburgh), Farnworth (Lancaster), Lynton (Devon).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

THE charges for advertisements in the BRITISH MEDICAL JOURNAL will be increased at the end of March. The new charges will apply to all advertisements for insertion in the JOURNAL of April 3rd and subsequently. The rates will be as follows:

Six lines and under	7s. 6d.
Each additional line	1s. 3d.
Whole single column	£6 0s. 0d.
Whole page	£16 0s. 0d.

An average line contains six words.

From the issue of April 3rd the charge for announcements of births, marriages, and deaths will at the same time be increased to 7s. 6d.

Present Scale.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Observations
ON
THE ELEMENTS OF THE PSYCHO-NEUROSES.

A PAPER ADDRESSED TO THE SOCIETY OF MEDICAL OFFICERS OF THE PENSIONS BOARD, LANCASTER GATE, LONDON.

BY HENRY HEAD, M.D., F.R.S.

IT would be an impertinence on my part to talk to you of the treatment of war pensioners, for each of you is more practised than I am in this class of work. But I venture to approach you to-day because I believe your experience will be of inestimable advantage in the more difficult task of understanding the psycho-neuroses of civilian life.

The conditions which evoked these morbid states in soldiers on active service were essentially simple. A man who had never engaged in any warlike or strenuous pursuit was called upon to undergo violent preparation under most unpleasant conditions to fit him to take part in disagreeable and dangerous operations calculated to arouse fear even in the bravest. The fundamental instincts of civilized man were outraged. What wonder that the not infrequent consequences were an anxiety neurosis, an obsessional state, or hysterical manifestations?

Now the war is over, the factors responsible for the continuance of these morbid states have altered. The active forces are still fear and a desire to avoid discomfort, but the objective of these emotions is changed. The patient has no longer to brave the horrors of the trenches, but the conscientious pensioner is still oppressed by dread that he may be unable to face his job, whilst the more obviously self-seeking recognizes that he is better off on a pension of a pound a week than when earning twice that sum by fatiguing toil. The first of these suffers from an anxiety neurosis, whilst the second remains firmly entrenched behind his hysterical symptoms.

No new morbid phenomena have been evoked by the war. The disordered functions of the human mind were manifested in exactly the same forms as under the stress and strain of peace-time civilization. But the task to be faced by every man in the army was a simple one. The one test of his conduct was "Can he fight?" and the only reality to which he was compelled to adapt himself was a state of war. On the other hand, in civilian life the factors underlying a psycho-neurosis are far more complex; they may lie in many different fields—thwarted ambition, business worry, or family anxieties, apart altogether from the disaccord between individual sexual desires and social convention.

In all attempts to solve a complicated problem it is important to choose examples which show the smallest number of variable factors. The functional neuroses of war have been of inestimable benefit in showing us these morbid states under the simplest causal conditions. We have been able to observe the various forms they assume under pressure of the same external forces, and could watch the diverse results which followed changes in the mental and physical environment.

Your task is to deal with these patients, who continue to need your care although the war is over, and you have the opportunity of watching their behaviour, when subjected to the more complicated conditions of civilian life. You can note the effect of disappointment on anxiety neurosis, originally due to fear and fatigue, or observe the return of obsessions and nightmares under the depressing effect of illness of wife or child. Let us then consider some of the chief processes at work in the production of the psycho-neuroses in the hope that we may be guided to some simple rules of prophylaxis and curative treatment.

In the past, psychology dealt mainly with the intellectual factors of mental activity; the instinctive and emotional aspects of the mind were disregarded and the unconscious entirely neglected. But we have learnt to recognize that, outside the limits of the experiences which can be recalled into consciousness by an effort of the will, lie impressions capable of producing an active effect upon mental life.

Throughout the vital activities of the nervous system, from the lowest reflexes to the highest neuro-psychical activities, functions of a lower order are controlled by those higher in the scale. Thus, for example, the activity of the optic thalamus is normally controlled by that of the cerebral cortex. The thalamus is the centre for the more affective aspects of sensation; it is peculiarly associated with the pleasure or discomfort induced by afferent impulses, and is responsible for almost the whole of our sensibility to pain. When this centre is released from cortical control, the patient becomes more susceptible on the affected half of his body to any stimulus capable of exciting either pleasant or unpleasant sensations. The prick of a pin causes intense discomfort and immediate withdrawal, whilst contact with such a stimulus as warmth evokes exquisite pleasure. Moreover, general states of emotion can be produced more easily by stimuli applied to the abnormal parts; thus, an elderly man, one of my patients, fell in love on the affected half of his body, and had no desire to touch the beloved object, except with his affected hand. Gross organic disease may free the activities of the optic thalamus from the active control normally exerted over them by the cortex. The response from the affected parts becomes in consequence more vehement and impulsive. The patient can no longer deliberate whether or no to remove his hand when pricked; the reaction is an immediate defensive withdrawal.

The object of this control, exercised by higher centres over those of a more primitive activity, is to endow the animal with the power of choice between alternative courses. It can be demonstrated at every level of neural activity, from the simplest reflexes to the highest neuro-psychical functions. It consists, on the part of the higher centre, of a positive exercise of inhibiting energy over the reactions of those lower in the neural hierarchy. With the gradual evolution of its functions, the nervous system thus gains ever-increasing control over the reaction to painful and disagreeable stimuli. We acquire the power of choosing our actions, and cease to be the slaves to an impulsive and inevitable response.

From the psychical point of view, the reactions which civilized man must bring under control are those founded on the primitive instincts; of these, the most powerful are the pleasure of sexual gratification and the urgent desire to avoid pain and discomfort. They are therefore controlled by the more discriminative and logical aspects of the mind, exactly as the activity of the thalamus is subjected to that of the cortex. So long as there is harmony the mind exercises its functions in an orderly manner. The instincts are permitted to manifest themselves in an orderly manner on suitable occasions, and at other times are relegated to a subservient position. But any want of unison between the more impulsive and more discriminative activities of the mind becomes manifested in mental conflict.

Normal control is an automatic and not a voluntary act. The focus of interest changes, as attention moves over the varied objects presented to consciousness. Some point in the field arouses vivid mental activity, and then becomes submerged again with all its attendant psychical processes, as attention moves on to some other centre of interest. In order that the mind can function in a normal manner, attention must be free to range widely, and within certain limits we must be able to choose the mode of response.

Should this control cease to be automatic, the mind adopts several different methods of curbing the desires to which it has determined not to yield. Of all instincts, that of self-preservation is the most deeply innate; but the war has shown how completely it may be curbed by the forces of social tradition or implanted *esprit de corps*. A soldier recalls to himself that if he runs away he will certainly be shot at dawn, and dominates an instinctive wish by a terrifying concept. But this intermediate conflict is certain sooner or later to lead to morbid consequences. The private develops a conversion hysteria, and is carried from the danger zone paralysed from the waist downwards. The officer becomes the victim of an anxiety neurosis, and may resolve the conflict by suicide.

Such conflict may assume morbid proportions in several different ways. It may be that an attempt has been made by the sufferer to repress the desire it is inexpedient to gratify, and the emotional energy with which it is charged reappears in some other form, most commonly as a disturbance of some physiological function. Or the affective intensity of the experience may be so great that the normal powers of adaptation are inadequate to resist its impact.

Lastly, the patient may fall back on some previous and less efficient mode of reaction.

REPRESSION.

The importance of the mental conflict arising from the failure of automatic control was not recognized until Freud formulated his conception of the process of repression, and its bearing on the genesis of the psycho-neuroses. He laid down that forgetting was not a negative procedure, but was a positive act. Unpleasant experiences did not simply fade away, but were thrust out of consciousness as incompatible with its more intellectual content.

These instinctive desires or unpleasant impressions pass into oblivion in consequence of the positive inhibition exerted by the dominating influence of conscious activities of the mind, but are still capable of exerting a subterranean influence on the mental and physical life of the individual. It is this act of expulsion without facing the problem that is so dangerous to the harmonious working of the mind. If I have received an unpleasant letter and neglect to answer it because I am reluctant to deal with its contents, I may forget it for a time; but I shall probably be haunted by a sense of impending ill, my appetite may fail and sleep be troubled. For I have thrust into unconsciousness a highly affective process, which should have led to action, without discharging the energy with which it was loaded. This energy, forbidden the normal method of expression, finds some other outlet. It appears as a dyspepsia, headache, insomnia, or analogous disturbances of function. It is a significant fact that this suppressed energy often manifests itself on the physiological level when denied psychical expression.

This repression, under the influence of reluctance to face disagreeable memories, reaches its acme in the cases of amnesia, which were not uncommon during the war. Many patients could not remember that they had ever been in France, and one young officer under my care could recollect nothing after his seventeenth year. He lost all knowledge of his profession as an engineer, and knew nothing of music in which he had become unusually expert. An able pilot in the R.A.F., when returned to duty after a crash, was ignorant of the construction of an aeroplane, and denied that he had ever been in the air. Asked why he was wearing wings on his tunic, he was entirely at a loss to explain how they came to be there.

DEFECTIVE ADAPTATION.

It is a beneficent provision of Nature that a stimulus of uniform intensity cannot continue to produce a reaction of constant strength. Adaptation is one of the fundamental factors in the mode of response of the nervous system to the forces of the external world. Soak the right hand for a time in cold and the left in warm water; then plunge both of them into a vessel containing water at a temperature which, before the experiment, seemed neither hot nor cold—the neutral medium will now seem hot to the right hand and cold to the left. Each has become adapted to the temperature to which it was exposed, and the change is manifested in the different sensation produced in the two hands by the same, previously neutral, environment.

One of the most salutary results of this power of adaptation possessed by the central nervous system is the capacity to dominate pain and discomfort. This applies not only to the normal physiological processes of the individual, but also to those of his mental life. An apparently overwhelming sorrow loses its poignancy with time; a sound mind and healthy body become adapted to the environment. But any failure of physical health, or lack of that instinctive vital energy which lies behind the processes of consciousness may lead to failure of adaptation. The patient becomes easily fatigued, anxious, and depressed, finally passing into a condition spoken of by the old physicians as "irritable weakness." Should sleep be disturbed this process of exhaustion—physical and mental—is aggravated. The power of adaptation to the conditions produced by bodily fatigue or psychical discomfort is diminished, and the patient is said to be suffering from an exhaustion psycho-neurosis.

But some minds have a subtle method of side-tracking this want of adaptation by constructing fantastic conceptions of the external world. No better example could be given than the story of Cinderella. The despised youngest sister, sitting in rags amongst the pots and pans of the kitchen, imagines a coach and six horses, a footman and gorgeous robes; she too is present at the ball, but she alone attracts the attention of the Prince. Such fantasies have been the comfort of many a Cinderella, and have served to make it possible to exist under otherwise impossible surroundings.

Such fantasy building has its dangers. Just as a repressed fear may come to the surface as a physical symptom, so such imaginings that have no connexion with reality may lead to curious aberrations of conduct. Privates masquerade as officers of high rank. A lieutenant, who was brought to me for an opinion about loss of power in his arm, was covered with ribbons of non-existent orders, one of which was said to be the "Serbian Victoria Cross." No one doubted his story that he had penetrated to Austrian head quarters disguised as an Austrian officer and had obtained information of vast importance; and yet it was easy to ascertain that this young cockney could not understand a word of German.

I believe that this fantastic method of thinking is responsible for some of the inexplicable disappearances known as "*fugues*." A lieutenant in the R.F.A. was wounded in France, but the injury was not severe. Whilst in hospital in England he obtained leave to spend a week-end with his parents. On Sunday afternoon he mounted his motor bicycle prepared to return to hospital, and disappeared. He subsequently confessed that during the ride he began to think with pleasure of the farm where he worked before the war; from that time he had only a hazy recollection of what happened, until he was discovered by his brother three weeks later. It appears that he turned up at the farm on Monday morning, occupied his old quarters, and set to work at once. When after some days the surprised farmer asked how long he intended to stop, he said he had been discharged from the army.

An airman who had returned from France was attached to an aerodrome to fly machines he particularly disliked. He was lunching alone in the neighbouring town at a restaurant where some of his colleagues were entertaining a merry party. He began to think how pleasant it would be to be free, and what a happy time he had spent with a friend and his wife who kept an hotel in the West of England. He went to the station feeling lonely and unhappy, intending to return to the aerodrome. A train came in going to the West; he got in and disappeared. Several weeks later he returned without explanation, having spent the whole time quietly with his friends. He had made no attempt to hide himself, nor had he offered any reason to his hosts for his presence.

These "*fugues*" are commonly attributed to amnesia, and the patient is said to remember nothing that happened. This is true in some instances; but I am certain that there are others in which memory is not completely lost, and sometimes a fairly coherent account can be obtained from the patient himself of how he spent his time. He may lose all sense of the cogency of the reasons against the line of conduct he adopts; but, as in the case of the airman just mentioned, he may not only remember the mental conflict, but also be able to give an account of his period of absence. Such fantasy building was responsible for many inexplicable aberrations of conduct in young officers during the war. It also lies at the bottom of some of those curious cases met with in civilian life, when a woman for a time leads a purely fantastic existence.

REGRESSION.

When Jung first described regression he intended the term to signify a falling back of psychical life to a more infantile or primitive mode of behaviour. This useful conception is, however, capable of far wider application.

An unexpected return to some previous habit is one of the commonest errors in all human mechanical activities. Innumerable instances can be gathered from games and from daily life. For example, an aviator slowly acquires complete facility in manipulating his machine. At first he laboriously flies by rule, and has to memorize the steps by which each evolution is induced. As he becomes more expert, he has but to desire some movement and it occurs; for a good pilot flies automatically and not by formula.

This power over the machine has been gained by conscious effort, during which a series of functional adaptations become engulfed in the automatic activities of the central nervous system. Movements laboriously learnt become unconscious reactions. But this supreme control can only be maintained by constant exercise and perfect

physiological efficiency. Any influence which tends to diminish the power of concentration, or to disturb the acquired mastery over sensory and motor impulses, will lower ability to fly. The pilot begins to be aware that he has lost his certainty in the air, and especially in the art of landing, but does not know why he is no longer master of his actions. In the same way a golf player, who is "off his game," discovers he has fallen back to some long conquered faults. This might be called mechanical regression; for some action, which has been acquired in perfection and become automatic, is executed in a more primitive and less efficient manner. An even more evident regression was responsible for some of the accidents which occurred to pilots flying rapid scouts. They had been trained on relatively stable machines, which, if they fell into a spin, would right themselves, provided the pilot centralized all his controls. But the fighting scouts were not only much more sensitive, but required a definite action to bring them out of a spin. Should the pilot inadvertently regress to his old habits, adapted to more stable machines, he would certainly get into trouble. The attempt to fly a fast scout by the manipulative actions, suitable to a more stable type of machine, ended inevitably in disaster.

Regression may also be manifested in a failure to control automatically impulses from the sense organs. Those of you who happen to have overcome a childish tendency to sea-sickness may have had the ignominious experience of falling back to the earlier mode of reaction, under the influence of some temporary malaise. In the same way, a tendency to giddiness and vomiting in the air passes away with the acquisition of ability to fly. If, however, the pilot's physiological resistance is subsequently lowered, or his power of mental concentration is diminished, he may regress to the form of reaction which troubled him when he first went into the air.

Mental regression is an exactly analogous phenomenon. Most soldiers suffering from the stress of fighting complained of nightmares, which assumed the most diverse and individual forms; after suitable treatment these terrors ceased, and ultimately the sufferer was able to sleep quietly, and undertake some form of light work. But suddenly all the old horrors returned, in consequence of some private anxiety or trouble. He did not dream of the cause of his recent worry: his nightmares were those of the trenches. He had fallen back on an earlier mode of reaction.

When dealing with the psycho-neuroses of airmen, I frequently had the opportunity of seeing all these aspects of regression in the same individual. A clever pilot would discover that he was no longer flying with certainty; he was obliged to think what he was doing, instead of carrying out the manœuvre automatically. At the same time the tendency to become giddy, which he experienced when he first went into the air, began to show signs of returning. He slept badly, and nightmares occurred, which went back to some long-forgotten accident, or to his period of service in the trenches. In such a case regression had occurred in all forms of neuro-psychical activity, and was manifested in want of mechanical aptitude, defective sensory adaptation, and uncontrolled resurgence of unpleasant mental experiences.

Throughout this exposition I have spoken of the psycho-neuroses in terms of processes common both to the mind and to the physiological functions of the nervous system. The lower reflexes are controlled by the higher centres, exactly as the more discriminative aspects of the normal mind dominate those which are more instinctive and primeval. But the success of this relation is based on a harmonious give and take. When I tread on a sharp stone, the result is a complicated act of walking, which removes my whole body from the site of the disagreeable experience; if, however, the sole of my foot is pricked when I am prone in bed, all that is necessary is a simple act of flexion, withdrawing the stimulated limb.

Control, in as far as it is a harmonious automatic process, is an expression of the dominance exercised by higher over lower neuro-psychical activities. Abnormal consequences arise when there is declared conflict between the suppressed experiences and the repressing forces. Such emotional repression of some idea or feeling, on account of the dread or repulsion it excites, uniformly leads to harmful consequences.

Adaptation is the power possessed by the normal nervous system of responding to a stimulus of constant intensity, with a steadily decreasing reaction. If this faculty is diminished, we can no longer accustom ourselves to our surroundings, and fail to carry out automatically the functions necessary for such adaptation. Unpleasant mental experiences, or bodily discomfort, tend to be unduly prolonged and lead to exhaustion.

Regression is the act of falling back to a more primitive mode of reaction. Facilities which have been acquired by practice come to be exercised automatically, as the reactions of the child are transformed by increasing experience into those of the man. Any failure of this automatic control may lead to the phenomenon of regression, and the victim becomes subject to some disability he had previously overcome completely.

Face to face with the patient, it is futile to waste time in considering whether he is a case of neurasthenia, psychasthenia, anxiety neurosis, or hysteria. The war has unfortunately increased the universal love of labels. Medicine is popularly thought to be based on the principles of a penny-in-the-slot machine. Make a so-called "diagnosis" and the rest follows mechanically. Hysteria is treated with electricity and massage; an anxiety neurosis needs a "rest cure"; obsessions require fresh air and cheery companions. Nothing is more pitiful than the condition of the medical man who finds that these rules of practice break under him. He is filled with mingled anger and despair, which frequently lead him to vent his impotence on the patient; he expresses his opinion that "the fellow is a rotter," and he "would like to see all his sort shot on the parade ground." He has made no attempt to investigate the forces at work that produce the condition he does not understand. His "diagnoses" are but camouflaged ignorance. The only diagnosis that is of the slightest value, or is worthy of the dignity of our profession, is the laying bare of the forces which underlie the morbid state and the discovery of the mental experiences which have set them in action. Diagnosis of the psycho-neuroses is an individual investigation; they are not "diseases," but morbid activities of a personality which demand to be understood. The form they assume depends on the mental and physiological life of the patient, his habits, and constitution. That is why the psycho-neuroses of war were so much simpler than are those of civilian life. Moreover, in daily practice, the causes of much defective mental harmony are not only more complex, but are more difficult to elicit. A married woman is not likely to confess to her doctor that she is in love with another man, when the doctor's wife may any day drop in to tea with her. She may have absolute confidence in the discretion of her medical attendant, but the presence of his wife would instinctively remind her of her unpleasant conflict. On the other hand, she has no reluctance to confess what she knows in her heart to be the cause of her want of sleep and digestive troubles to a man living at a distance, whom she will in all probability never see again, after her morbid condition has passed away.

Provided we can determine the processes at work in the production of the psycho-neuroses, the causal factors underlying a large number of the phenomena can be discovered without elaborate technique. In many cases, especially during the war, the patient was conscious of the experience which was at the bottom of his trouble, but, because of the horror it engendered, he refused to face it. This was particularly evident in cases of obsession. A man who had seen some horrible or filthy sight naturally repressed it whenever it appeared in consciousness. In this he was encouraged by his medical attendants, who advised him to "go away and forget the war." "Don't think of anything you saw in France, but play games and be with cheery fellows." The evil of this advice has been wonderfully expressed by Siegfried Sassoon in his poem called "Repression of War Experience."

> Now light the candles; one; two; there's a moth;
> What silly beggars they are to blunder in
> And scorch their wings with glory, liquid flame—
> No, no, not that—it's bad to think of war,
> When thoughts you've gagged all day come back to scare you.
> And it's been proved that soldiers don't go mad
> Unless they lose control of ugly thoughts
> That drive them out to jabber among the trees.

If the morbid state is accompanied by physical symptoms, such as loss of speech, deafness, or paralysis, these must be removed. The patient is first carefully examined so as to be certain that there is no structural cause for his loss of power. Then he is told that his disability is not based on any serious bodily condition, and that he can be cured without difficulty.

The majority of hysterical patients, like children, are unduly suggestible. But, in most instances, it is unnecessary to employ hypnotic suggestion. Provided the examination has been carried out carefully and sympathetically and nothing has been said or done to confirm the patient's belief in the severity of his disease, the physician will have acquired sufficient suggestive power to remove such physical disabilities as paralysis or loss of speech. Sometimes this suffices to produce a permanent cure; but it must not be forgotten that behind these obvious manifestations may lie a state of anxiety. This must be dealt with seriously and systematically, or the patient will relapse on the first occasion that his conflict is reawakened.

The number of lightning cures that were possible during the war was a measure of the ignorance of the bulk of the medical profession as to the nature of these maladies. Paralyses of mental origin were mistaken or neglected, and the patient was not subjected to systematic psychical treatment.

All such loss of function can be easily recognized by its character. It follows a conceptual and not a physiological or anatomical distribution. A patient with hysterical loss of speech can write and read fluently, and one with complete aphonia can cough loudly. When all power of recognizing the position of one upper extremity appears to be lost, the patient has no difficulty in finding the tip of his affected forefinger with that of the normal hand; but he carries out the reverse operation with difficulty, because it seems natural to him to do badly with the "bad" hand and well with the "good" one. But, when the sense of position is disturbed from an organic lesion of the cortex, the condition is usually the exact opposite. The normal forefinger cannot be brought into contact with that of the affected hand because its position is not known, whereas the reverse movement can be carried out without difficulty, because the situation of the normal hand is accurately recognized. It is easy to make fair shooting with a bad rifle if we know the position of the target; but the best rifle in the world is useless if we are ignorant of the direction of our aim.

The following difference between two apparently allied signs is equally significant. When a patient with tabes dorsalis or any disturbance of the functions of the posterior columns is made to stand with his eyes closed, he tends to sway or fall. In many psychopathic states he also becomes unsteady under similar conditions; this has been called by the outrageous name of "pseudo-Romberg." But the true nature of this sign is evident from the following procedure: Let the patient stand on both feet and tell him to close his eyes; he tends to fall. Then tell him you are going to examine his eyes; stand him facing the light, and close first one eye with your hand and then the other; he will remain steady on his feet. By the first method of examination, attention was attracted to his power of standing with his eyes closed, but, on the second occasion, he was told that his eyes were under examination and no question of equilibrium arose in his mind. All these conditions may be classed together as "paralysis by idea."

Most of these defects of function arising during the war have long ago been removed by treatment, and the few patients of this class who remain are of a poor mental type. The large bulk of the functional neuroses which now demand attention are those consisting of states of anxiety and obsessions. This corresponds to the normal experience of civilian life. An ex-soldier is troubled about his work or is anxious about the illness of his wife and the difficulty of obtaining a lodging. Officers returning to their pre-war employment find it uninteresting and badly paid. Moreover, they have not the mental stamina to work long hours, and then return home in an intolerably overfilled train. Old nightmares recur and sleep is troubled; their general efficiency goes down, and they are in real danger of finding themselves without employment.

It is the business of the physician to investigate these conditions with the greatest care. An unfavourable environment must, if possible, be changed. The sleep of one of my patients improved enormously as soon as quarters were found for him in London, so that the railway journey at the beginning and end of the day's work became unnecessary. Abnormal mental experiences must be brought into the main stream of the individual personality, and, if possible, the patient must be induced to regard them from a more favourable point of view. A terrifying object, that can be logically examined, tends to lose its fearful aspect. We dread the unknown; and to drag these half-appreciated horrors into the light may discharge the greater part of their emotional energy. If possible, a sorrow must be sublimed; the loss of some dearly loved person should not be repressed, but be brought up to form an integral part of the sacrifice at the altar.

Obsessional states are the hardest to remove permanently; for any want of physiological or mental fitness is liable to lead to regression. If, however, the patient can be taught to recognize the significance of this reappearance, its explosive force can be greatly lessened.

I have entered a plea for regarding the psycho-neuroses as a disturbance of functions, common both to the nervous system and to the mind. The form they assume depends on the personality of the patient, and the nature of the emotions and ideas with which he has had to deal; it has nothing to do directly with the effect of external physical forces. Such expressions as "shell shock" and "neurasthenia" do not correspond categorically to the manifestations of the functional neuroses, which are in reality the forms assumed by the reaction of the patient to his individual mental experiences.

THE NATURE, PREVENTION, AND TREATMENT OF HEAT HYPERPYREXIA.*

THE CLINICAL ASPECT.

BY

W. H. WILLCOX, C.B., C.M.G., M.D., F.R.C.P.,

PHYSICIAN TO ST. MARY'S HOSPITAL, LONDON; LATELY CONSULTING PHYSICIAN TO THE MESOPOTAMIAN EXPEDITIONARY FORCE.

THE three summers of 1916, 1917, and 1918 spent on active service in Mesopotamia as Consulting Physician to the Mesopotamian Expeditionary Force gave me the opportunity of seeing a very large number of cases of illness due to exposure to high atmospheric temperature, and I made a careful study of the clinical manifestations of the different types of disease due to this cause.

Heat hyperpyrexia was the most striking and most dangerous form of illness met with, and as this was likely at any period to occur as a complication in the milder types of these effects of heat, it was chosen as the title of the paper.

ETIOLOGICAL FACTORS.

Climate.

Mesopotamia and the country round the Persian Gulf have been well known for many years as having an unenviable reputation for danger from "heat-stroke." The sun's rays seem to have a peculiar deadly power in this part of the world, and the risk of heat-stroke appears to be much greater than in countries like India, where the temperature is equally high.

Probably the explanation is to be found in the extreme flatness of the country, and the absence of trees and vegetation except in the small cultivated areas. The clearness of the atmosphere also and the absence of dust and moisture in the upper strata undoubtedly contribute, so that the full force of the sun's rays was encountered, with scarcely any absorption from dust or moisture in the air and unrelieved by shade.

The soil of Mesopotamia is really the dried alluvial mud deposited by the river floods, and this forms a light brown dry barren deposit, which radiates and reflects to a great extent the sun's rays, so that one is exposed not only to the direct rays of the sun but to those reflected and radiated from the surrounding soil.

* Papers read in introducing a discussion on heat hyperpyrexia at a meeting of the Medical Society of London on March 8th.

Temperature.

A maximum shade temperature of 110° F. appeared to be the dangerous limit. When this was reached some cases of "effects of heat" were sure to occur, and each degree rise above this limit was attended by an increasingly larger number of cases. Temperatures of 120° or over were exceedingly dangerous, and on these days, in spite of all precautions, large numbers of heat-stroke cases occurred.

A comparison of the temperature records of 1917 and 1918 for Baghdad (see atmospheric temperature curves) shows the reason of the far greater number of cases of heat-stroke in the former year. In 1917, on six days in July the shade temperature was 120° and upwards, and on fifteen days it was 115° and over. In 1918 the temperature did not reach 118°, and on only two occasions was it 115° or over.

The curves showing the temperature and cases due to effects of heat illustrate the influence of temperature.

Cumulative Effect of Heat.—The effect of heat was undoubtedly cumulative in action; thus one or two very hot days were not necessarily followed by a large number of cases of heat-stroke; it was the succession of several hot days which was dangerous. The case incidence curve followed the temperature curve, with a delay of a few days in the rise of the former. The cumulative effect of heat was shown on the individual; a man might be exposed to heat for one or more days and then develop an attack of heat hyperpyrexia in the night or early morning after the atmospheric temperature had fallen considerably.

Humidity of atmosphere undoubtedly predisposed to heat hyperpyrexia, owing to the diminished heat loss from a lower rate of evaporation from the skin, and also from the greater heat conductivity of a hot, damp atmosphere. The effect of a high relative humidity was shown by the greater case incidence of effects of heat at Basrah than at Baghdad (see tables), the relative humidity being considerably higher at Basrah, as shown by the wet and dry bulb records.

Effects of Heat in Mesopotamia (British).

	1917.		1918.	
	Cases.	Deaths.	Cases.	Deaths.
January and February ...	—	—	—	—
March	61	—	2	—
April	612	1	10	—
May	390	—	68	1=1.4%
June	307	7= 2.2%	121	—
July	2,949	425=14.4%	189	10= 5.2%
August	1,086	63= 5.8%	147	17=11.5%
September	810	27= 3.3%	24	3=12.5%
October	18	1= 5.5%	12	—
November	9	—	1	—
December	—	—	—	—
Total	6,242	524=8.4%	574	31=5.4%

Effects of Heat in Mesopotamia (Indian).

	1917.		1918.	
	Cases.	Deaths.	Cases.	Deaths.
January, February, and March	—	—	—	—
April	15	—	5	—
May	6	1=23.3%	11	4=36.3%
June	22	2= 9.1%	38	1= 2.6%
July	565	59= 1.4%	64	4= 6.2%
August	179	12= 6.7%	49	4= 8.1%
September	109	15=13.7%	4	1=25.0%
October	—	—	1	—
November and December	—	—	—	—
Total	896	89=10%	172	14= 8.1%

Effects of Heat (Mesopotamia).

Week ending:	British.		Indian.	
	Cases.	Deaths.	Cases.	Deaths.
July 14th, 1917	770	104=13.5%	181	7= 3.9%
July 21st ,, ...	1,272	197=15.5%	216	38=17.5%
July 28th ,, ...	845	122=14.4%	163	12= 7.4%
August 4th, 1917	239	27=11.6%	34	3= 9.0%
August 11th ,, ...	60	8=13.3%	7	2=28.5%

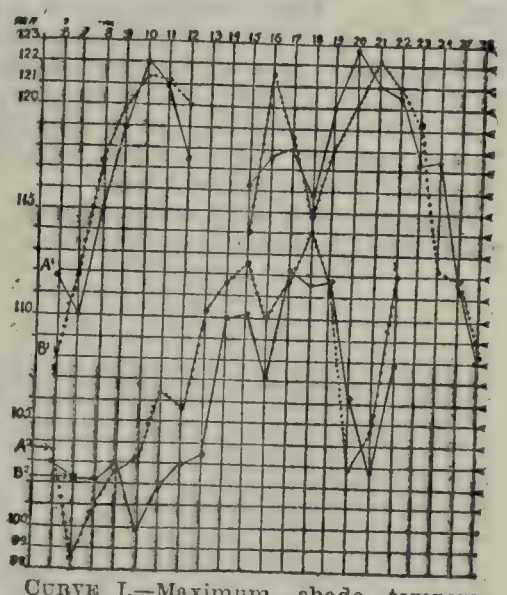
Special Rays as Causes of Heat Hyperpyrexia.—There is no evidence that other rays than the heat rays from the sun cause heat hyperpyrexia. The influence of actinic or ultra-violet rays as possible causes was investigated, with negative result, by Mackenzie and Le Count in America.[1]

Mesopotamia: Heat-stroke Figures for Different Areas (1917).

Week ending:	Baghdad.		Basrah.		Amara.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
July 14th ...	94	24=25.5%	249	40=16.5%	60	8=13.3%
July 21st ...	186	68=36.6%	403	69=17.0%	108	11=10.2%
July 28th ...	194	53=27.3%	183	22=12.0%	47	8=17.0%
August 4th ...	57	17=29.8%	69	3= 4.4%	18	6=33.3%
August 11th ...	36	7=19.4%	15	—	9	1=11.1%

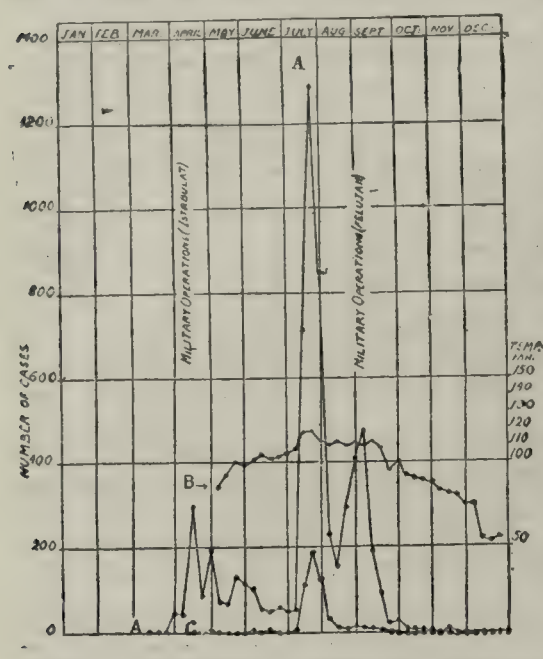
Night Temperature.—In Mesopotamia the month most dangerous as regards heat-stroke was July, since the maximum shade temperature was for a great part of the time over 110°. August was also a dangerous month. Even in these months, however, the night temperature fell considerably; thus, on the hottest day in my experience (July 20th, 1917) the maximum shade temperature was 122.8°, but at night the temperature fell to 81.6°, a drop of 41.2°. The relatively cool nights even in the hottest months render Mesopotamia a possible country for the white man; were it not for this, the incidence of heat hyperpyrexia would undoubtedly be much greater.

Stagnation of Air.—Free currents of air have a great value in protection by promoting evaporation from the skin and loss of heat. Electric fans and punkahs were largely used in Mesopotamia in hospitals and dwellings occupied by troops from 1916 onwards. They were a vital necessity to the British troops during the hot months. In this connexion it is interesting to note that when the temperature was very high the air from a fan would be like a hot blast, and unless the body was covered with a moist sheet, or a moist screen intervened, the fan would be of little value as a cooling agency and indeed might do more harm than good. The Arabs do not appreciate the value of air currents; in the native quarters of the towns the narrow streets and houses with little window space, show that they are designed with the object of shutting out the hot air rather than promoting free ventilation. In July, 1917, on some days the heat was so intense that when a slight breeze arose it was necessary to take shelter



CURVE I.—Maximum shade temperatures for July, 1917 and 1918. A^1=Baghdad, 1917; B^1=Basrah, 1917. A^2=Baghdad, 1918; B^2=Basrah, 1918.

in a covered dwelling to escape the hot wind. On July 20th, 1917, at Kut such an instance occurred when people ran for shelter to escape the scorching blast, and several fatal cases occurred.



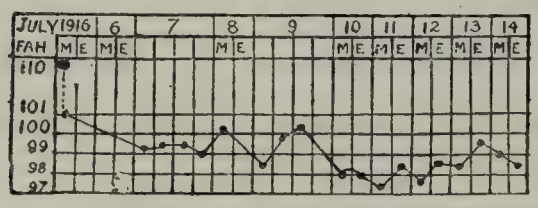
CURVE II.—Effects of heat, 1917 (Mesopotamia—British). A=Cases per week; B=Temperature; C=Deaths.

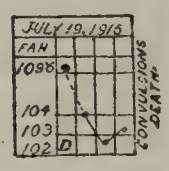
Fans.—The best use of fans in very hot weather was obtained by keeping the rooms closed as far as possible so as to keep out the hot air, the fans providing the necessary air currents in the cooler air within. Aron has shown by experiments on monkeys that still air is a potent cause of heat-stroke.

The "kata" thermometer, introduced by Dr. Leonard Hill, F.R.S., was used in Mesopotamia in 1918, and was very valuable in estimating the degrees of stagnation of air, and thus the risk from heat-stroke. For example, in a hospital ward by its means the suitability of the beds for cases liable to heat-stroke could be tested.

Dwellings for Protection against Heat.

Dwellings must be constructed of very thick walls of non-conducting material—for example, of stone, bricks, or dried mud—and it is of special importance that the roofs of huts should be thick. A coating of at least six inches of





CHARTS 1 AND 2.—Heat hyperpyrexia.

dried mud on a roof is the minimum protection against the sun's rays. Tents afforded poor protection, and in the double fly E.P. tents the temperature would often reach 135° or 140°. During the hot days it was necessary to wear in them a head protection—for example, a topee.

A further protection to a tent was an additional roof of rush matting, but the difficulty of fixing this rendered it impracticable for general use.

Dug-outs with mud walls around and a tent roof, which were used in some cases for troops, were unsatisfactory, since, though cooler in the daytime they were too hot at night; further, the dug-out earth was a favourable breeding ground for sand-flies, and sand-fly fever was always prevalent under such conditions.

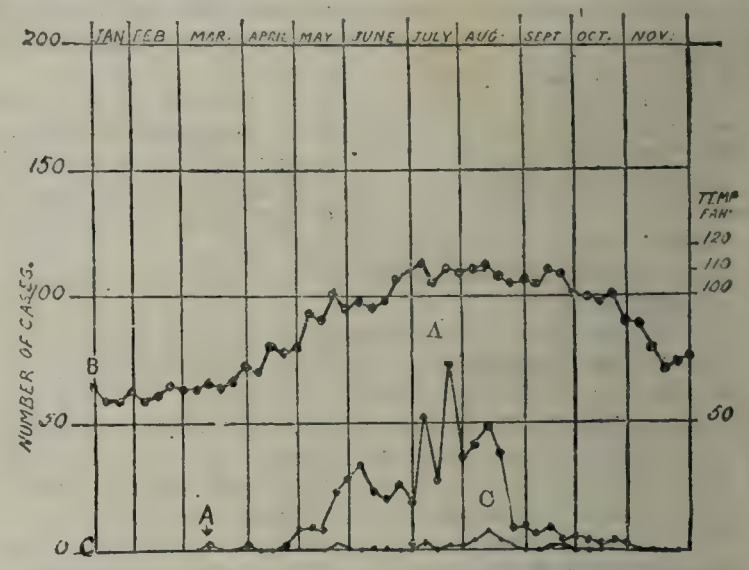
Camps under palm trees were tried, but the stagnation of air caused thereby, and the greater prevalence of mosquitos and other insects, outweighed any advantages derived from the shade of the trees.

It appeared that on the open desert double fly tents, due precautions being taken as regards personal protection during the day, were on the whole best suited for troops if huts or buildings were not available.

Age and Race.

The risk of heat hyperpyrexia depends largely on personal protection, and if care be not taken any age is subject to it. The case mortality was undoubtedly greater in men over 40.

Race is very important. Heat hyperpyrexia due to heat



CURVE III.—Effects of heat, 1918 (Mesopotamia—British). A=Cases per week; B=Temperature; C=Deaths.

alone, and not to the complication of other diseases, was very uncommon amongst Arabs and Indians; indeed, when it occurred in them almost always some complicating disease such as malaria was found as the cause. White races are much more susceptible to the effects of heat, and in British troops a large percentage of the cases were due to heat *per se*.

Alcohol.—If alcohol is taken during the heat of the day it undoubtedly predisposes to heat-stroke. Numerous individual examples of this came to my notice.

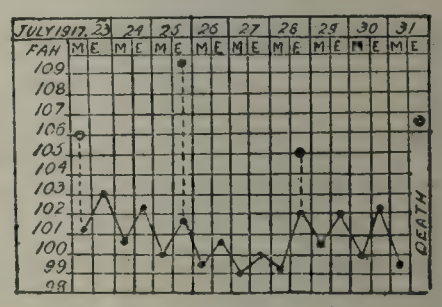


CHART 5.—Recurrent hyperpyrexia.

Exertion.—Exertion during the heat of the day is a great predisposing cause, especially if heavy kit is carried. Numerous examples of this occurred; perhaps the best instance is that shown in the 1917 curve of heat effects, where the two accessory rises in April and September were due to military operations at Istabulat and Felujah respectively. (See Curve II.) A tragic example was the sad death of Sir Victor Horsley, which was undoubtedly due to his having to walk long distances during the heat of the day in the performance of his duties as consulting surgeon.

Water.—Absence of a large supply of drinking water is a cause of heat hyperpyrexia. During the hot weather from two to three gallons a day are necessary for a man exposed to heat. In military operations this was in some cases impossible, and cases of "effects of heat" occurred in consequence.

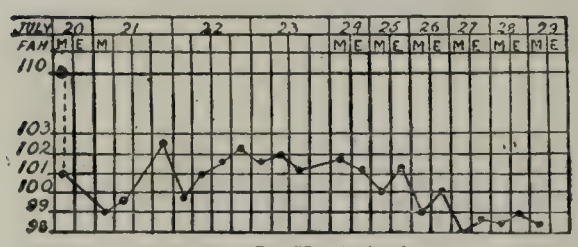


CHART 3.—Heat-stroke.

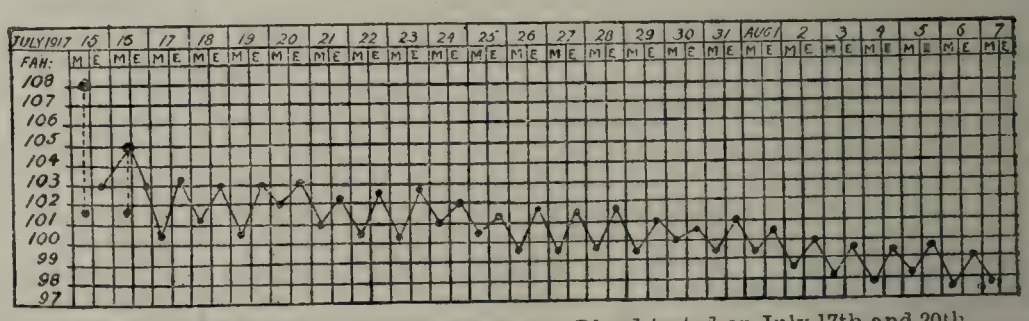


CHART 4.—Heat-stroke; prolonged pyrexia. Blood tested on July 17th and 20th, was negative on each occasion.

Personal Protection.

Clothing.—The use of efficient heat protection from the sun's rays, as by thick pith topees or an efficient service helmet, was very important. The service helmet appeared to give adequate protection, and, as it was capable of withstanding rough usage, it was perhaps better adapted for troops than the pith topee. Spinal pads 9 in. wide were necessary for the protection of the spinal cord from the

sun's rays. Light loose clothing, not too thin, was desirable.

Constipation was undoubtedly a predisposing cause, and Army Orders were issued warning against this. The high percentage of indicanuria in cases of heat-stroke is confirmation of the importance of promoting free elimination from the bowel.

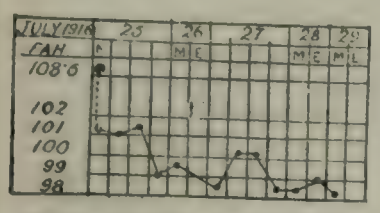


CHART 6.—Malaria and heat-stroke. July 26th, quinine gr. vi intramuscularly.

Dark Glasses.—It has been thought that the action of the reflected glare of the sun's rays on the retina was a predisposing cause of heat-stroke, and the dark green glasses issued to troops undoubtedly afforded comfort and probably protection.

Umbrellas afforded protection to those compelled to walk in the heat of the day, and were used with advantage.

Hand fans were of value in promoting loss of heat and in keeping off flies.

Predisposing Diseases.

Any disease causing pyrexia predisposed to heat-stroke in the hot weather.

Malaria was one of the commonest of these, and in Indians was almost always the cause of heat hyperpyrexia. (See Charts 6 and 7.)

Sand-fly Fever.—During an attack of this fever in the hot months hyperpyrexia sometimes occurred, and I have notes of cases of heat hyperpyrexia occurring in the apyrexial period following sand-fly fever. Captain H. C. Sinderson has suggested [2] that sand-fly fever was a common cause of heat hyperpyrexia. I cannot agree with this, because in the great majority of cases there was no evidence of sand-fly fever, and in the great incidence of heat-stroke in July and August, 1917, sand-fly fever was entirely absent.

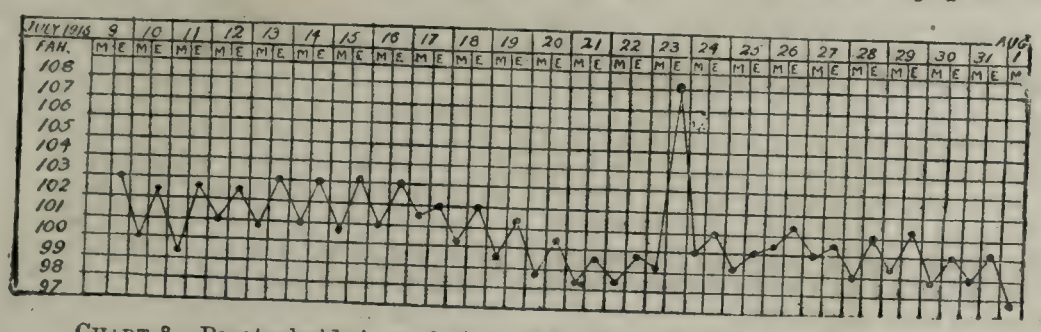


CHART 8.—Paratyphoid A, malaria, and heatstroke. July 24th, quinine gr. x intramuscularly.

The enteric group diseases, if occurring in the hot weather, were not uncommonly complicated by heat hyperpyrexia (see Chart 8).

Typhus fever, both in the acute stage and apyrexial period, might be complicated by heat hyperpyrexia (see Charts 9 and 10).

Small-pox.—I have seen heat-stroke occur during the early stages of small-pox before the appearance of the rash.

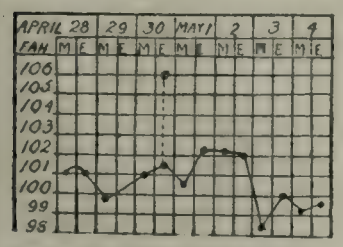


CHART 9.—Typhus and heat hyperpyrexia.

PATHOLOGY AND MORBID ANATOMY.

I have no doubt whatever from my experience that heat hyperpyrexia is a clinical entity and occurs apart from intercurrent diseases. The influence of these has already been considered. The clinical history of cases of pure heat hyperpyrexia and the course of the symptoms after the acute stage, which often exhibit prolonged pyrexia and profound toxaemia in the absence of any bacteriological infection, strongly indicate that the cause is an autointoxication as the result of the effect of heat on the body tissues. My experience led me to believe that this is the cause of heat hyperpyrexia.

The autointoxication occurring in heat-stroke was found to be associated with the presence of acetone and diacetic acid in the urine in only a small proportion of cases (about 12 per cent.), and in these the reaction was of only moderate intensity. It thus appears that heat hyperpyrexia is not due to an acid intoxication. The presence of indican in excess in the urine in acute cases is of importance and is an evidence of the autointoxication present.

Dr. W. Cramer [3] has shown that beta-tetrahydronaphthylamine will cause hyperpyrexia in animals, and it is likely that similar chemical bodies produced as the result of the effects of heat on the tissues in man may have a like effect.

No evidence of bacterial infection was obtained in a numerous series of blood cultures in cases of pure heat hyperpyrexia.

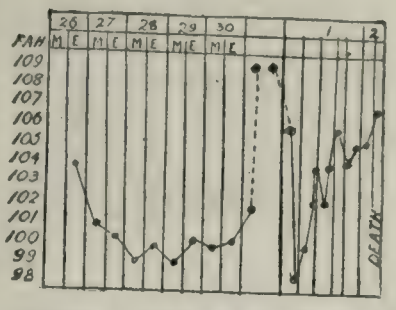


CHART 7.—Malaria and heat-stroke. From the 26th to 30th quinine gr. x t.d.s. by mouth; on the 28th and 30th intramuscular quinine.

Suppression of sweating has been stated by Dr. K. G. Hearne [4] to be the cause of heat-stroke. Undoubtedly suppression of sweating is a most important predisposing cause in many cases, especially those of Group IV in my classification, and in this connexion Dr. R. J. Love [5] has called attention to the risk of giving atropin injections, since he had observed hyperpyrexia follow the administration of atropin before an anaesthetic.

Suppression of sweating did not, in my experience, always precede heat hyperpyrexia, and though it is undoubtedly an important predisposing cause, it cannot be regarded as the primary cause. Thus some cases of heat hyperpyrexia occurred suddenly in exposed men who were in good health, without any previous evidence of lack of skin action, and in cases of the gastric type of heat hyperpyrexia no previous suppression of sweating was observed, though they had been under observation in hospital for several days.

Though entirely agreeing with Dr. Hearne's conclusions as regards treatment, I cannot accept his explanation as the cause of heat hyperpyrexia.

Morbid Anatomy.

In the *post-mortem* examinations made in Mesopotamia oedema and general hyperaemia of the brain and leptomeninges were observed, and cloudy swelling of the liver, kidneys, and myocardium was found; petechiae of the skin and mucous membranes were seen in some cases.

No definite signs beyond these were observed beyond those indicating intercurrent diseases, such as malaria with enlarged spleen, etc.

CLINICAL TYPES OF ILLNESS CAUSED BY EXPOSURE TO HEAT.

1. Heat exhaustion (mild type).
2. Gastric type.
3. Choleraic or gastro-intestinal type.
4. Heat hyperpyrexia (heat-stroke or sunstroke).

In Types 1, 2, and 3 heat hyperpyrexia might suddenly develop unless great care were taken in their removal from a hot atmosphere. Types 2, 3, and 4 were all dangerous and the prognosis grave. Of 80 severe cases of "effects of heat" of which I made careful notes, 13 (16.2 per cent.) were of the gastric type, 9 of the choleraic (11.2 per cent.), and 58 (72.5 per cent.) were hyperpyrexial.

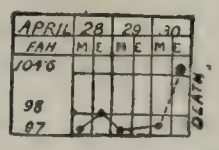


CHART 10.—Typhus and fatal hyperpyrexia.

1. *Heat Exhaustion.*

This would commence suddenly with weakness, giddiness, faintness, and inability to walk; the pulse was rapid and weak. The majority of these cases were associated with a mild pyrexia of 102° or 103°, which lasted two or three days and then the temperature became normal, the patients requiring a few days' rest before being fit for duty. A small proportion of the cases were associated with cardiac failure, the temperature being subnormal.

Returns from two British Stationary Hospitals at Baghdad (July 8th to 19th, 1917).

	Heat Hyperpyrexia (Temp. 105° and over).		Effects of Heat (No Hyperpyrexia).	
	Cases.	Deaths.	Cases.	Deaths.
Stationary Hospital (A) ...	63	15=24.0%	67	4=6.0%
Stationary Hospital (B) ...	37	12=32 4%	162	9=5.6%

Heat-stroke and Effects of Heat (July, 1917).

	Heat Hyperpyrexia.		Effects of Heat.	
	Cases.	Deaths.	Cases.	Deaths.
British Stationary Hospital at Baghdad	40	14=35 %	430	31=7.2 %

the skin cold and clammy, the face pale, and the pulse very rapid and feeble.

During military operations in hot weather large numbers of cases of heat exhaustion occurred. The mortality from this type of case was very slight.

2. *Gastric Type.*

This was one of the most interesting and treacherous forms; it constituted 16.2 per cent. of my series of severe cases. The patient would have a flushed face and be restless and irritable, with marked nausea and occasional vomiting.

The mouth temperature and pulse would be normal for several days. The rectal temperature showed often a rise of about 2°. Usually there was fatty enlargement of the liver. The knee-jerk was lost in all of nine cases in which it was specially tested. This was a valuable diagnostic sign. The knee-jerk reappeared when convalescence was established, the time varying with the severity of the case. Many of these cases, after four to ten days' premonitory symptoms, suddenly developed fatal heat hyperpyrexia. The following are notes of two typical cases:

CASE I.

H. Onset July 15th, 1917; the patient was morose and irritable, with a feeling of nausea. When admitted to hospital on July 17th the face was flushed, the tongue very furred, the temperature normal; vomiting occurred daily, and the liver extended two inches below the right subcostal border. On July 22nd the mental condition was somewhat muddled, and the temperature was 99.2°; nausea was present, and vomiting occurred once. At 11.45 p.m. the temperature suddenly rose to 108° F., and the patient died on July 23rd, at 1.30 a.m.

CASE II.

K. Onset July 13th, 1917. The patient became faint and collapsed and vomited, some cyanosis being present. When admitted to hospital the temperature was normal, the face flushed, the tongue furred, and nausea and daily vomiting occurred; the liver extended three inches below the right subcostal border. The mental condition showed depression and irritability, with some mental confusion. On July 23rd stupor and coma developed, the temperature suddenly rose to 108° F., and death occurred a few hours afterwards.

3. *Gastro-intestinal Type (Choleraic).*

In this type (which constituted 11.2 per cent. of my series) the onset was sudden, marked collapse occurring. The patient usually had a temperature of 101° to 103°. Vomiting was marked, and there was diarrhoea. Cramps in the abdomen and legs occurred in some cases. The face was pale, the eyes sunken, and the skin pale and clammy. The knee-jerks were generally lost; in four cases specially examined they were absent in three and diminished in one. The general appearance of the patient was similar to that of cholera.

This type was of uncommon occurrence, but the mortality was high, death often occurring within three or four days.

4. *Heat Hyperpyrexia.*

In this type, which accounted for 72.5 per cent. of my series of eighty severe cases, the onset was often quite sudden, the patient being taken ill when on duty, with a sudden high rise of temperature and loss of consciousness.

In some cases the patient when off duty would be found by his comrades unconscious and dying.

CASE III.

In one such case a soldier complained of headache in the morning; he returned to duty and was apparently better in the afternoon, and was last seen playing with a dog, but about 5 p.m. was found unconscious and dying. He died at 5.30 p.m. before medical aid could reach him, and 1½ hours afterwards the rectal temperature of 110° indicated that heat hyperpyrexia was the cause of death.

Heat hyperpyrexia frequently occurred in the very hot weather in hospital patients suffering from another disease. In them the temperature would often suddenly rise to 110°, coma and convulsions supervening. (See Charts 1 and 2.)

In many cases, however, the onset was more gradual, malaise, headache, and restlessness occurring, accompanied sometimes by nausea and vomiting. Frequency of micturition was a characteristic early symptom, and was sometimes associated with urethral pain. The temperature would be somewhat raised—100° to 102° or so—and the skin be hot and dry. These preliminary symptoms usually lasted for a few hours, sometimes as long as forty-eight. Then mental excitement and delirium would supervene and the temperature rapidly rise to 110° or so. With the hyperpyrexia coma and stertorous breathing occurred, and the face was flushed and cyanosed, the conjunctivae being congested. The pupils were often dilated in the early stage and contracted in the comatose condition. Fibrillary twitchings of muscles, and convulsions were very common in this stage, and the breathing might have the Cheyne-Stokes character. Incontinence of urine and faeces occurred with the coma. Unless the temperature was reduced by treatment death rapidly occurred from hyperpyrexia, the mode of death usually being asphyxial in type.

Marked cardiac dilatation, often associated with a systolic murmur, occurred in the severe cases. This remained for a few weeks after the attack and needed special care.

Bronchitis and congestion of the bases of the lungs occurred in some cases.

Air hunger was definitely observed in one case, and in another a spasmodic type of breathing like uraemic asthma.

Pulmonary oedema was a terminal event in the fatal cases.

The Urine.

Indican was present in excess in all of six acute cases in which a special examination was made. *Acetone* and *diacetic acid* were present in small amount in one out of eight acute cases specially tested. *Albumin* was found present in small amount in three out of eight acute cases. No casts were present.

Nervous Symptoms.

Restlessness and delirium occurred with the onset of hyperpyrexia and were quickly followed by stupor and coma with incontinence of urine and faeces. Muscular twitching and convulsions were very common with the high temperature.

The knee-jerk was almost always absent in the pure heat-stroke cases during the acute stage. Out of thirty-two cases specially tested the knee-jerk was absent in twenty-seven, diminished in two, and normal in three; in these latter cases the hyperpyrexia was probably malarial in nature. In the severe cases the knee-jerk did not return for three or four weeks, in the milder cases earlier. The presence of knee-jerks was a valuable prognostic sign, for when they had returned there appeared to be much less risk of a relapse, and the patient might then be evacuated with safety. This sign was of great practical help in deciding on the disposal of heat-stroke cases.

After the acute stage in the severe cases marked mental symptoms often remained for some weeks; irritability, mental confusion, and delusions were not uncommon. Usually these symptoms cleared up.

Defective articulation (anarthria) occurred as an after-symptom in four of the severe cases of my series. *Nystagmus* occurred in one case, and squint with diplopia in one.

Multiple neuritis associated with weakness and marked wasting of the legs, the tibialis anticus muscles being most affected, occurred in two cases.

Lumbar puncture was performed in several cases; the cerebro-spinal fluid was clear and sterile and the pressure was above normal.

Parotitis occurred in three cases of my series.

Petechiae were observed in a few of the cases showing marked toxaemia.

Many of the severe cases showed, after the hyperpyrexia had subsided, a pyrexia, for several days the temperature being about 102° or 103° (see Charts 3 and 4). In one case the fever lasted three weeks. Numerous blood cultures were made in these pyrexial cases, with negative results. Recurrences of hyperpyrexia were very likely to occur after an attack of heat-stroke unless the patient was kept in a cool atmosphere, which was often impossible. There were several instances of two and three recurrences (Chart 5).

After convalescence from hyperpyrexia attacks of headaches were common, and exposure to slight heat would induce them. These patients for a long time were very sensitive to heat, and evacuation to a cool climate was essential. In some of the severe cases showing marked persistent nervous symptoms it was clear that permanent organic changes had resulted from the effect of heat on the brain cells. Dr. R. M. Stewart[6] has described a case with persistent cerebellar symptoms following an attack of heat hyperpyrexia in Egypt.

TREATMENT.

1. *Heat exhaustion* required no special treatment beyond rest, keeping cool, and aperient medicine.

2. *The gastric type* was dangerous, and required great care in treatment. Free purgation, great care in protection from heat, large doses of sodium bicarbonate (30 grains every three hours), and rectal injections of cold solution of the same salt (2 drachms to the pint) gave the best results. The diet in all "heat" cases was chiefly lacto-vegetarian, the fat and protein being reduced as far as possible.

3. *The choleraic type* required treatment on the lines of cholera cases, including normal or hypertonic saline subcutaneously, and cardiac stimulants—for example, digitalin, strychnine, adrenalin, pituitary extract given hypodermically. Protection from heat was most important.

4. *Heat hyperpyrexia* demanded immediate application of measures to reduce the temperature. Thus, the stripping of the patient and constant application of a spray of cold water, or rubbing with blocks of ice, were essential until the rectal temperature fell to 102°, the patient being under a fan during the process. In the hospitals in Mesopotamia special heat-stroke wards were established, with overhead fans and portable electric fans for each acute case. Ice-cold water was supplied to each bed, so that the patient could have a constant spray of this; there was also an ample supply of ice. At my suggestion the acute cases were treated on an ordinary iron bed, a rush mat, with a smooth Japanese reed mat above it, being placed over the iron framework. This allowed a free current of air all round the patient, from below as well as above.

By these means the hyperpyrexia could be controlled. If enlargement of the spleen was observed, or if there was a previous history of malaria, quinine bihydrochloride gr. x was given either intravenously or intramuscularly without delay, and during the carrying out of the hydrotherapeutic measures. An injection of quinine gr. x was given if the temperature was not readily controlled by the above methods. Blood films were made at once and examined for malaria, and if the result was positive, active quinine treatment was continued.

Convulsions, which were of very common occurrence, were treated most satisfactorily by venesection, 10 to 20 oz. of blood being withdrawn. Intravenous saline after venesection was not found beneficial, since it tended to cause recurrence of the convulsions. Rectal injections of ice-cold water or of ice-cold solution of sodium bicarbonate (2 drachms to the pint) were beneficial.

Cardiac failure was treated by digitalin, strychnine, adrenalin, or pituitary extract hypodermically.

Failure of respiration was treated by artificial respiration and oxygen, or oxygen bubbled through alcohol.

Some cases with violent delirium and convulsions were treated by morphine hypodermically, and chloroform inhalations, but these methods were usually inferior to venesection.

PROPHYLAXIS.

Every care was taken by the army authorities in the prevention of heat-stroke. As far as possible no military operations were carried out during the hot weather, and as far as possible also troops were relieved from any duty between 10 a.m. and 4 p.m. Head and spinal protection were ensured by the issue of efficient helmets and topees, and spinal pads. Special light summer clothing was issued to troops in the hot months. A free supply of water was allowed to troops, and every man had a 1 gallon canvas *chagul*, so that by keeping drinking water in it efficient cooling was obtained by evaporation.

Army Orders were issued, on the advice of the D.M.S., warning against the risks of constipation and the taking of alcohol.

Billets and huts for troops were supplied with electric fans. In the case of troops under canvas special care was taken as regards the management of tents so as to ensure maximum heat protection.

Hospitals were equipped with an ample supply of electric fans and ice. In hospitals where patients suffering from other diseases showed a tendency to hyperpyrexia it was found advisable to place them in the coolest part of the wards under a fan and to cover them with a sheet kept wet with cold water.

Heat-stroke stations, with all facilities for treating cases were established in each of the base areas, and each division of troops had six such stations, so that every facility was provided for the treatment of emergency cases.

My thanks are due to Major-General A. P. Blenkinsop, C.B., C.M.G., D.M.S., of the Mesopotamian Expeditionary Force, for statistical figures in this paper, and for the interest and active measures he took for preventing and dealing with heat hyperpyrexia.

REFERENCES.

[1] *Journ. Amer. Med. Assoc.*, 1918, vol. ii. [2] BRITISH MEDICAL JOURNAL, July 19th, 1919. [3] *British Journal of Experimental Pathology*, vol. i, No. 1. [4] BRITISH MEDICAL JOURNAL, 1919, vol. i, p. 516. [5] Ibid., June 7th, 1919. [6] *Review of Neurology and Psychiatry*, October, 1918.

THE PHYSIOLOGICAL ASPECT.

BY

LEONARD HILL, M.B., F.R.S.,

DIRECTOR, DEPARTMENT OF APPLIED PHYSIOLOGY, MEDICAL RESEARCH COMMITTEE.

HEAT-STROKE results from the rise of body temperature to a height incompatible with the maintenance of the equilibrium of the physico-chemical reactions in the cell on which life depends. Such rise may result from inability of the heat-regulating mechanism to control the body temperature under the atmospheric conditions, or from exhaustion of this mechanism. Infection, drink, fatigue, by weakening the mechanism, enhance the risk of heat-stroke.

Heat-stroke may occur in either dry or moist hot shade conditions, or from exposure to sun on close, warm days. While sunburn is an inflammation of the unacclimatized and untanned skin resulting from the sun rays, sunstroke is only another form of heat-stroke. There is unreasoning fear of exposure to the sun in this country; so long as the body is exposed to cooling breeze, exposure to the sun cannot produce sunstroke. The heating effect of food, especially of protein-rich food, must be borne in mind in the tropics. Alcohol is contraindicated if taken in place of natural foods. It contains no vitamines or protein-building groups, but is a fuel to the body. Monkeys fed on a light diet of bananas and rice and given plenty of water can be trained to stand exposure to the tropical sun out of doors for many hours a day. The sweating mechanism becomes more efficient by training.

The effect of enclosure and still air is very important. When surrounded by stagnant moist air in an enclosure at body temperature, any loss of heat by convection, radiation, or evaporation of sweat becomes impossible; as heat production continues, the body temperature inevitably rises. The rise of temperature accelerates the rate of combustion in the cells, and a vicious circle is established. In the Black Hole of Calcutta the air entangled between the bodies and in the clothes of the victims became saturated with water vapour and heated to body temperature; thus heat-stroke, not suffocation, put an end to their sufferings. As the body, weighing some 60 to 70 kg., takes time to heat up several degrees to the critical temperature, people withstand temporary exposure to the heat of a

crowd or immersion in a hot bath. The weakly with feeble circulations, heart disease, or vasomotor instability, are the first to suffer.

It is easy by a few minutes' immersion in a very hot bath (107° to 110° F.) to accelerate greatly the pulse and respiration, lower the systolic pressure and raise one's rectal temperature to 103° F., to a point where one feels dizzy on standing up owing to the dilatation of the cutaneous blood vessels and the influence of gravity on the circulation. A cold douche gives immediate relief by constricting the cutaneous vessels, the rectal temperature still remaining at 103° F.

Normally, in comfortable cool surroundings, we are cooled mainly by convection, cool moving air carrying away the body heat from the skin, loss by evaporation from the skin being kept at a minimum, while that from the respiratory membrane is kept at a maximum by the breathing of cool air of low vapour tension. The vessels of the skin are toned up, activity and metabolism kept at a good level by the cool touch of moving air. In warm stagnant air the emergency method of cooling by sweating is brought into play.

The power of the air to hold water vapour, its evaporative power, increases rapidly with rising temperature; thus saturated air—

At 30° F.	holds	1.94	grains of water	per cubic foot.
At 50° F.	,,	4.08	,,	,, ,,
At 70° F.	,,	7.98	,,	,, ,,
At 80° F.	,,	10.9	,,	,, ,,
At 90° F.	,,	14.7	,,	,, ,,
At 100° F.	,,	19.7	,,	,, ,,

Wind enormously increases the evaporative power so long as the air is saturated at a temperature below body temperature by continually bringing fresh unsaturated layers of air in contact with the body.

As every gram of water evaporated from the skin or respiratory membrane carries away 0.59 calorie, the emergency method of body cooling is very effective. It is brought into play when men do hard physical labour and increase their rate of heat production five or even ten times. A high cooling power, due to cool air and wind, is required to stop sweating in such workers. There is an imperative need to so adjust the cooling powers of the air by fan ventilation in workshops that men may be saved from body heat stagnation or needless sweating, and from loss of physical vigour such as is evident in cotton spinners when contrasted with miners.

The limits of an Englishman's power to keep himself cool is passed when the wet bulb exceeds 88° F. in the still air of a chamber, even when he is stripped to the waist and resting (Haldane). When muscular work is performed a wet bulb temperature of 80° F. may be the limit. Walking in a tropical climate—wet bulb 75° to 80° F., dry bulb 80° to 90° F., may raise the rectal temperature 2° to 3° F., and send the pulse rate up to 140 to 160. Breathing hot air may so heat the blood as to produce exhaustion, even when the skin is exposed to a cool atmosphere.

The effect of wind in promoting the cooling of the body is illustrated by measurements taken with the "kata" thermometer. This is a big-bulbed spirit thermometer which is warmed up so that its rate of cooling—from 100° to 95° F.—can be taken in seconds. The cooling power of the "kata" surface at body temperature is then deduced by means of a factor in millicalories per square centimetre per second. Readings are taken with the "kata" bulb dry and wet (covered by a wet knitted cotton glove). To take an example: On a certain day the temperature out of doors in India was dry bulb 89° F., wet bulb 73° F. Now the cooling powers are as follows:

	Still Air.	Wind 1 Metre per sec.	Wind 9 Metres per sec.	
Dry "kata" ...	1.3	3.6	6.7	With dry bulb 89° F.
Wet "kata" ...	9.8	22.4	36.7	With dry bulb 89° F. and wet bulb 73° F.

The cooling powers in still air are intolerably low, those with wind 1 metre per second quite tolerable for a sedentary person, those with wind 9 metres per second quite cool. Suppose the air were saturated, the wet bulb also standing at 89° F., then the wet "kata" readings become:

Still air	3.3
Wind 1 metre per second	8.0
Wind 9 metres per second	15.1

and a wind of 9 metres a second (20 miles an hour) is required to secure comfortable cooling. In ordinary workrooms in this country a dry "kata" reading of 6 and wet "kata" reading of 18 to 20 are commonly found, and appear to be comfortable for light work. Out-of-door workers in this country are exposed to far higher cooling powers, chiefly owing to the far greater movement of the air. The stimulating effect of the cooling powers of outdoor air on metabolism is of great importance to health.

In Borneo the wet bulb temperature not uncommonly reaches 90° F., and if there is no wind the conditions must be met by punkahs and electric fans and bathing in cool water. For such conditions compressed air douches would be of value. Water condenses out of air when it is compressed, and the air escaping from compression is both cool and dry. Such air offers a method of cooling far more practicable than any method of cooling by freezing machines. It is a method used in mines where the tools are driven by compressed air.

Now let us consider warm dry air at temperatures near to blood heat. So long as the sweating mechanism remains active and there is a breeze, there is no danger of heat-stroke. On the other hand, with hot dry air (well above body temperature) and a wind, the cooling power due to evaporation of sweat may be overpassed by the heating power of the air. The simoon kills by the hot wind drying the skin quicker than it can be kept wet by perspiration, and so heating the blood. The Arab crouches down on the ground and covers himself with clothes to avoid the drying and heating effect of the simoon, and hopes it will pass before his body becomes overheated. If a hot desert wind dries the skin absorption of sun heat takes place, which is normally checked by the layer of sweat. So long as the skin is thoroughly wet with sweat the sun heat is mostly expended in evaporation and is kept from the blood.

The glistening wet skin reflects the sun rays to a large degree. The black, with his tissues protected by pigment from the lethal effect of the sun, can have a thinner skin and blood vessels closer to the surface. Thus the cooling of shaded parts of his body is better secured. The pigment on absorbing the sun rays heats the cutaneous nerve endings, and these activate the sweat glands, dilate the cutaneous blood vessels, probably through "axon" reflex, and with very little delay.

While the "kata" thermometer indicates conditions of the atmosphere which are likely to cause heat-stroke, the surface temperature of a piece of black fur (taken by stroking it with the bulb of a sensitive thermometer) gives a simple measure of the radiant heat of the sun.

The loss of heat of a resting man may be taken as about 1 millicalorie per square centimetre of body surface per second; the extra heat production due to work may put this up to 3 millicalories. The exposure of half the body to the sun may result in the absorption by the clothes of 5 to 10 millicalories per square centimetre per second. Exposure to the sun, then, greatly increases the strain on the sweating mechanism. Hence the conditions for causing heat-stroke are given by soldiers heavily clothed marching in close column in the sun on a calm day. The air surrounding their bodies becomes saturated and warmed, and the sun heat is absorbed by their clothes. The stripping off of clothes, open order, frequent rests, plenty of drinking water, and avoidance of the heat of the day for marching are the proper precautions. Clothes for the tropics should be of thin cotton material: a shirt open at neck and sleeves—the shirt worn outside the belt when conditions are trying—shorts, boots, and knitted puttees, and a light sun helmet well ventilated and impermeable to sun rays. The clothes must be light in colour to reflect the sun. The man should allow his skin to tan, so that he can wear thin material. He must avoid sunburn while tanning by wearing an opaque garment whenever the skin becomes tender. There is not only no advantage in red linings, but disadvantage owing to the double layers. The work of Hare, L. Rogers, Haldane, Pembrey,

and others established that heat-stroke is caused by overheating the body. It is not an infectious disease, as Sambon has suggested (supported by Manson's authority), but is more liable to occur in those whose vasomotor mechanism is unstable, in the constipated, the drunken, the fatigued, or infected. Heat-stroke can be produced in normal men by appropriate conditions in the experimental chamber of the physiologist. Many cases occurred in fresh troops sent straight from England and certified free from malaria on their arrival at Basra. It can be prevented by simple treatment based on the physical laws of cooling. 107° to 108° F. seems to be the critical rectal temperature at which grave effects such as unconsciousness and convulsions result. Speedy reduction from such a temperature is demanded to avoid not only a fatal termination but tissue degenerations.

Men vary in their capacity of sweating, and thus, when in Mesopotamia in 1917, the temperature rose in stages, groups of cases occurred at 105°, 110°, 115°, 120° F. Such shade temperatures out of doors meant 130° to 140° F. in the still air of a tent on the hottest days! Thick walls, double roofs, and wide verandahs well ventilated, and fans are required to make such conditions tolerable. There were none of these things to start with. The treatment often recommended in 1917 appears to have been the rubbing of the skin with ice and ice enemata. Venesection and infusion were also tried as a last resource.

While evaporation of water at body temperature carries away 0.59 calorie per gram, the melting of ice only takes away 0.08 calorie per gram; rubbing the skin with ice, moreover, obstructs evaporation. Again, 70 grams of water evaporated from the skin takes away as much heat as 1,000 grams of iced water used as an enema.

The direct cause of heat-stroke in a hot, dry atmosphere such as Mesopotamia seems to be exhaustion of the sweating mechanism, hence diaphoretics are useless; the one treatment to immediately apply is artificial sweating, established by means of a water spray and fan. Such a method of treatment was, as Director-General Goodwin tells me, well known and practised in India before the war, but it had not become generalized and taught in the books. Fans and sprays were wanting to meet the fierce heat of the summer of 1917 in Mesopotamia.

G. K. Hearne found that he could pick out in his wards at Basra all cases in danger of heat-stroke by their dry skin; cessation of sweating, generally coupled with increased micturition, in every case preceded the rise of body temperature. Those who ceased to sweat asked for the roof fans to be turned off, because they, like the dry "kata" thermometer, were heated up by the wind—the air temperature being above body temperature. Those who were sweating, on the other hand, begged for the fans to be kept on because they were cooled by evaporation, just as the wet "kata" thermometer was cooled.

Hearne used the "kata" thermometer at Basra, and so secured a demonstration of these facts. Finding out the "dry" cases by frequent visits to each patient in his wards, he put on the water spray and fan treatment; by these simple means, so he tells me, he was able to stop all further cases of heat-stroke both in the wards and in the troopships. The great thing is to recognize the danger of the dry skin and get treatment in time. People must be warned of the danger of the skin going dry. Hearne found no signs of general exhaustion of the sympathetic system; it is the sweating mechanism in particular which fails. In the final stage of heat-stroke the patient lies cyanosed and comatose, with signs of respiratory embarrassment. The quick shallow breathing excited by heat washes CO_2 out of the blood, and so increases the alkalinity of the tissues. There is no acidosis then and no indication for the intravenous injection of a sodium bicarbonate solution. Gum saline may be tried for cases which come under treatment when collapsed, but the spray and wind treatment must first be set going.

Post mortem the organs of a case of heat-stroke show capillary congestion, as in wound-shock. Cramer lays stress on the signs of hyperaction, followed by exhaustion of the thyroid and adrenal glands. Either infection or exposure to over-warm atmosphere has these effects. Hyperadrenalism leads to increased change of glycogen into sugar and greater heat production. Injection of a small dose of tetrahydronaphthylamine into mice produces pyrexia with signs of increased activity of the sympathetic system. If the mice are kept in a cool room they survive, but if crowded in a warm place they die of heat-stroke. The drug causes intense congestion of the thyroid, with changes in the colloid and very active secretion of adrenalin. It dilates the pupil, constricts the blood vessels, causes rapid respiration, restlessness, and spasms, changes liver glycogen into sugar, and increases the respiratory metabolism and heat production. Narcotics such as chloral counteract this experimental heat-stroke, and an animal kept narcotized long enough recovers from a fatal dose. It is obvious that, while narcotics might delay, they cannot stop heat-stroke when the air temperature is above body temperature and the patient cannot sweat.

Cramer's experiments show how infection and a hot atmosphere may have an accumulative effect in producing heat-stroke by each over-stimulating and exhausting adrenal action. Observations on lower organisms show that death from excessive heat is due neither to coagulation of proteins nor to want of oxygen, for the change produced by heat is reversible if not carried too far, and is not affected by increased oxygen tension. The ultramicroscope shows an augmentation in the number of granules in the living cell and a growth in their size as the temperature rises; the increasing aggregation, reversible up to a certain point, stops the reactions of life.

NOTE ON THE DIETETIC TREATMENT OF DIABETES MELLITUS.

BY

R. T. WILLIAMSON, M.D., F.R.C.P.,

CONSULTING PHYSICIAN TO THE ROYAL INFIRMARY, MANCHESTER.

IN an article in the BRITISH MEDICAL JOURNAL in 1915 (March 13th) I recommended a line of treatment for certain cases of diabetes mellitus which I had found of much service in checking the glycosuria, temporarily at least. In cases uncomplicated by "acidosis" and certain other secondary affections, when the ordinary restriction of carbohydrates in the diet failed promptly to check the glycosuria, I advised complete rest, and for seven days a diet composed of a mixture of casein, cream, and water, given every two hours from 8 a.m. to 10 p.m. without any solid food. In many cases this diet promptly checked the glycosuria when other treatment had failed. At the end of the seven days a change was gradually made to a suitable solid diet, the amount of carbohydrates which the patient could tolerate being carefully noted.

During the war period, in place of the casein and cream solution I often used a diet composed chiefly of eggs and milk, given every two hours for seven days,[1] or a diet chiefly of suitable vegetables and jelly.[2] Both of these are more palatable, and are often useful, but not so frequently successful as the casein and cream solution. At the end of the war period the casein obtainable was often very unsatisfactory in taste and odour, and I have recently employed, with great success in many cases, the following mixture and course of treatment, which can be easily carried out. The mixture is a useful substitute for the casein and cream solution.

If "acidosis" and other serious complications can be excluded, and if an ordinary diabetic diet, with restriction of carbohydrates, fails to check the glycosuria promptly, then the patient is advised to rest on the sofa for seven days (or for a shorter period) and to take a mixture of eggs, cream, and water, prepared as follows: Three eggs are beaten up with 3 oz. of cream and a little water. More water is then added gradually until the mixture measures four pints. Of this mixture the patient takes half a pint (a tumblerful) every two hours from 8 a.m. to 10 p.m. (that is, eight times in the day). In addition he takes coffee or tea at 8 a.m. and 4 p.m., and also beef tea (warm) half a pint at 12 noon, 6 p.m., and 10 p.m. No bread, no meat, and no other foods are taken during this period.

In many cases the glycosuria is promptly checked in from four to seven days. This diet is not continued longer than seven days, and is then slowly changed to a solid diet containing only a small amount of carbohydrate food, the amount of bread and other carbohydrates which can be tolerated being carefully noted.

It is often found that not only has the glycosuria been temporarily arrested, but the power of carbohydrate

destruction in the system has been increased, so that the patient can take for a short or a long period (without glycosuria occurring) an amount of carbohydrate in the diet which would have been attended with glycosuria before the treatment.

If the glycosuria returns only after a long period, the week's treatment with the egg and cream diet may then be repeated. If the glycosuria returns in a few days after the first week's treatment with the egg and cream diet, then a satisfactory course is to advise this diet for one or two days every week-end, and to allow an ordinary solid diabetic diet, containing only a small quantity of bread and carbohydrate, during the other five or six days of the week.

A useful practical course, in these cases, is to advise that the urine should be tested every Friday; if it is found to contain sugar, then the egg and cream diet should be taken on the Sunday or Saturday, or on both days. If the Friday's urine is free from sugar, then the egg and cream diet is unnecessary on the Sunday.

This line of treatment is of great service in many cases, but unfortunately not in all. In some cases it fails, like every other treatment. In other cases, after being successful for a long period, it finally fails. It cannot, of course, be regarded as a cure for diabetes, but it is often a very useful method of checking the glycosuria at least temporarily, and of enabling us to keep it under control for a long period.

The grounds for the satisfactory action are the same as those I have described for the casein and cream diet. The treatment is unsuitable in cases with marked "acidosis," or with certain complications, such as phthisis and marked wasting, or cardiac failure.

Most patients can take the egg and cream diet for seven days quite satisfactorily. Some state that they feel remarkably well on it; others feel rather weak; only rarely do the patients complain of slight sickness, and in such cases the diet should be changed to the egg and milk diet or the vegetable diet previously mentioned.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, February 3rd, 1917. [2] *Practitioner*, January, 1918.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NEPHRITIS: ABDOMINAL HAEMORRHAGE: DEATH.

I HAVE had lately under my care a case which, though investigated *post mortem*, remains a puzzle.

I was called to attend a spare woman who gave a history of overwork during the war in the absence of her husband on service, with the suggestion that the town in which she had been living had not agreed with her health. She had a slight rise of temperature, and complained of pain and difficulty of movement in her legs and back. There was no paralysis; the temperature was slightly raised and the pulse rather rapid. Examination disclosed no cause for the condition; there were no catarrhal conditions. Provisionally I diagnosed influenza, and for a day or two she seemed to improve. The pains in the limbs disappeared, but the pain in the lumbar region of the back persisted and seemed severe. After the menses, which were present at my first visit, had ceased, I obtained some urine, and found it to contain blood and albumin. She remained some three weeks in this condition, with small rises of temperature—sometimes better and free from backache, at other times much the same. My partner, Dr. Dick, saw her, but could find no cause for the disease. She was sent into the Cottage Hospital, where in the night she had a "collapse," from which she recovered with stimulants. The bowels had acted, but the severe pain was referred to the right hypochondriac and epigastric regions. She remained in a low state for forty-eight hours, but during the night had another attack of pain, with collapse, and died.

My colleague, Dr. Gordon Ward, made a *post-mortem* examination. The peritoneal cavity was filled with blood and blood clots, for which no source could be discovered after careful examination. The heart was hypertrophied, and the walls of the left ventricle much thickened. At the right edge of the liver was a much tumefied area, rather smaller than the palm of the hand—red, soft and friable, like a blood clot. There was blood behind the peritoneum near the right kidney, and petechial spots on the mesentery. There was also blood tracking up behind the peritoneum and into the thorax. A portion of the affected liver and a portion of kidney were sent to the Clinical Research Association, who reported:

> There is a good deal of leucocyte infiltration beneath the peritoneal surface of the liver extending some distance along the fibrous septa. There is also considerable fatty degeneration. There is no pyogenic membrane adjacent to the clot, but there are a good many polynuclear leucocytes and a little pus at one or two points in it. We think there must have been an abscess. The kidney shows some thickening of the capsule, and a slight increase of fibrous tissue in places. There is much swelling and disintegration of the renal epithelium, however, so that in addition to a slight chronic nephritis there are acute degenerative changes.

Granting that this was a case of acute nephritis grafted on a chronic condition, and that such condition may cause a haemorrhagic diathesis by causing or failing to excrete a toxin, it must, I feel sure, be rare to find death due to such extensive haemorrhage with so few symptoms of kidney insufficiency.

Sevenoaks. JAMES E. BLOMFIELD, M.D.

A CASE OF ACUTE YELLOW ATROPHY OF LIVER.

PRIVATE J. R. was admitted to the Military Hospital, Devonport, on December 26th, 1919. Four days before, without previous symptoms or any acute beginning, he noticed that his skin was becoming yellow, and that his urine was dark. He had had no previous serious illness. He served in France in 1918, but had not been anywhere else abroad.

On admission to hospital he was jaundiced, and had slight nausea, but no vomiting; the tongue was coated with white fur; the bowels were regular, the stools were solid and of a light slate colour. The temperature was normal; the pulse 64, regular, and of good volume. Nothing abnormal was found by palpation, percussion, or auscultation.

On December 30th the jaundice was intense, and he was very drowsy in the afternoon. The pupils were dilated. On the night of the same day he became very excited and violent, shouting, singing, and swearing. The pulse remained slow and of good volume, and the temperature normal. On the morning of December 31st he was semi-comatose; the pulse was rapid and feeble, and the pupils widely dilated; the temperature remained normal. A catheter specimen of urine was examined for leucin and tyrosin, which were not found. In the afternoon the coma increased, the temperature rose rapidly to 105° F., and the pulse was hardly perceptible. Cheyne-Stokes breathing supervened, and death occurred at 2.30 p.m.

Post-mortem Examination.—The liver weighed only 29 oz.; the capsule was wrinkled and loose, the substance of liver was limp and flabby, and bright yellow, with a few red patches. The heart showed numerous haemorrhages beneath the visceral pericardium. There were numerous haemorrhages also in the substance of both lungs. The aorta was bile-stained. The kidneys were soft and swollen, bile-stained, and showed many small haemorrhages. The spleen was apparently normal. The brain was not examined owing to objection of relatives.

E. C. WHITEHEAD, M.B., Major R.A.M.C.,
Officer in Charge, Medical Division, Military Hospital, Devonport.

Plymouth.

NOTE ON A TUBERCULOUS COW.

RECENTLY the inspector called my attention to a cow which had been slaughtered in my district. The animal was a cross-bred one, apparently about 10 years of age, and had reached this particular slaughterhouse, by the present exceptional conditions of grading and sale, whereby the butcher is the only man connected with the transaction who has no "say" in the choice of the animals he has to pay for.

The carcass was that of a third grade animal weighing alive about 10 cwt., and could not be said to be emaciated, and even could be described as decent beef in these times, when all animals are sent to the market in an underfed

condition. The heart, the kidneys, the neck, the throat, the head and brain showed no signs of disease whatever. With these exceptions, however, the whole of the internal part of the carcass was affected throughout. In both lungs were nodules of the size of wren's eggs, the stomach was affected externally, and the pleura, diaphragm and spleen were in a bad condition. As a matter of course I had to condemn the whole carcass, and it was sent to the knackers, who gave a written undertaking to have it treated in such a way as to prevent its being used for human food.

The cow had evidently been milked up to within about a couple of months before being slaughtered; for some considerable time, therefore, there must have been a considerable quantity of highly infected tuberculous milk sold from it, and the question of better veterinary inspection of herds is once again brought to mind, for this cow could not have failed to be susceptible to the tuberculin test.

[Dr. Scales's description of the condition of the viscera is confirmed by two photographs he enclosed for inspection.]

J. E. SCALES,
M.O.H. Radstock U.D.C.

Reports of Societies.

HEAT HYPERPYREXIA.

AT the meeting of the Medical Society of London on March 8th, Mr. WARREN LOW, C.B., in the chair, a discussion on heat hyperpyrexia was opened by Dr. W. H. WILLCOX and Dr. LEONARD HILL, with the two papers printed elsewhere in this issue.

Dr. A. FEILING said that in his own experience in Mesopotamia, which almost synchronized with that of Dr. Willcox, he had found it comparatively rare for previously healthy men to be affected with heat hyperpyrexia. It was generally found that immediately before the onset the patient had had malaria or had been out of sorts as a result of constipation or some minor disorder. It was necessary for the medical officer to be on his guard, for some of these cases were very apt to mislead him. One morning in July, 1917, an officer in his own mess had a temperature of 100° F. He was advised to go into hospital straight away, but said he would keep his room for that day. Seen again at lunch, he appeared quite well, though he said that he would perhaps go into hospital in the cool of the evening, but at 4 p.m. he was found unconscious with a temperature of 110°, and died four hours later. This officer had been billeted under conditions as good as it was possible to get there at that time. Convalescence was extremely protracted in these cases. Many of the patients he had under treatment were not fit to travel at all for fully a month afterwards, as irregular pyrexia continued for a week or ten days or more, and required most careful watching. Such patients hardly ever sweated. The suppression of the sweat lasted for a week or longer, and the temperature went up to 104° to 106° on the least provocation. Since coming home, several patients had consulted him for what they described as the results of heat-stroke contracted in Mesopotamia. The principal symptom was intractable headache. As a prophylactic measure against heat-stroke, free currents of air were the one factor most essential. He had not had much success with venesection as a means of controlling convulsions. The spraying of the body with cold water and the use of electric fans was undoubtedly a desirable method of treatment, but in his experience it did not produce sweating at all. He did not regard the suppression of sweating as the cause of hyperpyrexia, but as the result.

Dr. E. KINGSCOTE said that in the Turkish bath the temperature might be up to 140° or more, and though the means of cooling down were close at hand, it was quite common for persistent headache to follow a Turkish bath and to continue for twenty-four hours. Any discomfort was more often relieved by a hot shower than by a cold douche.

Dr. CAMPBELL WILLIAMS said that the after-history of heat-stroke patients was important. He had had experience of two patients who had suffered heat-stroke in India and had both subsequently become inmates of asylums.

Mr. V. Z. COPE suggested that possibly the fact that the British ate more meat than the Arabs and Indians might account for the higher incidence of heat-stroke among them. He thought the absence of sweating one of the chief symptoms rather than one of the causes. Once while operating he found that the patient went off into a violent form of heat-stroke directly after the administration of the anaesthetic was begun; the anaesthetic was stopped at once, but the heat-stroke appeared to exaggerate and prolong the effect of what had already been given.

Sir W. HALE-WHITE described a sweat measurement test made upon himself. He took a hot bath at 108° F., remaining in it for fourteen minutes, which was as long as he could endure, then dried himself and lay down, and in fifteen minutes his temperature was 99° (it had risen in the bath to over 103°), and the sweat excreted was exactly eighty times what it was before he got into the bath. The cause of the pyrexia in these cases was undoubtedly a breakdown of the heat-regulating mechanism.

Dr. MANSON BAHR referred to the difficulty of making a diagnosis between heat-stroke and pernicious malaria, the cause of confusion being the paucity or even the absence of parasites in the peripheral blood during the first thirty-six hours after the onset of malaria. In the Jordan valley, where the conditions were somewhat similar to Mesopotamia, it seemed that persons were able to harbour the malarial parasite for some days or weeks without any symptoms whatever; then in a spell of heat there was a crop of cases which simulated heat-stroke in their clinical aspect.

Dr. WILLCOX, in replying to the discussion, agreed as to the predisposing factor of previous disease, the effect of heat in actual damage to nerve cells and brain, and the difficulty of differentiation from malaria. In his own cases, if the temperature did not go down quickly, the patient was at once given quinine by intramuscular injection.

Dr. LEONARD HILL said that the interesting point in the discussion was whether the absence of sweating was a symptom or a precursor. The fact seemed to be that the sweating mechanism was not built to stand the extraordinary strain put upon it.

SURGERY OF THE CHEST.

AT a meeting of the Medical Society of London held on February 23rd, the President, Mr. V. WARREN LOW, being in the chair, Sir CHARTERS SYMONDS read a paper on the surgical treatment of the later stages of gunshot injuries of the chest and of empyema. He said that as the result of war injuries there remained a considerable number of open pleural cavities requiring surgical treatment; these had followed either the drainage of a septic haemothorax or an open wound. The same was true of some of the empyemata which had not infrequently occurred after the pneumonia complicating influenza. He gave an account of the results of some recent attempts to close these old suppurating pleural cavities.

The main object of the investigation was to inquire how far the lung could be released by removal of the adventitious layer covering it—that is, by decortication. The number of patients submitted to operation was 19, and 24 operations had been performed, counting only those made after the primary drainage. In 14 one operation was sufficient to secure practical recovery; two required a further operation for removal of the second rib; one had three operations, all comparatively small; the remaining two were still under treatment, one had had two operations, and the other a single one; both promised recovery. Of the 19, one had had four operations and another six before coming under treatment. Of the cases dealt with, seven had been the result of ordinary empyema, one was a sterile haemothorax, six were examples of septic haemothorax operated upon soon after the wound, and the remaining five had open wounds of the chest.

Operations on Old Suppurating Pleural Cavities.

The operations consisted of resection of the ribs—in some to obtain access only, in others to bring about collapse of the chest wall as well; of decortication of the lung and removal of the thickened pleura from the thoracic wall; lastly, of the transplantation of flaps of muscle into the cavity. In most of the operations an attempt was made to detach the adventitious layer covering in and binding down the lung; in others the pleura was simply scored. Access was obtained by removal of the

fourth and fifth ribs from the front. The thickened pleura was removed from the thoracic wall in those cases where muscle flaps were used. In most of the cases, while the thoracotomy served to bring about closure by the falling in of the thoracic wall, he considered that some expansion did take place when the lung was found to be airless, and that when it had receded, as measured by the probe, some expansion took place later on.

At the operation four conditions were met with:

(1) The adventitious layer stripped off easily, exposing an unbroken and glistening pleura. The lung filled the cavity and recovery was rapid. (2) The adventitious layer could be removed and the lung freed, but expansion was not immediately permanent. In this form the air vesicles were torn and air escaped in many places. Expansion varied in extent and did not reach his expectations, though, on the whole, the procedure was full of promise. (3) Detachment of the layer was possible, but not without including some of the pleura. There resulted a dark red spongy, airless lung tissue, which rose, spongelike, into the cavity and gave promise of some permanence, but so far as could be judged no part became aërated and useful. (4) This type was found in most of the cases of old gunshot wounds, and in the empyemata long under drainage. The adventitious layer was part and parcel of the visceral pleura, and the two could not be separated. The lung was dark, firm, airless and smooth on section. When torn no air escaped, and there was little bleeding. The adventitious layer was thinned as though it had undergone organization.

In estimating the size of the cavity the best information was gained by a long curved probe or metal sound. With this the most complete exploration could be made, the swing of the antero-posterior curve giving the lateral dimensions. The end thrust against the chest wall could be appreciated by the hand outside. The *x*-ray screen came next in value, both with and without bismuth. In addition to exhibiting the cavity, evidence could be obtained as to the condition of the lung and the movements of the diaphragm, the latter a most important point in prognosis. Auscultation and percussion completely failed to demonstrate the dimensions of the pleural space.

Two methods of using bismuth were employed, first by filling the cavity and, secondly, by introducing a rubber tube containing bismuth. In the first Dr. R. Heath of Weymouth directs that the patient should be placed so that the orifice is uppermost and the bismuth (30 per cent. in paroleine) injected through a rubber tube which reaches the deepest part of the cavity. The tube should be small so that the air can escape. The second, a convenient method, was to fill a thin-walled rubber tube two to three feet long with bismuth or barium, tie both ends and introduce it into the cavity; in this way a fairly accurate outline of the cavity could be demonstrated. Neither method, however, gave the lateral extent of the cavity unless a stereoscopic picture were made.

Having ascertained the position and dimensions of the cavity, the fourth and fifth ribs were removed from the front. In recent cases the ribs above and below were retracted, which gave sufficient room to decorticate the whole lung. It was necessary to remove the thickened pleura at the same time. If a little more room was required, division of the rib above added materially to the space. When the ribs were approximated, as was found in most of the cases, two ribs would require removal. The adventitious layer could, in a recent case, be broken through with the fingers in front and behind, and the lung set free. Then the lung itself was exposed, the adventitious layer coming away and leaving a normal pleura. In older cases the facility with which the adventitious layer could be removed varied greatly. In the fourth variety it could not be detached, and then the pulmonary pleura could be curetted or divided into squares or cut in vertical lines. In addition to removal of ribs to permit collapse of the chest wall, flaps of muscle had been introduced, a procedure especially advisable when the apex was affected, for it was important to leave the first rib and dangerous to remove it. The cases related showed that by muscle transplantation the apex had been closed. When muscle transplantation was done the thick parietal pleura had been removed, except at the apex. In completing the operation the anterior wound had been closed and a drain left in the old sinus in all cases with extensive cavity. In some, when the cavity had existed chiefly in the upper part with a small track leading to the opening, the drain had been introduced where the cavity was largest. An important question arose as to whether, after the lung had been freed and filled the pleural cavity, it would have been wiser to excise the old drainage opening and close the cavity. In small cavities resulting from open wounds the thick, hard pulmonary boundary was scar tissue and not a layer of adventitious material, and should not be disturbed.

The two risks in these operations were shock and septic infection of the recently divided structures. Since the use of bismuth injections had been resorted to before the operation, the danger of infection had practically disappeared. In only one of the twenty-four operations was there any anxiety. The temperature seldom reached 101° F. The men arrived, as a rule, with septic pus and small openings. When necessary the opening was enlarged without removal of bone and the cavity irrigated with saline and peroxide, and then filled with 30 per cent. bismuth in paroleine daily for three to seven days. At the operation all exposed surfaces were rubbed over with this preparation. Shock had never been of sufficient importance to demand treatment, nor had haemorrhage given cause for anxiety. The anaesthetic employed had been warm ether. After-treatment was a matter of prime importance. Colonel Soltau, who carried this out, had varied the reagents. He used the Carrel-Dakin method when the cavity became septic or the discharge abundant, after a time substituting permanganate in some cases. Chloramine-T paste was also used, but on the whole proved troublesome and was difficult to remove when suppuration continued. Peroxide was the customary reagent for irrigation; when a bronchial fistula existed oxygen was employed. Another feature of his practice was early exercise, the patient being allowed up as soon as possible, sent out when the weather was suitable, and encouraged to walk about and do work in the wards. Finally, several wounds were closed by excising the sinus and suturing the muscle and skin. An important feature in the after-treatment was the use of elastic in the bandage in the form of an elastic lace, which obviated restriction of chest expansion and limitation of breathing.

Empyema.

Speaking of empyemata, Sir Charters Symonds said it would be agreed that the chief cause of delay and failure to recover after empyema operations was faulty drainage. There seemed to be an impression in a good many minds that a large tube kept up discharge and prevented closure. He narrated instances where recovery had been delayed by too early removal of the tube or employment of one too small. Prolongation of septic infection, as shown by continued pyrexia or the abundance of pus and recurrent pyrexia associated with increase of suppuration, were very important causes of delay. He was convinced that these drawbacks could be prevented and removed by irrigation of the pleura at the operation and removal of the fibrinous material. He did not think that there was any danger in irrigation when carried out in the recumbent position. He advocated early operation when an empyema failed to heal. The time had come to interfere and release the lung when a large cavity was demonstrable by a sound or by bismuth at the end of about four weeks. If periods of pyrexia had occurred the operation was then all the more necessary.

Mr. H. RAWLENCE, who had collaborated with Sir Charters Symonds in the treatment of these cases, said that the method contrasted very favourably with the older type of operation. When using bismuth the carbonate or the salicylate were easier to introduce than the subnitrate. Anaesthesia had been by oxygen bubbled through warm ether, employing one of the special forms of apparatus used, and preceded by morphine and atropine. Patients seriously ill had expressed themselves as relieved directly after the operation. There had been a remarkable freedom from secondary haemorrhage.

Sir CHARLES BALLANCE advocated the removal of the haemothorax early in cases in which this occurred in connexion with gunshot wounds, for if left a foul empyema resulted. Before the war he had been disappointed in the treatment of chronic empyema by the operations of Estlander and Schede. From the point of view of obtaining expansion of the lung and recovery of the patient, he favoured the principle of no drainage and reliance on aspiration.

Sir GORDON WATSON said that he had found that in recently wounded men, if a hole were left in the chest the mortality was high, and he had endeavoured to get such a hole sewn up even at the advanced dressing

station. Of 3,000 cases of gunshot wounds of the chest met with during the Passchendaele fighting the mortality was 40 per cent. with an open "sucking" pneumothorax; 40 per cent. from septic pneumothorax which had been drained; and under 30 per cent. when the pneumothorax had been washed out and sewn up. On the Italian front the mortality was much better. Four or five cases of empyema in which he had sponged out the pleura with 1 in 1,000 flavine and sewn up the wound completely and thereafter aspirated daily did extremely well.

Mr. J. E. H. ROBERTS said that, provided all the solid adventitious material were removed from the chest, cases did best if the chest were closed and aspirated. It was a very ordinary occurrence for bacterial infection to disappear when this was done. Possibly the bismuth preparation would save time and be better than the Carrel-Dakin solution which he had used, but he thought that the solution had a softening action on fibrous tissue. It was advisable in empyema, when the patient's condition permitted, to clear out the fibrinous deposit both on the visceral and parietal pleura. With regard to the anaesthetic, the best results were obtained with gas and oxygen, which he combined with a local anaesthetic, believing that it increased the patient's comfort after the recovery of consciousness.

RENAL FUNCTION IN NEPHRITIS.

AT a meeting of the Sheffield Medico-Chirurgical Society, held on March 4th, Professor J. B. LEATHES, F.R.S., gave an address on the function of the kidney in nephritis. He began by referring to results described to the Association of Physicians in July last (BRITISH MEDICAL JOURNAL, August 9th, 1919, p. 165) showing that two common failures in the cases of war nephritis examined were loss of diuretic response to the intake of water and absence of the matutinal alkaline tide, two independent phenomena either of which occurred without the other. The persistence of the nocturnal urinary acidity throughout the first hours after waking showed that it was not to inability of the kidney to remove acid that a tendency to dyspnoea in such cases should be traced. The normal acidity of the urine in the evening and at night was normally accompanied by a considerable increase in the output of phosphate, and the fact that a diuresis induced by phosphate, unlike that produced by other agents, was an acid diuresis suggested that the amount of phosphate excreted by subjects who exhibited no alkaline tide might be found to be high. But this was not the case; nor was the phosphate increased, as chloride and nitrogen output are, by the diuretic flood. Taking average figures from more than a hundred tests with the hourly output of water increased to four times as much as it was during the night, the hourly output of phosphate fell at the same time to two-thirds of what it had been before the diuresis, a proportion observed equally when there was and when there was no alkaline tide. Cushny had shown that a partial obstruction to one ureter, hindering the escape of urine, tended to diminish the volume and increase the acidity of the urine from that kidney as compared with the other. Obstruction in the tubules due to the presence of red blood corpuscles or blood clots conceivably might account for diminished volume with increased acidity in some of these cases; and it was observed that it was particularly in cases that persistently passed granular casts (which could be shown to contain altered blood pigment and from which haematin could be prepared) that this combination of small volume and high acidity was common. Another peculiarity common in cases of nephritis, the tendency for the retention of chlorides rather than of urea, might also be accounted for by films of blood clot on filtering surfaces if it were shown that clotted blood exhibited the properties in regard to permeability which characterized red blood corpuscles—namely, permeability to urea, but not to sodium chloride. Experiments with blood clotted in thin layers on dialyser membranes had been begun, and so far showed a remarkable impermeability of the clot to sodium chloride. How far this might account for the phenomenon common in these cases of nephritis the experiments were not yet sufficient to decide. The very great majority were clearly cases of acute glomerulitis in which haemorrhage from glomerular tufts was probably one of the very earliest disturbances, and in some degree was probably constant.

Professor HALL, Dr. BARNES, Dr. NAISH, Dr. ABERCROMBIE, and others took part in the discussion.

TOXIC IDIOPATHIES.

AN "occasional lecture" was delivered before the Royal Society of Medicine on March 15th by Dr. JOHN FREEMAN on the subject of the relationship between hay and other pollen fevers, animal asthmas, food idiosyncrasies, and bronchial and spasmodic asthmas. Dr. Freeman had grouped these apparently dissimilar affections under the name of "toxic idiopathies," and the purpose of his lecture was to justify the grouping and the name. He began with hay fever, which he had studied longest and most thoroughly.

Hay Fever.

The great majority of hay fever cases occurred between the last week in May and the first week in July, a period which corresponded with the presence of grass pollen in the atmosphere. In these abnormally sensitive persons trouble might arise whenever the pollen came in contact with their tissues. Generally hay fever affected the eyes and the mucous membrane of the throat, but subjects who had thin skins suffered also from an intolerable feeling of itchiness, and often a rash or urticarial wheals developed on the exposed portion. Hay fever, therefore, was not a local but a generalized affection. He had also found that people sensitive to the pollen were sensitive all the year round, not simply during the pollen season. Grass pollen did not stand alone among irritants of this order. Most people who reacted to grass pollen reacted also to sedge, and many of them would react to other pollens also, such as those of the daisy tribe. The pollen of the peony seemed to be a particularly powerful irritant. The reaction of hay fever patients to these other pollens, however, was by no means uniform; some would react to particular pollens, which produced no effect on others. Three factors were needed for a pollen to produce a definite disease: it must be toxic, producing sufficient irritation in the people who happened to be sensitive to it; it must be in sufficient quantities all over the country; and it must be wind-borne. In England only timothy grass pollen fulfilled all these three conditions quite well. In America, however, there was a daisy which was peculiarly toxic, very common, and also wind-borne, and as this flower pollenated in the autumn the Americans had an autumn fever which was rather worse than the American June fever corresponding to our hay fever.

Animal Asthmas.

Dr. Freeman said that about 60 per cent. of his horse asthma patients were also subject to hay fever, though others were quite insensitive to pollen. The parallel between the two conditions was noteworthy. Horse dandruff, when applied to the skin or, in weak solution, to the eye, produced reactions exactly like those obtained with pollen. The serum, flesh, urine, and dung of the horse alike seemed capable of producing the reaction. Other members of the equine family were responsible for similar effects. He had succeeded in producing on the skin of one subject reactions not only to the curry-combings of the horse, but also to those of the zebra, the onega, and the kiang; in the case of the donkey the reaction was much smaller, possibly because this animal was further removed than the others, zoologically, from the horse. In animal asthmas, therefore, it was not only asthma which resulted from contact with the emanations of the animal, but every part of the body was sensitive. Other animals, not of the horse family, were also responsible for asthmas. A well known court official told him that he was subject to cat asthma, and on one occasion, in the royal presence, on a cat entering the room, he was seized with such an uncontrollable asthma that he had to bolt from the apartment without any opportunity of explanation or apology. Certain people were susceptible to goats, sheep, dogs, cattle, rabbits, guinea-pigs, and mice. He linked up these animal asthmas with the pollen cases, first on the ground that they were both selective, also that they both had much the same symptom-complex, and yet again, that they were both hereditary. Hay fever ran in families to an extraordinary degree, and this led him on to discover that the asthmas did also. On coming across cases of bronchial or spasmodic asthma he found that very frequently in the same family there were hay fever or animal asthma subjects, so that these conditions also were connected up, by the family link at any rate. He

also found, on getting the causal organism of the bronchitis which accompanied a case of bronchial asthma, making a solution, and getting out the endo-toxins, that it was possible to produce on the eye or the skin a reaction entirely comparable to the reaction in the pollen fevers or horse asthmas. The only difference was that in the case of bronchial asthma there was a longish period of delay before the reaction appeared. The reaction after the pollen appeared perhaps in a few minutes; that of the endo-toxins took some hours to develop.

Food Idiosyncrasies.

The Americans had lately done some work on food idiosyncrasies, and since the war he himself had turned his attention to this subject. He discovered that his hay fever patients had most startling stories to tell of aversion from particular kinds of food. One of them, for instance, could not eat apples. On one occasion, after eating an apple, he was seized with severe vomiting and diarrhoea, which lasted for a day. In another case serious effects followed the taking of a spoonful of honey; it immediately brought on a nausea so severe as to cause collapse. Apart from these well marked cases there was every degree of idiosyncrasy, down to quite minor discomfort, hardly referable to a particular article of diet. He thought it wise, when people came with dietetic troubles for which there was no obvious cause, to inquire whether there was hay fever or horse asthma in the family. Dr. Freeman believed that many other things came into this group of toxic idiopathies. He instanced a case of special sensitivity to gnat bites in a hay fever patient. As for spasmodic asthma, he thought that this ought to be called asthma of unknown origin. He believed that in this condition a similar irritant was at work to that of the pollen, and he was inclined to think that the emanations from moulds might very possibly be the cause. He discovered one man with spasmodic asthma who was specially susceptible to mushrooms. While it was too much to say that these ideas opened up a big new field in medicine, they yet threw light from an unexpected angle across an old field.

Sir ALMROTH WRIGHT said that they had heard some useful generalizations, and although he was of opinion that most generalizations were wrong, they served a temporary purpose as a basis of testing. Most of Dr. Freeman's audience would go away with a fresh set of questions to put to themselves and their patients when confronted with these anomalous cases. He thought it an admirable thing to have a lecture on generalizations rather than on those isolated facts of medicine which generally formed the substance of discussions in medical societies.

Dr. ARTHUR LATHAM said that in children under 10 asthma was not infrequently caused by white of egg and nothing else. He had often found asthma alternating with eczema; it was rather interesting if it was some foreign protein which was producing these conditions in the same individual. Sir JOHN BROADBENT said that the difficulty of supposing that all attacks of asthma were due to some special idiosyncrasy was that in quite a large number of cases there seemed to be no possible cause for the condition. He thought it likely that in purpura and haemophilia, research on the lines of endo-toxins might elicit further information.

Dr. PARKES WEBER was of opinion that some of the mysterious stories about attempts at poisoning during meals could be explained by food idiosyncrasies; and Dr. W. H. WILLCOX also thought that food idiosyncrasy would explain many of the unusual types of food poisoning which were met with. Sir W. ARBUTHNOT LANE said that every family had got certain tissue disabilities, and the particular families with whom Dr. Freeman had been dealing had their disabilities in their bronchial tubes. They all, in answer to the same stimulus, reacted in the same way, to the disadvantage of the individual.

Dr. FREEMAN, in reply to Sir HUMPHRY ROLLESTON, who presided, said that these conditions most certainly were acquired as well as hereditary. He instanced among his patients an old man of 74 who had just developed hay fever for the first time.

THE IRRITABLE HEART.

AT a meeting of the Bristol Medico-Chirurgical Society, held on March 15th, papers on the irritable heart syndrome were read and discussed. Dr. CAREY COOMBS, who dealt with the syndrome as seen in civil practice, gave an analysis of 50 cases. He said that in 90 per cent. there was no evidence of organic heart disease, and gave other reasons for regarding it as a nervous disturbance. About half the patients showed evidences of temperamental predisposition; physical effort was not a cause. Infections of various kinds, especially influenza, might be regarded as causal in 44 per cent. Distressing emotion of a protracted kind was apparently responsible for the onset of the symptoms in at least 36 cases.

Dr. C. E. K. HERAPATH outlined his experiences in a cardiac clinic of the Ministry of Pensions. Of his first 57 cases 9 were examples of various organic lesions; the rest were irritable heart cases. Among these 48 men there were 28 who dated their symptoms back to convalescence from some acute illness—influenza, trench fever, malaria, etc. Of the remaining 20 there were 11 who ascribed the onset to some form of nervous disturbance. Dr. Herapath gave an account of his methods of investigation and treatment, laying particular stress on the value of optimistic "suggestion." He had, he said, already seen enough improvement take place to justify a further application of these principles. Dr. A. G. MORRIS detailed notes of cases of irritable heart in soldiers serving in this country and developing without any infective or other obvious cause, except anxiety as to their immediate future, which there was strong reason to regard as causal. He also described his experience on boards at an overseas base, which was to the same effect, that the "D.A.H." syndrome often sprang from pure "anxiety." Dr. J. A. BIRRELL read notes of four cases of severe tachycardia following influenza, in all of which the patients were under the influence of protracted anxieties at the time when the influenza attacked them. Analysis of this tachycardia had proved it to be of the supracardiac "nervous" type.

In the discussion which followed, Dr. J. A. NIXON described experiences in France which led him to suspect infection of the heart itself as a cause of some of the tachycardias. He had seen *post-mortem* signs of early aortic syphilis and also of an acute endocarditis of unknown origin in many men killed by wounding. Dr. R. G. GORDON, on the other hand, supported the nervous theory. The kind of emotion that was most productive of this syndrome, he thought, was that expressed by the French "angoisse." Influenza allowed of the development of the syndrome with undue ease because of its action in diminishing higher centre control of emotional expression. Dr. D. A. ALEXANDER suggested that functional disturbances might set up organic disease.

NERVE SYMPTOMS IN ACUTE INFECTIONS.

ON March 12th, before the Harveian Society, Sir THOMAS HORDER delivered the Harveian lecture on the diagnostic significance of nerve symptoms in acute infections. The subject was dealt with from two aspects—the general or synthetic point of view, and the particular or analytical. The lecturer considered the different mechanisms by which nerve symptoms were produced as the result of infection of the body by micro-organisms. These mechanisms included (1) the interaction between the nerve tissues and toxins circulating in the blood (*a*) when absorbed from a focus, or (*b*) when resulting from a general infection; (2) the direct effect of infection of the pia arachnoid membrane, leading to meningitis, in which case there were subsidiary mechanisms concerned; (3) the direct effect of infection of the central nerve tissues themselves, again leading to secondary mechanisms. This last named mechanism came into play in cases of poliomyelitis in its different forms. The lecturer proceeded to refer each of the various acute infections leading conspicuously to nerve symptoms to one or more of these mechanisms. He pointed out that every virus tended to set going each one of these mechanisms, and that this tendency must be kept in mind, otherwise the occurrence of such a condition as "meningism" would not be understood. Passing to the analytical side of the subject, the main nerve symptoms and signs were discussed in turn, and comments were made concerning the particular significance of each in regard to the mechanisms already dealt with. Headache, delirium, coma, changes in the reflexes, the facies, pareses and paralysis, and other nerve manifestations received detailed consideration.

DRUG IDIOSYNCRASY.

A DISCUSSION on idiosyncrasy to drugs took place at a meeting of the West London Medico-Chirurgical Society, in the society's rooms at the West London Hospital on March 5th, with the President, Mr. HERBERT CHAMBERS, in the chair.

Sir WILLIAM HALE-WHITE, who opened the discussion, said that many idiosyncrasies were apparent, not real. Apparent idiosyncrasies were sometimes to be explained by impurities in the drugs; at other times they depended upon varying composition of the drug—the best instance of inconstant composition was ergot, which contained varying proportions of at least three powerfully active bodies—ergotoxin, tyramine, and histamine. The solanaceous plants were another instance, containing as they did varying proportions of alkaloids. Delayed excretion of a drug, causing its action to be cumulative, might cause a person to appear peculiarly susceptible to the drug, whereas in truth he was not. Examples were digitalis, lead, and opium. Again, the rate of absorption of a drug might explain some instances of idiosyncrasy. All were familiar with the profuse erythema which occasionally followed the administration of a soap enema; this was believed to be due to the soap leading to the solution of a faecal toxin. It was highly likely that variation in the intestinal contents might be the explanation of some cases of idiosyncrasy, for a drug, if it was usually slowly absorbed and soluble in the intestinal contents only with difficulty, might from abnormal alterations of the fluids of the intestine become readily soluble, and therefore quickly absorbed. Or, again, the drug might, in the intestine, become chemically changed, and the changed drug be more soluble and easily absorbed or have a different action and be readily poisonous. Apparent idiosyncrasies might again be caused by disease—for example, many cases of uraemia were benefited by morphine, yet, very rarely, the drug appeared to be a fatal poison. We were often disappointed in the relief of cardiac pain by nitrites; this might be because cardiac pain had a varying pathological origin. Passing on to the genuine idiosyncrasies, Sir William Hale-White said that no attempt could be made, in the present state of our knowledge, to state the cause in the majority of the more important examples. The most remarkable were the iodides—half a grain daily for two days had caused iodism; on the other hand, he had given 300 grains a day without any symptoms of it. Sometimes when the dose was diminished they would pass away; again, doubling the dose might lead to their disappearance. Drug rashes, sufficiently infrequent to cause idiosyncrasy, were caused by a large number of drugs. Cutaneous idiosyncrasies were seen also when drugs were applied externally; he knew personally a nursing sister who was unable to put her hands into mercury perchloride or handle mercurial gauze without getting general signs of mercurial poisoning. The selective action of lead, arsenic, and alcohol on nerves was most remarkable, and the explanation would be found, he thought, by the bio-chemist.

Sir ROBERT ARMSTRONG-JONES referred to the idiosyncrasy of some persons to aspirin, when the eyelids and face became alarmingly swollen, this lasting as a modified erythema or urticaria for nearly twenty-four hours. He spoke also of the cumulative effects of sulphonal and the appearance of haematoporphyrinuria after repeated administration of physiological doses, and mentioned the susceptibility of some persons to the pollen of the Cupressi and the Thujas. The explanation of idiosyncrasy was not, he said, completed by calling it a matter of temperament, and biochemistry could not explain the phenomenon. The familial record of dipsomania would indicate some inherited frailty, and it was interesting that the selective affinity of alcohol in mental cases was not associated with hepatic cirrhosis.

Dr. P. A. HENDLEY put forward the theory that idiosyncrasy was, in a greater or less degree, nothing more than shock produced by an increased or decreased hydrogen ion concentration in the serum. Dr. SEYMOUR TAYLOR and Dr. HALLS DALLY emphasized the excellent results often obtained by increasing the dose of potassium iodide when the patient could not tolerate small doses.

Dr. RICKARD LLOYD said that no doubt varying states of health, strength, psychical condition, and the circumstances in which the vital functions were being performed influenced the toleration of individuals to the amount and rate of dosage of chloroform and other idiosyncratic drugs.

Mr. BISHOP HARMAN had experience of a case in which a few drops of zinc sulphate solution, a grain to the ounce, put into the eye caused acute symptoms. The solution used had been subsequently found to be innocuous on six other persons.

Reviews.

SURGERY IN EGYPT.

THE book entitled *The Surgery of Egypt*,[1] which Mr. FRANK COLE MADDEN, professor of surgery in the Egyptian Government School of Medicine, has written, possesses a special character. The stay-at-home has only to turn the pages and glance at the many curious and interesting photographs in which the work abounds to realize the fascination which foreign practice has—the wealth of what are here rare diseases and the opportunities for research and alleviation of suffering. Professor Madden has written primarily for the Egyptian student, and particularly the student of the Kasr-el-Ainy Hospital. The work is planned as an adjuvant to a general textbook of surgery (Rose and Carless has been his model), the idea being to supplement such a European book in the places where it is deficient in its account of tropical diseases. The author has at times been unable to keep himself strictly to the letter of his intention, with the result that there is often a considerable overlap. He has, moreover, hardly used sufficient discrimination in his often tiresome quotation of other people's opinions word for word. Up to a point such acknowledgements are good and magnanimous, but his readers may object to Professor Madden allowing people to say things for him which, with a little more trouble, he could very well have said for himself. The book is for this reason somewhat ragged, and in its next edition will gain greatly by compression. With these reservations we have nothing but good to say. Professor Madden's surgical principles are absolutely sound, and the Egyptian student is fortunate in having so wise and able a mentor. The critic who wishes to quarrel with him over points in treatment will be disappointed, although he might well join issue on the use of cocaine, which he seems to prefer to novocain.

As might have been expected, the most valuable sections of the book deal with bilharziasis in its protean forms. The study of this disease is no insignificant memorial to the value of the European invasion of Egypt. The fatalism and indifference of the fellah, "around whom," says Madden, "much unmerited romance has been woven," are all against discoveries of the early stages of disease being made. Observations on these phases have recently been rendered possible by the disease appearing in our soldiers in Egypt. A summary is given of Leiper's interesting experiments on the mode of ingress of the parasite. Mycetoma and madura foot are ably dealt with, as are filariasis, hepatic abscess, and the Egyptian enlargement of the spleen, with which Richards has familiarized us, so closely resembling Banti's disease. It is interesting to note that hydatid cysts are rare. Another interesting point is the rarity of gastric carcinoma, 4 cases in 2,906 admissions. It is noteworthy in this connexion that gastric and duodenal ulcer are equally rare, and the author says that the day of any operation on the stomach is marked with red in the student's calendar. Epithelioma of the tongue is common, syphilis being rife.

The book has been printed by the Nile Mission Press, Cairo. The Egyptian compositors have done their work well, though the method of breaking up the page into a number of spaced paragraphs has nothing to recommend it. The photographs, which are an admirable feature of the work, have been made by the photographic section of the Egyptian Survey. If more are being taken we might suggest that we could often spare full length pictures of fellaheen if by that means the area actually diseased appeared larger.

We have no doubt that this book will achieve the popularity it so well deserves, and that it will find an honoured place on the shelves of most medical officers in our far-flung Eastern colonies and protectorates.

RADIOGRAPHY OF THE LIVER AND DUCTS.

Radiography in the Examination of the Liver, Gall Bladder, and Bile Ducts[2] is the title of a monograph by

[1] *The Surgery of Egypt.* By Frank Cole Madden, Professor of Surgery, Egyptian Government School of Medicine, Cairo. The Nile Mission Press. 1919. (Roy. 8vo, pp. xxxviii + 394; 65 plates, comprising 233 photos, 5 line drawings in text.)

[2] *Radiography in the Examination of the Liver, Gall Bladder, and Bile Ducts.* By Robert Knox, M.D. London: William Heinemann (Medical Books), Limited. 1920. (Sup. roy. 8vo, pp. 64; 64 figures. 7s. 6d. net.)

DR. ROBERT KNOX. Hitherto little reliance has been placed on the *x*-ray examination of these organs as far as British radiography is concerned, but in America many workers have published numerous papers on the subject; this monograph is, therefore, opportune. The author first gives a concise account of the anatomical considerations, which should be of value to many radiographers; this is followed by a very complete account of biliary calculi, taken chiefly from Beattie and Dickson's *Pathology*. The radiographic method is described in great detail and illustrated by stereoscopic photographs. Details of the results of a large number of experiments on the *x*-ray appearances of gall stones are related.

Opinions vary as to the percentage of cases in which stones actually present can be shown by radiography, but there is no doubt that the larger percentage of successful results will be obtained by those workers who use a powerful apparatus and cut down exposure to a minimum. The shadows on which gall stones have to be diagnosed are often very small and very faint—so faint that they cannot always be printed out from the negative; the slightest movement of respiration may entirely prevent such stones being shown. Even when shown the question of differential diagnosis is often a matter of great difficulty; gall stones have to be distinguished from renal calculi, calcified mesenteric glands, and many other possible lesions. Perhaps the two points of greatest importance are (1) if a ring-like shadow is found (due to calcareous material being deposited on the surface of cholesterin) this is strong evidence in favour of the shadow being caused by a gall stone; (2) if the shadow is smaller and more sharply defined on the plate taken with the patient lying face down than on the plate taken with the patient lying on the back, this also is in favour of gall stone.

Much of the original work described is of the greatest importance; it comprises experiments on the absorption coefficient of the various constituents of gall stones as compared with the tissues around the gall bladder, and experiments on gall stones and kidney stones to show the variations in density and exposures from tubes of different vacuum, and to ascertain the absorption equivalent of gall stones themselves.

The final chapter deals with the historical side of the work and detailed abstracts from the literature of the radiography of the liver, gall bladder, and bile ducts are given. The *x*-ray investigation of the region of the liver and gall bladder should always be employed when symptoms point to a lesion in that region, and with increasing experience the individual value of the observer will increase.

THE MICROSCOPIC ANATOMY OF THE TEETH.

IF anyone is curious to find truths stranger than fiction he needs but to seek them in nature's workshop, nor need he go far afield to find them. In his fascinating volume on *The Microscopic Anatomy of the Teeth*[3] Mr. HOWARD MUMMERY exposes nature in her most baffling complexity. Enamel formed by ameloblasts, enamel formed partly by ameloblasts and partly by a secreting gland, enamel laid down by epiblastic cells pouring a secretion into a mesoblastic groundwork, and claimed by some as enamel and by some as dentine, enamel perforated by tubes entering from the outside, by tubes entering from the inside continuous with the dentinal tubules, by both, or by none—such are some of the variations of enamel; and indeed, in no two animals does the histology of this tissue seem to be identical, nor does any order or meaning yet appear amid all its marvels; nature seems to be disporting herself, seeing how many ways there are of arriving at the same end. Dentine, by comparison, is rather an unexciting structure, and seems to fall fairly into line with bone in its main characters; but it may well be asked what nerve-end cells with axons and dendrons can be doing in the dental pulp. By his discovery of these cells and of the prolongation of their axons into the tubules of the dentine Mr. Mummery has solved the problem of the sensitiveness of dentine, and established himself as perhaps the foremost of dental histologists.

No one who reads current literature can fail to be struck by the many and divergent opinions held on the same point in dental histology, and the author has done great service by bringing together these opinions for comparison and by adding to each chapter a full bibliography. Where possible he has made a definite pronouncement, but more often than not the student must take his choice, or remembering "quot homines, tot sententiae," will leave it to others to dispute. If, however, he is a wise man and has the leisure, he will himself follow Mr. Mummery into this fairyland of science, of which only the edges are known. We heartily congratulate Mr. Mummery on his work; it is well arranged, well written, plentifully illustrated, and generally clearly expressed, though there are places—as, for instance, p. 135 et seq. (osmotic membranes)—where we are left in some doubt as to the author's meaning.

[3] *The Microscopic Anatomy of the Teeth.* By J. Howard Mummery, D.Sc.Penn., M.R.C.S., L.D.S.Eng. London: H. Frowde, and Hodder and Stoughton. 1919. (Demy 8vo, pp. viii + 382; 243 figures, 6 coloured plates. 25s. net.)

DISEASES OF THE MALE URETHRA.

DR. I. S. KOLL'S book on *Diseases of the Male Urethra*[4] is altogether an excellent piece of work. The author states that he has aimed at conciseness, clearness, and simplicity, and these are the distinguishing qualities of his book, which on this account may be read with uncommon pleasure. The number and excellence of the plates undoubtedly contribute to its clarity. The coloured urethroscopic views are particularly good, and although the work is not primarily an exposition of endoscopy, these illustrations furnish a better gallery of urethroscopic views than many more ambitious works. The author, when he admits that some of his views are reactionary, probably had in mind his chapter on the bacteriology of gonorrhoea; it is, however, in accepting the bacteriological opinions of Dr. Carl Warden rather than in any of his own work that Dr. Koll shows a tendency to heterodoxy. According to these views, it is extremely doubtful whether the well-known Gram-negative intracellular diplococcus seen in urethral films is in reality the gonococcus. Dr. Warden suggests, and Dr. Koll is inclined to believe, that in the majority of cases these biscuit-shaped cocci are staphylococci that have lost their property of retaining the stain when the Gram method is applied to them. If this be so, then the old criterion—the microscopic appearance of smears—is to all intents and purposes useless, and cultural methods alone can have any value in the diagnosis of gonorrhoea. According to this theory, if biscuit-shaped Gram-negative cocci are found in a gonorrhoeal exudate a double infection is probably present, true gonococci being demonstrable only with difficulty, or possibly not demonstrable at all in such an exudate. As evidence in favour of this view is adduced the fact that the complement fixation curve for *Staphylococcus urethrae* runs directly parallel to that for the gonococcus. Dr Warden's work, as quoted by Dr. Koll, is rather bewildering; whilst the necessity for the employment of cultural methods in the diagnosis of gonorrhoea may be fully accepted, we are not inclined to accept these revolutionary views without further evidence.

The author is not in favour of the routine resort to irrigation in the treatment of gonorrhoea, but relies on injections of albargin. He employs it in the strength of 1 per cent. in a base of gelatin and tragacanth. Of vaccine therapy he is decidedly sceptical. With the possible exception of arthritis no lesions due to the gonococcus have, in his experience, been benefited by the use of vaccine. In a chapter on urethral stricture he makes a strong appeal for conservative or non-operative treatment, as he considers that 98 per cent. of all organic strictures may be relieved without recourse to the urethrotome or knife. Patience and endurance are demanded on the part of both patient and physician, but the ultimate results obtained are better. We believe that this warning against the indiscriminate operating of some surgeons is not altogether unnecessary. The indications for urethrotomy are definite, and should be more closely observed.

The book closes with chapters on sterility and impotence, subjects too often neglected in English textbooks. These matters are as clearly and simply dealt with as the subjects of the previous chapters. Altogether we are disposed to think this book the best monograph on the subject yet produced.

[4] *Diseases of the Male Urethra.* By Irvin S. Koll, B.S., M.D. Philadelphia and London: W. B. Saunders Co. (Roy. 8vo, pp. 151; 123 figures. 14s. net.)

DR. HENRY QUIN OF DUBLIN.

MEDICINE is a profession in which a man may be extremely well known during his lifetime and yet leave so little behind that he rapidly becomes forgotten. Henry Quin (1718–1791) is a case in point, for though the most notable physician in Dublin and an eminent patron and connoisseur of art during the latter half of the eighteenth century, the only record of his life is in Dr. T. P. C. Kirkpatrick's *History of the Medical School in Trinity College, Dublin* (1912). Recently Dr. A. Blackhall Morrison's presentation of a bust of Dr. Quin to the Royal College of Physicians of Ireland has been the occasion of a scholarly Life of this Dublin physician from the pen of the Registrar of the College—Dr. KIRKPATRICK.[5] The son of Thomas Quin, an apothecary and Master of the Guild of St. Luke, Henry Quin graduated M.B. in 1743 and then disappeared for six years; but as he came back to Dublin in 1749 with the doctorate of Padua he probably obtained his love of the fine arts in Italy. Shortly after his return he was elected, as the result of an examination, King's professor of the practice of physic in the medical school of Trinity College, Dublin, and immediately started on a fashionable and lucrative practice, no doubt helped thereto by his father's recommendations and a judicious marriage.

Perhaps as the result of this early success Quin never published any medical papers, and his name does not find a niche in the *Dictionary of National Biography*. But he had many other interests; he was an accomplished musician and had a private theatre in his house for concerts; he collected cameos and intaglios which he copied with his own hand, and was the generous patron of James Tassie, who afterwards gained fame and fortune in London, and of William Mossop, the pioneer medallist of Ireland. Had it not been for his help, probably neither of these artists would have emerged from obscurity. A medal struck in his honour bears the rather remarkable legend, "The human frame is, Quin, thy debtor, none but its Maker knows it better." On St. Luke's Day, 1758, four years only after his election as a Fellow, he was chosen president of King and Queen's College of Physicians in Ireland, an office he filled on six subsequent occasions. *The Gentleman's Magazine*, in recording his death on February 11th, 1791, in his 73rd year, at his house in St. Stephen's Green, refers to him as "a very eminent physician and uncle to the Marchioness of Waterford." He left an ample fortune, which enabled one of his sons to travel and collect art treasures on Italy; while the other, Charles William, president of the College in 1786, published an octavo of 227 pages, *A Treatise on Dropsy of the Brain and on the Use of Digitalis purpurea in Dropsies*, thus following the work of Robert Whytt (1760) and Withering (1785) respectively.

NOTES ON BOOKS.

THE Edith Cavell edition of *The Imitation of Christ*,[6] by THOMAS À KEMPIS, is a facsimile of the copy which belonged to Edith Cavell, and which she had with her in the prison of St.-Gilles at Brussels in August, September, and October, 1915, up to the hour of her death. Reproduced in its pages are the markings she made against the passages she found of special help and comfort, some sixty in all. How poignant are these pages: what a clear light they cast on the training of a holy and humble life spent in the service of others! There must be many people in this country who would be glad to own a copy of this edition, for the sake of its association with the thoughts of a woman who sacrificed her life to help the wounded and fugitive. Its purchasers will also be helping to maintain the Edith Cavell Homes of Rest for Nurses, to which the proceeds of its sale will go. The possession of this volume will also serve as a reminder of the moral degradation to which the Prussian spirit leads in warfare, as exhibited by the type of man not unfairly characterized as *Pithecanthropus teutonicus* by a French writer.

Dr. HENRY J. WATT'S name is already familiar as that of an explorer of those almost unknown territories which lie where the domains of the physiologist, the psychologist, and the musician join, and which none of them has had the courage deeply to penetrate or survey. In his *Psychology of Sound* he addressed himself to the physiologist and psychologist; in his new work, *The Foundations of Music*,[7] he applies the psychological groundwork of the previous one, so as to bridge the gulf between the psychological elements of music on the one hand, and on the other "the sensory stuff and functions of music as the musicians observe them." The present volume is thus interesting chiefly to the musician who is conversant with psychological methods, and to the psychologist who is not devoid of musical capacity; among such will be not a few medical men. The work is remarkable for its lucid and original exposition of a subject presenting very great difficulties.

The forty-second volume of the *Transactions of the Medical Society of London*[8] contains the lists of past and present members and officers usual in these publications, and papers on subjects of medical education and medical interest (most of them reported in our columns at the time of their delivery) that are of no little importance to medical men anxious to keep up with the progress of medicine.

[5] *Henry Quin, M.D., President and Fellow of the King and Queen's College of Physicians in Ireland, and King's Professor of the Practice of Physic (1718–1791).* By T. Percy C. Kirkpatrick, M.D. Dublin: University Press. 1919. (Sup. roy. 8vo, pp. 66; 6 illustrations. 10s. 6d. net.)

[6] *Of the Imitation of Christ.* Four Books by Thomas à Kempis. The "Edith Cavell" edition. London, Edinburgh, Glasgow; Humphrey Milford. 1920. (3¼×6; pp. 229. 2s. 6d. net.)

[7] *The Foundations of Music.* By Henry J. Watt, D.Phil., Lecturer on Psychology in the University of Glasgow. Cambridge: University Press. 1919. (Med. 8vo, pp. 239. 18s. net.)

[8] *Transactions of the Medical Society of London.* Vol. 42. Edited by Edmund Cautley, M.D., and Donald Armour, C.M.G., F.R.C.S. London: Harrison and Sons. 1919. (Demy 8vo, pp. liii + 253; illustrated.

NEW STAFF OF OUTDOOR MEDICAL OFFICERS OF THE MINISTRY OF HEALTH.

IN connexion with the appointments for medical officers which the Ministry of Health announces in our advertising columns this week the Ministry supplies the following particulars, which may be of interest. The new staff will include both whole-time and part time medical officers. Each whole-time officer will be stationed in the area in which he works. Particulars as to the part-time appointments will be announced later.

The duties of the whole-time officers will be partly clinical, partly administrative; of the part-time officers, clinical only. The clinical duties of the medical officers will consist in examining insured persons referred to them by approved societies or doctors, in advising the societies and doctors on questions of incapacity for work, and in advising doctors on questions of diagnosis and treatment. The clinical duties will thus combine those of referee and consultant. For cases of special medical difficulty specialist advice as to diagnosis or treatment will be made available for the assistance of the medical officers.

The administrative duties will include examining health insurance medical certificates, records, reports, and prescriptions, and making inquiries of insurance practitioners respecting any points arising on these, or arising out of the examination of insured persons. The medical officers will also make such other inquiries and take such action, in connexion either with the work of the insurance medical service or with other branches of the work of the Ministry, as the Ministry may from time to time require.

The Minister proposes to appoint in the first instance eighteen whole-time officers for England and three for Wales. In addition there will be a small number of supervisory posts. It is contemplated that this number of whole-time officers may be increased (with a corresponding reduction in the employment of part-time officers) as soon as sufficient experience has been gained of the working of the arrangements.

Although particulars of the part-time appointments are not yet available, it may be stated that the work of part-time officers will be arranged, so far as the nature of the case permits, in definite half-day sessions at fixed centres; in the more remote parts of the country it will be necessary to employ doctors specially for single cases. Sessions will be held at the various centres at such periods (weekly, fortnightly, or monthly) as may be found necessary to deal with the flow of cases. So far as it can be avoided, a practitioner working part-time will not be called upon to examine cases within the district in which he ordinarily practises.

The Minister is appointing a Selection Committee (of which the personnel will be announced shortly) to consider all applications for the appointments which are now advertised, and to make recommendations to him.

British Medical Journal.

SATURDAY, MARCH 20TH, 1920.

THE PSYCHO-NEUROSES.

WE commend to all interested in the working of the mind, whether healthy or disordered, the admirably clear and comprehensive address by Dr. Henry Head which we have the advantage of publishing this week. He presents the matter in a way which, we hope, may tend to diminish the bitterness imported into discussions on psycho-analysis—bitterness on the one side due to a revolt against the extravagances of Freud himself, who seems to have been so obsessed by his theory of the importance of the sexual content that he has been unable to do justice to other fundamental elements. Dr. Head makes all this very plain, but the address must be read and digested as a whole; isolated paragraphs must not be picked out to support this or that theory. The address in its conception irresistibly recalls the teachings of Hughlings Jackson, and we conceive that no higher compliment could be paid to a living neurologist. The comparison arises no doubt through the manner in which Dr. Head handles the doctrine of the control of the optic thalamus, the centre associated with the pleasure or discomfort induced by afferent impulses. The control exercised by higher centres over the more primitive activity of the thalamus endows the animal with the power of choice, but normally this control is automatic, not voluntary. If it ceases to be automatic the mind adopts several different methods of curbing the desires to which it has determined not to yield. It curbs the sexual desire and it curbs the other great basal factor—the desire to avoid pain and discomfort. Of all instincts self-preservation is the most deeply innate; it may, as in war, be curbed by tradition and education, but there ensues a conflict which may lead to morbid consequences. Thus the private may develop a conversion hysteria and is carried paraplegic from the danger zone, while the officer becomes the victim of anxiety neurosis.

The contrast is well illustrated in the course of an essay on the psychoses and psycho-neuroses contributed to the Naval History of the War by Dr. Thomas Beaton, lately temporary Surgeon Lieutenant R.N.[1] He states that of the psycho-neuroses of the navy, 95 per cent. were of the nature of anxiety neurosis, which, in his opinion, was the outcome of the perseveration and overaction of the fundamental biological defensive mechanism of the organism to the psychological stimulation by fear. The work of Cannon in regard to the relation between the activities of the endocrine organs, the sympathetic nervous system, and the occurrence of emotional mental states, is quoted, and Mott's conception of the "vicious circle"—the chronic emotivation producing a definite disturbance of the physiological balance of the endocrine system which, in its turn, sets up constant emotional unrest in the mind—is thoroughly endorsed. The strong clinical resemblance existing between anxiety neurosis and Graves's disease is noted; Dr. Beaton found that a remarkably high percentage of his cases of anxiety neurosis showed clinical evidences of thyroid hyperactivity. McCurdy's view that shell shock is purely a conversion hysteria belonging to the hysterical or suggestion type of neurosis is accepted. Men who served afloat were little affected by this form of disorder: such cases of hysterical paralysis or loss of sensation as occurred arose in men serving in the naval division with the army ashore, or in individuals who gave a history of pre-war manifestations, and in whom the symptoms developed during training before they were exposed to any actual war stress. This freedom of the navy from the hysterical neurosis is attributed to two factors: First, the man in the navy was not subjected so frequently as his comrade in the army to the actual strain of battle, and consequently did not experience the vivid emotional disturbances accompanying imminent unavoidable danger. The sailor had to bear the stress of chronic anticipation rather than of immediate realization of vivid fear, and consequently developed the anxiety neurosis rather than the hysterical dissociation. Further, when the actual sea battle occurred, fear, however vividly felt, would tend to maintain full physical capacity rather than aid in the acceptance of a disabling loss of function. As the second factor the theory of Rivers as to the effect of the army training in producing a heightened suggestibility is considered, and it is pointed out that the naval training aims at producing a reasoning unit of a service, while army training tends to create the perfect but machine-like automaton, which can be unfailingly set into motion by the word of command, but which has correspondingly lost the faculty of criticism of its own actions.

The treatment advocated is mainly the application of psychological principles in a common-sense manner, each case being treated as an individual problem. The psychoses met with in the navy did not differ in their clinical presentment from those of civil life. Complete and early recovery occurred in a large number of the cases, and a strong appeal is therefore made for the earlier treatment of the psychoses in civil life. The naval or military case is got under control and treatment from the earliest phase of the disorder, and the marked tendency to recovery was partly if not largely due to this circumstance. The classification of the psychoses adopted by Dr. Beaton cannot be regarded as satisfying, but probably it was dictated by the need for simplicity. His statement that recovery took place in 50 per cent. of his cases of dementia praecox must be regarded with doubt, but the term is probably used to cover a wider range of case than present knowledge would perhaps justify. In discussing prophylaxis reference is made to the methods of the American authorities in making a psychological examination of the recruit as well as determining his fitness for service on purely physical grounds. The statistics from the Royal Naval Hospital at Chatham which Dr. Beaton gives show that there was a great increase in the cases as the war went on, and also bring out the curious point that they were always more numerous in the third quarter of the year than in any other.

To return, after this long digression, to Dr. Head's illuminating address, it is to be noted that he accepts Freud's conception of the process of repression and its bearing on the genesis of the psycho-neuroses, and also the opinion that forgetting is not a negative procedure but a positive act, although we gather that this doctrine is to be applied only to unpleasant experiences, and is to be qualified by what he goes on to say as to adaptation and regression. With regard to the latter, every one must have had experience of an unexpected return to a previous habit, and the regression which afflicts the soldier is an analogous phenomenon. One great merit of Dr. Head's address is that he speaks of the psycho-neuroses in terms of processes common to the mind and to the physiological

[1] *Journal of the Royal Naval Medical Services*, January, 1920.

functions of the nervous system, and in the concluding passages he has a message for every member of the profession. The psycho-neuroses of war are comparatively simple when compared with those of civilian life, and in the attempt to solve the complicated problem it is a great advantage to be able to choose examples which show the smallest number of variable factors.

THE DIAGNOSIS OF LETHARGIC ENCEPHALITIS.

THIS country has happily been spared any serious recrudescence of lethargic encephalitis or epidemic encephalitis. Other countries have been less fortunate. New York and some large cities of America have suffered recently, and it would appear that the disease has again become active in France also. As we have noted from time to time, the disease has been the subject of discussion both in its clinical and pathological aspects at several meetings of the Academy of Medicine. There was general agreement that the cardinal symptoms of the disease were somnolence, palsy of cranial, especially oculomotor, nerves, and fever; attention was fixed largely upon the question of the existence of lymphocytosis of the cerebro-spinal fluid, and the diagnostic value of its presence. Cases exhibiting lymphocytosis were reported by Achard, Netter, Widal, and Marie,[1] and similar observations have been made by observers in this country. The opinion has generally been held that while lymphocytosis of the cerebro-spinal fluid may occur, it is the exception rather than the rule, and that its absence cannot be held to invalidate the diagnosis. With this opinion Marie, in his concluding remarks, concurred, and pointed out that while a moderate degree of lymphocytosis does not exclude the possibility of lethargic encephalitis, any very marked and lasting amount should lead to serious reconsideration of the question whether a condition of real meningitis, notably tuberculous or syphilitic, may not be present.

All are agreed that lymphocytosis, when found in cases of encephalitis lethargica, is a transitory phenomenon which clears up without treatment in all cases progressing to recovery. In this connexion we must remember that lymphocytosis may be found in the cerebro-spinal fluid in many different conditions. Tuberculous meningitis, syphilis of the central nervous system, including tabes and general paralysis, sleeping sickness, and the meningitis of mumps, are some of the more important of such conditions. Grévet[2] has even recorded a case in which swelling of the parotid glands, combined with a meningeal state and the existence of well-marked lymphocytosis of the cerebro-spinal fluid, led for a time to an erroneous diagnosis of mumps in a case which eventually proved to be one of lethargic encephalitis. Of all the conditions mentioned tuberculous meningitis and syphilis of the central nervous system are those most essential to exclude, particularly the latter, in which prompt and appropriate treatment may mean so much to the patient.

This occurrence of lymphocytosis of the cerebro-spinal fluid, as well as the general resemblance on etiological, clinical, and pathological grounds, at once forces a comparison with poliomyelitis and polio-encephalitis, with which the disease was for a time identified by many observers. Calhoun[3] has recently defined the pathology of lethargic encephalitis as an acute infiltrative encephalomyelitis, the most marked changes being found about the blood vessels of the thalamus, the floor of the fourth ventricle, and in the white matter of the spinal cord. While the changes are very similar to those occurring in poliomyelitis, he considers the absence of haemorrhages in the nuclei and grey matter a point of distinction. Mott[4] has described four kinds of lesions—infiltration of the walls of the small blood vessels and especially of the veins with lymphocytes and plasma cells, foci of interstitial inflammation, lesions of the nerve cells in the shape of chromatolysis but only exceptionally neuronophagia, and foci of haemorrhages. The last named he considered the most obvious microscopic change.

Whether any very clear distinction can be made on microscopic grounds alone is perhaps still a moot point, but the clinical characters, as well as the seasonal incidence of the two, make it practically certain that we are dealing with two distinct infections, though similar in their nature and habitat in the body. The virus of poliomyelitis has been demonstrated to exist in the nasopharynx of both patients and contacts. The filtrate of such secretions has been used successfully to reproduce the disease in animals, and Noguchi and others claim to have cultivated the organism on special media. It appears that recent attempts to repeat the experiments with the virus of lethargic encephalitis have been successful. Strauss, Loewe, and Hirschfeld[5] have filtered the secretions of the nasopharynx of patients, and by inoculation into monkeys and rabbits have reproduced a disease similar to that occurring in man. Further control experiments, however, are required. The similarity between the two diseases is therefore close, and what has been said of the lymphocytosis of the cerebro-spinal fluid in lethargic encephalitis may be held to stand as true of poliomyelitis. In the latter a meningeal variety of the disease has been postulated and may explain the rather rare cases in which marked lymphocytosis of the cerebro-spinal fluid is found. In connexion with these two conditions it is interesting to recall the observations of Gordon,[6] who has described a fatal disease in children presenting the picture of a general infection of the nervous system and particularly of the bulb. These cases exhibited lymphocytosis of the cerebro-spinal fluid.

It is probable, therefore, that there may be many varieties of virus, as yet not clearly differentiated, which are capable of causing a diffuse inflammation of the central nervous system, and producing the clinical picture of an acute nervous disease. The different points in the nervous system attacked will naturally be responsible for the many different clinical shapes which such diseases may take, and the nature of the infection must be judged rather from its epidemiological and general characters than from the particular disturbances of function which it produces. We have already ground for hoping that further experience and research will aid us in differentiating such infections.

THE RECONSTRUCTION OF THE INCOME TAX.

The report of the Royal Commission on the Income Tax was issued on Wednesday evening. It is signed by all the surviving members of the Commission, subject to minority reservations on certain points. When the Commission was appointed it was announced on behalf of the Government that it was hoped that the report would be available in time

[1] *Bull. de l'Acad. de Méd.*, Paris, 3e série, lxxxiii. Nos. 1, 3, 4, 5.
[2] Grévet, *Gaz. d. Hop.*, February 22nd, 1919.
[3] Calhoun, *Arch. Neurol. and Psychiat.*, Chicago, vol. iii. No. 1.
[4] Mott, Roy. Soc. Med., BRITISH MEDICAL JOURNAL, 1918, ii, p. 488.
[5] *Bull. de l'Acad. de Méd.*, Paris, 3e série, lxxxiii. No. 3.
[6] Gordon, *Lancet*, 1918, i, 653.

for its findings to be utilized in that thorough reconstruction of the income tax which is to be a leading feature of the ensuing parliamentary session: the substantial unanimity which has been achieved will materially strengthen the hands of the Chancellor of the Exchequer in dealing with what has become a pressing and important national problem.

The Commission has published seven volumes of evidence, including over 28,000 questions and answers in the course of the cross-examination of the witnesses, who between them have represented the difficulties and hardships of the present system from every point of view. The evidence given on behalf of the British Medical Association by the treasurer, Dr. G. E. Haslip, was reported in our issue of December 13th, 1919, p. 783. The publication of the detailed report has been awaited with keen interest by that large and increasing section of the community which is directly affected by the income tax and is concerned to see the present complicated system of rates, abatements, and various personal allowances reduced to a simpler form, which, while furnishing sufficient safeguard against dishonest evasion, will enable each taxpayer to understand his liability without the expert assistance that at present is almost universally essential.

The suggestions put forward by the Commission naturally fall into two classes, dealing first with the general scheme of the tax, and secondly with its administration. It is recommended that what has hitherto been called unearned income should be known as "investment income," and that earned income should be reduced by one-tenth to arrive at the assessment. From the assessable income—that is, the actual investment income, or the earned income reduced by one-tenth—should be deducted the allowances for the taxpayer himself, his wife, children, dependent relatives, etc., in order to arrive at the taxable income. When this taxable income does not exceed £225 the amount would be charged at half the standard rate of tax. If the taxable income exceeds £225, this amount, £225, would be charged at half the standard rate of tax and the excess over £225 at the full standard rate of tax. The effect of the recommendations is illustrated by a number of examples with which we cannot at present deal; we must content ourselves with saying that in the case of a married man with a family of three young children and an earned income of £500 and no investment income the taxable income would be £135, and the effective rate of tax would be equal to about $9\frac{3}{4}$d. in the £. Another case given is that of a man with an earned income of £1,500, who owns his residence subject to ground rent of £6, and has £250 in taxed dividends. Assuming that he is entitled to allowance for wife and three children, his taxable income would be £1,335, and he would pay £368 11s. The real effective tax in this case would be equal to 4s 1d. in the £. The Commission considers that graduation of incomes exceeding £2,000 can best be effected by a super-tax in addition to the ordinary income tax, and it is advised that the super-tax rate should be increased in the case of an income of £2,500 from 1s. to 1s. 6d. on the extra £500, and so on. It is recommended that it should be open to any partner to claim that his share of the partnership profits should be separately assessed (at the place of business), so that his private concerns may no longer be known to his fellow partners. It is also advised that the profits of the year immediately preceding the year of assessment should be taken as the basis for assessment, and that all income from employments now assessable under Schedule D should be transferred to Schedule E. Under that schedule the basis of assessment would be the remuneration of the employee for the year to which the assessment relates.

Other points dealt with are the elimination of the double liability to income tax within the Empire of income arising in a colony, dominion, or British possession, but receivable in the mother country, and the very vexed question of the liability to income tax of co-operative dividends; on this last there is a reservation by a minority of the Commission, supporting the present official view that such dividends do not come within the scope of an income tax.

On the administrative side the recommendations appear to be directed mainly to the elimination of locally appointed assessors and collectors, the inspector of taxes being made legally responsible for seeing that the work of assessment and collection is performed, presumably with such whole-time staff as the Board of Inland Revenue may be able to supply. This change would restrict the functions of district commissioners of taxes to the exercise of their judicial powers in the hearing of appeals. This is a matter which will, no doubt, be the subject of very full parliamentary discussion; *primâ facie* the proposals imply a complete breach with the original theory of the tax—for example, that it was to be locally administered to avoid unfair pressure by the co-ordinating Government department, but the reply on the other side is that in practice the inspector is already performing the functions which in theory the district commissioners should perform. Whether the suggestion is ultimately adopted or not will presumably depend on the weight of evidence as to the present *de facto* position.

Further detailed comment on the Commissioners' voluminous and complicated report must be deferred.

THE JUNE MEETING AT CAMBRIDGE.

THE annual meeting of the British Medical Association at Cambridge this year begins at the end of June, not, as is customary, towards the end of July. The President's address will be given on Tuesday, June 29th, and the Sections will begin on the following day, June 30th. The College authorities have offered bedrooms for a thousand visitors, and married members will be able to find accommodation in the numerous university lodgings in the town.

MEDICAL AMBASSADORS TO THE UNITED STATES.

WE are indebted to Dr. Salusbury MacNalty for calling our attention to the fact that there is an interesting precedent for the appointment of a member of the medical profession to be the chief diplomatic representative of this country in the United States of America. Sir Auckland Geddes, K.C.B., M.D., has just been appointed Ambassador Extraordinary and Minister Plenipotentiary in Washington. Sir Charles Vaughan, G.C.G.H., M.D., was appointed Envoy Extraordinary and Minister Plenipotentiary to the United States in 1825. He was the son of Dr. James Vaughan of Leicester and was born in 1774; he was thus eight years younger than his brother, Sir Henry Halford, physician to George IV, and for twenty-four years President of the Royal College of Physicians of London. Henry Vaughan inherited a large property on the death of Lady Denbigh, widow of his mother's cousin, Sir Charles Halford, and changed his name by Act of Parliament to Halford. Charles Vaughan, like his brother, was intended for the medical profession, and was educated at Rugby and Merton College, Oxford. He graduated B.A. in 1796 and M.A. in 1798, and became a Fellow of All Souls in the same year. He attended lectures on medicine

both in Edinburgh and London, and took the degree of M.B. in 1800. In the same year he was elected Radcliffe Travelling Fellow in the University of Oxford. He was thus able at an early age to indulge his master passion for seeing other countries. He got as far east as Baghdad and Persia, and after a winter in Russia reached England in 1806. Two years later he entered diplomacy as a member of Lord Stuart de Rothesay's mission to Spain. He carried dispatches during the Peninsular war, and in 1809 published a *Narrative of the Siege of Saragossa*. In the same year he became private secretary to the Secretary for Foreign Affairs, and in the following year was Secretary of Legation (later of Embassy) in Spain. In 1820 he became Secretary of Embassy in Paris, and in 1823 was made Minister-Plenipotentiary to the Confederated States of Switzerland. In 1825 he was appointed Envoy-Extraordinary and Minister-Plenipotentiary to the United States, becoming at the same time a Privy Councillor. In 1833 he was created Knight Grand Cross of the Guelphs of Hanover. He left Washington in 1835. Of these years the *Dictionary of National Biography* says: "His services in the United States covered one of the most interesting periods in American history. He was intimate with such men as Story and Clay, and he had to watch such burning questions as that of the boundary with Canada, the position of the South American republics, the slave trade, and the tariff." He was sent on a special mission to Constantinople in 1837, and much of the remainder of his life was spent in travel. He died in London in 1849.

SIR WILLIAM OSLER AT THE BODLEIAN.

ONE of the latest of the tributes to Sir William Osler's memory and services is published in the *Bodleian Quarterly Record*, signed with the well known initials of Bodley's librarian, who only retired from that position last year. "F. M." says that Osler was a firm and constant friend to the Bodleian; the library was his admiration and delight, and as a curator and a member of the standing committee he had considerable influence on its admistration. He promoted the establishment of the room for musical students, as well as the science research room at the Camera, and when a good opportunity for a special purchase presented itself he was among the first to offer liberal support and to engage the interest of friends. This was notably the case when the original Bodleian First Folio of Shakespeare was repurchased in 1906. The foundation of the *Bodleian Quarterly Record* itself was due to Osler's suggestion and initiative, while his generous action in guaranteeing to pay for some years out of his own pocket such deficit as might occur, enabled the Curators to launch it with confidence on its career. He heartily agreed with its threefold object—to interest friends of the library, to supply classified lists of recent acquisitions, and to print documents and records of importance. The wonderful collection of books, grave and gay, massive and light, out-of-the-way and trivial, which came to the Bodleian under the will of Robert Burton, the author of the immortal *Anatomy of Melancholy*, made, we are told, a special appeal to Osler's feelings. The collection contains the sources of a work which more than any other combined Sir William Osler's chief interests—humanity, literature, and medicine—and we learn that it was Osler's intention, had he been spared, to prepare a final edition of that great work, based on a collation of the early editions (to be undertaken by a committee of friends), and furnished with annotations by the master's hand. The notice from which we are quoting concludes with the following words: "If he came to you as a friend, he had a way of drawing up his chair to yours, as though all his time were at your disposal, with looks and words of infinite compassion if you were in ill case, of helpful encouragement if you were striving against hindrances, and sympathetic comprehension if you were in doubt or difficulty. These qualities are akin to the divine. Sir William's friends all over the world feel his loss with personal pain and imperishable regret, not only from his great and varied gifts of mind and intellect, but more than all because those gifts were combined with real human kindliness of heart, and because his whole life was devoted to the welfare and betterment of his fellow men."

TOXICOLOGICAL INVESTIGATION OF ACUTE ALCOHOLISM IN MAN.

IN medico-legal practice it is of the utmost importance to determine the part played by alcoholism in the death of a person under suspicious circumstances. The result may change a charge of murder into one of homicide, or it may serve to place in their proper relation several factors found at necropsy any one of which might otherwise be held responsible. The application of Nicloux's method for the quantitative estimation of alcohol in organs and body fluids may prove to be of considerable value in this respect. Balthazard and Lambert[1] have established the fact that alcohol may be quantitatively estimated in the blood, urine, viscera, and muscles for several days after death, and that at least till the commencement of putrefaction the alcohol content does not appreciably diminish. A measured quantity of blood or urine, or a certain weight of solid tissue, is distilled and the amount of alcohol determined by the potassium bichromate method. From the amount found it is possible to calculate the amount of alcohol ingested before death. The experiments of Gréhant and Nicloux on animals, confirmed in man by Sweisheimer, showed that the amount of alcohol per 1,000 found in the blood corresponded exactly with the quantity of alcohol ingested per kilogram of body weight. Thus, if a quantity of alcohol represented by 1.57 c.cm. for each kilogram of body weight were taken by a non-alcoholic individual, after a lapse of two and a half hours the blood would give approximately 1.57 c.cm. of alcohol per litre. In the case of inveterate alcoholics, in whom the absorption and elimination of alcohol is said to be more rapid, the maximum alcoholic content of the blood is obtained in an hour and a half and it is relatively lower than in temperate individuals. Hence the quantity of alcohol estimated in the blood after death will represent the minimum ingested before death, and it has been shown that death in acute alcoholism generally occurs in the period of maximum alcoholic content of the blood. The urine gives figures practically identical with those of the blood. Amongst several important medico-legal cases of alcoholism the authors relate an example of the way in which the method may be employed: A habitual drunkard, weighing 51 kg., was found dead; the autopsy was made five days afterwards; the blood and the urine gave, in terms of absolute alcohol, 5.5 c.cm. per litre. Multiplying this by the weight in kilograms, we get 280.5 c.cm. of absolute alcohol ingested, a figure that corresponds to about 3 litres of wine or half a litre of brandy.

THE WHITE MAN IN WEST AFRICA.

THE Colonial Office has issued a set of returns giving the vital statistics of non-native officials in West Africa for the years 1915–1918. During this time the West African service was affected by war conditions, and it might have been supposed that the Colonial Office would have been at the pains to compose a report on so well-defined a period. This, however, has not been done, and we are presented with a series of reports for each year, from which it is laborious to extract any general conclusions. In 1915 the death rate among the European officers was greatly increased by the torpedoing of a ship by a German submarine, in consequence of which 27 officers were drowned. During this year the majority of the West African Frontier Force, and a large number of civil officers attached to it for military service, were engaged in war operations in

[1] *Comptes rendus de la Soc. de Biologie*, lxxxiii, No. 7, 1920.

the Cameroons, where they were exposed to the risk of casualties and to greater risks of disease. Moreover, the consequent retention of officers beyond the time of their normal retirement, or their recall to duty, had an effect on the number of invalidings and deaths. Excluding deaths due to a state of war, the death rate was 13.5 per 1,000, an increase of only 0.8 on 1914. The main causes of death were blackwater fever and malaria, but there was one death from yellow fever. The invaliding rate in that year was less than in the previous year. The military campaign in the Cameroons was brought to an end in the early part of 1916, and many officers returned to their ordinary duties. The death rate declined to 11.8 (the same as in 1913); this rate included war casualties; if they be excluded the rate becomes 10.3 per 1,000. The death rate from disease was 8.5 per 1,000, as compared with 11.6 in 1915 and 10.5 in 1914. There was again one death from yellow fever. There were 5 deaths from blackwater fever, but only one from malaria. These good results were not maintained in 1917. The normal staff arrangements were disturbed by the dispatch of large forces from the West African colonies to East Africa, and among the officers of the force were many civil officials. The work thrown on the remaining staff, already greatly depleted, was therefore much increased and leave had to be stopped. The result of these conditions and the attendant restrictions, privations and discomforts, due to war, was shown in the death rate, which rose to 50.6 per 1,000; part of this high rate was accounted for by officers drowned through the act of enemy submarines, and others killed or dying on active service. The sinking of three vessels by enemy action involved the death of forty West African officials, and twenty-three were lost in another vessel, the foundering of which could not be traced definitely to enemy action; 26 officers were killed on active service, 2 died of wounds, and 4 from disease while with the force. Excluding these deaths directly due to the war, the rate is 14.4 per 1,000, a considerable increase on the rate for 1916. In this year there were 7 deaths due to blackwater fever, 6 to malarial fever, and 7 to yellow fever. The armistice came too late in 1918 materially to affect the adverse conditions. The death-rate from conditions other than those directly due to the war rose to 16.5 per 1,000, as against 14.4 in 1917. The rise is attributed entirely to the ravages of influenza and its complications. The epidemic which swept over the world in the last few months of 1918 did not spare West Africa; it caused 27 deaths out of a total of 41 excluding direct war losses, and thus in itself produced a death rate of 10.9 per 1,000. The rate, however, was much lower than in England and Wales for the corresponding period. On the whole, we gather that the writer of these reports is hopeful for the future.

PLANT RESPONSE.

SIR JAGADIS BOSE, C.I.E., C.S.I., F.R.S.(elect), gave a lecture on March 11th, at the Royal Society of Medicine, on plant and animal response, founded on researches carried out at the Bose Research Institute, Calcutta. The lecture was illustrated by a demonstration on the magnetic crescograph, and the lecturer mentioned that he had devised an apparatus to record the movements of a "praying palm" in Bengal, which was stated to prostrate itself at the hours of prayer; the tracing obtained showed that the effect was purely one of reaction to temperature and to light. Plants could perceive changes in environment to an unsuspected extent. Once in his laboratory the reaction of a plant to the customary stimulus became momentarily feeble, and he found that the cause was a small cloud passing across the sun. Automatic records led him to the conclusion that the vitality of a plant was lowered by the introduction of carbonic acid in its vicinity. One Indian plant, the *Desmodium gyrans*, had leaflets which went on beating like the cardiac muscle, and this plant was made to record its pulsations. On the introduction of ether the pulsations were arrested; in fact, the reactions to drugs were exactly parallel to those in the human and animal heart. Coming to his experiments on growth, the lecturer said that his magnetic crescograph magnified ten million times, so that a rate of growth infinitesimally slow was represented on a lantern screen by a spot of light moving at a fair speed. He demonstrated such movements and their acceleration or retardation by drugs and chemical agents and also by the application of electricity. An electric spark caused the spot of light to stop in its passage and quickly retreat, showing that the first effect of the electricity was to induce retardation of growth. The effect of drugs or chemical agents depended entirely on the strength of the dose; a stimulating agent given in excess produced a great depression, while a depressant in very slight quantities provoked advance. The lecturer believed that nervous impulse in plants was not single but dual, and that the first effect, relaxation, was followed by contraction. He thought it possible that nervous impulse in animals presented the same dual picture, but that this duality had been obscured because the first phase was fleeting. He also said that plants gave responses to wireless signals. Professor Augustus Waller, F.R.S., in proposing a vote of thanks to the lecturer, said that ten million times magnification meant that a human blood corpuscle, magnified on the same scale, would have a diameter of 70 metres. It was movements of this order which Sir Jagadis Bose had shown, and, of course, errors would be magnified in the same proportion. The behaviour of the spot of light threw some doubt on the results. Application of electrical stimulus should have meant arrest and subsequent increase of growth; instead of that, the spot of light went violently backwards, showing that there was the reverse of growth. He would like the experiments to be repeated on non-living matter, for he believed that the same phenomenon might then be seen. The explanation of the contractility of plants—the phenomenon which Sir Jagadis Bose had announced—might be entirely the heating effects upon a tissue. He invited the lecturer to repeat the experiments under laboratory conditions here. Sir Jagadis Bose, in reply, said that these experiments had been tested under laboratory conditions by Professors Starling and Bayliss and other British physiologists.

AN UNRECOGNIZED FACTOR IN RELIEF VISION.

WHEN a group of objects occupies the whole of the visual field the contours of the objects situated at the periphery produce on the retina slightly distorted images, and the image of a straight line in these circumstances forms a segment of a hyperbola. We recall the chess-board experiment of von Helmholtz. The marginal distortion is due to the fact that the refractive media of the human eye do not constitute a perfectly rectilinear objective; if, nevertheless, the complete image of the visual field is sharp it is due to the structure of the fundus of the eye, the concave surface of the retina occupying almost exactly the focal volume of the refracting apparatus. If an object is gradually approaching the observer's eye it occupies a portion of the visual field all the greater as it comes closer, and the image formed on the retina similarly increases, but, at the same time, the distortion of the image will increase in inverse ratio to the distance of the object. Pech[1] holds that, owing to the progressive visual education we undergo from birth, this distortion of images is used by us to locate an object in space and that it constitutes a factor in relief vision not hitherto appreciated. He founds this opinion on the fact that a photographic image viewed with a certain distortion gives the impression of actual relief, and he cites two experiments to support this. A photograph examined by reflection in a concave mirror of 80 cm. to 1 metre

[1] *C. R. de la Soc. Biologie*. lxxxiii. No. 7, 1920.

focus is seen in relief, and the eye of the observer does not notice that the peripheral portions are distorted. Again, when a photograph is projected on to a properly calculated concave screen, which can be prepared by stretching the cloth over a framework the sides of which are segments of hyperbolae instead of being rectilinear, we are able to appreciate the third dimension, a thing which is not possible with a flat screen. Further, in the previous experiment the observer is not conscious of the disturbing distortion. Pech believes that these facts are sufficient to allow of the conclusion that the retinal distortion of images is a factor in relief vision. The sense of relief experienced in these experiments is a real relief, and it is not so evident as stereoscopic relief. The latter is particularly vivid because it surprises us, seeing that in ordinary life we are not accustomed to see a series of flat objects totally distinct from one another as the stereoscope shows us. With the stereoscope the appreciation of relief fails when the objects are not in the foremost planes but this is not experienced in normal vision.

THE CAVELL MONUMENT.

THE memorial to Nurse Edith Cavell, looking down from the junction of Charing Cross Road and St. Martin's Lane on to Trafalgar Square, was unveiled by Queen Alexandra on Wednesday, March 17th. The monument which Sir George Frampton, R.A., has conceived and executed as a labour of love, is a very fine conception. On the top of a narrow pyramid in grey granite is a symbolic seated figure of Humanity resting on the cross and with a child on her lap. Projecting from the base on the southern side is a white marble statue of Miss Cavell in nurse's costume, with the inscription "Edith Cavell, Brussels, Dawn, October 12th, 1915." Above, at the foot of the statue of Humanity, are the words "For King and Country"; on the west side "Devotion"; on the north, which at the base bears a bas-relief of the lion of Belgium, "Fortitude"; and on the east, the word "Sacrifice." The monument is a distinct addition to the amenities of London, and Sir George Frampton in conceiving it has set an example to other sculptors. His own work harmonizes well with the surrounding buildings, with the spire of St. Martin's on the east, and the tower of the National Portrait Gallery on the west. Lord Burnham, addressing Queen Alexandra, said that the statue had been erected out of funds subscribed by all classes of the community. A large number of those who had sent the money were on active service in the navy or army, and certain sums also had come from across the Channel. One of the flags draping the statue had, he said, been presented by Queen Alexandra and the other by the Queen of the Belgians. Queen Alexandra handed a written reply to Lord Burnham in which she said: "The countless thousands who will pass this spot in our time and in future generations will think with sorrow of her cruel death, with pride of her splendid fortitude, and with affection of her unselfish and womanly character." The Bishop of London dedicated the statue to the glory of God and the immortal memory of Edith Cavell. "May it remind our countrymen and countrywomen of her splendid patriotism, and of her last words, that patriotism was not enough." Sir George Frampton handed the cord to the Queen, who unveiled the statue, and buglers sounded the "Last Post" and drummers the "Reveille."

PROFESSOR TUFFIER, whose appointment to be an Honorary Knight Commander of the Order of the British Empire we announced a few weeks ago, asks us to express his appreciation and thanks to members of the British medical profession who have congratulated him upon the high distinction His Majesty King George has conferred upon him, by which he feels greatly honoured.

Medical Notes in Parliament.

The Estimates.

THE papers giving the Navy Estimates and a Vote on Account for the Civil Service and Revenue Departments were issued on March 13th. In round numbers the Estimates for 1920–21 reach nearly £1,200,000,000. Of this amount the Military Forces (Army, Navy, and Air) account for £230,000,000, interest on the National Debt £400,000,000, and Civil Service and Revenue £557,000,000. The estimate for the Military Forces alone exceeds the total estimate submitted for all national services in the spring of 1914. The total vote for the Medical Services, R.N., is £692,000. Of this amount salaries and allowances account for £122,000 (a decrease of about £8,000), and hospital and infirmary provisions and stores, medicines and instruments, for £278,000. Details of the Army Estimates have not been published. We gave on February 28th, p. 312, an abstract of the War Secretary's statement with regard to the strength of the Medical Corps.

The estimate for the Ministry of Health (England and Wales) is 27½ millions, for the Scottish Board of Health nearly 4 millions.

Supplementary Civil Service estimates for the year ending March 31st, 1920, have also been issued; they show a total of 28½ millions. Included in this total is a sum of £148,500 for the Medical Research Fund, the original estimate was £60,000. The additional £88,500 is made up as follows: Additional grant to meet the cost of investigation in connexion with industrial fatigue, etc., £16,000; cost of radium to be taken over at a valuation from the Ministry of Munitions Disposal Board, £72,500; the radium will be used by the Medical Research Committee for research work. From April 1st the Committee will become the Medical Research Council, and will work under the direction of a ministerial committee of the Privy Council. The vote for next year may be expected to show a grant of larger amount to the new Council. There is also a supplementary estimate for the Ministry of Health, including an additional sum of £130,000 for child welfare, and of £650,000 for medical benefit in England and Wales. This sum is to meet the payment to insurance practitioners from January 1st of the capitation fee of 11s., the extra payment to practitioners in rural and semi-rural districts, and the payment to persons supplying drugs and appliances.

Training of the Blind.

There was a short debate on March 12th on the second reading of the Blind (Education, Employment, and Maintenance) Bill, which is identical with one introduced last session by Mr. Stephen Walsh, who for some time was Parliamentary Secretary to the Local Government Board, and was chairman of a committee which investigated the conditions of the blind. The second reading was now moved by Mr. Ben Tillett, who read the memorandum of the bill, which explained that its object was "to provide for the technical education of the blind by the establishment and equipment of technical schools where necessary, or by contributions to existing schools and institutions for the employment of the blind by the establishment and equipment of workshops where necessary; or by contributions to existing institutions providing work for the blind; for grants in respect of augmentation of wages earned by persons so employed; for the provision of the expenses of blind persons at institutions or hostels while under technical instruction; for the employment and maintenance of blind persons away from workshops, and for the maintenance of blind persons incapacitated from earning their livelihood."

Mr. Tillett said that of the 30,000 dependent blind persons in the United Kingdom 10,000 were supported by the Poor Law, 7,000 were more or less industrially employed, and 2,000 directly industrially employed. Their efficiency would be anything between 35 and 50 per cent. of the efficiency of the normal person. That efficiency depended not only on aptitude but on technical instruction. The Report of the Royal Commission on Venereal Diseases stated that maternal gonorrhoea not properly treated caused as much as 25 per cent. of blindness. The 30,000 necessitous persons represented only a part of the evil of defective sight. The bill did not interfere with any form of voluntary aid, but asked of those who accepted State assistance to recognize the controlling supervisory right of a National Advisory Committee.

Mr. Stephen Walsh, seconding the motion, said he was quite conscious there was at the Ministry of Health a very fine advisory committee, representing the blind in every capacity. In the course of the discussion Mr. T. Sugden pointed out that the prenatal blindness and blindness at birth were not included in the scope of the bill, and expressed the hope that some facilities for dealing with these matters might be afforded in Committee. Sir Frederick Banbury objected to the definition of the word "blind" as too comprehensive. There was no provision for a certificate by a doctor and no appeal on behalf of the ratepayer.

Dr. Addison, in the course of his reply, said that 21 per cent. of the blind were blind within six months of birth, owing to venereal infection which was preventable. That was one justification for the vote the other night for better training of nurses, midwives, and others, to attend on the newly-born child. There were other preventable causes of blindness. Next in importance were those relating to industrial accidents, but the information available was insufficient. He would adopt Mr. Tillett's suggestion for a comprehensive inquiry of a scientific character into the causes and prevention of blindness. The Government desired that the bill should give power to require the registration of agencies appealing for support of a voluntary character for the blind, so as to make sure that the sympathies of the public were not exploited by agencies unworthy of support. It would not be necessary for every authority to set up a separate organization or workshop for the blind; authorities should combine for that purpose. After going into the matter carefully it appeared to him that blind persons after the age of 50 could not be taught anything. The Government proposed therefore to give a special form of relief at the age of 50 for those who were blind and not able to support themselves. The machinery of old age pensions would be used so that any blind person between the ages of 50 and 70, subject to the same disqualification as to income and so forth, should receive the same benefits and weekly allowances as old age pensioners got. That would meet the case of about 46 per cent. of the blind who were indigent and too old to be taught anything. On behalf of the Government he promised either to re-form this bill or to introduce another to give effect to the proposals of the Government.

The Future of Poor Law Infirmaries.—Lieut.-Colonel Fremantle asked, on March 10th, whether the legislation necessary before the Minister of Health could decide the future utilization of Poor Law infirmaries was to be expected this session; and, if not, whether he would give such definite advice to boards of guardians as would enable them to make the institutional provision urgently required for tuberculous persons without incurring expenditure on accommodation which might be unsuitable for its ultimate purpose. Dr. Addison said he was unable to say when the legislation referred to would be introduced. It was not the policy of the Government to encourage boards of guardians to make additional provision for tuberculous persons. He was pressing upon the public health authorities the need for providing further institutional accommodation for these cases with the aid of substantial financial assistance from the Exchequer. Lieut.-Colonel Fremantle inquired if this did not mean a large amount of institutional provision that might be superfluous when there were Poor Law institutions available and suitable. Dr. Addison replied that he did not think so; as a matter of fact, there were several thousand beds short.

Bovine Tuberculosis.—Sir A. Boscawen, Secretary to the Ministry of Agriculture, stated, in reply to Lieut.-Colonel Fremantle, on March 15th, that the Tuberculosis Order of 1913 as to herds would come into operation, either in its present form or slightly amended, at the same time as the Milk and Dairies Act. The proposal to employ whole-time veterinary surgeons was one which presented serious difficulties. The Ministries of Health and Agriculture were acting in close co-operation, and the possibility of introducing a system whereby herds might be guaranteed free from tuberculosis was under consideration.

Venereal Disease Treatment Records.—Dr. Addison, on March 10th, said, in answer to Mr. J. Davison, that arrangements had duly been made for the keeping of records regarding the treatment centres for venereal diseases, established partly or wholly at the public expense. The number of cases dealt with for the first time at these centres between January 1st, 1917, when the first treatment centres were opened, and December 31st, 1919, was approximately 175,000. The approximate expenditure of local authorities on these schemes during the years ended March 31st, 1917, 1918, and 1919, amounted to £18,000, £116,000, and £216,000 respectively. The estimated expenditure during the current financial year was £314,000. Of this expenditure, 75 per cent. was borne by national funds and 25 per cent. by local funds.

Rabies Muzzling Order.—Sir A. Boscawen informed Captain Tudor Rees that the last case of rabies in this country occurred in Surrey on February 18th. The Muzzling Orders were in force in six different parts of the country. Owing to the long incubation period sometimes observed in rabies it was not considered safe to free a muzzling area within a period of from six to eight months from the date of the confirmation of the last case.

Small-pox in Poplar.—In reply to a question by Mr. Will Thorne (Plaistow), on March 11th, Dr. Addison said that though the Poplar cleansing station was within the same grounds as the disinfecting station, children sent there entered by a different door, and all necessary precautions were observed. It was, he said, the case that a man employed as the driver of the disinfecting van, whose duties took him to the house of a person who had been removed suffering from small-pox, had developed that disease. The man had refused to be vaccinated. In reply to suggestions by Mr. Thorne and Mr. J. Jones (Silvertown), Dr. Addison said that he had no authority to direct the payment of compensation to the parents of children who might contract small-pox. He could not undertake to introduce legislation providing that any person contracting an infectious or contagious disease through the neglect of any individual, or any body of persons or any Government department, should be entitled to compensation on similar lines to those which enabled the workman to receive compensation for contracting a disease in the course of his employment.

Criminal Law Amendment Bills.—A bill introduced in the House of Lords, on March 16th, by the Bishop of London, to amend the Criminal Law Acts was at the request of the Government read a second time and referred to a Joint Select Committee of both Houses, to which also will be submitted the Government Bill of 1918, shortly to be reintroduced, and Lord Beauchamp's bill. The Bishop of London proposed in his measure that the age of consent as a defence should be raised to 18, and there were in it several other provisions materially to strengthen the law.

The Restriction of Child Labour.—Major Baird (Under Secretary for the Home Office) stated, on March 10th, in answer to Mr. Short, that the International Labour Conference at Washington had adopted a draft convention to provide that children under 14 should not be employed in any industrial undertaking other than undertakings in which only members of the same family were employed. Special provisions were inserted in regard to the application of the convention to India and Japan.

Veterinary Surgeons Act Amendment Bill.—Sir Watson Cheyne, on March 11th, moved the second reading of a bill the main objects of which were to enable the Royal College of Veterinary Surgeons to charge diplomates an annual fee, and to give power to prohibit bodies of unqualified persons from forming themselves into a veterinary dispensary or hospital, a proceeding which was legal under the existing Act and lent colour to the idea that they were qualified. Another clause rendered it penal for any veterinary surgeon to employ an unregistered practitioner. The bill was opposed by Brigadier-General Colvin and Mr. Jodrell. It was supported by Sir Henry Craik and Lieut.-Colonel Raw. The closure was carried by 106 to 51 and the bill read a second time.

Pre-War Pensions and the Cost of Living.—The Prime Minister, on March 11th, dealt with several questions arising out of the motion passed on February 25th, on a private member's resolution, in favour of increasing police pensions in order to meet the increased cost of living. The proposal was that pensions granted before April 1st, 1919, when new rates were given, should be raised. It was vigorously opposed by the Home Secretary, who intimated that the Government was prepared to consider hard cases, but could not go further, as the whole pension system of the Civil Service was really involved. Mr. Lloyd George now said that the Government had again carefully considered the subject, and could not depart from the decision that it would be most unjust to the general taxpayer to raise the pre-war pensions in accordance with the present scale. They had, however, appointed a committee to consider whether any steps could be taken to relieve exceptional cases of hardship due, for example, to age and infirmity.

Sanatoriums for Uncertifiable Mental Cases.—Mr. Rendall asked, on March 12th, what steps the Minister of Health proposed to take in regard to the provision of sanatoriums for uncertifiable mental cases, and whether, for the encouragement of voluntary patients, such homes should be kept on a hospital footing—namely, free from detention and wholly unconnected with lunacy administration, so as to prevent their being regarded as halfway houses to asylums. Dr. Addison said that any scheme on the lines suggested (with which he was entirely in sympathy) would require legislation. The question was under consideration, but he was not in a position to say when the necessary legislation would be introduced.

England and Wales.

VENEREAL CLINICS IN LONDON.

AT the meeting of the London County Council on March 16th it was reported that during 1919 the number of cases of venereal disease dealt with at the London hospitals under the scheme in which the Council is the chief participating authority was 27,364, and the total attendances at the clinics, 298,066.

The attendances represented an increase of 74 per cent. over the corresponding figures for 1918, which themselves showed an increase of 44 per cent. over the figures for 1917. The authorities participating in the scheme, in addition to the London County Council, were the councils of six adjacent counties and three adjacent county boroughs. It was estimated, however, that 75 per cent. of the cases came from the London area. The hospital authorities were making every effort to deal adequately with existing demands for treatment. The venereal clinic at St. Thomas's Hospital was the first to be opened in London daily and all day. The Royal Free Hospital was the first general hospital to make special provision for pregnant women suffering from venereal diseases. A medical home had been provided in Stockwell for the treatment and simultaneous education of children suffering from gonorrhoea. The Council was called upon to increase substantially the amount of grants for 1920–21. The grants to be made by all the participating authorities (London's share being 75 per cent. of the whole) would be £92,000 for treatment and pathological work at hospitals and £1,500 for hostels; the grants for the year just expiring amounted to £51,300. The reasons for the increase were: (1) the

large growth in the work of the clinics; (2) the increase in the cost of hospital maintenance; and (3) the probability that the increase in the work of the clinics would continue during the next twelve months at least, though not at the same rate as during the year 1919.

LEICESTER PUBLIC MEDICAL SERVICE.

The plan on which the Leicester Public Medical Service is conducted was described at the time of its foundation and its progress has been referred to in the JOURNAL on several occasions. The Board of Management in its report for 1919 records another successful year's work. The subscribers to the various sections of the service number upwards of 43,000, and in addition some 11,500 state insured members of friendly societies are paid for through the service. In consequence of changed conditions the Board felt obliged to revise the rates of contributions. The new scale came into force in July last, but special reduced rates are charged to subscribers in receipt of the old age pension and to those assisted by the guardians. The service undertakes free medical treatment to the uninsured blind of Leicester, and for this the committee of the Institution for the Welfare of the Blind has expressed its sincere gratitude. Free medical treatment is also provided for members of the Wycliffe Society for helping the blind and of the Cripples Guild. More than 189,000 prescriptions were dispensed during the year. By arrangement with the Education Committee the school clinic work is carried on at the central dispensary, where the Board is now equipping a pathological laboratory under Dr. T. C. Clare. At the annual meeting held recently a report was received also from the committee of the Leicester subdivision of the Union of Medical Practitioners, which made arrangements for giving medical attendance to patients of doctors absent on military service. A scheme for collective locumtenencies during the summer holidays was inaugurated last year and worked successfully; thirteen doctors took advantage of the facilities afforded by this scheme and twenty-six doctors attended patients for their absent colleagues. A scheme for collective locumtenencies during sickness or short absences was also arranged upon much the same lines.

MEDICAL WOMEN'S DINNER.

The past and present students and staff of the London (Royal Free Hospital) School of Medicine for Women held a reunion dinner, on March 12th, at the Abercorn Rooms, Liverpool Street, after an interval of six years. The chair was taken by Dr. May Thorne, in the absence of Miss Louisa Aldrich-Blake, M.S., Dean of the Medical School, who was laid up as the result of an accident. More than 300 were present, the guests including Sir Thomas and Lady Barlow, the Right Honourable F. D. Acland, M.P., Sir Cooper Perry, Sir Walter Fletcher, Dr. H. Morley Fletcher, Dr. Leonard Dudgeon, Professor F. G. Parsons, and Sir William Barrett. After the loyal toasts had been honoured, the Chairman expressed the regret of all the company at the absence of Miss Aldrich-Blake, and then in an admirable speech touched on the events of the past six years, paying a high tribute to the splendid work done in various theatres of war and at home by medical women trained at the Royal Free Hospital. The association of the hospital with the London School of Medicine for Women began in 1877. When no other hospital would look at women students the Royal Free placed its clinical resources at their disposal. Dr. May Thorne concluded by asking her hearers to support the new appeal fund. It is proposed to enlarge the hospital from the present 220 beds to 450, and to offer full facilities to women students for training, experience, and research. Of the beds 230 will be entirely free for the treatment of poor patients; the remainder it is proposed to set aside for persons of moderate means who can pay three guineas a week towards the expense of their maintenance whilst in hospital. The cost of the new buildings, equipment, and charges towards maintenance is estimated at £500,000. The land for the hospital extension and the nurses' and service quarters has already been given, and adjoins the present building. Land adjoining the present school in Hunter Street is available for the proposed school extension. The toast of the "Royal Free Hospital and London School of Medicine for Women," thus proposed by the chairman, was replied to in an amusing speech by Dr. Walter Carr, and by Miss S. T. Widdows, B.Sc., lecturer on chemistry, who described recent progress. Dr. Carr told of the student of the school, who was found nursing her baby, smoking a cigarette, and studying a textbook on surgery at one and the same time; he thought this typical of the modern spirit. The toast of the guests was proposed by Lady Barrett, physician for diseases of women to the Hospital, and was responded to by Sir Walter Fletcher, secretary of the Medical Research Committee, who in the course of his speech mentioned the anxiety felt at the grave illness of Sir Robert Morant. The dinner was in every way a great success, and illustrated the strong feeling of loyalty felt by students and staff for their hospital and medical school.

A FREEMASONS' PAYING HOSPITAL.

During the war the Freemasons' war hospitals were maintained by the craft. The committee has now decided to continue one of the hospitals for the benefit primarily of freemasons of limited means and members of their families. It is intended to be conducted on nursing home lines, and the charges will be based on the estimated cost of maintaining a bed in a general hospital of the first rank, which is put at about £3 to £3 5s. a week. The actual cost will be substantially more, and the craft is raising an endowment fund for this purpose. The adult wards will be arranged in semi-cubicles curtained off. The nursing staff will consist of fully trained nurses, each member nursing her own patients throughout. It is intended that the patients shall pay something towards the surgical expenses, and the surgeons on the visiting staff will be asked, while looking at the institution in the same way as they would regard an ordinary hospital, to consent to take from the committee small nominal contributions towards the surgical expenses. The premises are those formerly occupied by the Chelsea Hospital for Women, Fulham Road, Chelsea; they will be opened at the beginning of May. The committee may, we do not doubt, count upon members of the profession to give the necessary medical and surgical treatment at nominal fees as an act of generosity towards the poorer members of the craft—at any rate, while the institution is in the early stage of its work; but the principle is unsound economically, and will, we anticipate, eventually be replaced by some plan under which the members of the craft will take upon themselves a full share of the whole cost of the hospital, and not place upon the medical profession a burden greater than is borne by other classes of the community.

Correspondence.

THE PHYSICAL BASIS OF MENTAL DISORDERS.

SIR,—At the present time the psychogenetic conception of mental disorders, or at all events that large section termed the psycho-neuroses, practically holds the field. Psychogenesis implies, I take it, the origin of mental disorders in the mind, the body only becoming affected secondarily, although I observe that Dr. Bernard Hart's definition in respect to the psycho-neuroses is that it implies merely predominance of psychical factors.

The followers of the psychogenetic doctrines employ "psychotherapy" in some form or another as a curative agent—that is, they claim to cure mental disorders by mental means. No one would wish to dispute the good results obtained in the psycho-neuroses by these methods; but it is permissible to dispute their interpretation of its action. Equally good results are obtained by diametrically opposed "psychological" methods. One practises the repression of the painful ideas into the unconscious and substituting pleasant ideas; another the dragging of the painful impressions into the full light of consciousness and endeavouring to incorporate them in a modified or altered form into the conscious part of the ego.

Waller has recently shown that by speech one can influence the metabolism of the cells, and show graphically alterations in the electrical resistance of the body. Some speech leaves the subject unaffected, whilst that which evokes strong emotion produces marked effects. This is a biological phenomenon. In a similar way it may be that "psychotherapy" is really biological and not psychical. By this procedure certain sensory end organs, chiefly auditory, are stimulated, and nervous impulses from this centre react on the chief controlling station for the

endocrine glands. In this way it might be possible for an imperfect equilibrium between these organs, the result of shock or other cause, to be rectified. The effects of thyroid extract in certain cretinoid forms of insanity show the marvellous influence this internal secretory gland has on the mind. By its administration we can transform a mindless, repulsive, helpless child into an active, industrious, and fairly intelligent being; we have in fact by purely physical means put a mind into the child.

Some years ago, in the *Journal of Mental Science*, I gave an account of the pathological appearances found in the brain, kidneys, liver, and blood vessels of the insane. The results showed in what a large proportion changes, chiefly of a degenerative character, or evidence of lack of normal development occur in insane cases, even among the young and recently insane. It seems to me now, however, that it will be by a study of endocrinology that most promise of acquiring satisfactory evidence in support of the physical basis of insanity will be forthcoming.

Whether the psycho-neuroses are primarily psychical or physical in origin may seem merely of academic interest, but in my opinion there has been a tendency, especially among asylum medical officers, to study the psychological aspect of the question to the neglect of the biological. If I am correct in this, more than an academic interest is attached to the question if it may help to counteract this tendency.

Recently, however, the physical side of the question seems to have received more notice, even by the psychogenetic school, and Bernard Hart,[1] one of its ablest advocates, suggests that the causes now called psychical may ultimately be capable of expression in anatomical and physiological language. His attitude is "that in the present state of our knowledge we can express processes in psychological terms, and explain them by psychological laws, much more profitably than by the conceptions of anatomy and physiology."

The work of Pavlov on conditioned reflexes in the brain may open the door for a physical explanation of many phenomena now regarded as psychical.—I am, etc.,

JOHN TURNER.

The Mental Hospital, Brentwood, March 10th.

APPENDICECTOMY BY A NEW ROUTE.

SIR,—The title of Mr. Whitelocke's paper (February 14th, p. 211) aroused my curiosity, and I wondered what could be the "new route" that the ingenuity of the surgeon had devised for attacking the appendix. Great was my surprise, as I see the paper was read before the Surgical Section of the Royal Society of Medicine, to find that the new route was a slight—very slight—variation of the well known McBurney's operation.

Personally I fail to grasp wherein lies the claim that Mr. Whitelocke advances. The only difference I can detect is that the incision is placed perhaps half an inch higher on the abdominal wall, and perhaps half to one inch nearer to the anterior superior iliac spine. The structures divided and separated are precisely the same as in McBurney's operation, and I have no doubt that surgeons who have employed McBurney's method have on many occasions unwittingly performed the operation by the "new route," in that the incision has not been placed exactly in McBurney's line. but somewhat nearer the anterior iliac spine.

The essential feature of Mr. Whitelocke's operation, as of McBurney's, is the muscle splitting, and in this, as far as I can see, the two operations are exactly the same. As in McBurney's operation, it is necessary, in order to obtain enough room, to separate the internal oblique and transversalis muscles as far outwards as possible.

That the appendix can be removed without opening the general peritoneal cavity is doubtless true in rare instances, but it is also true that in the vast majority of cases, by whatever method of operation, the general peritoneal cavity is opened, and this is a strong argument in favour of the more surgical procedure of deliberately opening it before proceeding to search for the appendix, since, if any risk is entailed, it can be guarded against by packing, while if we delude ourselves with the notion that the general peritoneal cavity has not been encroached upon, the risk is obviously greater.—I am, etc.,

London, W., Feb. 23rd. DOUGLAS DREW.

[1] BRITISH MEDICAL JOURNAL, February 14th, 1920.

THE TREATMENT OF UTERINE CANCER.

SIR,—The closing paragraphs of the leading article on tumours complicating pregnancy make one sad. It is to be hoped that they do not reflect the views of many gynaecologists. The writer, in calling attention to Dr. Herbert Spencer's statement that he had cured three cases of cancer of the cervix by high amputation, says that "these results must give us reason to pause and think." Surely no other conclusion can be drawn than that the operator was extremely lucky, and though it is but natural that a surgeon should attach undue importance to such fortuitous results, yet no one can guess what the effectiveness of the technique may be unless he knows the relative proportion of the successes to the failures. A very restricted operation is bound occasionally—but only by sheer luck—to remove the whole of the morbid process. The crucial test of any operative or other procedure in cancer must be: How many cases has the operator seen, and how many of these are alive and well, say, five years afterwards?

In the second place the article states that "throughout all gynaecological literature there is apparent a feeling almost of despair as to the powers of surgery in dealing with this particular form of cancer," and this is apparently the outcome of "the hopes based on the technique of Professor Wertheim." While Wertheim must be given a certain amount of credit in stimulating gynaecologists to improve the extent of their operative measures his technique was far from being the last word on the subject, and the way in which he went back on his original position showed that he never quite appreciated the lessons of the surgical pathology of cancer in general. There are gynaecological surgeons in this country to-day who do a much more thorough and scientific operation than ever Wertheim contemplated; they do not exclude so many cases, their operative mortality is lower, and their ultimate results are better.

Thirdly, "a note of fresh and confident hope" is detected in recent reports from America with regard to radium treatment. The same note may also be detected in recent French and other foreign journals, but it is altogether unconvincing. In this country we got over that rather hysterical "note" before the war. When the believers in the therapeutic marvels of radium in cancer can produce good pathological evidence of the malignant nature of the lesion before such treatment, and can produce the cured patient alive a few years afterwards, even in a minute proportion of cases, then those of us who are apt to allow our views of such cures to be biassed by the results of our *post-mortem* examinations upon them will become more credulous.—I am, etc.,

ARCHIBALD LEITCH.

Pathological Laboratory,
The Cancer Hospital, S.W., March 18th.

EARLY DIAGNOSIS OF SYPHILIS.

SIR,—Dr. E. Harrison, in the course of an address to the members of the East Riding Division of the British Medical Association, stated (BRITISH MEDICAL JOURNAL, March 13th, p. 364) that "from his experience at the clinic [in Hull] chancroid pure and simple was a rare condition; nearly always there was syphilis at the back of it."

Whilst admitting that it is never safe to exclude the possibility of syphilis in the case of a chancroid, and that it is necessary to keep these cases under observation for at least three months, one is only prepared to accept the former statement providing the *S. pallida* has been found in the living state by dark-ground illumination. On the other hand, if Dr. Harrison's results are based on the detection of *S. pallida* by means of staining reagents, such as the Fontana method, an erroneous conclusion may be arrived at owing to the extreme difficulty in detecting the *S. pallida*, which has a notable lack of affinity for most staining reagents, and the ease by which other spironemes resembling it are found.—I am, etc.,

A. BRYANS,

March 15th. Medical Officer, Middlesbrough Treatment Centre.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—It seems to me that when Dr. Baskett's theory is applied to the National Insurance Act it will not hold water.

Few will deny that prior to the passing of this Act there

were large numbers of persons who made no attempt, and not through inability, to put a little bit by in case of misfortune. They belonged to neither a friendly society, sick and draw club, nor other provident institution. Illness came, throwing the breadwinner on his back, and consequently there was nothing coming in.

The sick man and his dependants were saved from starvation by parish relief and charity. It was surely in part to mitigate the dismal results of such improvidence that the Insurance Act was evolved, forcing the spendthrift to make at any rate some slight provision for a rainy day, thereby lessening the degree of privation which not only he himself but also those relying on him for support might be called upon to bear in case of disability. As Britishers we inherently loathe and detest State interference and compulsion, and let us pray we may have no more of it than dire necessity compels.—I am, etc.,

H. W. FREER, M.R.C.S.Eng., L.R.C.P.Lond.

Colwyn Bay, March 14th.

SIR,—Dr. Davies agrees that poverty has been a chief factor in the past in tuberculous mortality, and that real wages have fallen since 1896—that is, that poverty has increased. He claims that many lives have been saved by paternalism; yet the death rate has risen. It follows that the seen good has been over-compensated by unseen harm.

That is my case. You can, we admit, shift a molehill by mining it with a ton of dynamite; what we say, and prove, is that you do not improve the level of your field. It is incumbent on his school to prove that poverty has other effects than it used to have. To talk of infection is to side-track; no more than poverty can it change its rôle; and while we knew nothing of infectivity the rate fell merrily. It is since we knew, and since we took precautions, that it has risen.

The individualist preaches self-reliance first, last, and all the time. Necessarily he approves of voluntary insurance; necessarily he disapproves of the Act, for it is hostile thereto. The principle is happily inveterate in England. It survived, with much scathing, the Compensation Act; it survives to-day. But the Act is doing its best to kill it.

There is a fallacy in his suggestion that voluntaryism diminishes real wages. It diminishes a man's wages, doubtless, to pay out 6d. a week for insurance. But it does not diminish, it raises, the wage rate of a class which does so. A very simple test will demonstrate this fact. He will allow that the standard of living of a class is the ultimate standard of its wage rate. If the employee class decides to provide for itself, its standard of living is surely raised. If you force an employer to provide for his employee, whose standard is raised? Clearly not the employee's. You have forced the two classes into the position of the feudal baron and his retainer. Incidentally you have killed, by your compulsion, the kindly feeling of the one and the devotion of the other which were the redeeming feature of a degraded condition.

At first, at any rate (for in the long run compulsion must have its debasing influence), we may disregard the direct contribution. But the employers' and the State's contributions are a heavy burden on the persons to whom they are "given." If Dr. Davies marks the rise of large incomes up to 1914, by the side of the increased taxes and the fall of real wages, he will be driven to allow that, short of the point at which all are crushed, while taxation infallibly impoverishes the poor, it actually enriches the very rich. The plain fact is that heavy taxation must raise the rate of interest.

My views on government and its problems, for which he asks, are not relevant here: I have already urged that, especially in the matter of housing, paternalism has done great harm. This I may say to the point, that many educated men are weary of the incessant legislative tinkering, always involving retinkering, at these problems; they have so often had high hopes raised only to be baffled, and, as here, mocked, that their prayer has come to be "let us alone." Can Dr. Davies have already forgotten that only eight years ago the Insurance Act was to deal the *coup de grâce* to tubercle?

If he fails to see why a State scheme must necessarily be bad, after his own statements, I would urge him to read the scathing indictments of the German Act, published just before our own was passed, by its president and vice-president on their retirement.

It is odd that I who have spent so much time in trying to prove that the problem is too complex for a centralized agency should be reproached for treating the question as a simple one. My one desire is to define the function of the State therein. That is simple, as I believe. For fifty years it concentrated on national resistance and left treatment to individuals. That policy was a brilliant success. Later it has concentrated on treatment by a method which must lower national resistance, and left the question of resistance to individuals. As Dr. Davies has to acknowledge, the sequel is dismal.

Is the relation causal or coincidental? The question was important before; it is frightfully, tragically insistent now, with the awful prospect before us for at least a generation. If it is causal, then the man who spends more public money is an enemy to the public health. The principle underlying the Act is the principle of the thousand delirious schemes of "reconstruction." By insisting on an inquiry which shall exonerate, or establish the guilt of, the principle of the Act, medical men can do an untold service to their country.—I am, etc.,

Rayleigh, Essex, March 14th. B. G. M. BASKETT.

THE TERRITORIAL FORCE.

SIR,—May I summarize six points (there are others) of inequality in the treatment of the medical officers of the Territorial Force during the recent war?

1. Pay was the same as for Regulars, but theirs is supposed to allow for a retiring (as against only a disablement) pension.

2. Pay even with allowances was less than that of temporary M.O.s.

3. Whereas a temporary M.O. could go on leave, or remain in hospital as a casualty for years, without the loss of a farthing, the unfortunate Territorial (and his family) had nothing but his bare pay (and 1s. 2d. food allowance on leave) on such occasions.

4. A temporary M.O. on a hospital ship had full pay and all found. A Territorial had pay and no allowances.

5. A temporary officer could invest or use his gratuity every year.

6. A temporary officer got "contract" leave, no matter what "strafe" might be on — and he got ordinary leave, too.

Compared with many I suffered little. I joined up through the T.F. as by a back door, being unable to pass the (1914) physical tests for temporary commissions. But I learned one lesson thoroughly: Believe nothing the War Office tell you, even if they give it you in writing, and wait till "an emergency arises." Neither the nation nor you will lose by it. The Regular R.A.M.C. are more than able to provide the inevitable red tape.—I am, etc.,

March 10th. A TERRITORIAL MALGRÉ LUI.

SIR,—I have been much struck by the remarks of "Hard Hit" and others. Since 1907 I have given time, money, and energy towards qualifying myself to be of service to the country in an emergency. I was mobilized on August 4th while in camp—that is, without half an hour's notice—and served till the spring of 1919.

My honest advice with regard to the T.F. and S.R. is (1) if you are in either, get out as soon as you can; (2) if you are in neither, stop out; (3) when the next emergency arises, wait till you are forced into the service.

By following these simple rules one will achieve the following advantages: (*a*) Increased leisure in peace time; (*b*) in war time, avoidance of being suddenly torn from practice; (*c*) more pay than the patriotic idiot; (*d*) probably higher rank, safer and more congenial work; (*e*) preferential recognition and earlier release from service.

I see that the Territorial Medal, a recognition of patriotism that would cost the Government 2s. 6d. but which would be valued much more, is not to be given with the 1914–1915 Stars—a regulation which bars 95 per cent. of those otherwise eligible.—I am, etc.,

March 11th. "QUOTH THE RAVEN."

THE INDIAN MEDICAL SERVICE.

SIR,—In the letter by "I.M.S. Retired" (February 28th, p. 307) we have at last come to actual facts, and concrete examples of the financial position of members of the I.M.S. Your correspondent wisely strengthens his case by

deliberately under-estimating expenses in India. If those interested will refer the question to anyone with experience of the present cost of living in India they will find that 20 per cent. may fairly be added to "I.M.S. Retired's" estimate without exaggerating the case.

The comparative table given in the letter showing rates of pay of Indian Army, Supply and Transport, and I.M.S. is clear and decisive. I think that still more light can be thrown on the position of the I.M.S. officer by amplifying in the same way the comparison between the Education and Forest services and the I.M.S., and in the table I give the present rates of pay of these three services in each year of service from one to twenty years.

Comparative Rates of Pay (Monthly), Indian Education, Forest, and Medical Services.

Year of Service.	Education Service.	Forest Service.	I.M.S.
	Rupees.	Rupees.	Rupees.
1st	550	450	550
2nd	600	500	550
3rd	650	550	550
4th	700	600	700
5th	750	650	700
6th	800	700	750
7th	850	750	750
8th	900	800	800
9th	1,000	850	800
10th	1,050	1,000	800
11th	1,100	1,050	900
12th	1,150	1,100	900
13th	1,200	1,150	1,000
14th	1,250	1,200	1,000
15th	1,200	1,250	1,000
16th	1,300	1,300	1,150
17th	1,350	1,350	1,150
18th	1,400	1,400	1,150
19th	1,450	1,450	1,150
20th	1,500	1,500	1,150
	20,800	19,600	17,500
Total pay received in 20 years' service	249,600	235,200	210,000

The totals of each column prove that after twenty years' service the I.M.S. officer, who has had the longest and most expensive education, has received Rs. 39,600 less than the Education officer, and Rs. 25,200 less than the Forest officer.

The system of increase by annual increments is the most equitable, and might be applied with advantage to the I.M.S.—I am, etc.,

March 3rd. INTERESTED.

CO-OPERATION BETWEEN HOSPITALS.

SIR,—The hospitals of the country require organizing properly. That may be a defect inherent in a voluntary individualistic system. Each is inclined to go its own way, and would probably resent any interference from others. Each hospital board has its own pet charity to administer to its own self-righteous way. The road to Heaven is paved with donations and annual subscriptions. At present there is reliance upon the Red Cross to stave off the nationalization of hospitals. It means an orgy of begging. It is possible that a great deal more can be done by co-operation between hospitals, both as to getting the money and, the importance of which is hardly realized, increasing their efficiency.

We have a Hospitals Association, but it is as if this country were governed only by the national Parliament, and there were no county, borough, or parish councils. There is a great need of decentralization. In Lancashire and Cheshire there are about 12 teaching hospitals, about 13 special and teaching hospitals, about 18 hospitals with between 100 and 200 beds, about 6 hospitals with between 50 and 100 beds, about 21 with under 50 beds.

Now, there is practically no co-operation between these hospitals. How much might be accomplished by co-operation between these hospitals, between their boards of management, and also between their medical and surgical staffs! The teaching hospitals are the great centres of efficiency, new ideas, and new knowledge. We need some means by which these may be rapidly brought to all the other hospitals in their sphere of influence. There is a lack of connecting links or liaison officers. If there was a provincial council of representatives from the boards of management of the hospitals in Lancashire and Cheshire, it might deal with such questions as the raising of funds, private wards, payment of medical staffs, equipment, training and payment of nurses, and almoners or some other system to decide what patients should make part payments towards their treatment and keep, and what patients were fit subjects for free treatment.

Then there should be a council composed of representatives of the medical staffs, to consider new methods of treatment, for what cases they should receive remuneration, and how to make their hospitals as efficient as possible. It is possible that the liaison officers might be got from the consulting medical officers or that the assistant surgeons and physicians of the teaching hospitals might be attached as consultants to the other classes of hospitals. Co-operation of this kind would make post-graduate teaching easier, because the great need now is to bring the post-graduate to the doors of the busy general practitioners. Anyhow something on these lines has got to be done, and if it were well done 'twere well 'twere done quickly.—I am, etc.,

Wigan, March 8th. FERDINAND REES, M.D.

PROPOSAL FOR A MEMORIAL TO SIR VICTOR HORSLEY.

SIR,—I am now not in the habit of seeing the JOURNAL, and it was therefore but yesterday that I became aware of a proposal for a memorial to my husband, Sir Victor Horsley, from the medical profession. I am very grateful for the thought which prompted the suggestion, and I cannot, of course, dictate to others as to their action in response to it. Yet I should be lacking in my duty to him if I failed to express on his behalf the strong feeling which I know would be his.

That there is no spontaneous or general desire in the profession is obvious, for my husband's death in Mesopotamia took place in 1916; nearly four years have passed since then. Without the support of such a strong general feeling such memorials seem to me not worthy of the effort to bring them into being; they lack conviction and sincerity and the underlying meaning which gives them all their value.

The times to-day are very hard for all of us, very hard for the medical profession, and above all for those scientific members of it who would be called upon to contribute, and who, from the multiplicity of such claims at this moment, must suffer serious inroads upon the altogether inadequate returns which the public and the State mete out to them in acknowledgement of their self-sacrifice in the cause of science.

I know, therefore, that it would give my husband no pleasure, but acute pain, if in any way through him the difficulties of the members of his profession were added to by one iota. I beg, Sir, to be allowed on his behalf to urge very earnestly that the work he did be suffered to remain his real and only public memorial.—I am, etc.,

London, W., March 14th. ELDRED HORSLEY.

SCOTTISH BOARD OF HEALTH.

THE Consultative Councils set up under the Scottish Board of Health Act have appointed the following Chairmen and Vice-Chairmen:

Medical and Allied Services.—Chairman: Sir Donald MacAlister, K.C.B., M.D. Vice-Chairman: Dr. Norman Walker.

National Health Insurance.—Chairman: Mr. William Thomson. Vice-Chairman: Mr. Thomas J. Addly.

Local Health Administration and General Health Questions.—Chairman: Sir Thomas Munro, K.B.E.

Highlands and Islands.—Chairman: Her Grace the Duchess of Atholl, D.B.E.

THE Ministry of Health has issued a standard specification for timber cottages. It can be obtained from the Stationery Office or through any bookseller, price 3d. net. The specification is to be adapted to local conditions by the architect, but every scheme for the construction of cottages in timber which has not yet gone to tender, or is not on the point of going to tender, must comply with this specification.

Obituary.

SIR ROBERT MORANT, K.C.B.,

First Secretary of the Ministry of Health.

THE death of Sir Robert Morant is a great loss to the country. These words are to be taken literally and not as a convention. He has been called a bureaucrat, but no man in public office ever was less. He was a man of wide sympathy, open to ideas, loving an enthusiast and ready to catch fire from him; but his business was to administer, and he was constantly impressed, often oppressed, by the difficulties of administration. The rebound from the first flush of comprehension of an idea to the realization of the obstacles in the way of its attainment was characteristic.

Robert Laurie Morant was born in Hampstead in 1863; from Winchester he went to New College, Oxford, and graduated B.A. in 1885. For the next quarter of a century he was concerned with education, first as a master at a preparatory school, then as private tutor to the Royal Family of Siam, and organizer of public education in that country, next with educational work in the east end of London, then in 1895 at the Board of Education, where the great ability he showed during the stormy times of the Education Act of 1902 led to his appointment to be Permanent Secretary to the Board in 1903. Thereafter began a gradual development of work and thought which finally brought Morant to have intimate concern with the affairs of the medical profession. To the reorganization of elementary education there succeeded investigation of the problems of secondary and of university education: both of immense consequence to the professions, the former perhaps to us the more important. After his translation to the chairmanship of the Insurance Commissioners—something, it may be, of a tumble upstairs—Morant retained to the full his zeal for education, and, without allowing his concern with the whole to be diminished, gave more and more attention to medical education and its continuance after graduation. He was greatly interested in the policy unfolded in the *Memorandum on Medical Education in England* presented to the Board of Education by Sir George Newman in 1918; the policy had been debated during his time at the Board of Education, and there is a passage in the *Memorandum* to which we have no doubt he heartily subscribed, for he was always an ardent advocate of width as well as depth in education. Sir George Newman, after speaking of the isolation too often to be observed between the various departments of a medical school, continued:

> Yet biology, physics and chemistry are together the foundation of the intermediate subjects and pathology, even as they, in their turn, are the essential preparation for clinical understanding and training. The student is not sufficiently taught that the advanced subjects *consist of* biology, physics and chemistry applied to the life, form and function of the body in health and disease. The patient *is* a case of anatomy, of physiology, and of pathology to be interpreted and treated on grounds and by means which are in essence chemical, physical and therapeutic. The examples of this truth are manifold. Physiology, as we have seen, must be brought into touch with the elements of clinical study—the physiology of the mammal and of man, its application in the clinical laboratory and the ward, and above all the recognition of the immense part played by the organic regulation of structure and activity, which the wise physician and surgeon seek not to destroy or pervert, but to release, to aid and to supplement at the bedside. Any lack of co-ordination of subject and of method, and still more of scientific spirit, is not peculiar or confined to the United Kingdom, but it is harmful and mischievous.

As head of the National Insurance Department Morant sometimes had to act as leading counsel in presenting the case against the profession. It is the highest compliment to both sides to be able to say that those members of the medical profession who were brought into contact with him during the negotiations formed the highest opinion of his integrity, and conceived a strong liking for him as a man. It was evident that he was always trying to understand the reasons for the attitude of the other side; when it came to a tussle he was a clean fighter.

SIR GEORGE NEWMAN, K.C.B., M.D., F.R.C.P., Chief Medical Officer, Ministry of Health and Board of Education, writes:

I find it very difficult to respond to the invitation to say a few words about Sir Robert Morant. His departure from amongst us has been so sudden and unexpected that some time must elapse before we are able to measure the magnitude of our loss, a loss which is not only personal but national; moreover, the moment of bereavement is not an occasion for considered judgements.

Morant and I began our friendship together in 1907, when Mr. McKenna first appointed me at the Board of Education. From that day to this the "combine"—or, as he sometimes preferred to call it, the "Siamese twin arrangement"—has lasted. For, though it is true that when he left the Board of Education I was no longer an official colleague, we saw much of each other, an association which became all the closer when we received official instructions in 1916 to begin to devise together the machinery of a Ministry of Health. As is well known, Sir Robert Morant was dreaming of a Ministry of Health as early as 1907. I am not transgressing any ministerial or official secrets if I say that in a particular measure and in a peculiar way the Ministry of Health, as now formed, is a product of Morant's mind, and his name will go down in our social history, not only in relation to the Education Act of 1902 and the administration of the Insurance Act since 1912, but also as the civil servant who above all others was the designer and builder of the Ministry of Health. To these great tasks he brought his exceptional natural faculties. Trained at Winchester and Oxford, with their inspiring traditions, he brought also a wide knowledge of men, and, above all, varied experience and human sympathy.

It has been said with much truth that Morant was a master of detail. I well remember when we were first designing the School Medical Service in 1907 how he drew a small cross in the middle of a sheet of foolscap, showing that the four arms of the cross were very close together and sprang from one centre. Then, with a stroke, he elongated each arm of the cross, showing that the final goal in each direction was pole-wide asunder from the others. To such a mind no detail is insignificant; it sees in the smallest particular far-reaching issues and in passing incidents and episodes illustrations of profound principles. Unless such a mind has a strong anchorage in principle, it will of course lose itself in a world of detail and triviality. This, however, was not Morant's habit. He was sometimes mysterious and sometimes inexplicable, sometimes provocative and apparently contrary, but he was never lost. Always for him there seemed to be, though unseen by others perhaps, a pillar of cloud by day and of fire by night.

Another characteristic closely related to his concentration upon detail was his tremendous power of analysis and destructive criticism. If he thought a proposition untenable, illogical, or in any way invalid, he could, with a quickness which was almost disconcerting, tear away the veil and ruthlessly expose what he considered to be the inherent fallacies of the argument. Indeed, one formed the opinion that his first great faculty was analytical, and so great was it that it overshadowed his constructive powers, in themselves of an exceptionally high order. The exercise of his analytical function often led him to appear to be suspicuous, hostile, and even aggressively antagonistic, when what he really sought was the truth, and nothing but the truth. Persons, policies, predilections, prejudices—they were all swept away in his almost terrible powers of quest. It must be added that in the pursuit he was wary and rather slow to give or receive confidence, distrustful until secure. "I am like the heavy and clumsy elephant," he wrote the other day, "when he is going over softish ground, with his trunk endlessly feeling and testing and fussing." It was sometimes an exhausting process to all concerned; and, like the rest of us, he had the defects of his qualities.

There was a third thing, too, which became obvious to all of us who ever worked under him or with him, and that was his extraordinary devotion to duty. He embodied what is said to be a distinguishing principle of the English civil service—incorruptibility. He could not be bought, and he was not for sale. He bent his whole powers of body, mind, and soul to what he deemed to be his personal duty in the public interest. I am glad to have an opportunity of saying that I think Morant, all through the thirteen years that I have known him, proved himself to be over and over again a great and true friend to English medicine. We used to tease him that he had chosen the wrong vocation, and that he ought to have been a prophet or a physician. Everything connected with

medicine seemed to fascinate him. Every great advance in its science and art seemed to thrill him, and he believed that the primary asset of the nation is the health of the people. He was called "democratic" and even "socialistic" in his ideals; however that may be, he loved to give these ideals a medical setting. More than once I have seen him opposite a group of medical men combating and analysing the views which they expressed, the temperature of the whole party steadily rising as the conflict of opinion progressed; and I have said to myself, "Yet he is really loving them all the time." Medicine has been coming rapidly into its own kingdom in relation to the State during the last few years, and it has been my lot to watch Sir Robert Morant's hand often guiding the helm. In the old days at the Board of Education, all through the war, and at the Ministry of Health, through good report and ill he has steered disinterestedly, what to him was the right course for the advancement of our profession, the amelioration of its disabilities, and the provision of the full opportunity for its splendid purposes. If it is true that in some ways he has been the greatest Civil Servant of his generation, it is likewise true that in some ways he has been the greatest friend which Medicine has ever had in the counsels of Government.

There is one other trait on which I must try to say one or two words. Although his work often brought him into clash with persons and policies and so left along the road a series of men hurt or provoked, Morant had something of a genius for friendship. There are men and women in various walks of life and in various countries of the world who cannot think of him other than as an extraordinarily true and affectionate friend. His love seemed sometimes to surpass the love of women; and whilst to the enemy he could be formidable, for his friends he was able and willing to do the uttermost in loyalty, in affection, and in service. This great gift of friendship sprang from deep spiritual sources, where lay hidden his religious convictions. It is not for me to speak of these though we had often discussed them together. They did not conform to any orthodox creed that I know of, and were perhaps rather a catholic harmony of East and West, but they proved a mighty dynamic in his life, the inspiration of his sense of public duty and the motive power of that exhaustless self-sacrifice in which he laid down his life. As a prodigious worker his life was one of ceaseless labour, day and night, often seven days a week, and he has certainly died in the cause of the Ministry of Health. We begged him to spare himself, to take some rest, to give heed to the premonitions of overstrain, but it was all apparently disregarded, or, at least, of no avail. He was so great a person, so large hearted and keen minded, that his very dominance made it difficult to control him or to harness him, and now he has fallen a martyr to his spirit of devotion. He passes from our midst, though not from our hearts.

Sir WALTER FLETCHER, K.B.E., F.R.S., Secretary of the Medical Research Committee, writes:

Medical research and higher education in medicine in this country will remain always under a debt to Sir Robert Morant that is quite incalculable. A great public servant in a position like his can wield a power which must usually be decisive, and which is all the greater for good or evil in that it is unseen from outside. To him is greatly due the establishment of the Medical Research Fund under the National Health Insurance scheme of 1911, its unification for the four nations of the kingdom, and the constitution of the Medical Research Committee set up in 1913 to administer it. By its provisions—novel in many ways, and far-sighted in all—this constitution gave the best freedom and power to the scientific men charged with the responsibility of applying the Fund to the purposes of medical research. At every opportunity Morant brought all his forces to the service of medical science and research. Inspired by the highest ideals of intellectual truth and of human charity, he gave to these causes all his genius for organization, an unrelenting vigil against the dangers that beset them, whether from ill will or from ill-directed goodwill, and he gave them unstinted work whenever occasion arose among the other claims upon his tireless official industry.

An administrator in his position and with his power, but with less insight into the essentially new problems of government offered by the direct State endowment of free scientific research work as such, might have strangled the new organization at its birth with the red tape of prescription. Morant responded instantly, however, to every right growth in the early life of the Committee towards freedom and flexibility, so long as the proper bonds of responsibility to Parliament and of financial efficiency were scrupulously preserved. More recently he laboured to secure on the right foundations the future work of the Committee, reconstituted as it will be from April 1st next as the Medical Research Council, working under the direction of a Ministerial Committee of the Privy Council. His interest in this plainly transcended any sectional views he might have taken if he had thought only as the chief officer of the Ministry of Health for England and Wales; he was concerned only with the realities of the problem and the best interests of the whole kingdom as those might be served by the advancement of medical science. He brought to this work—a fractional part only of the enormous tasks he bore at the time—not only the mind and experience of the professional administrator in education and in public health, but the warm-hearted zeal of a man keenly alive to the general interest and beauty of the scientific work being done in the universities or hospitals of the country.

His eager mind went out to all these things just as it responded to fine music, to literature, to good humour, and to all the fullness of life. It was, to my mind, his chief greatness that he had condemned himself for a long series of years to allow none of these to draw him aside from his intense application to official work. I have heard it said, even slightingly, that the *technique* of administration was his passion. That I am sure was not so. His passion, the deep but true furnace of his energy, was a desire that others, that the whole country, should be raised to a fuller life, to a more abundant life of the mind through education, and to a better physical life through health. The test of this was given, I think, in his attitude to the technical methods and details of administration, whether in design or execution. These lost all interest for him when once their purpose was fulfilled. He pursued realities, and in gaining or securing these he was not intrigued by the mental sleight or the deft adjustments that had made the advance. He fought step by step with clear vision of the great objectives ahead, and not with any but passing zest for the smaller enjoyments of the sword play as such. After work that any man might have cast backward eyes upon with complacent interest in the performance, he would be found to have turned instantly to the next task at hand. Few men gave praise more generously to others, and no man's praise was better worth having. Yet when he praised, it was the effectiveness of workmanship that appealed to him, and not the effort or skill that might be shown. The work itself belonged to the curse of Adam; the result was to be hailed as a step, though it might be a very tiny one, towards Paradise. The trouble taken was to be deplored, but—as he would say—"You see, it *was* worth while."

His work for the National Insurance scheme must be debated by others; it must always be a curious speculation whether the scheme could have survived a year without him. It seems to have in it every element of tragedy that a man with his eager impulsion towards ideals of public health and with his fine sense of right organization should have been called upon to administer a national health scheme of which the financial basis was prematurely, perhaps fatally, developed before a sound structure of health services had been framed at all. What other man could have made scaffolding to hold together those disjointed elements until, after successive and almost heart-breaking delays, the fusion of the insurance with the local government activities allowed the building to begin from the foundations upwards and from the centre outwards? It is true, I think, that his interest in the medical research organization within the insurance scheme was warmed not only by his true instinct for the value of knowledge and its advance, but by the comfort he could also take in seeing that this at least brought no dislocation in the administrative structure, and that research, while it could make independent growth without strain on other parts, could never progress too fast in accumulating guidance for the future medical administration.

Now the sword has fallen from him—the sword that he would never have let sleep in his hand till the English race had gained the possibilities of health and happiness he dreamed of—and it has fallen in the moment when

he had joined battle at last upon his own ground and in his own way. We cannot measure this loss. It can hardly yet be the subject of thought. "His departure is taken for misery, and his going from us to be utter destruction." Yet those who knew him for himself can only have an abiding thankfulness for him and for the knowledge of what he was. That can never fade and his work can never die.

Sir JENNER VERRALL writes:

On behalf of the Central Medical War Committee I wish to add a few words of gratitude and respect in memory of Sir Robert Morant. Working in and with the Committee, he gave us from the first the full support of his advice, experience, and influence, and brought to our aid the resources of his department. In the early days of our work especially, when responsibility came heavily on us, and the machine was still far from perfect, this help was of the greatest value. The efficiency of his department he had always most at heart, but Morant recognized that, to estimate fairly the minimum needs of the Insurance Act service, you had also to consider the general need of the community for medical attendance of all kinds and by all practitioners. It was largely due to the intimate relations with the medical profession which this work in common provided that in his new sphere at the Ministry of Health he showed his desire to ascertain, and if possible to meet, the wishes of the profession on the many problems to be solved. We have much reason to regret the loss of a strong man who sought to agree when he safely could do so, and, when he could not, withstood with such courage and so fairly.

Dr. H. B. BRACKENBURY, Chairman of the Insurance Acts Committee, writes:

The death of Sir Robert Morant is a blow to the whole community, and to the profession in its relation with the Ministry of Health a real disaster. His great qualities have been shown abundantly since the formation of that Ministry, but to those who, like myself, have been intimate with him in his official capacity ever since he became Permanent Secretary to the Board of Education in 1903 they have been evident for long; and his loss is a personal as well as an administrative one which is so great as to be at present unrealizable. Through all the discussions of the last two years between representatives of the profession and the Insurance Commissioners and Ministry, his has been the dominating figure. He may truly be said to have seen many of the difficulties of the profession, and to have sympathized with them more than some members of the profession itself. While holding very firmly to the principles which he had adopted as right, he always seemed to be trying to understand and to help those who were not so clear-minded. He was a man with a vision of what ought to be, yet with a practical mind fertile in thinking out means for making his visions into realities. He can have had few equals in his skill in probing uncertainties, and in detecting and exposing shams; and if the former process was sometimes painful and the latter on occasion merciless, they were both necessary and salutary. With great zeal and unsparing effort he was devoting himself to the upbuilding of a new and efficient health machinery and organization, and his death at this juncture leaves a gap which every member of the profession who has known anything of what he was and did must feel is almost impossible for any one man to fill. The public who care either for education or for health owe him an enormous debt; the medical profession owes him no less.

Sir JOHN LYNN-THOMAS (Cardiff, South Wales) writes:

The death of Sir Robert Morant is a calamity for the Ministry of Health from the administrative point of view. There is need and urgent call for a definite policy from the strictly medical point of view, irrespective of any other consideration. Medical ideals must be the bedrock upon which the superstructure shall be built; how long it will take to build is not the immediate concern of the medical profession, which must not give the critics a loophole for attack. The ideal of the best for efficiency must prevail in the long run. The bogey of £ s. d. need not frighten the profession; it concerns the millions who can afford to pay when they use hospitals. Hospitals are now paid for by the few who are not entitled to enter them in the day of sudden and serious illness or accident to the human machinery in all its component parts—mind, nerves, muscular and bony framework. In evolving a sound policy Morant's knowledge of affairs, his width of view, and his real sympathy with the aspirations of the profession would have been invaluable.

A memorial service held at the Church of St. Martin-in-the-Fields on March 17th was very largely attended. Among those present were Dr. Addison, Minister of Health, Sir George Newman, Chief Medical Officer of the Ministry, Sir Walter Fletcher, Secretary of the Medical Research Committee, Lord Dawson of Penn, Chairman of the Medical Consultative Council, Mr. Herbert Lewis (Parliamentary Secretary of the Board of Education), Sir L. A. Selby-Bigge (Permanent Secretary), and Sir Alfred T. Davies (Permanent Secretary of its Welsh Department), Viscount Sandhurst, Viscount Knutsford, Sir Francis Champneys, Sir Claud Schuster, Sir Almroth Wright, and Sir James Galloway. The British Medical Association was represented by Dr. T. W. H. Garstang, Chairman of Representative Meetings, Dr. G. E. Haslip, Treasurer, Dr. Brackenbury, Chairman of the Insurance Acts Committee, and the Medical Secretary, Dr. Alfred Cox, O.B.E. The BRITISH MEDICAL JOURNAL was represented by the Editor and Assistant Editor.

WILLIAM AUGUSTUS BONNEY, M.D.BRUX., F.R.C.S.ED., Chelsea.

WE regret to record the death of Dr. W. A. Bonney, who died on February 29th. He was born at Brentford in September, 1840, and was consequently in his 80th year. His grandfather was John Bonney, solicitor, of Brentford, who with Horne Tooke (for some time vicar of Brentford) was imprisoned at the end of the eighteenth century for taking part in the so-called Horne Tooke Conspiracy. It was a very mild agitation when compared with our proceedings in the present day; in fact, Tooke and his friends merely desired to deal with the rank political abuses which disgraced their time. The trial is memorable because Tooke and his friend were the last political prisoners to be lodged in the Tower of London. His father was Dr. Francis Augustus Burdett Bonney, who practised at Brentford.

Dr. W. A. Bonney, after serving an apprenticeship to Dr. Clark of Twickenham, went to the Middlesex Hospital in 1863, and became M.R.C.S. in 1866. He was subsequently appointed resident obstetric officer to the hospital. In 1867 he went as assistant to Dr. Keen of Chelsea, and in 1869 started in practice there. He had lived in Chelsea upwards of sixty years, and witnessed many changes.

He was a man of great ability, whose life interest was in his profession, and he kept himself abreast of modern professional thought and practice. In 1880 he took the diplomas of L.R.C.P. and L.M. of Edinburgh, and in 1882 the M.D. degree at Brussels; finally, in 1895, when he was 54 years old, he became, by examination, a Fellow of the Royal College of Surgeons at Edinburgh, studying for the diploma at the Middlesex Hospital, where one of his sons was at that time a student. He had that natural power of storing up and profiting by experience which is the fortunate possession of some, and which, when combined with professional ardour and honour, produces the finest type of medical man.

He was a man of strong opinions, but in fortune and misfortune alike was upright, honourable, and resolute. He had a tenor voice of rare beauty, and this gift remained with him, weakened but still beautiful, up to the time of his last illness, a very unusual thing.

He died of influenzal pneumonia, contracted in the course of his work, and he might have recovered had he given up directly he began to feel unwell. He had, however, an old patient he was determined to save, and on this account continued to struggle on until he himself was very ill. Thus he died, as he wished, in full harness, after a long and useful life—a fine record for any man.

He married in 1870 the daughter of Dr. Victor Poulain, and had three sons, two of whom are in the medical profession.

The death is reported of Sir T. ANDERSON STUART of Sydney. He was born at Dumfries in 1856, and received his medical education at the University of Edinburgh, where he graduated M.B., C.M. in 1880; he took the M.D. with the gold medal in 1882. He was president of the Royal Medical Society, Edinburgh, in 1882, and went to

Sydney in 1883 to assist in the foundation and planning of the medical school. In conjunction with Sir Alfred Roberts he threw himself heart and soul into the founding of the medical side of the university to make it worthy of the great nation which he foresaw would require its services. The result of his labours is a medical curriculum of the first order. On the retirement of Dr. Ashburton Thompson he threw his energies into the Public Health Department, and founded the offices and laboratories of the Board of Health there. His interest in public health matters continued, and he took a leading part in promoting the existing public health legislation of New South Wales. He also took part in the foundation of the Australian Institute of Tropical Medicine. He was Professor of Physiology in the University of Sydney, Dean of the Faculty of Medicine, and Fellow of the Senate since 1883; he was also chairman of the board of directors of the Royal Prince Alfred Hospital. He took great interest in the Industrial Blind Institution, of which he was president, in addition to being president of the Civil Ambulance Brigade, and the British Immigration League of Australia and other institutions. He organized the British Royal Society expedition to Funafuti, which bored coral reef, and proved the correctness of Darwin's theory of reef formation. He received the honour of knighthood in 1894.

DR. ALEXANDER FERGUSON, professor of pathology in the School of Medicine, Cairo, since 1905, died on February 21st, after a long illness. He graduated M.B., C.M.Glasg. in 1892, and was afterwards for several years assistant to the Professor of Pathology in Glasgow, assistant pathologist to the Western Infirmary, and pathologist to the Hospital for Sick Children. In 1902 he graduated M.D. with honours, and received the Bellahouston gold medal for his thesis. During the war he was consulting bacteriologist to the troops in Egypt, with the rank of Major R.A.M.C. He took a particular interest in the pathological museum of Cairo, of which he published a descriptive catalogue in 1910.

The Services.

AFGHANISTAN DISPATCH.

IN his dispatch of November 1st, 1919, giving an account of the recent operations against Afghanistan, General Sir C. C. Monro makes several references to the Medical Services. The number of Regular R.A.M.C. and I.M.S. officers available in India was short of his requirements for complete mobilization:

The source of recruitment of these categories in India is small, and it had been found impossible to make good the deficiency from home. I was fortunate, however, in obtaining the services of 107 officers and 1,280 other ranks of the R.A.M.C. who happened to be in India *en route* from Mesopotamia to the United Kingdom.

The number of mobilized medical units employed during the campaign included 29 field ambulances, 12 casualty clearing stations, 15 sanitary sections, and 16,000 beds in general hospitals, with convalescent camp accommodation for 4,200. There were 11 ambulance trains, and a hundred specially fitted railway ambulance coaches for use with the ordinary passenger service. The Commander-in-Chief records that the two outstanding features of the campaign from the medical point of view were, first, an outbreak of cholera of unusual severity; and, secondly, the abnormal climatic conditions under which the troops were called upon to operate. The epidemic of cholera "for a time gave rise to grave anxiety; it was successfully stamped out by June 20th, an achievement for which the Medical Service deserves the greatest credit." Shortly after the outbreak of hostilities a heat wave of remarkable severity occurred over the whole of the Punjab and North-West Frontier Province, the daily temperature at Peshawar in May, June, and July being 5° to 7° F. above the daily average of the past twenty years. In spite of these trying conditions the incidence of sickness is described as not excessive. The daily admission rate was British 4.98, and Indian 2.97, in the period from May 5th to August 9th. This is compared with admission rates in Mesopotamia, which in 1917 were 5.04 and 2.11 respectively, and in 1918 3.48 and 2.27. The total forces, British and Indian, employed at this time seems to have numbered about 190,000. At a later period the strength of the force employed on the other side of the Indus amounted to 340,000 men. Notwithstanding the severe hardships imposed upon the troops, the Commander-in-Chief from personal inspection assures the Government of India that everything possible was done with the means at his disposal to alleviate the discomfort of the troops, and he records his high appreciation of the work of the administrative services and departments which contributed so largely to that end.

HONOURS.

K.B.E.

THE knighthood of the Order of the British Empire has been conferred on temporary and honorary Major Auguste Charles Valadier, C.M.G., Special List, in recognition of valuable services rendered in connexion with military operations in France and Flanders. Major Valadier contributed jointly a note on advances in the surgery of the jaw and face to the BRITISH MEDICAL JOURNAL of July 7th, 1917.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on March 12th the following medical degrees were conferred:

M.D.—R. R. Armitage, C. R. A. Thacker, H. A. Douglas.
M.B., B.CH.—F. D. Marsh, F. H. Young.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on February 25th.

A letter was read from Lord Stamfordham intimating the King's approval of the suggestion that in future at dinners and other functions of the University of London His Majesty's health should be proposed as "Our Most Illustrious Doctor, His Majesty the King." The King when Prince of Wales accepted the honorary degree of Doctor of Laws of the University in 1913.

The following were recognized as teachers of the University in the subjects and at the medical schools indicated:—St. George's Hospital: Mr. Donald W. Roy (Midwifery and Diseases of Women). University College Hospital: Mr. T. W. P. Lawrence (Pathology). St. Mary's Hospital: Dr. W. S. Denham (Chemistry), Dr. A. H. Gosse (Clinical Medicine), Mr. K. A. Lees (Aural Surgery and Laryngology). Royal London Ophthalmic Hospital: Dr. G. M. Holmes (Ophthalmology-Medical).

The title of professor in the subjects indicated has been conferred upon the following teachers of the university:—St. Thomas's Hospital Medical School: Dr. Hugh MacLean (Biochemistry), Dr. J. Mellanby (Physiology). Middlesex Hospital Medical School: Dr. T. Yeates (Anatomy). London School of Tropical Medicine: Mr. A. W. Alcock (Medical Zoology).

It was reported that Dr. T. Lewis, to whom the Mickle Fellowship (value £200) was awarded for 1920, had intimated his intention of presenting half the money to the Graham Research Fund and half to the Cardiographic Laboratory at the University College Hospital Medical School. The chairman of the Graham Legacy Committee had communicated the thanks of that committee to Dr. Lewis.

In accordance with a request from the council of the Central Association for the Care of the Mentally Defective it was resolved to organize a course of lectures on mental deficiency for medical officers to local authorities and institutions and medical men engaged in work for defectives.

Presentation day will be held in the Royal Albert Hall on Wednesday, May 19th.

The University Medal in Branch IV (Midwifery and Diseases of Women) of the M.D. examination, July, 1919, has been awarded to M. H. Oldershaw, B.S., of University College Hospital.

UNIVERSITY OF ABERDEEN.

MR. WILLIAM G. CRAIB has been appointed Regius Professor of Botany in the room of the late Professor Trail. Professor Craib, who is M.A. Aberdeen, was for a time temporary superintendent of the Botanic Gardens in Calcutta, and was afterwards assistant at the Royal Gardens, Kew. He was appointed lecturer on forest botany and Indian forest trees at Edinburgh five years ago.

UNIVERSITY OF DUBLIN.

Honorary Degrees.

THE Senate on March 13th decided to confer a number of honorary degrees. Among them are the M.D. on Sir Archibald Garrod, K.C.M.G., M.D., F.R.S., Regius Professor of Medicine in the University of Oxford; the LL.D. on Sir Donald MacAlister, K.C.B., M.D., President of the General Medical Council, and Principal of the University of Glasgow; and the D.Sc. on Professor W. H. Bragg, F.R.S., whose investigations into radio-active elements have made his name so well known.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE diploma L.R.C.S.Edin. has been granted to S. K. Mukhopadhaya.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

THE following candidates have passed the Conjoint examination for the diploma in Public Health:

Mabel C. Clark, W. E. Cooke, W. P. Cooney, C. E. H. Cater, J. A. Hamilton, W. P. Kelly, T. J. Lydon, J. F. Lyons, B. Murphy, W. O'Brien, G. W. Pope.

Medical News.

THE Prince of Wales, before his departure for Australia, signified his willingness to support the Oxford memorial to Sir William Osler, and sent a donation.

THE date for the receipt of signatures to the Automobile Association's petition to the Prime Minister on the cost of motor fuel has been extended to March 24th.

A DISCUSSION on the prevention and extermination of rats will be opened by Mr. T. J. Kenny, M.R.C.V.S., at a meeting of the Royal Sanitary Institute to be held in the Town Hall, St. Helens, on Friday, March 26th, at 7 p.m.

THE number of deaths from influenza in the ninety-six great towns of England and Wales during the weeks ending February 7th to March 13th inclusive have been 98, 109, 161, 178, 196, and 230. The number of deaths in London during the same period were 20, 25, 37, 38, 54, and 57.

THE Umberto I prize for the best orthopaedic work or invention is open to members of the medical profession in any country. Persons desiring to compete for the prize, which is of the value of 3,500 lire, should apply to the president of the Istituto Ortopedico Rizzoli, Bologna, Italy, who will supply full particulars. The competition will close on the last day of this year.

THE first reunion dinner of officers and nursing staff of No. 53 General Hospital (B.E.F.) will take place on March 25th, at the Hotel Great Central, at 7.30 for 7.45 p.m. Officers who have not already done so, and who wish to be present, should at once communicate with Lieut.-Colonel E. M. Callender, C.B.E., 73, Sussex Gardens, London, W.2; nurses with Miss M. S. Riddell, Principal Matron, T.F.N.S., 80, Pall Mall, S.W.1.

DR. NATHAN RAW, C.M.G., M.D., M.P., has been invited by the Minister of Health to assist him in the selection and organization of permanent village settlements for the treatment and training of persons suffering from tuberculosis. The Ministry proposes to provide nine settlements in Great Britain for tuberculous ex-soldiers and others.

THE Minister of Health has appointed an inter-departmental committee to consider the determination of a standard composition for condensed milk and other questions connected therewith. All communications on the subject should be addressed to the secretary, Mr. C. J. Bayley, Ministry of Health, Whitehall, S.W.1.

THE programme of the Child-Study Society, London, for the current year includes a lecture on March 25th, on adolescence and the continuation schools, by Mrs. Sloan Chesser, M.D., with Dr. F. C. Shrubsall in the chair; and a lecture on April 29th, on biting insects and children (illustrated with lantern slides), by Dr. A. E. Shipley, F.R.S., with the Hon. Sir John Cockburn, K.C.M.G., M.D., in the chair. The lectures are given at 6 p.m., at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1.

THE Ministry of Pensions for some time past has supplied soldiers and pensioners who have suffered amputation of the leg with a provisional limb to supplement the permanent mechanical limbs that have been, and are being, supplied. The value of the provisional limb lies in its acting as a kind of "slipper" and as a reserve in case of accident to the mechanical limb. If a pensioner has not received a second mechanical limb he is entitled to apply to his local War Pensions Committee for a provisional limb, and arrangements to obtain one will be made with the nearest limb fitting hospital which works in connexion with a Red Cross provisional limbs dépôt established in its neighbourhood.

THE fourteenth French Medical Congress will be held in Brussels under the patronage of the King and Queen of Belgium from May 19th to 22nd. Three subjects have been selected for discussion: (1) Syphilis of the cardio-vascular system, introduced by MM. Bayet (Brussels), Etienne and Spillmann (Nancy), Vaquez et Laubry (Paris). (2) Lipoid pathology, introduced by MM. Chauffard, Guy Laroche and Grigaut (Paris), Linossier (Vichy), Zunz (Brussels). (3) The value of artificial pneumothorax in treatment, introduced by MM. Burnand (Leysin), Derscheid and Geeraerd (Brussels), Dumarest (Hauteville), Küss (Angicourt). The congress is organized by the Association des Médecins de Langue Française; others desiring to attend the congress will pay a subscription of 40 francs (Belgian). The secretary of the congress, from whom further particulars can be obtained, is Professor René Verhoogen, 22, Rue Joseph II, Brussels. The treasurer is Dr. Godart-Danhieux, rue Montoyer, 9a, Brussels.

THE committee of the Lancaster Gate Medical Society decided, on March 1st, that the society in future should be known as the Psycho-Neurological Society, and that its object be "the study of psychological and neurological medicine." The officers for the year are: President, Dr. David Forsyth; Vice-President, Dr. W. A. Brend; Honorary Secretary, Dr. C. Worster-Drought; Honorary Treasurer, Dr. P. Bousfield. At a meeting on February 22nd Dr. Henry Head read the paper published in our issue this week, and a discussion followed. On March 15th Dr. R. Travers Smith raised a discussion on the simulation of valvular disease of the heart, and subsequent speakers deplored the fact that the psychological basis of cases of disordered action of the heart was so frequently overlooked.

THE National Association for the Prevention of Tuberculosis has issued an appeal for subscriptions to a fund to enable it to maintain and extend its educational work. Among the methods it employs is the organization of exhibitions at which are shown diagrams, models, and pictures illustrating the cause and prevention of tuberculosis. Lectures, illustrated with lantern slides and cinematograph films, are arranged, and caravans tour the country; in this way the association's organizers have visited every county and many county boroughs in England since peace was declared. The association is at present supplementing its main work, which is educational, by organizing a farm colony for discharged tuberculous soldiers and sailors. As evidence of the need for educational work it is pointed out that there was an increase throughout the country in the death rate from tuberculosis during the war; in 1917 deaths from tuberculosis in England and Wales numbered 55,934, and it is computed that the number suffering from the disease must amount to half a million. The increase is attributed not only to the hardships of living under war conditions, but to the impossibility of putting a sufficient preventive force into the field. The King is president of the association, the Chairman of Council is Sir Arthur Stanley, and the vice chairman Sir Robert W. Philip of Edinburgh. The offices of the association are at 20, Hanover Square, London, W.1.

THE annual meeting of the Mental After-Care Association was held on March 10th at the Clothworkers' Hall, E.C., under the presidency of the Master of the Company, Mr. Walter Mews, who emphasized the importance of the task of finding suitable work for poor persons convalescent or recovered after treatment in institutions for the insane. The report, read by Dr. Percy Smith, showed a considerable increase in the number of persons assisted during the year; 1,074 had been guests for longer or shorter periods in the Association's Cottage Homes, where efforts were made to provide those capable of employment with situations within their scope under sympathetic employers; in many cases it was necessary to extend, sometimes for years, kindly supervision and advice with a view of preventing relapse. Unfortunately the balance-sheet showed some falling off in subscriptions, but the Guilds of Help had increased its contributions, so that the total amount raised in 1919 was £2,188 as compared with £2,276 in the preceding year. The working expenses had necessarily been affected by the general rise in prices, so that there was urgent need for increased support. Official recognition of the effective work of the association had been accorded both by the Board of Control and the London County Council Asylums Committee, with a prospect of monetary grants from special funds they administered. In moving the adoption of the report, Sir Marriott Cooke, K.B.E., vice-chairman of the Board of Control, testified, from official experience, to the excellent work accomplished by the association in the rehabilitation of discharged patients. Sir George Makins, G.C.M.G., President Royal College of Surgeons of England, in seconding, spoke of the desirability of judicious after-care in convalescence after physical disease, and emphasized its absolute necessity in the case of those who had suffered from mental disorders. Other speakers were Sir G. Wyatt Truscott, Bt., Sir Charles Wakefield, Bt., Sir George Savage, Sir R. Armstrong-Jones, and Mr. C. Gabain. Special reference was made to the invaluable and tactful work of the secretary, Miss E. D. Vickers, who is always glad to supply information as to the association from its offices, Church House, Dean's Yard, Westminster, S.W.1.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London:* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London:* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin, and of the Scottish Office, 6, Rutland Square, Edinburgh.

QUERIES AND ANSWERS.

DR. GWILYM R. PENNANT, of Leargaidh, Brithdir, Glamorgan, who has recently had under his care two cases of miners' nystagmus which developed double glaucoma, asks colliery surgeons to let him know whether they have had a similar experience.

INCOME TAX.

"C. P." states his probable income, exclusive of civil earnings, "for the financial year ending April, 1921," and inquires as to the appropriate personal and professional allowances.

*** Assuming that the net income from the new work does not bring our correspondent's total income over the limit of £800, and that the present statutory rules remain in force for the year 1920–21, he would be entitled to regard the whole of his income as earned except that arising from the War Loan investments; to £50 allowance for his wife, and £65 for his two children; the earned rate of tax would be 3s. and the unearned 3s. 9d. in the £. With regard to the professional expenses, the rule is that they can be allowed in so far as they are incurred in carrying on the practice and not (*a*) in setting it up, or (*b*) in the ordinary way of private living. Applying this to the specific cases mentioned, "C. P." could deduct a reasonable proportion of the furnished rent—for example, 1½ guineas a week, cost of one servant's board and wages, cost of drugs, cost of running but not of purchasing motor car and bicycle. When either the car or cycle is sold, the cost of its replacement would be deducted, but the original car represents capital outlay in starting the practice.

INSOMNIA AGGRAVATED BY NOISE.

"G." asks to hear of a method of obstructing the auditory meatus in a case of insomnia aggravated by noises.

*** Dr. Dundas Grant informs us that though various forms of sound deadeners were used during the war with a view of diminishing the concussion without interfering with the hearing of orders, in civil life there is probably nothing better than a properly adjusted plug of cotton-wool, which may be lightly smeared with toilet lanoline or with spermaceti ointment. A pad of cotton-wool, fastened on with a light bandage, might be tried in the first instance.

LETTERS, NOTES, ETC.

CHAMELEON INFLUENZA.

DR. D. W. SAMWAYS writes from Mentone (March 7th) as follows: The variety of forms in which influenza may present itself has been well illustrated lately on the Riviera. The earlier cases in February were fairly normal, with frontal headache, moderate fever, pains, and rapid recovery. These were followed by a series in which nasal catarrh and sneezing were the predominant and most troublesome features. Then came a series with little fever, 0.5° to 1°, which resisted treatment of any sort for some days. With these there was great prostration, and, above all, inordinate depression. Finally, the tendency has been to concentrate on the digestive system, with abdominal pains, loss of all appetite, nausea, and a sickly slate-coloured tongue. I do not know whether in England similar kaleidoscopic changes have been taking place, nor have I previously observed such rapid transformations here.

SUBCUTANEOUS INJECTIONS OF CAMPHOR OIL.

IN extension of a reply on this subject published last week (p. 388) Messrs. Parke, Davis and Company (Beak Street, London, W.1) ask us to state that they supply camphor dissolved in oil. The oil is sterilized and supplied in ampoules in two sizes. In the one 0.2 gram (3 grains) of camphor is contained in 1 c.cm. (17 minims), in the other 2.33 grams (36 grains) in 10 c.cm. (169 minims).

THYROID ADMINISTRATION IN HIBERNATING DORMICE.

DR. A. BERNHARD-SMITH (London, S.W.) writes: It may be of interest to place on record the effect of feeding thyroid extract to a pair of dormice (*Muscardinus avellanarius*) towards the end of the hibernating season. The amount ingested was 15 grains (Burroughs and Wellcome) over the space of six days. There were no symptoms after the first dose of 5 grains. I then withheld other food for twenty-four hours, and after the second dose a condition somewhat resembling normal torpidity was induced. The respiration became shallow, and the characteristic attitude appeared, but without rigidity. Indeed, after the third dose (although they have habitually become rigid during these cold nights), the new condition induced by the thyroid was such that the male on being given food rapidly recovered and, his appetite being now satisfied, conveyed a morsel to his helpmate, who was thereby awakened from her comatose state, and soon assisted in the consumption of a two-ounce carrot. Movements were somewhat sluggish for a few hours afterwards, but the pair are now none the worse for their experience.

CUTANEOUS MANIFESTATIONS IN A CASE OF CERVICAL FISTULA.

DR. MARTIN J. CHEVERS (Withington, Manchester) writes: The article appearing under this heading by Dr. Alfred Eddowes in the JOURNAL of March 6th, in which he states that he has passed the patient on to a surgeon's care, prompts me to call attention to an article by me in the BRITISH MEDICAL JOURNAL of April 28th, 1906, p. 974, entitled "The treatment of branchial fistula"; the treatment adopted was galvanism and the lady so treated—a relative of my own—has ever since remained perfectly cured and without the slightest trace of the fistula or mark in its course, except the slightest dimple the size of a pin head just above the clavicle. This tends to show that the use of the knife is not always necessary in such a case.

A PIN IN THE ALIMENTARY CANAL.

DR. A. B. ROBERTS (Shepherd's Bush) writes: The case mentioned by Dr. H. B. Pope (February 14th, p. 242) reminds me that about three years before the war a young man about 22 years old, a dancing and deportment teacher, came to me suffering from spasmodic pain and discomfort referred to the anus, especially during evacuation of the bowels. These symptoms had been present about three days. On examination with the rectal speculum a blackened, rusty pin was easily removed by long artery forceps. The patient's only explanation was that he had swallowed the pin without knowing it at the time. As the pin was somewhat bent it lodged near the inner sphincter.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 44, 45, 48, 49, 50, 51, 52 and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 46, 47, and 48.

THE following vacant appointments of certifying factory surgeons are announced: Castle Acre (Norfolk), Consett (Durham).

THE post of specialist medical referee under the Workmen's Compensation Act, 1906, for ophthalmic cases in County Court Circuits Nos. 12 and 14, is vacant. Applications to the Private Secretary, Home Office, by April 3rd.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

THE charges for advertisements in the BRITISH MEDICAL JOURNAL will be increased at the end of March. The new charges will apply to all advertisements for insertion in the JOURNAL of April 3rd and subsequently. The rates will be as follows:

Six lines and under	7s. 6d.
Each additional line	1s. 3d.
Whole single column	£6 0s. 0d.
Whole page	£16 0s. 0d.

An average line contains six words.

From the issue of April 3rd the charge for announcements of births, marriages, and deaths will at the same time be increased to 7s. 6d.

Present Scale.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

ABDOMINAL EMERGENCIES.

THE SUBSTANCE OF TWO LECTURES OF THE POST-GRADUATE COURSE, NEWCASTLE-ON-TYNE.

BY

RUTHERFORD MORISON,

PROFESSOR OF SURGERY, UNIVERSITY OF DURHAM (NEWCASTLE).

SEVENTEEN years ago, in an address on abdominal emergencies given to the Middlesbrough Medical Society (*Surgical Contributions*, p. 480), I said:

Future progress in abdominal emergencies is to be sought for in prompt treatment, and the most important advances depend upon your care and skill; they are not to be expected from the ingenuity and daring of mere operators but from more prompt diagnosis and more vigorous action on the part of the general practitioner.

Here is a list of the twenty-six cases in the Royal Victoria Infirmary to-day:

Acute appendicitis	8
Appendix abscess	7
Gall stones, acute	3
Ruptured duodenal ulcer	5
Intestinal obstruction, acute	3
Total	26

Of these, one, a case of duodenal ulcer, died from septic peritonitis of fifty-three hours' duration. He was moribund when admitted.

Sixteen doctors answered, by letters, questions concerning these patients, and I am indebted to them for much valuable information given on short notice.

THE ABDOMINAL FACIES.

In every case you will be sent for because the patient has abdominal pain. The first question to be answered is whether this is due to some serious cause or not, and that can often be decided if the patient is seen in the early stage after a single look. Doctors are students of the expression of the emotions, and, if they are wise, cultivate the faculty of careful observation of every detail. It is only because observation of the expression and conduct of patients is so commonplace that this has not received the attention due to it, though it is only fair to note that the "abdominal facies" is emphasized in some recent surgical literature.

One of the sayings of the late Dr. Murphy of Sunderland was that when he entered a woman's room after an abdominal operation and saw her hand leaving her hair he knew that there was nothing very serious the matter with her, however loud her complaints. Such an observation is based upon a knowledge of human nature. A desperately ill patient is careless of the ordinary small refinements of life, and looks like it.

INITIAL SHOCK.

The second point helpful in arriving at an opinion is a history of the illness. At the commencement of every serious abdominal emergency there is "shock," and this produces effects so obvious as to alarm the patient's friends. They "noticed the change and they thought something serious had happened." It is well to listen to their story, because in some cases "shock" very quickly disappears and a stage of reaction follows, when recovery may appear to be so complete as to deceive the most wary. This occurs even in such serious and hopeless conditions as lacerations of the hollow viscera by injury and perforations of gastro-intestinal ulcers.[1] To impress this upon students I used to relate to them the story told at a coroner's inquest on a famous footballer. During the game on a Saturday he was forcibly struck in the abdomen by the bent knee of an opponent, fell down at once looking very bad, and was carried to the club-house "winded." He was immediately seen by a doctor, but in two hours had so far recovered that he was able to be taken home, and everyone thought he was little the worse. On Tuesday he was very ill with "inflammation of the bowels," and was sent to the cottage hospital, where he died on Thursday. *Post-mortem* examination showed that the small bowel had been torn across and had leaked, and that death was due to peritonitis. Think of it, and remember that similar cases are still occurring every week. A kick from a horse, a blow from a cart shaft, some localized force suddenly applied to the abdominal wall, ruptures the intestine. Operation within six hours would save 90 per cent. of these patients; the policy of "wait and see" allows 90 per cent. of them to die. The reason why they do not all die was made the subject of experiment by Hamilton Drummond in France. He cut the intestine of animals and replaced them open. For many hours the intestine lay where it was placed and expelled none of its contents. Natural repair followed and the animals recovered—because their intestine was paralysed from the injury. In soldiers shot through the abdomen he found a similar paralytic condition of the intestine, with little extravasation of its contents.

In the reactive, or second, stage the patient may look and feel so much better that it seems almost impossible that there are serious results to follow. Now is the time when diagnosis is most difficult, and often most important, and it may be impossible to answer the first question we have to ask ourselves—namely, Whether is the condition a serious one or not? (Case 1.)

HISTORY AS TO PAIN.

The third clue is to be found in a study of the history of that pain which was the cause of your attendance. How did it commence? How did it progress? Was it preceded by any warning? Have similar attacks occurred before?

The causes of abdominal pain are special to the abdomen. All the viscera are insensitive to ordinary pain stimuli. They can be cut or burned or sutured and no sensation results. On the other hand, the parietal peritoneum is exquisitely sensitive, and stimulation of it produces the first type of pain; the hollow viscera respond strongly to intravisceral irritation, especially such as is produced by foreign bodies *plus* infection, and to tension, and this is the second cause of pain; the mesentery and attachments of the viscera are painful when dragged upon, and this is the cause of a third type of pain.

Irritation of the Peritoneum.

A countryman was going home at the end of a day's work, and when within a hundred yards of his cottage jumped over a low railing. In the act of jumping he was suddenly seized with a pain in his stomach so severe that he fell, and thought he was going to die. For an hour he lay where he fell, entirely conscious but feeling that he had to lie still, and that he dare not make even the effort to shout for help. He was carried home, seen by a doctor (who found him cold and collapsed), and sent to the infirmary on a stretcher in a guard's van. On arriving there he appeared to be very well, but there was some evidence from physical signs that he was not. His previous health had been good except that he had had periodic attacks of "indigestion," but never serious pain before. Operation showed a perforated duodenal ulcer. Such a sudden serious pain suggests perforation of a hollow viscus, and the cause is irritation of the peritoneum by escaping visceral contents.

Forcible Contraction of Unstriated Muscle.

A young man got up at 5.30 in the morning to go to work, and felt some pain in his inside. He took a "good dose" of castor oil before going out. He went to his work on a tram car. The pain grew worse, and he vomited twice before reaching his destination, and was able, but doubled up and with difficulty, to walk to a signal cabin on the railway, where he sat down. During an hour there he vomited four times, and the pain was so bad that he could not help shouting and rolling about on the floor. On admission to hospital three hours later, he had frequent paroxysms of pain during which he shouted out like a woman in labour, and tossed about in bed. Previously he had had similar attacks, but none so severe, and a dose of castor oil had always put him right before. Operation showed a loop of gut strangulated by an adherent Meckel's diverticulum. Such a pain, paroxysmal in character and severe enough to make the patient shout and roll about, suggests the forcible contraction of unstriated muscle, caused by increased intravisceral tension. Gall stones, stones in the pelvis of the kidney or ureter, and obstruction of the intestine are the most familiar examples of this variety of pain.

Dragging on the Mesentery (Torsion).

A young man was awakened by severe pain in his lower abdomen and right testicle which was partly undescended

He felt faint, broke into a cold sweat, slept no more and vomited twice. In a few hours his testicle had swelled to the size of an orange, and pain continued till operation, seventy-two hours later. There was complete torsion of the spermatic cord and gangrene of the testicle. A similar condition is more common in women, when ovarian cysts twist their pedicles. In all of them, men and women, the final half twist has been preceded by others less severe, and this story also holds true of the similar condition called volvulus of the intestine. In all the pain is mainly due to forcible dragging on the mesentery.

The severity of pain, its method of onset, its character, its precedents and progress may tell a story sufficiently clear to aid in diagnosis.

RIGIDITY OF ABDOMINAL WALL.

There is only one more point to which I need specially refer, and as it concerns a physical sign it is of great importance.

What is the condition of the abdominal wall? Look at it. Does it move freely, or does it move at all with respiration? If it moves freely, the abdominal condition is unlikely to be serious; if it does not move at all, peritonitis due to a ruptured viscus is suggested.

The joints and the abdomen present features in common. The same nerves supplying a joint innervate the muscles which move it, so that pain in a joint results in a protective contraction of the muscles which activate it. Visceral nerves are similarly related to the nerves supplying muscles which move the abdominal wall, and abdominal pain is accompanied by protective rigidity of the muscles overlying an intraperitoneal lesion.

Now feel the abdominal wall. If there is no tenderness, no rigidity, and no underlying lump, a colic (forcible contraction of unstriated muscle) is the cause; a tender tumour, without considerable rigidity over it, is a localized lesion connected with one of the intra-abdominal viscera; definite rigidity and tenderness point to inflammation of the peritoneum, and the more diffuse these are the more serious the condition probably is.

INTRA-ABDOMINAL HAEMORRHAGE.

Another of the serious abdominal emergencies is due to intra-abdominal haemorrhage.

Blood is an irritant to the peritoneum, not so vicious as extravasated contents of the hollow viscera, but sufficient to cause pain, so that pain is usually the first symptom of intra-abdominal haemorrhage, whether it be caused by injury or not. The same shock, followed by reaction, is present as in the conditions considered previously, but instead of developing symptoms of peritonitis, the third stage in intra-abdominal haemorrhage is the result of loss of blood. Symptoms occur in the following sequence:

(1) A feeling of anxiety and weakness; (2) pallor of the visible mucous membranes and face; (3) thirst; (4) quickening and enfeeblement of the pulse; (5) a craving for more air; (6) a cold, clammy skin, earliest appreciable on the forehead; (7) sighing, yawning, restlessness; (8) noises in the head and dimness of vision; (9) dilated pupils and syncope; (10) diminished percentage of haemoglobin in the blood.

These symptoms occurring after an abdominal injury suggest rupture of one of the solid viscera—liver, kidney, spleen; after operation, slipping of a ligature; without injury, and in a woman a ruptured ectopic gestation.

Operation, if done early enough and followed or preceded by blood transfusion, in the worst cases will save the majority from death.

TREATMENT.

Relief of his pain is what the patient demands, and so would any one of us; but before giving either a hypodermic injection of morphine or any purgative it is essential to answer the question, Is the case serious or not? If no satisfactory answer can be found, no morphine or aperient must be given till the problem has been solved. Before leaving the patient count and note his pulse rate, and later count it again. A rise in the pulse rate is the most important sign of progressive mischief, and in doubtful cases the pulse rate should be noted at least every hour.

Pathology teaches us that operation offers the only reasonable chance in an overwhelming majority of serious cases, and its chief objects, in the abdomen as everywhere else, are: (1) To arrest haemorrhage, (2) to remove or exclude a focus of disease, and (3) to deal with mechanical obstacles.

To prevent septic peritonitis, which can only be accomplished by removing or excluding the focus of infection before widespread mischief has arisen, is the chief object of abdominal operation. It is possible in early cases of peritonitis to arrest further infection, but it must be recognized that recovery has been brought about by giving nature a chance. General peritonitis is the same deadly infection it always has been, and when fully developed, or when the cause of it cannot be dealt with, surgical operation has always done more harm than good. Surgeons are now beginning to realize that peritonitis resulting from acute gonococcal, pneumococcal, and pancreatic infections—conditions for which no satisfactory means of dealing with the focus of infection exist—may be made worse by operative interference, and that the best chance for these patients is to wait for localization, prepared to deal with an abscess if life should be prolonged for a sufficient time to allow of its development.

The moral of this knowledge is obvious, and I have preached the application of it in season, and perhaps out of it, for at least twenty-five years. As it is not yet universally applied, let me reiterate.

Every patient with a more than ordinary pain in the abdomen ought to be sent for observation, and, if needful, operation, to a properly equipped hospital without delay. A note as to the condition of the patient when first seen, and stating whether morphine has been given or withheld, should accompany him. It has been the custom with some medical men in this district to do this for years, and many of them can now boast that no patient of theirs has died as a result of an abdominal emergency.

The first portion of the time at our disposal has been occupied in discussing the most important problem to be solved—namely, Is the condition serious, or is it not? On the next occasion I shall deal with the differential diagnosis of cases.

DIFFERENTIAL DIAGNOSIS.

It has always to be remembered that abdominal pain *may* depend upon conditions not strictly surgical, and the advantage of a physician's co-operation should not be lost sight of.

The following is a list of the possibilities of which I have personal—and sometimes unfortunate—knowledge. They can be grouped into three classes:

1. *Irritation of the lower six intercostal nerves*, resulting from pneumonia, pleurisy (purulent or otherwise), pericarditis, herpes zoster, growths or caries of the vertebrae, locomotor ataxia, and hysteria, may produce abdominal pain and rigidity of the muscles. Acute inflammations in the chest, which are occasionally, in the early stages, accompanied by vomiting and pain referred to the abdomen, are specially difficult to distinguish from the abdominal emergencies, and should not be forgotten.

2. *General toxic conditions*, such as arise from chronic kidney disease, diabetes, Addison's disease, Henoch's purpura, ptomaine poisoning, lead poisoning, typhoid fever, may each be introduced to your notice because of acute abdominal pain.

3. *Abdominal conditions*, such as pyelitis, kidney and ureter stones, tuberculous lymphatic glands, and especially acute dilatation of the stomach, may produce symptoms simulating those of peritonitis, and in women dysmenorrhoea may be mistaken for something worse.

So much has been made of the difficulties of diagnosis that it has become a fashion to teach, "Open the abdomen and see"; but this is a pernicious doctrine fatal to all progress, and sometimes to the patient. There are still doubts which can only be cleared up by operation, but they have become a steadily diminishing quantity as the result of more careful study of the problems to be solved. If a note be kept in every case of the pre-operative diagnosis, and later compared with the findings at the operation, an efficient stimulus to better work will be provided.

The most common cause of an abdominal emergency is appendicitis, and it is a good rule in diagnosis to consider the most likely thing first.

APPENDICITIS.

As usual your attendance has been asked for on account of abdominal pain.

When the vermiform appendix is in its normal position, on the inner side of the caecum and pointing upwards to the spleen, and is acutely inflamed, the symptoms and signs are so definite that mistakes are now seldom made.

In the early stage a variable amount of shock is present, and the patient looks ill, but seldom dangerously so. A history of previous attacks is frequently obtainable. The shock stage is quickly followed by reaction. The pain has often wakened the patient from sleep, and generally prevents any further rest on that same night. It is at first diffuse, and referred to the epigastrium or umbilicus, a few hours later settling to the right iliac fossa. Though often coming on quickly and very acute, it is never so sudden in onset or so severe as that produced by the rupture of a duodenal ulcer. In the early stages it may have periods of intermission and exacerbation, due to the efforts of the inflamed appendix to empty itself of its contents (appendicular colic). The pain, like nearly all surgical pain, is due to tension, and the greater this is the more severe the pain. If the appendix cannot empty, tension gangrene of it quickly supervenes, and, as dead nerves convey no impulses, the acute pain disappears.

An acutely inflamed appendix which is draining into the caecum will produce little pain until peritonitis develops.

Soon after the pain appears, vomiting commences, and then follows a rise in temperature. Great stress has been attached to this sequence by Dr. Murphy of Chicago, as the most valuable part of the history in arriving at a diagnosis.

The *Physical Signs* are: (1) Rigidity of the muscles covering (2) a tender spot in the right iliac fossa.

The most dangerous and acute cases, if not seen in the early stages, are often during the reaction stage most deceptive. The urgent early pain having disappeared, those who know no better are relieved of their anxiety till the gangrenous appendix, distended by highly infectious contents, ruptures into the peritoneum. During the gangrenous stage in these serious cases the only definite clues to diagnosis may be right iliac rigidity and tenderness, which do not disappear with the pain.

You may remember that of the fifteen cases of acute appendicitis in the infirmary on the day we last met seven were abscess cases. The explanation of this is generally to be found in the anatomical position of the appendix. If it is not in its normal position but in the subcaecal pouch, or the pelvis, or lying in the gutter on the outer side of the caecum and ascending colon, the symptoms and signs are less definite, and require more careful looking for. They can and ought to be found, because an appendix which has leaked reflects discredit upon someone, as the leak adds to the danger of an operation, and is followed by more severe complications and longer convalescence after it. Careful palpation of the abdomen or through the rectum will seldom fail to discover a specially tender area overlying the inflamed appendix.

The symptoms of inflammation everywhere are—(1) general, and (2) local. The general symptom is fever; the local: pain, redness, heat, swelling, and loss of function, but the last four are not perceptible in appendicitis till the appendix has been exposed.

Consequently, in the most difficult cases sudden abdominal pain and a rise in temperature or a leucocytosis may be the only symptoms, and it is seldom wrong to make a diagnosis of appendicitis when these are found together. The most frequent mistake made now is to think of a *B. coli* pyelitis as appendicitis, but the discovery of pus in the urine will help to clear this up.

The most serious cases are often attended at their commencement by a rigor; severe pain, repeated vomiting, and diarrhoea are always danger signals.

[Two coloured drawings were shown to illustrate the shock stage with a red, tense, swollen appendix, and the stage of reaction, with complete gangrene of the appendix.]

CASE I.—*Complete Gangrene of the Appendix.*

This man, aged 39, admitted January 14th, 1920, had been awakened at 2 o'clock in the morning of Tuesday, January 13th, with pain all across the abdomen above the navel. He slept no more that night, and was so bad he "felt his end was up." At 10 a.m. on Tuesday vomiting commenced, and he vomited at least twelve times before Tuesday night, when the vomiting ceased. On Tuesday afternoon he began to feel feverish, and slept none, or very little, during Tuesday night. On Wednesday morning he was purged three to four times. After the purging the pain left his stomach and settled in his right side, but more as a feeling of soreness than of pain, and he was otherwise quite comfortable. When the doctor examined him he only felt tender on the right side.

The doctor saw him at 12.30 p.m. on Wednesday, and told him he had appendicitis and should go to the infirmary at once for an operation. When he was told this he got up, put his clothes on without help, and walked about the kitchen till the taxi came to drive him to the infirmary, a distance of 50 miles. He had no trouble on the journey, and wondered when he felt so well whether the doctor was right in saying he had appendicitis. He walked from the cab, got a ticket at the infirmary office, and proceeded into the ward without difficulty or pain; indeed, he "felt as if he could walk for miles." He had never had any abdominal trouble before.

On admission his pulse was 98, temperature 100°. There was some muscular rigidity in the right iliac fossa, and he was very tender over McBurney's point.

Operation was performed on Wednesday, January 14th, 1920, at 8 p.m. The vermiform appendix was gangrenous throughout, and so rotten that it ruptured during its extraction.

ACUTE INTESTINAL OBSTRUCTION.

The causes of intestinal obstruction are similar to those which cause obstruction in all the tubular structures of the body. It may be produced by obstacles (1) outside the tube, (2) in its wall, (3) in its lumen, (4) by displacements of the tube itself.

The diagnosis of intestinal obstruction is based upon a trinity of signs: (1) Severe spasmodic pain, (2) evidence (visible, audible, or palpable) of increased peristalsis, (3) inability to pass flatus per anum. In acute cases persistent and frequent vomiting is valuable additional evidence.

When these symptoms are present the first thing to do is to examine the hernial sites with the greatest care, because a strangulated hernia is the most common cause of intestinal obstruction. It is one still too often neglected, if the patient has overlooked the presence of a hernia, or has attached no importance to the swelling.

In the early stage shock is most pronounced when a considerable loop of gut has become acutely strangulated by a tight band or collar, and may continue till gangrene develops, when the reaction stage commences. It is not yet realized how deceptive the appearance of recovery of patients with gangrenous intestine may be.

The treatment of intestinal obstruction is still one of the black spots in our work, because delay follows on diagnostic difficulties, and dangerous changes occur with such serious rapidity as to make prompt action essential to success.

The differential diagnosis of cases of intestinal obstruction may be as difficult as that of other abdominal lesions. It is occasionally helpful to remember that in children intussusception is the most common cause; in adults, bands from adhesions due to healed tubercle, or the results of appendicitis, or past operation, or remnants of Meckel's diverticulum; and in elderly patients malignant strictures, especially of the colon. In addition to examination of the hernial sites, an examination of the rectum should never be omitted if humiliating mistakes are to be avoided.

[A coloured drawing showing the serious condition of bowel six hours after acute strangulation was exhibited.]

CASE II.—*Acute Intestinal Obstruction due to Adhesion to old Tuberculous Mesenteric Gland.*

This man, aged 22, admitted January 13th, 1920, had had a pain in his abdomen on Sunday evening (January 11th, 1920). It doubled him up all night, but he got some relief from hot fomentations and pressing his hands into his belly. Two hours after the pain vomiting came on, and it never ceased till his admission on the following Tuesday evening at 7 o'clock. After the pain commenced he had passed no wind or motion, but on Monday morning heard rumbling, and could feel something rolling in his belly. He was seen by a doctor on Monday and got some medicine, but vomited it all. He says he told the doctor then about the rumbling and his guts rolling round. The doctor saw him again on Tuesday afternoon and ordered him to go to the infirmary at once. On admission he was in a condition of shock. Pulse 112, temperature 95°, respirations 36. He vomited yellow faecal-smelling fluid. His abdomen was somewhat distended, rigid and tender in the centre. A peristaltic wave could be seen and felt in a line above the umbilicus and passing to the left.

A diagnosis of acute intestinal obstruction due to old tubercle was made by Mr. Willan.

Operation showed acute distension of the upper four feet of jejunum and an obstruction due to adhesion of intestine to an old tuberculous gland in the mesentery. A lateral anastomosis of distended gut above and contracted below was made.

He could not say whether he had any abdominal illness as a child. Two years ago he had a pain similar to this one, but it only lasted six hours.

PERFORATION OF THE STOMACH AND DUODENUM.

There is abundant evidence for the view that these serious lesions may undergo a natural cure, but this must not be offered as an excuse for delay in their treatment, because they still rank as the most dangerous of the abdominal emergencies.

Simple ulcer of the stomach or duodenum is the recognized cause of the great majority of perforations, and if they can be satisfactorily closed before the leaking contents have widely infected the peritoneum, recovery is almost a certainty.

A history of previous "indigestion" is obtainable in the great majority; then comes a sudden overwhelming pain. In duodenal cases the intestinal contents, leaking into the subhepatic pouch, escape down the gutter on the outer side of the ascending colon and caecum into the pelvis, and may cause the chief pain, tenderness, and rigidity to be referred to the right iliac fossa. This accounts for the frequency with which such cases are sent with a diagnosis of appendicitis. Mistakes will be less frequent if a history typical of duodenal ulcer is available, and if the sudden overwhelming onset receives due consideration.

[Photographs of specimens of ruptured gastric and duodenal ulcers were shown.]

CASE III.—*Ruptured Gastric Ulcer.*

This youth, aged 17 years, was admitted January 8th, 1920. He brought with him the following note from his doctor:

Dear Sir,

I hope that you will admit F. C., aged 17 years. Diagnosis is—Ruptured gastric ulcer.

History.—The patient has been troubled with slight dyspepsia (he describes it as a sickly pain, though he never vomited, coming on about two hours after food) for the last three weeks. At 6.50 this evening, when at work, he was suddenly seized with severe abdominal pain. He attempted to walk home, but when he got half way was found by a lady standing leaning against a pole and groaning with pain. The lady helped him home, and got him there with difficulty. He has vomited twice since getting home.

I saw the patient at 8 p.m. He was lying on his back groaning with pain. He was very pale, cold, and collapsed. Pulse 112, and very faint; temperature 95.6°. His abdomen was as hard as a board on examination and very tender. Liver dullness present. Breathing was thoracic in character.

Yours truly,

———.

The patient was driven to the infirmary, well packed with blankets and hot-water bottles, in an ambulance, for six miles.

On admission he was in good condition. Skin warm, pulse 75, of good volume. There was board-like rigidity of the whole abdomen.

Operation (five hours after perforation) showed a leaking ulcer on the gastric side of the pylorus. This was closed by pyloroplasty through the ulcer.

GALL STONES AND CHOLECYSTITIS.

It is not sufficiently recognized that if a gall stone suddenly blocks the neck of an infected gall bladder, conditions of great danger may quickly develop. A distended inflamed gall bladder in the course of twenty-four hours may become gangrenous, and the patient seriously ill. Unless quickly relieved by operation, rupture of the gall bladder allows of the discharge of its infected contents into the peritoneum, and peritonitis, likely to be fatal, results. Diagnosis is based upon the previous history of gall-stone attacks, but chiefly on the discovery of a hard, tender rounded lump in the position of the gall bladder under the right costal margin. [A coloured drawing of a gangrenous gall bladder with stone impacted in its neck was shown.]

OVARIAN CYST WITH TWISTED PEDICLE.

In women this is a common cause of an abdominal emergency. If the tumour has been previously recognized, or is evident on examination, and a sudden attack of abdominal pain has developed with tenderness and enlargement of the lump, it is probably due to torsion of the pedicle of an ovarian cyst. In the majority of instances a serious attack has been preceded by one or more minor seizures—which have left the patient apparently little the worse. In serious attacks the vascular supply of the tumour is interfered with, and gangrene of the tumour and peritonitis are the terminal results. [A drawing of an ovarian cyst with twisted pedicle was exhibited.]

ECTOPIC GESTATION.

Another serious abdominal emergency peculiar to women is caused by intra-abdominal haemorrhage, due to rupture of an ectopic gestation.

In the most dangerous variety of this lesion diagnosis has to be made chiefly upon the signs of internal haemorrhage. An early impregnated ovum has eroded through the Fallopian tube, usually close to the uterus, and such furious haemorrhage follows that life can only be saved by operation.

In the more common variety one or two periods have been missed and the patient suspects that she is pregnant. The first warning that all is not right arises from a sudden attack of pain, which may be repeated once or more before the final rupture (Case IV). This pain is probably due to colic of the tube in its endeavour to expel the impregnated ovum. At this stage vaginal and bimanual examination can discover the distended tube at one side of or behind a uterus which offers evidences of pregnancy, and examination of the breasts may support this suggestion. If left alone the patient is suddenly overwhelmed by pain, and the symptoms of internal haemorrhage more or less quickly develop. In many the loss of blood has been so great as to allow of an additional sign—shifting dullness in the flanks—to be discoverable before operation.

Some of the most wonderful resurrections due to surgery have been obtained by operation in these cases, and death following it has been rare, except when the patient was already moribund before the abdomen was opened.

CASE IV.—*Ruptured Fallopian Pregnancy.*

This married woman, aged 29, was admitted January 14th, 1920. Four days before she was suddenly seized with pain in the lower part of the belly, "worse than labour pain." She felt at once very ill, the pain "went up to her heart," and made her feel as if she would die. She vomited several times.

On admission she was very ill, pale and anaemic, with dirty tongue, and was complaining chiefly of rectal tenesmus. (This is a common symptom in ectopic gestation.) There was a tender lump in the right iliac region with some rigidity.

Previous History.—Two children, elder 10, younger 8 years. Never well after last labour. Menstruation irregular, seldom a week without haemorrhage till four months ago. Then haemorrhage ceased for five weeks. Two months ago she thought she must be pregnant because her breasts swelled and milk came from them. A month before admission she had an attack of pain which lasted for two or three hours and made her feel faint. The pain was accompanied by free haemorrhage and the discharge of a "skin." This pain had been repeated several times before the final attack (examination then would have discovered a tubal swelling). She had consulted three doctors, but was not examined till her final seizure, when the condition was correctly interpreted.

On opening the abdomen, it was found to be distended with blood and clot, and there was a pregnancy in the right Fallopian tube.

REFERENCE.

[1] See Triple Syndrome in Abdominal Emergencies, BRITISH MEDICAL JOURNAL, January 3rd, 1914.

REMARKS ON THE ASSOCIATION OF AORTIC ENDOCARDITIS AND AORTITIS.

BY

J. E. MACILWAINE, M.D., B.Sc., D.P.H.,

PHYSICIAN IN CHARGE OF OUT-PATIENTS, ROYAL VICTORIA HOSPITAL, BELFAST.

IN bringing forward this subject my object is to allow the members of the Branch to see two morbid specimens which we have been recently fortunate enough to secure. I would like to acknowledge my indebtedness to Dr. Boyd Campbell who has been associated with me in studying these cases, and who has taken the notes and made all the blood examinations.

For a considerable period it has been my experience to see a number of genuine endocarditic lesions of the aortic valve where clinical evidence seemed to point to the fact that the myocardium was not the important consideration in prognosis and treatment. I have had the advantage of making an electro-cardiographic examination in practically all the cardiac patients I examined, and this method added in some cases a considerable weight of evidence for the conviction that myocardial change was not in itself at all sufficient to endorse the grave prognosis which evidently the general condition of the patient demanded.

After reading Sir Clifford Allbutt's wonderful contribution to cardiac literature in his work on arterial disease,[1] it

* Read before the Belfast Branch of the British Medical Association on February 12th, 1920.

was borne in upon me that in all cases of aortic endocarditis we must think primarily of what is the condition of the aorta itself.

To speak broadly, aortic endocarditis can be divided into two etiological groups—namely, the syphilitic and the rheumatic. In a very exhaustive examination of men entering military service some observers came definitely to the conclusion that the commonest cause of the endocarditis in these recruits was the rheumatic virus.[2] On the other hand, experience of a considerable amount of work amongst the pensioners leads to the conclusion that the syphilitic virus is the principal etiological factor. This is a matter of the very greatest practical importance, and, fortunately, to-day we are in a position to consider it fully, and are able to arrive at a perfectly fair decision as to the etiology of most cases of aortic endocarditis.

I show specimens from two men who both exhibited the classical clinical appearance of aortic regurgitation. The first man died through the rupture of an acute aortic ulcer into the trachea, while the second died after a period of cardiac incompetence which lasted for a considerable time. These two cases have occurred in a series of twelve pensioners in hospital who suffered from aortic endocarditis with aortic reflux.

CASE I.

In the first man the cardiac condition was not in itself at all alarming, but the man's symptoms were persistent and severe. So much was this the case that the question of syphilitic aortitis was discussed, and a Wassermann reaction, which proved to be strongly positive, was obtained. This patient was in hospital for some months and underwent a course of mercurial inunction, with potassium iodide internally. He seemed improved, and had been able quietly to go about while in hospital; he was discharged as unfit for work. The symptoms persisted, and he was readmitted to hospital with haemoptysis and dyspnoea, with severe constant pain behind the manubrium sterni and between the shoulders. He died suddenly, after a couple of days in hospital, coughing up a huge amount of blood. The necropsy showed the usual syphilitic aortitis with a considerable amount of inflammatory adhesion around the aorta, which was definitely dilated and closely bound down to the trachea. A large atheromatous ulcer had eaten its way through, with a considerable amount of cicatrization round it, into the trachea. Unfortunately, no *x*-ray plate of this man's chest was taken before he left hospital, but an ordinary careful clinical examination had not led us to suspect aneurysm, nor, indeed, was the *post-mortem* finding more than a dilatation of the aorta in its ascending and transverse portions. With the experience of this case we began, as a routine, to have a Wassermann reaction taken in all aortic cases, and so far, I think, there has only been one which gave a negative result.

CASE II.

The second case, in which we were enabled to obtain a *post-mortem* examination, was a pensioner, aged 40, who gave a definite history of specific infection twenty years previously. Clinically he presented symptoms very suggestive of acute aortic inflammation. There was well-marked aortic reflux with apparent mitral incompetence, and the general appearance of the patient was rather like septic endocarditis or general septic intoxication. The main symptoms complained of were increasing dyspnoea, pain upon effort behind the manubrium sterni; associated with this was an oedema of the lower extremities. The condition of the patient was evidently very grave, and we suspected, on account of the pain, and dyspnoea even at rest in bed, that there was some involvement of the aorta, as the Wassermann reaction was definitely positive. When we endeavoured to get an *x*-ray picture of the arch of the aorta it was discovered that the patient had a German machine-gun bullet in the thorax above the level of the arch of the aorta, between the oesophagus and the trachea. This bullet had nothing whatever to with the man's general condition, as *post mortem*, it was found not to be surrounded by any marked inflammatory reaction. Its presence there, however, when it became known to the patient, had a most disquieting effect. In fact, Dr. Robb, who was in charge of the patient, said "He never looked up after that bullet was discovered." Unfortunately, the patient's cardio-vascular condition was such that there was not much hope of improvement from the start. To this patient we gave small doses of novarsenobillon, and at first there appeared to be definite evidence of improvement. However, the patient died before he had had a lengthy course—died rather suddenly of, apparently, complete failure of compensation. The necropsy in this case showed, in the first place, general evidence of old-standing syphilitic infection, and, in the heart, marked fatty degeneration; the aorta presented the picture of syphilitic aortitis, a type in which we have an acute inflammatory condition of the great vessel. The aortic valve shows chronic syphilitic endocarditis without any recent change. The inflammation, which is haemorrhagic in parts, is most marked in the ascending portion of the vessel, and this is a usual occurrence. This patient was, unfortunately, too ill to be taken to the Royal Victoria Hospital for cardiographic examination.

It is a common experience to see heart patients who have previously had a syphilitic infection, and who have usually come in consultation on account of pain—either true anginal attacks, or pain which occurs on effort behind the manubrium sterni, and which may be referred from there into the back, between the shoulders, or into one special shoulder, or sometimes up into the neck, sometimes into the arms, etc. It is extremely difficult in some of these cases to say whether true angina pectoris should be considered to be present, or, where the pain is not of the classical description of "breast pang," some other place in the classification must be sought for it. Some of these patients present definite myocardial change, as evidenced by clinical examination by the electro-cardiograph. Many, of course, present the ordinary clinical features of aortic reflux with occasional associated stenosis, but the one common ground is the symptomatology of retrosternal pain and dyspnoea upon effort. I have one patient before my mind in whom these attacks of pain were so frequent that in walking a distance of half a mile on the level he would have to stop as many as half a dozen times. In this patient no cardio-vascular change of any description could be detected on physical examination, nor was the mechanism of the beat in any way altered in the electro-cardiogram. The blood pressure was not excessively high—about 160. In this patient, on blood examination, the Wassermann reaction was positive. There was no question as to the genuine history of this retrosternal pain, and the strange fact was that this patient, once he got started on a Peace Day celebration march, was able to do the whole march of about five miles on an excessively hot day. I have no doubt his pain is due to aortitis on a syphilitic basis.

The diagnosis of aortitis must in the main depend upon the symptoms. It is possible, by means of *x*-ray examination, in most cases to show a general enlargement of the aorta. It is occasionally possible to hazard the opinion that in these patients there is more dullness behind the manubrium sterni than is normal. Well-marked pulsation in the episternal notch, tracheal tugging, and an occasional alteration in voice should be sought for. I would urge, however, as a matter of deduction, that if a patient with the signs of aortic endocarditis develops definite symptoms of pain, and dyspnoea, we may conclude that the aorta is often more to blame in the circulatory decompensation which results than the actual myocardium. It is well known to every clinical observer that the vast majority of patients who suffer from aortic regurgitation are free from pain for years. Therefore we might argue that it is only when the aortitis becomes marked that its pain becomes prominent.

The pathology of aortitis is of a chronic inflammatory type—that is to say, the aorta loses its resiliency. It requires but little consideration to appreciate fully the fact that, while the first *vis a tergo* in the circulation is the contraction of the heart muscle, the second *vis a tergo*—if one might so term it—is due to the resilience of the aorta, which takes up the shock of the force of impact the cardiac muscle gives to the blood, and returns this force in the form of the pulse wave transmitted over the arterial system. This mechanical necessity for the resiliency of the aorta has only to be considered in order that we may realize what a chronic inflammation of this thick elastic tube must mean. The source of this retrosternal pain would seem to be undeniably the aorta, and the cause the chronic inflammation that is present in it.

The prognosis in these cases of aortitis seems to me to be uniformly unfavourable. Certainly our experience, since we began regularly to do the Wassermann reaction, would point to the fact that the old clinical rule stands, that "Where symptoms begin to develop in an aortic lesion there is usually rapid decline of the circulatory efficiency." As already stated in the opening part of this paper, the myocardial condition does not seem to be a very great element in actual prognosis. In the first case cited, we were definitely certain, from the clinical side, that the myocardium was efficient, with a small aortic lesion, and this was borne out by *post-mortem* examination. The prognosis in the second case depended entirely upon the symptoms of the persistent severe pain and dyspnoea, with the fact that the general appearance of the patient was septic, and he had a positive Wassermann reaction.

With regard to treatment, in the first few cases we adopted mercurial inunction and large doses of potassium iodide, but for the past six months, in all the cardiac cases

with a positive Wassermann reaction we have endeavoured to improve the condition by intravenous injection of small doses of novarsenobillon. It would appear that there is some improvement possible, but unfortunately the Wassermann reaction persists in spite of this treatment. It is too early for us to state definitely whether we shall be inclined, as the result of this treatment, to alter the very unfavourable prognosis that we are inclined to form in aortitis.

REFERENCES.

[1] Allbutt, *Diseases of the Arteries, including Angina Pectoris.*
[2] A Collective Investigation of Ten Thousand Recruits with Doubtful Heart Conditions, BRITISH MEDICAL JOURNAL, May 18th, 1918, p. 556; September 7th, 1918, p. 248; April 26th, 1919, p. 510; May 3rd, 1919, p. 544.

TREATMENT OF CEREBRO-SPINAL FEVER BY MONOTYPICAL SERUM.

BY

W. T. MUNRO, M.D., CH.B., D.P.H.,

DISTRICT LABORATORY, COLCHESTER.

I VENTURE to bring to notice a digest of twelve consecutive cases of cerebro-spinal fever which have come to my notice, and to point out in particular that no case has died where it was possible to treat by monotypical serum.

The work of Dr. M. H. Gordon, C.M.G., who was in charge of the Central Cerebro-spinal Fever Laboratory, has demonstrated that 98 per cent. of cases of cerebro-spinal meningitis serologically fall into one of four types.

Those of us who were engaged in the work at out stations were supplied with agglutinating serums to the four types. It was a relatively easy matter to determine the type.

A growth on trypagar was obtained from the cerebro-spinal fluid, emulsified, heated to 65° C. to destroy the autolysin, and tested against the four types of agglutinating serums in dilutions of 1 in 50, 1 in 100, and 1 in 200; 0.5 c.cm. serum was mixed with 0.5 c.cm. emulsion of cocci, and the final dilutions then were 1 in 100, 1 in 200, and 1 in 400. Clear and absolute agglutination could usually be readily seen at the end of eighteen hours, and thus the case was typed. For treatment pooled serum containing 50 per cent. of antibodies to Type 1, and 50 per cent. of antibodies to Type 2 was issued, and in addition monotypical serum to be used after the type was determined.

It might be argued that pooled serum ought to contain antibodies to all the types, but typing of the cases as they came showed something like 40 per cent. to be Type 1, 42 per cent. to be Type 2, 16 per cent. to be Type 3, and 2 per cent. to be Type 4.

It will be at once seen that to add antibodies of Type 3 and Type 4 to such a pooled serum would reduce its value by 50 per cent. to 82 per cent. of the total cases. These serums were prepared under the direction of Dr. Gordon, and were tested both as regards their antimicrobic potency and their anti-endotoxic values.

Of the 12 cases which came to my notice, 8 recovered, and 4 died. The deaths all occurred in soldiers; two of them were dead before they were seen by me, and the other two comatose.

On July 11th, 1918, I was called to a military hospital to see a man who had been newly admitted. I saw him at once, but he had just died. The striking feature was a deep plum-coloured rash over the thighs, legs, arms, neck, cheeks, and even to the tip of the nose. The deep mottled colour and confluent nature of this rash marked it out for special notice. Lumbar puncture after death yielded a turbid fluid full of polymorphs and Gram-negative diplococci, and most of the diplococci were extracellular. The growth which was obtained proved to be Type 2.

The second case seen after death was from the same unit. A medical officer who came to see me later on the same day said that a man had been admitted to the same military hospital at 4 p.m. the day before, and had died at 4 o'clock that morning. I saw the body in the mortuary at 11.30 a.m. There was here, too, a deep plum-coloured rash, and puncture seven and a half hours after death yielded a growth which proved to be meningococcus Type 2. The fluid was turbid and full of polymorphs, and contained many Gram-negative diplococci, mainly extracellular.

I was not able to get any good histories of the illnesses of these two unfortunate cases. They were no doubt missed as cerebro-spinal fever cases owing to the number of men being dealt with in the July epidemic of influenza.

One of them had been ill from July 2nd to 5th with influenza, and one returning from leave had made a long railway journey on July 7th. These two men were stationed at a brigade training school. There were 56 other men there, and 6 of them were found to have meningococci in the posterior nasopharynx. With the two fatal cases this gives a carrier rate of 14 per cent. (8 out of 58). All the carriers proved to be Type 2.

The third death occurred in a man sent a thirty mile motor journey to a military hospital as "? mental." He was seen just before death, when there was a deep mottled rash over arms and legs. Lumbar puncture at noon yielded a very turbid fluid full of polymorphs and Gram-negative diplococci. Pooled serum was given at the puncture, but he never rallied, and died a few hours later.

The fourth case was similar. He died three hours after being first seen. Both of these cases yielded Type 2 growths.

The feature common to them all was a deep mottled rash, and indeed I had begun to look on these rashes as being Type 2 cases, and I risked the type in the last case and gave Type 2 serum on the first and only puncture, and not a pooled serum. The second feature was the very great number of extracellular diplococci in the fluid.

In Case III no contacts were examined by me, and in Case IV, among 24 contacts 4 were positive, so that with the case there were 5 carriers among 25 men, giving the carrier rate of 20 per cent. Necropsies were not obtained.

Reviewing those cases, all were Type 2. Two were dead before any specific treatment was asked for, the second two were moribund when first seen, and died within four hours of lumbar puncture—that is, they were dead before the type could be determined. The age of three of the cases was 18 years, and one (Case III) was 37 years of age.

All the cases showed the usual signs and symptoms of the disease. There were eight recoveries. One was a woman aged 49, and one a boy aged 11. The others were soldiers, four of whom were 18 or 19 years of age, one was 24 years, and the last, a discharged soldier, 34 years of age. In all the cerebro-spinal fluid was turbid, with polymorphs and Gram-negative diplococci, mainly intracellular, but in one patient, whose condition was very critical for some days, the fluid showed many extracellular diplococci.

Seven of the cases showed slight rashes, mainly petechial, and only at points of pressure. Five of the cases gave growths which proved to be Type 1, two proved to be Type 2, one of these showed many extracellular organisms, and one case (the boy) was Type 3.

Causation.

Of the eight patients that recovered, three had suffered from influenza and were recovering when they took ill. Three had had long railway journeys before becoming ill. Of these, one left Aldershot on March 6th, 1919, and became ill on March 8th, 1919; a second, who left Portsmouth on February 12th, 1919, became ill February 15th, 1919; a third left France May 11th, 1919, and became ill three days after reaching home. This is to be compared with Case II among the deaths, who left his home, London district, July 7th, 1918, and became ill on July 10th, 1918.

No depressing factors such as T.A.B. inoculation or vaccination could be traced as having any connexion with the onset of the illness. Four only of the cases had less than six months' service and two of these were the two deaths first recorded. There was no overcrowding.

Examination of Contacts.

In two of the cases no contacts were examined by me. In the case of the woman who recovered, all the contacts examined proved negative with one exception. The patient was Type 1, and the contact was Type 2, but it was subsequently ascertained that this carrier had nursed a patient of Type 2 who died at Ipswich.

This patient could have hardly infected others, as she occupied a room to herself in a good-sized house, but it is noteworthy that a pure growth of Type 1 coccus was obtained from her nasopharynx. Of the five remaining cases, one slept in a six-roomed empty house with thirty other men. There were six carriers besides himself, all Type 1, a carrier rate of 23 per cent. A second, who occupied a billet with two other men, showed one carrier, that is, two out of three men were carriers. No others were found in the company. In the case of the third, the patient who took ill after coming from Aldershot, two out of the sixteen men examined were carriers, but they were Type 1 and the case was Type 2. This man could scarcely have infected the unit in two days; and the two carriers were accidental discoveries. The fourth case lived in barracks with thirty other men; four carriers were found, three of whom corresponded in type with the patient's coccus, therefore there were four serologically similar types

among thirty-one men, a carrier rate of 13 per cent. In the fifth case twenty-nine contacts showed five carriers, and with the positive cases gives 20 per cent. carrier rate, all Type 1.

Treatment.

As soon as a likely case of meningitis was seen a lumbar puncture was made, and if the fluid was turbid and middle-ear disease excluded, pooled serum equal to two-thirds of the volume of cerebro-spinal fluid withdrawn was given intrathecally. The serum was given at body temperature and allowed to run in by gravitation, thus ensuring a slow and even flow. Generally 60 to 70 c.cm. of turbid fluid was withdrawn, and 40 to 50 c.cm. of pooled serum allowed to run in.

The fluid was at once examined for diplococci, and plated on at least four trypagar plates. By next morning there was always sufficient growth to enable one to determine the type. It is a matter of urgent importance to determine the type with the least possible delay in the manner described above. Agglutination is more rapid at 55° C. than at 37° C.; Tulloch has shown that this is due to the more rapid convection currents. Browning [1] in his work on the agglutination of the enterica group, points out that agglutination can be hastened by alternate heating and cooling. After the rack has been in the incubator at 55° C. it should be removed and left at room temperature for ten minutes and then returned. He shows that agglutination will sometimes occur suddenly in the cold. This principle applies to the meningococcus. A long narrow tube which exposes a greater surface to variations of temperature gives more rapid convection currents.

I always set up my agglutinations in a Wassermann tray. I use a hot-air incubator at 55° C. and remove the tray at the end of thirty minutes, allow it to stand for five minutes in the cold, and then return it. I can generally see agglutination beginning in three hours, and it is thus quite possible to give the patient his own type serum on the second day. I see the patient on the morning of the second day, and if he does not seem too distressed I wait for the type, and do the second lumbar puncture on the afternoon of the second day.

In the eight recoveries this procedure was adopted. Five of the cases were Type 1. One required fourteen injections of Type 1 serum before he finally recovered. A second required four injections; and the three others had each three injections of monotypical serum.

The first patient, who required fourteen injections, had to all appearance recovered after two monotypical injections, but relapsed three days later; he finally recovered with the use of serum and an autogenous vaccine. The injections were given daily, and every Type 1 case made a long stride towards recovery after the first injection of monotypical serum. Two cases of Type 2 were punctured morning and evening, one for three days and the other for five days. A monograph issued by Major Hine, of the Central Cerebro-spinal Fever Laboratory, pointed out that Type 2 serum was not so rich in anti-endotoxin as Type 1 serum, and he suggested puncture twice a day, a procedure which was followed here with excellent result.

The only case of Type 3 was the boy of 11 years. He had been ill for five days before he was seen. He only showed any change after the type was determined, and he was given Type 3 serum. He recovered after four injections. He was the only case to show any permanent defect as a result of the disease. He was deaf, and this nerve deafness was probably present before treatment was begun. As above mentioned, the one case that relapsed was also treated with an autogenous vaccine. If a vaccine is to be of any use it must be combined with lumbar puncture. In the ordinary case the intracerebral pressure is high, and until this pressure is reduced by puncture no antibodies can reach the seat of infection. The use of vaccine does raise the resistance, and combined with lumbar puncture the immunizing response can be carried to the centres of infection.

Since this paper was prepared for publication a thirteenth case came to my notice. The patient, a girl aged 14 years, was treated by Dr. W. F. Corfield, Medical Officer of Health, Colchester, at Myland Infectious Hospital. I ascertained that the infection was Type 3; she recovered after four daily injections of Type 3 serum. This case was complicated by unilateral iridocyclitis, no doubt of meningococcal origin. She had been ill for four days before admission, and the right iris was then seen to be fixed in semi-dilatation; the cornea was dull, and there was pericorneal injection. The eye was treated energetically with atropin ointment and hot fomentations; undoubted optic neuritis is present, and there is some injection which is regressive; the patient can see and count fingers. It seemed at one time that panophthalmitis would develop. This complication is not uncommon,[2] and is stated to have been present in 3 to 6 per cent. in a Paris epidemic. It is worthy of note that the only two cases to have after-effects belonged to Type 3; I would not attribute any special virulence to Type 3, but believe that the complications were due to the cases coming under treatment late. In this connexion the constant warning of military medical officers to be on guard for any possible case of meningitis allowed of an early diagnosis. The boy of 11 years with deafness first received treatment on the fifth day of his illness, and this last case on the fourth day.

Summary.

1. Early treatment affords every prospect of success.
2. Type 2 is the most virulent.
3. A deep confluent rash is of grave significance, and many extracellular diplococci mean a severe case.
4. To ascertain the type early, and then use monotypical serum, affords the best chance of recovery.
5. Of ten cases that had serum eight recovered.
6. No case that lived long enough for the type to be determined died.
7. Vaccine treatment may help in a relapse when improvement is slow.

Nine of the ten cases who had serum were treated at Myland Infectious Hospital, Colchester. To the staff there, for careful nursing, and to my laboratory assistant, Miss Carder, grateful thanks are due.

REFERENCES.
[1] Browning: *Applied Bacteriology*, pp. 26 and 27. [2] Foster and Gaskell: *Cerebro-spinal Fever*, pp. 104 and 24.

THE ASSOCIATION OF LETHARGY WITH THE INFLUENZA BACILLUS.

BY
W. M. CROFTON, M.D.,
LECTURER IN SPECIAL PATHOLOGY, UNIVERSITY COLLEGE, DUBLIN; PATHOLOGIST STEEVENS'S HOSPITAL.

IN a paper published in the BRITISH MEDICAL JOURNAL for March 1st, 1919, I gave my reasons for considering that *B. influenzae* was the cause of influenza. They may be briefly recapitulated:

1. The bacillus can be isolated from the large majority of cases of influenza, 80 to 90 per cent.; between the epidemics from only an occasional case that must be considered a carrier.
2. A pure influenza antigen protects when used prophylactically. It is interesting to note the close correspondence of my figures using a pure antigen with Sir W. Leishman's figures for the army using a mixed antigen, approximately an 86 per cent. protection in both cases.
3. A pure influenza antigen rapidly aborts the disease in uncomplicated cases.
4. A pure influenza antigen during a reaction can produce transitory typical symptoms of the disease.
5. The serum of influenza patients agglutinates the influenza bacillus sometimes in a dilution as high as 1 in 1,000.

It is, in my opinion, a great pity that pure antigens are not being used for prophylactic purposes on a large scale. No conclusion can be come to by the use of mixed antigens.

If the connexion of influenza with the influenza bacillus is not generally accepted, still less is the connexion of it with encephalitis lethargica. This disease is vaguely thought to have some epidemiological connexion with the influenza epidemic. The following brief accounts of four patients treated with pure influenza antigen may encourage others to try the method and help to clear up the etiology of a dangerous condition.

CASE I.

A medical student had had for some days a temperature ranging from 100° to 102° before taking to his bed. He complained of seeing double. He became increasingly sleepy, was delirious, and had hallucinations; when spoken to he could be roused up, and talk fairly sensibly. His conjunctivae were congested; he was badly constipated, and passed urine under him. He had, in fact, symptoms suggestive of lethargic encephalitis. On the chance that the infection might be caused by the influenza bacillus (the case occurred during the epidemic) I gave him subcutaneously 2½ million pure influenza antigen. The improvement was marked at the end of twelve hours. Thirty-six hours later I gave him 5 million, and forty-eight hours later 7½ million. After this he had complete control of his functions and he was no longer lethargic, although his memory was still defective. He still had difficulty in reading, and his temperature was not quite normal—99° F. I then gave him 10 million in the morning, forty-eight hours after the last dose; that evening his lethargic symptoms returned in full

intensity, although there was no further rise in temperature. His mind did not become normal again for two days. He made a rapid convalescence, but could not read for any length of time or study for some months. The focal reaction after the last dose makes it, to my mind, certain that the influenza bacillus was infecting his brain.

CASE II.

An elderly gentleman when first seen by me had been ill for a week with lethargy and bronchopneumonia. *Micrococcus flavus*, streptococci, and influenza bacilli were isolated from his sputum. He was exceedingly ill. The temperature was 102°, the pulse 90 to 100. He was given at once a mixed antigen containing the above microbes pending the making of an autogenous antigen. The first dose was 1¼ million of each. There was a distinct improvement in twenty-four hours. Forty-eight hours after the first dose he was given 2½ million of each. The next dose of his own antigens contained the same amount, and was given at a similar interval. The doses were continued up to 20 million of each. All his symptoms and physical signs rapidly cleared up so that at the end of ten days he was convalescent. He had no recognizable reactions after any dose, and made an uninterrupted recovery.

CASE III.

A woman, aged 22, became ill on December 25th, 1919. She felt very exhausted and sleepy, and in her sleep talked continuously, was very restless, and had jerking movements of the limbs. She had been overworking, and had had two falls the week previously; she had had a previous nervous breakdown at the age of 16, when she suffered from undue sleepiness; for some time I thought her symptoms could be similarly accounted for. When wakened from sleep she roused with a start, and told me she was very well; after a few minutes her eyes became fixed, the eyelids closed, and she was asleep again, resuming the muttering and restless movements. She roused occasionally, and took food well. She was very constipated, but got out of bed to urinate. At first she used to get up to sit by the fire, but always went to sleep in her chair.

After a time, since the sleepiness was getting worse rather than better and her memory for my previous day's visit was a complete blank, I determined to give her a dose of 2½ million pure influenza antigen. It was given at 10.30 a.m. on January 13th. She was asleep within five minutes of getting it. Two hours after she woke up very excited, nervous, and shivering, and was given 10 grams of aspirin. The unpleasant symptoms passed off in an hour or two, and that evening she was much better, was able to talk rationally, and had no symptoms of lethargy. She slept much more normally that night and was much less restless in her sleep. When I saw her next morning she laughed and talked to me quite naturally. She improved steadily for some days, then began to get sleepy again and the other symptoms returned. On January 20th I gave her 2½ million, and she had the same symptoms as before but to a less extent, and next day was awake smiling and talking to me normally. Three days later, on January 23rd, I gave her 3¾ million; she went to sleep after it, and remained lethargic that and the whole of the next day, being roused up to take food and then going to sleep again. Forty-eight hours after she was herself again. Since then she has been given 5 million on February 2nd and 5 million on February 13th; this dose was delayed by three rather severe attacks of palpitation and then an attack of colitis. On February 16th she was given 7½ million and on February 20th 10 million. On February 23rd she was quite convalescent. I shall continue her doses up to 20 million so as to leave a margin of safety. The temperature was normal throughout.

CASE IV.

This was a minor case. The patient, a bank clerk aged 20, had to leave her work early in December on account of feeling ill, having a severe headache and backache, feeling very drowsy and seeing double. When the acute symptoms had disappeared she went back to work, but could not do her work on account of not being able to focus. I saw her on December 22nd; she was then fairly well, with the exception of the diplopia and being very easily tired. I assumed from her history that she was a case of influenza. I gave her three doses of pure influenza antigen, namely, 5 million, 7½ million, and 10 million, at weekly intervals. She had marked general and focal reactions, beginning a few hours after the first two inoculations, becoming so drowsy that she had to go to bed, and slept without stirring. The diplopia was intensified the next day, but then gradually improved until the reaction after the second injection; she had much less reaction after the third, and then improved so rapidly that I found it unnecessary to continue treatment.

I have found that pure influenza antigen rapidly relieves other cases of post-influenzal debility.

No doubt those who do not believe in the specificity of antigen-therapy will question the diagnostic conclusions I have drawn from these cases, and also my belief in the specific therapeutic results obtained. I believe that such results can only be obtained with a specific antigen or antigens, and think the test is just as specific and significant as the subcutaneous tuberculin test.

APPENDICITIS WITHOUT PROTECTIVE STIFFENING OF THE ABDOMINAL WALL.

BY JOHN D. MALCOLM, F.R.C.S.EDIN.,
CONSULTING SURGEON, SAMARITAN FREE HOSPITAL, LONDON.

PROTECTIVE contraction of the abdominal wall over the caecal region is a well known indication of appendicitis, but its importance is sometimes exaggerated. Twice recently it has been suggested to me that appendicitis could not exist because of the absence of this sign. The following case is to the point:

On January 24th a lady, aged 23, being apparently quite well, was seized with intense abdominal pain about 3 p.m. At 5 p.m. Dr. J. A. Maclaren found a round swelling in the appendix region. It was very tender, but the fingers could be pushed deeply into the tissues all round and close to it without causing pain or muscular resistance. The temperature was 102° F., the pulse 100. A dose of castor oil was given, and two days later all swelling, pain and fever had gone. On January 30th I detected only the slightest tenderness at one spot deep in the caecal region. There was no resistance to palpation.

At the age of 3 months and again at 12 years this patient had severe illnesses affecting the abdomen. Occasional stitches in the side and indigestion, characterized chiefly by breathlessness, had been increasingly troublesome within the last half-year. Stone in the ureter was excluded by *x*-ray examination, and appendicitis of old standing was diagnosed.

When the abdomen was opened, the appendix, except about half an inch at its base, was firmly adherent in a peritoneal pouch behind the caecum. It measured 4½ in. by ½ in. throughout its length, and it was of firm consistence, all its coats being thickened and its canal containing a little soft faeces. It was removed and recovery was uncomplicated.

There is little doubt that this patient had her first attack of appendicitis in childhood. The absence of protective contraction of the muscles was due to the position of the appendix and to the fact that a spreading peritonitis was prevented by the adhesions, which had long existed. In such circumstances the danger is not so great as when the appendix lies free amongst the coils of small intestine. But in this case it would have been a serious mistake to have delayed surgical treatment. The operation was not easy, and it would have been much more difficult and dangerous had it become necessary during an acute inflammatory attack.

A dose of castor oil is sometimes the best treatment for an appendicitis, always provided that an immediate operation can be arranged if this method is not successful, and that the rapid and apparently complete cure which may be effected does not mislead the medical adviser.

A NOTE ON ARTIFICIAL PNEUMOTHORAX,

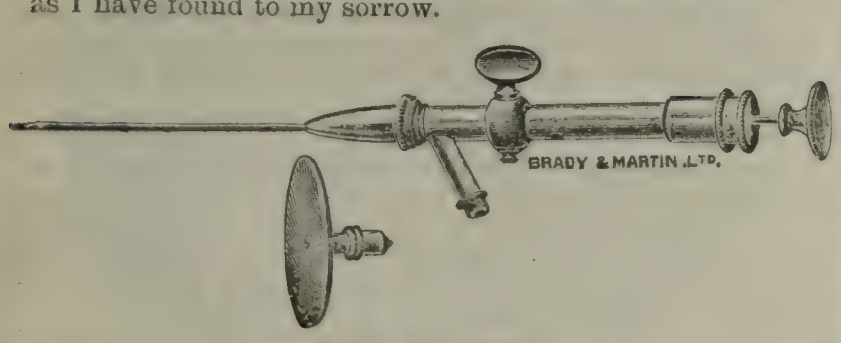
WITH DESCRIPTION OF A NEW NEEDLE.

BY
FREDERIC C. COLEY, M.D.,
PHYSICIAN TO THE NORTHERN COUNTIES HOSPITAL FOR DISEASES OF THE CHEST, AND TO THE BARRASFORD SANATORIUM.

I HAVE been using for many months a pneumothorax needle which has, I believe, several important practical advantages. The ordinary Saugman's needle with which I began to work has an obvious defect. It has no provision for excluding communication with the external air when the stopcock is opened to admit the stylet. This is the more objectionable because the stylet is required just when such communication might be most dangerous, namely, when oscillations of the manometer are absent or imperfect. If the stylet has been successful in clearing the needle and establishing free oscillations, it will be practically impossible to prevent some air from being sucked into the pleura while the stylet is being withdrawn, before the stopcock can be closed, and that air will not be aseptic. Dr. Clive Riviere obviates this difficulty by tying a piece of sheet india-rubber over the open end of the instrument. I believe he uses this either with his own trocar and cannula in primary operations, or for an ordinary needle in doing "refills." I have secured the same object, I believe more effectually and simply, by attaching to the mount of the needle a little stuffing-box like that of a Potain's aspirator. But in Potain's instrument the stuffing-box simply plugs into the mount of the needle. This

makes a joint which is apt to be leaky; and moreover, as we have experienced, it is quite possible for the stuffing-box with the stylet to tumble off from the mount of the needle at some extremely inopportune moment. In my instrument the stuffing-box is screwed into the mount, and a washer secures perfect air-tightness. In Potain's trocar and cannula, as usually supplied by the instrument makers, the stuffing-box has a leather packing. I prefer to pack it with cotton-wool which is effectually sterilized when the instrument is boiled. From the stopcock of the needle to the stuffing-box is 4.5 cm. This affords sufficient space to make it quite easy to withdraw the stylet so as to permit closure of the stopcock without risk of bringing the stylet right out of the stuffing-box and so opening communication with the external air.

The form of the end of the needle is very important. The end of an exploratory or aspirator needle is ground upon a wheel, which makes it slightly concave on the surface that is ground, and causes it to end in a sharp point. This is, of course, desirable in instruments of that kind. But it is quite inadmissible in a needle for the induction of artificial pneumothorax. We want an instrument which will pierce the parietal pleura but push the visceral pleura before it unwounded. Obviously no instrument can do this when the puncture happens to be made at the site of an adhesion. But even where there are no adhesions a needle with a fine point will probably wound the lung. What is wanted is a needle with a round cutting edge, rather than a sharp point. This is produced by grinding the end of the needle on a flat hone, instead of a wheel, the result being naturally a perfect oval, which is just the form which is required. As the result of experiment, I have found that an angle of about 22.5 degrees with the axis of the needle (a quarter of a right angle) is best. If it is more acute than that there will be more danger of wounding the lung. An angle of 45 degrees is too blunt. It is apt to push the parietal pleura before it, as I have found to my sorrow.



Needle and Holder.

I have contrived an appendage to the needle, which I have found extremely useful and convenient. I call it the "holder," for want of a better name. The needle passes through it, and is fixed by a nut, which works on a conical screw, like the chuck which fixes a point in a small drill. This part of the holder is attached to the centre of an oval plate, 3.5 by 2 cm. This plate is slightly convex on the side which lies against the patient's chest. In use the holder is slipped on to the needle and adjusted so that the length of needle projecting through the cover-plate corresponds with the estimated thickness of the chest wall. But it is not screwed up so tightly as to preclude the possibility of readjustment *in situ* if that should be found necessary. As soon as satisfactory oscillations occur I give the needle into the charge of my assistant, who is instructed to hold it only by the "holder," which is to be pressed closely to the chest wall. There is then no fear of the needle being inadvertently thrust more deeply in, or partially withdrawn, which is very apt indeed to happen, especially with an inexperienced assistant, or one to whom the process of inducing an artificial pneumothorax is an interesting novelty. Having usually to work with such assistants, I have found the "holder" extremely useful.

The stylet should be long enough to project about a centimetre beyond the point of the needle. It is then sometimes useful as a probe to help us to judge whether we have reached the pleural cavity. In order to be used in this way it must not fit the needle too tightly to move freely in it. For the same reason great care must be taken to keep the stylet perfectly straight. The end of it should be ground perfectly flat so as to make it as fit as possible to push the visceral pleura before it without inflicting a puncture; but of course the greatest possible gentleness must be used, the stylet being necessarily very thin.

This needle is made in accordance with my suggestion by Messrs. Brady and Martin of Newcastle-upon-Tyne.

DERMATITIS ARTEFACTA IN THE ARMY.

BY

HALDIN DAVIS, M.B.OXON., F.R.C.S.,

DERMATOLOGIST TO THE ROYAL FREE HOSPITAL.

NOT much has been written in this country about dermatitis artefacta in connexion with the army. A single case was shown to the Dermatological Section of the Royal Society of Medicine by Dr. Sibley in April, 1918. The patient was a Russian suffering from an extensive pustular eruption, or folliculitis, which the members present generally agreed was an artefact produced for the purpose of evading military service, and it was stated that this case was typical of many others which had been met with at medical boards. In the army itself, however, apparently not much was seen of these cases, although several medical officers reported that a good many men suffering from impetigo and scabies made the most of their troubles, and did what they could to prevent themselves from getting well too quickly. But there were not very many cases reported of men who were found to be suffering from purely artificial lesions. Dr. MacCormac in his excellent paper on Skin Diseases under War Conditions (May, 1917) mentions a "linear" type of impetigo, of which he gives illustrations, and suggests, as indeed do the illustrations published, that this may be an artefact. During six months in which I had charge of the dermatological cases in Alexandria I saw only one case of dermatitis artefacta, but a large portion of this period was after the armistice, when there was no temptation to produce skin lesions. The one patient I saw suffering from this condition was a simple and typical case. He had numerous lesions on the forearms (both right and left) and also on the shins and the dorsum of the feet, especially on the right. He had been in hospital for some considerable time before he came under my care, and on my giving a very strong hint that I understood the real nature of his disease he permitted the lesions on his arms to heal up quite promptly, but other lesions continued to appear on the right ankle. I had the satisfaction one morning of catching him *in flagrante delicto*. He occupied a tent pitched on sand, and consequently was unable to hear footsteps outside. I approached the tent one morning in the course of my ordinary round, really without any thought of catching him, and I actually surprised him lying curled up on his bed in the act of scratching his ankle gently with the forefinger of his right hand. The lesions were all of characteristic oval shape, obviously scratch marks, with the long axis parallel with the long axis of the limb.

Cases of dermatitis artefacta cannot have been particularly numerous among the British forces. There were certainly more in other armies, and in some instances considerable ingenuity was exercised in the production of the lesions. One of the most interesting papers is by Professor Dubreuilh of Bordeaux. Another is by Burnier, who gives a list of diseases imitated. The list includes the following:

Scabies, imitated by pricking the skin with a needle and rubbing in brine.

Pustular dermatitis by rubbing in croton oil or thapsia.

Eczematiform dermatitis in various ways; sometimes substances are employed, such as iodoform or mercury, which act by a special idiosyncrasy well known to the malingerer. Other men, not provided with a special idiosyncrasy to some drug, employed ordinary well known irritants, such as turpentine, petrol, sodium sulphide, etc.

Bullous dermatitis was often produced by the use of blistering plants, found especially among the Ranunculaceae and Cruciferae. Chemicals were also sometimes employed.

Abscesses were produced by the insertion of thread, horsehair, or splinters into the skin and the hypodermic injection of turpentine or petrol. The favourite site of injection was the back of the left hand.

Oedema was produced by the use of a ligature, usually a broad tape, because it was less painful than a narrow one.

Bruises were often produced by repeated tapping with a hard object upon the same place.

Dubreuilh records still quainter examples of misplaced ingenuity. In treating cases of artificially produced ulcers

on the legs he found that it was by no means sufficient to use an occlusive dressing, which was only removed or touched by an attendant. The patients circumvented this difficulty by obtaining a hypodermic syringe and injecting croton oil through the bandage. He found it necessary to use what he calls an "inviolable dressing." This consisted of a very thin zinc plate interposed between the bandage and the ulcer. This prevented the injection of croton oil on to the ulcer, and in some cases the mark of the needle was found on the zinc when an attempt had been made. In other cases fresh lesions appeared round the edge of the plate. Another ingenious method employed to produce lesions under a bandage was the introduction of a rough iron wire or a twig between the bandage and the skin. The most difficult cases to deal with were those of croton oil sycosis, because these could not be completely covered up all day, and hence were always occasionally accessible to the malingerer.

Under ordinary circumstances artefacts, as is well known, are rare amongst men, but the temptations which led to their production in military life are to some extent continued among pensioners. The inducement to obtain a pension of several shillings a week by the cultivation of a few not very painful ulcers on the shins is in some cases too great for the moral strength, and there are a fair number of such individuals scattered over the United Kingdom. Two of them have recently come under my own care, and I have seen others. My own two cases greatly resembled one another. Each said he had suffered from ulcers on the legs since 1915. In both they had succeeded a shrapnel wound of the calf which, of course, had become septic. They both gave a history of treatment in many hospitals, sometimes getting better for a time but always breaking out afresh. Both had had the advantage of the most elaborate pathological investigations and many vaccines, and much electro-therapy. In both the lesions were situated on the shins, in one case exclusively upon the right side and on the outer side of the leg; in the other case they were principally on the right, but there were also a few on the left. In appearance, when the patients were first seen, there was nothing to distinguish the lesions from ordinary simple ulcers doing their best to heal.

It is the habit of such patients to flatter in turn each new hospital which they attend by allowing the ulcers nearly to get well during the first few weeks of the treatment, and in one case I ventured to prophesy to the students that such would be the course of events in this case—and so it was; but after about three weeks the patient arrived announcing that the ulcers had suddenly got much worse again, which was indeed the case. They were much deeper, more inflamed, and (a very important point) the edges presented a white and sodden appearance. The significance of this appearance was of course that it strongly suggested that carbolic acid, probably applied with a match, had been used to produce the lesions. Both my patients were engaged in clerical occupations, in which a few ulcers on the shins would scarcely at all detract from their earning powers, and it can easily be understood that such a position for the ulcers would be far more convenient than the left forearm or hand (usually the site of election for dermatitis artefacta) where they would seriously interfere with their work.

TREATMENT OF GONORRHOEA IN WOMEN.

BY

R. STAFFORD FOSS, M.B., B.S.LOND.,
M.R.C.S., L.R.C.P.,

LATE CLINICAL ASSISTANT, VENEREAL DEPARTMENT, ST. THOMAS'S HOSPITAL.

THE multiplicity of solutions recommended for local application both in acute and chronic cases of gonorrhoea in women is a proof that we have not yet found an ideal formula. The comparative failure of most reagents is due to the inaccessibility of the gonococcus.

The majority of cases seen in the clinic have reached the chronic stage; in nearly 50 per cent. of the cases the cervix uteri is the only part involved. The cervical canal is lined by ciliated columnar epithelium richly supplied with glands of the compound racemose type; in these glands the gonococcus finds its ideal nidus, and is untouched by the ordinary methods of irrigation with antiseptic agents.

Though it is difficult if not impossible to ensure the penetration of an antiseptic, it seems rational to suppose that a greatly increased secretion from the glands will produce a flushing out which will bring the gonococcus within reach of the antiseptic. Glycerin acting on a mucous surface produces a large secretion, varying directly with the concentration. It is possible to use it pure, but a high concentration tends to produce discomfort, which in some patients amounts to actual pain. I found that 25 per cent. glycerin was the most satisfactory strength. As a bactericidal agent I chose methylene blue, partly for its great affinity for the gonococcus and partly because the anilins are absorbed by mucous membranes and even by squamous epithelium:

Methylene blue	1 gram.
Glycerin	25 c.cm.
Aq.	ad 100 c.cm.

In acute and chronic cases it was applied as follows: The cervix was exposed with a Fergusson's speculum and swabbed with a saturated solution of sodium bicarbonate in order to remove mucus and discharge. A gauze plug 12 in. by 2 in. was dipped for half its length in the solution; this end was packed tightly against the cervix, the rest lightly in the vagina. The speculum was then withdrawn. The plug was removed after twenty-four hours. This was carried out for five days and then for two days dry plugs were used. This rotation was continued as long as the discharge occurred.

There are two contraindications for the use of this method:—(1) Pregnancy. Plugging the vagina is inadvisable owing to the increased liability to abortion in these patients, in whom the endometrium is generally diseased. (2) The puerperal state. The vascular engorgement of the uterus persists for some weeks *post partum;* the glycerin acts so powerfully that an undesirable amount of secretion is produced attended by severe pain.

General treatment is carried out on the usual lines. Urinary antiseptics and gonococcal vaccine are given as indicated. In addition to cases of true arthritis a large number of patients complain of indefinite wandering pains (arthralgia). These are benefited by a graduated course of vaccine—a course of six injections given weekly, commencing at 5 million and working up to 150 million.

At present it is impossible to give a satisfactory standard of cure in women. It is on the clinical symptoms alone that we can judge. When the general symptoms have gone and the discharge has remained absent when treatment is suspended, then we can hope that a cure has been effected. Smears and cultures from the cervix have proved deceptive and generally useless, and complement fixation, recommended by Gilbert Smith, has so far proved disappointing.

The advantages of the solution are:

1. Erosions of the cervix respond very rapidly to the treatment, and healing occurs with a disappearance of oedema and a return to normal size.
2. An acute, and especially a chronic, discharge is stopped in a short time.
3. It is a painless and effective method of dealing with the deep-seated gonococcus.

I am indebted to the courtesy of Dr. T. Anwyl Davies for permission to give full trial to the treatment in the department.

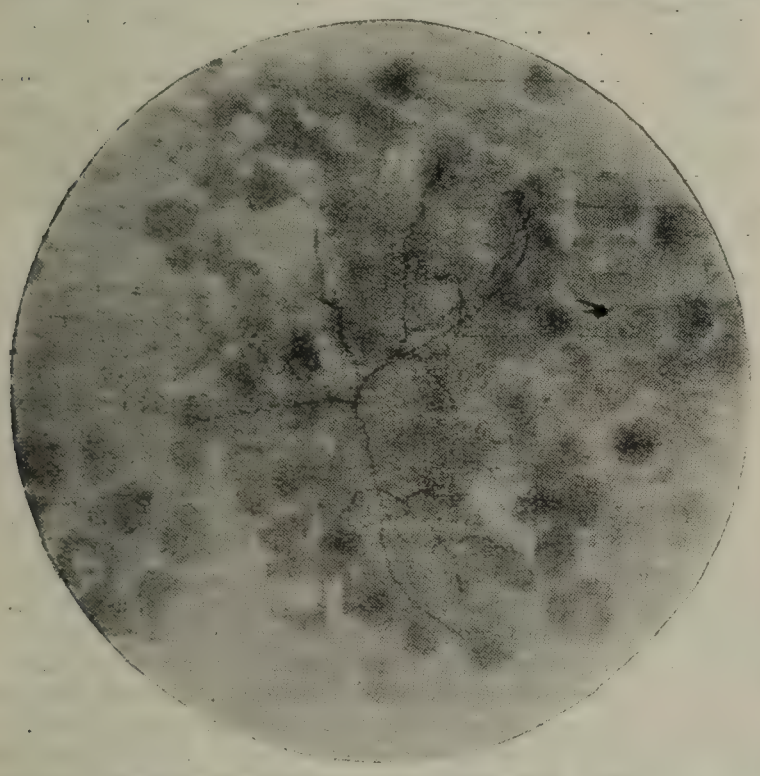
THE scheme for the supply of ambulances for civil work in the United Kingdom, which was brought into force by the Home Service Ambulance Committee of the British Red Cross Society and the Order of St. John, continues to make progress. At the end of last year 238 ambulances were in use; the number has since risen to 252, and 54 others will be supplied as soon as the Ford chassis ordered last autumn can be obtained. The total number of cases carried since the inception of the service last summer is 5,227, and the mileage run is over 68,000 miles. The rise in the cost of petrol has caused anxiety to local committees, and the central committee has supported the petition to the Prime Minister against the increased charges for petrol.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A SIMPLE METHOD OF CULTIVATING THE MICRO-ORGANISM OF ACTINOMYCOSIS.

THE object of this brief note is to draw attention to two points with regard to cases of actinomycosis. The first is the fact that instances of this disease are apt to be overlooked unless film preparations are invariably made from all purulent material submitted for bacteriological examination. The writer has had experience of two tragic cases in which, apparently from this omission, the true nature of the disease was only diagnosed shortly before death. One of these cases was a young woman who had suffered for some months from metastatic abscesses; a number of consultants had been called in, but as blood cultures were negative and cultures from the pus had only yielded staphylococcus, the condition was thought to be due to that micro-organism. The writer saw the patient for the first time a few hours before her death. A film of pus discharging from a sinus in the wall of the abdomen when stained by Gram revealed the typical actinomycotic mycelium seen in the accompanying microphotograph taken by Dr. Albert Norman from the preparation in question. The other case was an empyema of some standing which had been attributed to the pneumococcus. Here again the detection of actinomyces, which was present in abundance, was effected too late for treatment either by iodide or vaccine to be of avail.



Pus showing mycelium of actinomyces. × 700.

The second point to which I wish to draw attention is that the actinomyces fungus can readily be cultivated in ordinary nutrient broth to which a few drops of fresh human blood have been added. It is advisable to sow the material in two blood broths, one of which is covered by a layer of oil 1 cm. deep. After incubation for a few days at 37° C., the actinomyces fungus can be seen growing at the foot of the tube in small white masses—like little puffballs. As a rule, growth occurs first in the broth covered with oil, but when other bacteria are present the actinomyces may come up first in the aërobic tube. Before using this method the writer could never get a satisfactory primary growth of actinomyces, but since employing it he has succeeded in doing so with ease in all of seven cases. The practical advantage of getting a growth is that a vaccine can then be prepared. In two cases in which a vaccine of the homologous organism was employed improvement resulted. In the majority of the cases, however, vaccine treatment was not attempted, as secondary infections were present and the disease was too far advanced. Vaccination with a stock actinomyces vaccine is, in the writer's experience, useless; it seems essential to employ the actual strain infecting the patient. In the case of patients whose lesions clear up under vaccine treatment, it is wise to preserve a phenolated suspension of the vaccine in a sealed glass tube, so that it may be available in case of recurrence. In one case recurrence took place after an interval of nearly two years.

M. H. GORDON, M.D.,
Bacteriologist to St. Bartholomew's Hospital.

MALIGNANT ENDOCARDITIS IN A WAR PENSIONER.

THE following fatal case of malignant endocarditis seems worth recording for the information and guidance of medical officers who have to deal with pensions claims. This is probably not a unique instance, and may throw light on other difficult and unexpected cases of disability attributable to war service.

A. B. C., aged 31, was a painter before the war, and had one attack of colic in 1913. He served with the infantry of the 48th Division for three years overseas, and kept in very good health. His only sickness on service was a mild attack of P.U.O. in 1916 on the Somme, for which he went to a divisional rest station for about ten days. He was demobilized from Italy in January, 1919, feeling in perfect health and being passed, in his own words, "as A1 by the doctor." In August, 1919, he was compelled to give up work on account of cardiac symptoms. In February, 1920, he died of heart failure in the Bristol Royal Infirmary.

A *post-mortem* examination showed extensive vegetations on the aortic valves; one tag of vegetations was over an inch long. At the point on the mitral valve where the regurgitant stream from the aorta would impinge there was an exuberant mass of vegetations covering an area about the size of a shilling, which had almost perforated the cusp. There were many septic emboli in the lungs and kidneys. There were recent and old infarcts in the spleen. Dr. J. R. Kay-Mouat (pathologist to the Royal Infirmary) in his report stated that some of the infarcts in the spleen were converted into completely contracted fibrous tissue, which had lost its cicatricial density, and could not therefore be less than a year old.

The importance of the case is evident. The age of the splenic infarcts shows that the disease existed at the time of the man's discharge from the army. Yet neither he nor his medical officer had any reason to suspect this.

J. A. NIXON, C.M.G., M.D., F.R.C.P.,
Physician to the Bristol Royal Infirmary; formerly Consulting Physician to the British Armies in France and on the Rhine.

ACUTE OEDEMA OF THE LUNGS.

I ENTIRELY agree with Dr. Stewart McNaughton that the cases which have been recently described as "acute suffocative catarrh" are identical with the disease known as "acute oedema of the lungs."

Very little notice has been taken in English textbooks of medicine of this rare and extremely interesting condition, although I believe it has been described in French textbooks for a good many years.

It is associated generally with high arterial tension and valvular disease of the heart, and though often fatal is by no means necessarily so.

Some years ago I was called at 3 a.m. to see a domestic servant who had been suddenly seized by this alarming complaint. She was a woman of about 50 who had a mitral systolic murmur, but no symptoms of cardiac insufficiency.

She had gone to bed in her usual health, and woke about 2.30 a.m. with extreme dyspnoea and distress. When I saw her she was pallid and cyanotic with a very feeble pulse and an incessant cough; she was expectorating continually pink froth. There were moist crepitant râles all over the lungs, and she appeared to be practically moribund.

I gave a hypodermic injection of strychnine, and in the course of an hour she gradually began to improve, and within another hour the symptoms subsided and she was able to rest.

The next morning the lung was normal, and she was practically well. All the crepitant moist râles had gone. She had expectorated about a pint of clear pink fluid.

I have not heard of this patient having had any subsequent attack, and do not know whether she is still living.

The condition appeared to me to be allied to angio-neurotic oedema, but I think it might be explained by a sudden and temporary dilatation of the left ventricle including the auriculo-ventricular orifice (there was already some incompetence of the mitral valve), and consequent acute regurgitation and engorgement of the pulmonary capillaries.

I remember seeing precisely similar pink frothy expectoration in a patient in whom the chordae tendineae of the

mitral valve had suddenly given way; it continued until he died about twelve hours after the rupture.

HERBERT H. BROWN, M.D.Lond., F.R.C.S.,
Surgeon to the East Suffolk Hospital.

THE COMBINED USE OF NOVARSENOBILLON AND MERCURY INTRAVENOUSLY.

A FEW weeks ago a note describing the combined use of neo-salvarsan and mercury intravenously was published in the BRITISH MEDICAL JOURNAL (December 6th, 1919, *Epitome*, para. 232). Since reading the note I have given several hundred injections of a mixture of 0.45 gram N.A.B. and 2 c.cm. of a 1 per cent. solution of mercury perchloride, with excellent results. The method employed is as follows:

A porcelain gallipot capable of holding 200 c.cm. of water is used as a mixing pot. The gallipot is thoroughly washed and flamed by means of a little methylated spirit, washed again in doubly distilled water, and placed on a sterilized piece of lint. The requisite amount of mercury perchloride is dissolved in doubly distilled water to make a 1 per cent. solution. This solution is kept in a sterilized glass-stoppered bottle. Four and a half cubic centimetres of distilled water are poured into the gallipot from a sterilized measuring glass; 2 c.cm. of the 1 per cent. mercury perchloride solution are added, and a short sterilized glass rod is placed in the solution, which now contains 4.5 c.cm. of distilled water and 2 c.cm. of the 1 per cent. solution of mercury perchloride in the gallipot, and it remains to add the 0.45 gram of N.A.B. Immediately this is added the solution, which was colourless, becomes first yellow-brown, and then dark grey-green. The glass rod is used to stir the mixture thoroughly. A sterilized 10 c.cm. eccentric nozzle Record syringe is used to administer the solution. The solution is sucked up into the syringe, and a platinum and iridium needle is well flamed and then fixed to the syringe. A little fluid is expressed to cool the needle and to obviate air bubbles. The solution is injected into the vein in the usual way. Ten doses can be mixed at the same time, and with a thorough stirring of the mixture before each injection there is a complete combination of the two solutions.

There are several advantages in the combined use of "914" and mercury given intravenously.

1. The mercury certainly gets into the circulation; sometimes after an intramuscular injection the mercury becomes encapsulated, and remains as a hard lump. Again, there is no fear of an abscess in the intravenous method. There is no pain, no limping, and patients will come back for treatment that is painless.

2. The method is quick and time-saving, as both drugs are given at the same time.

3. Lesions clear up more rapidly than when using the drugs separately—that is, intravenously and intramuscularly.

4. Stomatitis has not occurred in a hundred cases I have treated. These cases have all had seven injections, with an eight-day interval between each injection.

5. In the hundred cases I have only had two instances of reaction, and in each it was of the Jarisch-Herxheimer type.

6. At the completion of the course the blood was negative in 95 per cent. of the cases.

Compared with a hundred cases treated in the usual way this is an improvement, as the percentage of negative results was 85.

In these series old tertiary cases are not counted.

REGINALD JOHNSON, M.D.,
M.O. i/c V.D. Wards, Bermondsey Military Hospital.

ILLEGITIMATE BIRTHS AND OPHTHALMIA NEONATORUM.

IT has been asked whether the number of cases of ophthalmia neonatorum has increased *pari passu* with the increase in the number of illegitimate births. Ophthalmia neonatorum has been notifiable since April, 1914. Statistics are here given for the six years 1914 to 1919 inclusive in respect of four boroughs—one in Scotland, one in the north of England, and two in the south of England; the averages of the first three years and of the second three years are given. In each of the four boroughs there was a fall in the total number of births, but an increase in the number of illegitimate births, not only in actual figures but in proportion to the total number of births. In the first and second boroughs the increase in cases of notified ophthalmia neonatorum is very marked. In the third and fourth boroughs, though there is an actual increase in the number of cases, the proportion of cases to the number of illegitimate births is not raised in comparison with the first three years. The fourth column represents the calculated number of cases of ophthalmia neonatorum had they been in the same proportion as for the first three years. It is possible and probable that the Registrar's figures in respect of number of illegitimate children is understated, inasmuch as a married woman will register her illegitimate child under her married name and her husband's name when at all possible.

Table showing Number of Births and of Cases of Ophthalmia Neonatorum in respect of Four Boroughs for Two Periods of Three Years each.

Borough and Period.	Average No. of Total Births.	Average No. of Illegitimate Births.	Average No. of Notified Cases of Ophthalmia.	Average No. of Calculated Cases of Ophthalmia for Second Period.
1. Borough in South of England (seaside resort). Pop. 30,000.				
1914–16	515.3	24.3	2.3	—
1917–19	595.6	31.0	7.0	2.9
2. Borough in Scotland (port). Pop. 90,000.				
1914–16	1979.6	99.6	8.3	—
1917–19	1725.6	111.6	14.3	9.3
3. Borough in South of England (residential). Pop. 90,000.				
1914–16	1497.0	32.6	6.6	—
1917–19	1125.0	41.0	7.3	8.9
4. Borough in North of England (industrial). Pop. 130,000.				
1914–16	3748.6	145.6	31.3	—
1917–19	3306.0	170.0	36.3	36.5

GRACE H. GIFFEN DUNDAS,
Medical Officer to Maternity and Child Welfare, Middlesbrough.

CIRCUMCISION—A BARBAROUS AND UNNECESSARY MUTILATION.

As it appears that the foreskin is intended to serve a useful, even necessary, purpose, I desire to urge serious reconsideration as to the wisdom of persisting in our reverence for the cult of this body mutilation, one amongst many others—for example, removal of the tonsil. If the prepuce be intended as a protector for the delicate glans penis, it must be foolish to remove such a shield. The arguments in favour of the time-honoured mutilation of circumcision are (1) as a preventive of masturbation and sexual excitement, due to irritation of retained secretions; (2) as a measure of cleanliness; (3) as a prophylactic against the contraction of venereal diseases, etc.

Now all the alleged advantages (with none of the disadvantages) to be gained from circumcision can be attained by retaining the prepuce and so dilating its orifice that it slides freely backwards and forwards over the glans. This should be done in infancy, and it can always be effected by dilatation, even when at first sight such appears unlikely. Trial will show that the difficulties are imaginary, not real. One dilatation nearly always suffices, but if not, a second can be carried out. Very little time (a minute or two) is required, and no cutting or mutilation. The small size of the preputial opening in an infant is less than appears while prepuce adheres to glans; it is, in fact, due to the adherence, and if separation be effected by a sinus forceps or probe, it will be found that a blunt dilator will readily stretch the foreskin, so that it can be freely drawn backwards over the glans. The parts are then lubricated with vaseline and the prepuce kept in retroposition by wrapping a strand of wool layered with vaseline round the part.

Secretions can only collect under the foreskin when its orifice is too small to allow of free retraction. Complete dilatation obviates this. Hence the objections to the prepuce on the ground of hygiene and irritation fall to the ground: they only apply to an unretractable prepuce.

Regarding venereal diseases the same argument applies, as discharges are not retained under a foreskin that is

dilated and freely movable, and therefore fully retractable, and which also for the same reason can be kept clean. But this argument as to venereal disease, assuming its validity, is not an argument in favour of circumcision, but for the abolition of venereal diseases.

At one time, when I accepted what "authorities" and books told me, I was such a believer in the orthodox cult of circumcision that I performed the operation on myself; but increasing experience has convinced me of the unsoundness of this operation, and I never perform it now as a routine procedure—always dilatation, with most excellent results. I would strongly urge that this amongst many other unnecessary and evil mutilations be relegated to limbo. This injurious procedure, like that of keeping women in bed after childbirth, we owe to the Jews, and we have nothing to thank them for as regards these two of their religious rituals.

Sydney, N.S.W. G. S. THOMPSON, F.R.C.S.

AN ECTOPIC OVARIAN CYST.

MRS. R., aged 60, was admitted to hospital on December 12th, 1919. Thirteen years previously an ovarian tumour had been removed, and seven years later a further operation was performed for a similar condition. The abdomen was fat and pendulous. There were two subumbilical scars, one in the middle line, the other right paramedial. For several months there had been continuous discomfort in the abdomen with occasional attacks of severe pain, but just before admission there was a very violent attack of abdominal pain and vomiting.

When the patient was anaesthetized a tumour was readily palpated at the level of the umbilicus. It was freely movable laterally and in an upward direction, but only slightly downwards. A subtotal hysterectomy had been performed with removal of the ovaries. Suspended from the lower border of the omentum was a rounded tumour, 6 in. in diameter, containing sanguineous fluid. Its inner surface was studded with numerous papillary outgrowths of varying sizes. There were no attachments except to the omentum.

Macroscopically and microscopically this was a papillary ovarian cyst.

Wakefield. J. W. THOMSON, M.B., C.M.Aberd.

Reports of Societies.

ACCIDENTAL HAEMORRHAGE.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, held on March 4th, with the President, Mr. J. D. MALCOLM, in the chair, Dr. GORDON LEY read a clinical paper on fifty consecutive cases of utero-placental apoplexy (accidental haemorrhage). He dealt first with the causative factor, which, he was of opinion, was the toxaemia of pregnancy; 84 per cent. of his cases had considerable albuminuria and 32 per cent. had other manifestations of toxaemia. He suggested the following theory:

(1) Fetal necrosis with haemorrhage in the uterine musculature and decidua. (2) Resulting separation of an area of the placenta opening up uterine sinuses. (3) Extensive retro-placental haemorrhage therefrom.

From a clinical point of view he grouped his cases under three headings: External cases, internal cases, and combined external and internal cases. The external cases were the most mild, the haemorrhage as a rule being not very severe. The mildest cases were amenable to rest. The more severe cases were best treated by rupture of the membranes, the application of a tight binder, and the hypodermic injection of pituitrin. For the internal cases, which he considered were entirely due to uterine paralysis, the result of the sudden forcible distension of the uterus by blood, he advocated rest with careful watching of the pulse, general condition of the patient, and the outline of the uterus. If the patient improved she should be left alone until contractions started. These would be evidenced by the appearance of blood from the vagina even before they were recognizable to the patient, or by palpation. On the advent of pains he advocated treatment as for external haemorrhage. If the patient's condition became worse, as evidenced by rising pulse rate or enlargement of the uterus, he advocated Caesarean section, followed, if necessary, by hysterectomy. For the combined cases he advocated treatment of the condition present at the time when the patient was seen—that is, treatment for external cases if bleeding were present; treatment for internal cases if bleeding had been present, but had ceased, and the patient's condition had become worse. His results had been as follows:

The external cases had all recovered. Of 11 internal cases, 9 had recovered; 2 in which hysterectomy had become necessary had died. Of 25 combined cases, 23 had recovered and 2 died, one of uterine rupture and the other of post-partum haemorrhage.

Dr. EARDLEY HOLLAND considered the paper an important contribution, because accidental haemorrhage was a subject needing all the knowledge that could be got. With regard to treatment, he was in complete agreement with Dr. Ley in all essential details. He was not convinced, however, of the efficiency of plugging in the arrest of haemorrhage. He thought it quite likely that the patients recovered in spite of, just as much as because of, the plugging. He doubted whether the plug ever compressed the uterine arteries, and even if it did it failed to control the ovarian arteries. He doubted also whether the plugging and the binder increased the uterine pressure, because the uterus was a plastic hollow organ, and if its capability of expansion were limited in one direction it could still expand in others. The question, however, as to the value of plugging could only be settled by an analysis of a large number of cases treated by different methods. Caesarean hysterectomy, he believed, was never necessary. From his own experience he was convinced that the uterus could always be made to contract if time were given it. He would not hesitate to wait even fifteen or twenty minutes for this to occur, controlling the haemorrhage in the meantime by compression of the uterus by hot towels without and hot gauze pads within. Another reason given for hysterectomy was the infiltration of the uterine wall with blood. This, however, was no indication for its removal. He criticized the title of Dr. Ley's paper. The word apoplexy meant a knock-down blow, and it was quite inapplicable to uterine haemorrhage; but if employed it should be limited to cases of severe concealed accidental haemorrhage associated with interstitial haemorrhages in the uterine wall. In spite of these and other criticisms he was deeply grateful to Dr. Ley for his statement of facts; if every hospital would display and analyse its cases as he had done, knowledge would advance more quickly.

Dr. RUSSELL ANDREWS congratulated Dr. Gordon Ley on the excellent use he had made of his extraordinary collection of cases of ante-partum haemorrhage. He did not agree that shortness of the cord was never a cause of separation of the placenta. Shortness of the cord undoubtedly caused inversion, and if it caused inversion it also caused separation of the placenta. The explanation of concealed accidental haemorrhage as due to paralysis of the uterus had been generally held for a long time.

The paper was discussed also by Dr. A. M. Ross, Dr. STEVENS, and Dr. LACK, and Dr. GORDON LEY replied.

VACCINES IN GYNAECOLOGY AND OBSTETRICS.

AT a meeting of the Edinburgh Obstetrical Society held on March 10th, with Dr. WILLIAM FORDYCE, President, in the chair, Dr. ROBERT ROBERTSON read a paper on the value of vaccine treatment in gynaecological and obstetrical practice. He recorded a number of illustrative cases. The first was a case of menorrhagia and frequency of micturition. An anaërobic diphtheroid bacillus was recovered from the urine. Vaccine was prepared, and its administration produced as a reaction haemorrhage from the uterus. It resulted in cure. The second case was one of uterine fibroid, the anterior surface of the uterus pressing on the bladder. There was frequency of micturition and clinical symptoms of *Bacillus coli* infection. An autogenous vaccine was prepared from the urine, which led to complete relief of the symptoms. The fibroid was not removed. Two cases of rheumatoid arthritis were reported where the uterus was the septic focus. The first was treated by curettage and stock

rheumatoid arthritis vaccine. Very great improvement took place in the rheumatoid condition. In the second case an anaërobic diphtheroid was isolated from the uterus in an unmarried lady. Characteristic reactions were obtained after the use of this, with a great amelioration of the rheumatoid condition. The use of *Bacillus coli* vaccine in menorrhagia in young girls was favourably commented on. Another case reported was one of parametritis complicated with cystitis. The patient was seriously ill. She was treated with autogenous *Bacillus coli* vaccine. The cystitis cleared up and the swelling in the broad ligament gave no further trouble. Chorea was treated with considerable success with stock vaccine obtained from cases of rheumatism. One case of chorea in pregnancy was cured after three such inoculations. The patient had had a second child with no recurrence of the chorea. In puerperal septicaemia the desirability of taking a swab from the uterus, preparation of autogenous vaccine as soon as possible, and in the interval the early use of a combined staphylococcus and streptococcus vaccine, was emphasized. It was very important that this should be used early before there was a great circulation of toxins in the blood. Several cases of phlebitis and phlegmasia were reported which were satisfactorily treated with *Bacillus coli* vaccine.

Colour in Pregnancy.

Drs. J. W. BALLANTYNE and F. J. BROWNE read a paper on the colour scheme in pregnancy, based on the study of 200 consecutive cases of pregnancy at the antenatal clinic in the Edinburgh Royal Maternity Hospital. The dependence which, according to the textbooks, was supposed to exist between the complexion of a woman and the pigmentary changes of pregnancy was shown to have many exceptions. The record was based on the examination of the relationship existing between the hair and eyes and the linea nigra and the mammary areolae. It was pointed out that no definite relationship existed between the intensity of the linea and the areolae. As often as not, also, the pigmentation of the linea or the areola was just as marked in the blonde as in the brunette. The facts showed that there was as the underlying factor something other than the complexion; and it was suggested that the pigmentary phenomena of pregnancy might be bound up with the activity of the endocrine glands. This was a point for future research to determine.

The paper was commented on favourably by the PRESIDENT and Dr. HAIG FERGUSON. In reply to a question from Dr. LACKIE, Dr. BALLANTYNE said that so far they had not investigated the relation between the degree of pigmentation and the toxaemias but that this matter was being gone into.

BORDERLAND CASES.

A MEETING of the London Association of the Medical Women's Federation was held on March 16th, at 11, Chandos Street, W., with the President, Mrs. FLEMMING, M.D., in the chair. Dr. HELEN BOYLE read a paper on early nervous and borderland conditions. She said that it was important to abolish the artificial division of these cases into neurological and insane; that no one should attempt to diagnose and treat the psycho-neuroses without studying insanity in all its forms, and no one should have care of the insane without being conversant with work on the pyscho-neuroses. The war had caused an upheaval of interest in mental and nervous work, and had shown the nations the causation, initial symptoms, development, course and end of innumerable cases of psycho-neurotic disorders. Psycho analysis had attracted the greatest attention and criticism, and there were many modifications of the system. She said that some claimed that cure was due to the abolition of the amnesia and the uniting of the forgotten facts with the general consciousness. Others claimed that cure was due to the subsequent readjustment of the patient's attitude towards the revived incidents. Still others claimed that suppressed emotion acted as an irritant and that repair of amnesia was useless without letting this out. Dr. Boyle urged that all forms of treatment, mental, physical and spiritual, had their uses in the cure of early nervous and borderland conditions. She said that amnesias and repressions are found in healthy and normal people, and are probably part of nature's method of adapting the individual to the environment, and that they are therefore reparative in intention and only need interference when they go beyond this. The best method in medical treatment has ever been that which helps nature to help herself. Dr. Boyle then described some cases successfully treated through the body alone, and emphasized the importance of the blood pressure and the endocrine glands. An "adaptation" often helped patients—for example, religion was often one of the greatest adaptations. Dr. Boyle ended with a word of warning as to the danger of breaking down resistances which the patient's mind offered to investigation. She said that repression of ideas, considered to be inappropriate and unworthy, was often a natural and wholesome tendency, and that success may sometimes be attained by contemplation of the ideal.

A discussion followed in which Dr. CONSTANCE LONG, Dr. JOHNSTONE, Dr. BERTINE (New York), Dr. M. C. BELL, Dr. MADGSTON and others took part.

A MEETING of the Hampstead Division of the British Medical Association was held at the Hampstead General Hospital on March 11th, the President, Dr. COLLINGWOOD ANDREWS, being in the chair. The following cases were shown and discussed:—By Dr. STANLEY GEORGE: A case of aneurysm of the ascending aorta with aortic incompetence. By Mr. SIDNEY BOYD: (1) A case of endothelioma of the stomach treated by gastrectomy in May, 1919; the patient was well, and had gained 3½ st. in weight. (2) A case of extensive epithelioma of the upper jaw treated by excision in 1909; the man was still well and free from recurrence. (3) A case of congenital dislocation of the hip treated by Lorenz's method in 1914; the child is now 11 years of age and walks quite normally. (4) A case of temporo-sphenoidal abscess operated on in December, 1919. (5) A case of tuberculous disease of the shoulder (arthritis sicca) in a boy, aged 8. Mr. Boyd also showed specimens of (1) a Meckel's diverticulum which had produced strangulation of a coil of small intestine and perforative peritonitis; the patient was a child of 2 who made a good recovery after operation; (2) a very large appendix, the seat of acute inflammatory changes; (3) a horse-shoe kidney.

AT a meeting of the Cardiff Medical Society, held on March 10th, Dr. HERBERT EVANS read a paper on the urinary system and the *Bacillus colis communis*. After a brief survey of the history of the subject, together with a short account of the bacteriology and pathology, notes on cases illustrating the various lesions were read, and particular reference was made to certain complications which masked the urinary trouble. These were (*a*) anaemia of the secondary type with enlarged liver and spleen in two cases and enlarged spleen in a third case; (*b*) iritis, of which four cases were quoted, all occurring amongst women; (*c*) *petit mal*: one case in a child showed attacks similar to *petit mal*, which cleared up on treatment of the urinary condition. In this case no symptoms were reported suggesting the condition, which was recognized only by bacteriological examination. The various forms of treatment were outlined—alkalis were advocated in cases occurring amongst young children, and in the case of adults a combined treatment varying somewhat with the case and condition of the urine. Satisfactory results were reported from the use of vaccines.

THE Council of the Royal Society of Medicine has appointed representatives to the Federation of Medical and Allied Societies.

THE proposal to establish an Institute of Research in animal nutrition at Aberdeen, at a cost of £25,000, has been brought nearer realization by the gift of £10,000 made by Mr. J. Q. Rowett.

THE Dutch Congress for Public Health will hold its twenty-fifth annual meeting next September at the Hague, under the presidency of Dr. W. P. Ruijsen. The campaign against venereal disease and the organization of public health services will be the chief matters discussed.

THE thirty-first congress of the Royal Sanitary Institute will be held this year at Birmingham under the presidency of Viscount Astor, Parliamentary Secretary to the Ministry of Health. It is intended to have five sections and to hold seven conferences. The lectures to the congress will be given by Sir Frederick Mott, on "Body and mind." The popular lecture, on "Links with the tropics," will be given by Dr. Andrew Balfour. The congress will begin on July 19th. Arrangements are being made locally by a committee under the chairmanship of the Lord Mayor of Birmingham. Full particulars can be obtained from the Secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1.

Rebiebus.

SIR WILLIAM TURNER.

We do not know of any medical biography which is so likely to hearten a struggling and ambitious medical student of to-day as this life of Sir William Turner,[1] by his son, Dr. A. Logan Turner, unless it be the life of Turner's master, Sir James Paget. It is said, but we sincerely trust the statement is not true, that biography is at a discount amongst modern medical students, for we know of no draught so likely to give fresh courage to students striving against adversity and the oppressive prices of these times as a perusal of the hardships which Paget and Turner had to pass through before success began to crown their industry. To those who only knew Turner as the august but lucid professor of anatomy, the dignified Principal and Vice-Chancellor of Edinburgh University, the sagacious President of the Medical Council, William Turner, the surgeon's apprentice from Lancaster, the unobtrusive, ingenious, observant, and economical student at "Bart's," will come as a surprise, for he proves himself to be one of the most engaging youths in medical history. Let this letter to his widowed mother, dated July 1st, 1853, when, after three years of study. he had obtained his diploma as member of the Royal College of Surgeons, speak for itself:



Sir William Turner.
From a pen and ink sketch made about 1886 by the late William Hole, A.R.S.A.
(By kind permission of Dr. A. Logan Turner.)

> It may not be uninteresting now, at the close of my third summer's attendance at the hospital, to take a review of what I have effected during my three years here, and also to estimate what I have paid in fees, books, instruments, and personal expenses during my residence in London. The money I have received from home and my half-year's scholarship amount to £312 5s. Of this I have now in hand £8. This gives an expenditure of £304 5s. The outlay is as follows: Fees: St. Bartholomew's, £108 8s.; London University, including cap and gown, £6 4s.; Royal College of Surgeons, £22; books, apparatus, instruments, and dissection expenses, £20 18s. Personal expenses, £146 14s. 6d. I think, on looking at the personal expenditure, that no one can accuse me of extravagance.

Mark this fact, O reader! A widowed lady of Lancaster and her two spinster sisters spend £304 5s. in giving Britain the leading anatomist of his day and Edinburgh the best principal she ever had. The future principal had to qualify for office by learning to feed and clothe his body at an expenditure of £48 per annum; St. Bartholomew's Hospital laid the basis of his lore for £108 8s., and Paget gave him a priceless example for nothing. It was not an easy task which Turner had set himself from his 18th to his 21st years, as we learn from another letter to his mother.

> I am again in want of money, the supply you sent me being only sufficient for another week. The amount required for the summer fees will be eight guineas. I shall also be compelled to get a new coat, and, in addition, I want one or two other little things, such as a pair of gloves and a new tie, all of which I shall get in town. I have given you a pretty long list of my wants. I always endeavour to make my clothes last as long as possible, but they will become shabby in spite of the greatest care.

Oh, these habits of hard-up student days! How deeply they become ingrained! In later and prosperous days Lady Turner had to exercise her gentlest wiles to separate him from garments to which he had become attached. In another letter he informs his younger brother that he had given up the reading of fiction, but we suspect from this extract from another letter that he was not unfamiliar with *Sartor Resartus*; at least he utters a note which his modern successors will echo:

> Oh! would some enterprising individual arise who could manufacture garments that would wear to eternity if required. If such a man did appear, great would be the rejoicing amongst such ever-seedy, ever-threadbare persons as myself.

These extracts show that the full rounded periods in which Sir William Turner expounded the structure of the human body to thirty-seven generations of Edinburgh medical students was an acquisition of his youth. We have only to turn to the letter he wrote on reaching London, September 30th, 1850, to commence his medical studies, to see that he was master of a style before he had listened to the finished speech of Paget:

> About two miles from London I could perceive the twinkling of the lamps stretching a long way on each side of the line. At the Euston Station the porters grumbled about my luggage (luggage was always a source of care for Turner), and said I should have it weighed; but, after a little difficulty, I got it free.
>
> After reaching my lodgings [in Queen Street, Lincoln's Inn, at the rooms of his cousin James M'Naught] we had tea, and, feeling myself much refreshed, James took me out for a little walk. We first went to Oxford Street, and walked halfway along it, and, as far as the eye could reach, there stretched on each side of us a long row of lamps, glimmering and twinkling far away into the darkness. It was a beautiful evening, the stars shone brightly in the dark sky. . . .

This surgeon's apprentice from Lancaster, aged 18, was already a master of description—not of his subjective feelings but of the events which fell upon his senses; the measured phrases with which generations of Edinburgh students became familiar were gifts he brought with him from his home. Next day he "saw Mr. Paget, the warden," and paid him "fees to the amount of £45." Dr. Kirkes spoke very kindly to him, and said he "would be always ready to give me any information I required." This is an example of how a great medical school should be built up.

Then came August, 1854, which made him an M.B. of London University at the age of 22. His original aim was

[1] *Sir William Turner, K.C.B., F.R.S., Professor of Anatomy and Principal and Vice-Chancellor of the University of Edinburgh. A Chapter in Medical History.* By A. Logan Turner, M.D. Edinburgh and London: Wm. Blackwood and Sons. 1919. (Demy 8vo, pp. xv + 514. 18s. net.)

general practice in the country, but scholastic successes and encouragement from members of his hospital staff made him weigh the pros and cons of a physician's life in London; such a choice offered him, he perceived very clearly, a fair prospect of penury. His difficulties were solved by the famous Goodsir of Edinburgh coming to London in search of demonstrators of anatomy. On Paget's recommendation Professor Goodsir appointed Turner as his senior demonstrator at a salary of £200 per annum, and asked him to dine at his hotel, Anderton's, in Fleet Street, in order to settle the bargain.

I recollect very well the dining-room, divided into compartments, seated with hard wooden benches and with a sanded floor, and there I had my first dinner with Goodsir. After we had satisfied our respective appetites, he said to me, "Mr. Turner, you will have to meet a class of 200 students and demonstrate to them. Now let me hear how you describe the sartorius muscle." And so I described the sartorius muscle, and he said, "Very good, Mr. Turner, that will do." That was the beginning of my career as a teacher of anatomy.

Thus it came about that two of the chief links in the chain of British anatomists were interlocked over an evening meal in the dim light of a Fleet Street inn.

In the early hours of a chill October morning Turner made his first acquaintance with Edinburgh as he wandered friendless to his lodgings in Lauriston Place. He has left us a record of his impressions:

What a revelation to me for the first time, the old and the new towns perched on the sides and summits of eminences, about midway between the adjacent hills and the Forth, commanding a varied and glorious prospect of mountain and sea, of wooded heights and fruitful fields. The city with its traditions and history, its monuments and its public buildings, the castle surmounting a precipitous rock, the church of the Holy Rood with its Royal Palace, the ancient streets and modern squares associated with Nobles, Divines, Philosophers, Men of Letters and of Science, took firm possession of my imagination. No one with a feeling for the past but must become inspired by such an environment and be impelled to labour for his generation and for the future.

At one glance, as it were, Edinburgh had wooed and won William Turner, the Lancastrian lad, whom Bart's had bred to medicine. In the spring of the same year—1854—she had captured Joseph Lister.

Dr. Logan Turner has given this biography the subtitle "A Chapter in Medical History." Sir William Turner's life was so intimately interwoven with the medical events of his time that his biography could not be other than a chapter in medical history. No doubt those who have taken part in these events, and those who seek to know how present conditions of medical practice have come about, will be grateful to the biographer for those sections of his book which deal with Sir William Turner's public life, but for us the fascinating parts of the book are those which reveal the intense humanity of a man built on big lines—the Samuel Johnson of anatomists. We must again quote a passage—one from the letter written by Turner to his mother on November 16th, 1862, telling her that he had become engaged to be married. He was then in his thirty-first year, having been eight years in Edinburgh—

As I am now in receipt of £400 per annum I have determined to carry into effect a plan of which I have been for some time thinking, and to take unto myself a wife. I am quite tired of leading a bachelor life, and I have arrived at an age at which one is fairly entitled to marry without being charged with imprudence or haste. . . . The young lady who has consented to share my lot is the eldest daughter of Mr. Logan, a gentleman living in the South of Scotland. I have been acquainted with her and with her family for some time. . . .

Even in this emotional crisis of his life the fullness and formality of his style suffers no curtailment. The one thing he could not do was to gush. Wiseacres may shake their heads over the formality of this note, but it proved to be the announcement of a contract which gave its participants forty-six years of such happiness as falls not often to human mortals.

Thomas Annandale was his groomsman, and his students made him a present. In his speech thanking them for their gift he gave a glimpse of the secret of his success in handling young men. He spoke of "the influence of that mysterious sympathy which binds together a lecturer and an attentive audience." The power to rouse that "mysterious sympathy" was Turner's gift by birth, but he maintained it by an honesty of purpose and a will to serve which have rarely been matched in the occupant of a professorial chair. How strong was his personal influence as a teacher of anatomy may be seen from a list of chairs of anatomy which were filled by his pupils:

Owens College, Manchester, Morrison Watson and Alfred Young; Otago University, John Halliday Scott; Trinity College, Dublin, Daniel John Cunningham, Turner's greatest pupil and afterwards (1903) his successor in Edinburgh; Queen's University, Belfast, Johnson Symington; University of Tokio, F. Dyce Fraser; University of Oxford, Arthur Thomson; University of Sydney, J. T. Wilson; King's College, London, Arthur Robinson, Cunningham's successor in Edinburgh; University of Liverpool, A. M. Paterson; University of Durham, Robert Howden; Lahore College and subsequently of University College, Dundee, J. C. Lamont; University of Toronto, Alexander Primrose; University of St. Andrews, James Musgrove, succeeded by David Waterston; University of Bristol, Edward Fawcett; University of Glasgow, Thomas H. Bryce; University College, Cardiff, David Hepburn; Melbourne University, R. J. A. Berry; University of Leeds, J. K. Jamieson; McGill University, Montreal, A. C. Geddes—now the Right Hon. Sir Auckland Geddes, Ambassador to the United States; University of Cape Town, T. B. Johnston.

Here is a record which has never been approached, much less equalled, by any other Master of Anatomy.

A. K.

BODILY CHANGES IN THE EMOTIONS.

THE interrelations of the ductless glands on the one hand and the nervous system and the emotions on the other have recently attracted much attention, especially as the result of the problems raised by the war, and our knowledge has been much expanded, particularly by Professor W. B. CANNON[2] of Boston, whose book on *Bodily Changes in Pain, Hunger, Fear, and Rage* summarizes some of the most important research work on this subject carried out in the physiological department at Harvard.

The functions of the three parts—the cranial, the thoracico-lumbar or sympathetic, and the sacral—of the autonomic system are considered in an attractive manner; the cranial portion is occupied in building up the reserves (adrenin, sugar) and fortifying the body against times of stress; the middle division is concerned with the manifestations of intense emotions—fear, anger, and pain—and is concerned with the preservation of the individual; and the sacral autonomic looks after the sexual activities, and so the racial continuity. When the neurones of the middle division meet in any organ the neurones of either of the other divisions, the influence of the two sets is antagonistic, the reciprocal innervation of the antagonistic divisions being comparable to the reciprocal innervation of antagonistic skeletal muscles. The increased secretion of adrenin, as the result of impulses travelling by the splanchnics, during pain and the dominant emotions of anger and fear, is held to constitute a reflex mechanism for the preservation of the individual; thus the blood pressure is raised; the amount of sugar in the blood, and so the source of muscular energy, is increased; the blood is driven from the splanchnic area to the nervous system, lungs, heart, and muscles; muscular fatigue is rapidly abolished; and the coagulation time of the blood is shortened. These visceral and other changes are directly serviceable in making the organism more effective in the violent display of energy which fear, rage, or pain may involve.

Hunger, which is on the same plane as pain and the dominant emotions of fear and rage as agencies determining the actions of the organism, is fully considered, and as the result of experiments it is shown that the immediate cause of the sensation of hunger is the contraction of the stomach. In fever the absence of hunger is correlated with the observation that infection with systemic involvement is accompanied by total cessation of all the movements of the alimentary canal.

In the last chapter of this extremely interesting monograph Professor Cannon considers alternative means of satisfying the fighting emotions, and while admitting that his researches confirm the militarist contention that the fighting instinct is firmly fixed in human nature, he advocates international games as a substitute for military discipline.

---

[2] *Bodily Changes in Pain, Hunger, Fear, and Rage.* An Account of Recent Researches into the Function of Emotional Excitement. By Walter B. Canhon, M.D., C.B., George Higginson Professor of Physiology in Harvard University. New York and London: D. Appleton and Co. 1920. (Post 8vo, pp. xiii + 311; 39 figures. 15s. net.)

NOTES ON BOOKS.

THE merits of LUYS'S *Textbook on Gonorrhoea and Its Complications*[3] have received such wide recognition that a second edition of the translation by FOERSTER is sure of a welcome. Few changes have been made because, as the preface to the new edition explains, both author and translator have been away from home, and collaboration during the busy years of the war has been impossible. No great advances in the treatment of gonorrhoea have been made during the last few years, and the work can therefore still be regarded as up to date. A note appears in the new edition on the electrical treatment of gonorrhoea. The experiences of the translator, Dr. Foerster, with regard to electrolysis would appear to be in agreement with those of the majority of English observers. Electrolysis has a limited use in the treatment of urethritis, but its indiscriminate employment is often productive of harm. No alteration has been made in the illustrations, beyond an attempt to replace German instruments by those of other countries. The coloured plates are the same as those in the previous edition.

Eyes Right,[4] by Dr. JAMES MACPHAIL, consists of a series of papers published originally in *Indian Education*, designed primarily for the use of teachers and parents and devoted to hygiene and treatment of the eye. From the fact that the work has run into its second edition, we may conclude that those for whom it is written find it useful. The author has attempted to get a great deal into his book, and many of his descriptions are too sketchy to be of real service to anyone; we doubt, for instance, whether a description of such a condition as arcus senilis is of any use either to the teacher or the parent. The author has a good deal to say on the subject of paper and print of a school book, which is valuable: we must therefore regret that both paper and print, particularly the latter, of his own work fall short of what is desirable.

[3] *A Textbook on Gonorrhoea and Its Complications.* By Dr. Georges Luys, late Assistant to the Urological Clinique, Hôpital Lariboisière, Paris, etc. Translated and edited by Arthur Foerster, M.R.C.S., L.R.C.P.Lond. Second revised edition. London: Baillière, Tindall, and Cox. 1917. (Roy. 8vo, pp. xxi + 386; 201 figures, 3 coloured plates. 21s. net.)

[4] *Eyes Right.* Papers for Teachers and Parents on the Hygiene and Treatment of the Eye. By James M. Macphail, M.A., M.D. Second edition. Calcutta and London: Butterworth and Co. 1919. (Fcap. 8vo, pp. 75. Re. 1 net.)

INCOME TAX RECONSTRUCTION.

WE make no apology for returning to the subject of income tax; the recent report of the Royal Commission marks the commencement of a determined attempt to simplify the present highly complex system and at the same time to redress those grievances which the rapid rise in the rates of tax has rendered so acute. Any reconstruction of so heavy and so widespread a tax as the present income tax is a matter that demands the earnest and immediate consideration of all.

Evidence on behalf of the British Medical Association was given by the Treasurer, Dr. G. E. Haslip, last October, and it is proposed to deal first with the report of the Commissioners as it affects the points raised by Dr. Haslip's evidence.

The "Three Years' Average."

It was suggested that a preferable basis of charge would be the "income of the previous year," partly because the complications introduced by a three years' average would thereby be avoided, and partly because "the year following a year when profits were high is more favourable for the payment of a large income tax, and vice versa." The report notes that the change seems to be almost universally desired, and states that the Commissioners "have no hesitation in recommending that the change be made"; it is suggested that when losses are incurred the amount of loss might be carried forward and deducted from future profits, subject to a time limitation of six years.

The Commissioners point out that the Revenue is likely to benefit by the change during a period of rising incomes, such as the present time, but state that that consideration has not influenced their decision. It is of course equally clear that, on the other hand, any future fall in the general level of earnings will be reflected more quickly in a reduced yield of tax.

Depreciation of Plant and Machinery.

The evidence put forward on behalf of the Association called attention to the fact that the restriction of the depreciation allowance to traders as distinct from professional men constituted a substantial and obvious grievance that needed an early remedy. This is admitted in the report with complete candour. The Commissioners say: "A business man is allowed a deduction for the depreciation of a motor car employed in his business, but a doctor whose practice may equally necessitate the use of a car is not entitled in law to any such deduction. We recommend that the allowance should no longer be restricted to traders."

Depreciation of Wasting Assets.

The particular example put before the Commission was the case of the purchase of a lease of premises for professional purposes. The report lays down certain principles the result of which, stated briefly, would be to give an allowance for "inherently wasting material assets" where the anticipated life of the asset does not exceed thirty-five years, but would not extend the allowance to the case of the purchase of a lease where the wasting applies not to the material asset but to the period for which the holder is entitled to enjoy it. Considerations of space forbid a more complete examination of the arguments on this point, which is after all less important from the point of view of the average medical practitioner than those mentioned above.

The Joint Assessment of Partnerships.

Dr. Haslip's evidence pointed out that there were many objections to the present method of joint assessment, one consequence of which was that a formal notice was sent to the precedent partner which often indicated under the system of allowances particulars of the other partner's private income. The report states that the Commissioners consider that the profits of the partnership as a whole should still be returned in one sum by the precedent acting partner, and that he should be responsible for showing how that profit is divisible among the partners, but they recommend that it should be open to any partner to claim that his share of the partnership profits should be separately assessed, so that his private concerns may no longer be made known to his fellow partners, and they add that such separate assessment should be subject to the ultimate right of the Crown to recover from a firm tax due from an individual partner on his share of the firm's profits. It will be seen that the Association's objection is met in substance, subject to conditions which are likely to have only very rare application in actual practice.

Deduction for Rent.

Dr. Haslip called attention to the fact that a good deal of variation was noticeable as between different bodies of local Commissioners on the question as to how far the allowance for rent or annual value should be granted up to the maximum of two-thirds allowed by the Income Tax Acts. In cross-examination, he expressed the opinion that a universal allowance of two-thirds might create unfairness in certain cases—for example, that a higher proportion should in fairness be taken in dealing with a practice in Harley Street than in the case of one in a provincial town. On this point the report states "the general limitation to a sum not exceeding two-thirds of the annual value or rent should be retained, but the Commissioners should be empowered to grant a larger allowance in special circumstances where the application of the general rule would result in hardship." The adoption of this recommendation would not materially affect the present position in most cases, but the admission that the hard and fast insistence on the maximum of two-thirds creates hardship in some cases will be welcomed by those concerned as an indication of relief to come.

Relief in Respect of Children.

The Commission was urged that the relief should be extended, first, as regards the quantum of the allowance per child, and secondly, as regards the class of parent relieved, a class which to-day is restricted by the condition that the total income shall not exceed £800. On this question the report suggests several alterations:

1. The allowance should be £40 for the first and £30 for each subsequent child, instead of £40 and £25 respectively, as now.
2. The income limit should be swept away, so that the allowance may be universally applied.
3. The allowance should be treated as a deduction from the gross income in such a way as to reduce that income for all purposes, so that the rate of tax should be determined by reference to the amount of income left after these allowances have been made, and
4. The allowance should be withheld when the income of the child in its own right exceeds the amount of the allowance.

This was the last of the specific points put to the Commission by the Association, and, as will be seen, it met with favourable consideration on the whole. There is a great deal to be said for the contention that a parent should be allowed to deduct the annual cost of education and maintenance (or at least some proportion of that cost) in lieu of the "flat" allowance which is given now whether the parental obligation is small or large and whether it is met fully or only partially. The Commissioners have taken the view that the family allowances are to be regarded as extensions of the exemption limit, which of course raises entirely different considerations. Their recommendations will at least carry the relief to ranges of income to which it is at present denied; in fiscal matters gratitude for small mercies is a virtue for which there is only too little scope, and it would perhaps be ungracious to forego its exercise on this occasion.

Leaving the Association's evidence and its results, it may be worth while to deal somewhat more fully with those general questions which were touched on in our last issue.

Allowances.

The substitution of the fixed allowances of £150 in the case of single and £250 in the case of married taxpayers for the sliding scale of abatements *plus* the wife allowance of £50, simplifies the calculation of the tax in the majority of cases. The new allowances are to apply irrespective of the amount of total income, and, as has been mentioned above, operate to reduce the total income to the "taxable income." By this means the "jumps" which the tax makes at the various points where the present allowances are restricted or swept away are avoided, and a frequent source of irritation is thereby removed.

Graduation.

At the same time the deduction of these allowances on a fixed and not on a proportional basis produces a certain amount of graduation, but not enough to bring the system into a comparable condition with the present system of allowances *plus* varying rates of tax. The Commissioners accordingly addressed themselves to the task of finding some method whereby the effective rate of tax would increase with the increase in total income without the introduction, as at present, of numerous rates of tax and consequent "jumps" at the income limits at which the rates of tax increase. The scheme which they recommend is certainly ingenious. It may be formulated as follows: From the assessable income deduct the allowances to arrive at the "taxable income"; if that does not exceed £225, it should be charged at half the standard rate of tax, otherwise the first £225 should be charged at half the standard and the remainder at the standard rate of tax.

The report suggests that this graduation should be steepened by applying the existing super-tax to all incomes exceeding £2,000. At present super-tax is chargeable on the excess of the total income over £2,000 only when that total exceeds £2.500, so that a person with an income of, say, £2,600 pays super-tax on £600, but another with an income of £2,400 is exempt from that duty. The Commissioners are of opinion that super-tax should be increased and should apply to all excesses over £2,000, and that this alteration would bring an additional 30,000 persons within the scope of the tax; they further suggest that one consequence of such an extension would be to make it desirable that the work of assessment should be done in the local offices of the inspectors of taxes, unless the taxpayer should express a preference for assessment by the central authority.

Differentiation in Favour of Earned Income.

On this aspect of the income tax the Commissioners have made rather drastic recommendations. The present scales of tax give an advantage of 9d. in the £ in each range of income, the proportion of relief varying from 25 per cent. for the lowest to 12½ per cent. at the highest range to which the earned rate applies—that is, to total incomes between £2,000 and £2,500—and ceasing altogether at a limit of total income of £2,500. The report suggests that "the present differentiation against small unearned incomes is too great, and should be materially diminished." On this we offer two comments—first, that the differentiation of 25 per cent. might with equal truth be said to be "in favour of small earned incomes," and second that 25 per cent. was the original proportion when differentiation was first introduced in 1907 to reduce the standard 1s. rate to 9d. for earned incomes. The Commissioners refer to the increased estate and succession duties as falling on the recipient of "investment income," and thereby introducing indirectly an increased differentiation in favour of the recipients of earned income, and suggest that for all persons there should be an allowance of 10 per cent. instead of the present allowance, which varies from 25 per cent. to *nil*. The administrative simplicity of such a scheme is attractive, but its equity seems to depend very largely on the indirect effect of the death duties. As Dr. Haslip pointed out in his evidence on behalf of the British Medical Association, every trader employs capital in his business, and often to a very large extent, and no attempt is made to separate the concealed interest on business capital from the total profit, which is assessed at the earned rate. Broadly speaking, the greater the profit the greater the capital, and therefore the greater that element of profit which is taxed as earned but is really the result of investment in the business, and on this ground a 10 per cent. differentiation seems difficult to justify, unless it is accompanied by the taxation at the investment rate of the interest on business capital. The isolation of this element in the total profit for taxation as investment income should not be beyond administrative skill.

Effects Illustrated.

The report contains a number of clearly framed tabular statements and graphic representations showing the effect of the proposed changes. While they cannot be dealt with here in detail some general comment may be useful. For this purpose taxpayers as a whole may be divided into the usual three classes—wealthy, middle, and lower—taking the first mentioned to coincide with the supertax class and the second to include persons whose total incomes are between £500 and £2,500. On the basis of this rough division it may be said that the general effect of the Commissioners' recommendations would be to relieve the lower at the expense of the wealthy classes and the married man at the expense of the single. Among the earning classes the wealthy tend to gain relatively and the middle class to lose. The following tabular statement will serve to indicate the general effect of the proposals as affecting the majority of practitioners, it being borne in mind that the

Married Couple with Three Children.

Actual Total Income.	Income All Earned.		Income All "Investment."	
	Present Charge.	Postulated Charge.	Present Charge.	Postulated Charge.
£	£ s.	£ s.	£ s.	£ s.
300	4 10	*Nil*	6 0	*Nil*
350	10 2	*Nil*	13 10	5 5
400	15 15	6 15	21 0	12 15
500	23 5	20 5	39 0	27 15
600	54 0	33 15	67 10	51 15
700	73 10	60 15	91 17	81 15
800	99 0	87 15	123 15	111 15
900	129 0	114 15	161 5	141 15
1,000	144 0	141 15	180 0	171 15
1,250	234 7	209 5	281 5	246 15
1 500	281 5	276 15	337 10	321 15
2 000	450 0	411 15	525 0	471 15

Incomes of £250 and under, *nil*.

family allowance has hitherto been given only where the total income does not exceed £800, and that in consequence the increase of the "postulated charge" is correspondingly greater in the case of the single man or the married man with no claim to relief in respect of children.

A good deal of criticism will be addressed to that portion of the report which proposes changes in the administration. Most of the recommendations on this question are directed to transferring the legal functions of the independent local commissioners and the assessors appointed by them to the inspectors of taxes who are members of the co-ordinating State Department. The underlying principle on which this portion of the report proceeds seems to be that the legitimate interests of the taxpayer will be sufficiently safeguarded if the judicial functions of the local commissioners are preserved in their appeal courts, even though their other functions are transferred to the Revenue authorities. This country's dislike of a bureaucracy has in no way been diminished by the experiences of the past five years, and the case for this proposed transfer of functions must be very clearly established if it is to command any general support. The report sets out the facts in some detail, and states that in practice many of these functions—for instance, the preparation of the assessment before its notification to the person assessed—are already performed by the inspector, and in some cases could not possibly be performed in present conditions by an unpaid local committee. The Commissioners say "many of the recommendations we have to make with regard to administration are directed towards recognizing and giving legal sanction to those practical developments in the working of the tax which have so largely contributed to its success." It is inevitable that the changes in social and industrial conditions which have taken place during the past century should have rendered obsolete and cumbrous many of those safeguards which were essential when Pitt and Peel devised the system that has stood for so long and, on the whole, has served its purpose so well.

The Commissioners' report carries great weight, and on some points is entirely convincing, but a plea for caution is not out of place where a question of principle is concerned. If the taxpayer's safeguard against unnecessary requests for information or evidence of various kinds is to be restricted to the exercise of his right of personal appeal, steps should be taken to render more easily accessible the right of appeal to the Special Commissioners who at present go to various parts of the country only at infrequent intervals, and the Board of Inland Revenue should recognize that a greater demand for tact and discretion will be thrown on their own staff.

The report is a lengthy document and bears evidence of much spade work as well as acute reasoning and criticism. It cannot please everybody, for from the very nature of the subject matter with which it deals income tax cannot be made either light or simple or agreeable, but it is clear that a long step has been taken in the right direction. We say has been taken advisedly, because, though parliamentary sanction is needed to clothe the recommendations with the statutory force necessary to give them operation, we may safely assume that so exhaustive a report will by its practical unanimity possess sufficient authority to achieve fruition in substance if not in detail.

THE COST OF LIVING.

THE statistics issued by the Ministry of Labour in the *Labour Gazette* show a slight decrease in the retail price of food on March 1st as compared with February 2nd. The price in March was 133 above the estimate for July, 1914; it was 135 in February. These percentages are based on the assumption that the standard of living among the working classes is the same now as before the war, but the average increase in expenditure on food is believed to be less; the increase of such expenditure on March 1st is estimated to be 107. Owing to the shortage of certain articles—for example, sugar and butter—it is not in fact possible to obtain every article in the same quantity as before the war. The foods included in the statistics are beef, mutton, bacon, fish, flour, bread, potatoes, tea, sugar, milk, butter, margarine, cheese, and eggs, which together normally account for over three-fourths of the total family expenditure on food. The most important omission is that of fruit and vegetables (other than potatoes), which are not included owing to the wide variations in quality and the seasonal variations in supplies.

The statistics are founded on information as to the predominant retail prices of these articles of food obtained from labour exchanges and retailers, including co-operative societies, multiple firms, and private shopkeepers conducting a working-class trade, to the number of 5,500. It is collected in 90 towns with a population exceeding 50,000 and from 540 smaller towns and villages. The figures are tabulated for large towns (over 50,000) and for smaller places, and allowance is made for differences in the importance of each item in the budget. Expenditure on rent is regulated by the Rent Restriction Acts, which provide that rents of working-class dwellings may not be raised by more than the equivalent of the increase in rates. The statistics with regard to clothing, fuel, light, and other items are more conjectural, but it is estimated that if the total working-class expenditure be taken at 12.5, food accounts for 7.5, rent for 2.0, clothing for 1.5, fuel and light for 1.0, and other items, such as soap, domestic appliances, tobacco, travelling, and newspapers, for 0.5. An attempt is made to compare the percentage increase in retail food prices since July, 1914, in various countries, with the following result:

Percentage Increase in Retail Prices of Food since July, 1914.

Country.	July, 1915.	July, 1916.	July, 1917.	July, 1918.	July, 1919.	Present.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
United Kingdom:	32	61	104	110	109	133
Towns	—	—	—	—	—	137
Rural	—	—	—	—	—	129
Foreign Countries:						
Belgium (Brussels) ...	—	—	—	—	267	259
Denmark	28	46	66	87	112	151
France: Paris	22	32	83	106	161	190
,, Other towns ...	23	42	84	144	183	201
Holland (Amsterdam)...	—	—	42	76	110	99
Italy (Rome)	5*	11	37	03	106	175
Norway	—	60	114	179	189	199
Spain	6	13	27	51	—	57
Sweden	24	42	81	168	210	198
Switzerland	19	41	78	122	150	137
United States	2*	9	43	64	86	95
Oversea Dominions:						
Australia	31	30	26	32	47	60
Canada	5	14	57	75	86	106
India (Calcutta)... ...	8	10	16	31	51	53
New Zealand	12	19	27	39	44	58
S. Africa	7	16	28	34	39	77

*Signifies decrease.

The average increase in all the items of the budget of the industrial classes indicated above, including that is, in addition to food, rent, clothing, fuel, light, and minor articles of consumption and domestic use, is 130 per cent. for the United Kingdom, as compared with July, 1914. Perhaps the most important outcome from the medical point of view is the statement as to the changes in dietaries, which, it is said, are founded on figures supplied by the Ministry of Food. Had the diet been maintained at the pre-war level the increase in expenditure would have been 133 per cent., whereas it is only 107, so that, if these figures can be accepted, the industrial classes—although the percentage has increased from 97 in November, 1918, to 107 to-day—are still spending less, in proportion, on food than they did.

THERE has recently been a remarkable increase at Zurich in the number of non-alcoholic restaurants, where it is stated that 20,000 of the 200,000 inhabitants take their meals daily; only bottles of water are seen upon the tables.

British Medical Journal.

SATURDAY, MARCH 27TH, 1920.

THE EPIDEMIOLOGY OF PHTHISIS.

I.

DR. JOHN BROWNLEE'S inquiry into the epidemiology of phthisis is a statistical research of first-rate importance. In the earlier parts of his elaborate memoir on the subject Dr. Brownlee submitted reasons for regarding phthisis as, from the epidemiological point of view, a complex, resolvable into three diseases—the phthisis of early, of middle, and of late life, each responding differently to environmental factors and perhaps etiologically distinct. In a third part of the memoir, published recently by the Medical Research Committee,[1] this thesis is developed. We propose now to deal only with the earlier sections of this new instalment and to recur to the matter in an early issue.

In his preliminary remarks Dr. Brownlee takes note of the facile assumptions which tend to characterize statements about infectious disease—for instance, the assumption that because a disease is infectious it must needs be more prevalent and also more fatal in crowded districts. He thinks there is no evidence that diphtheria is either more prevalent or more fatal in poor and unhealthy than in rich and otherwise healthy urban districts. He even doubts whether scarlet fever is more prevalent in poor districts, the London notification rate for the years 1907–11 being negatively correlated with the standard death rate. It may be remarked in this connexion that Ewart,[2] who analysed sixty-four rural districts in the Eastern Counties, using the notifications of 1911–13, found a considerable positive correlation between the attack rate of scarlet fever and the percentage of population living more than two to a room, and that this was increased when the partial correlation was determined, mean size of family, proportion under 10, and acres per family being made constant.

Dr. Brownlee next considers the value of a standardized death rate as a measure of mortality and shows that, despite its necessary inferiority to a complete life table, for this purpose it is sufficiently exact. The following section is devoted to a discussion of the effects upon the phthisis death rate of an elimination of susceptible units by the operation of a selective fertility rate. The problem to be solved is this: given that a predisposition to phthisis is heritable and that, dying early, the phthisical are unable to contribute their full quota to the following generation, how will this affect the secular trend of the death rate? The answer must depend, among other things, upon the way in which the selection operates—whether, for instance, it cuts off all having more than an assigned measure of susceptibility or merely removes a proportion the magnitude of which is correlated with the grade of susceptibility (a more probable hypothesis). The distinction between these cases was clearly drawn by Greenwood and Yule in their discussion of inoculation statistics,[3] and Dr. Brownlee gives several numerical illustrations. They are based upon a theory of the statistical frequency of units of resistance which may not be correct; its correctness does not, however, affect the general argument that the secular reduction of a death rate consequent upon elimination of susceptible units would become slower the longer the selection had operated. The fact that the phthisis death rate declined faster in the later years of the period studied is used by Dr. Brownlee as evidence that the decline has not been chiefly due to selection. It is implicit in this argument that the force of selection has been constant, that it was acting with its maximum intensity at the beginning of the period considered—an assumption not obviously true. It must, of course, be granted that the various agencies which, in the opinion of pessimistic eugenists, also perhaps in the opinion of those who are not propagandists, favour the multiplication of the "unfit," have acted with greater intensity in the last generation than forty years ago. On the other hand, the institutional treatment of the tuberculous and the resulting diminution of effective fertility, as well as emigration of the weak-chested, might have favoured the selective process in our generation. We must also notice that in the decennium 1901–10, the results for which were not available when Dr. Brownlee wrote, a slackening of the rate of decline in phthisis mortality has occurred. The problem is, indeed, far too complex to admit of summary solution, nor does Dr. Brownlee claim to have solved it.

In the next two sections Dr. Brownlee discusses adjustments of the coefficient of correlation and of the lines of regression desirable when the quantities correlated are not direct measurements but morbidity or mortality rates derived from samples. This point was first taken by Mr. J. A. Cobb, and has been discussed by Greenwood and Yule in the paper referred to above. It is sufficient to remark that factors of correction are themselves subject to errors of sampling, and that the adjustments, even when absolutely large, are not infrequently within the ambit of the sampling errors of the crude correlations. The point is, in fact, of rather minor interest in the present connexion, since Dr. Brownlee properly bases his conclusions upon coefficients which, with or without correction, are large.

In the next place Dr. Brownlee shows that in London the correlation between the standard death rate (males) at ages 15 to 65, either from all causes or from all causes less phthisis, and the death rate from phthisis is very large, and that such changes as have occurred in London since 1851 are consistent with the hypothesis that general hygienic improvements (of which the standard death rate is taken to be a measure) are responsible. In North Wales, South Wales, and Cornwall, on the other hand, there is little if any correlation between the death rates from phthisis and from other causes. We think that the interrelations of the phthisis death rate and other variables in London are more conveniently studied by a separate evaluation of the constants for age groups than by using a standardized rate. Unpublished work we have seen brings out a sharp contrast between the age groups 15 to 25, 25 to 45, and 45 to 65. In the first group the death rate from tuberculosis is not positively correlated in either sex with domestic overcrowding, while at ages 25 to 45 there is a very high partial correlation between the measure of overcrowding and the male tuberculosis death rate but no correlation between it and the female tuberculosis rate.

The London correlations in this analysis are quite different from those derived from a sample of county

[1] *An Investigation into the Epidemiology of Phthisis in Great Britain and Ireland.* Part III. Medical Research Committee, Special Reports Series, No. 46. Stationery Office, 1920. 2s. 6d.
[2] *Journ. Hygiene*, 1916.
[3] *Proceedings*, Section of Epidemiology and State Medicine, Royal Society of Medicine, 1915.

boroughs, a finding in complete accord with Dr. Brownlee's hypothesis. The great difference, however, between males and females and between adolescents and adults is, we believe, best explained by reference to industrial conditions. The seeming paradox that the phthisis death rate in the London boroughs at ages 15 to 25 is not positively correlated with overcrowding is, we suggest, due to the fact that the relative earning capacity of adolescents is much higher at younger ages amongst the families of the unskilled operatives, because their children tend to enter the blind-alley trades which bring an immediate accession of family income at the cost of subsequent unemployment or casual employment. This temporary prosperity may for a time mask the effects of bad home environment, since it may improve the nutrition of the adolescents. Such an explanation is concordant with Dr. Brownlee's remarks upon young adult phthisis, to which we shall presently refer. The explanation of the difference between males and females at ages 25 to 45 is, we believe, to be found in the great difference of the proportions of the sexes industrially employed in this age group, but its discussion would carry us too far from the subject of Dr. Brownlee's researches to be pursued here.

MILITARY SERVICE AND MEDICAL GRADUATION.

RATHER more than a year ago, when medical demobilization was making but slow progress, we discussed some of the difficulties in the way of releasing at that time the younger men in order to remedy the shortage of resident medical officers in civil hospitals. We pointed out that the hospital resident is of value to the community in two ways: he attends to the immediate medical needs of a large number of people; and in performing this duty he increases his own efficiency and therefore the value of his future services to the community in a manner almost impossible under other conditions. It seemed only just and reasonable that everything possible should be done for the younger men, who, owing to their service in the navy and army, had not been able to round off their clinical and scientific training by the experience which a resident hospital appointment affords. Apart from the demand of the hospitals for proper treatment of the sick, and apart from the public need for well trained doctors, we maintained that the position of the young doctor in regard to his own future ought to be considered. The Australian Government had already given a lead by sanctioning a scheme designed to afford opportunities for a number of officers of the A.A.M.C. to obtain post-graduate instruction before returning to Australia. This scheme provided that during his period of study or service in hospital the medical officer should receive full pay and allowances, together with 5s. a day subsistence allowance and approved tuition fees, besides retaining the emoluments of any post he might hold. We commended this statesmanlike and far-seeing policy of the Commonwealth Government, and held it up as an example worthy to be followed by the mother country.

But, while grants from Government funds have been made to many demobilized medical students to tide them over their last years of professional study, nothing has been done by the State for the young doctors who, by reason of their military or naval service, have held no hospital posts and have thereby fallen behind in the race. It has been ruled that a student may be helped to qualify, but that a qualified man cannot be assisted to obtain a higher degree or diploma. Public attention has been drawn to this hardship by Sir Wilmot Herringham in a recent letter to *The Times*. A considerable number of civilian medical officers, he says, are still compulsorily retained in the R.A.M.C., both in Europe and in the East, because reliefs cannot be found for them. Some of them are young men who were on their way to a university degree in medicine, and had already passed their earlier examinations, but were commissioned immediately on taking the Conjoint diploma and thereby prevented from completing their university course and going up for the M.B. examination. Many such cases have been brought to our notice during the past year or so.

"Three years in the army," Sir Wilmot Herringham says—and having served on the Head Quarters Staff of the British Armies in France throughout the war he has had exceptional opportunities for forming a judgement on the matter—"means that a man has forgotten a large part of the knowledge necessary to pass the M.B., and will require at least six months' hard work, and perhaps even longer, to bring himself again up to the standard. The expense of so long a period of living without earning is too great for some of these men, and they are writing to me that they fear they will have to sacrifice their degree. This would be a severe hardship, for a degree means a great deal to a doctor." The case could not be put more clearly and temperately. These young men have deserved well of their country; among them there are doubtless some who in happier circumstances would by now have begun to make a name for themselves in civil practice or in research. Something ought to be done for them, and Sir Wilmot Herringham makes the timely suggestion that on demobilization they should receive a grant towards the expense of finishing their medical education.

It will be seen from our Parliamentary Notes that the Financial Secretary to the War Office undertook last week in the House of Commons to represent to the War Office the desire of young medical officers detained in the East to be recalled for the purpose of resuming their studies. We submit that this does not go far enough, and that steps should also be taken to provide material assistance to those in need of it.

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND.

THE first annual meeting of the Association of Surgeons of Great Britain and Ireland, the foundation and constitution of which were described in our issue of January 17th, p. 90, will be held in London at the end of the second week of May. The association exists for the "advancement of the science and art of surgery, and the promotion of intercourse and friendship among the surgeons of the United Kingdom." The number of fellows is not to exceed 250, and all must be engaged in purely surgical practice, in the teaching of surgery, or in surgical research. A fellow on ceasing to be a member of the active staff of his hospital will become a senior fellow, and will retain the privilege of attending the meetings. A general meeting will be held once a year, in May, in some town in the United Kingdom which possesses a university or medical school. It was arranged that the first meeting, and subsequently at least every third meeting, should be held in London. Fellows will be required to speak, not read their communications, and will be allowed not more than fifteen minutes. No reporters are to be present, and no reports of the meetings are to be sent to the journals or newspapers. The first general meeting will begin on Thursday, May 13th, at the house of the Royal College of Surgeons of England, Lincoln's Inn Fields, when the

President, Sir John Bland-Sutton, will deliver an address at 5 p.m. On Friday morning there will be a discussion on "The ritual of the surgical operation." On Saturday morning the specimens in the War Collection in the Museum of the Royal College of Surgeons will be exhibited; Professor Keith will relate the history of the collection; Sir George Makins will speak on selected specimens of wounds of vessels, and Sir Cuthbert Wallace on gunshot injuries of the abdomen. The afternoons of Friday and Saturday will be spent at various London hospitals, where cases will be shown and operations witnessed. Further particulars will be supplied later to each fellow.

THE UNIVERSITY OF LIVERPOOL.

AN appeal has been launched by the University of Liverpool for contributions to a fund to enable it to respond to the increasing calls upon it. It is signed by the Chancellor, Lord Derby; the Vice-Chancellor, Dr. George Adami, F.R.S.; and the President of the Council, Mr. Hugh R. Rathbone. The appeal is rendered necessary partly by the increase in the number of students; last year they numbered 1,522, this year 2,545. Every available scrap of space is overcrowded; wooden huts have been erected in the quadrangle and grounds, and equipped as laboratories, until there is no room for more. Open courts have been roofed over and private dwelling houses pressed into service for important departments, but the accommodation is so wholly inadequate for practical work that the course in the physical laboratory for the first year is being repeated eleven times; this is, of course, a terrible tax on the lecturers and demonstrators, and must have a deadening effect. The University requires at once new laboratories for chemistry and for electrical engineering, and new buildings for the education department, for the veterinary college, and for the school of architecture. It also wants a physical drill hall, a university hall and hostels for students, and extensions of the library, engineering laboratories, students' union, and club rooms. To meet all these requirements, which are described as the minimum immediately necessary, a very large sum of money is needed. It is claimed for the University that it provides as good teaching as can be given in arts, science, medicine, law, and engineering, and that it gives particular attention to those subjects essential to success in commercial life. The University of Liverpool was incorporated in July, 1903, and from the beginning it had faculties of arts, science, medicine, law, and engineering. It had been preceded by University College, Liverpool, which was one of the colleges of the Victoria University, and the separation was formally brought about by an Act of Parliament in 1904. Since then the University has advanced both in efficiency and in numbers, and its undergraduates are now drawn not only from Great Britain and Ireland, but also from British colonies and dependencies, as well as some foreign countries. All its faculties are maintained at a high level and it is remarkable for possessing a department of oceanography, and a flourishing department of tropical medicine whose staff are in the forefront of this new and rapidly advancing department of medicine. A special office for the appeal has been opened at 4, Moorfields, Liverpool.

COCOA BUTTER.

DURING that period of the war when butter and the animal fats commonly used in cooking were hard to come by, cocoa butter appeared in the shops, generally in the form of large hard, brittle slabs, of a white or slightly yellow colour. Many people experimented with it, but it was not altogether a success. Some found it just tolerable, others disliked it, and some asserted that it gave them indigestion. Their opinion found some support from experiments made by Langworthy and Holmes in America. The cocoa nib contains about 50 per cent. of fat, but during the process of manufacture this is reduced in cocoa for drinking and in many chocolates for eating to about 30 per cent. Its melting point is about the same as butter, so that on that ground there was no reason why it should not replace butter. But there was some doubt as to whether it was utilized as completely in the body. The Food (War) Committee of the Royal Society therefore induced J. A. Gardner and F. W. Fox[1] to carry out an investigation at the Physiological Laboratory of the University of London. The standard diet used for control was that employed by the subcommittee of the Royal Society in experiments on the digestibility of breads. This diet contained 50 grams of butter a day, and in the investigation it was replaced by the same quantity of cocoa butter. The subjects upon whom quantitative experiments were made found cocoa butter palatable and suffered no appreciable change in weight; the excreta were normal in appearance, no apparent digestive trouble was noted, and their health was normal throughout the experiment. The average percentage utilization of fat on the cocoa butter diet was found to be rather lower than the average values on butter diets, but the difference was not great, and came within the limits of variation on butter diets. The utilization of cocoa butter must, from this point of view, be regarded as satisfactory. Four persons were induced to promise to take excessive quantities of cocoa butter (3 oz. or 4 oz. a day) with ordinary diet; three of the four became accustomed to it, but it gave the fourth indigestion. In a few of those who consumed large quantities a slight laxative action was observed. It had been alleged that cocoa butter was "a slow poison," but no evidence of any such action was obtained. The conclusion is that it could be used to supplement the fat need of the population with safety. This conclusion, it is added, is in agreement with general experience, since large quantities of cocoa fat must be consumed daily with impunity in the various chocolate preparations on the market, which may contain as much as 20 per cent. of fat.

HOURS OF LABOUR.

DURING the discussion on the second reading of the Shops (Early Closing) Bill in the House of Commons, on March 19th, Dr. A. C. Farquharson recurred to a point to which he had previously called attention. He urged that an effort should be made, when the limitation of hours of labour was under consideration, to arrive at a sound method for deciding the number that should be worked. He contended that a decision should be made, not at the request or demand of any group of political parties, for it was in essence a scientific question to be answered by the result of scientific investigation. During the war such investigations had revealed the relation of meals and periods of rest to production. It was unsatisfactory to limit the number of hours of labour of a healthy vigorous man by some arbitrary, unreasoning, unscientific rule. Work was a source of joy to many people, and the value of leisure depended on the way it was spent. We believe that Dr. Farquharson is on the right track. The long hours of labour that used to be worked must be condemned, and he condemned them during the course of his speech; but there must be a limit to the reduction necessary in the interests of health, and the limit no doubt varies at different ages, in different occupations, and in varying states of health. These variations render the scientific problem more difficult of solution, but do not make it insoluble; the class of work is already self-limited to a very considerable extent by the worker, who usually chooses the kind of occupation to which he feels himself best adapted. Valuable investigations on industrial fatigue were made during the war by the Health of Munition Workers Committee and the Medical Research Committee; the latter, we observe, is

[1] *The Biochemical Journal*, vol. xiii, No. 4, p. 368.

continuing this work. In the supplementary estimates is the sum of £16,000 to meet the cost of certain investigations conducted by the Committee, among which those in connexion with industrial fatigue are specified.

COMPLIMENTARY DINNER TO SIR JOHN MACALISTER.

A COMPLIMENTARY dinner, to congratulate him on the knighthood recently conferred upon him, was given to Sir John MacAlister, Secretary of the Royal Society of Medicine, in the Connaught Rooms, London, on March 18th. The large attendance (about 300) was striking evidence of the esteem in which he is held. Sir Humphry Rolleston, President of the Society, who was in the chair, said that the guest was so young in mind that it was difficult to believe that thirty-three years had passed since he became an officer of the Royal Medical and Chirurgical Society. Sir William Church, the first speaker to the toast of the guest's health, referred to early days. He said that the acquisition of the property in Hanover Square was due most of all to Sir John MacAlister's imagination, initiative, persuasiveness, and willingness to accept responsibility. Sir Rickman Godlee, who was honorary librarian while the Society was at Hanover Square, said that it was through Sir John MacAlister that the amalgamation of many London societies into the Royal Society of Medicine was brought about. Sir Francis Champneys, speaking as the treasurer, and afterwards President of the Society after the amalgamation, referred to the many activities of the Secretary, especially in connexion with the social evenings, attended by over 4,000 guests unconnected with the Society and resulting in the accession of nearly 600 Fellows and members. He referred to the establishment of the Section of Medical History in 1912, and of the first subsection, that of Proctology, in the following year. The financial situation had been eased by the issue of subscription bonds to Fellows, and by the extension, through the Secretary's exertions, of the lease of the house in Wimpole Street from 99 years to 999, subject to a ground rent. In all these matters Sir John MacAlister had shown himself a man of ideas and resource. Sir Arbuthnot Lane, who followed, said that in 1887 the Society's assets amounted to £3,040, whereas at the last audit they were £72,000, apart from the appreciation of the house property, which was well worth £100,000. In acknowledging the toast, with which the name of Lady MacAlister was coupled, Sir John mentioned that on the site of the Connaught Rooms the Royal Medical and Chirurgical Society had been founded on May 22nd, 1805, when Abernethy, Matthew Baillie, and the best men in medicine of that day were present. Speaking of the amalgamation of societies in London, he said that though it must have come about sooner or later, that it came when it did was due to Sir William Church, who had taken up the negotiations at the point at which they were left on the sudden death of Sir Andrew Clark. The enthusiasm of Dr. Arthur Latham and Mr. Herbert Pendlebury, the first two honorary secretaries of the amalgamated society, had much to do with its success, and Sir Henry Morris, who followed Sir William Church, might be described as the architect of the amalgamation. In closing, he said he looked forward to a time when the libraries of the Royal College of Physicians, the Royal College of Surgeons, and the Royal Society of Medicine would be under one dome. Could this amalgamation be brought about there would be a great economy of expenditure and effort; there would be one domestic service, one clerical department, one combined library, with a paid staff of searchers at the disposal of Fellows all over the world for the making of translations and abstracts; one central set of rooms open until midnight on weekdays and on Sundays; and finally a volume of *Transactions* which would be the greatest medical publication in the world.

THE MEDICAL SOCIETY OF LONDON.

THE 147th anniversary dinner of the Medical Society of London was held in the Wharncliffe Rooms, on March 17th, with the President, Mr. V. Warren Low, C.B., F.R.C.S., in the chair. There was a large gathering, and in the after-dinner speeches every speaker scored a success. The President, proposing "Prosperity to the Medical Society of London," spoke with pride of its long and distinguished history since its foundation in 1773, by John Lettsom. He then handed to Dr. Henry Head, F.R.S., the Fothergillian gold medal, awarded to him in recognition of his monumental investigations in neurological science. Dr. Head, in returning thanks for the great honour paid him by the society, confessed that he had never been docile—indeed, the docile child was never the one who received the Fothergillian medal. He knew, too, that his researches had added to the labours of medical students, whom he had vexed more even than did "Timothy" of the old mnemonic. The toast of "The Army and Navy" was proposed by Sir George Makins, G.C.M.G., President of the Royal College of Surgeons, who said that the medical profession was never so closely related with the services and with the Dominions as it had been during the past five years. The medical branch did as much as any, and more than most, in gaining the victory; it entered the war prepared, and tackled each new problem as it arose; the victories in medical science and practice were among the greatest achievements of the war. Surgeon Rear Admiral Sir Robert Hill, K.C.M.G., Medical Director-General, R.N., in his reply, said that no one knew better than the navy that the war was won by the nation as a whole. When he was principal medical officer to the Grand Fleet—now dispersed throughout the world, policing the seven seas—one of his best helpmates was Sir Humphry Rolleston, who visited them punctually once a month, when the moon was full and the fleet likely to be in harbour. Lieut.-General Sir John Goodwin, K.C.B., Director-General A.M.S., replying on behalf of the army, added his praise for the work of the civil profession during the war. Taking up an allusion by the President to the Quakers who have added lustre to the medical profession —for instance, Lettsom, John Fothergill, Lister, Marcus Beck, and George Newman—he recalled the heroic work of the French ambulance unit of the Society of Friends, during the dark days east of Ypres, at the end of 1914. The toast of the visitors gave an opportunity for an exchange of entertaining personalities between Dr. Leonard Williams, the proposer, and Viscount Knutsford, the responder. Sir Humphry Rolleston, K.C.B., President of the Royal Society of Medicine, who replied on behalf of the kindred societies, made graceful reference to his old teacher, Sir Norman Moore, President of the Royal College of Physicians, who was prevented from attending. A very enjoyable evening closed with the toast of the President, proposed by the Lettsomian Lecturer, Dr. Herbert R. Spencer, and briefly acknowledged by Mr. Warren Low.

MEDICAL RESEARCH COUNCIL.

THE connexion between the Medical Research Committee and the National Insurance system will cease at the end of this month. The Committee will come to life again as the Medical Research Council and will act under the direction of a Committee of the Privy Council, consisting of the Lord President of the Council, the Minister of Health, the Secretary for Scotland, and the Chief Secretary for Ireland. A charter of incorporation has been granted to the Medical Research Council, which will receive its funds through the Committee of the Privy Council out of moneys provided by Parliament. The Committee will make an annual report to Parliament. This change in the status of the Medical Research Committee was decided during the debates on the Ministry of Health bill last year. The practical effect will be to establish the Medical Research Council as an independent department and in this way tend to increase its opportunities of usefulness.

THE Bakerian Lecture will be delivered before the Royal Society on June 3rd by Sir Ernest Rutherford, F.R.S., Cavendish Professor of Experimental Physics and Director of the Cavendish Laboratory in the University of Cambridge. The subject of the lecture is "The nuclear constitution of the atom."

THE complimentary dinner to Sir George Makins, G.C.M.G., President of the Royal College of Surgeons of England, will be held on Monday, May 10th, at the Hotel Great Central, London. The chair will be taken by Sir Cuthbert Wallace at 7.45 p.m. Any friends of Sir George Makins who would like to attend are asked to communicate with Mr. C. Max Page (134, Harley Street, W.1) before April 30th. The charge for the dinner, excluding wine, will be one guinea, to be paid at the time of attending the dinner.

Medical Notes in Parliament.

The Dogs' Protection Bill.

Second Reading Talked Out.

SIR FREDERICK BANBURY'S bill, entitled "The Dogs' Protection Bill," came before the House of Commons for second reading on March 19th as second order of the day. There was a prolonged discussion on the previous order, the Shops (Early Closing) Bill introduced by Mr. Briant, and it was not until comparatively late in the afternoon that the Dogs' measure was reached.

In submitting his motion Sir Frederick Banbury, with the object of saving time, stated his case in so few words that the uninitiated had small chance of understanding his proposals. The bill, he said, was now presented in the form in which it left the Standing Committee last year. Under the Act of 1876, and according to the report of the Royal Commission on Vivisection, it was possible as matters now stood for the Home Office to give a licence which would allow a painful experiment to be made upon a dog without anaesthetics, and to allow a dog to recover from an experiment with anaesthetics, and to remain not under anaesthetics until the object of the experiment had been obtained.

Sir Watson Cheyne moved as an amendment that

> This House declines to proceed further with a measure which would impose an unnecessary and most serious obstacle to medical research.

Sir Watson declared that Sir Frederick, in his singularly brief speech, had said nothing in support of the bill, which was really a matter of sentiment. It applied only to dogs and left the question of experiments on other animals open, but if it were passed the whole question of experiments on other animals would be let in. Of all experiments on animals those on dogs formed a very small proportion indeed. The total number of experiments performed during last year was 88,000, and of these more than 84,000 were inoculation experiments. None of them were upon dogs. Of the 3,600 other experiments only a small number were on dogs. The total number for dogs and cats was only 881, and the larger number of the certificates were for cats. Out of the millions of dogs in this country, only between 400 and 500 at the outside were the subject of experiment. The reason why the dog was chosen was that of all animals it was the one whose physiological processes most nearly approached those of man. The surgery of the brain had been built up on experiments on dogs and a great deal of our present knowledge of the chest was the result of experiments on dogs. It could not have been got in any other way apart from experiments on man. Included in the returns were a great many feeding experiments. The supporters of the bill said they did not object to these, but the effect of the bill would be to prevent them. The second set of experiments—probably the largest in number—were performed under an anaesthetic and the animal was killed before it woke. In this class of experiment no pain was caused, but an enormous amount of information had been obtained. Under the Act experiments might be permitted in which the animal was allowed to wake up afterwards, and to be kept alive unless there were severe pain. He did not say that some experiments did not cause pain, but those that did were very few indeed. If the supporters of this bill wished to strengthen the existing Act by the appointment of more inspectors, there was no objection. There could be an inspector in every laboratory to see what was going on if that was thought desirable. The reason that doctors opposed this bill was that they realized their ignorance—that they did not know nearly enough to carry out their jobs successfully—and that they recognized their responsibilities.

Captain Loseby, seconding the amendment, said that if Sir Frederick Banbury and those with him were prepared to adopt the attitude that for no purpose whatever should animals be used to their prejudice they would stand on strong ground; but how could they say that it was not justifiable to inflict suffering to alleviate humanity while they did not object to the infliction of suffering for the sake of sport and for the gratification of the senses? Captain Loseby went on to develop his argument by taking the cases of hunting men, of men who shot, and of the *bon viveur*. He believed that vivisection as practised was more or less painless, and that an incalculable service was rendered by it to humanity.

Sir John Butcher, supporting the bill, said that the Act of 1876 did not provide that, if pain supervened after experiment on a dog, the dog must be put to death. It provided that where certain certificates were given the dog might be kept alive after the experiment if it were necessary in order not to frustrate the experiment. In the regulations of the Home Office one condition attached to the licence was that the dog might be kept alive after the operation unless severe pain which was likely to last supervened. Thus official sanction was given to keeping the animal alive for an indefinite time, though suffering considerable pain, at the sole discretion of the operator.

Lieut.-Colonel Moore-Brabazon declared himself in favour of the bill. He believed that the elimination of vivisection of dogs would cut the heart out of all the antivivisection movement in the country.

Captain Elliot said the supporters of the bill seemed to think that it was one to prevent painful experiments on dogs. If they would take the trouble to read the text they would see it laid down that it should be unlawful "to perform any experiment of a nature calculated to give pain or disease to any dog for any purpose whatsoever either with or without anaesthetics, and no person or place should be licensed for the purpose of performing any such experiment." This bill was not one to prevent giving pain to dogs, it was simply a pettifogging bill to obstruct as far as possible the progress of medical science. There were four million dogs in the country, and they were performed upon by all sorts of people for all sorts of purposes without any licence from the Home Secretary. Now the law said, "Do you hope to obtain any information for the benefit of suffering humanity from this experiment? If you do, you must have a certificate signed by everybody from the Home Secretary downwards. If you do not hope to learn anything, if you do it to increase the selling value of the dog, you can do it without licence." If the bill that was before the House of Commons last year had been passed, valuable research would have been checked. Dr. T. Lewis, who did so much work during the war, resumed his investigations last March, and already fruitful results had been obtained. Something of importance had been learnt about the causes of heart disease. Great progress had been made in the investigation of one form of palpitation of the heart from which 20,000 pensioners from the army alone were suffering. The experiments were carried out on dogs under complete anaesthesia. To ask the House to pass this bill and stop this work was to take a most grave responsibility. The onus of proving the need for a change of law lay with those who sought the change. The supporters of the bill had not made out the case for change. Captain Elliot then referred to knowledge obtained as to the cause of rickets, a disorder of enormous importance, especially among the labouring classes. He recalled the very strong and unanimous recommendation of the Medical Research Committee against the bill. He was still speaking when Sir Frederick Banbury moved the closure, but the Deputy Speaker refused to put it. Captain Elliot uttered a couple more sentences and then Lieut.-Colonel Claude Lowther claimed to move the closure. The Deputy Speaker again refused it. Captain Elliot returned to the subject of rickets, and was speaking on that subject when the clock struck five, and the bill was thus talked out.

It is not at all probable that any additional Friday can be allotted to the consideration of the bill, and thus its fate appears to be sealed. The title of the bill will recur in the orders of the day after Government business, as it did on Tuesday, March 23rd, to which date its consideration was formally adjourned. But if and when it comes up in that way after eleven o'clock the single phrase "I object," by a member, stops its progress.

The Army Medical Services.

In the course of the debate on going into Committee on the Army Estimates, on March 22nd, Lieut.-Colonel Fremantle delivered his maiden speech, drawing attention to army administration from a medical point of view. There was, he said, a waste of effort owing to the duplication of services and the overlapping by the Indian Medical Service and the medical service of the Colonial and Foreign Offices. He asked what steps had been taken to fulfil the promise of the Army Council to create an Imperial Medical Service after the war. The proposal was backed by the highest opinion of those who had experience of War Office administration. The services of medical men abroad usually came to a close when they were 45, and they should then be linked up with the services at home, under Pensions, Insurance, the Civil Department, and the proposed reform of the Poor Law. His second point concerned the way in which Territorial officers who had served their country before the war were penalized as compared with temporary medical officers. He liked the spirit of the young medical officer who told him in Gallipoli that he had left his private practice, his wife, and family, and was getting 14s. 6d. a day, because he had served in the Territorials before the war, whereas the man in practice beside him at home, with no pre-war sacrifices, had been taken on at 24s. a day. He did not want these things straightened simply from the point of view of payment, but he asked that it should be gone into on broader grounds. His third point concerned the position of the Director-General of the Army Medical Service. He was responsible only for the provision of doctors, nurses, drugs, instruments, and dressings. When a breakdown and consequent scandal occurred it was almost invariably in the provision of hospitals, or equipment, or in transport arrangements. The tragic breakdowns in the Crimean and South African wars were due to the difficulty of co-ordination. The result was the Hospitals Commission. When the Commission came home just before the end of the South African campaign the Secretary of State established a Departmental Committee, of which he was Assistant Secretary. On its report was based the reorganization of the Army Medical Service, but it included only one representative of the Royal Army Medical Corps. This was a lieutenant-colonel of most distinguished service, afterwards Surgeon-General Sir Alfred Keogh. One recommendation was that the Director-General should be on what was then—October, 1901—called the Army Board. On further rearrangement, after the report of Lord Esher's Committee in 1903, it was laid down that the Director-General—if necessary, associated with a civil representative of the Army Medical Service Advisory Board—should be summoned to the Army Council whenever his advice and special knowledge were required. That was the difficulty. Who knew when the advice of the specialist was required? Thus arose the difficulties foreshadowed by the British Medical Association when it represented this point of view to the Army Council; expeditions were undertaken without the Director-General of Army Medical Services having been consulted. He would like to know to what extent the Director-General was consulted before the original expedition sailed for Gallipoli. The report of the Dardanelles Commission showed that the errors were due largely to lack of co-operation and provision in thinking out the probabilities. Questions of sanitation went to the root of efficient strategy. Lord Esher's Committee recommended that the Director-General of Army Medical Services should come under the Adjutant-General, because sanitation was so much a question of discipline. It was, but hospitals depended on other things that came from the Quartermaster-General, from military intelligence, and from the Chief of the General Staff, and there was no real reason why hospitals or other branches of medical services should come under any one of those three officers. An officer was needed on the Army Council who would be responsible for all materials and supplies, and would have the power required to get hospitals efficient. He referred to the public recantation from Lord Esher, who, writing in 1917, said that September, 1914, had swept away his illusion, but the mischief had been done. He continued: "How much of the suffering undergone by our soldiers then and since was due to the short-sightedness of my committee (and notably of myself) will never be known. Certainly the control of the Adjutant-General's branch of the R.A.M.C. was and is responsible, not only for the early failure to grip the medical factors of this war, but for the hampering conditions under which Sir Alfred Keogh has worked. His triumphs and those of the R.A.M.C. have been achieved in spite of obstacles that the subordination of science to ignorance, of elasticity to military discipline, explains but cannot justify. I would appeal to Lord Derby to strengthen the Army Council by placing upon it the Director-General of Medical Services, and to free from the control of a purely military officer (admirable as is Sir Nevil Macready in the sphere congenial to him) a body of men mostly volunteers from highly trained professions, and dealing with technical difficulties altogether outside the orbit of vision in which the soldier pure and simple habitually moved." In conclusion, Lieut.-Colonel Fremantle said that on the score of efficiency the Director-General should not only be given a seat on the Army Council, but should be given responsibility and what was more important—power to co-ordinate and organize the whole of the possibilities of medical and sanitary science for the comfort and the care of the sick and wounded in war, and for the better carrying out of strategy, whatever purpose was in view.

Captain Elliot supported the claim put forward by Lieut.-Colonel Fremantle that the Director-General should have a seat on the Army Council. Gigantic blunders were made because his advice was not available in that way. Many points in the malaria-haunted valley of the Struma were occupied and kept in the teeth of medical advice, where thousands of men were needlessly lost. Medical men had made contributions of the greatest value towards keeping an army in the field. Speaking as to the diet of the soldier, he said that it was impossible to give the young recruit too much to eat. The proof was that such a lad spent his own money in buying more food. In the first winter of demobilization the physiological experts warned the Army Council that men coming back needed an increase in rations. Of course the Army Council took no notice until Australia's troops mutinied, and then on threat of force they gave what was not conceded to reason. Immediately discontent began to fall away, but it was because the knowledge of experts was recognized. Troops sent to Egypt were brought into a district swarming with a parasitic disease known as bilharzia, which had been a scourge since the time of the Pharaohs. The Army Council were warned in time and they sent out experts. In a very few months the cause of bilharzia was discovered, and our troops were practically immune from this disease, which otherwise, but for the medical advice taken, would have invalided many thousands, not only during the war, but when it was over. These cases showed that the voice of the medical man was of the greatest importance to keeping an army in the field. Therefore he asked that the Director-General should be given his proper place. Captain Elliot next referred to the grievances of army medical men in Mesopotamia. It was extraordinary that so many white doctors had been kept long after the time for demobilization. The medical profession was the only one to which conscription was applied up to the age of 56. There were many British doctors in Mesopotamia unreleased because they were said to be indispensable, but Indian doctors were available to relieve them. A great injustice was that British medical officers were being paid less than Indian doctors. The discontent of the British officers was extending to the Indian Medical Service, which was in a state of seething unrest, and as soon as permission could be obtained to resign, many hundreds of commissions would be given up. After urging that dentistry should be made a divisional institution in the same way as the field ambulance, Captain Elliot referred to the attitude of the War Office towards women in the army. The salary of a nursing sister amounted to only £50 per annum, and it was disgraceful that they should ask a skilled woman to spend her life in serving the army for so small a sum. The war bonus allowances brought up the total to about £140, but there was great difficulty in getting the allowances, and if the sister went on holiday for a week or ten days they were stopped. A woman in the position of a nursing sister should rank as an officer.

Sir Arthur Williamson, Financial Secretary to the War Office, said that he recognized nurses were not paid as they ought to be, but their allowances brought the remuneration to the equivalent of £140, and the War Office could not go out of line with other Departments and civil institutions.

Mr. Churchill, in complimenting Lieut.-Colonel Fremantle on his "very interesting" speech, which showed "great fluency and knowledge," promised that what he had said should be carefully studied and examined by those in the War Office who were specially concerned with the subjects mentioned.

Diagnosis of Typhoid Fever.

Mr. Robert Young asked, on March 19th, whether a number of cases of illness in the army occurring in 1915 and 1916 in the Near East, and sent to Malta, Lemnos, and other places, were diagnosed by the clinical symptoms as

typhoid fever; whether the majority of these cases were subsequently returned as suffering from other diseases, the altered diagnosis being based on agglutination tests performed by bacteriologists sent out for the purpose; and whether it could be stated how the figures regarding typhoid fever in the late war, could be compared with those for other campaigns, in view of this alteration of method of diagnosis. Mr. Churchill replied that under active service conditions in the field it was often impossible to carry out careful and prolonged bacteriological and clinical examination of cases. In these circumstances a provisional diagnosis was returned. Such cases, on reaching the base hospital, as at Mudros, Malta, or Lemnos, were submitted to bacteriological and clinical examination as a routine measure by the pathologists and physicians attached to such hospitals. In many cases the provisional diagnosis was altered, but until the investigation of the records which was now proceeding was completed, it was not possible to give any estimate of the number of cases in which such alteration of diagnosis was necessary. Some of the cases provisionally diagnosed as enteric were subsequently returned as suffering from other diseases, and other cases provisionally diagnosed as dysentery or diarrhoea were finally diagnosed as typhoid or paratyphoid on the bacteriological evidence. The diagnosis of disease had undoutedly been more accurate in the late war than in any previous campaign. Mr. Waterson asked whether the figures regarding typhoid fever contained in the recent White Paper were based on returns made by clinical diagnosis of the disease or on returns made by bacteriologists after agglutination tests had been made. Mr. Churchill replied that the figures were based on returns made both by clinical and bacteriological diagnosis. Bacteriological diagnosis was employed in every case so far as circumstances permitted.

National Insurance Amending Bill.—The second reading of the National Insurance Amending Bill was taken after eleven o'clock on March 22nd. Dr. Addison, in appealing to the generosity of the House to read the bill a second time without much discussion even at that late hour in order that it might be referred to Committee, briefly recapitulated the provisions which have already been given in the BRITISH MEDICAL JOURNAL. In the discussion Mr. Tom Myers, the Labour representative who defeated Sir John Simon and the Liberal Coalitionist candidate in the Spen Valley, rejoiced that the sanatoriums were being removed from the scope of the old Act, but expressed the opinion that as soon as a patient was certified as tuberculous, he should be taken out of the hands of the panel doctor and placed in an institution. The domiciliary visits in his opinion were waste. Sir Alfred Warren, speaking with an intimate knowledge of approved societies, also referred to the dissatisfaction that had been felt at the working of the panel system, and hoped that now it would be made really satisfactory. Mr. Ormesby Gore urged that before the bill left the House, members should be informed by the Minister of Health what he proposed to put in place of the sanatorium benefits scheme, which was being abolished. In his opinion it was essential for the smooth working of the panel system that the payment of doctors should be exclusive of drugs. He trusted that some arrangement would be made also which would prevent doctors and insured persons endeavouring to contract themselves out of the national scheme because they were not satisfied with its provisions. Captain Elliot deplored that a measure of such vast importance affecting fifteen and three-quarter million people was being hurried through the House of Commons in the small hours. It would assist matters very much if the Minister of Health were at that stage to indicate what his policy would be in connexion with the large number of health measures to be brought forward and would declare his intentions in regard to the variety of demands for the treatment of the tuberculous. Treatment should be based on attention by the general practitioners, who should be grouped into clinics, so that they could specialize to a certain extent. Thus the use of the doctor's waiting-room, which was most undesirable, could be avoided. Dr. Addison, in a short reply, promised that there would be no hiatus in the arrangements for consumptives. An appeal had been made to him that where wages were low, the contribution of health insurance should be divided between the State and employer. If the House showed a strong desire that this should be done he would be willing to accept an amendment in Committee. The second reading was then agreed to.

Tuberculous Ex-Service Men.—Mr. W. Graham asked, on March 17th, whether the attention of the Minister of Pensions had been drawn to the fact that many discharged men suffering from tuberculosis were being sent to ordinary medical boards for the reassessment of their pensions; whether these pensions were in many cases being reduced; and whether steps would be taken to ensure that an expert in tuberculosis should always be a member of a medical board dealing with such cases. Sir James Craig replied that whenever a specialist's opinion was required arrangements were made to secure either that the tuberculosis officer of the district should sit on the board or that the man should be referred to him for examination and report.

Remuneration of Medical Boards.—Major David Davies asked on March 17th, if medical men employed on medical boards had had their pay raised by 50 per cent., while medical men employed as assessors on sessional rates had had their pay raised by only 25 per cent. Sir James Craig, in reply, said that the conditions of work of the medical boards and the assessors were not the same. The members of the board were drawn from a panel; the assessors were continuously employed. It was not inequitable that the difference between occasional employment, which could not be counted upon from day to day, and regular employment should be marked by a difference in the rate of payment.

"*Loss of Both Legs.*"—In reply to Major Cohen, on March 16th, Sir James Craig said that Article (3) (1*b*) of the Royal Warrant embodied a special concession. Strictly interpreted, loss of both legs implied amputation of both legs to the thigh, but in practice the concession had been extended, with Treasury approval, to cases where there was loss of one foot, provided that the other amputation was above or through the knee. An amendment of the Warrant was not considered necessary.

Permanent Pensions Rate.—At the instance of Captain Loseby, Sir J. Craig, on March 18th, restated the position of soldiers wounded before 1914 as to reassessment of their pensions. Many men pensioned for disabilities incurred in former wars were now restored to health, or so much improved that a reassessment under present warrants would not advantage them. They, however, retained their rights under former warrants. Pensions could only be granted on the basis of the existing degree of incapacity. Captain Loseby put it that there was considerable dissatisfaction with the manner in which this particular class of pension had been assessed by the medical boards. Sir J. Craig demurred, but said that if particulars of any case in regard to which there appeared to be ground of complaint were stated he would give it attention.

Institution Accommodation for Tuberculosis.—Lieut.-Colonel Fremantle, on March 18th, again pressed on the Minister of Health the desirability of using for tuberculous cases any vacant accommodation in Poor Law infirmaries. Dr. Addison said that he was doing all that was possible, but the need for further provision could not wholly be met in that way. He did not think that the limited amount of new building required to provide additional sanatorium accommodation would seriously affect housing operations, but in any case the erection of new sanatoriums in some parts of the country was a matter of urgency.

Small-pox.—In reply to Mr. R. Young, on March 18th, Dr. Addison said that, in accordance with the usual modern practice, persons known to have been in recent contact with others who had since developed small-pox were offered free vaccination; they were bathed, their clothes disinfected, and they were kept under daily observation by the medical officers of the borough council for a period of sixteen days. He was advised that during the incubation period of the disease, which was usually twelve days, the infection was not spread; should any person under medical observation exhibit symptoms of illness, he would at once be isolated. Five of the contacts had since developed small-pox, but of these three had refused vaccination. The method of disinfection adopted in Poplar was considered satisfactory, and the local authority was doing everything in its power to prevent the spread of the disease. In reply to Mr. Bromfield, on March 18th, Dr. Addison promised to furnish a list of firms and bodies which manufactured or supplied vaccine lymph in this country. There was no government inspection of proprietary supples.

Ministry of Health Nursing Services.—In reply to Captain Terrell, Dr. Addison said that, as the total membership of a Consultative Council for the Ministry of Health was restricted to twenty, he had not been able to include representatives of the Queen Victoria's Jubilee Institute for Nurses in the Council on medical and allied services. He hoped, however, to have the assistance of such representatives on any committee appointed by the Council to consider the future organization of nursing services.

Medical Officers in Mesopotamia.—Sir Watson Cheyne, on March 16th, asked what further arrangements were being made to relieve the medical officers of the Royal Army Medical Corps in Mesopotamia (Special Reserve and Territorial Force) who have been there for some years. He inquired whether the War Secretary was aware that at one centre, where five medical officers and five subordinates were stationed, it was stated that the medical work of each officer during the last six months had averaged ten minutes a day, and that for the last seven weeks, prior to January 24th, they had not received a single patient? Sir Archibald Williamson (Financial Secretary to the War Office) replied that the establishments were being reduced to the greatest possible extent, and regular Royal Army Medical Corps officers were being sent out as circumstances allowed. He was unaware of the particular cases mentioned, but would obtain a full report. He would point out, however, that in Mesopotamia and Persia isolated bodies of troops were stationed and required to be provided with medical personnel, as the distance precluded the dispatch of medical officers at short notice. Captain Elliot asked whether relief could not be given by native medical officers, who in many cases were being paid more than white officers. Sir A. Williamson said he was unable to answer without notice. At the instance of Sir Philip Magnus, the Minister said he would represent to the War Office the desire of the young officers to be recalled for the purposes of resuming their studies, and, on appeal by Mr. R. McLaren, he promised also to represent that three hot seasons were sufficient for residence in such a climate continuously.

England and Wales.

HOSPITALS IN LONDON.

The King's Fund.

THE honorary secretaries of King Edward's Hospital Fund for London have issued a statement on the present position of the London voluntary hospitals, in which they indicate the scale of the problem by stating that the present system of collecting funds provided last year nearly £2,000,000 towards a total expenditure of less than £2,200,000. It is recognized, however, that the difference between expenditure and income may well be greater this year. In 1913 the Fund distributed £157,000; in 1918 it distributed £200,000; in 1919, partly in anticipation of the needs of the hospitals after the war, especially the necessity of carrying out deferred renewals and repairs, the sum distributed was £230,000. To find this amount the Fund had to draw on the reserves created during the war by exceptional legacies to the extent of £46,000. The Fund, it is stated, has before it particulars of extension schemes submitted by a large number of hospitals in London. The fact that since 1913 more than a thousand beds have been added may account for some of the deficit on current expenditure. The additional schemes proposed would add another 3,000 beds, and these, and certain plans for improvements not involving additional beds, would altogether involve the expenditure of a large sum for building and a large increase in maintenance charges. Towards the capital expenditure the King's Fund is about to allocate, in addition to a share in the ordinary distribution later on, the sum of £250,000 surplus Red Cross funds entrusted to it for this special purpose. This amount, it is said, will not go very far, and the Fund will examine very carefully the numerous schemes submitted, especially the larger ones, in order to ensure that only those financially practicable are undertaken and that the money available for building is expended only where it will produce the greatest benefit.

National Hospital, Queen Square.

At the annual meeting of the National Hospital for the Paralysed and Epileptic, Queen Square, the chairman, Sir Frederick Macmillan, gave details of the unsatisfactory financial position, owing to the great rise in the cost of maintenance. Last year it was considerably more than double what it was in 1913, having risen from £14,182 to £32,352. The cost of administration had declined from £1,750 to £1,323. The result was that the average weekly cost for each in-patient at the hospital was £3 3s. 11d., against £1 14s. 8¼d. in 1913. The position, the chairman asserted, was not due to any want of prudence. Large sums had been spent in increasing the usefulness and the efficiency of the hospital, but nothing had been done to increase the cost of maintenance. When the jubilee of the hospital was celebrated in 1909 funds were obtained which made it possible to rebuild and rearrange the out-patient department and to rebuild and add to the nurses' quarters. The board of management had been driven to the opinion that only two alternatives were open—either a considerable sum of money must be immediately raised or the wards must be closed. If £10,000 could be obtained for a special maintenance fund this year, and £5,000 each for 1921 and 1922, it would be possible to carry on; if the appeal failed the wards must be closed, with the exception, possibly, of the surgical wing. The out-patient department, the convalescent home, and the pathological department would be carried on, as also the annexe, Bray Court, and Lonsdale House, which were either self-supporting or paid for by the Ministry of Pensions. The medical school was self-supporting; the school of massage, carried on in conjunction with University College Hospital, was also self-supporting, and indeed to a moderate extent a contributor to the hospital funds. Sir Frederick Macmillan claimed that the medical school, which has been reorganized, is doing work of immense scientific value amongst students and medical graduates coming from all parts of the British Empire and the United States, and this statement will be endorsed by everyone who is acquainted with the position of neurology in this country, which has been carried to its present commanding position largely by the efforts of the members of the staff of the National Hospital. The number of men and women graduates and students who attended the medical school last year was 355. The Chairman spoke hopefully of the prospect of obtaining the needed contributions for the special maintenance fund, and it is sincerely to be desired, in the interests not only of the patients of the hospital but of the progress of neurology in this country, that he may prove a true prophet.

Charing Cross Hospital.

At the annual meeting of Charing Cross Hospital the Chairman, Mr. Verity, said that he was not pessimistic with regard to the future of voluntary hospitals. Four years ago an appeal was made to clear the hospital from debt; it was entirely successful, the debt was wiped out, and funds were provided to open the closed wards and to improve the equipment. No extensions were in contemplation; the object would be to maintain the efficiency of the hospital. The expenditure last year amounted to £51,000, in place of £24,000 before the war. Great economies had been effected, but he hoped the expenditure might be brought down to £45 000 a year. Those who went to the hospital for treatment were mainly people who were receiving increased wages, while those who had supported the hospitals until now were not receiving any increase to their income, and therefore found it difficult to keep up subscriptions. It had been decided to put up notices that all patients would be expected to contribute to the upkeep of the hospital as far as their means allowed. Were the State to take over the hospitals it would be a blow to charity, would retard the advancement of medical science, and add enormously to the burden of compulsory taxation.

INQUESTS IN THE CITY OF LONDON AND SOUTHWARK.

In the City of London, including H.M. prison at Holloway, inquests were held in the case of 158 deaths, as compared with 132 in 1918, and in the borough of Southwark in the case of 197 deaths, as compared with 177 in 1918. In addition, 79 investigations were made by the Coroner which rendered public inquest unnecessary. *Post-mortem* examinations were ordered in 85 per cent. of inquests held. Forty-four deaths were due to vehicles (19 in the City and 25 in Southwark). As suggested in former reports three chief means of prevention are recommended: more street refuges, especially in Southwark; more police at fixed crossings to assist foot passengers across congested streets; and side life-guards on all heavy commercial motors, similar to those in use on motor omnibuses. Inquests were held on the bodies of three infants, accidentally suffocated whilst in bed with their parents, as compared with seven such deaths investigated in 1918. There has been a marked decrease throughout England and Wales during the past few years in this class of death. The number in 1913 was 1,176; in 1917 it was 585. Dr. Waldo attributes this decrease chiefly to the greater use of cots and cradles and to the large and increasing number of necropsies ordered by coroners, by which means many of these deaths were proved to be natural. Drink, he thinks, has little to do with these cases. Inquests were held in six cases (two in the City, and four in Southwark) in which sudden death was accelerated by the administration of anaesthetics for surgical operations. In five of these chloroform was the anaesthetic used; the sixth death was due to ethyl chloride. The Coroner adds:

> It is a noteworthy fact that in nearly every instance of this class of case coming before me during the last eighteen and a half years death has been attributed either to chloroform or to a mixture containing chloroform. These deaths, however, have happily considerably diminished in frequency of late years, owing largely to the greater care and skill used in the administration, and discrimination exercised in the choice of the anaesthetic given.

Dr. Waldo recommends that a scientific inquiry into the whole question of anaesthetics and their administration be undertaken by the Medical Research Committee. In concluding his report Dr. Waldo expresses the view that the power in certain cases to hold coroners' inquests without a jury should be done away with, since in his opinion a fairly intelligent jury, assisted and directed by a coroner, is a far better tribunal for the elucidation of truth than a coroner unassisted by a jury.

Scotland.

HEALTH CONSULTATIVE COUNCILS.

IN an address to a combined meeting of the four Consultative Councils established by the Scottish Board of Health, the Secretary for Scotland said that the Board intended the Councils to have the fullest opportunity of forming and expressing free and independent judgements. As each would elect its own chairman and regulate its own procedure, subject to the very general regulations of the Order in Council, he considered that they would be masters in their own houses. The Board would place at the disposal of the Councils all the information in its possession, but would expect members to observe proper discrimination with regard to the information thus supplied. He invited the members to recollect that in their capacity as members of the Councils they were not representatives of any particular bodies or institutions, and any tendency towards adhesion to majority or minority views must be deprecated. The duty of the Board as expressed in the Act of Parliament was to take steps "to secure the effective carrying out and co-ordination of measures conducive to the health of the people." The members of the Councils were invited to be fellow-workers with the Board. Among the questions referred to the Council on Local Health Administration were (1) "the question of a reformed Local Authority for Health Administration, its area and constitution, and the powers and duties to be transferred to it"; and (2) the question of "applying to Scotland the principles of the Maclean Committee's report on the transfer of functions of Poor Law authorities in England and Wales." The Council on Medical and Allied Services was instructed to consider and make recommendations as to (*a*) the systematized provision of such forms of medical and allied services as should, in the opinion of the Council, be available for the community; and (*b*) medical research in Scotland. Further, each of the Councils had been instructed to consider, along with the Council on National Insurance, whether the present hospital service is adequate for the community, and to make recommendations for its improvement, or for the provision and maintenance of an adequate service. The establishment of the Board of Health was intended to prepare the way for a vigorous and co-ordinated campaign to raise the standard of the health of the people, but for success two things were necessary. One was that behind the Board there should be the solid opinion of the country; the other that there should be hearty co-operation between the Board and the Councils on the one hand, and the interests affected on the other. It would be the business of the Councils to keep in close, constant, and living touch with the opinions and feelings of the people outside. The four Councils afterwards held their preliminary meetings separately. The list of members of the Consultative Councils was printed in the JOURNAL of February 7th, p. 196. It was announced last week that the Medical Consultative Council has elected Sir Donald MacAlister to be its chairman and Dr. Norman Walker its vice-chairman.

LETHARGIC ENCEPHALITIS.

The Scottish Board of Health has supplemented a circular on acute lethargic encephalitis, polio-encephalitis, and poliomyelitis, issued to medical officers of health last June, by another circular dated March, 1920, with regard to lethargic encephalitis. The disease, it is stated, has so far been of rare occurrence in Scotland. In the new circular the importance of being on the look-out for its occurrence is insisted upon. As little is known regarding its essential nature or the channels by which it is spread, the means by which it may be prevented are not understood; the Board therefore considers it desirable that cases suspected to be of this nature or even remotely to resemble it should be intimated to the medical officer of health, who is directed to afford facilities for diagnosis and treatment and such isolation as may be necessary. It is asked also that he should receive information of the occurrence of ordinary acute poliomyelitis. The disease was made notifiable in England at the beginning of 1919. It is not quite clear why the Scottish Board of Health has not taken the same course. The cardinal symptoms of the disease are fever, somnolence, and diplopia, usually followed by temporary paralysis of accommodation. An article was published last week (p. 409) on the pathology and diagnosis of the disease, and an earlier note will be found in our issue of February 7th, p. 193.

Correspondence.

THE TREATMENT OF UTERINE CANCER.

SIR,—Dr. Leitch, in the second paragraph of his letter (March 20th, p. 416) makes certain very definite, indeed dogmatic, statements.

Such statements are to be welcomed in that they raise the question out of a region of somewhat vague impressions to a plane where it can be examined in the light of scientific evidence.

Dr. Leitch is doubtless in possession of facts and figures with which to support his contentions. An opportunity of considering these facts and figures would be welcomed by me and doubtless by others.—I am, etc.,

Middlesbrough, March 21st. W. S. DICKIE.

THE TREATMENT OF CANCER OF THE UTERUS COMPLICATING PREGNANCY AND THE PUERPERIUM.

SIR,—Dr. Archibald Leitch is saddened by reading your leading article on tumours complicating pregnancy. It had such a different effect on me that I feel I ought to do something to relieve his sadness. With that object might I suggest that Dr. Leitch, having criticized my lecture on cancer complicating pregnancy, should now proceed to *read* it. He evidently has not done so, for he writes: "The crucial test of any operative or other procedure in cancer must be: How many cases has the operator seen, and how many of these are alive and well, say, five years afterwards?" and it is precisely that information which I gave in the lecture, and repeat here. Of ten cases seen four were cases of early pregnancy (one operable), all of these died, and six were cases of late pregnancy (three operable); the three inoperable patients died, and three patients, operated on by high amputation, remained well after 19, 22 and 25 years, and one of them, subsequently to the amputation, had a child delivered by Caesarean section who served as a soldier in the great war.—I am, etc.,

London, W., March 21st. HERBERT R. SPENCER.

THE PHYSICAL BASIS OF MENTAL DISORDERS.

SIR,—Mind is ever embarrassed in the consideration of its own processes, normal or morbid, hence we may look for a divergence of opinion not met with in the more exact sciences on the genesis of psychoses and insane states.

Psychologists have fallen broadly into two classes—the biologist, subjecting the intellect to mechanistic forces, and the idealist, to whom the nervous system is but the instrument of spirit. Dr. John Turner, whose pathological researches in psychiatry are so well known, desires, as I judge by his recent letter (March 20th, p. 415), to place himself in the former group.

And yet, may I say how weak is his argument? He cites recent experiments of Professor Waller showing that certain speech produces metabolic changes in cells, whilst other does not, and that this is a biological phenomenon, but the very fact quoted by Dr. Turner—that the speech which stirs strong emotion alone creates those changes—would, one thinks, suggest that a mental phenomenon was here first in the order of sequence.

It is not the intensity of sounds projected along the neuronic path, but the ideation of the meaning of such sounds—in other words, the concept—which gives rise to a secondary perturbation in matter.

I have no doubt that Dr. Turner, analysing causative factors during these past few years, can find many cases of the acute insanities precipitated by purely mental stresses, which have exhibited symptoms indistinguishable from the manias and melancholias of clearly toxic or metabolic origin. The late Charles Mercier asserted that all mental disorders were occasioned by but two causes—heredity and stress. I agree with him, and assert that the latter may be of the cell or of the psyche.—I am, etc., FRANCIS H. EDWARDS.

Camberwell House, Peckham Road, S.E.

THE TREATMENT OF MALARIA.

SIR,—May I add a few remarks on the treatment of malaria to the valuable and interesting letters that have appeared in several of your recent issues?

The statements made by Major W. F. Law and Dr. J. Wallace Collett, in the BRITISH MEDICAL JOURNAL of February 21st, 1920, in general terms represent the form of treatment adopted in the Army in India. I believe all military medical officers there recognize the importance of preceding quinine treatment by an aperient, blue pill or calomel, followed by a saline. They are also alive to the urgent necessity of intravenous use of quinine in threatening or developed cerebral malaria. It is the only means of saving life in the vast majority of such cases. In the recent Afghan Campaign there were two exceptionally severe heat waves in June and July, 1919, associated with hundreds of cases of high temperature ranging from 106° F. to 111° F. amongst British troops. Roughly 15 per cent. of these were genuine heatstroke, having the usual classical symptoms and signs of that condition, 75 per cent. had pyrexial phenomena that military medical officers in India sixty years ago called "thermic" or "ardent fever," whilst about 10 per cent. were complicated with malaria, benign tertian infection being responsible in about 80 per cent. of these last mentioned cases. In India we have for many years been acquainted with the predisposition to the effects of the sun arising from infection with the plasmodium of subtertian malaria, but it is only in more recent years that we have attached due importance to the part played by the benign tertian parasite in this connexion. So far as I remember, it was Mannaberg in 1894 who put forward the view that cerebral malaria was a phenomenon of subtertian infection, explaining this singularity by the hypothetical increased agglutination of red cells infected by the subtertian plasmodium causing them to adhere to the walls of the cerebral capillaries. I am not prepared to refute this theory of enhanced adhesiveness of infected red cells in subtertian, but am quite confident that in India cerebral malaria is more commonly associated with benign tertian infection than with subtertian infection.

Medical officers who had the treatment of these cases of cerebral malaria combined with effects of the sun in Afghanistan and the Indian Frontier lately were unanimously of opinion that intravenous injections of quinine, promptly given, saved many lives. With this reference to heatstroke cases one might incidentally remark that in the last few years in India we have observed that if cases of genuine uncomplicated heatstroke are got under treatment early—that is, while the temperature is still rising—and ice and ice-cold water used on the surface with electric fans and thermantidotes working near the patients, the mortality is strikingly reduced and the severity and duration of the sequelae greatly lessened. The statistics of our heatstroke cases in the Army in India during the last two years show this. This, of course, means a high standard of medical organization in barracks, and in the field in camps, with ice for the purpose available everywhere, and a knowledge of first-aid treatment of heatstroke on the part of the comrades of the victims. We now have what are called *heatstroke stations* universally in barracks and in the field.

There are definite reasons why the military medical authorities in India were obliged to place certain restrictions on the use of quinine intravenously and intramuscularly, and to forbid its use hypodermically. At one period there was a run of tetanus cases following the latter use of the drug. It was generally considered that the *Bacillus tetani* was introduced with the injection, although some bacteriologists thought that the spores of this micro-organism, already in the bowels, developed and found its way to the seat of the injection. The restrictions have to a large extent been removed, but the hypodermic use of quinine is, I believe, still prohibited, and I consider rightly so. It would be most injudicious to allow young sub-assistant surgeons to use the drug in this way without supervision.

Whilst the prompt use of quinine intravenously or otherwise is necessary in cases of hyperpyrexia due to malarial infection, it is necessary to be quite sure that it is malaria we are dealing with, and not give quinine on the off-chance that the high temperature is malarial in origin as is sometimes done. In July, 1917, at the end of our penultimate Mahsud Campaign, I got a sudden rise of temperature to 105.2° F., with intense headache, etc., following a prolonged shivering fit. Sandfly fever was epidemic at the time. A blood smear was made, but for some reason not examined for three days. Nevertheless I was given 45 grains of quinine daily for two days without any effect; I have seldom suffered so much as on the evening of the second day, when a dose of trional put me to sleep, and I woke up next morning free from fever, and feeling quite well except being rather feeble. The blood smear when examined was found to be negative as regards malarial parasites. The diagnosis was wrong.

Most medical officers doing duty with troops in India consider that in cases of malaria of any duration, even with very slight enlargement of the spleen and but little anaemia, a course of arsenic and iron is a valuable adjunct to the treatment; this is certainly the case where there has been a noteworthy destruction of erythrocytes.

I do not agree with a correspondent who states that medical officers infected with malaria do not take the prolonged course of quinine they recommend to their patients after malarial infection. I am quite certain that most medical officers from India serving in Mesopotamia up to the end of 1915 who got infected took quinine continuously for months. Without such a course they were almost certain to be invalided, owing to relapses. Personally I acquired a heavy benign tertian infection at Kurna (on the rivers Tigris and Euphrates, north of Basra) on February 25th, 1915. I took 30 grains daily for a week, 20 grains daily for two weeks, and then 10 grains daily. During the last named period I had what appeared to be a relapse; I began the intensive treatment again, continued it for three weeks, and then kept up the quinine in gradually decreasing doses for five months without any recurrence up to date.—I am, etc.,

P. HEHIR,
Major-General I.M.S.

London, W., March 1st.

SIR,—Disregarding the few who exhibit nothing more than the general debility and anaemia of post-malarial intoxication, by far the larger proportion of cases of malaria that come under the observation of the general practitioner in this country, during present times, consists of those in which the infection has become more or less long standing; where the earlier and severer attacks of fever have given place to milder relapses at longer intervals; and cases of "latent malaria" presenting few or none of the clinical and physical signs of the disease.

In most of these cases of "active malaria" of benign tertian type (the type usually met with) the routine treatment previously advised in these columns is sufficient. This resolves itself into the administration of a quinine salt in quantities of about 20 grains in twenty-four hours during the acute symptoms, and its gradual reduction to about 10 grains daily afterwards, the whole course being spread over a period varying with the severity of the illness from about six weeks to three months. This routine is substantially the same as that described in your issue of March 13th, excepting that I think there is no advantage in giving quinine in larger single doses than 5 grains; otherwise the unpleasant symptoms of quininism are apt to supervene. The secret of success lies in the fact of the continuous and regular dosage for a necessary period of time. In subtertian malaria more vigorous treatment is, as a rule, indicated.

When, however, the parasites of malaria have become pathologically quiescent within the spleen and other organs—that is to say, in latent malaria—treatment by quinine alone is very disappointing. Quinine acts quickest and best upon the parasites when they are in the blood. For this reason they must be routed out of their lair within the organ cells into the circulation before quinine is given. Strychnine and iron are drugs which provoke the parasite to reappear in the blood stream, and the successful treatment of "chronic malaria" should always include a preliminary course of these and similar medicines.

With reference to the inadvisability and the uselessness of intramuscular injections of quinine, the value of this method in those cases (which do occur) where nothing can be retained by the stomach for the first few days of fever cannot be doubted; nor has its use in my practice ever been followed by extensive necrosis of muscle. I have never injected quinine hypodermically—that is to say, in the same subcutaneous manner as morphine is given for

example. I have always inserted the whole needle deeply into the tissues, and, with ordinary care to secure asepsis, nothing worse than a little pain and tenderness for a few days, together with some discoloration in the region of the puncture point, has been my experience with patients, as with myself personally.

In a tropical climate, and under the conditions of active service in the field, it is not difficult to imagine that the necessary cleanliness and care are not easily possible; and this fact may explain the advisability of administration by the mouth and the untoward results complained of.—I am, etc.,

Guernsey, March 15th. J. WALLACE COLLETT.

MODE OF QUININE ADMINISTRATION.

SIR,—During the war I was stationed for nearly three years at Wynberg Hospital, where we had a very large number of patients suffering from malarial fever contracted in German East Africa, and amongst them cases of phlegmon and paralysis due to intramuscular injections of quinine. These cases are very serious, not only because of the long time required for convalescence, but in the permanent deformities often left, due to sloughing of a large amount of muscle and paralysis. These complications are not due to sepsis or faulty technique, but to the escharotic action of quinine in susceptible subjects. The result is that men hesitate to give injections unless the patient is gravely ill. Hearing that an officer was giving quinine subcutaneously with the same therapeutic result as obtained by the deep method, I started giving quinine under the skin to all acute cases, and did so for the last year I was attached to the hospital. The results, dosage, etc., are recorded in a paper read before the British Medical Association (Cape Town Branch), printed in the *Medical Record*, July, 1918, and reprinted in the *Epitome of Tropical Medicine*, November, 1918, entitled "A plea for the routine treatment of acute malaria by subcutaneous injections of quinine." Briefly I think I proved my thesis that injections of quinine act quicker, and can be given during the fever when the parasites are free in the blood—a great advantage, especially as the majority of cases vomit during the paroxysm, so that quinine by mouth cannot be given. There is no anxiety regarding complications; hundreds of injections were given in my wards; in six cases small collections of necrotic pus were evacuated; within ten days the arms were well, and in the meantime there was no inconvenience to movement of limbs. If this method is given a trial much suffering to the patient will be avoided, and the doctor will have his acute cases free from fever in from twenty-four to fifty-six hours, two to six injections being required either in benign or malignant malaria.—I am, etc.,

H. KNIGHTS RAYSON, M.D.Brux.,
M.R.C.S., L.R.C.P.,
Late Captain S.A.M.C.

Kirkwood, South Africa, February 24th.

CARCINOMA OF THE THYROID.

SIR,—The case of papilliferous carcinoma of the thyroid in a girl of 13 (reported by Mr. Basil Hughes March 13th, p. 362) is interesting, not only on account of the nature of the growth, but also on account of the age of the patient.

In my experience ordinary adeno-carcinoma of the thyroid is also rare, and a correct diagnosis is not usually made until the growth has spread through the capsule of the thyroid and the chance of a cure by operation is remote. I should like to know if this tallies with Mr. Hughes's experience.

Last September I excised the left lobe of the thyroid from a woman aged 25. The lobe was slightly nodular, but appeared clinically to be an ordinary parenchymatous enlargement, causing dyspnoea. The lobe was not adherent to the surrounding structures; a portion was burrowing between the trachea and oesophagus, but there was no difficulty in the operation. On cutting into it afterwards it was seen to be the seat of a greyish-white soft tumour the size of a golf ball, which on microscopical examination proved to be an adeno-carcinoma. There was no sign of glandular infection, and up to the present there is no sign of recurrence. Apart from her age and the unexpected finding of the tumour, an interesting point about this case is that I had removed her right lobe for parenchymatous enlargement six years previously. (A microscopical section from this lobe proved it to be an ordinary parenchymatous goitre.) She still has a small portion of the isthmus, but is taking thyroid extract gr. j daily.—I am, etc.,

Norwich, March 22nd. A. J. BLAXLAND.

SENIOR SURGEON COMMANDERS, R.N.

SIR,—The Admiralty evidently realize they have a very bad case when defending their treatment of senior surgeon commanders. Mr. Long's reply (BRITISH MEDICAL JOURNAL, March 13th, p. 378) is misleading, and made up mainly of garnishing and red herrings.

He speaks of having put the various branches on the same basis as far as possible. This is exactly what he has not done to senior surgeon commanders except when it was to their disadvantage. Thus: (1) We have been retired earlier than the regulations showed when we joined; (2) we got no acting rank scarcely during the war; (3) we get no increase of retired pay, varying from 40 to 100 per cent., that all other branches, ranks, and ratings get; (4) worst of all, promotion to captain was not put on the same basis as in the executive line by a huge amount. For instance, three senior surgeon commanders were placed on the retired list last January 1st at the age of over 54 without even having come within the zone for consideration for promotion. At the same time, commanders (executive) come within the zone at about 38 years of age.

These three unfortunate surgeon commanders find themselves prematurely retired on a pension approximately only 9 per cent. more than the rates fixed forty years ago. They are not getting an increase sufficient to pay increased income tax, much less provide for their families. Have we no friends except the British Medical Association?—I am, etc.,

March 17th. SURGEON CAPTAIN RETIRED.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—I regret to have to trouble you once more, but I must again remind Dr. Baskett that it was not comparative poverty *per se* that caused tuberculosis but the destitution that accompanied it, and that that destitution very largely vanished under paternal legislation, as well as did earlier so much of the infection of which destitution formed the favourable soil.—I am, etc.,

March 22nd. SIDNEY DAVIES.

Medico-Legal.

A PANEL PRACTITIONER'S ACTION FOR SLANDER.

THE Lord Justice Clerk and Lords Dundas and Salvesen recently heard an appeal in an action raised in the Glasgow Sheriff Court by Dr. James Wylie, who sued the general secretary of a friendly society for damages for slander. Dr. Wylie had among his panel patients a woman member of that society. On January 20th, 1917, after a few days' absence in the country, she returned to Glasgow, called on Dr. Wylie, who examined her, and gave her a certificate of incapacity for work, which she forwarded later to the secretary. The latter, misunderstanding the remark of a health inspector as to the date of the patient's return, wrote to the secretary of the Glasgow Insurance Committee stating that the certificate had been granted by Dr. Wylie without seeing the patient, and that in his opinion the doctor had committed a breach of the Medical Benefit Regulations. The Sheriff-Substitute, who first heard the case, found that the letter was defamatory and malicious, and awarded Dr. Wylie £10 damages. The Sheriff, on appeal, acquitted the defender on the ground that the letter was privileged, and that malice had not been proved. Their lordships reversed the latter judgement, and reverted to that of the Sheriff-Substitute, with expenses, holding that the letter had been sent without due inquiry, and that the defender's recklessness in making the charge without regard to its serious nature and to the want of information on which it was founded amounted in law to malice, debarring the plea of privilege. Dr. Wylie was represented by counsel instructed by the Medical and Dental Defence Union of Scotland, Ltd.

THE Linnean Society is taking steps to increase the annual subscription from £3 to £4, mainly on the ground of the increase in the cost of the production of its *Transactions* and *Journal*, but also owing to the tendency of all establishment charges to rise. If the difficulties were temporary, some of the small investment funds might have been used, but as there is no prospect of a return to former conditions an increased income is regarded as absolutely essential. *Nature*, in commenting on the announcement, states that all the learned societies are at present faced with similar problems.

SIR ROBERT MORANT.

BY

The Right Hon. CHRISTOPHER ADDISON, M.D., M.P.,
MINISTER OF HEALTH.

SIR ROBERT MORANT was more than a great public servant; he was a great patriot, a man of tireless self-sacrifice and deep enthusiasm. He was perhaps better known than many leading civil servants, but, in common with them, the full variety and the greatness of his work could only be fully known to those who worked with him.

My first close personal association with him was during the fierce political controversies which arose over the introduction of the National Health Insurance Act. He grasped at once the immensity of the task and the character and the extent of the organization necessary to cope with the enormous mass of detail involved. Often in the struggle against time, as the day drew near for bringing the different services into operation, he would say in his nervous, masterly way that this or that could not be done, yet it was done. It was done because a man was in charge who had an indomitable spirit, an infectious energy, and a singular capacity for gathering around him a team of younger men whose standard was efficiency. He tolerated no inefficiency, and was impatient of failure to act according to principles laid down; at the same time he was peculiarly sympathetic, often tender, to lowly members of his staff, and I have never known him fail to spare others rather than spare himself. Had his consuming conscientious energy been less active he might perhaps be with us still.

Many a time in those days we tried to forecast the order of development and the nature of a system of organized health services which the nation so sorely needed. None was more conscious than he was of the difficulties in the way and of the time that would be required in overcoming them. Yet he was not dismayed when he realized that it would be necessary to deal with a medley of interests and authorities, an antiquated and cumbrous system of the Poor Law, a lack of trained personnel in all directions, a mass of vehement, deep-rooted prejudices, and, above all, with the common habit of thought that national health services were solely associated with physic and doctoring.

He loved to talk of these things and longed to have a hand in the working. Often enough he would speak despairingly when he thought of the vicissitudes of political life, of the slowness of things, and of the lack and accidents of opportunity. When he fretted thus it was only because his eager spirit was anxious to be at work.

Among the many facts which the war made manifest was the urgent need of an organized system of health services, and I believe that he achieved one of the chief ambitions of his life on the day when it was my high privilege to ask him to become the First Secretary of the first Ministry of Health. He saw before him an opportunity for years of useful work in the things he loved, and as a great practical idealist he rejoiced in the prospect.

He never got lost in the thicket of details, of arrangements, rearrangements, adjustments, conferences, discussions, delays, and difficulties which attend the development of a progressive policy. All the time he knew where he was going, and his smallest actions were purposeful, and designed to help things forward. He had the priceless gift of a wide view whilst retaining command over near and detailed work.

The tragedy of his loss would appal us all were it not for the unforgettable example of his dauntless courage. Those who really knew him loved him even for his foibles. There was nothing petty about him. When a course of action had been decided upon he pursued it; the doubts and questionings that had preceded its decision having been carefully examined and estimated were cast behind him; whether he agreed in all respects or not he went straight on when the course was decided, and that annoying habit of lesser men of bringing up again and again all sorts of pointless questionings was never his. A great reasoner himself, he respected reasoning in others, and his masterful manner did not arise from any love of domination for its own sake, but from what he felt to be the necessities of the case. He was ready enough to subordinate himself and modify his views, and he looked for a similar practice in others. The cause was the only thing that mattered to him.

He was an inspirer of others, a magnificent chief of staff, greedy for labour in a worthy cause, a despiser of trifles and an affectionate and loyal friend, a tower of strength to whatever he supported, a devoted and splendid citizen. We are made poorer as a people by his loss. We are shocked by the tragedy of his death at the moment when he seemed to have the fullness of his power and opportunity. In our sorrow we can but reverence his memory and pay the tribute that he would value most in striving with all our might to imitate his great example.

Obituary.

PROFESSOR WERTHEIM,

Vienna.

PROFESSOR ERNST WERTHEIM, of Vienna, died from pneumonia on February 15th. About ten years ago he succeeded Chrobak as chief of the second Gynaecological University Hospital in Vienna. For some time he was a pupil of Schauta, with whom he subsequently carried on many discussions, especially with regard to the abdominal and vaginal routes for operating on cancer of the uterus. Wertheim, at a comparatively early stage in his career, elaborated a method for cultivating gonococci which was in common use for many years. He will, however, be best known for his work on cancer of the uterus and for his operation for prolapse. In the nineties he was appointed to the Cancer Hospital established by one of the Rothschilds in memory of his wife who had died of cancer of the breast. This hospital, which was devoted to gynaecological cases, patients with cancer being given preference, was equipped with large laboratories, and was a model of its kind. Here Wertheim evolved the operations on the uterus which have become associated with his name. He was a first-rate teacher and a generous host, freely giving of his best.

Dr. HERBERT SPENCER writes: It was with sorrow that I heard of the death of Professor Wertheim, one of the great heroes of gynaecology, whose name will always be associated with the abdominal operation for cancer of the uterus. It was from reading his early work on that subject, and from finding in 1904 that an extensive growth which could not be removed in a surgical manner by the vagina could be removed by his method, that, as President of the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association at Leicester in 1905, I asked him to come as my guest and read a paper. The paper, written in German, was translated under my supervision in the office of the JOURNAL; it was published with illustrations in the BRITISH MEDICAL JOURNAL, September 23rd, 1905, and has had a great effect in extending this method of his operation. In discussing the paper at the time, I said that I "considered this paper of Professor Wertheim's the greatest which had been published on the operative treatment of cancer of the uterus, and indeed of cancer of any other organ," an opinion which I have seen no reason to alter. It had since been surpassed by his monumental work on *Die erweiterte abdominale Operation bei Carcinoma colli uteri* (500 cases), 1911. The enormous labour involved in operating, recording, and following up a series of 500 cases of cancer arouse our admiration and gratitude. During the week of his stay with me I was impressed by the zeal and enthusiasm with which he devoted himself to the study of the relief of women from this scourge, and by the pain which the high mortality of his early operations caused him. On the surface Wertheim sometimes seemed a hard man; he was "ever a fighter," but a fighter for the truth. Patients who had been under his care spoke warmly of his kindness, and the apparent harshness of some of his remarks in discussions was due to his sincere belief in the truth of his views, and to his annoyance at criticism based on small experience. Several of my assistants who have visited his clinic have received many acts of kindness and much instruction from him. Wertheim used to seek relaxation in the vacation by deer stalking. I last saw him in Berlin in 1912 at the Obstetrical and Gynaecological Congress,

where he upheld his practice of closing the vagina by clamps and leaving it open for drainage, instead of opening the vagina unclamped and closing the peritoneum over the raw surface as Bumm had done, thus reducing his rate of mortality. Wertheim did much other work in gynaecology, and at the time of his death was, with Bumm, editor of the *Archiv*, but his name will be for ever associated with his *magnum opus* on cancer. All British gynaecologists will agree that though the author is no more amongst us his work will live.

A CRIMEAN V.C.

ASSISTANT SURGEON HENRY THOMAS SYLVESTER, V.C., R.A.M.C. (retired), died at Paignton, Devon, on March 13th, aged 89. He was born at Devizes on April 16th, 1831, and educated at Marischal College, Aberdeen, where he graduated M.B. in 1853 and M.D. in 1855, also taking the L.R.C.S.Edin. in 1853 and the L.S.A. in 1869. He entered the army as assistant surgeon in March, 1854, served in the 23rd Foot, the Royal Welsh Fusiliers, and retired on half pay on November 15th, 1861—nearly sixty years ago. He served with the 23rd in the Crimea, when he took part in the siege and capture of Sebastopol, was mentioned in dispatches, received the medal and clasp, and also gained the Victoria Cross, as well as the Legion of Honour, which was bestowed on him in 1856. With his regiment he went on from the Crimea to India, where he served in the Mutiny, and took part in the relief of Lucknow, receiving the medal with a clasp. The services for which he received the V.C. were given in the *London Gazette* of November 20th, 1857: "For going out under a heavy fire, close to the Redan, to dress the wounds of Lieutenant Dyneley, who lay there mortally wounded. He was again mentioned in General Simpson's dispatch for similar courage, also under heavy fire, during our disastrous assault." This was one of the first Crosses given; the dates referred to in the dispatch were September 8th and 18th, 1855. Before joining the army he filled the post of resident medical officer of Swansea Hospital, and, after he left it, was for many years in practice at Westminster till he retired from work some years ago.

WITH great regret we report the death from pneumonia of Dr. GEORGE V. PEREZ of Santa Ursula, Teneriffe, on February 29th. Dr. Perez was descended from a medical ancestry. He received his medical training at University College Hospital, and filled the post of resident clinical assistant at the Brompton Hospital for Consumption. He took the diploma of M.R.C.S. in 1882, and graduated M.B.Lond. in 1883. He married Miss Carnochan of Harrogate before returning to Teneriffe, where he was for many years the leading physician in Orotava. Dr. William Ewart, Consulting Physician to St. George's Hospital, writes: Dr. Perez was best known to the medical world through his discovery of the characteristic sounds often yielded by fibrous mediastinitis—Perez's sign. He combined with great accuracy of observation special keenness for therapeutics. If not, perhaps, the first, he was an early and original advocate of the administration of tincture of iodine in typhoid fever. He held a strong belief in the healing virtues of raw garlic for pulmonary and other affections. His most recent therapeutical inquiry related to the beneficial action of eucalyptus in glycosuria and diabetes. After undergoing a severe abdominal operation in London some years ago he did not completely recover his strength; and afterwards retired from practice. But his active mind never rested from the attempt to elucidate the pathological problems suggested by his own unusual case. To the last it was his great wish that his sufferings might serve some good purpose for the furtherance of medical knowledge. The profession loses in him an untiring student, and many friends will mourn the loss of one so kind and true.

MAJOR HUGH GODWIN SHERREN, R.A.M.C., died during the last week of February at Constantinople, of typhus fever contracted while attending Russian refugees, and was buried with full military honours on March 1st in the British Crimean cemetery at Haidar Pasha. He was educated at the London Hospital, took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1905, and entered the R.A.M.C. as lieutenant in 1905, becoming captain on January 31st, 1909, major on October 15th, 1915, and acting lieutenant-colonel on June 24th, 1918. He also took the D.P.H. of the London Colleges in 1913.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Diploma in Radiology and Electrology.

IN connexion with the courses now in progress in London at University College and at the Royal Society of Medicine the Committee for the Diploma propose to announce to the Senate the following dates for the next examination, which will be held at Cambridge: Part I (*a* and *b*), Tuesday, July 27th, 1920, with practical work and viva voce examination on July 28th; and Part II (*a* and *b*), Thursday, July 29th, with practical work on July 30th.

Candidates desiring to take the diploma by thesis next term under Regulation 13 should apply to the Secretary, Dr. Shillington Scales, Medical Schools, Cambridge, without delay for the necessary certificate forms.

The Committee propose to hold courses of lectures and practical work in Physics and in Electrology during the ensuing Long Vacation in Cambridge, beginning June 22nd and finishing about the middle of August; and in Radiography in the next Michaelmas term, beginning October 12th and finishing in time for the examination at Christmas. The necessary clinical work can be carried out at Addenbrooke's Hospital, Cambridge. The Physics course will be given by Dr. Crowther, by arrangement with Professor Sir Ernest Rutherford; the course in Radiology and Electrology by approximately the same lecturers, all leading workers in these subjects, who have given the courses now running in London. The holding of these courses in Cambridge will, however, be dependent on a sufficient number of students entering for them, and for this reason early application should be made to Dr. Shillington Scales. It is hoped in future to hold courses and examinations twice a year, the courses in Cambridge alternating with those in London, so that candidates from overseas may have an opportunity of taking the diploma.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B. AND CH.B.—*Part I (Pathology)*: F. H. Alexander, G. P. F. Allen, Eleanor E. Briant, G. L. Gately, H. T. Hughes, Isobel K. Johnstone, J. G. L. Jones, R. J. Jones, H. R. Madan, J. B. Oldham, T. R. Roberton, C. F. H. Sergeant, F. C. H. Sergeant, S. S. Shrikanth, C. C. L. Spurring, T. A. Williams. *Part II (Forensic Medicine and Toxicology and Public Health)*: J. F. C. McColl, J. C. Twomey, S. A. Walker. *Part III (Medicine, Surgery, Midwifery)*: W. H. Butler, Mary S. Share-Jones.

M.B. AND CH.B. WITH HONOURS.—*(Second Class)*: *Isabel M. Collier, *W. H. Evans, †H. Reid.

D.P.H.—A. E. Saunderson, W. F. Young.

* With distinction in Medicine.
† With distinction in Surgery.

UNIVERSITY OF EDINBURGH.

Honorary Degrees.

THE Senate has resolved to confer a number of honorary degrees on the occasion of the conclusion of peace. Among those who receive the honorary degree of LL.D. are Viscount Allenby, the Right Honourable G. N. Barnes, M.P., Professor-Emeritus Francis M. Caird, F.R.C.S.Edin., Lord Robert Cecil, Sir Richard T. Glazebrook, C.B., F.R.S., until recently Director of the National Physical Laboratory, Mr. John Horne, F.R.S., formerly of the Geographical Survey of Scotland, and President of the Royal Society of Edinburgh, Mr. Rudyard Kipling, Professor-Emeritus William Russell, M.D., and Professor-Emeritus George Saintsbury. Mrs. Humphry Ward has not lived to receive the honorary degree.

Spring Term Examinations.

At the recent examinations in two subjects of the First Professional Examination the number of candidates was in each over 300. Altogether the number of persons, including those sitting for the preliminary examination, who were being examined in the University on March 20th, was over 1,500. The number of candidates at the preliminary examination was about normal.

UNIVERSITY OF GLASGOW.

AT the last meeting of the University Court of Glasgow Professor Bryce said that it had not been possible to find accommodation for 76 applicants for admission as medical students. All the service men and women had been placed in a separate category and were admitted first; the remaining applicants were taken in the order of the standard of their preliminary examination. The number admitted was 116, of whom 36 were women. Similar excess of applicants was stated to exist in respect of first-year classes for the B.Sc. degree in engineering. The Principal said that it would be necessary to build, but building could not be commenced before October, and all that could be done at present was to intimate to students the necessity for making early application for admission.

The Services.

NAVAL MEDICAL MEMORIAL FUND.

SIR,—May I bring the following to the notice of any of your readers who may be interested?

It is proposed to perpetuate, by a suitable memorial, the memory of the medical officers, nursing sisters, and men of the Sick Berth Staff who were killed or died on service during the war. The memorial will be dedicated to permanent reserve and temporary officers, R.N., and R.N.V.R., and permanent and reserve nursing sisters and Sick Berth Staff.

The final decision as to what shape the memorial will take will be in strict accordance with the wishes of the majority of the subscribers to the memorial fund, provided that the amount received will be sufficient for the purpose.

Those of your readers who have not already received a letter on this subject and who may wish to subscribe are invited to write to the Honorary Secretary, Naval Medical Memorial Fund, Medical Department, Admiralty, who will forward a copy of the original letter that has been circulated amongst those whose addresses are still on record at the Admiralty.—I am, etc.,

C. K. BUSHE,
Surgeon Commander R.N.,
Honorary Secretary.

Admiralty Medical Department,
1, Lake Buildings, St. James's Park, S.W.1.
March, 1920.

HONOURS.

TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon the following medical officers under the terms of the Royal Warrant dated August 17th, 1908, as modified by the Royal Warrant dated November 11th, 1918:

Colonels Alfred Bertram Soltau, C.M.G., C.B.E., Sir William R. Smith, V.D. (Sanitary Service); Lieut.-Colonels Alexander B. S. Stewart, O.B.E. (1st London General Hospital), John Kyffin (5th Southern General Hospital); Major (brevet Lieut.-Colonel—acting Colonel) Henry A. Leebody (attached to Head Quarters Staff, Scottish Command); Majors Harry G. Parsons (2nd Wessex Field Ambulance), Charles B. Baxter, O.B.E. (attached South Midland Clearing Station), Francis W. Squair (attached to 3rd Highland Howitzer Brigade, R.F.A.), Henry Halton (attached Western Signal Company, R.E.), John R. Williams, retired (attached 6th Battalion, Royal Welsh Fusiliers), Thomas A. Sellar (attached 6th Battalion, Gordon Highlanders), Surgeon Major Gardiner W. Trouton (West Kent Yeomanry).

FOREIGN DECORATIONS.

The following decorations have been conferred by the President of the French Republic for distinguished services rendered during the course of the campaign:

Légion d'Honneur.—Officier: Major David Leonard Fisher, D.S.O., R.A.M.C.(T.F.).

Croix de Guerre.—Captain William Donald, M.C., R.A.M.C. (S.R.), Lieutenant (acting Major) Henry Goff Kilner, 5th Battalion, Suffolk Regiment, T.F. (attached R.A.M.C.), temporary Captain Henry Leslie Messenger, M.C., R.A.M.C.

Ordre de l'Étoile Noire.—Officier: Major John Humphrey Barbour, R.A.M.C.

Médaille d'Honneur avec Glaives (en Vermeil).—Captain William Victor Corbett, R.A.M.C.

Médaille des Epidémies (en Vermeil).—Captain John Robert Crolius, R.A.M.C.(S.R.).

Médaille des Epidémies (en Argent).—Captain and Brevet Major Robert Ernest Kelly, C.B., and Captain John Francis Roberts, (R.A.M.C.T.F.).

Medical News.

WE are informed that the printing of the volumes that were to have been presented to the late Sir William Osler on the occasion of his 70th birthday last July is at length completed. Copies have been dispatched from America and their arrival may be expected in a few weeks. The long delay in their appearance has been due to strikes and other disturbances in the printing and publishing trades.

TO exercise his powers as President of King Edward's Hospital Fund for London during his absence from the United Kingdom the Prince of Wales has appointed a committee, consisting of the Earl of Donoughmore, K.P., Viscount Finlay, G.C.M.G., and the Governor of the Bank of England.

THE Bordeaux Society of Medicine and Surgery has appointed a commission composed of Drs. Anglade, Henri Verger, René Cruchet, Ginestous, Galtier, and de Teyssieu to study epidemic encephalitis and to draw up a report.

THE late Professor Alexander MacAlister left estate valued at £12,140, with net personalty £11,864.

THE well-known neurological journal *L'Encéphale* and its supplement *L'Informateur des aliénistes et des neurologistes* has resumed publication.

THE number of wounded and sick demobilized French soldiers under treatment in military hospitals on January 15th, 1920, was 7,133.

LIEUT.-COLONEL F. E. FREMANTLE, M.B., M.P., has been elected chairman of the Housing Committee of the London County Council.

THE Berraute prize of the Académie de Médecine for research in cancer has been awarded to Dr. Alexander Paine, director of the Cancer Hospital Research Institute, and Dr. Albert Peyron, director of the Military Laboratory for Cancer at the Hotel Dieu, for their joint investigations on the subject.

THE Friday evening discourses of the Royal Institution of Great Britain are now again given at 9 p.m. On April 23rd Professor H. Maxwell Lefroy will speak on the menace of man's dispersal of insect pests, and on May 14th Professor Karl Pearson will deal with sidelights on the evolution of man. Among the lectures to be given at 3 p.m. during April, May, and June are four on the ethnology of the invaders of England, by Professor Arthur Keith, F.R.S., and two on dreams with special reference to psycho-analysis by the dramatic critic, Mr. William Archer, M.A.

THE last quarterly return of the Registrar-General for England and Wales states that the births registered in the fourth quarter of 1919 were 48,202 more than in the preceding quarter and 61,794 more than in the fourth quarter of 1918; it was the highest recorded in any fourth quarter since 1906. Of the 223,569 births registered during the quarter 115,419 were males and 108,150 females.

A WHITE PAPER just issued shows that the number of persons injured by street accidents in England and Wales in 1919 was 45,544, as against 33,456 in 1918. The number of deaths was 2,239, as compared with 1,852 in the previous year. Mechanically propelled vehicles were responsible for 1,741 of the fatal accidents, as compared with 1,365 in 1918. Pedal cycles caused 142 deaths, as against 105 in 1918. The number of fatal accidents in the metropolitan area was 700, and 13 of them occurred in the City of London.

POST-GRADUATE classes in surgical tuberculosis are given at the Lord Mayor Treloar Cripples' Hospital, Alton, Hants, under the direction of Sir Henry Gauvain, Medical Superintendent. The next course will begin on Monday, March 29th. There will be daily demonstrations in the wards, and practical work will be performed in the plaster room, theatre, and *x*-ray room. Lectures will be delivered on choice of site, organization and administration of a special hospital for the treatment of surgical tuberculosis; conservative treatment of tuberculous abscesses of bony origin; diagnosis and treatment of tuberculous disease of the spine, hip, knee and other tuberculous bone and joint lesions; tuberculosis and peritonitis; adjuvant measures of treatment (*x* rays, etc.); heliotherapy, chemotherapy, vaccine therapy, and balneotherapy. These courses are informal and intensive; no fees are charged; lunch and tea are provided. Only a limited number of students are accepted for any given course.

THE Lord Mayor of London, who presided at the annual meeting of the Royal Medical Benevolent Fund Guild at the Mansion House on March 19th, made a strong appeal for increased support to the Guild, which exists to assist distressed members of the medical profession, their wives, widows, and families. Mrs. Scharlieb, M.D., who presented the financial report, said that part of the annual expenditure was met by the interest on investments, but the Guild had to live on a precarious margin. The contributions from different parts of the country showed great variations. A cordial vote of thanks was given to Lady Tweedy, chairman of council, who had been succeeded in the chairmanship of the General Purposes Committee by Lady Fripp. Lady Barrett, O.B.E., said that the closure of St. Anne's School for girls had been a misfortune to the Guild; it was hoped to make arrangements with other schools, but the task was not easy. Miss Lilian Braithwaite, speaking for the theatrical profession, which, she said, always responded liberally to appeals, asked for contributions for the erection of a Guild hostel for persons requiring rest and treatment. A vote of thanks to the press, moved by Sir Alfred Fripp, for its share in making known the objects of the Guild, was carried, as was a vote of thanks to the Lord Mayor for presiding.

THE Achilleion palace at Corfu, formerly the possession of the ex-Emperor of Germany, was converted into a hospital by the French after the Serbian retreat, and is now known as the Tribondeau hospital, after the naval medical officer and bacteriologist who died of influenza in the epidemic of September, 1918.

THE annual report of the Seamen's Hospital Society for the year 1919 shows that the Dreadnought Seamen's Hospital at Greenwich, which has 250 beds, received 2,669 in-patients, and the Albert Dock Hospital, with 50 beds, 760 in-patients; 401 patients were treated in the Angas Convalescent Home, Cudham, Kent, which has 30 beds, and it is announced that a site has been acquired at Bramshott in Hampshire for a tuberculosis sanatorium. The most memorable event of the year was the acquisition of the premises in Endsleigh Gardens, used during the war as an officers' hospital, for a central hospital for tropical disorders. A gift of £100,000 from the Joint Committee of the British Red Cross and the Order of St. John rendered it possible to purchase the building, and another gift from the Mesopotamia Comforts Fund in memory of Lieut.-General Sir Stanley Maude has been devoted to the endowment of a ward which will bear his name. The building is large enough to provide accommodation also for the London School of Tropical Medicine. The report makes special reference to the death of Dr. Guthrie Rankin, consulting physician to the hospital, and mentions that he bequeathed £1,000 to its Samaritan Fund.

Letters, Notes, and Answers.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin, and of the Scottish Office, 6, Rutland Square, Edinburgh.

QUERIES AND ANSWERS.

"T." asks for suggestions in the treatment of a child, aged 4 years, who suffers from enlarged tonsils with adenoids, complicated by purulent otitis media, and in whom operation is contraindicated owing to the fact that he is a haemophilic.

HAY FEVER.

"R. A. J." asks for advice in the treatment of a lady, a professional singer, who has hay fever every April or May. He has tried vaccine and the patient has had the turbinates cauterized.

GRANULOMA OF THE EYELID.

A. C. R." suffers from a chronic condition of the upper lid, consisting of three flattened nodular masses of granulomatous tissue, not definitely cystic; five operations have been undertaken since 1916. At times nodules become inflamed, and fresh ones are apt to form. Further operative interference is considered risky from fear of cicatricial contraction. Astigmatism and monocular diplopia are now present from pressure on the eyeball. Section of a portion removed shows solid mass of granulomatous cells. Yellow oxide and massage have been tried without avail. Would induction of a general leucocytosis and local application of heat be likely to promote absorption? If so, what will be the best agent to employ?

INCOME TAX.

"J. G. S." inquires whether officers' pensions are subject to income tax.

*** Wound pensions granted to members of the naval, military, or air forces are exempt from income tax under Sec. 16 of the Finance Act, 1919. If the pension does not fall within that category it is apparently liable to income tax and should be separately shown in the annual return.

LETTERS, NOTES, ETC.

THE ROMAN NETTING NEEDLE FOR WINDING A SURGICAL THREAD.

DR. S. HOLTH (Christiania, Norway) writes: Thanking you for your kind mention on p. 268 of my account of "Graeco-Roman and Arabic Bronze Instruments and their Medico-Surgical Use," I beg you to correct a small error appearing at the end of your note—namely, "The Roman netting needle was employed for surgical suturing." I only put forth the thought that the surgeons of antiquity found the netting needle handy to wind up the suturing thread, exactly as the fishermen did with the net-binding thread. In literature there is no evidence for my suggestion, because Celsus, Galen, and Paulus Aegineta do not mention any way of how to carry the suture thread. I have no other support for my suggestion than that three netting needles are among John Stewart Milne's and Baron Ustinov's collections of Graeco-Roman surgical instruments. The netting needle I mentioned in the museum of Saint-Germain-en-Laye did not belong to the Gallo-Roman oculist Gaius Firmius Severus in Rheims, but came from the neighbourhood of Compiègne. This last information is due to the kindness of Monsieur Salomon Reinach, the director of the museum.

THE BROTHERS MICHELIN.

WE have received a well illustrated pamphlet on the brothers Michelin, originally written by William Serieyx for the French magazine, *Je Sais Tout*. It gives the history of the origin of the famous tire works at Clermont. The grandfather of the Michelins, M. Barbier, joined his cousin, Captain Daubrée, in founding a sugar factory on the banks of the Allier. Daubrée had married a niece of the Scottish chemist, Mackintosh, whose name, through his discovery of the solubility of rubber in benzine, has become associated with waterproof garments. Mackintosh and his niece had amused themselves by making rubber balls, and Madame Daubrée resumed with success and profit the manufacture of these playthings in a corner of her husband's factory. When the sugar factory was washed away by floods M. Barbier and Captain Daubrée started a rubber factory at Clermont, which has since become the Michelin factory for tires.

In their early days neither of the brothers Michelin had much to do with the factory; one brother studied painting, while the other was interested in the manufacture of iron, but finding in 1883 that the factory was about to break up, they decided to try to re-establish its former prosperity. In 1891 the first attempt was made to produce a pneumatic bicycle tire which should be easily detachable, in order to allow of immediate repair in case of puncture; and in September of that year the cycle race from Paris to Brest was won on detachable tires manufactured at the Michelin works.

In 1896 a cab appeared in Paris on pneumatic tires. In the meantime the Michelins had set to work to devise pneumatic tires for motor cars, and in 1895 a car mounted on such tires was entered for the Paris-Bordeaux race. This car proved to be so dangerous to drive that a few days before the race the driver refused to undertake it. Consequently the Michelin brothers had to do so themselves. Punctures were numerous, so that the wits of the day said, "The pneumatic tires absorb all obstacles—and die of them." However, the car reached Bordeaux—ninth and last!

After the description of the Michelin works and the Michelin tire, the pamphlet gives other instances of the initiative, enterprise, and imagination of the brothers Michelin. To them was due the Prix du Puy de Dôme for flying. They instituted also the Prix de l'Aero Cible for bombing aviation. They have established scholarships to enable students to travel abroad and study working organizations; and they have developed clubs, cottages, societies, and pensions in connexion with their works. It would seem that the Michelin factory is one of which France may well be proud.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 40, 43, 44, 45, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 41, 42, and 43.

THE appointment of certifying surgeon at Tipperary (Tipperary) is vacant.

CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

NEW SCALE.

THE charges for advertisements in the BRITISH MEDICAL JOURNAL will in future be as follows:

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

The charge for announcements of births, marriages, and deaths will be 7s. 6d.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste-restante* letters addressed either in initials or numbers.

The Schorstein Lecture

ON

THE DIAGNOSIS OF DISEASE OF THE PANCREAS.

DELIVERED AT THE LONDON HOSPITAL MEDICAL COLLEGE ON FEBRUARY 20TH, 1920.

BY

SIR ARCHIBALD E. GARROD, K.C.M.G., M.D., LL.D., F.R.S.,

PHYSICIAN TO AND DIRECTOR OF MEDICAL CLINIC AT ST. BARTHOLOMEW'S HOSPITAL; REGIUS PROFESSOR OF MEDICINE DESIGNATE, UNIVERSITY OF OXFORD.

HE who is commemorated in a memorial lecture is often but a dim figure of the past, for whom and for whose work the lecturer can feel only a platonic admiration; but it is a very different matter when one does homage to a man whom he has known and liked, a member of his own university, and a dweller in the next street. Such was Gustave Schorstein, whose too early death left, for all who knew and valued him, a gap not easily filled, a sense of loss of a talented and attractive personality. I esteem it a great privilege to be permitted to pay this tribute to his memory.

This lecture should have been delivered five years ago, but the war and its duties intervened. Now that we are at peace once more, and are trying to make up the time lost during "the years that the locust hath eaten," the invitation has been renewed, and for that honour it is my pleasant duty to return my thanks.

In point of diagnostic display the liver and the pancreas, both glands of many vital functions, may be compared to a shop window and an office door. Derangement of the work of the shop may be obvious to the passer-by in the street, whereas what goes on behind the ground glass of the office door is hidden from public view, and is only manifested in the indirect effects of disorder of the activities within. If only the pancreas produced such a coloured secretion as the bile, how much easier would be the diagnosis of many of its lesions!

As it is the position of the pancreas, sufficiently remote to shield it from examination but not from injury, and the fact that its secretion is poured into so inaccessible a region of the alimentary canal, enabled it for a long time to puzzle the physiologist and to baffle the physician.

In the middle of the last century Sir Thomas Watson,[1] in one of those delightful lectures of his which, in lucidity and literary style, rank with those of Trousseau, spoke as follows: "It may seem a slight to the pancreas to pass it over without noticing the diseases to which it is subject. But really these diseases appear to be but few; and they do not signify their existence by any plain or intelligible signs." Somewhat later Bristowe,[2] in his well known textbook of medicine, expressed his belief that in the great majority of cases pancreatic disease will doubtless remain undetected during life. But some other writers of that period struck a more hopeful note, and among them Wardell,[3] who, in 1871, wrote: "No symptoms are pathognomonic of pancreatic disease; an assemblage of symptoms indicates the probability of its lesion." These words still hold true to-day, and they embody the thesis of this lecture.

It is true that we have learnt to recognize in fat necrosis a sign pathognomonic of certain lesions of the gland; but since this is only made manifest by opening the abdomen it lends us no help at the bedside. One other sign has been claimed as distinctive—namely, true steatorrhoea, which was recognized by Kunzmann[4] as early as 1824, and independently by Richard Bright[5] in 1832, as indicative of pancreatic disease.

Even nowadays pancreatic lesions often escape diagnosis, and Paul Carnot[6] puts his finger upon the cause of many such failures in the following passage: "Le plus difficile est, souvent alors, de songer au pancréas, etant donné la rareté apparente des affections de cette glande." The more constantly we bear the pancreas in mind as a possible seat of origin of obscure abdominal troubles, the less likely shall we be to overlook its lesions. The diagnostic indications at our disposal fall into three main groups. In the first are the clinical signs and symptoms, such as tumour, pain, tenderness, vomiting, cyanosis, and the like, and the signs of pressure upon neighbouring structures. Secondly, we may detect signs of failure of external secretion, defective digestion of proteins, fats, and carbohydrates. Thirdly, indications of failure of internal secretion, of which glycosuria is at the same time the most important and the best known.

TABLE I.—*Pancreatic Signs and Tests.*

Physical Signs and Symptoms.	Defects of External Secretion.	Defects of Internal Secretion.
Aspect Tumour Pain Tenderness Cyanosis Vomiting Constipation Diarrhoea Jaundice	Steatorrhoea Fatty stools Creatorrhoea Impaired casein digestion	Glycosuria Lowered sugar tolerance Cammidge's tests
Sympathetic signs Ocular Loewi's test	Duodenal sound Einhorn's method Oil breakfast Sahli's capsules Schmidt's test Kashiwado's nuclear test Sajodin test Diastase test, in urine and faeces.	

Lastly, there are certain syndromes which clinical and pathological experience has taught us to associate with lesions of the pancreas. Thus the diagnosis of carcinoma of the head of the gland is often correctly made upon purely clinical evidence, and in cases of bronzed diabetes, with enlarged cirrhotic liver and peculiar pigmentation of the skin, the pancreas is always implicated.

Many ingenious tests of pancreatic efficiency have been devised, and each test has its adherents, and each its critics who question its utility. But surely we are wont to ask too much from such tests. We cannot look to any test for a penny-in-the-slot diagnosis, especially of such widely diverse lesions as those to which the pancreas is liable. At best we cannot hope to gain more than an item of circumstantial evidence which, taken in conjunction with other items, may contribute to a diagnosis of probability, or even of certainty. Taken alone each test may fail or may actually mislead. In some instances a negative, and in others a positive, response carries little weight, and one needs to get to know a test well before he can estimate the significance of its answers.

It is not my intention, nor would it be possible in a single lecture, to describe the many pancreatic tests. In my wards we have employed most of them in turn, and in cases of special difficulty have resorted to many. For some years before the war we were interested in this subject, and it is to the help of a group of active fellow workers that I owe most of such knowledge of it as I possess. I would specially mention my indebtedness to my former house-physician, Dr. Sladden, who has embodied his conclusions in two valuable papers,[27] and to Dr. Mackenzie Wallis, whose M.D. thesis on this subject I have been permitted to read, and who has forgiven me beforehand if I should encroach upon his ground in advance. To Dr. Hurtley, to my assistant Dr. G. Graham, and to Dr. Geoffrey Evans also, I am grateful for much valuable help.

Where there is so great a choice of tests, workers tend naturally to concentrate upon some few which have seemed to them especially useful and easy of application. Each one develops his own routine, and different workers make different choices. The tests upon which one man relies do not necessarily serve another best.

The physical signs and symptoms of disease of the pancreas are best seen in cases of acute pancreatitis, although the large cysts which sometimes spring from the gland produce far more conspicuous swellings, and it is with carcinomata that the pressure signs are most clearly manifested. Nevertheless, the diagnosis of acute pancreatitis is by no means easy in many cases, and the most common false diagnosis is one of acute intestinal obstruction.

A grossly enlarged pancreas forms a tumour in the upper part of the abdomen, lying between the xiphoid cartilage and the umbilicus. It does not move with respiration, and has often but an ill-defined outline. The natural dullness on percussion is obscured by the overlapping of the stomach and intestine. In favourable

cases, in thin subjects, and especially under an anaesthetic, it is even possible to feel a pancreas which is only slightly enlarged, and some have claimed to have felt the normal pancreas. By percussion over the back Dr. Ewart maintains that the size of the gland may be mapped out with considerable accuracy.

The pain of pancreatic disease may be continuous or paroxysmal; it is felt in the abdomen, and is liable to be confused with other acute abdominal pains. My own experience and that of my colleague Mr. Waring, which is considerably greater, leads us to attach much more importance to pain across the back than do most of those who have written upon the subject, and in cases of carcinoma of the pancreas also such pain is often a prominent symptom.

In acute pancreatitis vomiting is usually severe, obstinate constipation tends to strengthen the suspicion of intestinal obstruction, and a feature which has some diagnostic value is a slight degree of cyanosis. The abdomen is usually distended, but, as a rule, there is less rigidity of the muscles than in other acute inflammatory lesions within it.

Of pressure symptoms referable to the diseased pancreas jaundice is by far the most conspicuous, and, in view of the anatomical relations of the gland to the common bile duct, this is in no way surprising. In cases of carcinoma of the head of the gland the jaundice is of extreme degree, and the complete absence of urobilin from the stools shows that the bile duct is completely occluded. Oser[7] suggests, and Sir Mayo Robson[8] also holds, that the so-called catarrhal jaundice may often have its origin in a swelling of the pancreas. We have as yet little knowledge of the slighter inflammatory affections of the gland, but there is one variety the clinical features of which are fairly well known—namely, that which occurs as a metastasis of mumps. Some years ago Dr. Cammidge told me that of eight cases of mumps with abdominal symptoms he had found his test positive in four, and in one of these it was no longer obtained after an interval of a month. Glycosuria was present in one case. Barbieri[9] has recorded a case of temporary glycosuria with this affection, and Finizio[10] one with transitory steatorrhoea, with as much as 60 per cent. of neutral fat in the stools. I have been able to find only a single record of an autopsy in such a case, and in that case alone was jaundice one of the symptoms. Lemoine and Lapasset,[11] who described it, found the pancreas swollen, oedematous, congested, and of a reddish-grey tint.

The absence of jaundice in almost all cases of the pancreatitis of mumps seems to me to afford a strong argument against the connexion of catarrhal jaundice with a catarrhal pancreatitis, and it is certainly no common feature of cases of grave pancreatitis, haemorrhagic or other.

On the other hand, there is, as Mayo Robson has shown, a close connexion between gall-stone troubles and interstitial pancreatitis, and from the anatomical relations of the biliary and pancreatic ducts an infection of the one is likely to spread to the other. So jaundice with pancreas lesions may have other origin than in compression of the bile duct. A tumour of the pancreas may cause considerable obstruction of the duodenum also. Watson mentions this in his lecture already referred to, and actual obstruction may occur in those rare instances in which the head of the gland encircles the duodenum completely. Again, there may be signs of pressure upon the portal vein and vena cava.

In a short paper, published in 1912, Cohn and Peiser[12] called attention to the presence in some cases of pancreatitis of the ocular symptoms which we associate with undue activity of the thyroid gland. Of a series of five cases, three of haemorrhagic, one of suppurative, and one of chronic interstitial pancreatitis, they found some exophthalmos in four, von Graefe's sign in four, Moebius and Stellwag's signs in all five, and also tremor and dermatography in all. However, they wisely decline to draw any sweeping conclusions from so small a number of cases.

Shortly after reading their paper I was able to confirm their observations in a case of which I shall speak later. The association clearly calls for further study, and has very interesting bearings upon the wider subject of the interaction of the thyroid gland and pancreas, of which I hope to treat at greater length on some future occasion.

The experience of many of us who have been engaged on military duties in recent years has taught us to look for signs of hyperthyroidism in conditions which we did not formerly connect with the thyroid gland, and to recognize that the characteristic case of Graves's disease is merely the culminating point of a series of intermediate grades which bridge the gap between it and normality. Moreover, we have witnessed a dissociation of the thyroid symptoms, one patient showing the ocular signs alone, and another tachycardia with tremor. Indeed, it would seem that there are several thyroidal hormones, and that excess of one does not necessarily carry with it excess of another.

Of such conceptions we have long had glimmerings, as witness the use of the term "larval Graves's disease."

As a rule, when thyroidal and pancreatic symptoms are seen in association, the thyroid appears to be the organ primarily at fault, and the observations of Cohn and Peiser, for which the converse holds good, are of all the greater interest on that account.

But if in pancreatitis the eye symptoms referred to are due to excessive thyroid secretion, it is really the sympathetic nervous system which is stimulating the gland to over-activity, and it is not wonderful that the sympathetic should be disturbed when the pancreas is the seat of disease, seeing how near a neighbour it is of the great abdominal ganglia and plexuses. Indeed, many of the symptoms of acute pancreatitis, the severe and often paroxysmal pains, the vomiting and collapse, are, by many, attributed to this proximity. There is evidence, too, of a restraining effect of the pancreas upon the excitability of the sympathetic, an influence which is withdrawn when the pancreas becomes the seat of disease.

It was to test the existence of such a soft-pedal influence that O. Loewi[13] applied his adrenalin mydriasis test to depancreatized cats and dogs. The extension of his observations to human subjects led to the introduction of one of the most interesting, although not one of the most conclusive, of the tests of pancreatic efficiency.

Two or three drops of a 1 in 1,000 solution of adrenalin, freshly prepared, are dropped into the conjunctival sac, and the process is repeated after an interval of five minutes. In the great majority of instances no dilatation of the pupil occurs, but in a few cases there is conspicuous dilatation in the course of half an hour or an hour. The dilated pupil is usually excentric in position, and often conspicuously oval in form. When Loewi first tried the test upon normal people, and upon a series of patients in the Vienna clinics, mydriasis was seen only in 1 of 3 cases of exophthalmic goitre and in 10 out of 18 diabetics. Apparently there were no cases of gross pancreatic disease in the series. Loewi regarded the positive results in some cases of diabetes as indicative of a pancreatic origin, but attributed the mydriasis in the case of exophthalmic goitre to the irritability of the sympathetic in that disease.

Of recent years we have employed Loewi's test widely in my wards, and in my opinion it is of undoubted value in the diagnosis of pancreatic lesions, provided always that its ways have been studied and that its limitations are fully recognized.

The dilatation of the pupil is a decidedly uncommon phenomenon. Unlike Loewi, I have seen it in very few cases of diabetes in which there was no other evidence of lesions of the pancreas, and I have obtained it only once in exophthalmic goitre. We have failed repeatedly to obtain dilatation when the test was repeated, within a day or two, upon an eye which had previously dilated, whereas the mydriasis was again brought about after a longer interval.

The pupils need to be carefully examined before the adrenalin is applied, not only as to their equality, but also to make sure that the iris of the eye tested is mobile. We have been deceived in one case by trying to dilate a pupil fixed by synechiae, and the dilatation is inhibited for a time by the administration of morphine.

The test may fail, at a later stage, in a case in which dilatation had occurred at an earlier period. It may fail in a case in which there is definite disease of the pancreas, and may succeed in another in which there is no gross lesion of the gland. All this sounds very discouraging, but the experience gained in a large number of cases has taught me to regard adrenal mydriasis as strongly suggestive of a pancreatic lesion, and to look upon it as a valuable link in a chain of evidence pointing to such a lesion.

On the other hand, I would *never* venture such a diagnosis upon this reaction alone, nor should I conclude from the absence of any dilatation that the pancreas was intact. Of few of the tests of pancreatic efficiency can more be said.

One of the drawbacks of Loewi's test is that it is, if anything, too delicate, and is wont to give a positive response to a lesion which merely worries the pancreas without involving it to any noteworthy extent. Against this may be set the advantage that the dilatation of the pupil is apt to be most marked at a stage when the excretory functions of the gland are not as yet seriously impaired.

The indications of abeyance of the external secretion of the pancreas, which now claim our attention, are the most valuable aids to diagnosis that we possess, and upon such evidence alone a secure diagnosis may in some cases be based. We may look for failure of the digestion of proteins, fats, and carbohydrates alike, for, unlike any other digestive gland, the pancreas takes an important part in the digestion of all three classes of foodstuffs. But, in my opinion, the signs of failure of digestion of fats are the most significant of all.

If there be any single sign which, standing alone, may be regarded as pathognomonic of disease of the pancreas it is true steatorrhoea. By this is meant the passage with the faeces of liquid fat which solidifies on cooling.

Salomon[14] speaks of it as a sign observed only with pancreatic disease, and for my own part I should not hesitate to share his view but for a case which Dr. Hurtley and I investigated some years ago.[15] The patient, a boy then 7 years old, had passed oil with his motions from birth. A younger brother who died of measles at 11 months had exhibited the same anomaly, whereas the three other children had not. The parents are first cousins. The boy was otherwise in good health, well grown, and with no trace of infantilism. Last month I saw him again after an interval of six years, and found that the same still holds good. Although many tests were applied no other sign of lesion of the pancreas could be found, and, in spite of the defect of fat utilization, the digestion of proteins was not impaired, and the stools contained no undigested meat fibres. Apparently this boy is the subject of an inborn error of metabolism, probably due to the absence of a normal enzyme, presumably a pancreatic enzyme. It is difficult to believe that there is any real disease of his pancreas.

There are grounds for the belief that both the external and internal secretions of the pancreas take part in the utilization of fats, the lipase being concerned with the splitting of fats, the internal secretion with their absorption. The gross failure of fat-splitting, which Friedrich Müller[16] described as so characteristic of lesions of the pancreas, may be lacking in cases in which there is conspicuous excess of faecal fat in association with such lesions, and experience teaches us that the total fat content of the stools, made up of fats, fatty acids, and soaps, affords a safer guide. Better still is the information supplied by the far more laborious estimation of the proportion of the fat taken in the food which is lost in the faeces. When, in addition, there is a conspicuous failure to *split* fats the evidence of a lesion of the pancreas is so much the more cogent. In the stools of a healthy man some 75 per cent. of the fat is in the split form, whereas some patients with pancreatic disease pass as little as 20 per cent. in the forms of fatty acids and soaps. The great diagnostic significance of true steatorrhoea arises from the fact that it indicates not only an excess of fats in the stools, but also an undue proportion of neutral fat.

In cases with no gross steatorrhoea the microscope may show abundant fat globules and many acicular crystals of fatty acids. Moreover, the large bulk of the fatty stools may arrest attention, and in some cases they are justly described as elephantine.

The jaundice which is so often associated with obstruction of the pancreatic duct obscures to some extent the indications afforded by the estimation of the faecal fats, for the mere absence of bile from the intestine causes a great impairment of fat absorption; but even when the pancreatic duct alone is blocked widely divergent results are obtained in different cases. Moreover, in the majority of cases of disease of the pancreas there is no blockage of the duct, and the impairment of secretion results from damage to the glandular tissue and is less in degree. A patient with grave disease of the pancreas may pass stools with normal fat-content, and this is true even of some cases in which the duct is obstructed, probably because the duct of Santorini remains patent and provides an emergency outlet.

Even when jaundice is present a proportion of fats in the dried faeces exceeding 40 or 50 per cent. is strongly suggestive of a pancreas lesion, and in some cases there is a percentage of 80 or more.

L. Zoja[17] lays stress upon an unduly low proportion of soaps as indicative of pancreatic disease, presumably from a deficient supply of alkali in the intestine, but our own experience, and that of others, leads us to attach little importance to this sign.

Oskar Gross,[18] who made a very complete study of the fat excretion of two patients with indubitable disease of the pancreas, found that in one case the percentage of the food fat lost in the faeces remained constant, in spite of wide variations in the amounts in the diet, and Hurtley and I found the same to be true for our case of congenital steatorrhoea; but in Gross's second case, and in that investigated by Spriggs and Leigh,[19] the loss of fat became much greater when the fat in the diet was increased. The last named observers suggest that the constant percentage loss may only hold good for cases in which the patient's nutrition remains good. It is a remarkable phenomenon, and one not easily explained, but upon which future work may throw light.

It will be seen, from what has gone before, that a patient whose pancreas is diseased may pass excess of neutral fats in his motions, or a great excess of fats, fatty acids and soaps, without any undue proportion of neutral fat. Lastly, a lesion of the pancreas can by no means be excluded on the ground that the stools contain *no* excess of fatty substances.

Winternitz has introduced a test of the efficiency of the pancreas in dealing with fats. Half a gram of iodo-behenic acid, or the drug sajodin, which is its calcium salt, is given by the mouth, and iodide is looked for in the urine. The sajodin is only broken up when it comes under the influence of the pancreatic juice, and by it *only* in presence of bile. On this account the test is not applicable when the bile duct is completely obstructed. When there is no jaundice, failure to find iodine in the urine suggests that the lipolytic action of the pancreas is in abeyance.

When in addition to impaired splitting or utilization of fats there is obvious failure of protein digestion, the evidence of a pancreatic lesion is wellnigh conclusive. There are many ways in which such failure may be detected, but the simplest of all is at the same time the most convincing. A patient with severe pancreatic disease will, as a rule, pass in his faeces large numbers of muscle fibres, derived from the meat which he eats, undigested and with their striae clearly visible under the microscope. He may also pass particles of undigested tissue, and Albu[20] recommends calf's thymus as an article of diet the structure of which is easily recognized in the stools. For this phenomenon Ehrmann suggested the name "creatorrhoea," by which it is generally called; and although the term invites criticism it is not easy to invent a better.

Creatorrhoea, although it may accompany profuse diarrhoea from any cause, is hardly inferior to fatty stools in diagnostic value, and it has the advantage that it is not affected by blocking of the bile duct. In a case with jaundice in which the indications afforded by the faecal fat are not unequivocal, the discovery of undigested striped muscle fibres in the stools may help materially to clench an otherwise doubtful diagnosis.

Cases are met with in which the syndrome steatorrhoea-creatorrhoea persists for years, in a patient who otherwise enjoys moderately good health, who leads an active life and exhibits no other gross sign of disease. Some such patients have been found to have the duct blocked with calculi, and the structure of the gland destroyed, and yet may never have exhibited glycosuria. In these cases the more elaborate tests will, as a rule, afford additional evidence of disease of the pancreas.

Excessive excretion of nitrogen in the stools, and a consequent inordinate loss of nitrogen as determined by metabolism investigations, affords additional evidence of impairment of protein utilization, but other ferments

besides trypsin take part in this work, and azotorrhoea, so called, is far less distinctive than the escape of striped muscle fibres and nuclei. Moreover, the fatty stools of a patient with pancreatic disease offer a far from ideal material for Kjeldahl estimations.

The majority of the pancreatic tests are concerned with the failure of tryptic digestion. They fall into three main groups of procedures: Some of them aim at obtaining a sample of duodenal contents for examination; others rely upon the dispatch of messengers along the alimentary canal, and the examination of the stools or other secreta for evidence as to what has happened to them in their transit; and yet others upon estimation of the tryptic action of the faeces.

The oil-breakfast test relies upon the fact that, under its influence, some of the contents of the duodenum are regurgitated into the stomach, and may be found in the test meal when it is siphoned off. The technique of the test is comparatively simple, and its results are, as a rule, instructive, but the swallowing of a large dose of olive oil, 2 oz., with a test meal, upon an empty stomach, and its subsequent withdrawal, is a proceeding which has little attraction for the British patient. It has been clearly shown that it is possible to obtain a sample of the secretion in the duodenum, either by means of a suitably constructed duodenal sound, or, better still, by Einhorn's ingenious device of a small metal capsule cased in gelatin and attached to a string or to an india-rubber tube. The capsule is swallowed and is passed on into the duodenum by gastric peristalsis. It is well to check its progress by *x*-ray examination. By this means as much as 5 to 10 c.cm. of duodenal juice may be obtained in favourable cases, and its tryptic activity tested. I have no experience of these methods, and therefore am not in a position to judge of the value of the indications which they afford, nor of the degree of discomfort to the patient which their application may entail. It is obvious that there are possibilities of fallacy, and that, whereas the finding of trypsin in the juice affords positive evidence that pancreatic secretion is entering the duodenum, the failure to find it in the fluid obtained is far less conclusive as evidence of inefficiency of the gland.

Of methods which test the tryptic power of the faeces that of Oskar Gross is most often employed. It is based upon the digestion of casein by an alkaline extract of the faecal material. Failure to digest casein offers strong evidence of pancreatic inefficiency, but, seeing that other ferments in faeces can act like trypsin, a positive outcome of the test, unless very pronounced, has less value.

What may be called the messenger tests are of several kinds. Thus Sahli administered capsules of gelatin hardened by formalin, and enclosing a drug easily detected in the urine or saliva. Provided that the capsule is well made, it is only amenable to tryptic digestion, and escape of the drug is taken to indicate tryptic activity; but a negative finding is far from conclusive. The capsule may resist tryptic digestion, especially if its journey along the alimentary canal be unduly rapid. It is only necessary to mention Schmidt's beef-cube test, and Kashiwado's in which stained nuclei from the calf's thymus are swallowed, mixed with lycopodium granules, the latter to serve as indicators of the part of the faeces to be searched. Sladden, who tried this test on several of my patients, obtained no very encouraging results, and compares the search in the bulky faeces of a patient with pancreatic disease to the proverbial hunt for a needle in a haystack.

It seems to me preferable to rely rather upon such gross phenomena as creatorrhoea and steatorrhoea as indicators of inefficiency of the pancreas, than upon the somewhat uncertain responses of these messenger tests.

To pass on to the consideration of carbohydrate digestion. It was shown by Wohlgemuth, whose observations have been abundantly confirmed, that a diminished output of diastase in the stools, and an increase of that enzyme in the blood and urine, are common phenomena in cases of lesion of the pancreas, and it would seem that we are here dealing with a sort of colourless jaundice, due to an obstructed flow of the pancreatic juice into the intestine, or else to a direct escape of diastase into the blood, comparable to that of lipase which brings about fat necrosis. But there are indications that the explanation of neither of these events may be so simple. However this may be, the estimation of diastase in the urine affords one of the best and most useful tests of the integrity of the pancreas, and at the same time one of those most easily and rapidly carried out. This last is an important matter when we are dealing with acute conditions, in which delay of surgical interference may greatly lessen the prospect of its success. The diastase and adrenalin mydriasis tests may be carried out within an hour, whilst the patient and the theatre are being prepared for an operation. But the diastase test shares the uncertainty which pertains to pancreas tests in general. Instead of the normal ten to twenty, or even thirty, units, to use the accepted measures of the test, a patient with pancreatic disease may excrete in his urine fifty, a hundred, or even two hundred units. On the other hand, another patient similarly affected may show a normal diastase excretion. Mackenzie Wallis emphasizes the fact that the diastase increase is a temporary incident, most conspicuous in the earlier stages of a case. Repeated examinations at intervals may reveal a quicker or slower decline of the diastase output until normal, or even subnormal, figures are reached. Thus it comes about that whereas a conspicuous excess of diastase in the urine is strongly suggestive of disease of the pancreas, a normal excretion, such as was found by Spriggs and Leigh in their case, in no way excludes even advanced disease of that gland.

Nor must it be forgotten that in many cases of renal disease the power of the kidney to excrete diastase is so seriously impaired that its estimation in the urine is utilized as a test of renal efficiency. This deprives the indications of most of their value, for our purpose, in cases with albuminuria. Again, like Loewi's reaction, the diastase test errs on the side of excessive delicacy. Both tests may give positive answers when, so to speak, the pancreas is merely worried by adjacent disease. Thus, when both these tests yield positive findings, strong evidence, stronger by far than either alone supplies, is afforded that the pancreas is at least concerned in the malady; but apart from other indications they are in no way conclusive. Of the two, I attach greater importance to the diastase findings. Undoubtedly the failure of both tests in no way excludes serious pancreatic mischief.

There remains to be considered the evidence of failure of *internal* secretion of the gland. Since the classical researches of von Mehring and Minkowski, glycosuria has occupied a foremost place among the signs of pancreatic lesions, but, from the clinical standpoint, it is far from fulfilling the promise held out by physiological experiments. Whereas it is highly probable that the pancreas is concerned in all cases of glycosuria, save, perhaps, those in which the proportion of sugar in the blood is below the normal, it may well be that in most cases of diabetes the hyperglycaemia and glycosuria result from a disturbance of the normal balance between the pancreas and other endocrine glands, with the result that its internal secretion is inhibited or overpowered. We know that an excess of thyroid secretion may cause glycosuria although the pancreas be intact, and the same holds true for pituitary secretion and adrenalin.

On the other hand, experiments show that a small residue of pancreatic tissue may avert glycosuria, and it is a matter of common knowledge that the gland may be gravely damaged, and even to all appearance destroyed, by disease, and yet the patient may excrete no sugar in his urine. Indeed, it may be said that, except in cases of chronic pancreatitis, glycosuria is an uncommon symptom of pancreatic disease. I am inclined to think that daily observations throughout the illness would reveal the presence of sugar in the urine at times in many more cases than appears at present. In an acute case I have met with it in one single specimen and never afterwards. In cases of carcinoma of the head of the pancreas glycosuria is less rare than might be expected, seeing how large a part of the gland usually escapes invasion, and how little time is afforded for the development of secondary changes. Miraillé [21] found it in 13 out of 50, and Guillou [22] in 20 out of 71 cases.

Speaking generally, the absence of glycosuria affords no argument against the presence of disease of the pancreas, but in not a few cases its presence supplies the crowning evidence in support of a diagnosis based upon other findings. Lastly, even those who attribute all diabetes to disease of this gland will hardly maintain that the presence of glucose in the urine is in itself sufficient evidence of

such disease. Even in chronic interstitial pancreatitis glycosuria is by no means always present, and Opie[23] attributes the difference in this respect to differences in the incidence of the lesion, which in some cases involves, and in others spares, the islands of Langerhans.

Short of actual glycosuria, the patient's tolerance for glucose may be so far lowered that quantities of that sugar far smaller than are required to induce glycosuria in a healthy subject, cause glucose to appear in the urine. Thus tests of sugar tolerance are among the diagnostic means at our disposal; but it must be remembered that almost any disturbance of the balance of the internal secretions leads to an alteration, either a raising or a lowering, of glucose tolerance.

Cammidge's reaction, which may be fitly referred to in this place, is a phenomenon of much interest, the further investigation of which may throw light upon important metabolic events. It is undoubtedly connected with pancreatic derangements, and when observed supplies a contribution to the building up of a diagnosis. But it shares the uncertainty of other pancreatic tests, and may fail us in cases of severe disease of the gland, especially when the disease has reached an advanced stage. So it is natural that many prefer to employ methods which are less time-absorbing, and less at the mercy of small errors of technique. This test has suffered from the fact that too much has been expected from it, perhaps that too much has been claimed for it; and because it has not proved so decisive as was hoped its utility has not received the credit which it deserves. Of Cammidge's iodine coefficient method, which is a development of his original test, I have had no experience.

In this survey of the methods at our disposal for the diagnosis of lesions of the pancreas I have presented to you the separate pieces of a jig-saw puzzle. Only when the several pieces have been fitted together can we form a distinct clinical picture of pancreatic disease. Nor must we forget that when we have determined the seat of a lesion we have attained to only half of a diagnosis. We need to diagnose the nature of the lesion also. As it happens this is, in the conditions under discussion, the less difficult problem of the two.

In the endeavour to diagnose the nature of the more common diseases of the pancreas, such as acute pancreatitis, carcinoma, cysts, and chronic interstitial pancreatitis, we rely mainly upon the evidence afforded by physical signs and symptoms. Here clinical experience, when fortified by the experience gained in the *post-mortem* room, is our best guide, although we may derive no little help from the grouping of the responses of the various tests. Even pancreatic calculi have been diagnosed and removed with success; but it is probable that there will long remain a residuum of cases in which we have reason to believe that the pancreas has been damaged by disease, but in which the nature of the lesion cannot be determined with any degree of accuracy.

In order to illustrate some of these aspects of my subject it will be necessary to place before you brief records of a few characteristic cases, and to indicate the steps by which a diagnosis was arrived at in each instance. The examples chosen were wholly unlike in their general features, and had little in common beyond the fact that in all but one of them the pancreas was or is undoubtedly implicated in disease. Each one illustrates some special diagnostic points.

Case 1.

A man, aged 50 years, a street salesman, was admitted to hospital complaining of abdominal pain. Seven weeks previously he had been thrown from a van, struck his head and abdomen, and was rendered unconscious for a short time. After the accident he suffered from severe pain in his back and vomited each morning. Three days later he returned to work, although he felt very unwell and the vomiting continued. A fortnight before his admission he noticed swelling of the upper part of the abdomen, and was obliged to loosen his belt. Five days later he was seized with a violent pain, of sudden onset, with sweating and collapse. The pain was relieved by hot fomentations. From that date the abdominal swelling increased, the vomiting persisted, his bowels were confined, and he suffered much from thirst. He was brought to the hospital after a second attack of severe abdominal pain.

The man's appearance was suggestive of grave illness; his expression was anxious, his skin moist, and there was a slight degree of cyanosis. His temperature was only 99°, his pulse 110, and respirations 24 in the minute.

Situated in the upper part of the abdomen, midway between the xiphoid cartilage and the umbilicus, was an ill-defined elongated mass, overlapped in part by the gastric resonance. A band of resonance, 1½ inches wide, separated the mass from the hepatic dullness. The tumour did not move with respiration, and no fluctuation could be made out. The abdomen was somewhat distended, but the muscles were not rigid. There was no free fluid in the abdominal cavity. The patient complained of severe pain in the back, across the lumbar region. The mass was very tender, but the greatest tenderness was over the left flank.

It is worthy of note that there was exophthalmos of slight degree; von Graefe's sign was pronounced, and he wrinkled his forehead very little when he looked upwards. A well marked tache could be elicited, but there was no tremor of the hands.

The physical signs and symptoms pointed to a subacute pancreatitis following the injury to the abdomen, and when a specimen of urine was obtained and found to contain sugar, little doubt remained as to the correctness of the diagnosis. My colleague, Mr. Waring, saw the patient with me and concurred, and an operation was decided upon. Meanwhile Dr. Graham estimated the sugar in the blood at 0.21 per cent.; Loewi's reaction was positive but not of an extreme degree, and Dr. Mackenzie Wallis found 50 units of diastase in the urine. At the operation the diagnosis was confirmed. The pancreas was explored and drained.

The man lived six weeks after the operation. On the third day Moebius's sign was present, and von Graefe's persisted, but all the eye signs disappeared before the end. A second specimen of urine obtained before the operation contained no sugar, and none was found at any subsequent examination.

Case 2.

In March, 1919, a carman, aged 59, was admitted to my wards deeply jaundiced, and with a history of three months' illness. On examination his liver was found to be greatly enlarged and of smooth surface; the gall bladder was not palpable. Some enlarged glands were felt in the abdomen. Occult blood was found in the stools, but urobilin was wholly absent—signs which suggested that a malignant growth had occluded the bile duct. Although the clinical features were so unlike those of a classical case of carcinoma of the head of the pancreas, so well described by Bard and Pic,[24] in that the liver was so large, the gall bladder was not palpable, and the patient was neither emaciated nor unduly feeble, the possibility of such a growth was considered, as also that of a malignant growth originating in the bile ducts. It soon became evident that wherever the growth started the pancreas was implicated, and for the following reasons:

Adrenalin caused a conspicuous mydriasis on several occasions; the urinary diastase amounted to 125 units; the total fats of the faeces constituted no less than 70 per cent. of the dried material, and many undigested striped muscle fibres were seen in the faeces.

A week after his admission sugar appeared in the patient's urine for the first time, and the glycosuria persisted until his death. The average daily output of glucose was about 35 grams.

The fat content of the faeces, which was far greater than the jaundice could explain, increased as time went on, whereas the urinary diastase fell gradually from 125 to 60, 25, and 30 units, figures scarcely above the normal.

The patient died after he had been in hospital two and a half months. At the autopsy carcinoma of the head of the pancreas was found; there were no secondary growths in the greatly enlarged liver which had completely hidden the gall bladder which latter, although greatly distended with bile, had never been palpable during life.

Case 3.

The next case to which I shall refer could not be subjected to any systematic investigation. A man,

aged 53, was first seen by me in October, 1910, at the request of his medical attendant, Dr. Robbs. His complaint was that for six months past he had passed oil with his stools, which became solid fat on cooling. In twelve months he had lost a stone of weight. He suffered no pain of any kind. Nothing abnormal could be found on examination of his abdomen; his liver was just palpable; there was neither fullness nor tenderness in the region of the pancreas and there was no jaundice. His urine contained neither sugar nor albumin.

When I saw the patient again, in June, 1913, he had lost another stone, but had developed no fresh symptoms, and his urine was still free of sugar. He was still able to lead an active life. Loewi's test gave no mydriasis, and the urinary diastase did not exceed the normal.

Dr. Cammidge examined his urine and faeces, in January, 1914, and obtained a positive reaction with his test. The total fat in the dried faeces amounted to 51.2 per cent., and of this only 4 per cent. was in the form of soaps. There was obvious creatorrhoea with many undigested muscle fibres in the stools, and by means of Gross's test casein digestion by faecal material was found to be very incomplete.

Dr. Robbs tells me that now, in 1920, the patient's health is better than for some time past, and he has gained seven pounds of weight during the past six months.

Case 4.

The last case is that of a Belgian refugee, aged 32, who was admitted to my wards in January, 1915. For three years he had been liable to paroxysmal attacks of pain, referred to the region between the xiphoid cartilage and the umbilicus. During the attacks, which were obviously very severe, the patient assumed a position of opisthotonos, but he never vomited. It was suspected that he might have a pancreatic calculus, but the *x* rays showed no shadow in that region. Loewi's reaction was conspicuously positive, and the urinary diastase was at first 100 and afterwards 50 units. There was no excess of fat in the stools, no glycosuria, and only 0.12 per cent. of sugar in the blood. Thus the only indications of pancreatic disease were the position of the paroxysmal pain, the excess of diastase in the urine and the adrenal mydriasis. Our investigation of his symptoms was much hampered by the fact that he spoke only Flemish, and a very few words of English.

A month after his admission he passed a large tarry motion. A few days later Mr. Waring performed gastro-jejunostomy. A few days after the operation the patient developed bronchopneumonia, with maniacal delirium, of which he died. At the autopsy a chronic ulcer was found in the second part of the duodenum, three-quarters of an inch in diameter and adherent to the pancreas and adjacent structures. The note describes the pancreas as normal to the naked eye.

If we review these four cases we notice how widely different were the clinical pictures which they presented. In the first case the diagnosis rested mainly upon the clinical signs and symptoms, but several tests of pancreatic efficiency supported the clinical diagnosis. In the second case, that of carcinoma, the evidence of a lesion of the pancreas rested largely upon disturbances of the external and internal secretion of the gland, but was quite conclusive. The only point in doubt was the primary seat of the growth. Except the intense jaundice the clinical signs did not afford much help.

In the third case the associated steatorrhoea and creatorrhoea leave no doubt that the patient is suffering from a severe pancreatic lesion, and Cammidge's test gives further support to this view. Presumably the duct is obstructed, and the pancreas is the seat of interstitial changes. The absence of pain does not exclude the presence of calculi. The failure of the adrenalin and diastase tests in no way invalidates the diagnosis. The case resembles one described by T. J. Walker[25] of a patient whose steatorrhoea persisted from the age of 62 until his death at the age of 90, and whose pancreas was found to be completely obsolete and replaced by fat, and the duct was studded with calculi. In cases in which a like syndrome is presented with glycosuria in addition the patient's health is much more seriously impaired, and the prognosis is far more unfavourable.

In the last case, that of the Belgian, we can hardly escape the conclusion that the disturbance of the pancreas by the adjacent ulcer was the cause of the increase of urinary diastase and of the adrenalin mydriasis.

In a case of bronzed diabetes which has been described at length elsewhere[26] we employed several pancreatic tests. Of these Loewi's test, Schmidt's beef-cube test, and the glycosuria pointed to implication of the pancreas, whereas Cammidge's test, the estimation of fat in the faeces, and the determination of the tryptic and diastatic activity of the stools gave no indication of damage to that gland. After death the pancreas was found to be fibrotic, and loaded with iron-containing pigment.

In the case of congenital steatorrhoea, on the other hand, there was no creatorrhoea, the faeces digested casein; Sahli's capsule test and that of Schmidt, a normal diastase content of the urine, and the absence of adrenalin mydriasis, all tended to acquit the pancreas. Cammidge's test alone, kindly carried out by its author, was found to give a "slightly positive result."

TABLE II.

Case.		Loewi's Test.	Fatty Stools.	Creatorrhoea.	Casein Digestion Test.	Sahli's Test.	Schmidt's Test.	Urinary Diastase	Glycosuria.	Jaundice.	Cammidge's Test.
1	Subacute pancreatitis ...	+	—	—	—	—	—	+	+	0	—
2	Carcinoma of head of pancreas	+	+	+	—	—	—	+	+	+	—
3	?Blocked duct, chronic pancreatitis	0	++	+	+	—	—	0	0	0	+
4	Duodenal ulcer adherent to head of pancreas	+	0	0	—	—	—	+	0	0	—
5	Bronzed diabetes, chronic pancreatitis	+	0	?	0	—	+	—	+	0	0
6	Congenital steatorrhoea	0	++	0	0	0	0	0	0	0	?

+ Signifies positive; ++ true steatorrhoea; 0, negative; — not tried.

It will be evident from all that has gone before that practically every sign, symptom, or test may fail us at times, and that in each individual case we need to balance the quantity and quality of the evidence for and against a lesion of the pancreas. In a word, we come back to Wardell's statement of 1871. It is still true that "no symptoms are pathognomonic of pancreatic disease; an assemblage of symptoms points to the probability of its lesion." But we have at our disposal a far greater assemblage of symptoms than Wardell had, and in not a few cases the degree of probability is not to be distinguished from certainty.

That is as much as can be expected when we are dealing with a problem the solution of which rests so largely upon circumstantial rather than direct evidence. If we cannot claim for the diagnosis of pancreatic disease the clear cut, direct answers obtained in some other regions of clinical medicine and surgery, we may none the less regard with complacency what has so far been accomplished in this field by the application of physiological discovery at the bedside, by the co-operation of the laboratory and the ward.

REFERENCES.

[1] Watson, *Lectures on the Principles and Practice of Physic*, fifth edition, ii, 689. [2] Bristowe, *Theory and Practice of Medicine*, fourth edition, 1882, 779. [3] Wardell, *Reynolds's System of Medicine*, 1871, iii, 411. [4] Kunzmann, *Journ. d. prakt. Heilkunde*, 1824, xx, 124. [5] R. Bright, *Med.-Chir. Trans.*, 1833, xviii, 1. [6] P. Carnot, *Traité de Méd. et de Thérapie* (Brouardel et Gilbert), vol. xx, 124. [7] Oser, *Die Erkrankungen des Pankreas*, 1898, 111. [8] Mayo Robson, BRITISH MEDICAL JOURNAL, 1910, i, 975. [9] Barbieri, *Gazz. degli Osped.*, 109, xxx, 273. [10] Finizio, *La Pediatria*, 1909, 2 ser., vii, 674. [11] Lemoine et Lapasset, *Bull. et mém. Soc. Méd. des Hôpitaux*, 1905, xxii, 640. [12] Cohn und Peiser, *Deut. med. Woch.*, 1912. [13] O. Loewi, *Arch. f. exper. Path. und Pharmakol.*, 1908, liv, 83. [14] Salomon, *Die deutsche Klinik*, xii (Ergänzungsband 1), 533. [15] Garrod and Hurtley, *Quart. Journ. of Med.*, 1913, vi, 242. [16] Friedrich Müller, *Zeitschr. f. klin. Med.*, 1887, xii, 45. [17] L. Zoja, *Il Morgagni*, 1898, xl, Pt. I, 617, and 1899, xli, Pt. I, 1. [18] Oskar Gross, *Deutsches Archiv f. klin. Med.*, 1912, cviii, 106. [19] Spriggs and Leigh, *Quart. Journ. of Med.*, 1915, ix, 11. [20] Albu, *Beiträge zur Diagnostik der inneren und chirurgischen Pankreaserkrankungen*, Halle, 1911. [21] Miraillé, *Gazz. des Hôpitaux*, 1913, lxvi, 889. [22] Guillou, quoted by Carnot. [23] Opie, *Disease of the Pancreas*, second edition, 1910, 213. [24] Bard et Pic, *Rev. de Méd.*, 1888, viii, 257; 1897, xvii, 920. [25] Walker, *Med.-Chir. Trans.*, 1899, lxxii, 257. [26] *Quart. Journ. of Med.*, 1914, vii, 129. [27] For references for special tests see Sladden's papers, *Quart. Journ. of Med.*, 1914, vii, 455, and *St. Bartholomew's Hospital Reports*, 1913, xlix, 19.

INFLUENZA AMONGST THE LAPPS.

BY

A. H. MACKLIN, M.C., M.B., CH.B.VICT.,

LATE ACTING MAJOR R.A.M.C.,

LATE SURGEON, IMPERIAL TRANS-ANTARCTIC EXPEDITION.

DURING the winter of 1918–19 reindeer transport was extensively used by the Syren Force in North Russia. The drivers were all Lapps. As they are nomadic and live widely scattered over a huge area, the officer in charge of reindeer transport spent a great deal of time and had considerable difficulty in maintaining a sufficient supply of drivers. In December, 1918, he reported that "a terrible sickness carrying death wherever it went" had broken out amongst them, making it difficult for him to maintain a sufficient supply for army requirements. He asked that a medical officer should be sent to investigate the cause, and if possible limit its spread.

The A.D.M.S. Syren, anxious that no form of infectious disease should reach British or Allied troops from this source, ordered me to proceed into Lapland, make full investigation, and report as soon as possible.

A start was made at once. I was successful in securing the assistance of Captain Hussey and Lieutenant Stenhouse, R.N., both of them experienced explorers, and the services of an interpreter. We proceeded by train to Kola, where we obtained a Lapp driver and sufficient reindeer and sledges.

Our equipment consisted of a "medical companion" of the usual army pattern, a sleeping bag each, and rations for ten days. The Lapp driver occupied the leading sledge, to which were harnessed three reindeer, each by a single trace, but of unequal length, and with their horns cut so as to fit into the narrowest space possible. Their sledge was flat and built on high runners. The other sledges, which we occupied, were shaped like little boats, with rounded bottoms, drawn by one reindeer each, each reindeer secured by a thong to the sledge in front, and the whole proceeding as a linked-up convoy in single file.

We proceeded into Lapland in this way for a distance of sixty miles, sleeping at night in the open in front of huge fires built by the Lapp driver, or in small huts scattered about the country, the locality of which seemed to be known to our guide. The route followed was first in a south-westerly direction up the frozen surface of the Tuloma River, and then passed over a divide to another frozen river, a process repeated many times, using always the comparatively easy going of the river surfaces. Our track led us through thick, heavily timbered forest, with occasional open glades, the trees heavily covered with rime and very beautiful.

We passed from settlement to settlement, widely scattered, often two to three days' journey apart. Medical notes were made en route. The disease which had broken out proved to be influenza of a very acute type.

The usual course of uncomplicated cases was as follows: Acute onset with rapid rise of temperature, varying from 100° to 103.5°, with heavily-furred tongue, offensive breath, complete loss of appetite, intense headache and great restlessness. The fever lasted from two to four days, ending with sudden resolution of temperature and apparent almost complete recovery. Two good instances of this were a man and a woman, who were seen on the outward stage of our journey on the second day of their illness, and three days later on the return journey, were going about their ordinary duties, apparently little the worse for their illness, complaining of no weakness, and with enormous appetites fully restored.

I had no chance of observing the course of the disease in its continuity, but it appeared that cases which did not recover within four to five days did not recover at all. The chief complication appeared to be bronchopneumonia, from which I gathered there were practically no recoveries. From information, I estimated that about 50 per cent. of all cases died; at any rate the percentage was high.

The Laplanders had a very thorough if unsympathetic way of dealing with their cases. The settlements were composed of wooden huts, small but generally well made and warm. A common type consisted of but one room, used by the family for all purposes. Better class Lapps had better huts, with two or three rooms. In each settlement one of the single-room huts had been set apart, and into this each case of sickness as it arose was unceremoniously pushed; and none were permitted to return to their own huts until completely recovered. Whilst there they received practically no attention, and no healthy person ever entered to attend to their wants. Occasionally a bowl of water or reindeer milk was hastily passed in at the door, or a huge chunk of reindeer meat thrown in, uncooked and uncarved.

We visited every settlement within our reach and entered these huts. The stench on opening the door met one like a poison blast, and the rooms were nearly always ill lighted and dark. The patients lay littered about the floor in a crowded mass, fully dressed in clothes and boots (most of them had no socks), and with no other cover but an occasional greasy rug. Although the outside air was cold and the ground snow-covered, the temperature inside, maintained by the combined mass of bodies, was generally sufficiently high. The patients in these huts included both sexes and all ages; some when we entered sat up, and with flushed faces and dull, uncomprehending eyes, watched us listlessly. Others lay restlessly twisting about, quite incapable of taking any interest or of answering any questions. In these circumstances a thorough examination was difficult, and the difficulty was increased when none of the inmates could speak Russian, for our interpreter did not understand their language, and though many of the Lapps spoke Russian a double interpretation was often required.

Constipation was a constant factor, and many cases had not had their bowels opened since the onset of their illness—in some cases seven to ten days. Others had voided urine and faeces just as they lay. In some huts those of the patients who had passed the worst stages of their illness assisted and looked after those more acutely ill.

There was little I could do with my very limited equipment to improve their lot, and the methods adopted by the Lapps, at first sight so callous and neglectful, appeared to be essential for the preservation of their race. My companions, neither of them medical men but smitten with commiseration for these poor wretches, insisted always on entering the huts, and unused though they were to such conditions, and driven frequently to seek the open air, did their best to straighten things out and make the lot of the inmates a little less hard. I instructed the Lapps to increase the supply of water and milk—both were eagerly drunk—and to substitute reindeer soup for the huge chunks of meat which were always untouched; this they promised to do. We were able to leave them some oxo, and a little tea and sugar, carefully doled out.

On the way back I pondered over the question of what could be done, and what ought to be done to cut short this disease, and improve the conditions of those affected. The parts visited formed but a fringe of the vast area of Lapland, the nomadic tendencies of the inhabitants, whilst making them difficult to find would probably prove beneficial in leaving behind sources of infection. Any organization, to deal adequately with the situation, would, of necessity, be costly, take considerable time to materialize, and be on a vast scale. The Lapps, owing to their poorness in the world's goods, were quite unable to deal efficiently with their sick, and they had no doctors.

Finally, I felt convinced that for them the only possible thing was to do everything possible to stamp out the disease. Methods in civilized countries had had little effect in this way. I decided that their own methods, drastic and unsympathetic though they were, were best, and that the chief care should be directed to preventing spread to our own lines.

Arrangements were made, however, for a supply of quinine (which owing to its bitter taste had a great suggestive value) and of medical comforts, tea, sugar, milk, and oxo, to be sent to those areas supplying drivers and reindeer for the allied armies.

The wave of infection passed rapidly over, and on inquiry four weeks later no cases were reported. I could obtain no statistics of the number of cases in relation to the population, or of the mortality, but consider that the latter must have been high.

Two points particularly interested me:

1. The number of bugs in these pest houses. Their number and size were amazing. I saw no other type of body parasite in Lapland.

2. For less acute diseases the Lapps did not adopt the same drastic attitude. I saw many cases of tuberculosis, including one bed-ridden case of advanced pulmonary tuberculosis. They lived with the rest of the family, and appeared to be well looked after and kindly treated.

CLINICAL ANALYSIS OF 100 CASES OF EARLY BERI-BERI.

BY

H. H. HEPBURN, M.D., C.M.McGILL, F.R.C.S.EDIN.

THE incidence of scurvy and beri-beri among British troops in the East having been recently reported on by Colonel W. H. Willcox, C.B., C.M.G., A.M.S., the following observations may be of general interest:

During 1913 and 1914 I had occasion to investigate a series of cases of early beri-beri at the Police Hospital in Bangkok, Siam, under the direction of Dr. Highet, the P.M.O. While Drs. Morden, Carthiew, and A. C. Rankin were concerned with the problem of etiology, I undertook to analyse the early manifestations of beri-beri, with a view to establishing the correct chronological order of the early signs and symptoms. The completion of my work was interrupted by the war, hence the delay in publication.

The data to follow are compiled from over 300 examinations of 100 cases. All patients were adult Siamese males, and each case was thoroughly examined at least twice.

The first symptom or sign to be noted by the patient was invariably one of the three following: (*a*) Oedema of feet and legs (50 per cent.); (*b*) numbness or anaesthesia of feet (43 per cent.); and (*c*) epigastric fullness and distress (7 per cent.)

TABLE I.—*Early Signs and Symptoms.*

Sign or Symptom.	First Complaint.	Later Complaints.	Not Observed by Patient.
	Cases.	Cases.	Cases.
Oedema of feet...	50	39	11
Anaesthesia of feet	43	57	0
Epigastric distress	7	70	23

In every case the oedema appeared first in the feet, then the legs, and then in the hands. Appreciable swelling of the hands was seldom seen in these early cases. Practically all patients complained of more or less general weakness. Several patients stated that swelling of the feet had come and gone before the onset of anaesthesia. Nine patients complained of early pains in the legs. One developed effusion into both knee-joints, but had a previous rheumatic history. In eighty-two cases the action of the bowels was considered normal. Seventeen were constipated, and one complained of diarrhoea at the date of first examination.

Cardiac enlargement was found at the first examination in only 15 per cent. of cases. Subsequent enlargement occurred in four additional cases in spite of treatment. The treatment adopted was physical rest, with a diet rich in anti-beri-beri vitamines, polished rice being rigidly excluded. Further treatment was largely symptomatic. A soft mitral systolic murmur was heard at the first examination in twenty cases. Cardiac arrhythmia was noted in five of these early cases. The pulse rate per minute is shown in Table II.

TABLE II.—*Pulse Rate.*

In Erect Posture after Walking Ten Yards.		After Sitting for Five Minutes.	
	Cases.		Cases.
80 to 90 per minute ...	14	70 to 80 per minute ...	23
90 to 100 ,, ...	19	80 to 90 ,, ...	27
100 to 110 ,, ...	30	90 to 100 ,, ...	18
110 to 120 ,, ...	20	100 to 110 ,, ...	23
120 to 130 ,, ...	10	110 to 120 ,, ...	5
130 to 140 ,, ...	5	120 to 130 ,, ...	2
140 to 150 ,, ...	2	130 to 140 ,, ...	2

The arterial tension as recorded by the "Tycos" sphygmomanometer at the first examination is shown in Table No. III, the normal in healthy adult natives falling between 90 and 100:

TABLE III.—*Arterial Tension ("Tycos").*

80 to 90	24 cases	100 to 110	22 cases
90 to 100	17 ,,	110 to 120	15 ,,
100 exactly	21 ,,	120 to 130	1 case

Of 41 cases with a tension below 100, after a few days of treatment 23 were raised to between 95 and 100, whereas of the 38 cases with a tension of over 100, 21 were reduced in a few days to 100.

The knee-jerk is involved early. An increased reaction was observed in a few cases to be followed by diminution or abolition of the reflex. Table No. IV shows the conditions found:

TABLE IV.—*State of the Knee-jerk.*

	Increased.	Normal.	Diminished.	Abolished.
First examination ...	6	23	22	49
Later examination:				
Increased	0	1	0	0
Normal	4	10	7	2
Diminished	1	12	12	9
Abolished	1	0	3	38

The plantar reflex was found to vary in inverse proportion to the anaesthesia. Steppage gait in walking increased with the anaesthesia, and in severe cases amounted to ataxia, with a positive Romberg sign. A positive knee-jerk and abdominal reflex was sometimes obtainable in a patient who was anaesthetic to pain of a pin-prick up to the costal margin.

Sensation to pain of a pin-prick always disappeared before the sensations of superficial touch, deep pressure, and posture.

The degree and extent of anaesthesia, and the condition of the reflexes may fluctuate widely from day to day, recovery frequently being effected with amazing rapidity. For example, deep anaesthesia to pain up to the knees has disappeared in five days. Another case (No. 68) is worthy of special mention. On admission to hospital this patient was anaesthetic to pin-prick up to the umbilicus, with hyperaesthesia shading gradually up to the level of the clavicle. After five days the anaesthesia did not extend beyond the knees. Table V shows the extent of anaesthesia to pin-prick at the first examination. I might add that it is not unusual for a patient to be walking about with anaesthesia to pain of pin-prick up to the level of the umbilicus, or even the clavicle.

TABLE V.—*Extent of Anaesthesia to Pain of Pin-prick.*

	Cases.
Feet only	5
Feet and legs	35
Feet, legs and thighs	9
Feet, legs and hands	4
Feet, legs, thighs and hands	3
Up to level of umbilicus	1
Up to level of second rib	1
Up to level of second rib with hands	5
Up to level of clavicle	1
Up to level of clavicle with hands and wrists ...	3
Up to level of clavicle with all limbs	39
General, including face	2

A LESSON OF THE WAR: SUPPURATIVE MIDDLE-EAR DISEASE.

A PLEA FOR TREATMENT IN ITS EARLIEST STAGES.

BY

H. SMURTHWAITE, M.D.,

SURGEON, THROAT, NOSE, AND EAR DEPARTMENT, ROYAL INFIRMARY, GLOUCESTER.

OUT of 5,000 odd cases under my care at the Throat, Nose, and Ear Department of the Military Hospital, Tidworth, during the year ending October 31st, 1917, no fewer than 890 were suffering from chronic suppurative ear disease—practically a battalion; the period of their disability ranged from a few months to many years, or in the patient's words, "as long as I can remember." A large majority of these cases were only fit for Category C, as it was at that time, whatever some people might say to the contrary. They all suffered from deafness, more or less, and were not fit for the firing line; most of them were in very indifferent health, were anaemic from prolonged suppuration, and consequently a fitting soil for every microbic disease.

A large number were most of their time in the medical officer's hands for treatment, a treatment of syringing and drops, which was only marking time, for little short of a mastoid operation would cure such cases, and space and time would not permit this.

The greatest number of those cases, if not all, would have been "A" men, as far as their ears were concerned, had systematic and energetic treatment been carried out in the earliest days of the onset of the disease. Chronic suppurative ear cases could be enormously reduced if we adopted systematic prophylactic methods and did not wait until the disease was far advanced.

Every fever hospital should have an otologist attached, or at least a medical officer in charge who has a fair knowledge of ear diseases, and who would always be on the alert for its early onset, for these institutions are a fruitful source of suppurating ears, and, what is more, these cases can act as carriers of a specific fever, thus becoming a danger to others coming in contact with them. As bearing on this the following will suffice:

A patient was admitted to a ward in a military hospital of which I had charge in 1915, suffering from slight fever and a profuse discharge from the left ear. Though at the time of admission he had no throat trouble, there was a history of such some three weeks previously. The discharge being profuse and not abated by treatment, a swab from the ear was examined and Klebs-Loeffler bacilli were found in large numbers. The case was promptly isolated. Two days later the patients in the beds on either side of this case developed diphtheria. A day later I myself was a victim to the same disease. No doubt the throat trouble which the ear case had had three weeks before admission had been diphtheria, but probably on account of slight physical local signs had been overlooked, and the disease had in the meantime spread to the ear.

It is in the earliest stages of any disease we have the best chance of obtaining permanent cure; I have invariably admitted to hospital every case of acute otitis media, and every case of suppurating ear when the disease had lasted less than two months, with the certainty of effecting a cure by careful and energetic treatment. Speaking generally, cases beyond this period cannot be so favourably regarded; also they are too numerous to be treated as in-patients, and in the majority permanent damage, more or less, has already been done to the structures in the middle ear, with consequent loss in the hearing power.

During the period mentioned there were 54 cases of acute or subacute otitis media, all of whom left hospital with the discharge ceased, the rent in the drumhead healed, and the hearing restored. Our object must be to gain at once the upper hand in the early stage, and to restore the middle ear to a healthy state before serious changes take place, such as involvement of the antrum and mastoid cells, lateral sinus, or meninges. Even should the patient escape these, there is always, if the suppuration continue for an extended time and finally dry up with the perforation in the drum healed, marked fibrous change in the lining membrane of the middle ear, which must impair the hearing, varying from absolute deafness to loss of the acuteness of hearing.

The pathology of acute middle-ear disease is similar to that of disease of other mucous membranes: dilatation of the vessels, with swelling and lessening the lumen of the cavity. The starting point is invariably the posterior nares, and oftener than not follows the acute febrile diseases—scarlet fever, measles, mumps, influenza, etc. Among the predisposing causes the most important are adenoids, enlarged tonsils, and nasal disease. Inflammation or catarrh in the neighbourhood of the Eustachian tube easily spreads up the tube to the middle ear, and, should its lining membrane become thickened by inflammation, its walls soon come together and block the lumen. The middle ear then becomes an enclosed cavity, with no outlet for the serous fluid thrown out by the engorged vessels, and the patient then experiences fullness in the ear and deafness. The drum membrane has lost its lustre, and in all probability is indrawn, for part of the air in the middle ear has been absorbed, and the external air pressure is greater than that within. If there is much fluid in the middle ear there will be bulging in the posterior quadrant of the drum, and should the dam in the Eustachian tube be allowed to continue many things may happen: the inflammation may slowly resolve, but often it does not, and unless a knife is put into the bulging membrane and politzerization carried out the serous exudation in the middle ear becomes septic, and an abscess forms. The drum becomes intensely red and bulging, and the patient is in great pain until relieved by the abscess bursting into the external auditory canal, leaving a small jagged opening in the membrane. In some cases following the acute infectious diseases, such as scarlet fever, the inflammation spreads so rapidly that the antrum and mastoid cells are acutely attacked before the abscess can burrow through the drum, and an acute mastoid abscess develops, or the inflammation may spread to the meninges or lateral sinus, with, naturally, very grave consequences. It is therefore advisable in all these cases to incise the bulging drum early and so establish drainage as soon as it is certain that the fluid in the middle ear is not subsiding.

Every case of acute middle-ear inflammation should be put to bed and given a brisk calomel purge. If there is any nose or throat trouble this should have appropriate attention. Should the drum membrane be bulging, the external auditory canal should be thoroughly disinfected by swabbing with 1 in 4,000 flavine or 1 in 20 carbolic, and the membrane freely incised under general anaesthesia; the incision should be made in the posterior quadrant just behind the handle of the malleus and running crescentically down to below the tip. Gentle use of the Politzer bag will open the Eustachian tube and force the fluid out of the middle ear. This fluid is then mopped out of the canal; a pledget of cotton-wool soaked in flavine is placed close up to the drum, but must cause no pressure. It should be changed every few hours. I have sometimes plugged the canal lightly with wool soaked in 50 per cent. rectified spirit, which can be increased in strength if it causes no excoriation. At each dressing politzerization should be carried out or the fluid extracted from the middle ear by gentle suction.

For the pain, which is sometimes very acute, glycerin of carbolic, 10 grains to 1 oz., is useful; a few drops warmed in a teaspoon and instilled into the ear, or a few drops of chloroform, will give relief; hot fomentation over the mastoid and auricle is always very soothing to the patient. There is always some post-nasal catarrh, and a warm inhalation of compound tincture of benzoin every two hours will relieve the congestion of the lining of the mouth of the Eustachian tube and help the necessary drainage.

Pain in the ear should never be passed over. It may only have its origin in a carious molar tooth or hard cerumen in the external auditory canal, but it is Nature's danger signal, and should ever be regarded.

The object of this paper is to draw attention to the large number of cases of chronic suppurative ear in England to-day, and to urge that everything in our power should be done to lessen it. A man with ear disease loses from 10 to 70 per cent. value in the labour world.

A large and increasing number of cases is now coming under my notice originating in rupture of the drum by high explosives and secondary infection of the middle ear, which, for lack of continuous and expert treatment, have become chronic. The drum is torn by the terrific concussions of high explosives, and though the man may escape all other injury he is so dazed that he does not notice he is deaf, and possibly has some slight bleeding from one or other ear. A day or so later there is pain in the ear and

a slight muco-purulent discharge. In other cases there was no pain in the ear and only a slight discharge, and the men, thinking it only trivial, did not complain until it became profuse and was accompanied by marked deafness.

During the last twelve months I have examined some hundreds of cases of deafness in varying degree for pension purposes, and I now, as never before, realize at what a disadvantage a man with even a partial loss of hearing is. There are many trades in which good hearing is indispensable. The miner has again and again told me he can no longer get work down the pit on account of his loss of hearing, because he may fail to hear sounds in the pit which portend disaster or death to himself or his comrades. The same applies to many other trades, and the man has to seek other work, each succeeding class of work is more precarious for him, and he is finally driven to casual labour. The poorer classes take but casual notice of the condition of the ear, and this applies especially to suppurative otitis media. Pain is not a frequent concomitant, otherwise they would oftener seek advice. I cannot do better than quote Dr. Mygind of Copenhagen in his book on deaf-mutism. He writes: "It is to be hoped that the recognition which is by degrees, though slowly, being yielded to otology by the medical profession, will make itself felt in the prevention of deaf-mutism, by opening the eyes of the practitioner to the importance of ear diseases and their treatment, and also that the general public may be led to form other opinions upon the subject than those now prevalent."

If by propaganda the poor and so-called working classes could be taught to look upon their hearing as precious, and realize that a "running ear" may lead to the loss of that power and calls at the earliest onset for advice, the efficiency of the nation in general would be increased.

STRANGULATED UMBILICAL HERNIA:

RESECTION OF GANGRENOUS ILEUM AT THE AGE OF 69.

BY

C. M. KENNEDY, M.B.E., F.R.C.S.ENG.,

LATE MAJOR R.A.M.C.(T.C.),

ASSISTANT SURGEON SOUTH DEVON AND EAST CORNWALL HOSPITAL.

SUCCESSFUL resection of gangrenous gut in inguinal and femoral herniae are by no means rare, but in umbilical herniae successful resection is less common. The following case is thought to be of interest because success was attained in spite of the patient's age.

M. P., a widow aged 69, was admitted to the South Devon and East Cornwall Hospital on the afternoon of January 21st, 1920, complaining of severe abdominal pain and vomiting.

Her history was difficult to elicit, and was probably inaccurate. So far as could be discovered she had had an umbilical hernia for many years. She stated that she had had pain in the hernia for more than a week, associated with vomiting. During this time the bowels had been very slightly opened after aperients, and for three or four days had not moved at all. She did not call a doctor in until the day of admission, and he at once sent her to hospital.

On admission she looked ill, and senile beyond her years. The pulse was 94 but weak, the temperature 98°. At the umbilicus was a tense tender red—almost purple—swelling about the size of a cricket ball. There was no impulse on coughing. The rest of the abdomen was somewhat distended, but not tender. The vomit was bile-stained and foul, but hardly "faecal."

Under a chloroform and ether mixture the hernia was surrounded by a transverse elliptical incision, which was deepened to the rectus sheath. The hernia was then lifted off the rectus sheath until the neck was exposed all round. The abdomen was then opened just clear of the neck of the hernia. The hernia was then isolated by extending this incision completely round, but just clear of, the neck. The abdomen was then packed off, and the sac opened by splitting up the neck from what had been its peritoneal aspect. The sac contained a quantity of very foul, almost black, purulent fluid, a mass of adherent and gangrenous omentum, which was ligatured off and removed with the sac, and about four inches of gangrenous ileum. The centre of this length of small gut was of very doubtful viability, but at either end, where it had been nipped, it was reduced to little more than a slough. In order to leave a good margin on either side of the damaged gut about eight or nine inches of gut was resected. Continuity was restored by end to end anastomosis, the collapsed distal portion of the gut being split along its anti-mesenteric border so as to give a sufficient lumen for an anastomosis to the proximal distended gut.

The abdomen was closed in layers by mattress sutures placed transversely (modified Mayo's method). A rubber drain was placed at either angle of the wound, as the subcutaneous fat was considered likely to be infected.

On the day following operation the temperature was 97.4°, the pulse 80, and respirations 22. There was considerable flatulence. The bowels were opened by a turpentine enema on the following day. Thereafter convalescence was smooth but for trifling superficial sepsis necessitating removal of a couple of skin sutures.

The patient left hospital for a convalescent home on February 24th, 1920. She was then in her normal state of health.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SHINGLES AND CHICKEN-POX.

ALMOST immediately after reading Dr. Taylor's neurological jottings in your issue of February 28th, a girl of 16 came to my surgery for some medicine for her father, who had developed shingles about a fortnight before. She asked me about a "rash" which had appeared on her body on the previous day. I found that she was in an early stage of chicken-pox, which subsequently developed, with a temperature of 102°, into a good crop of vesicles. There is no other case of chicken-pox in the neighbourhood. Her father is an instructor in gardening at a boys' home, but there have been no cases amongst the boys, probably because of the work being entirely in the open air.

Chobham, Surrey. A. INGRAM COOKE, M.D.

ACUTE OEDEMA OF THE LUNGS.

I HAVE been much interested in the correspondence on this subject, as, with Dr. Stewart McNaughton (February 28th, p. 293) I believe that the disease is more common than is usually thought. In the autumn of 1897 I reported a case of dramatic severity in the *Lancet*.

The victim was a man aged about 50, who was seized with respiratory distress after a bicycle ride against a cold head wind. He died within an hour of his first symptoms, and for the last few minutes of his life poured out pints of bright pink foam. Auscultation revealed the presence of fine crepitant râles, commencing at the bases and very rapidly spreading upwards. There was a history of some previous renal mischief.

Within a few months I saw a woman of much the same age who fell ill suddenly after cleaning out a flooded basement. Her condition was less acute. The expectoration was aërated, bright pink, but not so great in quantity, nor so frothy. She lived a few hours.

Again, a man of 60 was placed under my care with a story of recurring suffocative attacks at night. He had aortic regurgitation. The urine was of low gravity, and contained a trace of albumin. During a period of perhaps two months he called me some half-dozen times, always a little before midnight. He was invariably in great distress, standing with both hands grasping the bed rail. The sputum was more or less frothy and coloured red. A hypodermic injection of atropine would relieve him at once, allow him to go back to bed, and in the morning he would be quite recovered. The fine râle was very evident in this case, and the rapidity of the upward extension remarkable. His last attack was more severe and I was longer in reaching him. This time atropine failed to check the secretion, and he died expelling much frothy sputum.

Two other cases of recurrent oedema occur to me. One in a woman of over 70, suffering from mitral regurgitation; the other in a woman of 60, suffering from myocardial degeneration. In each instance the crises were spread over a period of two or three years at varying intervals of months. In each there was the great distress, the rapidly ascending râle, and the tinged aërated sputum. Atropine acted well in both and promptly relieved the condition.

The older patient eventually, after her cardiac condition had badly deteriorated, died in an attack, in spite of the usual dose. The other died of gradual heart failure and generalized oedema. The last time I saw the condition was in the following case:

A man of 46. He suffered from extreme arterial high tension, and gave a history of a former but milder bout.

I was called in the night to find him intensely dyspnoeic, unable to move or lie down. There was the usual type of sputum; but for the first time in my experience the râles were the most abundant at the upper part of the lungs. A dose of atropine relieved at once and allowed him to return to bed. In the morning he was quite well.

There are differences in all these cases, but they clearly belong to one group. It is noticeable that where a history

is available all suffered from renal or cardio-vascular changes.

The first case to receive atropine dates back twenty years. I gave it after thinking over the first two, who died quite unrelieved by such treatment as I could then devise.

The disease appears to be due to acute hyperaemia of the small bronchioles, and atropine acts presumably by stopping their secretion. All these patients lived close at hand, and had it been otherwise would probably have died without recognition of the real mode of death.

Liston, Devon. CECIL MUSGRAVE, M.D.Lond.

THE PATH OF THE ECLAMPTIC TOXIN.

IT is taught that eclampsia is due to a toxin, but what that toxin is has not yet been proved. No attempt will be made to do this here, but a suggestion as to how the toxin acts may be of some value in deciding what is the most rational method of treatment. Needless to say the ideas arose after reading McCarrison's work on the thyroid.

Spinal anaesthesia is produced by injecting a local anaesthetic, such as stovaine, into the spinal canal—by, that is to say, bringing a paralysing substance into contact with the spinal cord. If instead of a paralysing substance an irritant, like the toxin of eclampsia, is mingled with the cerebro-spinal fluid, we would expect the results of irritation—namely, convulsions, as in eclampsia.

If it be true that the eclamptic toxin is to be found in the cerebro-spinal fluid, it must get there through the choroid plexus, which normally secretes the fluid. The choroid plexus is a true secreting gland, and in health has a selective action which prevents toxic bodies passing from the blood to the cerebro-spinal fluid. If from disturbed function this selective action is lost, toxins will pass through the gland to the spinal canal, and those toxins may be the toxins of eclampsia.

The choroid plexus, which is an internally secreting gland, is controlled by hormones produced by the thyroid gland (or more probably the parathyroid) according to my interpretation of McCarrison's teaching. Hence a deranged thyroid entails a deranged choroid plexus from hormone starvation.

McCarrison mentions two classes of toxins: (1) Those resulting from endogenous metabolism, and (2) toxins of bacterial action.

Possibly the first class, by their presence in the cerebro-spinal fluid, are responsible for the symptoms of eclampsia. Normally the kidneys would excrete these toxins. In pregnancy they are much increased in quantity.

From McCarrison's work it seems reasonable that the bacterial toxins bring about the disordered condition of the thyroid, and that they are elaborated in the alimentary canal. He points out the frequent enlargement of the thyroid in pregnancy. On account of the presence of the fetus the thyroid must increase its activity, and since it is acting under greater pressure is more easily disturbed. Most obstetricians believe that the toxin of eclampsia is elaborated in the alimentary canal of the mother. This is compatible with the above suggestions.

To sum up: bacterial toxins elaborated in the alimentary canal are absorbed into the blood and carried to the thyroid apparatus, upon which they act injuriously and cause insufficient hormone production. This leads to choroid plexus insufficiency with loss of selective action, which permits (toxic) endogenous products of metabolism to enter the cerebro-spinal fluid, where they act upon the central nervous system and produce the condition of eclampsia.

If this view be correct, the rational treatment would be:

1. To remove the organisms which form the toxins from the alimentary canal.
2. To remove toxins, both bacterial and metabolic, from the blood.
3. To remove toxins from the spinal canal.
4. To supply hormones to activate the choroid plexus.
5. To treat symptoms as they arise.

To meet the first point, the stomach and bowel are washed out and purgatives given; the second is met by venesection, saline purgatives, counter-irritation of the kidneys, and transfusion; toxins are removed from the spinal canal by lumbar puncture, and hormones supplied by giving thyroid extract. Symptoms must be treated as they arise (for example, fits controlled with morphine or chloral), since the toxins cannot be removed completely or immediately from the system. A local anaesthetic might, perhaps, be injected into the spinal canal with benefit after lumbar puncture.

Belfast. J. F. D. HUNTER, M.B.

Reports of Societies.

VENEREAL DISEASE.

A MEETING of the Bradford Medico-Chirurgical Society held at the Royal Infirmary on Tuesday, March 16th, was devoted to venereal diseases. Dr. H. H. WHITE read a paper entitled "A brief review of venereal diseases with special reference to modern methods of treatment, some points in diagnosis and some complications." He pointed out that gonorrhoea was a most difficult disease to treat and cure. Patients rarely came early enough for it to be possible to abort it, though he had recently aborted one case with 15 per cent. argyrol twice a day for three days, followed by irrigation with potassium permanganate, and had seen other cases aborted with acriflavine. In the acute stage the best results were obtained by irrigation with potassium permanganate and sodium carbonate, prescribing an alkaline mixture, and rest in bed. When the posterior urethra was affected the case was much more difficult to cure, and the prostate should then always be examined. The complications of gonorrhoea were legion, and he described them and their treatment. He dealt also with gonorrhoea in women, and the difficulty of diagnosing it clinically; he described its treatment, and pointed out that the urethra in women was a common hiding-place for the gonococcus, and that this was the chief source of conveying the disease to others. He then dealt with syphilis, and said that as soon as dark-ground illumination showed the spirochaete, treatment with 606 or 914 should be given forthwith. He showed the importance of not accepting an early negative report as proof that the disease did not exist, and described the untoward results following injection of 606 and 914.

Dr. W. CAMPBELL read a paper on "Matters relating to the diagnosis of syphilis and to the serological methods used in the control of treatment." He indicated the various sources of error in the Wassermann reaction, and showed serums illustrating these errors. He demonstrated the necessity of titrating antigen so as just to exclude a non-specific reaction in cases of psoriasis, and pointed out the importance of examining the blood as soon as possible after its removal from the patient to prevent the serum becoming anti-complementary. The Wassermann reaction of the cerebro-spinal fluid was also dealt with. The discussion was continued by Drs. MARGARET SHARP, MARTIN, HAMBLEY ROWE, BUCHAN, and others.

Reviews.

A MANUAL OF WAR SURGERY.

A Manual of War Surgery,[1] edited by Colonel SEYMOUR BARLING and Major J. T. MORRISON, contains sixteen chapters to which some seventeen independent authors contribute. Its scope is restricted to the surgical methods employed in the large military hospitals at the various bases in France. As Sir George Makins remarks in an introduction he has written to the volume, "few men are in a position to write with confidence and authority on the progress and treatment of gunshot injuries from the time of reception of the wound to the period of actual recovery and cure." Yet the picture can be reconstructed, and the important intermediate stage, comprising the patient's time in the base hospital in France, is well covered by this book. Here, to quote again from the introduction, "came not only the successes of the clearing station line, but also some of the failures"; and few who have not had experience of this type of work realize what a tax they made on the resources and surgical judgement of the base hospital staffs.

Had the book appeared at the time the editors intended—the autumn of 1918—it would undoubtedly have had a wide popularity. All the sections are ably dealt with;

[1] *A Manual of War Surgery*. By Colonel Seymour Barling, A.M.S., and Major J. T. Morrison, O.B.E., M.B., F.R.C.S. With an introduction by Major-General Sir George H. Makins, G.C.M.G., C.B., P.R.C.S. London: Henry Frowde, and Hodder and Stoughton. 1919. (Demy 8vo, pp. xvi + 479; 149 figures. 21s. net.)

they are the work, in the main, of young men, and are all the better for that. The section on general wound treatment by J. T. Morrison is excellent, and his conclusions as to the relative value of the various methods of treatment of infected wounds will be endorsed by the majority. He gives some interesting charts and tables of the results of the various methods. A. J. Hutton's section on injuries of the head and spine bears deeply the imprint of Harvey Cushing—as it should. The brief chapter on spinal injuries shows up baldly the poverty of the work that was attempted on these important lesions. This remark casts no aspersions on those who did contribute to the subject, but when one thinks of the monographs and papers which might have been written but were not, it is a sad business. These cases should have been segregated and studied intensively in France on a far larger scale.

It is impossible adequately to outline the scope and value of the various sections. Forbes Fraser's account of the wounds of joints, Barling and Sevestre on wounds of the chest, Burrow's article on tetanus, Hartley and Shore on wounds of bones, are all good; H. C. Bazett writes a synopsis on shock which is much too short.

We can recommend this book to our readers, for whilst no observer of startling brilliance is revealed, it is very sound, and a very fair and reasonable exposition of the type of surgery which it sets out to describe.

MODERN UROLOGY.

THE claims of urology to rank as a specialty have been more fully recognized in America than in England. The treatise in two volumes on *Modern Urology*,[2] under the editorship of Dr. HUGH CABOT, is the outcome of this recognition. It is a composite work to which the most eminent of America's urologists have contributed. Although a similar treatise was compiled in the past by Dr. Prince Morrow, it was not written by genito urinary surgeons, but by general surgeons interested in genito-urinary work. Cabot's book is therefore the first articulate expression of the school of American urology, and as such is a publication of considerable importance.

The task of reviewing a composite work to which many different writers have contributed is in some respects difficult, for although the clinical ability of all of the contributors to the volume be beyond question their success as writers varies. This is a weakness inherent in all such composite works. It is, however, a fault that is not conspicuous in the volume before us. Moreover, the advantages that are derived from the fact that each section has been written by an expert on that particular subject outweigh all other considerations. *Modern Urology* is primarily a book of reference. It is a work to which the genito-urinary surgeon rather than the student will turn. The bibliography scattered throughout its pages will be of great value to him, for it has the merit of being remarkably complete. Completeness is, indeed, the word which best describes the work as a whole. Although America now possesses a school of urology of her own, the American compilers of this book cannot be accused of neglecting work done elsewhere. It should be as well received in Europe as in America.

The book is clearly written and the arrangement good. It is well illustrated and contains a sprinkling of coloured plates. The editor has wisely limited it to urology pure and simple, and has only dealt with syphilis in so far as it affects the genito-urinary system.

THE MAKING OF NECROPSIES.

WE are glad to note the appearance of a second edition of Dr. Box's *Post-mortem Manual*.[3] It is intended as a guide to students and practitioners in the performance of *post-mortem* examinations, and within its small compass is information enough to convert the tiro into a skilled morbid anatomist. To the more experienced it presents a systematic and practical epitome of the subject. After some preliminary remarks on instruments and appliances, in which no necessary instrument is omitted and nothing superfluous added, the author proceeds to a minute examination of the external appearances of the body. This is followed by instructions for the removal of the viscera with indications of the morbid conditions which must be looked for while doing so. Each organ is studied in turn and the pathological appearances are carefully described. The whole body is dealt with in this manner. Morbid histology and bacteriology are outside the scope of the volume, nevertheless useful instructions are given for the collection of material for such investigations. The chapter on *post-mortem* examination of the newly born will prove of the greatest assistance to the practitioner confronted with the necessity of ascertaining the cause of death in an infant, especially where access to larger medico-legal works cannot be had. An excellent summary of the causes of sudden death is also given. A section on embalming and on the restitution of the body completes the volume. The work is marked throughout by thoroughness and attention to practical details. Omissions are hard to find. Indeed, only two examples occur to us. We can find no mention of tuberculous ulcers in the colon, although they are described in the small intestine and caecum; and, under syphilis of the spleen, there is no reference to the splenomegaly which is sometimes present in the tertiary stage of the disease. In matters of technique we think it a pity that the author has followed the common practice of dividing the skin just below the symphysis mentis. With a little care it is quite easy in most cases to remove the tongue and fauces without going higher than the upper border of the thyroid. The deceased's friends can then view the clothed body with no risk that they will be offended by the site of an incision. These are minor points, however, and do not detract from the value of the book. Excellent diagrams and illustrations are given throughout the text. The volume may be thoroughly recommended.

PSYCHOLOGY AND MENTAL DEFICIENCY.

DR. GODDARD, the author of *Psychology of the Normal and Subnormal*,[4] is especially interested in the subject of the feeble-minded, and he is well known as the writer of *The Kallikak Family*, an interesting study in heredity. The present volume is concerned with psychology in its relation to mental deficiency, and though it is written on popular lines it will be found of interest and value to the medical as well as to the lay reader interested in the care and treatment of the feeble-minded. The book is written in a clear and simple style, and in dealing with psychology the writer always keeps in the foreground the practical applications of his subject. Emphasis is throughout laid on the psycho-physical standpoint in describing mental states. There is a certain cheerfulness and vigour about the book which will be found stimulating by those who are working in a sphere which is often difficult and discouraging. This may be indicated by the concluding sentences, which aptly sum up the question of discipline in relation to the feeble-minded: "Treat them as children according to their mental age, constantly encourage and praise, never discourage or scold, and *keep them happy*." In concluding this notice we must confess that, even with the best will in the world, we cannot read such spelling as "thot" for thought without some degree of discomfort; nevertheless this book may be thoroughly recommended to those for whom it is intended.

THE NUTRITION OF THE FOETUS.

WE are pleased to see that Dr. MORRIS SLEMONS has published as a little book the oration which he delivered to the Ontario Medical Association last May upon *The Nutrition of the Foetus*.[5] A brief abstract of his lecture appeared in our Epitome of Current Literature last autumn, but his work deserves the fullest publicity. The subject is one of very real importance, and of interest not

[2] *Modern Urology*. Edited by Hugh Cabot, M.D., F.A.C.S., Chief of the Genito-Urinary Department of the Massachusetts General Hospital. Two volumes. Philadelphia and New York: Lea and Febiger. 1918. (Roy. 8vo: Vol. i, pp. 744, 368 figures, 7 plates; Vol. ii, pp. 708, 264 figures, 10 plates. 14.00 dollars.)

[3] *Post-mortem Manual*. A Handbook of Morbid Anatomy and Post-Mortem Technique. By Charles R. Box, M.D., B.S., B.Sc.Lond., F.R.C.P.Lond., F.R.C.S.Eng. Second edition. London: J. and A. Churchill. 1919. (Cr. 8vo, pp. xi + 372; 22 figures. 8s. 6d. net.)

[4] *Psychology of the Normal and Subnormal*. By Henry Herbert Goddard, A.M., Ph.D., Director Ohio Bureau of Juvenile Research. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1919. (Demy 8vo, pp xxiv + 349; 48 figures. 25s. net.)

[5] *The Nutrition of the Foetus*. By J. Morris Slemons, M.D. New Haven: Yale University Press. London: Humphry Milford. 1919. (Cr. 8vo, pp. 49. 3s. 6d. net.)

only to the medical profession, but also to all those who, either in an official or in a philanthropic capacity, are connected with the welfare of the future generations.

In view of the abstract mentioned it is unnecessary here to discuss Dr. Slemons's investigations or conclusions, but it is a pleasure to pay a tribute to the simplicity of his writing, which makes his book agreeable to read, and renders a complex subject as clear as crystal. Dr. Slemons's work is the most important contribution to our knowledge of the physiology of the placenta that has appeared for some time, and we earnestly commend it to the attention of the many who are or ought to be interested.

CONSERVANCY IN INDIA.

A Manual of Conservancy,[6] by JAHAR LAL DAS, of Calcutta University, is addressed to those in India who are training to become sanitary officers, and for this purpose it is most excellent. The fact that the book is written by an Indian worker is of the first importance, and amply justifies Dr. BENTLEY'S able introduction, in which he reminds us that our own country was in a bad state from a sanitary point of view only a few decades ago. Dr. Bentley further likens the movement of the Indian people towards improved methods of living to a similar period in our own development.

The author divides his book into four parts. The first deals with scavenging, the second with conservancy proper, and the third with the management of cattle; the fourth part contains a number of appendices. The local hints are invaluable, and the description found in Part III of a good bull is entertaining and possibly reminiscent.

Unfortunately the illustrations are poor, and should further editions be called for the author will do well to replace the present collection.

NURSES' TEXTBOOK OF OPERATIONS.

MR. HEY GROVES is to be congratulated upon his *Surgical Operations: A Textbook for Nurses*.[7] In it we have a book worthy of the nursing profession, a book which credits nurses with intelligence and will satisfy their usually insatiable curiosity. With the generous help of the publishers of the Oxford Medical Publications, of which excellent series this book is one, the author has rendered nurses a real service. The volume is a pleasant size to handle, clearly printed, and extremely well illustrated with large sized figures. The operations described are systematically arranged, and are typical of those performed daily in general hospitals. Operations on the head, neck, breast, thorax, abdomen, and pelvis, as well as amputations, are adequately described. The eye, ear, and nose receive brief attention, the operations for removal of cataract, nasal polypi, tonsils, and adenoids are described as well as the typical mastoid operation and those on the antrum of Highmore and nasal septum. Each section is followed by a note upon the special post-operative care required in each instance. Obviously, in a work of this size, a work which requires above all to be freely illustrated, it is not possible to describe a variety of operations for individual diseases. Thus the "gridiron" incision alone is described for appendicitis. Witzel and Frank's gastrostomes are given preference to Senn's, and so forth. There is a serious omission in the "typical laparotomy set" on p. 16. No mention is there made of intestinal clamps. In this same appendix to Chapter I xylol is referred to as an oil. Further, in the section on "Methods of Sterilization," with reference to the preparation of the hands for operations, there is no mention of the arms. Sleeves are omitted from the routine operation dress, although leggings are included. Those worried by split infinitives will have their sensibilities wounded in this first chapter. Such slips as those mentioned are easily remedied, and in no way detract from the general merits of the book. At the end will be found a most helpful appendix of thirty-six pages where all the ordinary instruments are separately figured and named. There is a satisfactory index.

[6] *A Manual of Conservancy*. By J. L. Das, L.M.S.Cal.Univ. London and India: Butterworth and Co. 1919. (Demy 8vo, pp. xix+189; 44 figures. Rs.5/10.)

[7] *Surgical Operations: A Textbook for Nurses*. By E. W. Hey Groves, M.D., B.Sc., M.S., F.R.C.S. London: Henry Frowde, and Hodder and Stoughton. 1919. (Roy. 8vo, pp. viii + 255; 191 figs. 21s. net.)

NOTES ON BOOKS.

THE ninth edition of Professor CHURCH and Dr. PETERSON'S *Nervous and Mental Diseases*[8] appears only twenty years after the first; it is designed for medical students and general practitioners, is written in a simple and straightforward style, and is not overweighted with novelties of theory or the fancies of the Vienna school. The first section by Professor Church deals with nervous disorders and covers over 680 pages; each disease is described with clearness and on the lines commonly followed by writers on neurology. The second section contains an account of mental diseases by Dr. Peterson, and gives an excellent description of the subject, practical and sensible. The book is well printed and turned out.

Lieut.-Colonel O'MEARA'S *Medical Guide for India and Book of Prescriptions*[9] contains a great deal of assorted information on all the many questions that may arise in the daily work of practitioners and medical students in India. The first three hundred pages are given to drugs, prescriptions, and special methods of employing certain remedies; a few pages are devoted to the use of indigenous drugs such as those employed in the Yunani and Ayurvedic methods of treatment, that are said by the author sometimes to be of great use in the hands of Indian physicians. He gives, indeed, an indigenous prescription for impotence that demands the boiling of equal parts of earthworms and half a dozen presumably vegetable drugs in sweet oil, the resultant extract being for local application. The rest of the volume contains a great deal of heterogeneous but serviceable information; foods and feeding, antiseptics, blood pressure, anaphylaxis, pelvic measurements, drug eruptions, microscopic stains, inquests, vaccination, lists of asylums, laboratories, vaccine dépôts, and medical colleges, and fifty others of the things a medical man may want to know about suddenly will here be found set forth. Regarded as the practitioner's "Where's What" it should be of service to medical practitioners in India.

The fact that HARDWICKE'S *Sight Testing made Easy*[10] has reached its fourth edition shows that it meets a demand. The groundwork of the book is subjective testing, and we find in consequence much about the astigmatic fan, the pinhole, and the slit; students nowadays begin their work in the eye department with retinoscopy, and it might be no bad practice for them occasionally to revert to the older methods. Some of the statements in the book are too sweeping; for instance, it is not correct to say that glaucoma is hardly ever met with in the myope, for quite a definite proportion of the cases of glaucoma seen occur in myopes. One or two misprints need correcting, such as "axles" for "axes" on p. 33; while in the first formula on p. 56 the cylinder has been printed *plus* instead of *minus*; the sentence on p. 47 about the liability of a cycloplegic to glaucoma should be rewritten.

Oscar Montague, Paranoiac,[11] by Dr. G. L. WALTON, is a somewhat disappointing attempt to depict in a novel the development of a morbid temperament. The story, which only succeeds in being interesting at intervals, is concerned with the troubles of a family consisting of an alcoholic and scheming father, a psychasthenic mother, Oscar the paranoiac son, and the daughter. We thoroughly sympathize with the dilemma of this bright young lady in regard to the question of heredity when she falls in love, and we are glad that Dr. Reynolds, whom she consulted, gave her such sensible advice. Singularly enough, in view of the title, Oscar is only a secondary character, and it is the trouble he causes others, rather than the study of his mental development, that furnishes most of the material for the story. Many of the characters are unimportant, but the personality of the doctor is attractive; and from the advice he gives to his patients we suspect him of being able to write excellent popular medical books for nervous invalids of the same kind as "Why Worry" and "Those Nerves." Dr. Walton has already earned a reputation as the author of these books, but this novel suggests that he is not equally at home in the domain of fiction.

[8] *Nervous and Mental Diseases*. By Archibald Church, M.D., and Frederick Peterson, M.D. Ninth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Co. 1919. (Roy. 8vo, pp. 949; 350 figures. 30s. net.)

[9] *Medical Guide for India and Book of Prescriptions*. By Lieut.-Colonel E. J. O'Meara, O.B.E., F.R.C.S.Eng., D.P.H.Camb., Civil Surgeon and Principal of the Medical School, Agra. Calcutta: Butterworth and Co. (India), Ltd. London: Butterworth and Co. 1920. (Demy 8vo, pp. vii+717. Rs. 12 net.)

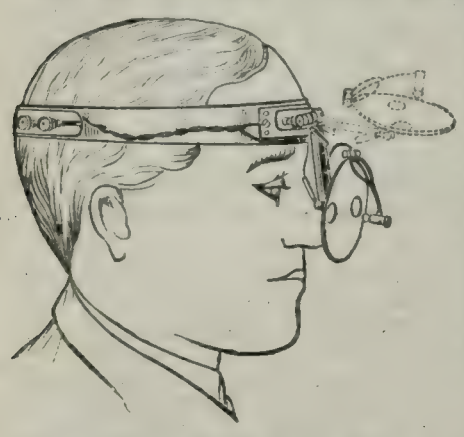
[10] *Sight Testing made Easy*. By W. Wright Hardwicke, M.D. Fourth edition. London: J. and A. Churchill. 1920. (Cr. 8vo, pp. viii + 79; 12 figures. 5s. net.)

[11] *Oscar Montague, Paranoiac*. By George Lincoln Walton. Philadelphia and London: J. B. Lippincott Co. 1919. (Post 8vo, pp. 304; frontispiece. 6s. net.)

APPLIANCES AND PREPARATIONS.

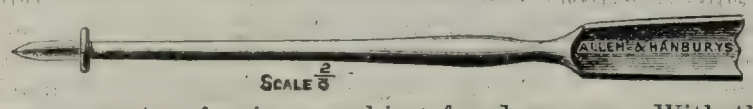
A Head Lamp.

MR. GILBERT CHUBB, F.R.C.S.Eng., Assistant Surgeon Throat Hospital, Golden Square, has devised a head lamp on the well known Klar principle, but with a reflector of speculum metal, so that it cannot break, and of sufficiently small size to allow of very useful peripheral vision when in place. The eyeholes are very large and placed on the converging lines for near binocular vision. The reflector is attached to a rigid headband by an arm with an adjustable hinge at either end, permitting of movement only in the sagittal plane. The lamp can thus be adjusted before washing up, and then brought down into place, or pushed away from the face, with a mop. An automatic switch cuts off the current when the reflector is out of use, thus enabling it to be used off a pocket battery without waste. The front part of the head-band is sloped back through 15 degrees, so that it lies flat on the forehead, and permits of the lamp being worn for long periods without discomfort. Mr. Chubb has found the lamp useful not only for ear, nose, and throat work, but also for many operations in general surgery where the general illumination available was insufficient. The lamp is made by Messrs. Mayer and Phelps.



A Tonsil Bayonet.

Mr. A. SCOTT GILLETT, F.R.C.S.Edin. (London, W.), writes: In opening peritonsillar abscesses it is usual to employ either a small scalpel guarded with strapping, or unguarded forceps. When employing the former method it is difficult to sterilize the strapping; in the latter it is



easy to go too far in searching for deep pus. With the idea of overcoming these two disadvantages Messrs. Allen and Hanburys have made for me the instrument here figured. The following advantages are claimed: (1) Ease of sterilization; (2) the presence of a collar, which prevents the operator stabbing too deeply; (3) the double-edged bayonet which facilitates the conversion of the stab into an incision in either an upward or downward direction. The operation can then be completed with blunt forceps quite safely. Messrs. Allen and Hanburys are the makers of the instrument.

Anti-Vermin Paste.

We have received from Captain C. G. MOOR, R.A.M.C.T., of the 1st London Sanitary Company, a sample of the anti-vermin paste which he devised in France towards the close of the war. Captain Moor is part author of an excellent little handbook on *Field Sanitation*, reviewed in our issue of February 9th, 1918, p. 177. His preparation was tested privately among their men by various medical officers, who reported very favourably on its effect both in destroying lice and preventing their approach. The novelty of this preparation lies in the fact that the active ingredient, naphthaline, is combined with the ointment, so that the user is constantly clothed in the vapour of naphthaline. In theory, at least, the British army is now free from body vermin, but in the terrible conditions of Eastern Europe louse-borne diseases (typhus and relapsing fever in particular) are rife, and there is therefore still a large field for anti-vermin measures. This paste is manufactured commercialiy by the Sanitas Company, Ltd., Locksley Street, Limehouse, E. It is sold in tins at 9d.

THE Faculty of Medicine of Liége University has arranged a vacation course in various branches of medicine, surgery, and obstetrics, from March 29th to April 10th.

THE activities of the Italian Section of the International Association "Pneumothorax artificialis," suspended during the war, have been resumed. It is now inviting the enrolment of new members, who should communicate with Professor U. Carpi of Lugaro. The Association proposes to revive the international review, *Pneumothorax Thérapeutique*, which, under the direction of Carlo Fortanini, contained a collection of the world's literature on artificial pneumothorax.

THE MENTALLY DEFECTIVE AND THE UNSTABLE BROUGHT BEFORE THE COURTS:

*THE BIRMINGHAM SCHEME.**

BY

W. A. POTTS, M.A., M.D.,

MEDICAL OFFICER TO THE BIRMINGHAM COMMITTEE FOR THE CARE OF THE MENTALLY DEFECTIVE; PSYCHOLOGICAL EXPERT TO THE BIRMINGHAM JUSTICES.

IN considering this problem it is necessary to mention two outstanding facts of criminology. The first is that in England it was found recently that out of 168,260 convictions, 104,171, or 62 per cent., of the persons convicted had received at least one previous conviction, while 12,133, or over 7 per cent., had been convicted about twenty times previously; of the 11,000 odd convictions for more serious offences tried at the assizes and quarter sessions, 70 per cent. had been previously convicted. The other fundamental fact is that "practically all confirmed criminals begin their careers in childhood or early life." The late Dr. Goring proved that between 15 and 20 is the age for recruiting into the criminal classes.

These facts show that prison is not a remedy for this social disease. It can scarcely be expected that imprisonment would do much good, because, at the best, prison means discipline without training, and takes no account of the initial cause of wrong-doing. If by chance the cause is discovered, no steps are taken as a rule to deal with it; for justice, as we call it, can only deal with the offence for which the prisoner is charged, and therefore does not punish him for his initial fault, which is frequently something quite different from the charge the court is considering. For instance, women who are charged with petty thefts are often inebriates; to punish them for stealing does no good; in fact, it makes them worse. Dealing with them satisfactorily as inebriates would cure their drinking habits, and their thieving propensities would then right themselves. Some people steal because they are lazy and play truant from work, but stealing is not the fundamental fault. Punishment for stealing, therefore, only makes them more degenerate, especially as it develops an anti-social grudge. Dealing with the laziness by medical treatment, if it is due to constitutional disease or weakness, or by a labour colony and training in high ideals if it is a moral weakness, might effect some good. Frequently lying is the fundamental cause of going wrong, and is the fault that should be punished, or rather dealt with.

The investigations of the Royal Commission on the Care and Control of the Feeble-minded, and many other investigations, have shown that a considerable proportion of prisoners—a percentage varying from 10 to 30—are mentally defective, and should be dealt with as such, and not as criminals. Careful examination will show that physical illness and incapacity are the cause in another large percentage of cases. In addition to this there are, as frequent causes, wrong occupations, want of training for any occupation, bad homes, and alcoholism. It might be objected that alcoholism has no place in the production of criminals, as most are developed at 16 or 18 years of age; hereditary weakness, however, is often seen in children of alcoholic parents, while bad homes are more often due to drink than any other single cause. Venereal disease is important. Sometimes it poisons the mentality, and is a cause of crime, or at least a contributory factor. Whether it is the cause of crime or not, many prisoners will be found to be infected; their disease should be treated. This is not always done, sometimes because the disease is not diagnosed, but more often because the term in prison is too short for effective treatment. Often the presence of such disease untreated is only another sign of mental defect. The National Council for Combating Venereal Disease finds mental defectives one of its great difficulties; such persons often spread disease broadcast. In them untreated venereal disease should be accepted as a proof of "neglect," thereby bringing them under the Mental Deficiency Act (1913). There would seem to be no reason

---

* Being a paper read at a Conference on the Administration of the Mental Deficiency Act, 1913, in the Church House, Westminster, in November, 1919.

why this should not be done, but it would be well to amend the Act to this effect.

Some of the disabilities I have described are dealt with by the Borstal system, the Probation of Offenders Act, and the Children's Court, but all these will fail time after time if there is no scientific investigation into the real cause of the crime. This has been recognized for several years by the Birmingham justices, who have realized that many mental defectives must have passed unnoticed through the courts. More recently these justices became concerned at the prospect of the discharge of a number of soldiers suffering from shell shock, and the probable effect of alcohol on them and other weaklings when released from the strict discipline of the army. The Birmingham justices decided to initiate a scheme which will probably be taken as a model for the administration of justice all over the country.

The essential feature of the Birmingham scheme is that every prisoner in whose case there is any possibility of such an explanation of the crime as I have suggested, or who in any other way is unlikely to be benefited by imprisonment or fine, should be examined by an expert medical investigator, either before or after conviction, but in any case before sentence is passed. The report of this investigator is taken into consideration before sentence. In a number of cases the prisoner is placed on probation and the treatment suggested by the medical investigator made a condition of the probation. The Probation of Offenders Act has given great power to the justices; if wisely used in this way, great benefit will follow. Many cases are found to be mentally defective; this was so with three out of the first sixteen dealt with, although the Mental Deficiency Act was already being energetically administered in Birmingham; such cases are handed over to the Committee for the Care of the Mentally Defective, which usually deals with them by placing them in a suitable institution. It has been realized that without additional legislation, but merely by making proper use of the Mental Deficiency Act, much good can be accomplished. An important part of the scheme is the provision of a staff of wise and sympathetic probation officers; much depends on them.

It is not possible to find the real cause by any investigation in court. One often hears magistrates asking a prisoner what is the reason of his going wrong; in a public court it is very unlikely that the prisoner will state what is the cause even if he realizes it himself. In the majority of cases the cause can only be elicited after long and careful examination and a private interview. The springs of conduct are in the subconscious mind, and therefore often unsuspected by the individual himself; their discovery requires experience in mental analysis. Psychotherapy is often an important agent in effecting a cure. If only a proper investigation were carried out, the scandal would be avoided of the extraordinary police court notices to be seen in the paper every week, such as the statement that a boy of 9 was a confirmed criminal, and should be treated as such. Anyone who has studied the subject must know that the boy was either a moral defective to be dealt with under the Mental Deficiency Act, or else had never had a chance, and that if anyone required punishment it was not the boy but his parents. Recently the chairman of one bench said a girl of 16 "was well on the downward path, and the best place for her was prison." This was said after the probation officer had stated that "the girl had been in three homes, and had made a farce of probation arrangements." I cannot help thinking it might have been more correct to say that the court had made a farce of examining the girl, the probation arrangements having been made without any scientific investigation of the girl and her circumstances.

To make their scheme more effective the Birmingham justices induced the Home Office to appoint at the prison, instead of a part-time, a whole-time medical officer with a special knowledge of insanity and mental defect. This ensures cases overlooked before going to prison being recognized while under treatment. The justices have arranged as a matter of practical working that their medical officer shall be responsible for the examination and treatment of all cases outside the prison, while the prison medical officer shall be responsible for all those inside the prison, and that those two officers shall, whenever possible, work together, each calling in the other if he wishes the help of a colleague in coming to a decision. Everything I have described so far has been arranged and carried out in Birmingham without any additional legislation. The Birmingham justices are by no means satisfied even with this great improvement, but have extended their scheme so that a portion of the prison infirmary will be converted into a mental hospital, where special cases can be treated on the recommendation of either of the medical men engaged in this work. The prison medical officer is responsible for the treatment of all cases inside this hospital, but the medical adviser to the justices will have the right of entry and making suggestions in regard to all cases in which he is interested. This hospital will be outside the prison wall, and the stigma of prison will be eliminated. This scheme is on the right lines. As a medical man engaged in this work I may say that the only difficulty I have had so far is that some magistrates do not seem to realize in what a large percentage of cases special medical examination is desirable, if not absolutely necessary. So far no case has ever been put before me in which the proceedings can be regarded in any way as a waste of time. There is no doubt that it will turn out to be, in the long run, one of the most economical proceedings ever devised. If the enormous cost to the community be realized of one lifelong criminal and the degenerate descendants he or she may have in a few generations, it will be recognized that the expenditure of a pound or two at the outset may save the country thousands of pounds in the end.

The most important question is how magistrates are to recognize prisoners who ought to be referred for special examination. The cases that most urgently require dealing with in this way are those not understood and cases where the crime is of an unusual nature. There are many mental defectives in addition to those who are obviously mentally defective. A girl or young woman may be feeble-minded, although she smiles pleasantly and answers ordinary questions in an ordinary way. Sometimes mental defect is exhibited by lack of attention and interest in the proceedings in court. It is often shown by frequent change of situation and inability to earn a living wage for any length of time. Placing obstructions on a railway and incendiarism when there is nothing to gain from insurance always suggest the possibility of mental defect, and so should gross sexual offences. The physical conditions that should be referred for examination include all those that look ill. Serious defects of vision and speech are often precursors of crime, and so are severe headaches, which always require investigation. Puzzling cases, where there is no obvious reason for the crime, should be referred; in many of them surprisingly good results can be obtained if the prisoner is approached in the right way, thoroughly examined, and properly treated. By modern methods of investigation we can see the inner workings of the mind. Mental analysis and psycho-therapy have untold possibilities in many cases. Much can be accomplished by probation continued for a sufficient length of time under proper conditions.

In Birmingham we have been administering the Mental Deficiency Act (1913) for over five years. But of the first 16 cases specially examined for the justices, 6, or 37 per cent., were not responsible; 3, or 18 per cent., were not fully responsible; one was a doubtful case, and the remaining 6, or 37 per cent., although responsible, were entitled to special consideration owing to circumstances connected with their health, homes, occupations, or lack of training in anything good. Yet almost everywhere except in Birmingham these cases are still dealt with in the ordinary way. One young man convicted of stealing was found to be suffering from consumption which was poisoning his mentality; instead of being sent to prison he was, through the assistance of the medical officer of health, placed in a sanatorium. At the end of three months he was able to go home again, and was fortunate enough to obtain light work instead of the laborious and injurious occupation in which he had previously been engaged. He has now been at home several months, working well, and his conduct has been satisfactory in every way. Of the cases dealt with so far more than 18 per cent. have been found to be mentally defective, and have been dealt with under the Mental Deficiency Act, while over 12 per cent. have been of unsound mind and therefore equally irresponsible. Treatment under the Mental Deficiency Act involves considerable expense at first, but this is nothing compared with the amount incurred in keeping up large numbers of prisons, refuge homes, maternity homes, infirmaries, etc.

One man who came before the court was found to be suffering from shell shock, and was taken in charge by the military authorities, who placed him in a suitable hospital for treatment. Several other cases have been dealt with in a common-sense manner.

In order that a scheme such as that followed in Birmingham may be successful, it is essential to have an investigator who has some knowledge of mental defect, insanity, and psychotherapy. Above all he must be interested in the early signs of mental disease and not one who says there is no proof of mental disease till murder, suicide, or some other serious crime has been committed.

To show that the Birmingham scheme by no means encourages malingering or fails to set a proper example, I may cite the following case:

A young girl in regard to whom I reported to the magistrates that she was in poor physical health, and was also mentally dull and backward, although not actually mentally defective. In consequence of this disability she was entitled to all the consideration the court could give her. At the same time I stated that she was a member of a big family, and lived in a bad neighbourhood in the centre of the town; also, that one member of the family had already got into trouble. It seemed unlikely, therefore, that probation would be a suitable way of dealing with the case. The offence of stealing was a serious one, and had taken place in a large and important institution, where it was necessary to set an example. The magistrates devoted a great deal of time and consideration to the case, and asked me whether it would be more beneficial to the girl's physical and mental health to have the strict discipline and training of a special institution or to go home and live more or less undisciplined in the centre of a town. My opinion was that an institution would act better in her interest, especially as, having been dismissed from her employment, it was essential that she should be trained for some new occupation. In these circumstances the magistrates sent her for three years to a reformatory school.

The number of cases dealt with up to the present time is so small that I cannot give all the statistics and confirmation of the wisdom of the scheme I should like, but I feel justified in saying that every single case has been an object lesson in the value and necessity of work on these lines.

RETAIL PRICES OF DRUGS.

THE Standing Committee for the Investigation of Prices under the Profiteering Act, 1919, appointed a subcommittee some time ago to investigate prices, costs, and profits, at all stages, of drugs and medicinal tablets and preparations, proprietary and otherwise. The subcommittee, of which Dr. C. O. Hawthorne is the medical member, has recently presented an interim report,* in which it describes the system of production and distribution under which at the present day drugs and medicinal preparations are provided and supplied for the public use.

Wholesale and Retail Druggists.

From evidence taken by the subcommittee it appeared that drugs and medicinal preparations are in Great Britain mainly distributed by some 10,000 retail pharmacists; in addition, some of the stores in many large towns include a retail pharmacy in their organization. There are altogether 20,000 persons other than pharmacists licensed to sell "patent" medicines. Some manufacturers sell only or mainly to wholesale druggists, others also sell direct to retail pharmacists; there are also wholesale druggists who own retail shops. The business of a retail pharmacist, it is said, is in certain respects exceptional; the turnover, for instance, both in gross and in detail, is of very small monetary value and the business stock very varied in character. The subcommittee considers, therefore, that such a business cannot be treated, as regards rate of profit, on the same trade basis as businesses with a large turnover confined to comparatively few articles.

The methods of business adopted by the manufacturing firms are found to be different; some of them spend large sums in advertising; the public demand thus created compels the pharmacist to stock the articles, even though the percentage of profit allowed on them is small. Some firms spend little in propaganda, but indicate to the public selling prices which allow a relatively large percentage of profit to the retailers, and in return expect to be rewarded by a relatively large amount of preferential pushing of their products by the retailers. Other firms, still in an early stage, not only spend large sums on propaganda, with a view to securing a public demand for them, but also fix a selling price to the public which allows both wholesaler and retailer a comparatively large profit.

A Proprietary Articles Trade Association was formed in 1896, with the object of protecting the small retail pharmacist against price-cutting by the stores and others. This association now consists of three sections—proprietors, wholesale distributors, and retail distributors. Some 310 firms owning proprietary articles are members. It is governed by a council consisting of 36 members, equally divided between manufacturers, wholesalers, and retailers. It exercises control over the price of practically 3,000 proprietary articles sold by 310 manufacturing or owning firms and retailed by 20,000 or 30,000 retailers. It determines a fair rate of profit, which is usually (in terms of selling price) 12½ per cent. to the wholesaler and 25 per cent. to the retailer. Price-cutting is avoided by an agreement that any person selling any article on this association's list at a price lower than that fixed by it may be refused a supply of all articles included in the list. Without such a protective arrangement, it is said, the profit on many of the articles would probably be so small that the retailer would be disinclined to deal in them.

Aspirin (Acetylsalicylic Acid).

The subcommittee gave attention first to the cost of manufacturing and the selling price of aspirin and aspirin tablets. "Aspirin" is one of several trade names for acetylsalicylic acid, and before the war the name was the exclusive property of the Bayer Company, of Elberfeld, Germany, and could be applied only to the acetylsalicylic acid manufactured by that firm. After the outbreak of war certain British manufacturers began experiments, and during 1915 and 1916 several of them succeeded in manufacturing acetylsalicylic acid on a commercial scale. The German trade-mark having lapsed, British-made acetylsalicylic acid was placed on the market under various names, of which "aspirin" is the best known, and the subcommittee uses this term as the synonym for acetylsalicylic acid under whatever name it is sold. It is suggested that at the first opportunity the term should be included in the *British Pharmacopoeia* as a synonym for acetylsalicylic acid, which is already included. At present there is no official or pharmacopoeial definition of aspirin. Before the war the price of acetylsalicylic acid in bulk was about 2s. a lb., but the price of the Bayer aspirin was about 18s. a lb., less various discounts. After the outbreak of war the price of what was then being sold variously as aspirin or acetylsalicylic acid began to rise until in 1916 the price exceeded 40s. a lb. It afterwards declined until during 1919 the price in bulk ranged from 3s. 10d. to 4s. 6d. a lb.

One pound of aspirin represents approximately 1,400 tablets of 5 grains each. In 1914 a bottle containing 25 such tablets made of Bayer aspirin was sold retail at from 10d. to 1s. 3d., if containing tablets of acetylsalicylic acid at prices from 4½d. to 9d. In 1919 the retail price of a bottle containing 25 such tablets of acetylsalicylic acid, sold as aspirin, or under some similar name, varied from 5½d. to 1s. or thereabouts. The Government laboratory has ascertained that there is no substantial difference, either physical or chemical, between some seven aspirin tablets now on sale to the public, and that certain of the less expensive tablets are in no way inferior to their more expensive rivals.

The subcommittee concludes that under present conditions aspirin tablets made from acetylsalicylic acid answering the tests of the *British Pharmacopoeia* can, when working with large quantities, be manufactured and sold by the manufacturer with a reasonable profit at 5s. 6d. a dozen screw-capped bottles of 25 five-grain tablets in each bottle. It is stated that such bottles can at present be purchased by the public at certain shops at about 6d. each, a price which leaves a very narrow margin of profit to the retail pharmacist. The subcommittee finds, on the other hand, that the retail price of 1s. and upwards for 25 tablets, at which certain brands of aspirin are sold, is excessive in relation to the cost and manufacture, even when allowance is made for charges incurred in advertising and other methods of publicity. It is, however, of opinion that the present range of prices, when allowance is made for increased cost of labour, packing materials, etc., is not appreciably

*[Cmd. 633.] Price 1d.

different from that prevailing before the war. The opinion is expressed that when aspirin is sold at 10d. a bottle of 25 five-grain tablets the price, if properly apportioned, should give reasonable profit to the manufacturer, the wholesaler, and the retailer. The question of the possible promotion of a habit of self-drugging as the result of the cheapening of the price of aspirin was raised by one of the witnesses, but was not considered to come within the reference to the subcommittee. It is noted, however, that while on some packages the labels imply that the tablets should be taken only under medical direction, there are others on which no such limitation is mentioned, and it is even suggested that as many as twelve five-grain tablets may be taken daily and apparently for an unlimited period. It is pointed out that aspirin is sold by others than retail pharmacists and that the purchaser is free to obtain whatever quantity he desires.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

THE thirty-seventh annual general meeting of the Society was held at 11, Chandos Street, W., on March 26th.

Dr. F. J. ALLAN, chairman of the Executive Committee, who was in the chair, said that during the past year the society had begun to get some of the business which, through the absence of many men at the front and the decline in the number qualifying, had fallen off during the war years. The number of new proposals was 305 as against 84 in the previous year, and in the current year up to the present time more than half the number received in 1919 had been received. During the past year 25 women practitioners had been admitted; it had been stipulated that if the rates charged for them proved inadequate they would have to be revised. After taking account of the deaths and resignations, the actual number of members on the society's books at the end of 1919 was 3,351. The society had disbursed in sickness and accident benefits £19,000 in 1919, as against £20,000 in the previous year. The sickness and accident funds had increased with the increased premiums, and the sickness claims were considerably below the expectation. Notwithstanding the fact that all the lives insured were practically picked lives, 25 per cent. of the total number of members claimed benefits during the year. There were 99 members on the list and the annuity fund. The life insurance fund continued to grow slowly, but the limitation of the amount of insurance to £300 did not afford much scope. The investments now yielded £4 13s. per cent. as against £4 8s. The society had suffered a great loss in the death of Dr. Caley, a very attentive member of the committee, who had greatly assisted in its deliberations. Dr. Biggs, who was retiring from public work, had resigned his membership. The management expenses of the society were going up, since practically everything cost more, and higher salaries had been given to the staff in view of the increased cost of living.

In reply to inquiries, the CHAIRMAN said that the 25 per cent. of sickness experience included twenty-two cases which were on the fund for the whole year. Excluding these cases, the average duration of illness was five weeks and one day. In 1912 it was four weeks and four days, but that probably included those who were on for the whole year; the comparison was therefore with seven weeks in the past year; in 1913 it was five weeks.

The report was adopted, and the Executive Committee and the auditor were appointed.

The meeting then resolved itself into an extraordinary general meeting.

Dr. ALLAN said that the matter of the conversion of the society into a mutual company had been considered by the committee for many years, and had been discussed at a general meeting. The society continually received complaints from members that they were unable to insure for larger amounts than those allowed under the Friendly Society Acts. The limitation was considered to be the reason why the society only had a little over 3,000 members. The fact must be faced that if the society became a mutual company an increased amount would have to be paid in income tax. The committee, however, had come to the conclusion that the increase in business that would ensue would amply cover any expenditure on that score. It was anticipated that increase in the insurances would not cause any material increase in the clerical work, since it would be as easy to prepare a policy for £1,000 as for £300. Proposals for larger insurances were waiting to be carried through if it was decided to dissolve the present society and establish a mutual company. He formally moved the following resolution:

> (1) The name of the company is the Medical Sickness, Annuity, and Life Assurance Society, Limited. (2) The registered office of the company will be situated in England. (3) The objects for which the company is established are the payment of sums during sickness or disablement, the payment of annuities, and the effecting of life assurances. (4) The liability of the members is limited. (5) Every member of the company undertakes to contribute to the assets of the company, in the event of its being wound up while he is a member or within one year afterwards, for payment of the debts and liabilities of the company contracted before he ceases to be a member, and the costs, damages, and expenses of winding up, and for the adjustment of the rights of the contributories among themselves, such amount as may be required not exceeding two guineas. (6) The articles of association submitted to this meeting and signed by seven subscribers be adopted as articles of association of the company.

In reply to inquiries the CHAIRMAN said that the income tax to be paid if the conversion was carried out would amount to about £2,400. If any members did not propose to join the new company their interests in the Society would be safeguarded by earmarking the amount from the various funds which the actuary might consider necessary to meet all such claims.

The motion was then put to the meeting, and carried by the requisite three-fourths majority. The resolution will be submitted for confirmation to a further general meeting to be held on April 16th.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED

THE annual general meeting of the London and Counties Medical Protection Society, Limited, was held at 32, Craven Street, W.C., on March 17th, with Sir JOHN ROSE BRADFORD, the President, in the chair. The Council's annual report showed that there had been a considerable accession of new members, and that most of those who had resigned temporarily, while away on military service, had resumed their membership. The results of the law suits undertaken by the society for its members had again been, in general, very satisfactory. Many difficulties and disputes had been successfully dealt with, including numerous troubles arising out of panel practice, thus avoiding much litigation and publicity.

Sir JOHN ROSE BRADFORD said that the membership of the society at the end of the year was 5,688, and the net increase during 1919 was just over 500. The funds also had increased to such an extent that the treasurer could look on the prospect of litigation with some equanimity.

Dr. C. M. FEGEN, the treasurer, said that the society, like other bodies, was faced with greatly increased expenditures which diminished the balance on its profit and loss account, and there was also a net depreciation in the value of its securities amounting to £800. This depreciation, however, in no way interfered with the society's income, and, as the investments were all gilt-edged, their ultimate value would remain unchanged. As a whole, the finances were extremely good. The reserve funds had risen during the last twenty years from £1,400 to £25,800, and that period had included five years of war. Litigation during the past year had been normal, but there was in evidence at the present time a spirit of litigation, so that the liabilities of the society could not be exactly foretold.

A resolution to remunerate the members of the committee by a sum of one guinea for each attendance was proposed by Dr. VINRACE and carried *nemine contradicente*. It was stated that this would only mean, supposing every committeeman made a perfect series of attendances, an expenditure of £450 a year, and that this could not be considered an unreasonable charge for the management of a concern with a capital of nearly £26,000.

Sir John Rose Bradford was re-elected President, on the motion of Dr. FEGEN, seconded by Sir T. W. PARKINSON, and Dr. Fegen was re-elected treasurer, on the motion of Dr. J. H. STOWERS, who coupled with his proposition a hearty vote of thanks to Dr. Owen Fowler for taking over the duties of the treasurership during Dr. Fegen's absence on war service. The vice-presidents and retiring members of council were also re-elected, as were the general and financial secretaries, Dr. Hugh Woods and Mr. A. G. R. Foulerton respectively.

VILLAGE TUBERCULOSIS SETTLEMENTS.

DEPUTATION TO THE MINISTER OF HEALTH.

A DEPUTATION recently waited on the Minister of Health to urge the establishment of village settlements in connexion with the treatment of tuberculous ex-soldiers. The establishment of such settlements was recommended in the recent Report of the Interdepartmental Committee on Tuberculosis (Sanatoriums for Soldiers).

The deputation comprised Sir C. A. Montague Barlow, M.P. (Deputy Chairman of the Interdepartmental Committee), Lieut.-Colonel Nathan Raw, M.D., M.P. (who was a member of the Committee), Professor Sir German Sims Woodhead, M.D., Dr. Varrier Jones and Mrs. Marcus Dimsdale (representatives of the Papworth Tuberculosis Colony), and the Countess of Leicester and Mr. Raikes (representatives of the Norfolk Branch of the British Red Cross Society). Dr. Addison was accompanied by Lord Astor (Parliamentary Secretary to the Ministry of Health), Sir George Newman (Chief Medical Officer), and other officials of the Ministry.

The case for the establishment of village settlements put before the Minister was broadly that sanatorium treatment for tuberculosis, even where accompanied by training in a suitable occupation, had been found to be inadequate as a means of combating the disease. The general experience had been that patients who returned from a sanatorium to their homes and former occupations were unable permanently to earn a living or maintain their health. The interest, both of the patients and of the community, required that patients should pass through a threefold course: first of sanatorium treatment, secondly of training, and thirdly of permanent settlement in suitable surroundings. The village settlement should be a natural development of the sanatorium and training colony, and the patient should be in a position to look forward to being able, on completion of his course of treatment and training, to take up his permanent residence in a settlement where, still in close touch with the sanatorium, he could work under conditions which would enable him to maintain his health and have his family or dependants with him. In the settlement the patient and his family would have to be housed, the necessary workshops and other buildings would have to be provided, and—in the case of the civilian—the patient's earnings would have to be supplemented; but the community would gain in the result by the prevention of the spread of infection and the fact that the tuberculosis patient would remain a productive worker. As illustrating the results of establishing a village settlement on these lines, it was stated that at the Cambridgeshire Tuberculosis Colony, out of thirty cases who had passed from sanatorium treatment and training into the settlement there, not one had died in four years.

Dr. ADDISON, in replying, referred to the four main recommendations in the Report of the Interdepartmental Committee, namely:

1. That an increased capital grant should be given for the provision of sanatoriums;
2. That additional sanatorium accommodation for ex-soldiers should be provided;
3. That increased provision should be made for training; and
4. That village settlements should be established.

As regards (1), the capital grant had now been increased from £90 to £180 per bed (subject to a limit of three-fifths of total cost). With regard to (2), since the issue of the committee's report 7,000 additional beds had been provided or were now in course of being provided, largely as a result of the announcement of the increased capital grant. As regards (3), negotiations were proceeding with the authorities of a number of suitable sanatoriums for the rapid provision of training facilities for 1,000 tuberculous ex-service men at an estimated total cost of £250,000. On the question of village settlements, Dr. Addison assured the deputation of his goodwill. There were, however, various difficulties to be overcome. The success of a village settlement would depend even more upon the personality of the man in charge than upon the material provision made. As regards finance, the provision of ten settlements for not less than 200 patients each, as proposed by the Interdepartmental Committee, would, he considered, cost much more than the sum of £1,000,000 suggested by the committee. Again, as Minister of Health he could not consider only the case of the ex-soldier; he had to consider also the civilian population, who had no pensions to supplement their earnings. Further, the Cambridgeshire Tuberculosis Colony was managed by a voluntary organization, but in the establishment of further settlements it would be necessary to rely in the main upon local authorities. The problem was therefore one of much complexity; but a comprehensive scheme, dealing with all the various issues involved, was under discussion with the Treasury. There was, in addition, the important question of the situation of the projected settlements. On this Dr. Addison intimated that Dr. Nathan Raw and Dr. Varrier Jones had kindly consented to undertake, in conjunction with a medical officer of the Ministry, a series of local investigations with a view to advising him on this matter.

NEW STAFF OF OUTDOOR MEDICAL OFFICERS OF THE MINISTRY OF HEALTH.

IN connexion with the appointments of Medical Officers of the Ministry of Health announced in our columns on March 20th (p. 407), it was stated that the Minister of Health was setting up a committee to consider the applications for these appointments and to make recommendations to him of candidates suitable for appointment. We are informed that the committee includes representative medical men of high standing in the profession from different parts of the country (one of whom is chairman, and one nominated by the Civil Service Commissioners), with two representatives of the Ministry. The personnel of the committee will be announced at a later date, but we are requested to state that it is considered desirable for obvious reasons to defer making the names public until after the committee has made its recommendations.

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the Committee held on March 9th 23 cases were considered, and £224 voted to 21 of the applicants. The following is a summary of some of the cases relieved:

Daughter, aged 50, of M.R.C.S.Eng. who died in 1915. Her only income is £40 as a daily governess, and £10 from her sister. She pays £9 2s. a year for one unfurnished room. Voted £5.

Daughter, aged 64, of F.R.C.S.Eng. who died in 1887. Only income 10s. a week by gardening. Lives with an old aunt, who provides for her. Asks for help owing to age, ill health, and the high cost of living. Voted £12 in twelve instalments.

Widow, aged 40, of M.B.Lond. who died in 1918. Was left unprovided for with three children, aged 5½, 4, and 2. Income £60 a year from dividends, and £65 from letting rooms. Pays £39 for rent and rates. Relieved twice, £20. Voted £16 in two instalments.

L.R.C.P. and S.Edin., aged 73, suffers from ill health, and his practice has fallen off since the war. Has lost an annuity of £108 owing to the war. Receives about £103 from practice, and £10 an annuity. Has one daughter, who helps at home; his wife has bad health. Rent £35. Relieved once, £10. Voted £10.

Widow, aged 66, of M.D.Edin. who died in 1909. Was left with four children, one now married. Children pay £78, and she receives £12 from another charity. Pays £1 a week for lodgings, and 2s. 6d. for storing furniture. Relieved eleven times, £116. Voted £12 in twelve instalments.

Daughter, aged 56, of M.R.C.S.Eng. who died in 1895. Was left entirely without means. She receives 17s. a year from a small sum invested, and £21 from another charity. Pays £1 1s. a week for board and lodging. Is in ill health and unable to work. Relieved seven times, £87. Voted £12 in twelve instalments.

Daughter, aged 58, of M.R.C.S.Eng. who died in 1880. She lives with widowed sister, and her only income is £60 from other charities. Has very bad health. Relieved ten times, £108. Voted £12 in twelve instalments.

Widow, aged 49, of M.B.Glasg. who died in 1914. Takes in paying guests, by which she makes about £100 a year. Has two daughters, both at boarding school. Income spent in repairing and redecorating house, previous to letting it. Rent and rates, £57. Relieved twice, £22. Voted £12.

Subscriptions should be sent to the Honorary Treasurer, Sir Charters J. Symonds, C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts and suits for working boys. The Guild appeals for second-hand clothes and household articles for the benefit of the widows and children who, in happier times, would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

British Medical Journal.

SATURDAY, APRIL 3RD, 1920.

DEFICIENCY DISEASES IN VIENNA.

SOME account was given last November of the early work of the mission sent to Vienna by the Accessory Food Factors Committee appointed jointly by the Lister Institute and the Medical Research Committee. The members, Dr. Harriette Chick and Miss Dalyell, have found the opportunities afforded to them very large, and have, in fact, been embarrassed by their number and variety. The mission has recently been reinforced by Miss Margaret Hume, who arrived in Vienna in February. The mission was instructed to inquire into the prevalence of scurvy, rickets, and other disorders attributable to malnutrition; to study the dietaries, and to ascertain, in the case of children, the value of methods of curing deficiency diseases which have been found effective in experiments on animals. It has concerned itself chiefly with the study of scurvy, rickets, and osteomalacia. An outbreak of infantile scurvy occurred during October and November, 1919, and the mission had the opportunity of treating several cases in the infant ward under the charge of Professor von Pirquet. A variety of substances found by experiment on animals to be the most potent antiscorbutics were added to the diet, and the results were gratifying, cures being more rapid and more complete than those usually obtained in the clinic and other hospitals where the use of raw milk was the routine method. The outbreak was ascribed to the disorganization of milk transport and repeated heating of the milk during the hot weather of September and October. Inquiries showed that outbreaks had previously occurred during the spring and summer. The very complete records kept at Professor von Pirquet's clinic justified the conclusion that, except for six or eight weeks immediately preceding the outbreak of scurvy, the proportion of antiscorbutic material in the raw diet was adequate, and that the occurrence of scurvy was to be attributed to the excessive cooking of vegetables customary in Vienna. The interesting observation is recorded that some under-nourished children immediately began to grow at an abnormal rate when they were supplied with a diet containing an adequate energy value, and that this rapid growth seemed to precipitate the onset of scurvy. The question of the relation of active growth to special vitamine requirement is to receive attention.

In a central children's home containing 500 infants, in many cases accompanied by their mothers, there was a severe outbreak of scurvy in the spring and summer of 1919, affecting both breast-fed and artificially nourished infants, and in some cases the mothers also. About 300 infants were affected, and thirty died. In the case of the breast-fed infants the defective diet of the mothers was assumed to be the cause; in bottle-fed infants, not the lack of cow's milk, but its too frequent heating and staleness. Examination of the children, ranging in age from ten months to about three years, who had suffered from this or a previous outbreak of scurvy, revealed signs of rickets and of delayed growth and development in varying degree. From observations in this institution and elsewhere the conclusion was drawn that in Vienna a large proportion of infants in whom no symptoms of scurvy could be detected were suffering badly as regards general health, growth, and development by reason of the deficiency of antiscorbutic material in their diet. This opinion is, we believe, very generally entertained by those who have had experience of the treatment of young children in the poorer parts of London. Under conditions there existing it is difficult to prove its truth, but the free addition of oranges and lemons to the diet seems to have a most beneficial effect. With the co-operation of Dr. Zafl, the physician in charge of this home in Vienna, certain additions were made to the diet of the children; as extra antiscorbutics raw swede juice, orange juice, or neutralized lemon juice were used; extra antirachitic material was given in the form of butter and cod-liver oil; to some children both these extras were given. The effect after two or three months was so encouraging that the scope of the experiment was continually enlarged at the desire of Dr. Zafl, so that there may soon be no untreated infants left to serve for comparison.

In Vienna not only scurvy, but rickets, developed with great frequency in breast-fed infants, often when less than six months old. An experiment is in progress by which mothers nursing young infants are provided with a daily ration (50 grams) of butter and raw swede (30 grams). Careful investigations made in New York by Hess and Unger in 1917 afforded statistical evidence in favour of the common belief that cod-liver oil has an effect in preventing rickets, and it is proposed to make a similar investigation in Vienna, where almost all children of the poorer classes over one year old are rickety. On the same lines a precise study is being made in the University children's clinic; there von Pirquet's so-called "Nem" system of nutrition is adopted. Under it the energy value of the diet is nicely adjusted to the needs of the growing child, but no attention is paid to the vitamine value. Professor von Pirquet has assigned to the mission six cots in a ward served by a kitchen in which all food is prepared with laboratory exactness and subject to regular analysis.

It appears that osteomalacia became a common disease in both sexes and at all ages in the spring and summer of 1919. The cases that then occurred improved during the later part of the summer, but patients again became numerous about the beginning of December. Formerly the disease was rare and confined to pregnant women in Vienna, as elsewhere, but inquiry showed that it had been present almost continuously during the war in many of the convents of the city, where, especially since the revolution, great privation as regards both food and fuel has been suffered. In one convent a large proportion of the nuns were, in December, 1919, found to be suffering from the disease, some of them in a very severe form. Between twenty and thirty cases were treated in three groups: one received extra calories in the form of sugar and cereals, another extra food in the form of vegetable fats, the third extra fat containing "fat-soluble" accessory factor in the form of butter, eggs, and cod-liver oil. The results obtained during the first two months are held to make it probable that deficiency of the fat-soluble accessory factor is the cause. An inquiry begun at the Allgemeines Krankenhaus in January is considered to point in the same direction. Cases there are under the care of Professor Schlesinger, who is of opinion that the disease is probably nutritional and due to some special deficiency in the diet rather than to general under-nourishment. He therefore seems to be

approaching the opinion formed on the experiments here, in India, and in America, as to the importance of the accessory food factors, experiments which, it would appear, have hitherto attracted little attention in Vienna. Another inquiry is in progress in Professor Wenckebach's clinic. Cases of osteomalacia are selected from among those applying to the medical departments of the insurance benefit societies, and it is proposed to institute a trial, on a large scale, of the value of cod-liver oil. Hitherto patients in the clinic have received a regular weekly supply of a vegetable oil of unknown composition, containing a small amount of phosphorus. It has in many cases been given for several weeks or months without any very definite result; it will now be replaced by cod-liver oil.

Dr. Chick has given several lectures, including one to the medical and pediatric society; it was followed by an unusually lively and interesting discussion. A large number of physicians related their personal experience of deficiency diseases during the war, and put on record many significant observations concerning "hunger-polyneuritis," "hunger-oedema," scurvy, and hemeralopia. The fact that recent work on the subject of accessory food factors is almost unknown in Germany and Vienna is to be accounted for by the circumstance that it has been published almost exclusively in English and American journals, which have for some time been out of reach of Austrian and German readers, more especially now, owing to the depreciation of their respective currencies. An appeal is made on this matter by Sir Clifford Allbutt and Sir James Mackenzie in our correspondence columns, and will no doubt meet with a generous response.

THE EPIDEMIOLOGY OF PHTHISIS.

II.

IN an article published last week we dealt with the earlier parts of the third instalment of Dr. Brownlee's statistical inquiry into the epidemiology of pulmonary tuberculosis.[1] Reference was made to his view that the decline in the phthisis death rate is not due to an elimination of susceptible units by the operation of a selective fertility rate, and it was pointed out that the slackening of the rate of decline of phthisis mortality was shown by statistics of a later date than those used by Dr. Brownlee. It was also pointed out that such changes in the death rate from phthisis as have occurred in London since 1851 are consistent with the hypothesis that general hygienic improvements are responsible for it. From these subjects Dr. Brownlee passes to a brief discussion of the general decline in phthisis since 1850 and some remarks on the phthisis of old age. He then takes up the question of wind and phthisis to which Dr. William Gordon of Exeter has devoted much attention. Dr. Brownlee's statistical analysis leads him to confirm Dr. Gordon's hypothesis that exposure to south-westerly winds increases the death-rate from phthisis. The historical student is reminded of the prevalence of southerly winds in the first constitution of Thasos, and the great mortality from phthisis which accompanied it. In the areas in which the association is found phthisis is of the young adult type, and it is to this type, Dr. Brownlee believes, that the wind exposure contributes. In the following chapter Dr. Brownlee considers the relation between phthisis and the nature of the subsoil, which he thinks has some importance for young adult phthisis but not for the disease of middle age. He does not, however, consider his results sufficiently extensive to justify a firm conclusion.

The following chapters are devoted to migration (which is not examined in detail), tuberculosis at early ages (which is differently correlated with phthisis in different districts), and the relation between tuberculosis and the milk supply. Dr. Brownlee takes as a criterion of the prevalence of bovine tuberculosis the percentage of samples of milk found to be infected, and shows that this is highly correlated with the standard death rate of the county of origin; it is also appreciably correlated positively with the death rate from "middle age" phthisis, but negatively correlated with that of "young adult" phthisis. Finally, there is a large positive correlation between the milk infection rate and the death rate under 5 from tuberculosis and with the death rates from tuberculous meningitis and abdominal tuberculosis. It is important to notice that the milk rate is highly correlated with the prevalence of forms of tuberculosis not caused by the bovine type of bacillus. Dr. Brownlee makes the tentative suggestion that bovine and human forms may be modifications of a common type, perhaps capable of saprophytic existence.

The report concludes with a geographical study of the distribution of phthisis in England and Wales as a whole, and a more detailed study of the Welsh experience. Wales was selected because in the Principality there is little middle age and much young adult phthisis. This section cannot be summarized, but the conclusion is drawn that exposure to wet and cold, together with poor feeding (in particular a lack of animal food), are important predisposing factors.

We have, perhaps, said enough to mark our sense of the importance of Dr. Brownlee's memoir. The history of opinion upon tuberculosis is full of instruction. It is thirteen years since Karl Pearson published his first paper defending with the powerful statistical weapons which he had forged and sharpened, the ancient doctrine that an inherited predisposition is an important factor of the disease as a national malady. Since then Pearson himself and his pupils—the Eldertons, Heron, and the late Charles Goring (whose death has deprived medical statistics of a gifted adherent)—have done much to reinforce the conclusions drawn and to throw doubt upon the value of panaceas. It cannot be said that any of these papers much influenced the trend of popular medical opinion at the time, and the elaborate historical and pathological essay of Bulloch and Greenwood, now nine years old, did little more to inoculate the profession with a doubt as to the claims of the various conquerors and stampers out of consumption.

Whether these investigators did in the long run have more influence than appeared, or whether the change of opinion is analogous to that spectacle, "not of argument or of conflict, but of a silent evanescence and decay," which, as Lecky said, characterized the decline of belief in witchcraft, is hard to say. It is perhaps most probable that increasing appreciation and utilization of statistical methods in the widest sense—the term not being restricted to the special technique of the biometricians, important as that is—together with some sense of disappointment due to the confrontation of promises and results in the matter of sanatorium benefit, have produced a reaction against the simple faith of fifteen years ago. However this may be, we should as soon expect to hear now in professional circles that the conquest of consumption is a simple matter of hygienic administration as we should have been surprised ten or fifteen years ago not to hear it.

[1] *An Investigation into the Epidemiology of Phthisis in Great Britain and Ireland.* Part III. Medical Research Committee. Special Reports Series. No. 46. Stationery Office, 1920. 2s. 6d.

This change of opinion does not involve any admission of the all-sufficiency of what we may term the eugenic faith. Indeed, a reduction of the problem to exclusive terms of heredity would be as particularist as its reduction to a mere matter of segregating "open" cases and multiplying sanatoriums, and was not contemplated by Pearson or other scientific eugenists. In fact, to quote a sentence in the introduction to Dr. Brownlee's report, the administrative control of tuberculosis "presents a more complicated, though not necessarily therefore a less soluble, set of problems if the conditions which tend to produce phthisis in young adult life, for instance, are different from those which tend to produce it in middle age." This remark is equally applicable to the other complications revealed by other investigators, such as Collis, Greenwood, and Tebb.

Although we do not face the problem of tuberculosis with the same confidence as in the days of "rare and refreshing fruits," the position is really much more satisfactory. Not only is the need of further investigation as a prelude to action properly realized, but examples of the kind of research necessary have been provided. Amongst such Dr. Brownlee's papers take an honourable place. Let us hope that other official and unofficial investigators will soon take their places in a field which can support many cultivators.

THE NATURE OF ECLAMPSIA.

IN a recent paper Obata of Tokio has recorded some interesting observations which appear to shed considerable light on the etiology of eclampsia.[1] In 1911 Dold drew attention to the fact that saline extracts made from certain of the viscera possess a poisonous property which is neutralized by normal serum. Obata therefore set himself to determine, in the first place, whether the placenta contains such a poison. As soon as the placenta was expelled the umbilical cord was cut off together with the portion of the placenta surrounding its attachment. As much blood as possible was then expressed from the placenta and the decidual tissue removed. The cotyledon—preferably that portion most deficient in large villi—was then cut into pieces, ground in a mortar, and mixed with 0.85 per cent. saline solution in the proportion of 1 in 3 by weight. The mixture was stirred and allowed to stand for half an hour at room temperature, and then filtered through fine silk. The filtrate was centrifugalized, and the supernatant fluid—designated placental extract—was used for experiment. The extract had a pale pink colour, but contained no solid particles in suspension. As a rule freshly prepared extracts from placentae taken immediately after birth were employed. The animals used were Japanese dancing mice, and the placental extract was injected into their caudal vein. After an interval of ten to thirty seconds—rarely as much as a minute—the animal became excited and then fell at once into a brief clonic or tonic convulsion. This was succeeded by violent dyspnoea, coma, and finally death within one to three minutes after the beginning of the convulsion. While these symptoms occurred in the majority of cases, instances occasionally occurred in which death took place after an interval of hours or days. Even in these cases, however, the two most prominent symptoms were dyspnoea and convulsions.

The placental extract was found to kill in a dose of 0.025 to 0.15 c.cm. in the case of normal placentae, and in a dose of 0.019 to 0.1 c.cm. in the case of eclamptic patients. The toxicity of the eclamptic placenta, therefore, was hardly to be distinguished from that of the placenta from normal cases. It was found that fresh serum from normal persons when injected intravenously into mice produced symptoms which differed only slightly from those produced by placental extract. No substantial difference, however, was found between the serum of normal and of eclamptic gravidae in this respect, nor could any increase in toxicity be found in the serum of a patient during an attack of eclampsia and after recovery from that condition.

Obata now proceeded to determine the relative capacity of fresh serum of normal and eclamptic patients respectively to neutralize the toxicity of the placental extract. One c.cm. of the latter was placed in contact with amounts of serum varying from 0.7 to 0.025 c.cm., physiological saline added to bring the mixture up to 2 c.cm., and the fluid injected after being left for one hour at 37° C. It was found that the serum either of normal men, or of normal non-pregnant women, or of normal pregnant women, possesses a power practically uniform of neutralizing the poisonous property of placental extract, 0.2 to 0.3 c.cm. of such serum sufficing to neutralize 1 c.cm. of the extract. This neutralizing power was found to be considerably reduced in the serum from women during an eclamptic attack, as much as 0.6 c.cm. being then required to neutralize the toxicity of the placental extract, whereas after recovery from eclampsia 0.3 to 0.4 c.cm. and sometimes 0.2 c.cm. of the patient's serum was sufficient. Experiments were made to determine whether the neutralizing power was increased during normal pregnancy, but the result was negative. Hence no evidence was found to indicate that the neutralizing power is due to an immunological process.

The lesions found in the bodies of animals that succumbed to the placental extract were broadly similar to those present in fatal cases of eclampsia in the human subject, and from the result of his observations Obata concludes that the true nature of eclampsia is nothing other than an intoxication by the placental poison, which is made possible by a weakening in its normal capacity for neutralization on the part of the maternal blood. As to the cause of this weakening, however, Obata offers at present no opinion. Work on the matter is in progress.

[1] Isei Obata (Forensic Institute of the Imperial Institute of Tokio), *Journal of Immunology*, 1919, vol. iv, p. 111.

INCOME TAX AND SERVICE GRATUITIES.

WE have more than once drawn attention to the fact that the Finance Act for 1919–1920 provided for the repayment of income which had been deducted from gratuities on demobilization from wound pensions. It is, perhaps, advisable to call attention to the indirect effect resulting from the exemption of these receipts from income tax. Income which is not assessable cannot be brought into the computation of total income for the purpose of determining the appropriate rate of tax, with an exception in the case of certain classes of foreign residents, which does not touch the present question; consequently there may very well be cases in which the adjustment of the tax deducted would include repayment of a portion of the tax levied on other income. For instance, suppose that A, demobilized in 1917–1918, had an income of £600 from investments and was assessed by the War Office at £500 for military pay and gratuity, then he would have been taxed at 4s. 6d. on £600 and at 2s. 3d. on £500; assuming the unassessable gratuity to be £200, the correct liability would be £600 at 3s. 9d. and £300 at 1s. 9d., thus involving a repayment greater than the tax on the gratuity, because the elimination of that amount brings the total income below the limit of £1,000. These figures are taken more or less at random;

the principle might, of course, operate at other limit points—for example, the £400, £600, and £700 "abatement" limits, the £800 limit point for family allowances, or the £500 limit for the lowest rate of tax. No special intimation of such claims would seem to be necessary; the repayment made on the general claim should extend to any indirect results, except in the case of "family" allowances becoming claimable as a result of the reduction in total income, where the circumstances should be stated, as otherwise the repaying authority would not be cognizant of the further repayment due.

RADIO-THERAPY IN CANCER OF THE UTERUS.

IT may not, perhaps, be generally known in this country that Stockholm during the last few years has become an important centre for radiology, to which radiologists of the other Scandinavian countries resort for inspiration and guidance. The leading spirit is Professor Gösta Forssell, who has surrounded himself with an able staff of assistants. One of them, Dr. J. Heyman, recently read a paper before the Swedish Medical Society on the results of radium treatment of cancer of the uterus as judged by an observation period of five years or more. The remarkable figures he published were given in the *Epitome* on March 6th (No. 256). Discussing these figures, Professor Forssner compared them with those of operative treatment, and he prophesied that the time must inevitably come when the surgeon would have to abandon this field altogether to the radiologist. Accounts of the activities of "Radiumhemmet" in Stockholm by Danish and Finnish medical men, who have spent several weeks studying Professor Forssell's methods, reflect the glamour with which this institution is surrounded. Dr. N. Emeleus[1] writes of patients entering "Radiumhemmet" pale and debilitated, bloodless, and with an offensive vaginal discharge due to absolutely inoperable cancer of the uterus. A little later he describes the same patients on discharge, in perfect general health, without a sign of malignant disease, and with a growth of new epithelium in place of discharging ulcers. Even the patients who subsequently relapse are given a reprieve of one to three years, during which they are fit for work and are free from the pain and offensive discharge of untreated cancer. Death in these cases is, he says, easy and painless. Dr. Ib Hansen's[2] account is as enthusiastic, but much fuller. According to him, this treatment was begun by Professor Forssell in 1910; since then his supply of radium has been gradually increased to about 90 cg. Since 1914 he has made little alteration in his technique. "Radiumhemmet" consists of two large buildings with accommodation for in-patients and out-patients. The treatment with radium is supplemented by *x*-ray treatment. The results have been found to depend largely on the age of the patient, the prognosis being much worse for patients under 40 than for the higher ages. Heart disease is also of bad omen. The immediate results are so extraordinarily good that the patient is apt to neglect further treatment, assuming that a permanent cure has been effected. It is the practice, therefore, to warn the patients beforehand of this danger, and funds have been provided to defray the expenses incurred by patients coming to Stockholm for after-treatment. Once relapse has occurred, either locally or in the pelvic glands, further treatment with radium appears to be hopeless.

AN EPIDEMIC OF HEMERALOPIA.

EPIDEMICS of night blindness occurred in the armies during Napoleon's campaigns and in the Crimea campaign, but little was heard of it during the recent great war. Tricoire has recently recorded[3] its occurrence in the Serbian army during its retreat in the winter of 1915. The total number of cases was 320. Previous investigators agreed in connecting the occurrence of epidemic hemeralopia with an insufficient diet, especially want of animal food. Tricoire produces good evidence in favour of including it under the deficiency diseases. For several months the Serbian troops lived exclusively on dried beans, lentils, and decorticated rice, along with stale lard and white bread. After a certain time an epidemic of night blindness occurred, the number of cases varying from day to day without obvious reason. During the daytime the patients could carry on as usual in apparently perfect health, but as the day waned visual acuity diminished, so that by night time they were quite unable to see and had to be led by their comrades. Ophthalmoscopic examination was negative. The administration of cod-liver oil was found to be very efficacious, all the cases being cured after taking 50 to 75 grams of the oil. The epidemic ceased when more generous rations—including fresh or frozen meat and green vegetables—were supplied to the troops. Seeing that the energy value of the previous ration was about 2,000 calories, and that the patients showed no signs of anaemia, emaciation, oedema, or asthenia, but were invariably healthy-looking, mere insufficiency in quantity of diet would not seem to account for the condition. The important part that the so-called vitamines of diet play in maintaining health is now widely recognized, and the absence or deficiency of these substances in the causation of beriberi, scurvy, and pellagra is admitted. Tricoire shows that the diet of the Serbians in the retreat was deficient in fat-soluble A factor. MacCollum and Davies, by depriving rats of this substance, produced blindness, which disappeared rapidly on the resumption of a diet in which it was abundant. Cod-liver oil, that proved so beneficial in the epidemic, is rich in these. In six of his cases Tricoire found scurvy co-existent with hemeralopia. These facts go to show that epidemic night blindness is to be ranged alongside scurvy as one of the deficiency diseases, but the distinct separation of this particular condition from the others, with the exception of the six cases, would seem to support the idea that there are specific vitamines. It should be recognized, however, that there may be certain natural peculiarities to be taken into account in addition to lack of vitamines.

VISCERAL ANALGESIA IN TABES.

THAT the visceral crises of tabes may be easily mistaken for an acute abdominal emergency is well known. That visceral analgesia in tabes may mask the occurrence of such an emergency is less well known. Hauser of Mannheim recounts in great detail such a case.[1] A man, aged 45, was suddenly taken ill after a meal, and retired to bed feeling sick, but did not vomit. Two days later a doctor was sent for, but beyond the fact that the patient seemed very ill nothing definite could be made out. The next day the man was obviously very ill indeed; he was collapsed with small, thready pulse, covered with cold sweat, and the heart was almost inaudible. There was no abdominal pain, either spontaneous or to be elicited by pressure, no rigidity, and no enlargement of the liver. But the pupils were fixed, the knee-jerks absent, and on questioning it was found that the patient had had syphilis for twenty years and had undergone much treatment. The man's condition becoming still more desperate, it was obvious that he was suffering from something more than a visceral crisis, of which he had had several. A surgeon called in diagnosed retroperitoneal blood extravasation. Saline infusion was twice given intravenously. The patient died three days after the onset of the attack; the only abnormal physical sign noted was a tympanitic patch in the left hypochondrium, diminishing the heart's dullness. At the necropsy a perforated duodenal ulcer was found, with general peritonitis and free gas in the abdominal cavity. This case is a

[1] *Finska Läkaresällskapets Handlingar*, November and December, 1919.
[2] *Ugeskrift for Laeger*, March 11th, 1920.
[3] *Paris médical*, February 21st, 1920.

[1] *Deut. med. Woch.*, 1919, 45, 129.

remarkable example of the manner in which tabetic visceral analgesia may entirely obscure a severe abdominal lesion. From first to last the man's abdomen was entirely painless and flaccid. The sensory portion of the reflex arc necessary for protective rigidity of the abdominal muscles was interrupted by tabes. The case is, further, an interesting example of the protective value of pain. Schüller[2] has published a somewhat analogous case, a sudden death in a tabetic, where severe haemorrhage from a gastric ulcer was found. He draws a comparison between gastric ulcer in tabes and perforating ulcer of the foot, Exner and Schwarzmann[3] having shown that gastric ulcer frequently follows experimental section of the vagus. However this may be, it is more than possible that many deaths in tabetic subjects may be due to abdominal perforations. Much information on this subject might be gained from Poor Law infirmaries, wherein a wealth of clinical and pathological material is lost every year.

AMERICAN MEDICAL SCHOOLS.

The number of medical students in the United States during the year ending June 30th, 1919, excluding those attending preliminary, special, and post-graduate courses, was 13,052, a decrease of 578 as compared with the previous year. Of the total number, 12,259 (93.9 per cent.) attended regular colleges, 397 (3 per cent.) homoeopathic, and 86 (0.7 per cent.) eclectic schools, while 310 (2.4 per cent.) were enrolled in three "nondescript" colleges, consisting of two semi-osteopathic and one nominally eclectic college. The total number of graduates was 2,656. The number of graduates from the regular colleges was 2,423, less by 31 than in the previous year. The number from the homoeopathic colleges was 89, or 25 less than in the previous year; from the eclectic colleges there were 28, or 14 less than in 1918. Of all medical graduates 44.4 per cent. held degrees in arts and science, as compared with 38.4 in 1918, 32.5 per cent. in 1917, 26.9 per cent. in 1916, and 15.3 in 1910. This increase is what was expected from the general adoption by medical schools of the requirement of two years of college work before entrance. Of the 2,423 graduates from regular schools, 1,162, or 48 per cent., had a bachelor's degree in arts or science; of the homoeopathic 16, or 18 per cent., and of the eclectic graduates 2, or 7.1 per cent. Of the 116 "nondescripts" not one held such a degree. The number of women studying medicine was 686, being 105 more than in the previous year and 76 more than in 1917. The percentage of women to the whole number of medical students, 5.2, is larger than in any previous year. There were 107 women graduates, one more than in 1918. Of the women matriculants, 66 attended the one medical college for women, while 620 (90.4 per cent.) matriculated in the fifty-nine co-educational colleges. From the one women's college there were 7 graduates, while 100 (93.4 per cent.) got their degree from co-educational colleges. The *Journal of the American Medical Association* attributes this increase of women students in co-educational colleges to the fact that in recent years some of the largest and oldest medical schools in the States—Columbia, Tulane, the University of Pennsylvania, Harvard and Western Reserve University, Ohio—have opened their doors to women. Since June 30th, 1918, five colleges have been closed, leaving 85 still in existence. Of these, 76 are regular, 5 homoeopathic, 1 eclectic, and 3 nondescript. There is one doctor to every 720 of population in the United States.

LETHARGIC ENCEPHALITIS.

THE position with regard to the incidence of lethargic encephalitis in Europe is not clear nor altogether free from cause for anxiety. The number of cases in England and Wales at the present time has risen to at least 13, and most of these seem to have developed within the last few weeks. Of the 13 cases 7 are reported from the Spalding and Donnington districts of South Lincolnshire, and the Ministry of Health is making an inquiry there. No evidence has hitherto been obtained that the disease is directly communicable from man to man, but, as in Lincolnshire, it sometimes occurs in groups. It does not help matters very much to say, with Professor Bosc of Montpellier, that the disease is epidemic but not disseminated by contact. During February 18 cases were recognized in and around Montpellier, and some were rapidly fatal, owing, as was thought, to involvement of the vagus. The characteristic symptoms—ophthalmoplegia, which may be internal, external, or both, somnolence, and some elevation of temperature—point to infection producing a low grade of inflammation at the base of the brain; but Bosc describes more general symptoms, including severe backache and pain in the abdomen, and speaks of a prodromal pharyngitis, which he thinks may indicate the port of entry of the infection whatever its nature, as is supposed to happen in acute poliomyelitis. At a recent meeting of the Académie de Médecine M. Chauffard criticized the term "lethargic encephalitis" on the ground that during the present epidemic cases are occurring in which lethargy is replaced by delirium, epileptiform convulsions, clonic spasms, and psychic disturbances; cases have also occurred in which patients have gone about, although sometimes presenting some paralysis of the ocular muscles. His suggestion is that a better term would be "epidemic encephalitis" as proposed by Hall. In individual cases it might be qualified by the addition of an adjective indicating the particular form of the clinical symptoms presented. Bosc suggests some relation with influenza, and in this connexion the cases of lethargy apparently due to that cause described by Dr. W. M. Crofton last week (p. 431) will be recalled. Influenza in England and Wales, though it has not attained serious proportions, seems still to be increasing. During the last three weeks of February 448 deaths were attributed to this cause in the ninety-six great towns, and 738 in the first three weeks of March. The sporadic occurrence of lethargic encephalitis is clearly a possibility that must at present be borne in mind. It appears to be possible to confound it not only with typhoid fever but also with syphilitic meningitis of sudden onset.

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

THE Board of Education has prepared draft regulations[1] consolidating various previous regulations dealing with the medical inspection and treatment of children attending public elementary schools, the provision of meals, physical training in public elementary schools, evening play centres, and schools for blind, deaf, defective, and epileptic children. All these services are now taken into account in determining the single grant which will in future be paid to local education authorities. The consolidation of the various regulations is intended to indicate that the provisions of the Education Act, 1918, and the Ministry of Health Act, 1919, for promoting the healthy physical and mental development of children and of the population generally must be closely co-ordinated and their development determined by a common policy. One article, in providing for the appointment of the school medical officer to the local education authority, lays it down that while he will be primarily concerned with the medical supervision of children in elementary and special schools, he is to be assigned definite duties with regard to provision of meals, physical training, and other matters affecting the healthy physical and mental development of the children. As the Education Act, 1918 (Section 18), not only provides for the medical inspection of children attending secondary and continuation schools and other similar institutions, but also empowers the local education

[2] *Wien. klin. Woch.*, 1908.
[3] Ibid., 1912, p. 1455.

[1] Presented to Parliament. [Cmd. 617.] Price 3d. net.

authority to arrange for their treatment, it is considered essential that the medical officer should have before him particulars of the medical records of the children during their attendance, if any, at elementary schools; there is a provision also that should a child leave a public elementary school and enter a school under another authority, particulars of the medical record should be forwarded to the authority or the governors of the new school. The authority is required to make provision not only for the periodical medical inspection of children in special schools, but also for their appropriate medical supervision and treatment. Another article provides for the admission of children to special schools from the age of 2 instead of at 5 as at present; grants will be made for them at the same rate as for older children.

OPERATIONS ON PENSIONERS.

WE are sometimes asked by readers what may happen to the pension of a disabled ex-soldier who, having been awarded a permanent pension, improves in health and earning power by reason of an operation or other medical or surgical procedure. The question is of some importance both to the medical man and to his patient, and we have therefore referred it to the Ministry of Pensions Article 5 (1) of the Royal Pensions Warrant of December 6th, 1919, lays down that "when a permanent pension has been granted, it shall not be altered on account of any change in the man's earning capacity, whether resulting from training or other cause." We are informed that "other cause" includes improvement following operation or medical treatment. Once it has been made, a permanent pension (as distinguished from a conditional award made until the disability reaches its final and stationary condition) cannot be altered to the man's detriment, even if following operation he improves so much as to become an international football player.

Medical Notes in Parliament.

Criminal Law Amendment Bills.—The Government bill of 1918 to amend the Criminal Law Acts and the bill introduced by the Bishop of London for the same purpose were both read a second time in the House of Lords on March 23rd, and referred to a Joint Select Committee. The bishop in his measure proposes to raise the age up to which consent shall be no defence against charges of carnal knowledge from 16 to 18, and he has also inserted a clause for the protection of boys against women. Otherwise his bill simply takes up several of the provisions of the Government bill.

Miners' Nystagmus.—In reply to several questions by Mr. Swan as to miners' nystagmus, Major Baird, Parliamentary Under-Secretary to the Home Office, stated that the last year for which figures are available was 1914; in it compensation was given in 5,992 cases. The total was made up of 3,218 cases continued from previous years, and 2,774 new cases. He could not give the amount of compensation. Working in the insufficient light given by miners' lamps was the main cause of the disease, and the question of improving the illumination was being investigated by a departmental committee, under the chairmanship of the Chief Inspector of Mines, appointed last May. It was taking evidence both from those engaged in the industry and from scientific and medical experts. Researches were being conducted at the Home Office Experimental Station at Eskmeals and elsewhere, and a series of practical trials were about to be made with lamps giving a better light. The importance of a good light was recognized, but the Government could not take legislative steps to ensure it while the inquiry was still proceeding.

Antityphoid Inoculation.—Mr. Churchill has informed Mr. Clement Edwards that during 1917 there were in France approximately 30,000 men who had not recently, or had never, been inoculated. During 1918 the number was approximately 70,000. Good sanitation always had a beneficial effect in checking the spread of disease. It was, however, also true that the immunity these men enjoyed was due to the fact that there was only a very small proportion of non-inoculated men in each unit.

Sweetened Condensed Milk.—Mr. Thomas Griffiths asked, on March 29th, whether the allowance of sugar for sweetening condensed milk was based on advice that this was a suitable form in which milk could be used for the feeding of infants. Mr. Parker, for the Minister of Food, replied that an answer given on March 17th to Sir Alfred Yeo was intended to indicate that a demand did in fact exist for sweetened condensed milk for the feeding of infants, but not that it was suitable for the purpose.

Stamp Duties on Patent Medicines.—Last week Mr. R. McNeill asked a question as to the increased cost of "patent medicines" owing to increased cost of production, the prices charged to retailers leaving insufficient or no profit to the retailer after paying the stamp duty. Mr. McNeill wished to know whether the Chancellor of the Exchequer would consider the question of providing a margin of profit by a rearrangement of the duties, so that articles not exceeding 1s. 9d. in value might pay a stamp duty of 3d.; articles not exceeding 3s. 9d. a duty of 6d.; and articles not exceeding 6s. a stamp duty of 1s., in lieu of the duties payable under the existing law. Mr. Chamberlain said that he had received representations, and they were being considered.

Fibroid Phthisis.—Mr. Shortt, in answer to Mr. Will Thorne on March 29th, said that workers employed in certain sections of the metal grinding trade did undoubtedly incur serious risk from the disease known as fibroid phthisis or silicosis, and a special inquiry into these trades was in progress with a view to supplementing the regulations at present in force for the prevention of the disease, and to make a scheme or schemes of compensation under the special powers given for this purpose by the Workmen's Compensation (Silicosis) Act of 1918. The inquiry was difficult, and had to cover a wide field, but was being proceeded with as rapidly as possible.

Expenditure of Medical Research Committee.—Mr. Waterson asked, on March 25th, how much a year was deducted by the Insurance Commissioners from the contributions of the National Health Insurance Act and handed over to the Medical Research Committee, and how much of the amount was spent on salaries and wages. Dr. Addison replied that no deduction was made from the contributions under the National Insurance Acts for purposes of research. The sums appropriated for research were paid out of moneys provided by Parliament. An account of the receipts and payments of the Medical Research Committee, audited by the Comptroller and Auditor-General, was submitted each year to Parliament with the annual Appropriation account of the National Insurance Joint Committee. The account for 1918–19 would be found on p. 347 of the Appropriation Accounts of Civil Service and Revenue Departments for 1918–19.

Sanatorium Treatment.—In reply to Lieutenant Commander Kenworthy, on March 25th, Dr. Addison said that institutional treatment for insured persons suffering from tuberculosis was already being provided in most areas by the public health authorities under agreements made with the Insurance Committees, and it was proposed to transfer the duty of providing such treatment to appropriate public health authorities. He hoped to introduce legislation for the purpose at an early date. Domiciliary treatment for insured persons suffering from tuberculosis would be provided by Insurance Committees under Clause 4 (3) of the National Insurance Amending Bill as part of medical benefits.

National Insurance Expenses.—On the motion necessary in Committee of Supply to cover the new financial proposals contained in the National Insurance Amending Bill, Dr. Addison said that under the new scheme the Treasury contribution of two-ninths represented an expenditure of £1,772,000. The men of the army and navy and other forces had had three-halfpence a week deducted from their pay as their share of the contribution. It was proposed that this should be made good by the Exchequer, and it would represent an additional charge of £290,000 a year. There was another small item, which was estimated to cost £30,000, in respect of the penny grant towards low wage earners. In answer to a question by Mr. G. Locker-Lampson, Dr. Addison stated that the majority of deposit contributors were in this category by their own choice, and there was no evidence of any general desire for the abolition of deposit insurance. If it were at any time found that an appreciable number of insured persons was unable to obtain admission to approved societies, he would refer to the Insurance Consultative Council the question of making some alternative arrangement.

Clothing for Tuberculous Patients.—Sir James Craig, in reply to Mr. Gwynne on March 24th, stated that under the present regulations of the Pensions Ministry underclothing and great-coats were provided on loan for men in sanatoriums and others institutions, and great-coats for the use, where necessary, of men under out-patient treatment or treatment at home. Local committees provided extra blankets for men suffering from tuberculosis who were under open-air treatment at home, if certified to be necessary.

Disability Pensioners' Rights.—Sir James Craig stated, on March 24th, that a disablement pension was awarded without reference to contributions levied under the National Insurance Acts, and was not reduced because a partially disabled man might also be receiving sickness benefit under those Acts.

Indian Medical Practitioners in East Africa.—In reply to Mr. Waterson, who asked whether Indian medical practitioners in British East Africa were forbidden to carry on independent medical practice, Lieut.-Colonel Amery, Parliamentary Under-Secretary to the Colonial Office, said that the question of medical practice in the East African Protectorate was governed by the Medical Practitioners and Dentists Ordinance, 1910. Under it the holder of any British Indian degree, diploma, or licence entitling him to registration in the United Kingdom was entitled to registration as a medical practitioner in the East African Protectorate. Under the same ordinance the practice of systems of therapeutics according to native, Indian, or other Asiatic methods was permitted for persons recognized by the community to which they belong to be duly trained in such practice, subject to provisos that such systems might only be practised among the community to which the practitioner belongs, and that no act under any such system on the part of such persons as was dangerous to life should be permitted.

England and Wales.

Medical Inspection and Treatment of School Children in London.

At the meeting of the London County Council on March 30th it was decided to arrange for the medical inspection of all children when leaving elementary schools. The Education Committee advised that such medical inspection would be of great value in connexion with advice as to future employment, and would also be equivalent to an entrance examination to the day continuation schools to be set up under the Education Act, 1918, for young persons up to the age of 16 or 18 years. Only those children found defective on leaving the elementary schools would be re-examined during their first year in the day continuation schools, and the general medical examination would not take place until the second year. The children in the elementary schools are in future to be examined at entry, at the age of 8 years (when retardation, dullness, and mental defect will be specially considered), at the age of 12, and again on leaving. The Council's scheme for dental inspection is also to be varied to provide for examination on entrance to elementary schools. As children of 5 are often found to be suffering from dental caries, premises are to be opened in Woolwich as a centre for operations for tonsils and adenoids, and the children may remain for two days afterwards. About 2,500 cases a year will be accommodated, the annual expenditure amounting to £1,850. Surgeons attached to the treatment centres in south-east London, which will be contributory to this operative centre, will have an opportunity of operating on their own cases.

The Education Committee proposes to recover the cost of medical and dental treatment from parents. It is stated that before the war the total amount received from parents was only 3 or 4 per cent. of the cost of treatment, and did not equal the expense of collection; and since the war, the cost of treatment having greatly increased, the position has become worse. Inquiries in seven large English cities showed that, apart from the supply of spectacles, no charge was made for treat-treatment, except in Birmingham, where 2s. is charged for ear, nose, and throat cases, and in Liverpool, where 7s. 6d. is charged for such cases, and also for ringworm cases. In London the average cost for ear, nose, and throat cases is 8s. 5d., for minor ailment cases 7s. 1d., for dental cases 5s. 9d., and for ringworm cases £1 3s. 10d. It is proposed to make arrangements whereby parents not able to pay a private practitioner's fees but able and willing to pay the full cost to the Council should be enabled to do so. The charges to parents who cannot afford or are not prepared to pay the whole cost of treatment are to be, in the case of minor ailments, 1s. for a period up to six months, and the same for each subsequent period, but no charge is to be made for treatment not exceeding a fortnight; in all other cases, including dental cases, 2s. a case is to be charged, but the amount will be wholly remitted in the case of the necessitous.

The Board of Education criticizes the Council's scheme for part-time clinics at special remedial exercises centres, holding that one medical officer with suitable qualifications would be preferable to a system by which three of the Council's school doctors visit the centres once a month. The Board suggests that the Council should establish one whole-time clinic, properly staffed and equipped, and under the supervision of a medical officer having adequate experience of orthopaedics—a suggestion to which the Education Committee is giving consideration.

Appointment of L.C.C. Medical Officers.

The London County Council recently made some readjustments of its medical staff, creating vacancies for ten permanent whole-time assistant medical officers, thirteen whole-time assistant medical officers appointed for one year, and twenty-six part-time officers, also appointed for one year. The total number of applications was 190, from 134 applicants, and 71 were selected for interview. Of the 49 doctors recommended, 42 were or had been temporarily employed in connexion with the school medical service. The salary of officers in the first of the three categories is £400, rising to £500; and of those in the second, £400, both these salaries being based on pre-war conditions and at present subject to a temporary addition of 30 per cent., *plus* £60 a year. The salary of the part-time officers is £180 a year, and is based on current economic conditions.

Central Midwives Board.

The Central Midwives Board for England and Wales held a final session on March 18th, Sir Francis Champneys in the chair. Six midwives were removed from the roll. Serious negligence, leading in three instances to fatal results, was among the charges. In two cases the Board brought into force Clause 8 of the Midwives Act, whereby the women were not only removed from the roll of midwives, but also prohibited from attending in future at childbirth in any capacity. The ordinary monthly meeting was held on March 19th. The Chairman opened the proceedings by rising to express the deep grief of the Board at the death of Sir Robert Morant, whom he described as a unique and irreplaceable man whose loss would be long and deeply felt. The Board desired to record their sorrow at his death and to send a letter of sympathy to Lady Morant. The list of examiners as submitted by the Secretary and the revised list of lecturers were approved. It was decided to extend the present approval of existing midwives certified as teachers.

Scotland.

Small-pox in Glasgow.

At the end of last week there were eight cases of small-pox under treatment at the Belvidere Hospital, Glasgow. Two new cases admitted during the week were not related to any of those previously under treatment. Dr. Chalmers, M.O.H., states that a large percentage of the children and adolescents of the city have not been vaccinated, and are unprotected from small-pox; they constitute a possible danger to the health of the community, and he strongly urges vaccination, in their own and the public interest.

Radium in Cancer.

At the annual meeting of the Glasgow Royal Cancer Hospital last week, Sir George Beatson, the senior surgeon, said that the institution met a great want, and helped cases unsuitable for admission to the ordinary hospitals. It had unfortunately been necessary to close the research department, but a good deal of quiet work was going on which did not require large funds. The report showed that a number of cases had been treated with radium emanation through the agency of the West of Scotland Radium Committee, and Sir George Beatson said it had given relief in a great many cases. It was reported that 217 patients had been treated in the hospital, and the district nurse had made 1,425 visits. Though it was not considered opportune to make an appeal for the research department at present, it is hoped to do so before long.

India.

Maternity and Infant Welfare.

Infant mortality in India is appallingly high, and the conditions of maternity—pre-natal, natal, and post-natal, general and special—which so vitally affect infant viability and welfare, are profoundly unfavourable to both mothers and children. Medical schools, hospitals, and dispensaries, under Government encouragement and active support, have been established throughout India on a large scale, and have rendered immense service in initiating and promoting medical education, medical relief, and sanitary reform; but it has been felt by the Government, by philanthropists, and by missionaries that more special measures are desirable in behalf of the women and children of India. Accordingly various institutions and agencies have been organized for the very laudable purpose of ameliorating the health of Indian women and saving infant life. These have from

time to time been described in the BRITISH MEDICAL JOURNAL. The first departure in this direction was the Countess of Dufferin Fund, which provides home and hospital treatment for women by women throughout India, and, in addition, educates and trains doctors, compounders, and nurses (BRITISH MEDICAL JOURNAL, September 14th, 1918, p. 295). Affiliated with this fund is the Victoria Memorial Scholarship Fund, which is devoted to the education, training, and supervision of native *dhais* (midwives), a hereditary class in India (BRITISH MEDICAL JOURNAL, December 20th, 1919, p. 830). The Lady Hardinge College and Hospital in Delhi provides excellent facilities for the medical education of Indian women (BRITISH MEDICAL JOURNAL, November 8th, 1919, p. 614).

Finally, an association has been established for the provision of health and maternity supervision. Under the auspices of this institution a book on *Maternity and Infant Welfare*,[1] written by Dr. Ruth Young, has recently been published in India. It is based upon lectures delivered to pupils undergoing instruction in pursuance of the objects of this association. The subjects dealt with are: (1) The hygiene of pregnancy and the puerperium; (2) infant welfare; and (3) the work of health visitors. Under these heads all that relates to child-bearing and infant rearing is systematically expounded. The author has some misgivings as to whether she has successfully avoided the Scylla of undue elementary and superficial explanation and the Charybdis of too elaborate and scientific presentation; but this apprehension is ungrounded, for the information given is clear and sound and quite within the comprehension of educated Indians. For the uneducated oral instruction and advice are best imparted by health visitors. The conditions—climatic, domestic and personal—which affect maternal and infantile health are described, and the special evils resulting from the ignorant practices of native *dhais*, early marriages, purdah seclusion, superlactation, the improper feeding of infants, and other circumstances prejudicial to health, are pointed out and remedies suggested. In treating of maternal and infantile disabilities and diseases the propriety of consulting a doctor or resorting to hospital treatment in certain cases is indicated. In the section dealing with the work of health visitors the "causes which lead to the enormously high rate of infant mortality in India" and the "methods that can be adopted to lessen it" are systematically set forth. In this chapter information is supplied regarding arrangements made by the larger Indian municipalities—Calcutta, Bombay, Madras, Lahore, Delhi, and others—for entertaining nurses, midwives, and health visitors. The example of the larger cities will in time be followed by the small towns, villages, and hamlets of India.

Dr. Young's treatise will undoubtedly fulfil a most useful and beneficent purpose; and, as the general and hygienic education of Indian women progresses, it cannot fail to assist in reducing sickness and mortality among mothers and infants.

LEPROSY.

A conference on leprosy was held in Calcutta during the first week of February. Sir Leonard Rogers gave a lecture on the treatment of leprosy, and the Rev. F. Oldrieve spoke on the Lepers Act and leper asylums and settlements. At a public meeting presided over by the Metropolitan resolutions were adopted urging the Government of India to amend the existing Lepers Act during the next session of the Imperial Legislative Council.

YELLOW FEVER COMMITTEE.

The Yellow Fever Committee appointed by the Government of India commenced its sittings in Calcutta on February 9th. A large amount of information is available regarding the risks of the introduction of the disease into India, and the main matter for the consideration of the committee is the means of prevention which should be taken. It is believed that it will be necessary to establish, in co-operation with Australia and other parts of the empire, a sanitary intelligence service in ports from which infection may come.

[1] *Maternity and Infant Welfare.* A Handbook for Health Visitors, Parents, and Others in India. By Ruth Young, B.Sc., M.B., Ch.B. Calcutta: Butterworth and Co. (India), Ltd. 1920. (Cr. 8vo, pp. 183. Rs. 1.8 net.)

Correspondence.

MEDICAL LITERATURE FOR VIENNA.

SIR,—We have received from Professor Wenckebach sad news concerning the state of Vienna and Austria. Dr. Wenckebach, although he accepted the call to Vienna but a short time before the war, has felt it his duty to abide with the suffering people who honoured him in the days of their prosperity. On the general misery of Austria in material needs it is not our purpose to dwell—it is but too well known; the professor's appeal is for the intellectual needs of a people whose souls are starving. In their penury he says that not a farthing can be had for books or journals, home or foreign, so that for the last three or four years neither teachers nor students have been able to learn what is going on in academical circles. His direct appeal to Great Britain is for recent medical and scientific literature, for which students in all faculties are athirst. He describes the zest with which a group of students will pounce upon any fragment of a journal which may drift into their bare libraries. May we then beg your readers not to throw away journals, books, or papers, and perhaps, furthermore, to make some little sacrifice to spare such literature for the Vienna Medical School. Professor Starling was to have joined us in this appeal, but left for Bombay before his signature was secured. Packets for Professor Wenckebach may be sent to Messrs. Schenker and Co., of 93, Bishopsgate, London, E.C., who have kindly undertaken to forward them in bulk to his care. Any small donations towards transport would be thankfully received by the firm.—We are, etc.,

CLIFFORD ALLBUTT,
J. MACKENZIE.

Cambridge, March 22nd.

OUR OPPORTUNITY.

SIR,—For long the practice of medicine has been unsatisfactory for the public, for the Government, for the medical profession, clinician, investigator, and medical officer of health.

There has been a long fight over the questions of remuneration and regulations, owing to the want of appreciation of each other's point of view, longer and more bitter than need have been. The profession has demanded such pay as shall enable it to do its work efficiently and has rightly been very jealous of its independence. The Government has rightly been anxious to ensure an efficient medical service in return for its expenditure of public money.

Now our differences have been, for the time at any rate, settled, and on the good use of that time depends much of the future success of the practice of medicine, both curative and preventive. If in the future the question of remuneration is raised again, our claim will be strong in proportion to the good use we have made of this time to improve the medical service that we can offer. But proper pay is not the only thing we want to make our work less burdensome and more effective; true, the better our pay the less the number of patients we need see in a given time, and so the more carefully can we do our work, but not even a guinea a head would enable us to give a much better service under the present conditions.

The public want the best treatment to be available for themselves and their neighbours. The proof of their desire is the general interest now taken in all questions of medical service.

The Government is properly desirous of improved public health and well-being, and for the purpose an improved medical service. Proof of the Government's desire for this, and to obtain it in the way most agreeable to the profession, is shown in Sir George Newman's memorandum on preventive medicine. Reading that, one can feel assured of the desire of the Ministry of Health to improve the position of the general practitioner, and assured that there is no fear of a whole-time State medical service unless we, by our diffidence, drive the Government to it. They have also given proof of their intention by their frequent consultations with medical men and organizations, by their setting up of an Advisory Medical Council, by their willingness to arbitrate about terms under the Insurance Act, and the help they are beginning to give to medical research.

The medical profession wants better opportunity for every man, from the general practitioner to the consultant, to succeed in his profession. It wants better means to prevent and treat disease, better means for observation, more available hospitals, specialist services, laboratories, and so on, more time and opportunity for study and education. It wants work made more interesting, less tedious, and so better. There can be no doubt of the sincerity of the desire of medical men for these things.

We want our independence and individualism, so much of it as is essential for progress, but at the same time we want the help of the State; but it is no good for us to say the State must do this and do that, and at the same time to claim complete independence and individualism, or we shall be in the position of the umbrella merchant who, congratulated on the flourishing state of his business because of the continued wet weather, replied: "Yes, that is all very well, but there ain't nothing doing in parasols."

All the factors for progress are now at hand; everything is favourable. Now is our time; the tide is flowing; with our own goodwill and initiative we shall gain the land we seek, but we shall never get there if we wait and let ourselves be caught in the quicksands of doubt and prejudice, that prejudice born of years of mutual mistakes and misunderstandings. What can we do now? Singly and through our various associations we can do much. We can influence and lead the public. We can co-operate with and help the Government in the development of an organized health service. We can influence public men and public bodies. The sum of our individual influences, the combined power of our various associations, must be great. In a more immediate and practical way we can now help to promote the institution of hospitals of all sorts, laboratories, post-graduate clinics, ambulance services, the organization of the work of institutions and private work. We can co-operate more than we have done in the past with public health authorities.

We must watch—must even go out of our way to look for chances to help. We must see what is wanted and act, so far as we can, on our own. If we do not act ourselves in the interest of the public, the State will, must do so for us. It is for us to enrol ourselves in a great voluntary army at the service of the community or submit to conscription. The day is dawning of many much-needed and far-reaching reforms; we must be prepared when it comes.

We have now a great opportunity such as we have never had before to help in the uplifting of medicine and of our profession, and while maintaining what is essential of our individualism and our independence, to show the world that the desire we have deepest in our hearts is the welfare of mankind; we must

> Seize the occasion now while it is nigh,
> 'Tis vain to seek it when it's once gone by.

—I am, etc.,

Bradford-on-Avon, March 27th. CHAS. E. S. FLEMMING.

HEAT HYPERPYREXIA.

SIR,—Having experienced part of the hot season of 1916, the whole of that of 1917, and part of that of 1918 in Mesopotamia, I read with very great interest the authoritative articles by Dr. Willcox and Professor Leonard Hill, and, at the risk of appearing presumptuous, I should like to add the following remarks:

During nearly the whole of the period I was serving with a general hospital at Amara, and 280 cases of effects of heat—E.O.H. (B.)—acute and otherwise, passed through my hands.

With regard to electric fans, after experimenting with a small table fan in my own bunk, the pace of which could be regulated, I found that at high speed the current of air felt like the blast from a furnace, but that a lower speed was cool and refreshing. The high speed evidently caused a too rapid evaporation of sweat. Fans in the wards were fixed near the roof, under which the air was fearfully hot, because the roof was made with corrugated iron, covered with mud. The following year a thick layer of rushes was placed on the iron and mud was plastered over the rushes. The wards were then very much cooler, and the hot blast from the fans less noticeable. The great drawback to the rushes was that rats took up their abode there. I found that the best way to keep a ward cool was to have the fans running slowly, with the windows closed on the sunny side and open on the shaded side. The beds in the corners of the wards, where the air was more stagnant, were frequently observed to be bad spots for any one liable to heat-stroke.

With regard to alcohol, I personally believe that a "gin and ginger" at sundown was an excellent thing. Micturition between breakfast and sundown was a rare occurrence and the small tot of gin provided a useful diuretic and relieved the kidneys and bladder of highly concentrated and débris-ladened urine. All patients were encouraged to drink water very freely.

As to treatment, diaphoretics were of no use at all after the onset of heat-stroke, but many of the cases I had under my care were more or less convalescent from various diseases, and I believe that by ordering them diaphoretic mixture twice daily, with unlimited water, I had fewer cases of either primary or recurrent heat-stroke than in any other ward in the hospital. I regarded constipation as a thing to be avoided at all costs, both from personal experience and observation in the wards.

In acute cases the patient's bed was drawn out from the wall under a fan, and often between the two lateral exits from the ward, which were opened to create a draught. Ice was packed under the occiput and at the sides of the neck and into each axilla, and enemata of ice-water, which Sir James Cantlie had told me of when I was a student, were undoubtedly very effectual. The cold wet sheet was always used. For convulsions and restlessness I personally came to the conclusion that a cold enema containing potassium bromide was of more use than venesection followed by saline. Ice-water enemata have their disadvantages, but, excepting the intravenous injection of quinine in hyperpyrexia complicating malaria, I believe them to be the most useful item of the routine treatment of this very terrible condition.—I am, etc.,

A. H. H. HOWARD, M.R.C.S., L.R.C.P.

Sheffield, March 24th.

THE SAFETY OF ETHYL CHLORIDE.

SIR,—In the recent numbers of the BRITISH MEDICAL JOURNAL (1919, vol. ii, pp. 558, 616, 690, 832) that have reached Australia there has been a discussion on the safety of ethyl chloride as an anaesthetic. The following figures speak for themselves.

At the Melbourne Dental Hospital all our extractions under general anaesthesia are done under ethyl chloride or somnoform (somnoform being 83 ethyl chloride, 16 ethyl bromide, and 1 methyl bromide). During the past thirteen and a half years 34,433 cases have been attended to by this method without a single fatality.

In the vast majority of these cases the anaesthetic has been given by dental students under supervision, each student being required to give forty administrations in his third year and sixty in his fourth year before obtaining his certificate. In every case the administration is given with the patient in the upright position, sitting in the dental chair, and by the open or semi-open method, the air valve of the inhaler always being wide open at the commencement of induction, and then gradually closed over. I am strongly opposed to the completely closed method of induction without the admission of air.

At the Eye and Ear Hospital, Melbourne, all post-nasal and adenoid cases are given open or semi-open ethyl chloride. During the past twelve and a half years over 9,000 cases have been attended to and without a fatality. At the Melbourne General Hospital and the Melbourne Women's Hospital in nearly every case the induction to general anaesthesia is by means of open ethyl chloride. In my own practice, which with hospital cases is certainly not under thirty cases a week, I never start induction for any operation except by open ethyl chloride, and have not done so since 1908. I have never had a fatality. I have used ethyl chloride continuously by the open or semi-open method in every class of work, not only in temperate but also in tropical climates, with the navy and with the army during the recent war, in Australia and France, winter and summer. Ethyl chloride is not fool proof—no anaesthetic is—but given with air, and by a push not a knock-out anaesthesia, it is one of the safest, if not the safest, and is certainly the most convenient form of administration and ahead of the cumbersome nitrous oxide-oxygen method,

which is so much in vogue at present. Of course, I am not speaking of it as a continuous form of administration for prolonged operations.

In all my operation cases, with the exception of post-nasal and tonsil cases and dental extractions, I give to males $\frac{1}{6}$ grain morphine and $\frac{1}{120}$ grain atropine, and to females $\frac{1}{8}$ grain morphine and $\frac{1}{150}$ grain atropine, three-quarters to one hour before operation. In anaesthetic administration it is not so much the anaesthetic that counts if a fatality occurs—it is not the gun, but the man behind the gun.—I am, etc.,

R. W. HORNABROOK,
Anaesthetist, Melbourne Hospital, Women's Hospital,
Feb. 12th. Melbourne, No. 11 A.G.H., Melbourne.

AWARDS FOR MEDICAL DISCOVERY.

SIR,—After the deputation to Mr. Balfour which was reported in the JOURNAL of March 6th, 1920, I was asked to publish a letter clearing up several points of difficulty which had arisen; and my letter appeared in *The Times* of March 16th. I am, however, advised to publish a note for the information of medical men.

The proposal of the Conjoint Committee of the British Medical Association and the British Science Guild (see BRITISH MEDICAL JOURNAL, January 3rd, p. 25) was that the State should give £20,000 a year in the form of thirty or more life pensions to men whose medical researches have been of general value to the nation. When this proposal was put before Mr. Balfour several minor difficulties were raised. Thus it was suggested that the selection of recipients would not always be an easy task. But the same difficulty exists whenever any award is made, as, for instance, in selecting new Fellows for the Royal Society, or in giving medals or Nobel prizes, or, indeed, in allotting all public honours. If the mere difficulty of selection is held to be a bar to the feasibility of our scheme, no awards at all could be given. The matter appears to me to be one merely of detail. Registers of all possible candidates must be kept, particularizing the work done by each, and then a proper committee must make the selection. This is done in the similar cases mentioned above. The Council of the Royal Society makes a very careful scrutiny of the claims of candidates for its Fellowship; the procedure of the Nobel Committees is, I believe, still more rigorous, and occupies many months; and let us hope that the State is no less careful before recommending His Majesty to award the valuable distinctions conferred by him. All this costs, indeed, some trouble, but it is generally held that the stimulation of merit is worth the trouble involved. Just the same principle will have to be adopted for the proposed awards for medical discovery. I should add, however, that, in my opinion, the selecting committee should be chosen with particular reference to their own achievements in medical research; and, after the first selections are made, that the men selected should themselves have seats on that committee.

It is impossible to define our proposals further at this stage until it has been decided by what official route the awards are to be given, if and when the general principle has been accepted. Perhaps an extension of the existing Civil List pensions would suffice; but I understand that these are conferred only by the Premier on applications from influential friends of candidates, and I doubt whether this procedure will commend itself to many medical men. Another possible route is by petition to the Chancellor of the Exchequer, according to the precedent of Jenner in 1802; but by rule the Chancellor can refuse to forward such petitions to the House of Commons, and no one will know his reasons for such refusal; so that this again is not a very satisfactory route. A third possible route is to make a legal application to the Royal Commission on Awards to Inventors; but this appears to be difficult for legal reasons which apparently apply to medical discoveries and inventions as distinct from all those made outside the profession. It is argued that medical men are obliged to disclose their discoveries and inventions at once, and that therefore they have no claim for protection or compensation by the State—so that medical men are punished for their own altruism. I know of two cases in which this argument has been actually used already; but I have been informed that I may have the case argued at my expense before the Commission if I like; and, if our other proposals fail, I propose to adopt this procedure, and trust that the profession will not object to my doing so. Personally I think that medical men would prefer a procedure which will enable them to approach the State for compensation through a legal channel and not through the influence of friends or through applications to Ministers. In our opinion, persons who have added greatly to medical science without remuneration for themselves and at the cost of much time and trouble which might have been spent by them more profitably in acquiring or increasing medical practice, have a distinct claim for compensation by the State—as was admitted by Parliament in the case of Jenner.

The personal opinions of private individuals like myself are, however, of little value, and the matter ought to be thoroughly discussed by some committee appointed by Government for the purpose. I urged this upon Mr. Balfour at the deputation and trust that he will accept the idea. But here again the committee which considers the details should contain men who have themselves done medical research of distinction and who therefore know the difficulties attending such labours.

Those who have read the original report of the Conjoint Committee will see that we were in favour of similar awards being given for other branches of science, and indeed for great labours in entirely different fields. They will also know that we do not propose in any way that the funds at the disposal of the Medical Research Committee should be diminished for the sake of the awards which we favour. We are, however, unanimous in the view that such awards should be given in addition to the subventions for current researches allotted by the Medical Research Committee; and I feel sure that the great body of the medical profession will support us in this. In the meantime we are waiting to see whether the Government is going to accept the general principle which we put before it at the deputation.

I was requested by the Conjoint Committee to keep a list of names of possible candidates furnished to me by members of the Committee. I have done so and have received about forty names. Of these I am sure that at least half are the names of men the whole profession would be glad to see rewarded in the way mentioned. Whether all of them would wish for compensation or not, I cannot say, but I am quite sure that some of them need it and that all deserve it.—I am, etc.,

London, N.W., March 26th. RONALD ROSS.

EARLY DIAGNOSIS OF SYPHILIS.

SIR,—Dr. Bryans's letter in the JOURNAL of March 20th (p. 416) furnishes excellent, though quite unintentional, evidence of the danger of relying solely upon microscopical examination in the diagnosis of syphilis. Dr. Bryans apparently is only prepared to accept a diagnosis of syphilis when the *S. pallida* is shown by dark-ground illumination, and regards Fontana's method of staining as unreliable. In this he is at variance with many pathologists. However, this is a matter of secondary importance; the main point is that syphilitic chancres, which are clinically obvious, not infrequently give negative results with either method. As a result of the false teaching which places laboratory diagnosis before clinical experience, not a few of the victims of syphilis suffer from delayed treatment, or even escape treatment altogether.

With regard to chancroids, Dr. E. Harrison's statement, to which Dr. Bryans takes exception, that chancroid is a rare condition and nearly always has "syphilis at the back of it," is in our opinion perfectly correct. One of us, after an experience of many thousands of cases of venereal diseases in the army, has come to the conclusion that there are very few cases of chancroid pure and simple. These cases are invariably contracted from professional or amateur prostitutes, the great majority of whom are infected with syphilis as well. This accounts for the fact that nine out of ten chancroids are followed by syphilis. Indeed, if all cases of apparent chancroid were treated at once for syphilis, much less harm would be done than by keeping them under observation, and thereby losing invaluable time for the majority which in due course are followed by syphilis.—We are, etc.,

C. F. MARSHALL, M.D., F.R.C.S.,
E. G. FFRENCH, M.D., F.R.C.S.E.,
London, W., March 25th. Major R.A.M.C.

SHINGLES, VARICELLA, EPILEPSY, AND THE WEATHER.

SIR,—I have read Dr. James Taylor's paper (February 28th, p. 282) with keen interest, as it dealt with subjects which have attracted my attention for a good many years. There is, no doubt, a close connexion between shingles and chicken-pox. At any rate, they frequently occur together or closely follow each other. But whether the one is the cause of the other or both are dependent on a common factor must be left an open question.

There is also a very close relation between shingles and epileptic fits. For instance, on February 9th, the report of the Meteorological Office was "considerable amount of low cloud," and I saw on that day one case of shingles and a patient who had four severe epileptic fits. On February 10th, with "sky mainly covered with low cloud," I had another case of shingles and another of epileptic fits. On February 20th, with "much low cloud," I saw two fits and a case of herpes zoster. At the Exeter Poor Law Institution we know when to expect fits by noting the meteorological readings for the day. It might well be that chicken-pox, like shingles and epilepsy, are "pressor diseases" due to vasomotor changes caused by atmospheric pressure.

There is a clinical fact which I have not seen alluded to before which lends support to the theory that fits are precipitated by arterial hypertension. I allude to their complete cessation in pyrexia. Chronic epileptics who contract a disease by which the temperature is raised immediately become free from fits during that period. I believe that it is the gradual rise of temperature during the fit that brings the attack to an end. On these premisses I have been in the habit of exhibiting vaso-dilators—the citrates, the nitrates—with the occasional addition of bromides to my epileptic patients. When an epileptic states that the bromides do him good, but unfortunately they bring out an ugly rash, the correct thing to do is to administer the drug in combination with vaso-dilators, and the bromide rash will not appear. In the prevention of the bromide and iodide rash vaso-dilators are infinitely superior to the much lauded arsenic.

There is one other disease which has a very close connexion with chicken-pox, and that is impetigo contagiosa. It is a very common experience with me to see this skin disease rampant during an epidemic of chicken-pox, and it is caused obviously by local inoculation in children immune by a former attack of chicken-pox.—I am, etc.,

Exeter, March 1st. J. PEREIRA GRAY.

NASAL HYGIENE OR NASAL DRILL.

SIR,—Nasal hygiene has been systematically practised at the Roll of Honour Hospital, both in the nasal department and in the London County Council aural clinic, and also in the Westminster health centres for a couple of years.

The theory as well as the practice is taught. The mental and physical improvement in nearly every case in which the co-operation of the parents was secured have been very great, and were often obtained in a remarkably short time.

The rules laid down for clearing the nose are based on mechanical principles. Before beginning, the breathing is tested. If a full sigh can be accomplished through each nostril, tested separately, it is considered clear. Sneezing by artificial stimulation is only resorted to where the clearing cannot be effected by mere gentle blowing. Gentleness in dealing with the nose is insisted upon; no blowing is allowed unless or until there is something to come away. No ointment is used, as it is fatally easy to drive offending material inwards. The rules for blowing are:

1. The head is lowered to make an inclined plane for the discharge to invoke the aid of gravity.
2. The nostrils are left widely open so that the discharge may not be forced backwards into any of the danger zones, but, following the line of least resistance, may escape outwards.
3. The blowing is continued—not breaking the thread—till the clearance is complete, so that any of the openings of the tiny cells or sinuses may be sucked clear.

It is also taught on another mechanical principle that sniffing resembles pile driving—the catarrhal discharges being continually driven against the thin bony plates, which may in time yield, or through the openings into the blind chambers, where they find all the conditions for incubation.

The ultimate aim of nasal hygiene, as practised on the above lines, is to get the nose into such order that it may be able to perform its almost incredible number of functions without making its presence felt by its owner.

The term "nasal hygiene" is used instead of "nasal drill" because the latter implies that all children should be enrolled—the harm and damage done to the healthy noses would then be incalculable. The strong protest implied in Dr. Francis's letter will be endorsed by all who are working on preventive lines.—I am, etc.,

London, W., March 3rd. OCTAVIA LEWIN, M.B., B.S.Lond.

Obituary.

SIR JAMES GRANT, K.C.M.G., M.D., Ottawa.

SIR JAMES ALEXANDER GRANT, whose death on February 6th we have already reported, was born in Inverness-shire in August, 1831. His father, Dr. James Grant, soon afterwards removed to Canada. His son was educated at Queen's and McGill Universities, graduated in 1854, and commenced practice in Ottawa, where he resided during the remainder of his long life. He entered the Canadian parliament in 1865; the original Pacific Railway Bill, which embodied the first movement towards the trans-continental railway in Canada was introduced by him, and he supported the admission of the North-West Territories and British Columbia into the Confederation. He ceased to be M.P. in 1873, but entered Parliament again as the representative for Ottawa in 1892, and retained his seat until 1896.

He was President of the Ontario Medical Council in 1868, was for some fifty years member of the Medical Council of the Ontario College of Physicians and Surgeons, and was President of the Royal Society of Canada in 1901. He was Vice-President of the Department of Surgery of the International Medical Council in Philadelphia in 1876, and of the International Medical Congress at Washington in 1887. He was a member of the Royal College of Surgeons of England, a Fellow of the Royal College of Surgeons of Edinburgh, and was elected a Fellow of the Royal College of Physicians of London in 1882. He was much interested in the British Medical Association, was elected an honorary member in 1886, and attended the annual meeting in Montreal in 1897. He received the K.C.M.G. at Queen Victoria's first Jubilee in 1887.

Sir James Grant was an effective public speaker, and during his time took a large part in Canadian public life. He had been in failing health for some years, and on January 20th suffered a fracture of the femur, when he was removed to St. Luke's Hospital, of which he was one of the founders. He took much interest in tuberculosis, a subject upon which he wrote much, and was president of the Tuberculosis Association of Canada in 1901. Sir James Grant married the daughter of Mr. Edward Malloch, M.P., in 1856, by whom and by seven children he is survived. The funeral was attended by representatives of the Governor-General and the Royal Society of Canada and by many members of the medical profession.

WE regret to record the death of a veteran practitioner, Dr. THOMAS MELANCTHON EVANS of Hull, who died on March 15th. He was born at St. Neots in 1838, and was educated at Christ's Hospital and St. Bartholomew's Hospital, taking the diplomas of M.R.C.S. and L.S.A. in 1861. He commenced practice in Hull, and succeeded his brother in the post of house-surgeon at the Hull Royal Infirmary, to which he ultimately became consulting surgeon. Up till two years ago he was surgeon to the Hull Trinity House and took great interest in the inmates. He was a past president of the East York and North Lincoln Branch of the British Medical Association and of the Hull Literary and Philosophical Society. He leaves one daughter and three sons, one of whom is Dr. H. L. Evans, in practice at Hull. The funeral took place on March 18th, and was attended, among others, by representatives of the medical profession, the Hull Royal Infirmary, and Trinity House.

DR. THOMAS MILNE of Aberdeen died on March 16th in his 73rd year. He was born at Ellon, and received his education at the Gymnasium, Old Aberdeen, and at Aberdeen University; he graduated M.A. in 1868, M.B. and C.M. with honours in 1871, and M.D. in 1874. After serving as resident assistant surgeon to the Aberdeen Royal Infirmary he practised in several places, and eventually settled at Accrington, where he held the post of M.O.H. He returned to Aberdeen in 1892 and built up a large practice. He served as president of the Aberdeen Branch of the British Medical Association in 1913, and of the Aberdeen Philosophical Society and Aberdeen Medico-Chirurgical Society. He was a retired surgeon captain of the 2nd Volunteer Brigade, East Lancashire Regiment. Dr. Milne is survived by three sons and two daughters, the youngest son being Captain Herbert Stewart Milne, R.A.M.C., M.C.

Universities and Colleges.

UNIVERSITY OF OXFORD.

CHARLES PUTNAM SYMONDS, M.A., M.D., M.R.C.P., assistant physician for nervous diseases, Guy's Hospital, has been elected to a Radcliffe Travelling Fellowship, tenable for three years.

UNIVERSITY OF LONDON.

MILITARY EDUCATION.

THE Military Education Committee, which administers the Officers' Training Corps, has recently presented its eleventh annual report, covering the year 1919. The establishment consists of one artillery unit, one engineering unit, an infantry unit (one battalion of three companies), an Army Service unit (one transport and supply company), and a medical unit consisting of four sections of a field ambulance. In the medical unit the number of officers was eleven and the number of cadets in training during the year 347. The Committee has discussed the future organization of the O.T.C. with a view to drawing attention to certain disabilities suffered during the war. A conference of past and present officers of the medical unit was held in July and its report forwarded by the Committee to the War Office. Later a conference of the combatant units was convened, and finally the Committee made certain recommendations which have been forwarded to the Secretary of State for War, with an indication that the Senate would welcome the appointment of a War Office Committee to consider the future of the Officers' Training Corps. The recommendations included a suggestion that the Senior Division O.T.C., composed of contingents provided by universities, should be organized as a distinct corps and that, save in special circumstances, commissions in the Regular Army (university commissions), Special Reserve, and Territorial Force should be granted only to persons who have received training provided in the Officers' Training Corps or equivalent training. It is suggested that the present Junior Division O.T.C. should not form part of this corps, but be given a distinct name and organization. It was suggested also that provision should be made for all branches of special military work, particularly those involving the application of science to war and that the universities should receive grants to cover all approved expenses. The report has been forwarded to other universities of the United Kingdom.

UNIVERSITY COLLEGE.

The annual report shows that the total number of students in 1918-19 was 2,048. The increase of 977 on the previous year took place mainly in January, 1919; it was due almost exclusively to entrance of ex-service men, most of whom, under special arrangements made for their benefit, were able to complete a full session's work by the beginning of August. The total revenue of the college was £77,824, leaving a deficit of £2,210, due to the necessary increases in salaries and the general increased cost of conducting the college. An appeal is made for £30,000 for a war memorial, to include the erection of a great hall for the use of the college and medical school, and the endowment of University College Hall, Ealing. Towards this amount £5,000 has been subscribed. The chairman, Sir Gregory Foster, and the vice-chairman, Dr. G. Blacker, of this War Memorial Fund of University College and University College Hospital, ask all former students of the college and medical school to send their names and addresses to the hon. secretary, Mr. Lawrence Solomon, at the college.

UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

THIRD M.B., CH.B. (*General Pathology and Morbid Anatomy*): R. H. Allison, V. Chadwick, N. S. Craig, Caroline M. Edwardes-Evans, A. W. Kirkham, Margaret Pownall, H. D. Preston, Bertha Renshaw, Florence G. Sherry.

D.P.H. (*Part II*).—Ahmed Aziz, J. P. Broom, J. H. Campain, T. E. Dickinson, W. E. Fitzgerald, J. R. Jagger, E. F. Hill, M. R. Soni, A. V. Stocks, C. F. White.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examinations indicated:

THIRD M.B. (*Materia Medica, Pharmacology and Pharmacy, Public Health, Medical Jurisprudence, Pathology and Elementary Bacteriology*).—*L. Myers, F. J. Benjamin, J. J. N. Daniels, Dorothy E. Elliott, R. Hewitson, J. Jackson, M. Mickler, Joan W. Nicoll, R. J. Perring, S. T. Pybus, Mary F. Richardson, Olive C. Wilson, Philomena R. Whitaker.

* With second class honours.

UNIVERSITY OF ABERDEEN.

AT the graduation ceremony on March 24th the following were among the degrees conferred:

LL.D. (*honoris causa*): Dr. William Bulloch, F.R.S., Professor of Bacteriology, University of London; Sir Robert Jones, K.B.E., C.B., late Major-General A.M.S. and Inspector of Military Orthopaedics; Dr. David Nicolson, C.B., Lord Chancellor's Visitor in Lunacy and Medical Adviser of the Home Secretary in criminal mental cases.

M.D.—A. S. Garden, J. Leask, Helen Lillie.

M.B., CH.B.—M. Y. Garden (with second class honours), Dorothy E. Bryant, A. V. R. Don, C. A. Hay, Dorothy M. Holmes, Alice M. L. Innes, R. C. MacLennan, J. M. Stuart, D. M. Thomson, Ida E. Wood.

D.P.H.—A. G. B. Duncan, R. R. Garden, E. A. Mackenzie, L. M. V. Mitchell, Anne Simpson.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examinations indicated:

M.B., CH.B. (*Medical Jurisprudence and Public Health*).—A. Barr, A. R Black, D. E. Brown, T. C Christie, W. Davie, P. A. Faichney, W. M. Hamilton, *H. W. Howieson, T. D. Hunter, D. Imrie, L. M. Johnston, J. Lavelle, W. R. M'Crae, P. M'Luskie, J. M. L. Mitchell, T. N. Ray, I. MacR. Sandilands, J. Shulman, J. M'L. Strang, A. R. Waddell, J. W. Walker, R. J. Watson, J. C. Watt, J. H. Wilson, P. A. Wilson, J. Young, Annie Barlow, Rosa Bass, Elizabeth M. V. H. B. Bird, Ellen B. Cowan, Elizabeth J. Findlay, Brunnhilde M. Grieve, Effie Niblock, Carolina J. Tessier.

M.B., CH.B. (*M., Materia Medica and Therapeutics; P., Pathology*).—R. Adam (M.), T. F. Arnott (M.), A. Baird (M.), J. Barlow (M.), *A. A. Bell (M., P.), A. L. Brough (M.), G. Brown (M.), M. Brown (M.), A O. Bruce (M.), T. M. Burton (M.), A. Cameron (M.), J. I. Cameron (M., P.), A. J. G. Caporn (M.), *D. F. Cappell (P.), A. Chisholm (M.), J. G. Craik (M., P.), J. S. Currie (M., P.), A. C. Dewar (M., P.), J. Dewar (M.), M. Douglas (P.), J. A. Dunlop (M., P.), A. Gibb (M., P.), A. H. Greig (M., P.), H. G. Halliday (P.), D. R. Hamilton (P.), G. Harvey (M.), E. E. Henderson (M.), T. H. Irvine (M.), W. Jope (P.), H. Kay (M.), W. M. Kennedy (M.), A. A. Kirkland (M.), F. J. Kitt (M.), J. R. Learmouth (M.), J. Leishmann (P.), J. A. Lister (M.), Alexander Logan (M.), Andrew Logan (M., P.), G. H. Macartney (M.), W. M. M'Cash (P.), T. S. MacDonald (M., P.), J. M'Dougall (M., P.), W. D. Macfarlane (M.), W. M. Macfarlane (P.), J. J. M'Ghee (M., P.), T. J. M'Karl (M.), W. M'Kendrick (M.), J. M. Mackenzie (M., P.), P. M'K. M'Killop (M.), J. M'Nair (M., P.), W. B. M'Queen (M., P.), D. Meikle (M., P.), N. Meilamed (M., P.), C. Melville (P.), H. R. Melville (M.), W. Muir (M.), I. Murray (M.), F. J. Newall (M.), R. A. S. Peacock (M.), T. D. Pyle (P.), G. W. StC. Ramsay (M., P.), A. H. Rankin (M., P.), T. N. Ray (P.), A. M. Robertson (M.), W. Robinson (M.), J. Y. Scott (M.), C. M. Smith (M.), D. Stewart (M., P.), A. Symon (M.), W. L. Templeton (M.), D. M. Thompson (M., P.), J. C. Watt (P.), A. F. Whyte (M.), *J. Wilson (P.), R. MacL. Wilson (M., P.), *J. Yule (M., P.), Edith A. Allan (P.), Isabel P. Allan (M.), Martha L Anderson (P.), Marion C. Boyd (M.), Mary D. A. Boyd (M.), Georgie I. Brodie (P.), Elizabeth E. Brown (M.), Margaret E. Campbell (M.), Gladys M. Chapell (P.), Christabel L. M. Charlesworth (M., P.), Elizabeth Coupland (P.), Isabella C. Darling (M.), Christian D. H. Eason (M.), Jean MacF. Gilchrist (P.), Christina Gray (M., P.), Catherine Hill (M.), Isobel R. Hill (M.), Annie W. Humble (M.), Moira E. N. MacAlpine (P.), Joan A. MacColl (M.), Mary M'Quaker (P.), Henrietta L. Paterson (M.), Joanna T. Rae (P.), Helen Y. Stoddart (M.), Jeanie M. Strathie (M., P.), Adeline G. Vallance (P.), Jeanie L. D. Wilson (P.). Old Regulations (*Pathology*): D. S. Buchanan, A. M'C. Millar, R. R. Waters.

* With distinction.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary Comitia of the Royal College of Physicians of London was held on Monday, March 29th, at 5 p.m. The President, Sir Norman Moore, delivered the annual presidential address, in which he stated that the College list now contained the names of 357 Fellows, 506 Members, 1 extra-Licentiate, 13,800 Licentiates, 863 Diplomates in Public Health, and 18 Diplomates in Tropical Diseases. He gave lists of the honours conferred by the King upon Fellows, Members, and Licentiates, and then read short obituary notices of the 11 Fellows who have died since the delivery of the last address a year ago—namely, Dr. F. J. Smith, Dr. Joseph Wiglesworth, Dr. G. B. Brodie, Dr. E. G. Fearnsides, Professor W. S. Greenfield, Dr. Charles Mercier, Dr. Guthrie Rankin, Sir William Osler, Dr. Laurence Humphry, Sir James Alexander Grant, and Dr. Samuel Hatch West.

The election to the office of president for the ensuing year was held, Sir Norman Moore being re-elected. He then gave his faith to the College in the prescribed form.

Licences to practise were granted to George Cleverdon Hartley, Birmingham University, and to Kathleen Suzanne Vine, Royal Free Hospital.

The President returned thanks to the College and then closed the Comitia.

THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE elections for the three vacancies on the Council of the Royal College of Surgeons will be held on Thursday, July 1st. Sir Anthony Bowlby, Mr. W. Harrison Cripps, and Sir D'Arcy Power, all of St. Bartholomew's Hospital, retire at the expiration of their terms of office. Mr. Harrison Cripps will not seek re-election, but the other two out-going members intend to come forward. There will thus be seven candidates, two for re-election and five for election. The new candidates are: Mr. W. Thelwall Thomas, of Liverpool, Member 1886 and Fellow 1890; Mr. John Herbert Fisher, ophthalmic surgeon, St. Thomas's Hospital, Member 1891, Fellow 1893; Mr. Herbert Stringfellow Pendlebury, Member 1896, Fellow 1897 (St. George's Hospital); Mr. Francis James Steward, Member 1895, Fellow 1898 (Guy's Hospital); and Mr. Victor Bonney, Member 1896, Fellow 1899 (the Middlesex Hospital).

The Services.

THE SPECIAL RESERVE, R.A.M.C.

A CORRESPONDENT writes: I should like to state two grievances of the Special Reserve Officer R.A.M.C. which so far have not been mentioned by any of your correspondents. It is laid down in the conditions of service for Officers Special Reserve R.A.M.S.: (1) That on mobilization £50 would be paid for disturbance and extra kit. (2) That a retaining fee of £20 per annum would be paid while disembodied.

As regards (1), officers who joined early in the war were unable to obtain this sum. As regards (2), I recently applied for the retaining fee after being disembodied over twelve months. I received a reply informing me that a War Office letter of October 30th, 1919, had stopped the payment of the retaining fees for Special Reserve Officers. That the War Office can alter the terms of service in this manner will prove the last straw in my case, and will certainly cause my resignation when this is permitted. I shall join as a temporary officer if necessary on any future occasion.

THE NEW TERRITORIAL ARMY.

THE following appointments to Divisions of the new Territorial Army are announced:

HIGHLAND DIVISION.

Medical Service.—Colonel F. Kelly, C.B.E., appointed A.D.M.S.; Captain J. F. Macintosh to command 1st Highland Field Ambulance, R.A.M.C.; Lieut.-Colonel D. Rorie, D.S.O., to command 2nd Highland Field Ambulance, R.A.M.C.; Major A. E. Kidd, O.B.E., to command 3rd Highland Field Ambulance, R.A.M.C.

EAST LANCASHIRE DIVISION.

Medical Service.—Colonel W. Ranson, D.S.O., appointed A.D.M.S.; Major G. W. Fitzgerald, O.B.E., to command 1st East Lancashire Field Ambulance, R.A.M.C.; Major A. Callam, D.S.O., to command 2nd East Lancashire Field Ambulance, R.A.M.C.; Major E. H. Cox, D.S.O., to command 3rd East Lancashire Field Ambulance, R.A.M.C.

WEST LANCASHIRE DIVISION.

Medical Service.—Major C. H. Lindsay, C.M.G., D.S.O., appointed A.D.M.S.

NORTH MIDLAND DIVISION.

Medical Service.—Major T. A. Barron to command 1st North Midland Field Ambulance, R.A.M.C.; Captain J. F. Dixon to command 2nd North Midland Field Ambulance, R.A.M.C.; Major A. E. Hodder, D.S.O. (T.F.R.), to command 3rd North Midland Field Ambulance, R.A.M.C.

SOUTH MIDLAND DIVISION.

Medical Service.—Colonel L. J. Blandford, C.B.E., appointed A.D.M.S.; Lieut.-Colonel C. H. Howkins, C.B.E., D.S.O., to command 1st South Midland Field Ambulance, R.A.M.C.; Captain R. A. Broderick, D.S.O., M.C., to command 2nd South Midland Field Ambulance, R.A.M.C.; Captain T. A. Green, D.S.O., to command 3rd South Midland Field Ambulance, R.A.M.C.

WELSH DIVISION.

Medical Service.—Major T. Donovan to command 1st Welsh Field Ambulance, R.A.M.C.; Major H. T. Samuel to command 2nd Welsh Field Ambulance, R.A.M.C.; Major C. L. Isaac to command 3rd Welsh Field Ambulance, R.A.M.C.

WESSEX DIVISION.

Medical Service.—Colonel H. Pickard, C.B., C.M.G., appointed A.D.M.S.; Captain R. Burgess, D.S.O., M.C., to command 1st Wessex Field Ambulance, R.A.M.C.; Major T. P. Puddicombe, D.S.O., to command 2nd Wessex Field Ambulance, R.A.M.C.; Brevet Lieut.-Colonel E. B. Bird, D.S.O., to command 3rd Wessex Field Ambulance, R.A.M.C.

WEST RIDING DIVISION.

Medical Service.—Colonel A. D. Sharp, C.B., C.M.G., appointed A.D.M.S.; Captain W. Lister to command 1st West Riding Field Ambulance, R.A.M.C.; Major F. Whalley, D.S.O., to command 2nd West Riding Field Ambulance, R.A.M.C.; Lieut.-Colonel J. Mackinnon, D.S.O., to command 3rd West Riding Field Ambulance, R.A.M.C.

Medical News.

THE course of lectures and demonstrations in medical psychology at the Maudsley Mental Hospital, Denmark Hill, S.E., has begun, and is, we learn, being attended by a class of 35. The course is arranged to meet the requirements for the Cambridge diploma in psychological medicine.

THE annual meeting of the Society for the Study of Inebriety will be held at the house of the Medical Society of London, 11, Chandos Street, W.1, on Tuesday, April 13th, when Dr. Maurice Nicoll will open a discussion on analytical psychology in alcoholism.

A THREE months' course of lectures and demonstrations in hospital administration will be given at the Western Hospital, Seagrave Road, Fulham, by Dr. R. M. Bruce, medical superintendent, on Tuesdays and Fridays, beginning on April 6th. The fee for the course is £3 3s., and cheques should be made payable to the Metropolitan Asylums Board.

A SERIES of post-graduate lectures, arranged by the Faculty of Medicine of the University of Sheffield, will be given during April, May, and June on Wednesdays, at 4 p.m., in the Royal Hospital, Royal Infirmary, or Pathological Museum, beginning April 7th. The lectures are open to all members of the medical profession, free of charge. They will be announced week by week in the Diary of post-graduate courses in the SUPPLEMENT.

TWO Grocers' scholarships for the encouragement of original research in sanitary science are declared vacant. Each is of the value of £300 a year, with an allowance to meet the cost of apparatus and other expenses in connexion with the work. Each scholarship is tenable for one year, but may be renewed for a second or third year. Further particulars will be found in our advertising columns.

THE Ministry of Health has revived Article 4 of the Poor Law Institutions Order, 1913 (suspended during the war), which requires the removal from workhouses of normal children over 3 years of age. The State Children's Aid Association writes to protest against suggestions which have been made to the effect that one workhouse in a district should be emptied of adult inmates to make room for children from several neighbouring unions. It is objected that large buildings and institutional discipline of work and play will not make up to a child for separation from family life. Guardians are urged to extend the system of boarding-out, and to offer better terms; and also to give increased out-relief to widows to enable them to keep their children with them. The Ministry of Health has just issued a memorandum calling the attention of guardians to Section 9 of the War Pensions Act, 1918. It imposes upon the Minister of Pensions the duty of providing for the care of children of deceased or serving officers or men in the naval, military, or air services, if such children, owing to their being motherless, or for any other reason, are suffering from neglect or want of proper care. It is asked that the guardians should in such cases communicate with the local War Pensions Subcommittee.

DR. T. F. HIGGS, medical officer of the Poor Law institution, district medical and public vaccinator of the Dudley Union, has been presented by the officers of the union with a framed portrait of himself as a mark of their high esteem. Dr. Higgs has been medical officer of the Poor Law institution for forty-four years and a district medical officer of the union for sixty years. At Dr. Higgs's request the portrait will be hung in the committee room.

THE Railway Clearing House has issued a pamphlet designed to convince the public that the increases in railway rates for the carriage of commodities do not appreciably affect the consumer. It contains much curious information, and may provide the long-suffering public with arguments when increased freight charges are assigned as a cause for raising prices. To carry fresh meat from Southampton to Birmingham costs ¼d. a pound more than before the war; to carry fruit from Southampton to Sheffield less than half a ¼d. a pound more. The increase on carrying fish from Grimsby to London is 1d. on 12 lb., and on the carriage of salmon

from Aberdeen to London one-third of 1d. a pound. The carriage of 25 lb. of butter from Aylesbury to London costs 1d. more, and so on. Another way of looking at the matter is that fish is conveyed by passenger train from Grimsby to London at a charge of ¼d. a pound, from Aberdeen to London—a distance of 525 miles—by express train for just over ½d. a pound. Attention is called to the fact that there has been no increase in the charge for the carriage of fresh milk, nor in the goods train rates for manure, basic slag, or lime for agricultural purposes.

Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin, and of the Scottish Office, 6, Rutland Square, Edinburgh.

QUERIES AND ANSWERS.

"HEBRIDES" asks whether asthma is a common antecedent of pulmonary tuberculosis.

HAY FEVER.

DR. W. ROSSELL JUDD (Ashton-under-Lyne) writes in reply to "R. A. J." in the BRITISH MEDICAL JOURNAL of March 27th: The worst case of hay fever I have seen was that of a lady, aged 24, who consulted me about six years ago. The attacks generally began about the middle of May or beginning of June. Owing to the severe frontal headache and facial disfigurement caused by the acute catarrhal conditions of eyes and nose she confined herself to her room and spent her time in mopping up the secretions with innumerable handkerchiefs. She derived some relief from going to the seaside for six weeks or more away from the graminaceous pollen. At the end of December following the last attack I tried the patient's susceptibility by means of the "Hay Fever Reaction Outfit" (Parke, Davis, and Co.); the red tube gave a very slight reaction, the green tube a fairly severe reaction. I therefore hit upon an intermediate course of dosage, and began in the first week in January, following the last with 0.5 c.cm. intramuscular injections of 100 units strength of pollacine (Parke, Davis, and Co.) twice weekly up to the end of March. In April and May I gave 1 c.cm. weekly. In order to ascertain the patient's immunity I advised her to take a walk in the country and amongst hay fields. Her report was "that after a two hours' walk amongst growing hay she felt a tickling sensation in the nose, with some slight watering of the eyes." Apart from this she was free from any attack. The following January (twelve months after) I gave her 1 c.cm. injections of the same strength weekly from January to the end of April, and since then she has not had any further attacks.

INCOME TAX.

"E. M." was demobilized on November 26th, 1919, and earned nothing until February 6th, 1920, when he "bought a small nucleus from which he will receive nothing in the current year to April 5th, 1920." How should he fill in his income tax declaration for that year?

*** "E. M." is liable on his net earnings from February 6th to April 5th, 1920, even though he may not receive any portion of those earnings in cash by the latter date; naturally it will be necessary to make an estimate for the two months, unless he can ascertain from his predecessor what a twelve months' average would be, in which case he might take $\frac{2}{12}$ of that amount. The military pay, but not the gratuity, should be shown on the statement of total income (page 3 of the form), and also the gross amount of the taxed dividends in the space provided on the same page.

LETTERS, NOTES, ETC.

ACUTE PULMONARY OEDEMA.

DR. H. CAMERON KIDD (Bromsgrove) writes: A vivid and accurate description of death from acute oedema of the lungs may be found in Zola's book, *Fécondité*, chap. iii, bk. v, pp. 554–560 of the 1899 edition—a book, by the way, which I wish might be translated into plain British vernacular, and distributed to every mother's union and infant centre in the country. It was this description that first taught me of the disease. In the case of almost any other writer of fiction one would have dismissed with a smile, as a novelist's error, the sudden attack of "congestion pulmonaire" which killed a perfectly healthy robust young woman in one night; but, knowing Zola's accuracy in matters medical, I looked up the subject, and have since been aware of the disease, though I never saw a case in thirty years of busy practice. Perhaps the disease is more frequently met with on the Continent than it is in England. In Zola's case—almost certainly authentic—the preliminaries included a severe wetting from a thunderstorm in the afternoon and a hearty supper of crayfish, which suggests urticaria from food poisoning, as pointed out by Dr. Stewart McNaughton, though the author evidently attributed the whole to the wetting, without suspecting the crayfish in any way.

CO-OPERATION IN HEALTH WORK.

ON the fifth Sunday in Lent, after evensong in Giggleswick-in Craven Church, Dr. J. Johnstone Jervis, medical officer of health for Leeds, gave an address on "The Child." He spoke of the pre-natal effects of the racial poisons—syphilis and intemperance—and referred to the need of wise care in the management of infants during the first four weeks after birth, during which period the greatest number of deaths under 1 year took place. The mortality continued high during the first year, and in the majority of cases, he said, death was due to bad mothering. No mother, he said, had a right to delegate the feeding of her baby to a nurse or firm of patent food manufacturers; 90 per cent. of mothers could nurse their babies, but the majority would not try. The country wanted to know why only 36 per cent. of her sons were found to be A1 men. Dr. Jervis suggested that the answer was that England had lost the art of producing mothers. "Let England," he said, "replace the mother on her throne, and so will she save herself and remove her reproach." We are told that the address produced a great impression on the congregation, and the vicar, the Rev. T. P. Brocklehurst, in a note appeals for more active co-operation between the medical and clerical vocations. "We need," he writes, "more of such enlightenment in our pulpits; after all, we have to deal with *this* state of existence, which we do know something about." The same post brings a statement put out by the Public Health Service of the United States. The Surgeon-General of that service has recently stated that one man in every three called up for the army of the United States was found to be physically unfit. He summoned a conference of the American Red Cross, Public Health Association, Medical Association, Tuberculosis Association, and other bodies concerned to consider a programme for co-ordinated work, founded on the results of the co-operation between the American Red Cross, the State and local health authorities, and the United States Public Health Service in the extra-cantonment work during the war. The American Red Cross has set aside some millions of dollars for health work in the United States and intends to co-operate with existing health agencies.

GOOD AND BAD JUGS.

"H. K. W." says that in jugs, if the handle is moulded in one with the body, a hollow is often left in the handle where it joins the inside of the jug. As it is practically impossible to clean this hole, milk will remain in it day after day, so that fresh liquids will be contaminated. The right jugs to buy are, he says, those with the handle pressed on to the body, leaving the inside surface unbroken.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 37, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 36 and 37.

THE following appointments of certifying surgeons are vacant; Bradford, North East (York, West Riding), Burton-upon-Trent (Stafford), Llandilo (Carmarthen), Waterford (Waterford).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London: No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste-restante* letters addressed either in initials or numbers.

A Lecture
ON
THE SOLDIER'S HEART AND WAR NEUROSIS:
A STUDY IN SYMPTOMATOLOGY.

DELIVERED AT THE CLINICAL INSTITUTE, ST. ANDREWS.

BY

SIR JAMES MACKENZIE, M.D., F.R.S., F.R.C.P.

INTRODUCTION.

IN the investigation of disease the necessity for the study of symptoms has been recognized since the days of Hippocrates. Yet, notwithstanding the vast amount of labour spent on the subject, our knowledge to-day is far from complete. In an attempt to improve this knowledge I have been guided by certain principles the application of which has been attended with a measure of success. I desire to-day to illustrate the application of these principles in one field of research in which I have been labouring for over thirty years. During that research I have learnt many things, one of the chief being the fact that to investigate symptoms in any branch of medicine requires a long training in the school of experience. I have frequently had to discard observations made after fifteen or twenty years' experience simply because I found out that those observations were made before I had acquired the knowledge necessary to elucidate the peculiar features of a symptom. This has happened not only with the obscure symptoms that required some apparatus for their revelation, but has occurred frequently with symptoms perceptible to the unaided senses. It is for that reason I am so insistent that you should take particular pains to educate yourselves before you start on a piece of research, for if you do not you will find, after a long time spent in laborious work, that your results have been rendered valueless through imperfect observation. I have by me a vast accumulation of observations of little or no value because they were made at a time when my training was defective. These I sometimes sadly survey, although I recognize it was through this experience that I acquired such limited knowledge of the subject as I now possess. This is really the reason why a great many investigations which have entailed an enormous amount of labour have resulted either in no advance being made, or, which not infrequently happens, wrong conclusions being drawn whose application actually hampers the progress and misleads the practice of medicine.

I shall from time to time refer to investigations drawn from my own and other peoples' failures in order to direct attention to the reason of their failure. There is more to be learnt from the discovery of the cause of failure than from the contemplation of success. To-day, however, I wish to describe to you an inquiry that has been attended by a measure of success, in order that you may realize what really constitutes clinical research. I draw far-reaching conclusions from a symptom (hyperalgesia of skin areas) which can be recognized by the unaided senses. It is so easily perceived that it has been treated as a matter of no importance. Yet a knowledge of the mechanism of its production reveals certain responses of the body the recognition of which gives a new outlook on the nature of a great many diseases. The present classification and description of disease is so faulty and frequently so misleading that, as knowledge advances, a complete reconstruction of classification and description will be called for. Without going so far as to say that the key to the reconstruction is to be found in the illustration I am about to give, I do believe that this illustration reveals so much, and presents certain diseased states in such a reasonable way that a justifiable expectation is aroused that by some such method new light will be thrown on an obscure portion of disease.

It is nearly thirty years since I found that certain diseases of the abdominal organs produced an alteration in the sensibility of the skin and other tissues of the external body wall. It occurs so frequently that every physician and surgeon must constantly meet with it, but it had been overlooked or ignored. Since I drew attention to it, only a few people have employed it as an aid in diagnosis. I have continued its investigation, and as years have passed I have found that a long training has been necessary to bring to light the full significance of the symptom, and even to-day I am far from comprehending the wide field of research it has opened up, so that I am capable of dealing only with a fringe of the subject. It requires little foresight to recognize that, when a full knowledge of cutaneous hyperalgesia and its associated phenomena is obtained, the views of physician, surgeon, and neurologist, and even of the psychologist, will be profoundly affected, and much of that which is to-day accepted as knowledge will be found to fall far short of the truth.

I. CLASSIFICATION OF SYMPTOMS.

It is a matter of knowledge common to every general practitioner that an explanation of the complaints of a large majority of his patients cannot be found by reference to any textbook. The cases he can recognize according to textbook descriptions are mainly those where the disease has reached an advanced stage, as in dropsy from heart disease, and consumption after the lungs break down, or when some terminal affection such as apoplexy occurs. In consequence the doctor is often at a loss what name to give the complaints from which his patients suffer, and he has to resort to the substitution of symptoms in place of the real cause, so that we get names such as neurasthenia, gastralgia, hyperchlorhydria, angina pectoris, tachycardia, albuminuria, which convey no definite information. The reason for this is that the classification of diseases is not based upon a true knowledge of disease. It is the outcome of the time when pathology was dominant. With the introduction of accurate methods of observation, the nature of the diseases found after death were clearly demonstrated, and a classification of the different diseases that affected the different organs was made. This classification was so precise and definite, and seemingly so accurate and scientific that it was adopted not only by the pathologist but by the clinician. The latter used this classification as a guide to search for and explain the physical signs which he detected in the living patient, and thus this classification became the standard for clinical medicine.

For a long time this seemed quite satisfactory, and was of value, but time has shown that for the practice of medicine it is not only faulty but misleading, in that it diverts attention from the real causes of disease and from the more important symptoms—those that are not included in what are called physical signs.

The need for a presentation of disease which conforms with the aspect of disease presented by the living is urgently called for, and the communication I am about to make is given with that object.

I have already pointed out to you that there has been no orderly arrangement of the large mass of symptoms which have been recognized. So long as facts are accumulated with no orderly arrangement the progress of medicine will be hampered and matters essential to its progress will be obscured. I have therefore attempted a classification which is simple, yet helps greatly in understanding the nature of symptoms. This classification of symptoms is based upon the mechanism of their production, and are:

1. *Structural symptoms*—that is, symptoms based on a modification of the tissues of the organ, and which are chiefly revealed by physical signs.
2. *Functional symptoms*—that is, symptoms due to a modified or deranged function of an organ.
3. *Reflex symptoms*—symptoms due to a reaction on the central nervous system or on the nervous mechanism of organs.

It is to the last group I wish to direct your attention, so as to show the mechanism by which a great number of symptoms are produced, and to indicate some of the methods which are necessary to the pursuit of medical investigation.

II. THE STUDY OF REFLEX SYMPTOMS.

I have already remarked that much valuable time is often spent in research work which fails to achieve results at all commensurate with the labour devoted to it. One-half of the battle in all research work consists in having a definite object, with a clear conception of how the object is to be achieved. The principle which guides the inquiry into the nature of reflex symptoms has not only helped in the discovery of facts of great value, but has revealed the methods by which other objects essential to the progress of medicine may be pursued. It has demonstrated, for

instance, that there is an intimate relation between the organs and definite areas of the skin, or rather between the organs and the distribution of the sensory nerves in those areas, and between the organs and parts of the skeletal muscular system. A knowledge of this relation at once reveals which organ is at fault. When we detect sensory disturbances—pain or hyperalgesia—in these parts, or when we find a persistent contraction of the muscles, we are able to relate these to a definite structure within the body. This fact being established, there is given the object, which has been only partially accomplished, of the linking up the organ with the disturbed region in the external body wall. This can be accomplished by the careful examination of the disturbed regions and correlating them with the disease discovered on the operation or *post-mortem* tables.

In addition to the discovery of the organ at fault, we have the opportunity of discovering another very important matter—namely, the nature of the stimulus which is capable of producing these disturbances in the external body wall. It requires a stimulus of a peculiar kind to produce these reactions. Some disease processes produce one form of reaction and others produce other reactions. The careful noting of the different reactions and their correlation with the disease process will reveal the nature of the stimulus which may be acting, and so we get at a very early stage, from the symptoms produced in the external body wall, a sure indication, not only of the organ at fault but of the kind of disease present in the organ.

The recognition of the phenomena produced by reflex stimulation by disease will be found to open new fields of investigation in the central nervous system. The radiation of stimulation, for instance, shows there are paths in the central nervous system hitherto unrecognized. The peculiar fields of cutaneous hyperalgesia and of the radiation of pain in diseases of such organs as the heart, gall bladder, ureter, and bowel, shows that the stimulus entering the central nervous system pursues a very definite course. This is also seen in the production of such symptoms as occur in renal colic, as represented in Fig. 10.

In addition, it is only by the study of these symptoms that a full knowledge of the afferent system of the nerves belonging to the involuntary nervous system can be acquired.

I have already described to you that ill health leads to the production of a great variety of symptoms, and suggests the search for some simple cause capable of producing these effects. The trained investigator may detect the cause in a variety of ways—by the intelligent questioning of the patients as to the onset of their ill health and their sensations, by the recognition of the peculiar character of the symptoms in the way they are grouped. Certain toxins give rise to reactions peculiar to them, and we may recognize the diseases they represent by the grouping of the symptoms. These reactions are shown not only by the peculiar association of phenomena but also by specific effects upon individual organs. The recent observations of Marris and R. M. Wilson, for instance, demonstrate that certain microbes produce toxins that have a peculiar effect upon the heart. By such means there is every reason to expect that we will recognize that groups of symptoms are indications of and peculiar to certain diseased states, although at present our outlook is confused by an inability to distinguish these groups. You will thus see how incumbent it is on us to note carefully each individual symptom, to watch the development of symptoms by keeping in touch with the patients, and applying the principles which are the basis of our scheme and the reasons for our enterprise.

III. Mechanism of an Ordinary Stimulation.

Before discussing the nature of these reflex symptoms it is necessary to appreciate the mechanism by which many symptoms are produced. When a common sensation arises in any part of the body, no matter how it is produced, it is always accompanied by a sense of locality. This sense of locality may be precise and definite, or it may be vague and diffuse, but it has a reference to some particular part of the body. Fig. 1 represents diagrammatically the simplest form of sensation with its attendant localization. It represents a portion of skin (A) which is stimulated and from which a sensation passes into the central nervous system and reaches the sensorium (S), where the sensation is not only perceived, but the part of the body recognized to which the stimulated nerve cells are distributed.

Mechanism of the Radiation of Sensation.

The place in which the sensation is felt is not necessarily the place which received the stimulus. In most instances a local stimulus applied to the external body wall gives rise to a sensation whose localization by the sensorium corresponds to the part stimulated. It often happens that the area in which the sensation is felt is greater than the part stimulated, and it is then difficult to explain the radiation. An experience related by Professor Sherrington supplies a fitting explanation. The application of a mustard plaster to his chest over the region of the upper part of the sternum gave rise to an unpleasant sensation on the inner side of each arm just above the internal condyles.

It is known that the nerves supplying the skin of the upper part of the chest and the skin on the inner side of the elbow arise from cells situated close together in the spinal cord, and leave the cord by the second thoracic nerve—one branch of this nerve going to the chest and the other to the arm.

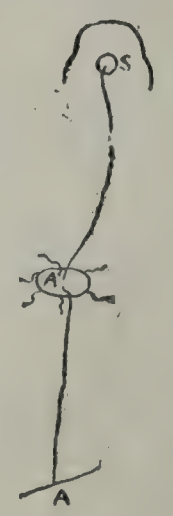


FIG. 1.

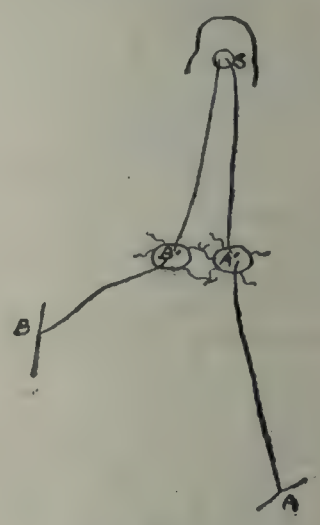


FIG. 2.

FIG. 1.—A stimulus applied to the skin, A, is not only recognized by the sensorium, S, but is referred to a definite area, A'.

FIG. 2.—Illustrates the radiation of sensation. A stimulus applied at A is felt not only at A, but in a part of the skin, B, at some distance. This is represented as taking place in some part of the central nervous system where the cells A' and B' lie in close proximity.

The manner in which the radiation of the sensation takes place is shown diagrammatically in Fig. 2. The stimulus conveyed from A enters the cell A' in connexion with the nerve fibre, and not only gives rise to a sensation referred to A, the part stimulated, but affects the cell B' in its immediate neighbourhood. The sensorium recognizes the extended stimulation, and refers the resulting sensation to that portion of the skin, B, which supplies B'. There are many other instances of this kind of referred sensation—for example, the well known instance of the knee pain in hip-joint disease.

From these facts another principle can be deduced—namely, that if any part of the nervous system which conveys the sensation of pain from the skin to the sensorium be stimulated, the resultant sensation is referred not to the part stimulated but to the distribution of the nerve at its periphery. Thus, when the cell B' was stimulated, the brain became conscious of the stimulation, but the sensation was felt in the skin at B.

IV. Mechanism of a Motor Reflex.

A stimulus applied to the sole of the foot may give rise to a sensation of touch, or tickling, or pain, and at the same time may produce a contraction of certain muscles. It is not necessary to infer that it requires a special peripheral end-organ and a separate nerve fibre to receive and convey the stimulus to the sensorium, and another to convey the stimulus to the motor centre in the spinal cord. A simple diagram (Fig. 3) shows how this comes about. The stimulus applied to the skin, A, passes into the cell A', and from this cell one stimulus proceeds to the sensorium, and another to the motor cell C', causing a muscular contraction, C.

This reflex stimulation may affect many other centres some of them easily recognizable, others so elusive that their presence can only be inferred. Later on, when dealing with the reaction produced by visceral disease, it will be shown that a stimulus arising at the periphery may provoke a variety of demonstrable reactions differing widely in character.

V. Mechanism of Radiation in Disease.

These simple illustrations give a clue to the manner in which symptoms are produced by disease reacting on the central nervous system. This is shown in the simplest way when a demonstrable disease gives rise to symptoms that are easily recognized. Most of us know from personal experience what toothache is, and we have often the opportunity of studying its symptomatology on our patients, if not on ourselves. It frequently happens that the pain set up by a diseased tooth is not limited to the offending tooth, but is felt along the jaw, in the other

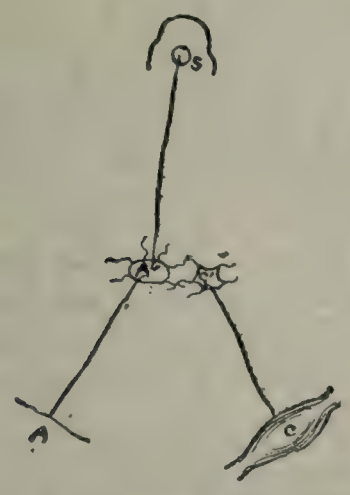


Fig. 3.

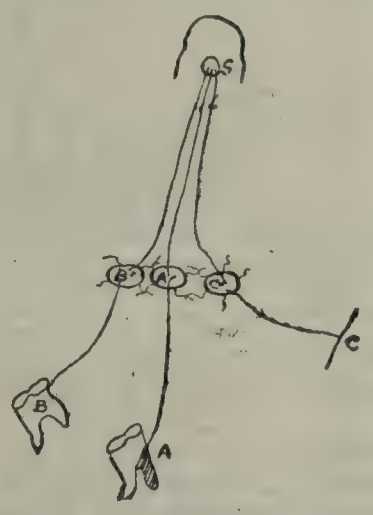


Fig. 4.

Fig. 3.—Illustrates the mechanism of a motor reflex. The stimulus to the skin A produces not only a sensation and its localization, but the stimulus passing through A′ affects the cell C′ and produces a contraction of the muscle C.

Fig. 4.—Illustrates the radiation of pain set up by disease. The diseased tooth A causes pain not only in a neighbouring tooth, B, but also in the skin of the cheek, C.

teeth, and sometimes in the cheek. Indeed, the sound teeth may be so painful, on pressure being applied to them, that the dentist may pull a sound tooth in place of the diseased one. Pain may not only be felt in the cheek, the skin may be so hypersensitive that on brushing the hair pain is produced in place of the normal sensation of touch.

It is to be noted that the spreading of the pain and tenderness in such an instance is not due to the extension of any morbid condition at the periphery—inflammation, for instance—to the neighbouring teeth, for there is no sign of anything the matter with those teeth, while the skin of the cheek is demonstrably free from any diseased condition. Moreover, the discovery and removal of the diseased tooth is followed by the complete disappearance of all pain and tenderness from the other teeth and from the skin of the cheek.

Seeing that these phenomena are produced by one diseased tooth, and seeing that the pain and tenderness of the sound teeth and of the skin of the cheek is not due to any connexion with the offending tooth at the periphery, we are driven to look elsewhere for some connexion between these widely separated parts. As there is no communication between nerves except at the cells in the central nervous system from which they arise, we seek for a relation between the nerves of these teeth and the skin of the cheek in the central nervous system. In the case of the diseased tooth the pain was felt not only in the diseased tooth or its immediate neighbourhood, but also in other teeth and in the skin of the cheek, and this radiation is explained by a reference to the diagram Fig. 4, where it is shown that a stimulus arising from the diseased tooth A sends a stimulus into the central nervous system affecting the cell A′ belonging to the nerve of the diseased tooth, so that the sensorium refers the resultant pain to the diseased tooth; but the stimulus also spreads from the cell A′ to the cells B′ and C′, and the resultant pain is referred by the sensation to the healthy tooth B and the healthy skin of the cheek C.

VI. The Tissues Sensitive and Not Sensitive to Mechanical Stimulation.

A step preliminary and necessary to understanding the nature of the symptoms of disease is a knowledge of the sensibility of the different tissues of the body. A great field for investigation still lies unexplored, and so long as it is neglected the understanding of the symptoms of disease will be defective. In the attempt to investigate this field I have only been able to make a slight advance, but such as it is, it has thrown new and unexpected light on a great many problems connected with the symptomatology of disease.

If we inquire into the response of the different tissues to such mechanical stimuli as produce the common sensations of pain, touch, heat, pressure, etc., we discover that these sensations are limited to certain portions and organs of the body, and that there are large portions of the body totally insensitive to all such stimuli. Looking at the matter broadly, we find that while all the structures which make up the external body wall are more or less sensitive to such stimuli, the viscera and the serous lining of cavities are, with one exception, irresponsive to this kind of stimulation.

Thus, if we apply a mechanical stimulus to the skin we produce a sensation peculiar to the nature of the stimulus, as, for example, touch, pain, heat, or cold. If we apply the same stimuli to the viscera or to the serous surfaces or internal structures of organs we get no response, or rarely a response of a different nature. Thus, if we prick the skin near such an orifice of the body as the anus, we can produce pain, but as soon as the mucous membrane is reached the pricking no longer produces pain. In testing other orifices of the body—for example, the mouth—a modified sensation is felt, but at a certain depth of the gullet all sensation ceases.

If we inquire into the reason for this difference in the response to stimulation we will find it in the nerve supply of these different tissues. Thus the tissues which give rise to sensation in response to mechanical stimuli are supplied by the cerebro-spinal nerves, while the tissues which do not respond receive no nerves from the cerebro-spinal nervous system, but are supplied only by the sympathetic nervous system, or what is sometimes spoken of as the involuntary nervous system.

VII. Insensitiveness of the Viscera to Mechanical Stimulation.

This view of the insensitiveness of the viscera to mechanical stimulation has been repeatedly demonstrated. Haller described a series of experiments where he exposed in animals certain viscera by operation, leaving an opening by which they could be reached. Afterwards, while the animal was feeding, he introduced through the opening instruments that cut and burnt the organ, and the animal paid no attention to what he was doing. I have myself repeatedly tested in the conscious human subject the various organs by cutting, stitching, and tearing, and no sensation was elicited.

The insensitiveness of the viscera and its full significance has not been grasped. Indeed, the belief is common that the viscera are endowed with common sensations, and what is supposed to be evidence is easily obtained.

VIII. Methods for Testing the Sensibility of Organs.

The sensitiveness of tissues to stimulation is one of those apparently simple problems which it is assumed anyone can solve. As a matter of fact, no one has been sufficiently trained to undertake such an investigation. A large amount of work has been done on the subject by physiologists, neurologists, psychologists, physicians, and surgeons, yet notwithstanding their opportunities they have failed to investigate the matter in a manner calculated to reveal the true facts, and so the conclusions which are current to-day are based on imperfect observations and in consequence are misleading. I comment on this fact as one of many instances where the progress of medicine is hampered by a lack of understanding of the manner in which investigation should be conducted. I do not at present wish to enter fully into the matter, but mention a few points to show the imperfect methods which have been used.

The first point which arises is, that no conclusion should be drawn as to the sensitiveness of an organ which has been stimulated through a structure itself sensitive. Nearly all conclusions have been drawn from observations made by pressing on the organs through the sensitive abdominal wall. Many observers state that they have demonstrated the sensitiveness of an organ by first observing its position by various methods, such as the *x* rays, and later by pressing over it and eliciting pain. The error here lies in the failure of the observer to take the precaution of excluding the sensitive external body wall. If, for instance, when such sensitiveness has been detected, an attempt is made to delimit the area that is sensitive, it will be found that the size and shape of the area painful on pressure bears no relation to the size and shape of the organ supposed to be tender. I discussed this matter with a very skilled physician. He demurred to my statement that there was no evidence of the sensitiveness of organs. He declared that he had a patient with a large liver which he could demonstrate to me was extremely tender. I asked to see this patient and was shown him. The enlarged liver was easily palpated, the lower margin being sharp and well defined. On gently pressing over the liver the patient winced from the pain. I asked the physician to map out the region that was so manifestly tender, and to his surprise he found the tenderness extended 3 in. lower than the margin of the liver. (Fig. 5.)

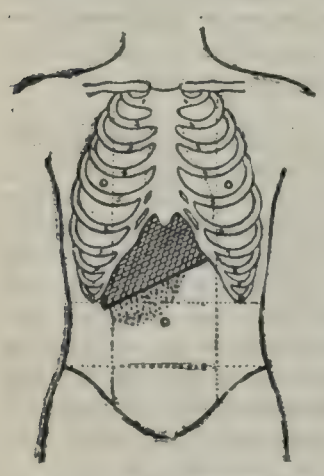


FIG. 5.—The shaded area represents the liver, the dotted area the extension of hyperalgesia beyond the liver margin, showing the pain elicited by pressure over the liver was due to an increased sensitiveness of the tissues of the external body wall.

It is well known that pain does occur in disease of the viscera, and in animals distress has been provoked by certain experiments. But here the experimenter never realized that the evidences of suffering, even if these were due to pain, gave no information as to the locality of the pain—a fact absolutely essential to the understanding of the mechanism by which visceral pain is produced. The same neglect of this essential matter is found in the observations of surgeons and others who have studied pain in the exposed organs of the human subject.

When, in testing the sensibility of organs, pain is elicited, a clear conception of the nature of the stimulus giving rise to it should always be obtained. The need for this and for the recognition of the locality in which a pain is felt is shown by the following experience. In resecting the bowel in a patient who was not under the influence of an anaesthetic, I tested the sensitivity of various organs and their coverings. On pinching the bowel the patient, after a slight delay, complained of pain. I asked him where he felt the pain, and he pointed to the region of the umbilicus. The portion of bowel stimulated lay some distance off on the left side, and it was manifest that the place to which the pain was referred had no direct relation to the part stimulated. Had I been content with simply noting that pinching of the bowel produced pain, I would have overlooked this very important matter of localization.

But there was more in the observation. There was a slight delay in the pain which came in wave-like intensity, and I observed that the pinching had set up a strong peristalsis of the bowel, and that the pain only occurred when this peristalsis was set up. So here I had evidence that the mechanical stimulus I applied only produced pain when a vital process—that is, peristalsis—was set in motion in the bowel.

There are other matters which have been overlooked in this investigation, but what I have said will suffice to show the need for a thorough undertaking of methods before we can observe accurately. Although I do not claim that I have solved the problem of visceral pain, yet the pursuit of this inquiry for many years has given me a certain amount of skill, which has enabled me to discover many facts from which I have been able to draw certain reasonable deductions. These have proved of considerable value in practice.

(To be continued.)

SOME POINTS IN THE PROGNOSIS AND TREATMENT OF CHRONIC NEPHRITIS.*

BY

J. O. SYMES, M.D., D.P.H.,

PHYSICIAN TO THE BRISTOL GENERAL HOSPITAL.

THE management of cases of chronic Bright's disease in private practice is, under the methods generally employed, most tedious and uninteresting. It is the purpose of the present lecture to point out some of the newer methods of examination which not only lend a fresh interest to the cases, but which enable us to adopt a more scientific line of treatment and permit of a more accurate prognosis.

Prognosis.

In order that one may make a well considered prognosis it is necessary first to adopt some practical form of classification, and the classification which I suggest to you is that seen in the accompanying table:

Classification of Chronic Nephritis.

TYPE.	Urine.				Oedema.	Uraemia.	Eye Changes.	Blood Pressure.	Prognosis.	Renal Efficiency.
	Sp. gr.	Quantity.	Albumin.	Casts.						
Degenerative (cloudy swelling)	+	−	−	−					Good	
Tubular nephritis (large white)	+	−	+	++	++	−	−	−	Fair	Fair
Glomerular	−	−	+	+	−	+	+	+	Bad	Bad
Secondary sclerotic (chronic interstitial)	−	+	−	−	−	++	+	+	Bad	Bad
Arterio-sclerotic ...	∓	+	−	−	−	−	−	++	Good	Good

There are, of course, cases of chronic nephritis which cannot be fitted into any one of these categories—cases of mixed nephritis—but for practical working purposes you will find that the classification is one of great value, and that the time spent in obtaining the information under the various headings has not been wasted.

This classification splits up the old group of "chronic diffuse nephritis" into two: (*a*) tubular, (*b*) glomerular; and of these the latter is by far the more serious. It also draws a sharp distinction between the secondary sclerotic (contracted granular) kidney and the arterio-sclerotic.

The most important distinction between these varieties of chronic nephritis is the degree of "renal efficiency," by which I mean the measure of the power of the kidney to excrete water, salts, nitrogenous and other waste products.

For gauging renal efficiency most of the tests are such as can be employed in general practice, the only apparatus required being a large vessel graduated in cubic centimetres or ounces, a tall narrow cylindrical vessel, and a small specific gravity bulb. The materials for carrying out the other tests are always to be obtained at the clinical laboratory to which the specimens of urine are to be subsequently sent.

Tests of Renal Efficiency.

1. *Water Excretion Test.*—Empty the bladder. Two and a half hours after breakfast give 500 c.cm. (17½ oz.) of water, and collect all the urine that can be passed in the next two hours. A healthy person passes about 400 c.cm.

2. *Specific Gravity Test.*—The urine is to be passed every two hours from 8 a.m. to 8 p.m. Each quantity is measured, and

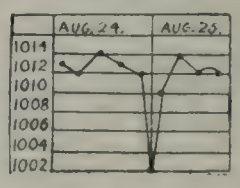


Chart 1.

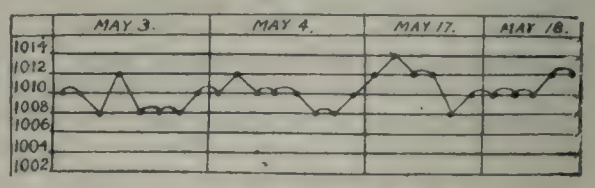


Chart 2.

CHART 1.—Two-hourly specific gravity curve of urine. Severe case of glomerular nephritis.

CHART 2.—Two-hourly specific gravity curve of urine. Case of glomerular nephritis, moderate severity.

the specific gravity taken. The urine passed between 8 p.m. and 8 a.m. is also measured, and the specific gravity taken. In health the quantity of day urine should be greater than the quantity of night urine; the specific gravity of the various day specimens should show wide variations, and at least once in the

* Abstract of a post-graduate lecture delivered at the Bristol General Hospital, July 17th, 1919.

day should reach 1020. Fixation of specific gravity, and especially a persistent low specific gravity, shows renal inefficiency. (See Charts 1, 2, 3.)

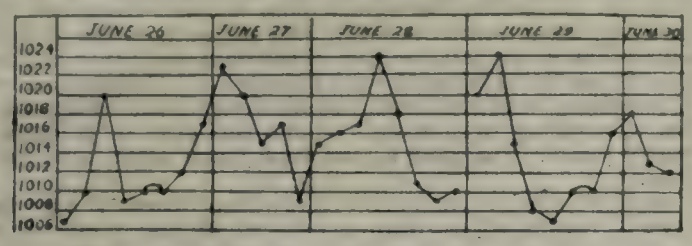


CHART 3.—Specific gravity curve of urine passed two-hourly. Case of glomerular nephritis, convalescent.

3. *Test of the Rate of Secretion.*—Inject 6 mg. of phenolsulphonephthalin into the buttock muscles, and give the patient a drink of water. At the end of one hour and ten minutes get the patient to pass urine, and again at the end of a second hour. Send the two specimens of urine to the clinical laboratory, where the percentage of dye is estimated by the colorimeter. A healthy kidney excretes about 60 per cent. of the dye in the two hours and ten minutes. Small capsules of phenolsulphonephthalin containing 6 mg. in solution can be obtained at any of the large chemists. The ordinary hypodermic syringe can be used.

4. *Sodium Chloride Excretion Test.*—Send to the clinical laboratory a sample of the mixed twenty-four hour urine for the estimation of sodium chloride. If the amount of sodium chloride excreted falls to one or two grams per diem (average in health 15 to 20 grams) the prognosis is grave.

5. *Estimation of Non-protein Nitrogen in the Blood.*—Draw off 10 c.cm. of blood from a vein in the arm and send this to the clinical laboratory for the estimation of the non-protein nitrogen (urea, uric acid, and creatinin). If this amounts to more than 0.4 gram per litre there is a dangerous accumulation in the blood, possibly due to alteration of kidney efficiency. The blood (together with 1 c.cm. of a solution of potassium oxalate to prevent clotting) is to be drawn off in a sterilized syringe provided for the purpose by the laboratory.

No one of these tests is by itself of great value, but the combined tests, together with the data mentioned in the table (albumin, casts, blood pressure, etc.) will enable us to form a fairly accurate estimate of not only the efficiency of the kidney in any given case of nephritis, but also of the general condition and progress of the patient.

The tests should be repeated at least every six or twelve months and any variation noted. During the whole period of examination the patient is kept on the standard renal diet, to which I shall refer later.

Tests of renal insufficiency are superior to the old tests for albumin, casts, etc., inasmuch as they enable us to detect disease of the kidney in a much earlier stage. In the future we may look forward to detecting the pre-albuminuric stage of nephritis. At present we seldom detect the chronic case until two-thirds of the kidney substance is destroyed. Such tests are also of value in distinguishing between the coma of nephritis (uraemia) and the coma of arterio-sclerosis (cerebral haemorrhage or thrombosis).

Space does not permit me to touch on other important points of prognosis, but I would point out that the outlook in cases with simple chloride retention is good, even if uraemic symptoms be present, whilst that of cases with nitrogen retention with uraemia is much more grave. In secondary sclerotic nephritis, if the patient escapes the dangers of uraemia, he is, if a man below 50 years of age, most likely to succumb to cardiac failure, whilst at any later period cerebral haemorrhage is most to be feared.

Treatment.

The greatest advance in recent years has been the recognition of the fact that many cases of chronic Bright's disease are originated and kept up by cryptic infections such as pyorrhoea, chronic nasal suppuration, diseased tonsils, and chronic bowel infections.

We are, of course, familiar with the septic origin of acute nephritis. We have had one such case recently in this hospital.

A soldier had suffered for four months from a shattered elbow with profuse suppuration. During this time he developed nephritis. On February 1st, 1919, Mr. Hey Groves amputated the arm through the lower third of the humerus; severe secondary haemorrhage a week later necessitated blood transfusion, but by February 14th the albumin which had been two parts per thousand was reduced to a mere trace, and by February 24th the urine was normal.

Similarly in chronic nephritis the removal of a septic focus in the teeth, nose, or ear, may lead to immediate amelioration of symptoms, and ultimately to complete recovery. In this way chronic nephritis is comparable to rheumatoid arthritis and it is worthy of note that a very large percentage of the cases of rheumatoid arthritis ultimately die of chronic nephritis.

It is not my intention to touch upon the subject of drug treatment in chronic nephritis, this being of far less importance than the arrangement of the dietary and habits of living. If you follow out the tests I have indicated, then the main principles of dietetic treatment are plainly before you.

1. Where renal efficiency is low and nitrogen is retained you must limit the intake of nitrogenous food, and allow plenty of fluid.

2. When there is general oedema and the chloride elimination is low, you must cut off the supply of salt and diminish the allowance of water.

Dealing first with the cases of nitrogen retention, we find these are chiefly patients who, though suffering from chronic interstitial nephritis, are yet in moderate health and capable of conducting their business. To such we allow 2,500 to 3,000 c.cm. (4 or 5 pints) of fluid a day and limit the nitrogenous intake to about 50 grams a day. These requirements are met by a diet such as the following:

Breakfast.—Porridge prepared from 2 oz. of dry oatmeal, bacon, 3 oz. of toast, tea.

Lunch.—Milk pudding or vegetables, bread-and-butter 3 oz., jam, fruit, and sugar.

Tea.—Tea, 2 oz. bread-and-butter.

Dinner.—Vegetable soup made with milk, 3 oz. of fish, flesh, or fowl, 3 oz. potato, cooked or fresh fruit, sugar.

Sugar is given plentifully to raise the calorie value of the diet and to spare the nitrogen katabolism. Peas, beans, asparagus, onions, rhubarb, strawberries, condiments, meat extracts, alcohol, and tobacco are excluded, either as being too rich in nitrogen or as being renal irritants or stimulants.

This, which I call a standard nephritic diet, is suitable for use when the urinary tests are being made. From time to time the dietary may be varied; thus the patient may be ordered to take only a Continental breakfast of rolls and coffee, or may be directed to go for two days in the week without meat. No distinction is made between fish, fowl, and red meats.

In cases of chronic parenchymatous nephritis, with retention of chlorides and a surplus of water in the tissues, the indications are to cut off altogether the intake of salt and to reduce the consumption of water to about 1,000 c.cm. (2 pints) daily. It has been claimed that the oedema of chronic parenchymatous nephritis may be reduced entirely by adherence to a salt-free diet, with limitation of fluid intake. This is sometimes known as the *Karrell treatment.* Karrell's dietary was as follows:

One and a half pints of skim milk daily (7 oz. every four hours), 6 oz. of coffee. Unless there be uraemia or exhaustion, keep this up for one week, then add stewed fruit, bananas, rice, arrowroot, cereals and cream, toast, vegetables, and sugar. Later give eggs and meat. Use no salt for cooking or in eating. Limit liquids to one and a half pints a day.

The reduction of oedema by the adoption of a salt-free diet has not been very successful. When an oedematous case of large white kidney is first put to bed an increased flow of urine is the immediate result of the rest given to the heart, but in nine cases out of ten the oedema persists, however strictly the diet be enforced.

The reduction of the oedema by the use of diuretics is equally disappointing. Indeed, in cases of pure nephritic origin the use of diuretics is contraindicated as tending to lower renal function. Alkaline salines are least open to this objection and may be tried. On the other hand, such oedema as may be due to circulatory failure is readily removed by diuretics of the digitalis and caffeine groups.

Successful cure of the oedema of chronic parenchymatous nephritis is much more likely to follow the procedure suggested by Epstein. He pointed out that the steady loss of large quantities of albumin in this variety of nephritis caused a decrease in the osmotic pressure of the blood, which fact favours the absorption and retention of fluid by the tissues. Hence the great oedema. The blood in such cases shows a marked decrease in protein and an increase in fatty bodies (lipoids). The indications for treatment, therefore, are first to increase the protein content of the blood and thus restore its osmotic power, and, secondly, to remove the excessive lipoids. To effect these ends he administers a diet rich in protein and poor in fat: Fish, lean meat, lean ham, white of egg, oysters,

lentils, peas, rice, oatmeal, bananas, skimmed milk, coffee, tea, and cocoa; fluids 1,200 to 1,500 c.cm. (1½ to 2 pints); salt to taste. Starchy foods are limited in order to promote the maximum assimilation of proteins and to lessen the retention of water. Fat is limited to lessen the amount of lipoids.

We have found this diet to be most efficacious in reducing nephritic oedema, and, further than this, it has resulted in a very marked improvement in the patient's general condition and in reducing the amount of albumin in the urine.

A FAMILIAL FORM OF ACOUSTIC TUMOUR.

BY

ANTHONY FEILING, M.D.CANTAB., M.R.C.P.LOND.,

PHYSICIAN TO THE HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE; ASSISTANT PHYSICIAN, METROPOLITAN HOSPITAL; CASUALTY PHYSICIAN, ST. BARTHOLOMEW'S HOSPITAL,

AND

E. WARD, M.D.CANTAB., F.R.C.S.ENG.,

TUBERCULOSIS OFFICER TO THE COUNTY OF DEVON.

TUMOURS of the acoustic nerve or nerves have been reported in medical literature occasionally for many years. They have usually been included under the head of "tumours of the cerebello-pontine angle." It is largely due to the work of Cushing that the acoustic tumours proper have been clearly differentiated from other tumours in this region, and he has been the first to point out their characteristic course and symptomatology. He estimates acoustic tumours to form 6 per cent. of all intracranial growths, and over 20 per cent. of those of the posterior fossa of the skull. Histologically, the isolated tumours of the acoustic nerve arise from the endoneurium; their structure, according to Cushing, consists of two kinds of tissue—a dense fibrous tissue and a looser areolar tissue, possessing some of the characters of a glioma. Bilateral tumours, however, are commonly part of a general tumour formation, which may affect many nerves—in fact, a general neurofibromatosis. Such cases have been not infrequently reported. It should be noted, however, that bilateral deafness has been found to occur in cases where only one acoustic nerve was involved. Henneberg and Koch[1] were the first to point out that tumours of the acoustic nerve could form part of generalized neurofibromatosis. Oppenheim[2] remarks that he has seen eight cases where a general neurofibromatosis was masked by the symptoms of intracranial tumour.

A familial or inherited tendency has been noted in only a small proportion of the cases of neurofibromatosis. Thus Alexis Thomson[3] was able to collect but ten examples from the literature. As regards acoustic tumours proper, the available literature does not record any familial or hereditary tendency. Hence the history of the family recorded in this article is of unusual interest. None of the cases have been verified as yet by operation or autopsy, but the clinical histories and the condition of those patients who were under careful observation are so striking and characteristic, and the existence in one of them of multiple tumour formation renders the diagnosis of acoustic tumours practically certain. The chronological order of symptoms, as described by Cushing—namely, auditory and labyrinthine disturbances, headache, cerebellar ataxia, disturbance of the function of other cranial nerves and the increase in intracranial tension, with optic neuritis and failure of vision—are well exemplified in the history of the family, which is as follows:

First Generation Available.

Mary Ann B., aged 80, had three brothers and sisters, all healthy. One is still alive; the others died at a ripe age.

John B., aged 80, is deaf and too senile to answer questions intelligibly. He was one of a family of ten, of whom only one sister survives. Several died young, but no details have been obtained except concerning *Susan*, who died, aged 30, of an illness lasting a few years, accompanied by headache and deafness, and *Sarah*, who died, over 60, of "something the matter with her head."

Second Generation.

Mary and John B. had ten children, of whom one died in infancy; four others are alive and well. But one, Richard B., has been a patient at the Hospital for Epilepsy and Paralysis, Maida Vale (see below). He is now in a Poor Law infirmary, bedridden, totally blind and deaf. Another, John B., died at the age of 30 after an illness of over two years' duration. He complained first of deafness and noises in the head and was noticed to stagger in walking. Some five months after the onset of his illness he was sent to the Exeter Hospital, where he remained for a month or two. On his return his sight was failing, and he eventually became quite deaf and blind, although for some time he could walk with support. No history of vomiting or headache was obtained, but his friends and relations had noticed a swelling in the neck about the size of a hen's egg for many years. He died about two years after leaving the hospital.

Elisabeth B. died at the age of 33 after an illness of two years' duration. The chief symptoms noticed by the relations were unsteadiness of gait, deafness, and progressive blindness. She was for a time an inmate of the Exeter Hospital and was considered to be suffering from a cerebral tumour. Operation was suggested but refused.

Susan B. died aged 29. Her illness began in somewhat the same way, but she died suddenly from a "stroke."

George B. died aged 52 after an illness of some years' duration, which was accompanied by deafness, blindness, and an unsteady gait.

Third Generation.

Richard 2nd, son of John 2nd, has lately been a patient at the Hospital for Epilepsy and Paralysis, Maida Vale (see below). He has multiple neurofibromata.

William, his brother, states that at one time he had some lumps about his body, but that they faded away. He looks upon himself as foredoomed to die in the same way as others of his family. At present he has no symptoms.

The following is a more detailed account of two members of the family who were recently under the care of one of us at the Hospital for Epilepsy and Paralysis, Maida Vale.

CASE I.

Richard 1st, aged 41, was admitted on July 1st, 1919, under the care of A. F., complaining of deafness, headache, and inability to walk properly. He was then so deaf that it was impossible to obtain from him any accurate history, but one of us (E. W.) had previously seen him, and was able to supply the following history. He first came under observation with suspected pulmonary tuberculosis in October, 1913, but made a good recovery, and by October, 1917, the disease had evidently become arrested. In October, 1918, he complained of headache and weakness of the legs. From January to February, 1919, he was in a sanatorium, but was sent home as his symptoms were entirely nervous in origin. In April, 1919, he was found to be suffering from headache, chiefly occipital in site, and to be getting deaf. His gait was then slightly unsteady, with a tendency to fall to the right. By May, 1919, he had become very deaf, the headache was worse, and he had begun to vomit occasionally. Vision had become defective. The gait was markedly ataxic. The pupils were unequal, the left being larger than the right, and there was well marked double optic neuritis. Nystagmus was present. On admission to hospital in July, 1919, the condition was as follows:

He suffered from a severe and continuous headache, chiefly localized to the occipital region on the left side. There was complete bilateral deafness. The pupils were equal in size and reacted normally. Examination of the fundi showed well-marked double optic neuritis, with much swelling of both discs. Nystagmus was present in all directions, but was more marked when the eyes were directed to the left. With the exception of slightly diminished sensation in the area of the first division of the fifth nerve on the left side, the functions of the other cranial nerves appeared normal. There was no paresis of either the arms or the legs. No static tremors were present. Some slight ataxia was observed in the upper limbs on voluntary movement. The gait was decidedly ataxic, with a tendency to fall to the left. The tendon reflexes were active, the abdominal reflexes present, and the plantar responses were of the flexor type. The Wassermann reaction in the blood was negative.

A diagnosis of bilateral tumours of the cerebello-pontine angle, probably of the acoustic nerves, was made. Operation was advised but refused, and the patient left the hospital. At the present time he is an inmate of a Poor Law infirmary, where he is quite bedridden, totally blind and deaf.

CASE II.

Richard B. (son of John 2nd), aged 20, was admitted to the Hospital for Epilepsy and Paralysis, Maida Vale, on January 2nd, 1920, under the care of one of us (A. F.). As he was almost completely deaf in both ears and could neither read nor write, it was impossible to obtain an accurate history of the condition. But it appeared that deafness had been noticed to begin about nine months before and to progress rapidly. He also complained of constant roaring noises in the head. There was no head-

ache and no vomiting, and no complaint of difficulty in walking nor of giddiness.

On examination the pupils were found to be unequal in size, the right being larger than the left; the right pupil reacted briskly to light and accommodation; the left pupil was contracted, slightly irregular in shape, and reacted only very sluggishly to light. There was no nystagmus and no ocular paralysis. The fundi were normal. With the exception of the deafness the functions of the other cranial nerves were not disturbed in any way. There was practically complete bilateral nerve deafness. He was examined by Mr. Muecke, who considered that the nerve conduction from the labyrinth was almost completely blocked on both sides, more so on the left.

There were no other signs of disease in the central nervous system. But there were present three subcutaneous tumours whose characters suggested that they were fibromata or neurofibromata. These were exceedingly interesting and important in view of the condition of the auditory apparatus and the family history. In the right side of the neck, underneath the sterno-mastoid muscle, was a large, rather spindle-shaped tumour, about the size of an elongated lemon, extending from the angle of the jaw nearly to the sterno-clavicular joint. It was hard, freely mobile, and quite painless. There was no evidence of surrounding inflammation and no enlargement of lymphatic glands. A second but smaller tumour was found in the subcutaneous tissues of the chest wall, just over the right costal margin in the anterior axillary line. It was about the size of a walnut, hard, irregular in shape, freely movable, and painless. A third tumour, about the size of a small date, with similar characteristics, was situated in the upper part of the left gluteal region. The patient stated that he had had these tumours as long as he could remember. The smaller one, in the chest wall, was removed under local anaesthesia for histological examination. Dr. Canti reported that it showed the structure of a soft fibroma. It is more than likely, however, that it arose from a nerve sheath, since it is not easy to demonstrate the existence of nerve tissue in these neurofibromata which have been present for a long time. Operation on the skull was not advised.

REFERENCES.

[1] Henneberg and Koch, *Arch. f. Psychiat.*, 1902, xxxvi, 251–304. [2] Oppenheim, *Textbook of Nervous Diseases*, vol. ii. [3] Alexis Thomson, *On Neuroma and Neurofibromatosis*, Edinburgh, 1900. [4] Cushing, *Tumours of the Nervus Acusticus.*

THE OPERATIVE TREATMENT OF ULCERATIVE COLITIS.

BY P. LOCKHART-MUMMERY, F.R.C.S.ENG.,

SENIOR SURGEON TO ST. MARK'S HOSPITAL FOR DISEASES OF THE RECTUM, ETC.

THE discussion on ulcerative colitis which took place at the Royal Society of Medicine in 1909 first revealed the importance of the disease both as regards its prevalence and commonly fatal consequences. Since then our knowledge of it has advanced considerably, but chiefly in respect of the epidemic forms rather than the sporadic chronic cases which are more common in this country.

Very little advance seems to have been made in the diagnosis and treatment of the truly chronic ulcerative forms. There are many reasons for this, one being that the chronic cases have proved almost a complete failure from the point of view of bacteriological investigation. In a large number of cases the stools have been investigated by most competent bacteriologists, but so many different micro-organisms are found, and the difficulties of deciding which is responsible for the disease are so great, that no useful information is, as a rule, obtained. My own experience has been that, with one or two conspicuous exceptions, bacteriology has been of little assistance.

Medical treatment also has not been very successful except in the mild cases, though here I must admit I may be prejudiced by the fact that as a surgeon I am more likely to see the cases in which medical treatment has failed.

Some of the worst cases of ulcerative colitis are those in which the chronic condition is secondary to an acute epidemic form such as amoebic or bacillary dysentery. There is a certain similarity between these cases and the ordinary form of chronic phthisis. In both we find an acute specific infection causing lesions which become secondarily infected with other septic organisms, and it is this latter secondary infection which causes much of the trouble.

These cases of chronic ulcerative colitis are particularly important at the present time, because very large numbers of men have been infected with acute dysentery while fighting at different parts of the front during the last five years, and are now suffering from the chronic and often much more serious condition.

Not only have a large number of these cases returned to this country during the last eighteen months, but quite a considerable number of cases have occurred among men who have never left England, and among women. These latter cases do not start with acute amoebic dysentery, but are chronic from the beginning. I have little doubt, however, that they have in many cases become infected from the class of cases first mentioned. This is rather borne out by the fact that several cases of ulcerative colitis which came under my observation last year came from one seaport town where many troops from abroad were landed.

A typical case would be that of a man who contracted acute dysentery in Africa or Arabia during the war and had been more or less successfully treated at the time, but the diarrhoea has recurred subsequently until it has become almost continuous, and he has gradually begun to go downhill with constant liquid blood-stained stools, progressive loss of weight, failure of appetite, etc.

An examination with the sigmoidoscope (the value of which in these cases as a means of diagnosis does not even yet appear to be fully appreciated) shows deep and extensive ulceration of the mucous membrane of the rectum and colon. In a bad case islands of mucous membrane can be seen standing up from the ulcerated surface, presenting an appearance closely resembling a polypoid condition.

Examination of the stools show numerous bacteria, mostly of the *coli* or streptococci groups, but no sign of protozoa.

The clinical history of cases of ulcerative colitis varies considerably. In those cases in which the disease is not secondary to acute dysentery the condition often starts insidiously. The patient appears to recover satisfactorily from the initial attack, but recurrences become more and more frequent and less amenable to treatment, until the condition becomes so serious that no treatment seems to have any effect. It is generally at this stage that the surgeon is called in.

There may sometimes be confusion between chronic ulcerative colitis and other forms of chronic recurring diarrhoea, but this can at once be cleared up by an examination with the sigmoidoscope. In true ulcerative colitis the temperature is almost always raised 1° to 2° F. at night. Blood is more or less constantly present in the stools, and wasting is a marked feature of the case.

The best treatment for ulcerative colitis is appendicostomy, and I have seen very many really desperate cases recover as a result of this operation, which I and those associated with me were certain must otherwise have died. Unfortunately the surgeon is too often only called in when the patient is already very seriously ill and the ulceration has become very extensive. The operation should be performed at a much earlier stage of the disease, and recovery would be then much more rapid and more certain.

In true ulcerative colitis non-operative treatment appears to be of very little use. Even when recovery does occur it is a slow and tedious process. One of the reasons for this is that the ulcerated surface is very large and cannot be directly dealt with. Douches and enemas cannot be tolerated in sufficient quantities to ensure that they reach the whole of the diseased area.

Appendicostomy acts in two ways. The first and most important action is to allow of the large ulcerated area being kept clean and free from pus and accumulated discharge. The frequent washing of the colon by removing the products of inflammation allows the ulcers a chance to heal, and to a large extent prevents the absorption of septic by-products into the blood.

The second important action is to compensate for the great loss of body fluid, which is always present owing to the constant diarrhoea. Many of these patients are wasted till they are little more than skin and bone, and it is often quite remarkable to see the improvement that follows

frequent irrigation of the colon through an appendicostomy opening.

As already stated, the proper time to perform appendicostomy is as soon as the condition has been diagnosed; but in practice it has been my experience that the surgeon is usually not called in until medical treatment has been tried for months and failed. Then when appendicostomy is suggested it is argued that the patient is in such a poor condition that he will not stand the operation. This is, however, not the case, as the operation can quite well be performed under local anaesthesia without running any risk at all.

In a bad case the patient should after the operation be treated by continuous saline irrigation for six or eight hours at a time. This is easily arranged by using a metal bed-pan with a tap and a rubber tube attachment. Very careful nursing is, however, necessary to prevent the formation of bedsores.

As soon as the diarrhoea has been checked and improvement has set in, a 3 or 4 pint wash through twice or three times a day will be sufficient. On no account should any antiseptic be added to the fluid used for irrigation, as poisoning symptoms are almost sure to result. Solutions of silver nitrate or protargol can be used, but in the case of the former only for a short time. I have seen a very bad case of staining of the skin with silver which resulted from frequent washing through with silver nitrate. Salt water seems to give the best result in most cases.

There still are people who think that an appendicostomy opening is an objectionable thing and that it results in the escape of gas and faeces. This is, of course, not the case with a properly made opening. In ulcerative colitis the opening should be kept patent for at least six months after all symptoms have subsided, but after this it may be allowed to close, which as a rule it will readily do.

CONCLUSIONS.

1. Chronic ulcerative colitis is a very serious and often fatal disease.
2. The best treatment is by frequent washing through with saline solution after an appendicostomy opening has been established.
3. The operation should be performed as soon as a diagnosis has been made and not left as a last resort, although it may sometimes succeed even then.
4. The diagnosis should always be confirmed by sigmoidoscopy.

FIBROIDS COMPLICATING PREGNANCY: HYSTERECTOMY: RECOVERY.

BY

R. DE S. STAWELL, O.B.E., M.B.CANTAB., F.R.C.S.ENG.,

HONORARY SURGEON, BASCHURCH SURGICAL HOME, SHREWSBURY.

PREGNANCY with fibroids of the uterus, especially subserous ones, is, of course, not uncommon, but a case which I have recently had to deal with presented somewhat unusual features, and showed what a remarkable condition may be associated with a normal menstrual history and pregnancy, in the early months.

A healthy nullipara of 38, from whose mother I had, by the way, removed an ovarian cyst and subserous fibroid some years ago, had been married fourteen months, and the menstrual periods, which had always been perfectly regular and normal, had ceased for four and a half months. She had had some morning sickness, and the breasts were enlarged and tender. Pregnancy had therefore been diagnosed, but no suspicions of abnormality aroused. I was sent for on account of troublesome vomiting for two days, constipation, and sharp abdominal pain.

A rounded movable tumour, about the size of a fetal head, was felt in the upper abdomen as high as the ensiform cartilage. It was attached below to what appeared to be a pregnant uterus reaching well above the umbilicus, irregular in shape, and unduly high up. On vaginal examination the pelvis was found to be occupied by a large fixed firm rounded mass lying between the rectum and vagina, and displacing the uterus upwards, so that the cervix could only just be reached round the front of the tumour. A diagnosis of fibroids complicating pregnancy was made, and operation advised, as, owing to the size and position of the tumours, symptoms suggestive of commencing pressure, and the risk of degeneration and infection, it seemed unsafe to wait for viability of the child.

The patient was brought into a nursing home; an enema produced a fair result, the sickness and pain ceased; her general condition was good. A catheter, passed with a little difficulty, showed no distension of the bladder.

Operation.

In the Trendelenburg position, under ether, skilfully given by Dr. A. Simpson with Shipway's apparatus, an incision was made from the pubes to well above the umbilicus. A gravid uterus was revealed, covered with subserous fibroids of all sizes; many were small, but from the fundus grew two large pedunculated masses, each the size of a fetal head. These were delivered from the wound with the uterus. On lifting the viscus forward sharp haemorrhage occurred from the posterior part of the cervix, where it was attached to the pelvic tumour. There were many large veins, and everything was very vascular. The bleeding could only be controlled by pressure with pads, for it took place from a considerable torn surface in dense tissue, and no vessels could be secured. Efforts to bring up the pelvic mass, which was extra-peritoneal, by traction with strong vulsella, helped by the pressure of an assistant's fingers in vagina and rectum, failed. In view of the risk of meeting with uncontrollable bleeding if further attempts were made to remove the pelvic block, hampered as one was by the presence of the bulky uterus, it was judged that the right course was to diminish its size and vascularity, at the cost of the child. Pituitrin was therefore injected, the uterus incised where it was free from growths, and the fetus and placenta removed. The edges of the incision were clamped together, and haemorrhage quickly arrested. In spite of the advantage now obtained it seemed impracticable to save the uterus, and a subtotal hysterectomy was performed, the ovaries being spared. On the right side a small dermoid cyst, intimately adherent to the pelvis, was encountered, but left to be dealt with if necessary subsequently. The peritoneum over the pelvic fibroid was now freely divided and separated off, and the tumour brought up with the vulsellum sufficiently to give room for the fingers being worked down and round it, gradually enucleating it from its bed, a watch being kept for the ureters. No definite connexion with the cervix could be identified. Haemorrhage was readily arrested, all peritoneal edges brought together with catgut sutures, and the abdomen closed.

The patient made an uninterrupted recovery, and was back at home in three weeks.

The case was of special interest to me in connexion with Dr. Herbert Spencer's Lettsomian lectures. Dr. Spencer states that he has never found it necessary to remove a uterus in the early months of pregnancy, and expresses the opinion that the practice of hysterectomy in this condition is much too common, but I believe the difficulties encountered in this case justified what I did.

Instead of panhysterectomy, subtotal hysterectomy was performed, as the position of the cervix made it easier; nor did I split the cervix for drainage, as Sir John Bland-Sutton suggests, as all looked so dry and tidy that I was tempted to leave it.

On section the tumours presented the ordinary appearance of myomata, no "red degeneration" being observed; but the pelvic fibroid showed signs of fibrocystic change. This, Dr. Herman states, is often associated with rapid growth, which presumably was the case here.

PHAGEDAENA OF HUNTERIAN CHANCRE FOLLOWING TREATMENT WITH NOVARSENOBENZOL.

BY

H. M. HANSCHELL, D.S.C., M.R.C.S.ENG., L.R.C.P.LOND., D.T.M. AND H.CAMB.,

PATHOLOGIST SEAMEN'S HOSPITAL, ALBERT DOCK; DIRECTOR VENEREAL DISEASES CLINIC.

IN both these cases there was bacterial infection of the Hunterian chancre. In both chancre, bacteria, and the "reacting" tissue became more or less completely shut up together by the very effect of the reaction on the tissues around the chancre.

CASE I.

A labourer, aged 39, six weeks after coitus, noticed a painless lump on the under side of the penis, and three days later a "running," thin at first, then thicker. During the ensuing seven days he noticed slowly increasing discharge and difficulty in passing water, but had no pain. He denied previous gonorrhoea or chancre.

Examination showed a thick yellow discharge from meatus, and, on micturition, thin, twisted, interrupted stream. On the ventrum of the penis, in the line of the urethra, about 4 cm. from the meatus, could be seen and felt a dull red, hard mass, 1 by 0.5 cm., not tender, apparently including the urethra. The inguinal glands on both sides were large, hard, and discrete. There was no rash. No attempt was made to pass instrument.

Pending the result of laboratory investigation, irrigation of the anterior urethra with 1 in 4,000 potassium permanganate solution daily was ordered.

The Wassermann reaction was negative. Smears from the meatal pus (Gram and Fontana-Tribondeau) revealed staphylococcus in pure culture and numerous *T. pallidum*, but no other micro-organisms.

When the patient was seen again, three days later, the only appreciable change in the local condition was easier micturition, the stream, still very thin, being continuous; 0.3 gram of novarsenobenzol was injected intravenously at 4 p.m. The patient returned at 5 p.m. next day; he stated that he had noticed no effects at all from the injection, until on rising that morning he had experienced great difficulty—"just a drop at a time"—in passing water, and the lump on the penis was larger and redder. He had gone to work, but had been unable to micturate all day, and was now in great pain. The temperature was 102.4° and the pulse 96. There was redness and oedema of the prepuce, especially the ventral portion, but no discharge from urethra. The lesion on the under side of the penis had become a hot, deep-red, semi-fluctuating tumour, its apex soft and purple; the whole mass was continuous with the ventral portion of the inflamed prepuce. The dorsum penis was apparently unaffected, except that a hard mass in the mid line, 1 cm. long, could be felt through its thickness at the level of the ventral lesion. Exploration with fine gum-elastic bougies showed an impassable stricture about 4 cm. from the meatus.

At 6.30 p.m. general anaesthesia was induced; the whole apex of the tumour was gangrenous. Circumcision was done and all the sloughing tissue removed. Stinking pus escaped and the gangrene was found to extend to a fistula into the urethra. Distal to this fistula the lumen was completely closed by the hard, inflamed urethral wall, a sort of solid cylinder of hard chancre. In smears from the pus only staphylococcus was found. Twenty-four hours after the operation a No. 6 gum-elastic bougie could be passed easily from the meatus along the urethra and through the fistula. Healing was rapid; the fistula closed in three weeks. Later injections of novarsenobenzol produced no ill effects; five days after operation 0.6 gram was injected intravenously; seven days later the Wassermann reaction was definitely positive.

CASE II.

A seaman, aged 26; fourteen days previously while at sea had sore, first noticed as small painless pimple on the penis; this was about seven weeks after coitus. He denied previous gonorrhoea or chancre.

Examination showed redness and oedema of the prepuce, which, with a little difficulty, was retracted to expose the ulcer (2 by 1 cm.) on the mid dorsum of the glans; the raw surface did not quite reach the corona. The base of the chancre was formed by raised red granulations, spotted with small grey sloughs; the edges were heaped, hard, rounded, sloping into the ulcer and into glans tissue. In front and at the sides induration extended for about ½ cm. into the glans tissue; it continued above over corona into the sulcus and inner surface of the prepuce, in this last situation giving a cartilaginous feel, the plaque flicking over on its edge. No part of the lesion presented any of the characters of a soft chancre, nor were any ulcers detected elsewhere on the glans or inner surface of the prepuce. Urethritis was not present. In both groins were large hard discrete glands. There was no rash.

Circumcision was suggested; more cannot be said, for it was not pressed against the patient's reluctance to submit to operation. Pending the result of laboratory investigation, irrigation of preputial sac daily with 1 in 4,000 potassium permanganate was ordered. Smears from chancre (Fontana-Tribondeau) revealed mixed bacteria and numerous *T. pallidum*. No other micro-organisms were detected. The Wassermann reaction was doubtful.

Three days later 0.3 gram novarsenobenzol was injected intravenously at 4 p.m. The patient was seen again at 11 a.m. next day (nineteen hours after the injection); he had noticed no ill effects. There was great increase of the oedema and redness of the prepuce; with great difficulty, however, retraction was possible sufficiently to expose the chancre and corona glandis. The ulcer itself appeared clean, without sloughs, but much swollen and a darker red. The glans tissue around was swollen, very red, and patched with purple blotches—a bruising effect. The Jarisch-Herxheimer reaction was diagnosed, and in the expectation that the local condition would now rapidly improve, irrigation of the sac was repeated and the patient told to return next morning. Alarmed, however, by the size of the penis and by blood escaping from the preputial opening, he stayed in bed "to rest it." He appeared at the clinic at 3 p.m., scared and in great pain. The temperature was 103° and the pulse 110. The swelling and redness of the prepuce were now extreme, and from the opening dripped blood; retraction was possible only so far as to expose the edge of a loose grey slough overlying the meatus.

Under general anaesthesia circumcision was performed. A grey-black, stinking slough replaced the whole of the glans down to the urethra, all the corpus spongiosum being destroyed except the corona glandis, a buttress on each side of the urethra, and a thin "washer" of tissue, including the meatus. The urethra was intact.

No further destruction occurred; granulation was rapid under eusol baths and wet dressings. The circumcision wound healed quickly, no chancroids appearing on its cut edges. The inner surface of the excised prepuce was carefully examined, but showed no sign of ulceration anywhere.

Seven days after the first injection the Wassermann reaction was found to be definitely positive.

Further treatment by novarsenobenzol caused no ill effect.

It seems reasonable to conclude that the effect of the "reaction" is to damage still further the chancre tissue already damaged by the treponema. Deeper invasion of the tissue may then readily ensue by the bacteria already present in the chancre, and, the whole being shut up together, phagedaena results.

Not to labour the obvious moral of Case II, I confess I should have operated on almost any one of the four days before that on which, in fact, the operation was performed.

A CASE OF CERVICAL CARIES SIMULATING CEREBELLAR TUMOUR.

BY

RICHARD R. ARMSTRONG, M.D.CANTAB., M.R.C.P.,

PHYSICIAN IN CHARGE OF THE CHILDREN'S DEPARTMENT, CHARING CROSS HOSPITAL; ERNEST HART SCHOLAR, BRITISH MEDICAL ASSOCIATION.

IN an exhaustive paper published in *Brain*, Part xcvi, 1901, Taylor and Collier drew attention to the occurrence of optic neuritis associated with lesions of the cervical cord, and showed that both headache and vomiting of cerebral type may occur with such lesions. The following case appears to be of interest as an example of this association, and indicates the very great importance of accurate diagnosis, for, whereas the treatment of cervical caries is essentially conservative, if an intracranial tumour be present operative procedures often hold out the only, albeit slender, hope of successful treatment.

History.

A boy, aged 7 years, was admitted to the children's ward of Charing Cross Hospital for stiffness of the neck which had lasted about three months. His mother stated that for two months he had walked as if paralysed, and had frequently fallen. He often complained of headache, particularly in the back of the head, and occasionally vomited, the vomiting being unassociated with the taking of food. A week before admission to hospital he developed a squint in the left eye.

Condition on Admission.

A slight, pale child, preferring to lie quietly in bed, he was usually drowsy, but when roused was conspicuously intelligent and docile. The head was held rigid and erect in the mid-line and definitely increased tonus of both trapezii and both sterno-mastoids was present, notwithstanding which movements of flexion and extension of the head and lateral movements were free and unaccompanied by pain. The boy's action when stooping to pick up a coin from the floor was stiff and awkward and strongly reminiscent of spinal caries, and when he was first seen in the out-patient department a tentative diagnosis of caries of the cervical spine was made.

Condition under Observation.

On more thorough examination well marked optic neuritis, estimated at over two dioptres of swelling, was found in both eyes; pupillary reactions were normal. All reflexes were present but difficult to obtain; no evidence of altered sensation could be found, but the seven cardinal signs of a cerebellar tumour of the left side were each in turn elicited and became more marked during the fortnight that the case was under observation, namely:

1. Inco-ordination of movements of the left arm and hand as compared with the right, dysdiadochokinesis of the left hand.
2. Bárány's test of deviation to the left on pointing with closed eyes to a stationary object a succession of times was obtained.
3. Tendency in walking to lean and to deviate to the left side—not definitely marked while crawling on all-fours.
4. Left hypotonia affecting both arm and leg.
5. Muscular weakness on the left side, particularly of the left arm.
6. The head was slightly asymmetrical in shape, the left occipital region being fuller than the right.
7. The attitude of the head, though not characteristic, was consistent with the presence of a left cerebellar tumour encroaching on the mid line.

The radiographer's report on a skiagram of the head and neck was to the effect that no evidence of spinal caries was present. No abnormality could be detected in the posterior fossae of the skull. There was no dysphagia, and nothing could be seen in the throat. In the absence of any definite indication a digital examination of the pharynx was not made, nor was a pharyngoscopic examination attempted.

Operation.

Symptoms and physical signs were in favour of cerebellar tumour, and this view was confirmed by others who examined the case. The progress of symptoms and increasing optic

neuritis indicated the need for operative interference, and subtentorial decompression by the Cushny method, combined with exploration of both lobes of the cerebellum, was performed by Mr. Norman C. Lake. On incision of the dura there was no gush of cerebro-spinal fluid to indicate increased tension, and both lobes were pulsating normally; the left, although more prominent than the right, was otherwise normal. Regrettably death occurred from respiratory failure just as the operation was successfully completed.

Post-mortem Examination.

Nothing abnormal was found in the brain to account for the optic neuritis, and there was no evidence of increased intracranial pressure. A retro-pharyngeal abscess was found behind the anterior common ligament, embracing the bodies of the third and fourth cervical vertebrae and communicating by a fistula with a cavity in the centre of the fourth cervical, from which the abscess had extended into the spinal canal and had caused pressure on the adjacent spinal cord. There were tuberculous lymphatic glands in the neck.

Despite the unfortunate termination of the case, it is difficult to see what other diagnosis could have been made on the basis of the observations recorded above.

The diagnosis of cervical spinal caries made when the case was first seen was given up with some reluctance, and the suggestion tentatively advanced that two separate lesions were present, respectively intracranial and intrathecal, but this in turn was surrendered in view of the apparently overwhelming evidence in favour of cerebellar tumour.

The case, however, affords an admirable example of how closely lesions of the upper cervical cord, especially at the level of the third cervical segment, may simulate intracranial tumour; it possesses the further interest of occurring in a child aged 7 years, the youngest in Taylor and Collier's series being a girl of 15.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF ENCEPHALITIS LETHARGICA.

R. R., aged 18, who had never had any previous illness, nor any discharge from the ear, nor nasal catarrh, played football on October 25th. That night he had a shivering attack and headache. He stayed in bed next day (Sunday). When I saw him on October 27th he complained of headache, chiefly in the left parieto-temporal region; the temperature was 102° F. As he continued in this state and was slightly lethargic, I sent a specimen of his blood for examination, thinking he might be suffering from typhoid fever, but it was returned "definite negative." He continued in the same condition another week. As he got more heavy and drowsy, and the tongue was thickly coated, the blood was sent again for examination, with the same result. At this time, about fourteen days from the commencement of the illness, a rotheln-like rash appeared on the body and limbs, and lasted several days. There was some bronchial catarrh at both bases; the temperature varied between 101° and 103°. The pulse was 55 to 60. The pain was still very severe, affecting chiefly the left side.

About November 14th he had slight left ptosis, and dilatation of the pupil on the same side. For about a week vomiting was very troublesome. On November 16th lumbar puncture was performed; the fluid was clear and under slight pressure. Dr. Davies, M.O.H. for Bristol, kindly reported that there was no excess of polynuclear cells and no meningococci in the film, and that on cultivation meningococci and other organisms were not grown; reducing substances were present in normal amount, and the globulins were not increased. There was no retraction of the head, and Kernig's sign was not present. The temperature about this time came to normal, and except for two days remained so for the rest of the illness.

About November 20th he had a well marked right-sided convulsion lasting several minutes. He was still distinctly lethargic; he objected very much to the light. I now thought it might be a case of encephalitis lethargica, and I asked Dr. Charles, of Clifton, to see him with me in consultation. The patient was better on this day than he had been for some time. Dr. Charles agreed with the diagnosis; he also noticed slight right facial paralysis. It had not been present on the previous day; on the following day it was worse. On November 25th there was partial paralysis of the left arm and left leg. The knee-jerks were absent. About this time he became aphasic. Early in December he developed paralysis of the soft palate, and had great difficulty in swallowing; for two days he took nothing, but this gradually passed off. For several days he had repeated attacks of spasmodic contraction of both arms, got very red in the face, and perspired over the forehead. He was now lying in a completely lethargic condition; cerebration was very slow; when asked to put out his tongue, after about four seconds the tongue would slowly come out. Both pupils were very dilated.

On December 23rd he had a general convulsion, and afterwards was completely blind. On January 1st he was very lethargic, control of sphincters was lost, and emaciation was becoming marked. He remained in this condition until January 17th, when he had repeated attacks of spasmodic contractions of both upper extremities, the legs not being affected. He died the same evening after nearly three months' illness. The trained nurse who looked after him aptly described it as a "living death." As far as treatment was concerned I tried hexamine but it seemed to have no effect; so very little seemed possible beyond nursing and feeding. A stained specimen of the blood appeared normal. The discs were a little pale but otherwise normal; the urine was normal. No *post-mortem* examination was obtained.

Bristol. MAURICE C. BARBER, M.B., Ch.B.

PNEUMONIC HAEMORRHAGIC EFFUSION INTO PLEURA.

THE case described here is sufficiently rare to make it worth recording.

A single woman, aged 32, had been attended by me early in March, 1919, for a mild attack of influenza followed by slight icterus. From this she recovered completely. On April 26th I was sent for urgently; she had had a rigor, and the temperature was 104°. She was very ill; the pulse was 108. Respirations were normal, and no physical signs could be detected. That night the temperature dropped to 100.6°. For the next three days it was irregular, gradually rising to 103.4° on April 29th. The pulse was never very rapid and did not rise beyond 106. On this day the respirations were 26. During this time marked dullness became manifest over the lower portion of the right lung with general signs of consolidation. On April 30th she appeared so ill that I got Dr. Carey Coombs to see her with me. An exploratory needle was passed into the dull area, but the syringe filled quickly and easily with pure blood. Dr. Scott Williamson, pathologist, who examined this, reported that it was pure blood containing pneumococci, and expressed the opinion that probably the lung was infected with the pneumococcus and had been penetrated by the needle. The temperature now became hectic, never rising above 102.8° in the evening; respiration ranged from 28 to 32 and the pulse from 116 to 136. As there were no signs of the lung clearing up, on April 12th an exploratory needle was again used, and a few drops of blood stained serum drawn off.

Her general condition continued to deteriorate, and on April 17th I drew off 1 drachm of thin pus. On April 18th Dr. Coombs again saw the patient with me, and, tapping more towards the axilla, 15 oz. of serum beginning to get purulent were drawn off. The next day Mr. Lansdown resected a rib, and removed, in addition to a quantity of thin purulent serum, large masses of old blood clot. From this time onwards she made an uninterrupted recovery, and now the right lung expands fairly well.

It is clear that there was pneumococcal infection, and that the lower lobe of the right lung was infected. This infection was apparently so virulent that extensive haemorrhage into the pleura took place, and it must have been some of this blood which was first drawn off. The failure to obtain more than a few drops of fluid on the two next occasions was probably due to the needle pushing the blood clot in front of it, and never entering the main effusion. The theory that the blood originally drawn off was from the pleural cavity and not the lung is strongly supported, though perhaps not absolutely proved, by the large masses of clot removed from the pleural cavity at the operation.

Wrington. HUBERT C. BRISTOWE, M.D.Lond.

SUPPURATIVE ARTHRITIS AND PERITONITIS AFTER ACUTE BRONCHOPNEUMONIA.

DURING a recent epidemic of measles I saw a girl aged 5 years with a typical attack, but with more severe catarrhal symptoms than usual. She subsequently developed bronchopneumonia, which resolved in about a fortnight.

She did not improve, and complained of pain in the left hip. There was limitation of abduction and rotation of the left thigh, the knee was flexed, and a large abscess developed over the hip-joint. I opened and cleaned out the abscess, and applied extension with a Thomas hip splint. The abscess drained well and healed quickly. The temperature, however, became irregular, and she was extremely ill, complaining chiefly of pain in the abdomen, which in a week became tense, swollen, rigid, and shiny. The temperature fell to normal and the pulse rate increased. Free fluid was recognized in the peritoneal cavity. While making preparations for a laparotomy, pus to the extent of three pints burst through the umbilicus. She made an uninterrupted recovery, and is to-day quite healthy and strong, but with half an inch shortening of the left leg.

The case is of interest in so far as the question arises, What was the origin of the arthritis and peritonitis? They may both have been tuberculous, but in neither situation were tubercle bacilli found in the pus. The rarity of purulent effusion in tuberculous peritonitis is somewhat against it being tuberculous. She had no signs of tuberculosis of the lungs, nor were there any tubercle bacilli in the sputum. In the pus from both parts pneumococci were found, and the sequelae must have been a pneumococcal arthritis and a pneumococcal peritonitis.

The latter may have been caused by a spread of infection from the lungs through the subdiaphragmatic lymph channels, but it is more probable that both conditions were of haemic origin, and secondary to the bronchopneumonia.

Wrexham. A. LLOYD DAVIES, M.B.

Reports of Societies.

EARLY RECOGNITION OF SYPHILIS.

AT a meeting of the Royal Medico-Chirurgical Society of Glasgow, held on March 19th, the PRESIDENT, Mr. A. Ernest Maylard, being in the chair, Dr. W. H. BROWN made a "plea for the early recognition of syphilis," and cited cases from the army in which the diagnosis of syphilis was not made nor effective treatment begun until eight or ten weeks from the date of the man's reporting with a venereal sore, by which time the secondary eruption had appeared. Such faulty or delayed diagnosis increased the risk of the man's spreading the disease, prolonged his treatment, and diminished his chance of complete cure. Statistics showed that the longer the delay in treatment the worse the prognosis. Thus early primary cases with negative Wassermann reaction showed after full treatment 100 per cent. of negative reactions; late primary cases, with Wassermann becoming positive, showed after treatment 75 to 85 per cent. with negative Wassermann; while secondary cases showed after treatment only 60 per cent. with negative Wassermann. The fact that the central nervous system was early affected in syphilis increased the danger of delay. As to diagnosis, every venereal sore should be regarded as possibly syphilitic until it had been proved not to be, and the possibility of syphilis should not be excluded until the patient had been under observation for two, and preferably three, months, and at the end of that time given a negative Wassermann reaction. Dr. Brown then enumerated the points to which attention must be paid for the recognition of a primary syphilitic sore. It must be remembered that a double infection might occur at the same time, and on the same or different sites, by Ducrey's bacillus and *S. pallida*. Consequently what was clinically a soft sore might, after a short incubation period, assume the characters of a syphilitic chancre after the necessary incubation period of three or four weeks; or a chancre might follow a soft sore, but on a different spot. In some cases judgement must be suspended till the aid of laboratory methods—dark-ground examination of serum from sore for *S. pallida*—had clinched the matter; there should always be close co-operation between the clinician and the bacteriologist. A large series of coloured drawings and photographs was shown in illustration of the appearances described.

Clinical Cases.

Dr. WILLIAM RANKINE reported two cases of ruptured jejunum.

1. A man, aged 19, who had fallen from a scaffold, landing on his abdomen, presented no external abrasion, but was collapsed and in great pain, with a very rigid abdomen. Operation a few hours later revealed an almost completely transverse tear of the jejunum, which was sutured. Patient was dismissed well on the twenty-second day.

2. A man who, having fallen down the hold of a ship and struck some beams in falling, presented a fracture of the crest of the ilium and blood in the urine. At operation, seven hours later, two tears were found in the upper part of the jejunum, which were sutured. Patient was seriously ill for four days but ultimately made an excellent recovery.

Dr. Rankine reported also a case of diaphragmatic hernia operated on through the pleural cavity.

The patient, a boy aged 8, had his abdomen run over by the wheel of a motor bread van, was in great pain and presented some bruising and a rigid abdomen. An exploratory incision above the umbilicus showed that the spleen and greater part of stomach had been displaced into the left pleural cavity through a large tear in the diaphragm. The abdominal wound was closed and an osteoplastic flap, including portions of two ribs in the axillary and posterior regions of the left thorax, was turned up to give free access to the pleural cavity. Through this the organs were replaced without difficulty and the tear in the diaphragm sutured.

The patient was dismissed well after twenty-five days, and when seen at the meeting (five and a half years later) showed no abnormality of the chest or lungs.

Dr. G. HERBERT CLARK reported "An undescribed condition of infancy and its treatment." The condition had been identified in two children, one of whom was now normal and the other slowly becoming so. The outstanding symptoms were idiocy, depression, fibrillary twitchings in the muscles, jerking movements of the limbs, convulsions, and inability to balance.

The first patient had been apparently normal till the age of 4 months, when the fits and startings began. When first seen, in 1910, at the age of 15 months, he had a well formed and plump body, a large head, with open anterior fontanelle, an abnormal staring and apparently unseeing condition of the eyes, and presented all the symptoms mentioned above. Examination of the electrical reactions gave inconclusive results. Neither carpo-pedal spasms, Trousseau's nor Chvostek phenomena were ever present. As the symptoms seemed to resemble those produced in animals by removal of the parathyroids, the effect was tried of feeding with thyroid gland tablets containing parathyroid as an impurity. On a dose of ½ grain twice daily the child improved rapidly, was free from fits and twitchings after three weeks, and was now absolutely normal. The tablets were continued for six months, and then gradually stopped.

The second child was a girl, who had been fairly normal till about a year old, and then began to have twitchings, startings, and convulsions, with apparent indifference to surroundings and growing depression. When first seen, in September, 1919, she was aged 2½ years, well formed, plump, with satisfactory dentition, but the anterior fontanelle not quite closed. The symptoms were similar to those in the other case. On October 16th the child was ordered parathyroid tablets, $\frac{1}{10}$ grain thrice daily; fits, startings, and twitchings at once began to diminish, and quite ceased by October 24th. The child improved in alertness, took notice of her surroundings, played with toys, and could sit up and even stand. On October 27th parathyroid treatment was discontinued, and the fits, which had been absent for five days, at once recurred with violence. By the end of the week the child was rapidly falling back into the state on admission. To ascertain the effect of thyroid gland, this was given for a week in small doses (⅛ grain t.i.d.) so as to exclude any effect of possibly present parathyroid, but without benefit. On November 10th parathyroid was resumed, and by the end of a week most marked improvement had taken place. This was maintained, and when seen on March 9th the child was running about, playing and trying to talk. The condition described was illustrated by numerous photographs of both children taken before, during, and after treatment.

A CONFERENCE on the prevention of diseases of the teeth will be held at Manchester on May 13th–15th. Particulars may be obtained by sending a 1½d. stamp to the Food Education Society, Danes Inn House, 265, Strand, W.C.2.

Reviews.

VISION AND COLOUR VISION.

IN the *Physiology of Vision*[1] Dr. EDRIDGE-GREEN gives us the results of researches which have been spread over thirty years, gathered together from the various scientific journals in which the original papers appeared; the whole forms a most fascinating volume, which should appeal not only to the ophthalmic surgeon but also to the general reader.

The author has had the satisfaction of seeing his views, which at first met with a good deal of opposition, now generally accepted by the majority of physiologists and ophthalmic surgeons, while his colour-testing lantern is now in common use for testing candidates for the Royal Navy, signalmen, and others. The contents of the volume can be conveniently arranged in two parts: in the first, the physiology of vision is discussed, chapters being devoted to dioptrics, accommodation, defects of the eye as an optical instrument, the action of light on the retina, the origin of visual impulses, light and dark adaptation, after-images and binocular vision; the important points are grouped together at the end of this section of the volume in a very convenient summary. The second part deals more particularly with colour vision; chapters are devoted to the sensations caused by simple and mixed lights, the simple character of yellow sensation, methods of examining the colour sense, hexachromic and heptachromic vision, colour blindness, the evolution of the colour sense, trichromic vision and anomalous trichromics, simultaneous and successive contrasts, and colour adaptation; here again the important points are summarized at the end of particular sections. The two final chapters deal with the author's theory of colour vision and with his objections to the other theories.

After describing his spectrometer, lantern, bead test, and card test, Dr. Edridge-Green insists that experiments on colour vision need as much care as those in any other branch of science, and points out how the results of experiments may be vitiated by imperfect apparatus, such as coloured papers, and by the admission of stray light. He has given in all cases the full experimental grounds on which he has based his theories, and when he has rejected the results of former experiments he has given his reasons for doing so; finally, he points out how necessary a knowledge of the laws of colour contrast is to the designer.

The author is to be congratulated on his book, which deals very ably with what is admittedly an extremely difficult subject. We imagine that the majority of his readers will agree with his deductions.

We have also received a copy of the author's *Card Test for Colour Blindness*,[2] in a neat case. The principle of this test is, that on a ground of spots of one colour a letter is formed in spots of another colour, the shape, number of spots, and relative position is the same in each of the twenty-two cards, the only way of distinguishing the spots which form the letter being a difference of colour from that of the other spots. Each card is designed with a special purpose; the colours correspond to portions of the spectrum which, when isolated, appear all of a uniform colour to a class of the colour-blind, while special cards have been designed to catch cases of shortening of either end of the spectrum. We have not yet had an opportunity of examining a case of colour-blindness with this test, but the cards appear to form a very handy and convenient addition to the armamentarium of the ophthalmic surgeon.

[1] *The Physiology of Vision, with Special Reference to Colour Blindness.* By F. W. Edridge-Green, M.D., F.R.C.S. London: G. Bell and Sons, Ltd. 1920. (Demy 8vo, pp. xii + 280; 23 figures. 12s. net.)

[2] *Card Test for Colour Blindness.* By F. W. Edridge-Green. London: G. Bell and Sons, Ltd. (In leather envelope case, 25s. net.)

INDUSTRIAL MEDICINE AND SURGERY.

SCIENTIFIC management in industry has been studied with increasing vigour for many decades. At first this study concerned itself with the mechanical factors tending to increase output and with the cutting down of expenses of manufacture. Latterly, however, the working man and woman have also received the attention of scientific managers, and the attempt has been made to improve output and effect economy by studying the health of the worker, and endeavouring to keep him physically fit for his job. The special forms taken by medical and surgical practice in striving to attain this object are set out by Dr. MOCK in his large volume on *Industrial Medicine and Surgery*,[3] which is based on the author's nine years' experience as chief surgeon to one of the largest industries in Chicago. Here are correlated the demands of industrial practice, medicine, surgery, and the principles of social and economic development. The book is divided into six parts. The first outlines an industrial health service, and gives details of the aims of industrial sanitation, a branch of preventive medicine. Part II deals with the prevention of ill health and accidents in industry on broad lines. Part III gives an account of the part played by industrial medicine in works—the medical examination and treatment of the employees, with a special chapter on tuberculous workers. The fourth part is on industrial surgery, wounds, infections, fractures, *x*-ray diagnosis, and the like. Part V is concerned with compensation, insurance, and the medico-legal questions generally that arise from industrial accidents and diseases. The last part is given to reconstruction, the reclamation of the disabled to which the war has given so great and desirable an impetus.

Dr. Mock writes with the authority and conviction of wide experience, and if in some matters he seems to set his ideals rather high, and to demand an over-Prussian or grandfatherly regimentation of the workers for their good, in many others he is able to show the excellent effects that have followed the adoption of high ideals for working measures. In matters concerning the health of the individual much depends upon the attitude towards interference by the State, the employer, and the medical expert, taken up by the individual concerned.

The style is clear and shows a highly practical spirit, and in order to widen his audience Dr. Mock has made his text as free from technical language as possible. His book may be cordially recommended to the attention of medical men with an industrial practice, and still more to laymen such as employers, industrial engineers, social workers and others, who are awake to the necessity for improving the conditions under which manual labour is performed. Here they will find plenty of practical suggestions for improvements, and countless indications for the directions in which improvements must be made.

TOTEM AND TABOO.

THE study of social anthropology is a development of relatively recent growth, and though an enormous number of facts has now been collected from various sources, the theories suggested to explain the facts are by no means always convincing. Professor FREUD, in a volume a translation of which by Dr. BRILL has been published under the title *Totem and Taboo*,[4] has attempted to elucidate the origin of primitive customs by applying the results of psycho-analysis to the problems of racial psychology. Since psycho-analysis is essentially concerned with primitive impulses and regressive modes of thought in the individual, its conclusions, it is suggested, may shed some light on similar modes of thought and action amongst primitive races.

The first chapter is devoted to the question of exogamy, a marriage prohibition which has been regarded as a protective measure against incest. There are, however, difficulties in the way of accepting this rather obvious explanation; it seems to be established, for instance, that certain Australian tribes, the most primitive of existing races, do not connect the sexual act with impregnation, and believe that a woman may become pregnant by merely passing through certain forbidden places. Freud contends that this alleged incest dread is in close agreement with the psychic life of the neurotic: he reports some psychoanalytic observations offering, as he thinks, evidence as to the significance of the primitive mother-in-law prohibitions, which he suggests are more difficult to explain than those which concern near relations. In the chapter

[3] *Industrial Medicine and Surgery.* By Harry E. Mock, B.S., M.D., F.A.C.S., Assistant Professor of Industrial Medicine and Surgery at Rush Medical College, etc. Philadelphia and London: W. B. Saunders Co. 1919. (Roy. 8vo, pp. 846; 210 figures. 42s. net.)

[4] *Totem and Taboo. Resemblances between the Psychic Lives of Savages and Neurotics.* By Professor Sigmund Freud, LL.D. English translation, with introduction, by A. A. Brill, Ph.B., M.D. London: George Routledge and Sons, Ltd. 1919. (Demy 8vo, pp. xii + 268. 10s. 6d. net.)

on taboo and the ambivalence of emotions a comparison is drawn between taboo and a compulsion neurosis, and it is suggested that "All taboo phenomena . . . become unified if we sum them up in the following sentence: The basis of taboo is a forbidden action for which there exists a strong inclination in the unconscious." This theory is worked out in considerable detail, but whether the proposed limitation of the definition of taboo can be established demands a fuller acquaintance with the subject than Professor Freud appears to possess. The parallel drawn between the psychic life and primitive customs of the savage and the mental mechanisms and abnormal impulsions of the neurotic is unsound.

In the last two essays animism, magic, and totemism are considered. While recognizing that these subjects are exceedingly complex and cover a wide range, Professor Freud appears to commit himself to the opinion that psycho-analytic studies afford suggestions as to the possible origin of these religious-social customs; his discussion of the conclusions of leading ethnologists is of doubtful value, although the industry with which he has made extracts from the voluminous literature of the subject may be commended. In closing his study on totemism Professor Freud produces his King Charles's head, concluding that the beginning of religion, ethics, society, and art meet in the Oedipus complex. This, he adds, is in entire accord with his reading of psycho-analysis—"namely, that the nucleus of all neuroses as far as our present knowledge of them goes is the Oedipus complex." But in a footnote he adds the customary ambiguous qualification:

> I am used to being misunderstood, and therefore do not think it superfluous to state clearly that in giving these deductions I am by no means oblivious of the complex nature of the phenomena which give rise to them; the only claim made is that a new factor has been added to the already known or still unrecognized origin of religion, morality, and society, which was furnished through psycho-analytic experience.

In commenting upon his conclusions it may be said that while many authorities will admit the probability that dread of incest has some relation to exogamy, the numerous theories suggested at one time or another to explain the origin of prohibitions against marriage between relatives have been so inadequate as to cause one writer to assert that they may be condensed into the simple but honest phrase, "I do not know what caused the savages to adopt the system of exogamy." Whether Freud in this book has produced an hypothesis of any real value remains to be seen. Had he been able to base it upon the mental development of children he would have been on safer ground; when he attempts to bolster it by "the reactions of neurotics" he at once excites doubt in the mind of those possessing any previous knowledge of the subject.

BLOOD PRESSURE.

TEN years ago Dr. L. GALLAVARDIN of Lyon published a monograph of 206 pages, with 70 figures, on the subject of arterial blood pressure in clinical practice, its estimation and symptomatic value; in its second edition it has now been expanded into a volume of more than 700 pages and 200 figures. In reviewing the original edition (BRITISH MEDICAL JOURNAL, 1910, ii, 20) we were able to say that it was excellent, and this verdict holds good as regards the second edition,[5] which is really a new book, and is replete with bibliographical references, including many to British and American authors. The work is divided into two main parts—on the method of blood pressure estimations, and on their clinical bearings. The account of the methods has been expanded so as to occupy more than 200 pages, and has been brought fully up to date. The auscultatory method is fully described and compared with other procedures, full justice being done to the work of McWilliam, Melvin, and Murray, published since the first edition appeared. This method has been popularized in France by Collet, Tixier, and Laubry; the last named has invented a sphygmophone enabling two persons to make simultaneous observations.

The clinical and main part of the work begins with an account of the physiological variations of blood pressure, and in connexion with the hardly perceptible blood-pressure variations attending normal respiration it is pointed out that forced respiration may cause a difference of 10 to 15 mm. Hg in the systolic and rather less in the diastolic blood pressure; a remarkable case of a healthy man who by holding his breath for a prolonged period was able to raise his systolic pressure from 110 to 230 mm. is quoted.

A useful summary is given of the current knowledge of the conditions of blood pressure in airmen, and stress is laid on the influential factors other than barometric pressure. In commencing the consideration of pathological blood pressure, the author remarks that after the value of estimating the minimum or diastolic blood pressure was established an exaggerated importance was attached to it, especially by Pachon, and that the systolic and diastolic pressure are both indispensable. An abnormally low diastolic pressure may be due to bradycardia (pseudo-hypotension), to aortic regurgitation (true low diastolic pressure), to rigid arteries without aortic reflux, and to arterio-venous aneurysm. Variations of blood pressure in various parts of the body—for example, the increased pressure in the dorsalis pedis artery as compared with that in the radial artery in cases of abdominal aortitis—are described. After a chapter on the blood pressure in various diseases, this valuable treatise, which is a storehouse of information, concludes with a section on the effects of medical treatment.

A FIELD AMBULANCE IN GALLIPOLI.

COLONEL G. H. EDINGTON has reprinted from the *Glasgow Medical Journal* a sketch of the career of the 1/1st Lowland Field Ambulance in Gallipoli.[6] It is a Territorial unit, and he was in command when it was mobilized on August 15th, 1914, when it started for Egypt on June 4th, 1915, when it landed at Helles on June 27th, and when it left Gallipoli on the final evacuation of the peninsula on the night of January 8th–9th, 1916. His account is detailed, and it is possible to follow the story of the unit almost from day to day. As is well known, the positions available afforded little or no cover, and what he has to say of the design and construction of the hospital trench at a camp on the Krithia road is of general and permanent interest; photographs of this camp are among those with which the volume is copiously illustrated. His notes give a vivid impression of the perils and discomforts, and of the difficulties under which the medical work was conducted. Colonel Edington states that the Turks respected the Red Cross, at the beginning at least, for later on aeroplanes were less discriminating. Living in close contact he learnt to know and appreciate the good qualities of all ranks, and he concludes his book with the following words: "The outstanding features were the undaunted cheerfulness with which all faced every danger and discomfort, and the unfailing fidelity with which they discharged whatever duty came their way. These things are surely a just reason for pride; the memory of them stands out as a bright spot, which will for me always illumine the darkness of Gallipoli."

NOTES ON BOOKS.

IN *The Scientific Authority for Total Abstinence, Part II*,[7] Dr. C. C. WEEKS has reprinted in a pamphlet six articles from the *Journal of the Royal Army Temperance Association*, together with an interesting appreciation of the late Sir Victor Horsley. In language which is suited to the understanding of an intelligent layman, careful and accurate general descriptions are given of the nervous system, and the effects of alcohol thereon are discussed briefly, with sincerity and moderation of tone.

The chief subjects treated in the issue of *Medical Science*[8] for April, 1920 (the first number of the second volume, and the first issued by the Medical Research Council), are the typhoid fevers, pneumonia, and syphilis. There is a note on the nervous lesion caused by beri-beri

[5] *La tension artérielle en clinique. Sa mesure, sa valeur séméiologique.* Par Docteur L. Gallavardin. Deuxième édition. Paris: Masson et Cie. 1920. (Roy. 8vo, pp. xii + 717; 200 figures. Fr. 30 net.)

[6] *With the 1/1st Lowland Field Ambulance in Gallipoli.* By Colonel G. H. Edington, M.D., D.Sc., A.M.S.(T.F.). With illustrations Glasgow: Alex. Macdougall. 1920. (Med. 8vo, pp. 72.)

[7] *The Scientific Authority for Total Abstinence, Part II: Alcohol in Relation to the Nervous System, with special reference to its Action on the Brain.* By Courtenay C. Weeks, M.R.C.S., L.R.C.P., Captain R.A.M.C., lately Vicar of St. Hilda's, Crofton Park; General Secretary, Royal Army Temperance Association, 47, Victoria Street, S.W.1. (Price 6d.)

[8] Published for the Medical Research Council by the Oxford University Press. Annual subscription 21s.; a single number 2s.

in which the view that it is due to toxic polyneuritis is upheld, and the opinion of Vedder and McCarrison that the essential lesion is a degenerative change in the cells of the central nervous system is rejected. There is also an article on decapsulation and nephrotomy for nephritis in which a very cautious opinion is expressed as to the value of the former method of treatment. An index to first volume is printed with this issue.

Professor RICHET's lectures to French Red Cross helpers, which we were able to praise when first published in his own language, have now been translated into English and published in a small volume entitled *War Nursing*.[9] It is particularly adapted to the needs of educated women who wish to know something about the principles of nursing. The lectures are full of sound information, informal, not over-practical: the work of a famous scientist who has grown old in the study of physiology. We may all congratulate ourselves that the urgent demand that called them into being is now no more. The translator has done her work excellently.

The Third Great Plague,[10] by Dr. J. H. STOKES, contains a temperate discussion of syphilis, and the social problems to which it gives rise, for everyday people. The other two great plagues, it may be noted, are tuberculosis and cancer. The subject is treated adequately from all points of view, and Dr. Stokes writes clearly and with knowledge. His book may be recommended to laymen who wish to learn what syphilis is and how its spread may be limited.

In *War Diseases and Pensions*,[11] Drs. R. M. and W. T. WILSON have supplied medical referees, general practitioners, and those who sit on medical boards to adjudicate pensions, with a serviceable little manual of practical points in the diagnosis of such things as D.A.H., neurasthenia, trench fever, malaria, and the degree of disability present, that should be of great utility in matters of assessment. The snare of diagnosis based on symptoms is well displayed, and the importance assumed by laboratory diagnoses in patients with various chronic infections is sufficiently insisted upon. We recommend this unassuming book to the attention of those for whom it has been written; it is not, of course, exhaustive in its treatment, but it contains valuable and practical advice.

[9] *War Nursing*. What Every Woman should Know. Red Cross Lectures. By Charles Richet, Professor in the University of Paris, etc. Translated by Helen de Vere Beauclerk. London: William Heinemann. (Fcap. 8vo, pp. xi + 120. 3s. 6d. net.)

[10] *The Third Great Plague*. A Discussion of Syphilis for Everyday People. By John H. Stokes, A.B., M.D., Chief of the Section of Dermatology and Syphilology, the Mayo Clinic, Minnesota, etc. Philadelphia and London: W. B. Saunders Co. (Post 8vo, pp. 204.) 6s. 6d. net.

[11] *War Diseases and Pensions*. By R. M. Wilson, temporary Captain R.A.M.C., M.B., Ch.B., and W. M. T. Wilson, late temporary Captain R.A.M.C., M.B., Ch.B. London: H. Frowde, and Hodder and Stoughton. 1919. (Fcap. 8vo, pp. 71. 3s. 6d. net.)

THE MEDICAL RESEARCH COUNCIL.

PROVISIONS OF THE CHARTER.

THE Medical Research Council has been brought into existence by Royal Charter to replace the Medical Research Committee established to administer the Medical Research Fund provided by a paragraph in the first Insurance Act, which directed that a sum calculated at the rate of one penny for each insured person should be retained for purposes of medical research out of moneys provided by Parliament. The Committee ceased to exist on March 31st and the new Council came into existence on the following day.

The change is consequent on a proviso of the Ministry of Health Act, 1919 (Section 3, Subsection (1), proviso (i)), which directed that the duties of the Medical Research Committee should be transferred to a Committee of the Privy Council. The transfer has taken place and the Medical Research Council has been constituted to carry out these duties under the Committee of the Privy Council recently established, as noted a fortnight ago. This Committee consists of the Lord President of the Privy Council, the Minister of Health, the Secretary for Scotland, and the Chief Secretary for Ireland. In the absence of the Lord President the Minister of Health will preside. The constitutional position of the Medical Research Council is thus defined and its duties are formally shown to extend to all parts of the United Kingdom.

The Charter of the Medical Research Council, approved at a Council held by the King on March 25th, appoints the first Council, as set out below. It provides that two members shall always be members of the House of Lords and of the House of Commons respectively, and that any vacancy among the other members, whether casual or due to expiration of the term of office, shall be filled after consultation with the Medical Research Council and the President for the time being of the Royal Society.

CONSTITUTION OF MEDICAL RESEARCH COUNCIL.

The first Medical Research Council is constituted as follows:

Viscount GOSCHEN, C.B.E.
Mr. WILLIAM GRAHAM, M.P. (Edinburgh Central).
The Hon. E. F. L. WOOD, M.P. (Ripon, North Riding).
C. J. BOND, C.M.G., F.R.C.S., Consultant Surgeon, Leicester Royal Infirmary.
WILLIAM BULLOCH, M.D., F.R.S., Professor of Bacteriology in the University of London (London Hospital).
T. R. ELLIOTT, C.B.E., D.S.O., M.D., F.R.S., Physician to University College Hospital, London.
HENRY HEAD, M.D., F.R.S., formerly Physician to the London Hospital.
F. GOWLAND HOPKINS, M.B., D.Sc., F.R.S., Professor of Biochemistry in the University of Cambridge.
Major-General Sir W. B. LEISHMAN, K.C.M.G., C.B., M.B., F.R.S., Director of Pathology, Army Medical Service.
D. NOËL PATON, M.D., F.R.S., Regius Professor of Physiology in the University of Glasgow.

POWERS.

The Charter creates the Medical Council a body corporate, with the usual powers of a chartered body, to hold and dispose of money or other personal property received for medical research from Parliament or from other sources. It is empowered to hold and to accept gifts and bequests of land and buildings in the United Kingdom to an amount not exceeding in annual value £50,000.

The members of the Council will hold office for two years, but will be eligible for reappointment. The members named in the Charter will hold office until September 30th, 1921, when three will retire; thereafter three members will retire at intervals of two years.

The Council will elect its own Chairman, Treasurer, and Secretary. The first Secretary is Sir Walter Fletcher, M.D., D.Sc., F.R.C.P., F.R.S.; hitherto Secretary of the Medical Research Committee. The Council may appoint other officers, and remunerate them and expend such moneys for administrative purposes as it thinks fit, subject to the approval of the Committee of the Privy Council above mentioned.

Another clause gives the Medical Research Council power to alter, amend, or add to the Charter by a vote of two-thirds of the members present and voting (being an absolute majority of the whole number of the Council) subject to confirmation by a like majority at a subsequent meeting. Honoraria, subject to the approval of the Committee of the Privy Council, may be paid to members of the Medical Research Council not being members of either House of Parliament.

ROYAL MEDICAL BENEVOLENT FUND.

ANNUAL MEETING.

THE annual meeting of the Royal Medical Benevolent Fund was held on Tuesday, March 16th, with Sir CHARTERS SYMONDS, K.B.E., in the chair.

The annual report for the year ending December 30th, 1919, showed that there had been an increase of £196 in donations and subscriptions over the previous year, and that the total amount distributed on the grant account was £2,532.

Attention was drawn to the fact that owing to the increased cost of living it was necessary to increase the amount of the grants, and that at least an additional £1,000 was required for this purpose; as only about 7 per cent. of the medical profession support the Fund, the Committee expressed the hope that this sum would be forthcoming. The annuitants numbered 178. The War Emergency Fund has distributed £8,540. At the last meeting of the Committee of that Fund grants amounting to £800 were made to seven of the applicants. This Fund will be pleased to consider applications from demobilized R.A.M.C. officers with the view of assisting them to re-establish themselves in their practices.

Sympathetic reference was made to the death of the late President, Dr. Samuel West. Sir Thomas Barlow, Bt., K.C.V.O., M.D., was elected President, Sir Charters J. Symonds Honorary Treasurer, and Dr. G. Newton Pitt Honorary Secretary. The members of the Committee of Management were elected. Votes of thanks were passed to the retiring officers and to the Editors of the BRITISH MEDICAL JOURNAL and *Lancet* for their great help during the past year. Donations and subscriptions may be sent to the Honorary Treasurer at 11, Chandos Street, Cavendish Square, London, W.1.

EIGHTY-EIGHTH ANNUAL MEETING

OF THE

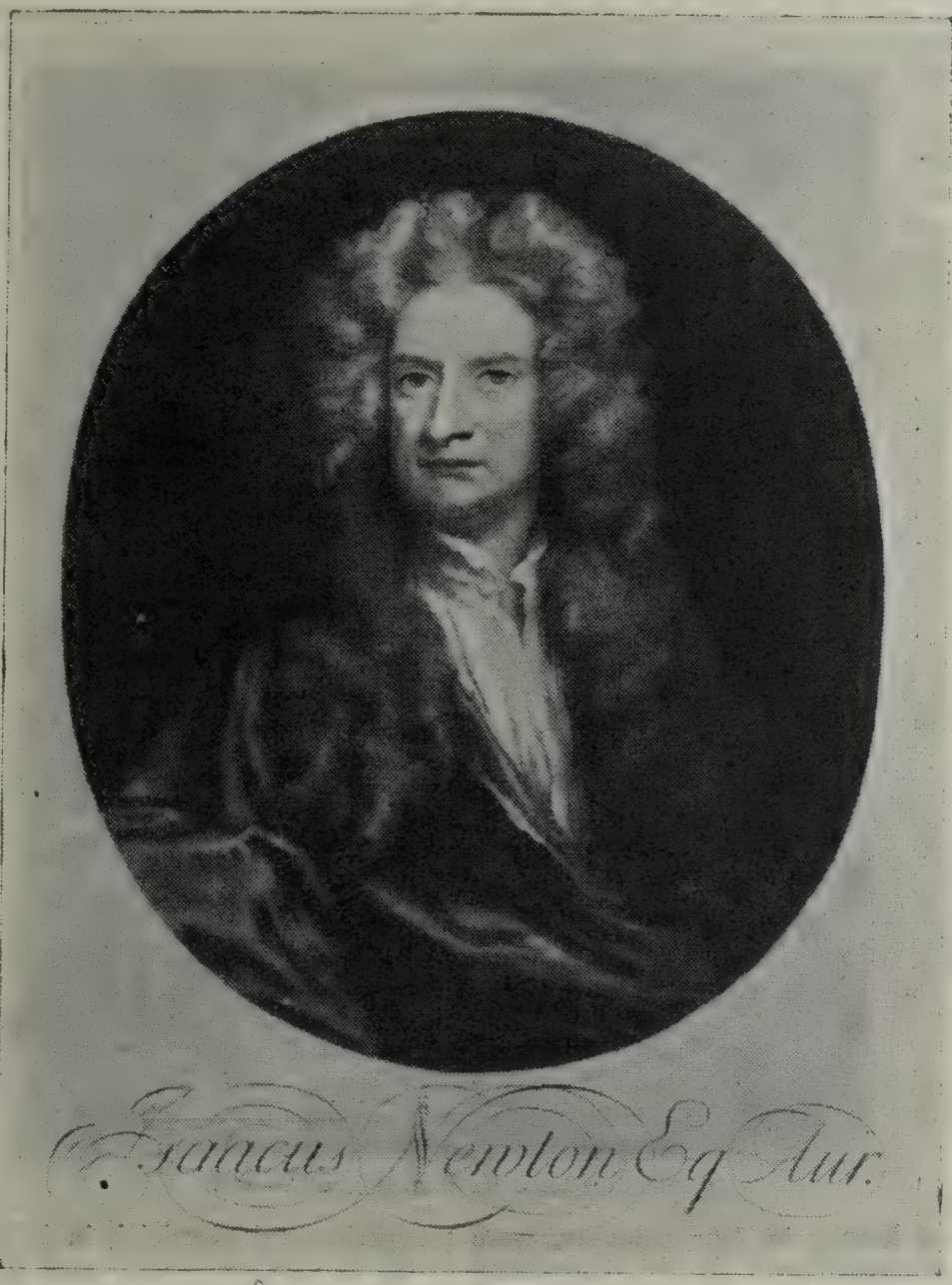
British Medical Association,

CAMBRIDGE, 1920.

EVOLUTION OF THE MEDICAL SCHOOL

*(continued).**

By the year 1700 all the natural sciences had obtained a footing in the University. Caius, the first recorded practical scientist of Cambridge, had established anatomy in 1558; but anatomy in his time was not fully emancipated from the bonds of traditional authority; it included most of the physiology then known or imagined, and doubtless still held to some absurdities which unprejudiced observation would have cleared away. Glisson in 1636 had introduced the new or philosophical anatomy and physiology, infused with the spirit of Harvey, and guided by the principles of Roger Bacon, as expounded by his namesake Francis, Lord Verulam. Ray had introduced systematic botany, and his intimate friend and collaborator, Francis Willughby, of Trinity College, had carried out extensive investigations in animal morphology, and attempted a classification of animals. Newton was living at Cambridge from 1661 till 1727, pursuing and teaching physical science and astronomy. Chemistry was a favourite subject for private study, and the distinguished chemist Vigani was imported from Italy to lecture on the science from about 1680 onwards. Finally, geology, then an embryo science, was brought to Cambridge in 1695 by John Woodward, M.D., who (being then 30 years old, and having already completed his medical education) was in that year enrolled as a member of Pembroke College, and subsequently bequeathed his collection of specimens to the University, with a sum of money to found a lectureship in geology. His fossils were the beginning of the Geological Museum, and his lectureship afterwards became the Woodwardian Professorship.



SIR ISAAC NEWTON.
(From the engraving by J. Smith, after Kneller's portrait.)

Thus it will be seen that in 1700 the time was ripe for a fuller recognition of natural science in the University curriculum. The first-fruit was the elevation of Vigani in 1703 to a professorship in chemistry, and the provision for him of a laboratory, in which Stephen Hales shortly afterwards carried on important experiments in physics and physiology, as mentioned in our previous article. The next event was the creation of a professorship of anatomy in 1707. Anatomy had recently been taught by James Keill, who had studied medicine at Edinburgh and Leyden, and was admitted M.D. at Cambridge in 1705. But the choice for the first professorship fell upon George Rolfe, who was said to have performed several dissections "summa cum laude in usum studiosae juventutis optimum." In 1716 a building, a portion of the block which housed the University Press, at the corner of Silver Street and Queens' Lane, was assigned to the professors of anatomy and chemistry for their laboratories.

In 1723 Parliament considered and rejected a clause in an Act "for the better enabling the Faculty of Physick, in the University of Cambridge, to take the bodies of Persons executed for Felony and other Crimes, for Anatomical Dissections." Public prejudice was still strongly against dissection. It may have been partly through the difficulty of obtaining bodies that the enthusiasm of Rolfe failed, and he became so inactive that after long warning the University in 1728 deprived him of his appointment.

Meanwhile in 1724 the professorship of botany was created. The first tenant of the chair, Richard Bradley, F.R.S., was the author of works on botany and agriculture, but (like Rolfe) was negligent as a professor. His neglect was remedied by permission to lecture being given to John Martyn, F.R.S., who in 1727 gave the first course in botany that was read in Cambridge. Martyn entered at Emmanuel in 1730, and in 1733 succeeded Bradley as professor.

No other new development took place for several years, but some contemporary events deserve notice.

One of the most honoured names in Cambridge is that of John Addenbrooke, Fellow of St. Catharine's, who was admitted M.D. in 1712, and died in 1719 at the early age of 39. He probably practised in Cambridge, and may have taught pharmacy, but on both these points evidence is wanting. At all events he was interested in pharmacy, and made a collection of teaching specimens of *Materia Medica* which is still in possession of his college. He also in his short life earned (if he did not inherit it) sufficient money to leave £4,000 to found the first public hospital in Cambridge. The building of the hospital was delayed nearly fifty years by litigation; and meanwhile the endowment was augmented with a further sum of £7,000 by John Bowtell the bookseller. The hospital building has since been greatly enlarged, but it is always called "Addenbrooke's Hospital," and the name of Bowtell is prominent in its interior. May their names never be dissociated from it!

Another name, whose fame has extended far from Cambridge, is that of William Heberden, who entered St. John's in 1724, became Fellow of the College, graduated M.D., and practised and lectured on *Materia Medica* in Cambridge for ten years, and then removed to London.

Interesting information on the state of natural science

* Previous articles in this series of descriptive and historical notes on the University and town of Cambridge have appeared in the JOURNAL of January 3rd, p. 17; January 24th, p. 125; and March 13th, p. 369.

in Cambridge about this time has been preserved for us by Samuel Dale of Bocking in Essex, physician, distinguished botanist, dilettante in most of the arts and sciences, and intimate friend of Ray. He paid several visits to Cambridge between 1722 and 1738, and kept a diary of them, which is preserved in the Cambridge University Library. This diary, consisting of notes without embellishment jotted down for his own use only, is of considerable historical value.[1] It appears from his notes that botany was a popular study among the residents.

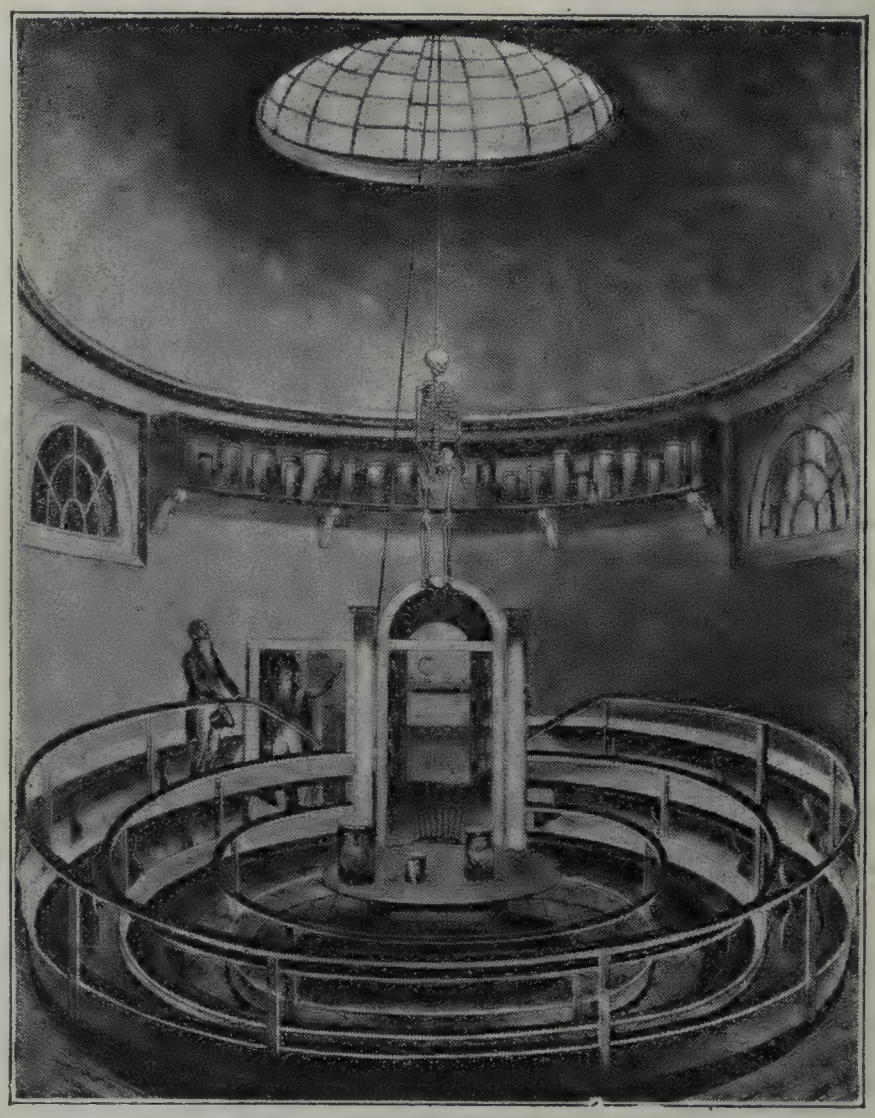
"The connection between botany and medicine," says Professor Hughes, "was then much closer, as simples formed a large part of the pharmacopoeia of that day. It would appear that Dr. Dale regarded the subject very much from that point of view, because so many of the plants he mentions were used in medicine. His friends [at Cambridge] gave him roots and seeds, and helped him to find others." . . . "It is mentioned that Dr. Martyn [the second Professor] laboured much to bring this science into repute, read public lectures for several years, and perambulated the country with his scholars, showing them the Cambridgeshire plants where Mr. Ray had described them to grow."

In 1737 Dale was introduced to a Mr. Jackson, who mentioned—

"That Mr. Martyn had shewn him a New Methodus Plantarum by a German named Lineus which much differ'd from that of Mr. Ray."

In Mr. Davis's rooms at Queens' (probably Dr. Richard Davies, to be mentioned again later) he saw, in 1735, "Hawksby's Pneumatick Engin," mentioned in the *Transactions* of the Royal Society. This was possibly an air-pump. In 1737 he

"went to see Mr. Wilson, who dwells over the Greate Gatehouse [of Trinity]; he shewed me the observatory, in which is a clock that goeth one month. It was the present of Sir Isaac Newton to the University. They correct it by the Sun and have in that room divers large tellescops and other Mathematical Instruments, together with a double barrelled Pneumatick machine in that room and that under it, and above all in the Cupulo is a large sextile fixt, with two tellescopes."



THE OLD ANATOMY THEATRE ABOUT 1814

We further learn from Dale's diary that Dr. Woodward's collection of fossils, in four cabinets, were already housed in a separate room in the University Library in 1730, two years after Woodward's death, and were under the care of Mr. Mason, who shortly afterwards succeeded to the Woodwardian Professorship.

Dale's picture of Cambridge shows the natural sciences in general very much alive and rejoicing in their youth. But how were the specially medical sciences doing? We have mentioned that the first professor of anatomy was inactive and had to be deprived of his office. His successor, John Morgan, was apparently more energetic or less scrupulous, for during his time (1728–1737) body-snatching was more prevalent in the neighbourhood than usual, and public indignation became serious. In 1731 the University passed an ordinance for the punishment of any student or graduate found guilty of participation in the stealing of bodies.

"The prohibition," says Dr. Alexander Macalister,[2] "does not seem to have been effectual, for on the 2nd of April, 1732, a body exhumed from a neighbouring churchyard was traced into Emmanuel College, and the pursuers obtained a warrant from a magistrate, Mr. Pern, to search for it. . . . However, the body was too carefully concealed to be found by the searchers."

It is not clear whether this body snatching was owing to insufficiency or to total failure of the supply of bodies to which the school had a legal right. Whatever the cause, the custom continued, leading many years later to a remarkable incident—the dissection of the body of Laurence Sterne in the anatomy theatre of his own university. It was in 1768, the professor at the time being Charles Collignon. Sterne's body had been buried at St. George's Burial-Place at Tyburn (now Bayswater Road) and had been brought to Cambridge on the following day. One of his friends, invited to see the dissected body, recognized his face. Thus Yorick's grave was dishonoured like that of his namesake. It was believed that his skeleton was preserved in the Museum; but Professor Macalister was unable to identify even his skull. Though dissection was being carried on, it was only with difficulty, and meanwhile neither the professors of anatomy nor those of physic achieved anything remarkable — even personal fame. Certain other doctors gave lectures on medical subjects, among them Robert Glynn of King's College, physician to the poet Gray.

In March, 1750–1, Glynn announced a course of lectures on the Medical Institutes, in three parts:

Part I. On the Animal Oeconomy.
Part II. On the Operations of Medicines.
Part III. On the History of Diseases.

In March, 1752, he further announced "A Course of Medical Lectures on the Structure and Use of the Principal Organs of the Human Body. . . . The First Course 2 Guineas—The Second Course, 1 Guinea."[3]

That the state of medical teaching was not satisfactory is indicated in a letter addressed by Richard Davies, M.D., of Queens' College (whose name was mentioned in Dale's diary), to Dr. Stephen Hales, the experimental physicist, in 1759.[4]

In it he says: "The Arts subservient to Medicine have no appointments to encourage teachers in them. Anatomy, Botany, Chemistry, and Pharmacy, have been but occasionally taught; when some person of superior talents has sprung up and has honoured the University by his first display of them there, before his passage into the world." Provided that the university course were supplemented by due attendance at some public hospital, which ought to be the finishing school of the clinical physician, he thought that no place was so well fitted for the early training of physicians as the English universities, on account of their discipline—if only the professors' lectures had not become a farce, those positions being looked upon as dignities rather than offices.

In 1762, three years after the date of Davies's letter, a long-felt want was supplied by the gift of the first botanical garden to Cambridge, through the munificence of Richard Walker, D.D., Vice-Master of Trinity College, an enthusiastic botanist often mentioned in Dale's diary. The land chosen was the former site of the Augustinian Friary, near the middle of the town. It is said that Thomas Martyn, who had recently succeeded his father as

[1] See paper by Professor McKenny Hughes, "Dr. Dale's Visits to Cambridge, 1722–1738," in *Proc. Cambridge Antiquarian Society*, No. lxviii, 1915–16, p. 95.

[2] Lecture delivered January 29th, 1891, on the opening of the new Anatomical Lecture Room. Published by Cambridge University Press.

[3] See *Scholae Academicae*, by Christopher Wordsworth (not the bishop), to which work we are much indebted for information concerning Cambridge men and manners.

[4] *Scholae Academicae*, p. 177.

professor of botany, first taught the Linnean system in 1763; if that was the case, there was great delay in the adoption of the system, for Dale recorded (see above) that John Martyn, the father, was already acquainted with the system in 1737, twenty-six years earlier.

In 1783 the Rev. Richard Jackson of Trinity College founded the Jacksonian Professorship of Natural Experimental Philosophy, and wisely ordered that the lectures were to be illustrated with practical experiments, chemical and otherwise. It is amusing to note that the professors were requested "to have an eye more particularly to that *opprobrium medicorum* called the gout." In those days the natural sciences were mostly regarded as accessory to medicine; and are they less so now? The writer attended the lectures of the Jacksonian professor in the seventies; and though he does not remember the mention of *gout* or any other medical term, he learnt from demonstration several fundamental physical and chemical principles which have since proved of great value to him in medical science.

The first really efficient professor of anatomy, who left a permanent impression on the school, was Sir Busick Harwood, M.D., of Christ's and Emmanuel Colleges. He was professor of anatomy 1785–1814, and also Downing professor of medicine 1800–1814.

"He took a wide view of his subject—the Professorship is one of Anatomy, not of Human Anatomy—and lectured and demonstrated on the lower vertebrates, some of which having yielded up their anatomical secrets on the dissecting-table during the morning, were said to have reappeared upon his table at the mid-afternoon dinner of the period."[5]

"Shortly after his election he commenced the publication of a large work on Comparative Anatomy, but, not receiving sufficient encouragement, one part only was published, that on the organ of smell. It is a matter of regret that the project fell through, for the part issued shows originality and erudition, and is beautifully illustrated. It was translated into German, and published under the editorship of Wiedemann. To Harwood we owe the foundation of our anatomical museum, as he prepared a series of specimens to illustrate his lectures, and the University purchased them at his death."[6]



THE MUSEUM OF ANATOMY, OR ROTUNDA, BUILT 1832.
J. Palmer Clarke] [*Photo, Cambridge.*

Soon after his appointment the Anatomical Laboratory in Silver Street was rendered more convenient by the removal of the chemical department to a building at the Botanic Garden, where provision was made for the botanical, chemical, and Jacksonian professors. This gave Harwood an opportunity to fit up the building adequately. In Ackermann's *History of Cambridge*, published in 1815, the year after Harwood's death, is a print of the interior of Harwood's theatre, from which the illustration we give is a much reduced copy.

The print shows a round room, lighted from the roof, having three tiers of seats round a central table. A skeleton hangs from the ceiling. On the table are three glass jars of different sizes: one of them contains a fetus, another a twin monster. On a shelf are twenty-two similar glass jars containing specimens. Through an arch at the back is seen the museum in perspective, with mounted specimens and more glass jars.

In short, the drawing represents a well-appointed anatomical department, and confirms the written testimony as to Harwood's efficiency as a professor. If the other departments of medical science had been as well organized as his, and the several departments co-ordinated under a central management, the medical school might have taken its proper place among the schools of the time; but this was not to happen for another half-century.

[5] Sir A. E. Shipley in *A Memoir of John Willis Clark*, p. 263. Smith, Elder, and Co. 1913.

[6] Professor A. Macalister, *Lecture on the Opening of the New Anatomical Lecture Room*. Cambridge University Press, 1891. The specimens purchased by the University are said to have been wax models made in Italy. The real anatomical preparations were probably presented by Harwood.

Harwood's contemporary in the Regius Chair of Physic was Sir Isaac Pennington, M.D., Fellow of St. John's. He had been Professor of Chemistry from 1773 to 1793, and was Regius Professor of Physic from 1793 to 1817. He appears to have been an able man and to have helped with Harwood to form the anatomical museum, presenting to it in 1804 a collection of specimens.

An anecdote is told of these two knights—Sir Busick and Sir Isaac—the founders of the *real* medical school, which has the merit of fixing their names on the memory. Pennington, meeting Harwood one day, greeted him with "Good-morning, Sir B–u–sick?" To which Harwood replied, "Sir I–sic? I never was better in my life!"

Harwood was succeeded in 1814 by John Haviland, M.D., Fellow of St. John's, who passed to the Regius Professorship three years later, on the death of Pennington, and held the chair until 1851. Haviland was the first professor who gave regular courses on pathology and the practice of medicine, and he did much to make medical examinations real and satisfactory.[7]

When Haviland passed from the chair of anatomy to that of physic, in 1817, he was succeeded as Professor of Anatomy by William Clark, M.D., Fellow of Trinity College, who held the professorship for forty-nine years. He did more for his department than any of his predecessors.

"Conscious that the teaching of anatomy, more especially of comparative anatomy, in which rather than in human, he was particularly interested, could not be carried on without a collection, Professor Clark added largely to the nucleus of Harwood's Museum. He procured from Italy a number of anatomical models in wax, purchased a number of specimens from Brookes's Museum, and the whole of the collection made by Professor Macartney of Dublin."[8]

This unusually valuable collection, consisting of more than 2,000 specimens, had been refused by the authorities in Dublin; it was then offered to Dr. Clark, who most willingly induced the University of Cambridge to secure it at the price of £100 a year for ten years.

With the combined collections of Harwood, Pennington, Clark, and Macartney, a larger museum building was required, and in 1832 the collections were moved to a new building in Downing Street. The most conspicuous portion, standing at a street corner, was sometimes called the Rotunda. Though plain, it arrested attention by its form, and internally it was rather well fitted for its purpose, having two stories (floor and gallery) of shelves and glass cases, and a central table. Adjoining were the dissecting room and a theatre, the latter being no better than Harwood's, if as good.

Clark's work, with the assistance of that of Haviland, prepared the ground for the great development of the Medical School in the last third of the century. Haviland was succeeded in 1851 by H. J. H. Bond, M.D., of Corpus Christi. During the professorships of these three men all the natural sciences prospered and increased in popularity. A new botanical garden, adjoining the Trumpington Road, outside the town, was laid out in 1847, and the transference of the plants from the old garden completed in 1852. This left the site of the old garden free for the expansion of the botanical, chemical, and anatomical laboratories and museums which had been built beside it; and in course of a few years many new buildings were erected on the garden site, including a separate museum for the zoological and comparative anatomical collections.

Meanwhile the Natural Science Tripos was instituted in 1851, this being the culmination of the scientific movement in Cambridge, and acting as a great stimulus to

[7] *Historical Register of the University of Cambridge.*

[8] Professor A. Macalister, *loc. cit*

medical science. On the retirement of Clark in 1866, Dr. G. M. Humphry was appointed Professor of Anatomy, and in 1872 Dr. G. E. Paget succeeded Bond as Regius Professor of Physic. It is to these two men (afterwards Sir George Humphry and Sir George Paget) that we chiefly owe the present prosperity of the Medical School, and our next article will deal with their work and influence.

HONOURS.

A SPECIAL Supplement to the *London Gazette*, dated March 30th, contains the following promotions in and appointments to the civil division of the Order of the British Empire for services in connexion with the war:

K.B.E.

Isaac Bayley Balfour, LL.D., M.D., D.Sc., F.R.S., Professor of Botany, University of Edinburgh, Regius Keeper of Royal Botanic Gardens, Edinburgh.

Major James William Beeman Hodsdon, C.B.E., M.D., F.R.C.S., Member of Medical Advisory Board, Ministry of National Service.

Brevet Lieut.-Colonel David Wallace, C.M.G., C.B.E., M.B., F.R.C.S., Organizer and Consulting and Operating Surgeon, Dalmeny House Auxiliary Hospital; Red Cross Commissioner and Military Inspection Officer to Auxiliary Hospitals.

Brevet Colonel Arthur Lisle Ambrose Webb, C.B., C.M.G., Director-General of Medical Services, Ministry of Pensions.

C.B.E.

Francis Charles Abbott, M.S., F.R.C.S., Commandant and Surgeon in Charge, Red Gables Auxiliary Hospital, Bletchingley. Robert Craig Ackland, M.R.C.S., L.R.C.P., Medical Officer, Red Cross Hospital for Facial Injuries, Brook Street, London.

Lieut.-Colonel Sir James Barr, LL.D., M.D., F.R.C.P., F.R.S.E., County Director of Auxiliary Hospitals and Voluntary Aid Detachments in West Lancashire. Robert Cunyngham Brown, O.B.E., M.D., Deputy Director-General of Medical Services, Ministry of Pensions.

William Murray Cairns, M.D., C.M., Medical Officer in Charge, Myrtle Auxiliary Hospital, Liverpool. Richard Caton, LL.D., F.R.C.P., M.D., Chairman, Nursing Service Committee, Liverpool Branch, British Red Cross Society. Colonel William Coates, C.B., V.D., D.L., M.R.C.S., L.R.C.P., Chairman, East Lancashire Branch, British Red Cross Society. John Edwards Cresswell, M.B.E., M.B., B.C., excellent work as Principal Medical Officer, Government Hospital, Suez.

Frederick William Edridge-Green, M.D., F.R.C.S., Member of Medical Board, Ministry of National Service. Evan Laming Evans, M.D., F.R.C.S.

Thomas Ashton Goodfellow, M.D., Medical Officer of Lawnhurst (Didsbury) Military Hospital, and of Didsbury Lodge Auxiliary Military Hospital. Alfred Milne Gossage, M.D., F.R.C.P., Senior Medical Assessor, Soldiers Pension Awards Branch, Ministry of Pensions. Alexander Granville, C.M.G., M.R.C.S., L.R.C.P., Commissioner for Egypt, Palestine and Syria, British Red Cross Society. Walter Spencer Anderson Griffith, M.D., F.R.C.S., F.R.C.P., Chairman of Council, H.R.H. Princess Beatrice's Hospital War Supply Dépôt, St. Marylebone. Charles Nixon Groves, M.D., B.Ch., Civilian Medical Officer in Charge of the Darell Military Hospital.

John Howell, M.B., F.R.C.S., Consultant Surgeon, Cheltenham Auxiliary Hospitals, Honorary Secretary, Medical Committee, Cheltenham. Edmund Henry Howlett, F.R.C.S., professional medical services at the Royal Naval and St. John V.A.D. Hospitals, Hull.

Robert William Johnstone, O.B.E., M.D., F.R.C.S., Commissioner of Medical Services, Ministry of National Service. David Rocyn Jones, M.B., C.M., Deputy County Director of Auxiliary Hospitals, Monmouthshire.

James Rutherford Kerr, Ch.M., Medical Officer in Charge of the Pilkington Special Orthopaedic Hospital, St. Helens.

William Laird, L.R.C.P., L.R.C.S., Director of Glasgow Orthopaedic Annexe.

Edmund Distin Maddick, O.B.E., F.R.C.S.E., The Scala Theatre. John Howard Mummery, M.R.C.S., L.D.S., Dental Surgeon, Maxillo Facial Hospital, Kennington.

George Palmerston Newbolt, M.B., F.R.C.S., Operating Surgeon, Myrtle Auxiliary Hospital, Croxteth Hall and Royal Southern Hospital, Liverpool.

Richard Alfred O'Brien, M.D., Director, Wellcome Physiological Research Laboratories.

John Fletcher Porter, M.B., J.P., a Director of Medical Services, Ministry of Pensions.

Howell Rees, M.R.C.S., L.R.C.P., J.P. George Augustus Roberts, F.R.C.S., Medical Officer and Surgeon to Winchester Red Cross Hospitals. James Robinson, L.R.C.P., L.R.C.S., J.P., Chairman, Executive Committee, Welsh National Hospital. Frank Mortimer Rowland, M.D., B.Ch., Assistant County Director and Honorary Treasurer, Staffordshire Branch, British Red Cross Society; Medical Officer, Freeford Hall Auxiliary Hospital.

Major Arthur de Winton Snowden, M.D., B.C., Senior Physician, British Red Cross Hospital, Netley. George Alexander Sutherland, M.D., F.R.C.P., valuable services to the Air Ministry.

William Washbourn, L.R.C.P., M.R.C.S., Medical Officer in Charge, Colchester Auxiliary Hospital. Dawson Williams, M.D., F.R.C.P., D.Sc., Editor, BRITISH MEDICAL JOURNAL, valuable services to the Royal Army Medical Corps throughout the war.

O.B.E.

Edward William Adams, M.D., Medical Officer, Ministry of Health. Herbert William Allan, M.R.C.S., L.R.C.P., Medical Officer, Red Cross Hospital, The Cedars, Wells, Somerset. Frederick Leigh Angier, M.R.C.S., L.R.C.P., Senior Medical Officer to the Wigan Division, British Red Cross Society. The Rev. John William Arthur, M.D., Leader, Church of Scotland Mission, British East Africa. William Ashford, M.R.C.S., L.R.C.P., Commandant and Medical Officer, Topsham Auxiliary Hospital.

Llewelyn Arnold Baiss, M.R.C.S., L.R.C.P., Commandant and Medical Officer in Charge, Cluny Auxiliary Hospital, Swanage. Alfred Ernest Barclay, M.D., Assistant County Director, Kersal and Broughton Division, British Red Cross Society, Organizer of four hospitals. Edgar G. Barnes, M.D., County Director, Auxiliary Hospitals and Voluntary Aid Detachments, Jersey. Leonard Stewart Barnes, M.R.C.S., L.R.C.P., Medical Officer, Knebworth Auxiliary Hospital. William Richard Bates, L.R.C.P., L.R.C.S., Medical Officer, Ilkley Convalescent Home. David Leslie Beath, M.R.C.S., L.R.C.P., Medical Officer, St. John's Voluntary Aid Hospital, Newton Park and Kingswood, Bath. Alexander Clarke Begg, M.D., Ch.B., Medical Officer, Brynmill Red Cross Hospital, Swansea. Frank Belben, M.B., Medical Services, Christchurch Auxiliary Hospital, Hampshire. Major Harry Poole Berry, M.B., M.R.C.S., T.D., Medical Officer, Red Cross Hospital, Grantham. Henry Bott, V.D., L.R.C.P., M.R.C.S., Senior Medical Officer, Syon House Auxiliary Hospital; Vice-Chairman, Middlesex Voluntary Aid Organization. Francis Carr Bottomley, M.D., Medical Officer, Bodorgan Road Auxiliary Hospital; Organizer of Hospital Transport, Bournemouth. Henry Briggs, D.Sc., M.B., F.R.C.S., Technical Adviser on the Medical Stores Committee, War Office. Major Frank Brightman, M.R.C.S., Assistant County Director, Thanet Division; Medical Officer, Fairfield V.A.D. Hospital, Broadstairs. Herbert Henry Brown, M.D., F.R.C.S., Medical Officer, Broadwater Hospital, Ipswich, Maryland Hospital, Sproughton, and East Suffolk and Ipswich Hospital. Henry William Langley Browne, M.D., F.R.C.S., LL.D., J.P., Medical Officer, West Bromwich Auxiliary Hospital. Lieut.-Colonel Harry Munyard Brownfield, Medical Services, Clayton Court Auxiliary Hospital, East Liss, Petersfield, Hampshire. James Marr Brydone, M.B., B.C., Resident Medical Officer, Michie Hospital, Queen's Gate, London. William James Storey Bythell, M.D., Honorary Medical Officer, East Lancashire Disabled Sailors' and Soldiers' Homes, Manchester.

William Calwell, M.D., M.Ch., Medical Officer, Craigavon Neurasthenic Hospital, Belfast. George Arthur Cardew, M.R.C.S., V.D., Medical Officer in Charge, St. John Auxiliary Hospital, Cheltenham; Chairman Cheltenham Medical Committee. Eustace George Carter, L.R.C.P., M.R.C.S., Medical Officer, Gledhow and Roundhay V.A.D. Hospitals. Walter Chapman, M.B., B.Ch., Commandant and Medical Officer, Totnes Auxiliary Hospital. Louis de Bylandt Christian, M.B., C.M., Senior Medical Officer in Charge, Auxiliary Military Hospital, Percy House Schools, Isleworth. Thomas Archer Colt, L.R.C.P., M.R.C.S., Medical Officer and Commandant, Branksmere Auxiliary Hospital, Southsea. John Galwey Cooke, M.B., B.Ch., Principal Surgeon, City and County Infirmary, Londonderry. Harold Merriman Cooper, M.B., Senior Medical Officer, Hanworth Park Auxiliary Hospital, Middlesex. Charles Cotton, F.R.C.P., M.R.C.S., Assistant County Director, Canterbury Division British Red Cross and Order of St. John; Deputy Commissioner, St. John Ambulance Brigade for Kent. Francis Ward Crossman, M.B., B.S., Medical Officer in Charge, Cleve Hill Auxiliary Hospital. Edward Cuffey, M.B., M.Ch., Principal Medical Officer, British Hospital, Port Said. Frederick Curtis, F.R.C.S., L.R.C.P., Surgeon in Charge Redhill War Hospital, Merstham Auxiliary Hospital, and Redhill Curative post.

Arthur Vernon Davies, M.B.E., M.B., Assistant County Director, Order of St. John of Jerusalem, East Lancashire. James David Davies, M.R.C.S., L.R.C.P., Medical Officer, Hazelwood Auxiliary Hospital and Quarr Abbey Hospital, Ryde, I. of W. Charles Chatterton Deane, M.D., J.P., County Director, Red Cross and Order of St. John, co. Armagh. Clarence Reginald Dearden, L.R.C.P., Medical Officer, Red Cross Hospital, Stanwell Road, Penarth, Glamorganshire. Robinson Simpson Dickson, M.D., C.M., Senior Medical Officer, Auxiliary Military Hospital, "Tottenhall," Palmers Green. John Frederick Gordon Dill, M.D., Medical Officer to several Red Cross Hospitals in Brighton and Hove. Lionel Graham Dodds, M.D., Ophthalmic Surgeon, Buenos Aires. Miss Mary Janet Dodds, L.R.C.P., L.R.C.S., in charge of Scottish Churches Huts, Dreghorn Camp. Edward James Domville, L.R.C.P., M.R.C.S., J.P., services in connexion with the Royal Devon and Exeter Hospital. George James Dudley, M.R.C.S., L.R.C.P., Commandant and afterwards Medical Officer, Studley Court Auxiliary Hospital, Stourbridge.

Percy Edwards, M.R.C.S., L.R.C.P., Member of Advisory Medical Board, Ministry of National Service.

William Walter Fenton, M.D., Medical Officer, Red Cross Hospital, Wincanton, Somersetshire. Herbert Henry Folker, M.R.C.S., L.R.C.P., Deputy Commissioner of Medical Services, Ministry of National Service. Alfred George Francis, M.B., F.R.C.S., valuable services on Recruiting and Pensions Board,

East Central Region. Harvey Francis, M.D., Medical Officer in Charge, Arnot Hill Hospital, Nottinghamshire. George Ernest Fryer, M.R.C.S., L.R.C.P., Medical Officer, Wibbersley Hospital, Flixton, Lancashire. Willoughby Furner, M.D., F.R.C.S., Medical Officer and Administrator, Auxiliary Hospital, Third Avenue, Hove.

Alexander Rudolf Galloway, M.B., C.M., Specialist Member of Medical Boards in Scotland, Ministry of National Service. Samuel James Gilfillan, M.B., Medical Superintendent, London County Asylum, Colney Hatch. Alexander Stewart Gordon, M.D., late Naval Surgeon and Agent, Rosyth, Admiralty. George Robert Gordon, M.D., B.Ch., Medical Officer, Britannia and Hartley College Hospitals, Whalley Range. Edwin Collier Green, M.R.C.S., L.R.C.P., Assistant County Director, South Derbyshire Branch, and Honorary Secretary, Derby Borough Division, British Red Cross Society; Head of War Hospital Supply Dépôt, Derby. Alfred John Gregory, M.D., B.S., valuable medical services to the troops. George Arthur Grierson, M.B., C.M., in medical charge of officers' wards and medical wards, Military Hospital, Grimsby.

Robert Mills Hall, M.B., C.M., Senior Medical Officer in Charge, Enfield Auxiliary Hospital. Cecil Morgan Hendriks, M.B., Medical Officer, Bicester Auxiliary Hospital, Oxfordshire. Cecil Mackenzie Hewer, F.R.C.S., Medical Officer, Claveley Hall and Willington Hall Auxiliary Hospitals, Tarporley, Cheshire. Edward Septimus Earnshaw Hewer, F.R.C.S., Medical Officer, Clopton War Hospital, Stratford-on-Avon. Alex Hill, M.D., Principal, University College, Southampton. Joseph Squier Hinnell, M.D., Medical Officer and Honorary Oculist, Suffolk Hospital, Ampton Hall, and West Suffolk General Hospital, Bury St. Edmunds. Alfred Hooper, M.D., Civilian Medical Officer at Aircraft Acceptance Park, Coventry. George Henry James Hooper, M.D., M.R.C.S., Commandant and Medical Officer in Charge, Benfleet Hall Auxiliary Hospital, Surrey.

Gwilym Prosser James, M.R.C.S., Medical Officer, Kelvin Red Cross Hospital, Penarth. Lieut.-Colonel Richard Lane Joynt, M.D., F.R.C.S., Consultant for Orthopaedic Workshops in Ireland, and other Red Cross services.

Harold Kerr, M.D., Medical Officer of Health, Newcastle-on-Tyne. John Charles King, M.R.C.S., Medical Officer, Red Cross Hospital, Barry Dock.

Charles Ewbank Lansdown, M.D., Medical Officer in Charge, Newcourt Auxiliary Hospital, Cheltenham. Lieut.-Colonel Gerald Rowley Leighton, M.D., Veterinary Medical Inspector, Scottish Board of Health; Food Inspection Officer, Scottish Command. John Black Lendrum, M.D., C.M., Medical Officer, Woodfield Hospital, Oldham. Lewis Francis Leslie, M.R.C.S., L.R.C.P., Medical Officer, Abbey Manor Auxiliary Hospital, Evesham. Llewelyn Lewis, M.D., J.P., Medical Officer, Gnoll Park and "The Laurels" Red Cross Hospitals, Neath. Francis Seymour Lloyd, M.D., Medical Officer, Wardoun Auxiliary Hospital. Samuel Durham Lodge, M.R.C.S., L.R.C.P., Deputy Commissioner of Medical Services in Leeds and Bradford, Ministry of National Service. Percy Roycroft Lowe, M.B., B.C., late Officer in Command on Princess Christian Ambulance Train. Horace Lake Lowis, M.B., C.M., Surgeon in Charge, Camberley Military Hospital. Arnold Lyndon, M.D., Medical Officer and Organizer, Grayshott Auxiliary Hospital, Hindhead, Surrey.

Miss Anne Louise McIlroy, M.D., D.Sc., Scottish Women's Hospital. Major Nathaniel Samuel Manning, F.R.C.S., L.R.C.P., Deputy Commissioner of Medical Services, Ministry of National Service. Howard Marshall, M.B., B.C., Medical Officer in Charge, Cirencester Auxiliary Hospital. Alfred Mason, M.C., M.R.C.S., Assistant County Director, British Red Cross; Medical Officer, St. Anselm's V.A.D. Hospital, Walmer. William John Collings Merry, M.D., B.Ch., Senior Surgeon, Red Cross Auxiliary Hospital, Eastbourne. Alfred Miles, M.R.C.S., Medical Officer at Dinas Powis Hospital. James Millar, M.D., C.M., Medical Officer in Charge, Bowden Hospital, Nottingham. Major Robert Arthur Milligan, M.D., M.R.C.S., J.P., Operative Surgeon, Barry Road Primary Military Hospital, Northampton. George Millsom, L.R.C.P., M.R.C.S., Medical Officer of Health, Metropolitan Borough of Southwark. Isaac Gibson Modlin, M.D., B.S., Commandant and Medical Officer, 4th Durham V.A.D. Hospital, Jeffrey Hall, Sunderland. Miss Florence Muriel Morris, M.B.E., M.D., Commandant and Medical Officer, Paignton Voluntary Aid Hospital. Major John Murray, M.B., M.S., Medical Officer, Highland Moors and Rock Spa Auxilary Hospitals; and other Red Cross services.

Frederick Lucius Nicholls, L.R.C.S., Medical Officer, Fulbourn Auxiliary Hospital, Cambridgeshire. Major Frederick Pitcairn Nunneley, M.D., Medical Officer, Lady Dudley's Red Cross Hospital for Convalescent Officers, Brighton.

William James O'Donovan, M.D., M.R.C.P., Chief Medical Adviser on Prevention of T.N.T. Poisoning, Ministry of Munitions. Eustace John Parke Olive, M.D., F.R.C.S., Medical Officer, Holmdene Auxiliary Hospital, Leamington. William Wallace Ord, M.D., Medical Officer, Salisbury Infirmary, and Wilton and Longford Castle Auxiliary Hospitals, Wiltshire. John Orr, M.B., Assistant County Director, Eccles Division, British Red Cross Society; Honorary Medical Officer, Elmbank and Eccles and Patricroft Red Cross Hospitals, Cheshire.

William Panckridge Panckridge, M.B., Medical Officer, Adhurst St. Mary Auxiliary Hospital, Petersfield, Hampshire. Benjamin Lewis Paton, M.D., Medical Officer, Ravenhill Auxiliary Hospital, Staffordshire. Nevill Coghill Penrose, M.B., Ch.B., Medical Officer, Banbury Auxiliary Hospital. Edward Verdon Perry, M.R.C.S., L.R.C.P., J.P., Medical Officer, Cawston Manor, Reepham, and Felthorpe V.A.D. Hospitals, Norfolk. Lionel James Picton, M.B., Medical Officer, St. John Hospital, Somerford Park, Congleton, and Witton House Auxiliary Hospital, Northwich. Geoffrey Hammett Prance, M.D., C.M., Medical Officer, Red Cross Hospital, Ashcombe House, Weston-super-Mare. Robert Chambers Priestley, M.B., Principal Medical Officer and Medical Superintendent, Auxiliary Hospital, High Wycombe.

Robert William Quennell, M.R.C.S., L.R.C.P., Senior Medical Officer, Coombe Lodge Auxiliary Hospital, Great Warley.

Daniel Richmond, M.D., F.R.C.S., Medical Officer and Operating Surgeon, St. John Ambulance Hospital, Rochdale. Joseph William Rob, M.D., Medical Officer, North Surrey Auxiliary Hospitals. Captain James Jenkins Robb, M.D., Deputy Commissioner of Medical Services in the West Midlands Region, Ministry of National Service. Frederick Field Robinson, L.D.S., Senior Dental Surgeon, British Red Cross Society, Paris Branch. Robert Leslie Romer, M.R.C.S., Medical Officer, Wall Hall Auxiliary Hospital, Stanmore, Middlesex.

George Scarr, M.B., L.R.C.S., J.P., Medical Officer, St. John Ambulance Hospital, Radcliffe, Lancashire. Charles Robert Scott, M.B., C.M., Medical Officer and Commandant, "Teesdale House" Auxiliary Hospital, Marcham Road, Abingdon, Berkshire. Edmond Wallace Selby, M.D., Medical Officer, Arnold's Hospital, Doncaster. William Vernon Shaw, M.D., B.Ch., Medical Officer, Ministry of Health. Thomas William Shore, M.D., Member of Central Medical War Committee, Ministry of National Service. Major James Bertie Simpson, M.D., T.D., D.L., valuable medical war service. James Donald Sinclair, M.R.C.S., L.R.C.P., Medical Officer, 6th Durham Voluntary Aid Hospital, Woodside, Darlington. Charles William Smeeton, M.R.C.S., L.R.C.P., Commandant and Medical Officer, Hovingham Hall Auxiliary Hospital, North Yorkshire. Henry Watson Smith, M.D., Director of the Lebanon Hospital for Mental Diseases, Asfuriyeh, Syria. James Beveridge Spence, M.D., M.Ch., Resident Physician and Superintendent, Staffordshire County Asylum. William Waters Stainthorpe, M.D., J.P., Medical Officer of Health, Cleveland Rural and Urban Districts. Major John Sterry, M.R.C.S., L.R.C.P., Assistant County Director, Sevenoaks Division; Medical Officer St. John's V.A.D. Hospital, Sevenoaks.

James Maxton Thom, M.B., C.M., J.P., Member of War Executive, Scottish Branch, British Red Cross Society. William Thomas, M.R.C.S., L.R.C.P., J.P., Medical Officer, Auxiliary Hospital, Rhyl. William Edmund Thomas, M.R.C.S., L.R.C.P., Medical Officer, Red Cross Hospital, Bridgend, Glamorganshire. Norman Frederic Ticehurst, M.B., F.R.C.S., Medical Officer, Normanhurst Auxiliary Hospital, Battle, Sussex. Walter Reginald Tuckett, M.R.C.S., Medical Officer, Charnwood Auxiliary Hospital, Nanpanton, near Loughborough, Leicestershire. Philip Dymoch Turner, M.D., M.R.C.S., Medical Officer, The Castle Auxiliary Hospital, Ryde, Isle of Wight.

Captain John Valerie, M.R.C.S., L.R.C.P., Senior Medical Officer, Hampton Court Auxiliary Hospital. Robert McLeod Veitch, M.D., Deputy Commissioner of Medical Services, Ministry of National Service. Charles Visger, M.R.C.S., Medical Officer, Red Cross Hospital, Oaklands, Clevedon.

George Bartram Wainwright, M.B., Medical Services, Winchester Auxiliary Hospital. Captain John William Walker, M.R.C.S., L.R.C.P., Surgeon, Wentworth House Auxiliary Hospital, Wakefield. John Wallace, M.B.E., M.B., C.M., Medical Officer in Charge and Commandant, Red Cross Hospital, Ashcombe House, Weston-super-Mare. Henry Blanchard Walters, M.R.C.S., L.R.C.P., Commandant and Medical Officer, Chudleigh Auxiliary Hospital, Devonshire. George Trustram Watson, F.R.C.S., M.B., B.C., Assistant County Director, Tunbridge Wells Division, British Red Cross and Order of St. John; Medical Officer, Bredbury V.A.D. Hospital, Tunbridge Wells. Andrew Westwood, M.B., C.M., Medical Officer, Pavilion Hospital, Old Trafford, Manchester. John Arthur Temple White, M.R.C.S., L.R.C.P., Medical Officer, Hillsborough Hospital, Harlow. John Flasby Lawrance Whittingdale, M.B., Medical Officer, Sherborne Auxiliary Hospitals, Dorset. Miss Hilda Kate Whittingham, M.B., B.S., Laboratory Assistant in Hygiene, Royal Army Medical College. Colonel Thomas James Hackett Wilkins, L.R.C.S., L.R.C.P., Deputy Commissioner of Medical Services, London Region, Ministry of National Service. James Frederick Digby Willoughby, M.R.C.S., L.R.C.P., J.P., Medical Officer in Charge, Burgage Manor and Brackenhurst Hall Auxiliary Hospitals, Southwell.

Major William Young, M.B., C.M., V.D., Chairman of the Appeal and Civil Liabilities Subcommittees, Midlothian War Pensions Committee.

(To be continued.)

G.B.E.

Dr. Arthur Everett Shipley, F.R.S., Master of Christ's College, and lately Vice-Chancellor of the University of Cambridge, who was a member of the Central Medical War Committee, is appointed a Knight Grand Cross (G.B.E.).

O.B.E. (Military Division).

Captain F. J. Collings, C.A.M.C., has been appointed O.B.E. for valuable services rendered in connexion with military operations in Siberia.

British Medical Journal.

SATURDAY, APRIL 10TH, 1920.

THE NEW COUNCIL OF MEDICAL RESEARCH.

THE Medical Research Council, which came into existence on the first day of this month, possesses wider powers and greater freedom of action than the Medical Research Committee it replaces. The new Council acts not only in an advisory but also in an executive capacity, and is responsible to the Privy Council through a special committee of that body. This committee, as was stated a fortnight ago, consists of the Lord President, the Minister of Health, and the Ministers who represent the affairs of Scotland and Ireland respectively in Parliament; its composition will ensure that the needs of all parts of the United Kingdom shall be impartially assessed, and that the acts and affairs of the Council shall be authoritatively set forth in Parliament. Technically the constitutional position of the Medical Research Council is analogous to that of the Committee of the Privy Council on Scientific and Industrial Research, but certain defects disclosed in the working of the older body have been avoided. The Medical Research Council is endowed with the independence necessary for the discharge of its important duties; it has the right to accept benefactions from the public, and to manage its own affairs.

The Council, as will be seen by the abstract of its charter published at page 504, at present consists of one member of the House of Lords, two members of the House of Commons, and seven medical members, who are all recognized as leaders in scientific medicine. Three members will retire every two years, but will be eligible for re-election. Appointments to vacancies, whether casual or otherwise, will be made by the Special Committee of the Privy Council, after consultation with the President of the Royal Society and with the Medical Research Council itself. The Council will elect its own chairman and treasurer, and appoint and remunerate its own secretary, who, being also secretary of the Special Committee of the Privy Council, will have direct access to the Minister of Health, and also, when necessary, to the Secretary for Scotland and the Chief Secretary for Ireland. The Council will appoint all its own officers and servants, and remunerate them out of the funds at its disposal. The scientific control is thus complete. The Council is free to determine its own policy and to disburse its funds to the best advantage. One purpose of the charter is to encourage the making of gifts and bequests to the Medical Research Council, which is authorized to accept bequests of money, land, or buildings made to it by individuals or corporations, and also to accept trusts in furtherance of the objects for which it exists. The independence with which the Council is endowed is further shown by the power granted to it to alter its own charter by the vote of two-thirds of its members.

So far as human foresight can ensure the future, these provisions taken together afford warrant for the belief that the Council will be preserved from the defect, to which Government bodies are particularly obnoxious, of magnifying the importance of details of secretarial work and administration to the detriment of the real purpose of the organization to be administered.

The policy of the Council in the future can be judged from the work of the Medical Research Committee in the past, for the scientific members are the same, with the addition of Dr. T. R. Elliott; and Sir Walter Fletcher, who was Secretary of the Committee, is Secretary of the Council. The Medical Research Committee was formally appointed in August, 1913, and got to work in 1914. It was instituted to administer the Medical Research Fund provided under the first Insurance Act by a paragraph which set aside out of moneys provided by Parliament one penny in respect of each insured person for this purpose. The sum thus made available in 1914 was £55,000. The Committee had barely formed its first plans when its organization and energies were in the main turned to problems raised by the war—such as, to take a few instances, the nature and treatment of shock, the course and prevention of gas gangrene, and the diagnosis and treatment of cerebro-spinal fever, the enteric fevers, dysentery, and trench nephritis. The Medical Research Council starts in this respect under happier auspices, and will be able to devote its energies to the many problems of civil medicine which await solution.

The organization now taken over by the Medical Research Council is twofold. There is, on the one hand, the Central Research Institute at Mount Vernon, Hampstead, with departments of bacteriology and experimental pathology, biochemistry and pharmacology, and applied physiology, each with a special staff. This central organization is completed by a statistical department, a library, a bureau of information and a publication office, through which special reports and the periodical, *Medical Science Abstracts and Reviews*, are issued. The secretarial office remains in a central position in London.

It was from the first wisely decided to organize, encourage, and subsidize researches, to be conducted by individual workers in university laboratories and hospitals. Among the researches now in progress in various places may be mentioned those on tuberculosis, which is being investigated at Cambridge, Dublin, Edinburgh, Glasgow, and Reading, and on chronic rheumatoid arthritis at the Research Hospital at Cambridge. The lessons learnt from the researches at the Central Cerebro-spinal Fever Laboratory are being applied to pneumonia, puerperal fever, erysipelas, gonorrhoea, and gonorrhoeal rheumatism. Combined studies of the ante-natal factors of the conditions found in dead and premature births are in progress at Glasgow, Cardiff, and London. The scheme of inquiry into the causes of rickets, organized in Glasgow, is being maintained, and investigations are being pursued in London into the relations between the antirachitic accessory factor, the energy elements of the diet, and general metabolism. The Council is taking over from the Ministry of Munitions several grams of radium salt, which has been placed in the hands of workers at the Middlesex Hospital. The radium will be used for researches into the physiological effects of exposures to various types of radiation. The quantity, which is about ten times as great as any amount previously available for similar work, will allow experiments to be made of a kind not previously attempted. In arranging all these researches the Medical Research Council is advised by special committees. The investigations into industrial fatigue are being continued under the advice of a special committee appointed jointly with the Department of Scientific and Industrial Research.

The Medical Research Council has a great task and great obligations; it may, we are confident, be trusted to rise to the height of the occasion. The Committee it has succeeded made itself the channel through which a large part of the funds at its disposal fertilized discovery in its natural fields—the universities. As we said a few months ago, it has, without any pretence at interfering with the proper autonomy and individuality of scientific men, given to them a sense of combination and of common work, which is of great benefit to pathology and pathologists. It has upheld to the utmost the claims of freedom in research. The charter of the new Council is so drawn that it will have power to develop this enlightened policy to the utmost.

SKIAGRAPHY OF SOLID VISCERA.

EVERYBODY knows that the *x* rays unaided are incapable of giving much information as to the condition of the abdominal viscera. The introduction of the opaque meal of bismuth or barium opened up a new field of study, and added a most valuable method of diagnosis. Information as to the condition of the solid viscera has been difficult to obtain, these important organs being, in a radiographical sense, "silent." A method has been introduced, however, which bids fair to render the photography of the liver and spleen an everyday occurrence. Air or oxygen is introduced into the abdominal cavity before the radiogram is taken. The spleen and liver then stand out in sharp definition on the plate, irregularities of surface, enlargements, and new growths being clearly seen. Just as the opaque meal renders the contours and movements of the gastro-intestinal tract visible by contrast with the rest of the abdominal organs, so the new method causes the latter invisible viscera to come vividly before the eye.

This procedure, which we have called new, was first tried on live animals and on the cadaver so long ago as 1912 by Weber[1] of Kiev, but has been perfected by the work of Rautenberg[2] and of Goetze.[3] An excellent account of the manner in which the injection is made is given by K. F. von Teubern.[4] Unfortunately the later German papers are not illustrated owing to the difficulty and expense of reproduction. A well-illustrated paper is that of two American workers, Stein and Stewart[5]; in their pictures the solid viscera can be seen with surprising clearness and definition. To make the injections Rautenberg fills two rubber bags with air and connects them to a trocar thrust through the abdominal wall. By pressure on the bags he is able gently to inject about a litre and a half of air or oxygen; or a large syringe or small hand-pump may be used. Stein and Stewart simply use the ordinary rubber bag of a nitrous oxide anaesthesia apparatus. Von Teubern's method is probably the best. He uses a special trocar and cannula (1.0 mm. thick), the latter having a blunt closed end and a lateral eye. It is introduced halfway between the umbilicus and symphysis pubis in the mid-line under local anaesthesia. The inflow of air is controlled by a pneumothorax manometer connected in lateral series with the delivery tube. The amount of air injected was 1,500 to 2,000 c.cm. under a water pressure of 30 to 40 cm.; the highest intra-abdominal pressure reached was 11 cm. of water. The patients often complained of pain in the shoulders and around the abdomen, and some discomfort was the rule. At the end of the examination the air is released by puncture with a large trocar (1.5 mm. wide). No serious effects have attended these manœuvres, though Teubern once produced emphysema up to the neck when using Rautenberg's needle, which is too short (4.0 cm.).

The liver is clearly seen with the *x* rays; the subphrenic spaces are opened up by the gas, and can be seen as clear areas above the displaced liver. Gall stones, if present, can often, but not invariably, be made out. The spleen can always be well seen and any pathological change in it recognized. The kidneys are usually fairly clear. Rautenberg[6] has written a special paper on this subject. The intestines are always to be distinguished, best if they have been filled with bismuth beforehand. Stein and Stewart figure myomata of the uterus, intraperitoneal adhesions (probably omental), an enlarged kidney, an enlarged lobulated spleen, a cystic ovary, the tail of the pancreas, and the normal liver and spleen. This list gives some idea of the catholicity of the method, and of the varied information that can be obtained by it. It seems possible that this artificial "pneumo-peritoneum" is destined to play an important part in the differential diagnosis of intra-abdominal tumours. British conservatism may be slow in adopting the method, but for the benefit of the cautious it may be said that Goetze has himself injected air 150 times. After all, it is but the same thing as those intraperitoneal injections of oxygen which were advised by Godwin[7] in this country for the treatment of tuberculous peritonitis.

[1] Weber, *Fortschritte d. Roentgenstrahlen*, 1913, 20, 453.
[2] Rautenberg, *Deut. med. Woch.*, 1914, 1205; *Berl. klin. Woch.*, 1914, No. 36.
[3] O. Goetze, *Deut. med. Woch.*, 1919, 45, 491.
[4] von Teubern, *Deut. med. Woch.*, 1919, 45, 1242.
[5] A. Stein and W. Stewart, *Annals of Surgery*, 1919, 70, 95.
[6] Rautenberg, *Berl. klin. Woch.*, 1919, 56, 201.
[7] H. S. Godwin, *Lancet*, 1912, ii, 828.

JUNE MEETING AT CAMBRIDGE.

THE Sections of Neurology and Psychiatry and of Pathology and Bacteriology of the Annual Meeting of the British Medical Association, which will be held in Cambridge at the end of June, have completed their preliminary arrangements. On the morning of Wednesday, June 30th, there will be in the Section first named a discussion on the early signs of nervous disease and their interpretation. It will be opened by the president, Dr. Henry Head, F.R.S., and many members have expressed their desire to take part. On Thursday morning, July 1st, a discussion on dementia praecox and its relation to other conditions will be openedby Dr. Bernard Hart; and on the morning of Friday, July 2nd, Dr. T. A. Ross will introduce a discussion on psychotherapy, to which numerous speakers have expressed their desire to contribute. It has been arranged, in conjunction with the authorities of Cambridge, to give a series of demonstrations in the Medical Buildings on one afternoon. Another afternoon will be set aside for microscopical and other demonstrations in the Physiological and Psychological Laboratories. The Section of Pathology and Bacteriology will devote the first morning (Wednesday, June 30th) to morbid anatomy, when a discussion on atrophy of the liver will be introduced by Professor Stuart McDonald of Newcastle. The morning of July 1st will be given to experimental pathology, when Dr. J. A. Murray, Director of the Imperial Cancer Research Fund, will introduce a discussion on the present position of cancer research. The third morning (July 2nd) will be given to bacteriology, and Dr. J. A. Arkwright, of the Lister Institute of Preventive Medicine, will open a discussion on the bacteriology of cerebro-spinal meningitis. A collection of specimens to illustrate the three subjects will be shown. The afternoon of each of the three days will be devoted to a meeting of the Pathological Society of Great Britain and Ireland; details of the papers to be read and the demonstrations to be given will be published later.

The Annual Meeting will be opened by the President, Sir Clifford Allbutt, Regius Professor of Physic in the University of Cambridge, on Tuesday evening, June 29th. The Representative Meeting will begin on the previous Friday morning.

A DOGS' BILL IN AMERICA.

WE have received from Dr. Keen of Philadelphia the report of evidence before a Subcommittee of the United States Senate touching a bill to prohibit experiments on dogs. The text of the bill is short and formal. The evidence ranged over the whole subject of experiments on animals. The proceedings were less formal than those of a Parliamentary Committee in England; there were interruptions, and now and again hot controversy between opposed witnesses. The general character of the evidence was that of the evidence given before our Royal Commission on Vivisection, 1906. Here and there, in the evidence in favour of experiments on animals, one finds an exaggerated or inaccurate statement. The antivivisection evidence was, in general, rather worse than that given before our Royal Commission. Now and again it was truthful; now and again it had unearthed some wrongdoing, perhaps from thirty to fifty years old; but, on the whole, it was disgraceful to the people who gave it. We find strange mistakes made by them over English names. Mr. Lawson Tait is called Sir Lawson Tait; Dr Arabella Kenealy is called "he"; and our Royal Commission on Vivisection is said to have been "composed of England's distinguished scientific men." A member of the medical profession in England, who was on the side of antivivisection, is called, offhand, "one of England's most distinguished physicians." Mr. Coleridge's copy of the German illustrated catalogue of instruments (1902) is said to have been "made under the authority of the British Museum." And so on. Perhaps the most wearisome thing in this report is the sense that most of these antivivisection instances and arguments were sifted and scrutinized, laboriously and thoroughly, by our own Royal Commission. Yet here they are, produced again, in Washington, ten years later, as if nobody had ever answered them. It is greatly to be desired, that the extremists of antivivisection, alike in the United States and in this country, should take to heart what Newman said, in 1851, of the extremists of prejudice against his religion: "We are dressed up like a scarecrow to gratify, on a large scale, the passions of curiosity, fright, and hatred. . . . The prejudiced man takes it for granted that we, who differ from him, are universally impostors, tyrants, hypocrites, cowards, and slaves. If he meets with any story against us, on any or no authority, which does but fall in with this notion of us, he eagerly catches at it. Authority goes for nothing; likelihood, as he considers it, does instead of testimony; what he is now told is just what he expected. . . . Perhaps it is wrong to compare sin with sin, but I declare to you, the more I think of it, the more ultimately does this prejudice seem to me to corrupt the soul, even beyond those sins which are commonly called most deadly. And why? Because it argues so astonishing a want of mere natural charity or love of our kind. They can be considerate in all matters of this life, friendly in social intercourse, charitable to the poor and outcast, merciful towards criminals, nay, kind towards the inferior creation, towards their cows, and horses, and swine; yet, as regards us, who bear the same form, speak the same tongue, breathe the same air, and walk the same streets, ruthless, relentless, believing ill of us, and wishing to believe it. They are tenacious of what they believe, they are impatient of being argued with, they are angry at being contradicted, they had rather that *we* should be guilty than *they* mistaken; they have no wish at all we should not be unprincipled rogues and bloodthirsty demons. They are kinder even to their dogs and their cats than to us." Happily this sort of prejudice is dead or dying in England. Let us hope that we shall likewise live to see the dying-out of the prejudice against experiments on animals. It is less than it was; the facts of the past five years have told against it.

LETHARGIC ENCEPHALITIS.

CASES of lethargic encephalitis are reported from Rumania and also from Egypt, where three have occurred at Port Said and two at Cairo. We made brief reference last week to the occurrence of a number of cases of lethargic encephalitis in and around Montpellier. The matter is of so much interest that we make no apology for recurring to it. There were eighteen cases, most of which occurred in the first fortnight of February; three of these were fatal. Among the more important symptoms were headache, intestinal and vesical paresis, sleepiness varying from simple drowsiness to lethargy, stupor, delirium, and ocular paralyses. The symptom-complex was extremely variable; thus sleepiness was not found in 40 per cent., while the brain has not been the only point of attack in the nervous system. Professor Bosc thinks that the disease is a manifestation of influenza; "In reality," he says, "we have to do with a 'grippal' infection, a *grippe* of primarily nervous type. The symptoms of invasion have been the same. There has been a coexistence of these cases and of epidemic influenza, an existence of identical cases during the influenza epidemic of 1919." At a previous meeting of the Montpellier medical society, apropos of a discussion on encephalitis lethargica opened by M. Rauzier, M. Vires called attention to passages in Sydenham connecting a fever characterized by lethargy with influenza. The passage is not cited in the report before us, but is probably that in the fifth book of the *Medical Observations*, where it is stated that a characteristic of the continued fever of 1675 was "an affection akin to coma. Patients who were attacked by it were stupid or delirious, dozed for weeks together, and were awakened only by the loudest noises." In a later chapter Sydenham correlates this fever with the epidemic cough of 1675, undoubtedly an influenza. That there is some epidemiological relationship between influenza and encephalitis lethargica has been maintained by Hamer and Crookshank in this country, and is, we think, not improbable. A contrary opinion has been chiefly defended on clinical grounds, which are seldom satisfactory foundations for epidemiological generalizations. It cannot, however, be said that the problem has yet been satisfactorily solved.

PLANT RESPONSE.

A FEW weeks ago (March 20th, p. 412) a short account was given of a lecture by Sir Jagadis Bose at the Royal Society of Medicine, describing the observations he has made on plants with an instrument of his invention, termed the "magnetic crescograph," by which movements are magnified ten million times. With it Sir J. Bose has observed movements in plants which he considers to be due to the process of growth. The lecture was illustrated by a demonstration of the instrument. Professor Waller, in some remarks afterwards, raised the question whether the movements might not be due to heating effects and be such as might be obtained with dead material. He invited Sir J. Bose to repeat the experiments under laboratory conditions here. Sir J. Bose, in his reply, maintained the truth of his deduction, and mentioned, as reported at the time, that his experiments had been tested under laboratory conditions by Professors Starling and Bayliss, among other English physiologists. Professor Bayliss, writing to *The Times* on March 20th, offered the necessary facilities for the repetition of the experiments in the Institute of Physiology, University College, and suggested that Sir J. Bose should give the names of a few gentlemen to whom he would wish to make the demonstration. Professor Bayliss went on to say that it was generally agreed that an extraordinarily sensitive instrument had been devised, but expressed the

opinion that few physiologists were prepared to agree that all the controls necessary had been shown. He concluded, however, by pointing out that even if similar phenomena were displayed by non-living structures, that fact in itself would not disprove the possibility of recording by this method the real physiological phenomena of growth and its inhibition. In a letter written on March 31st Sir J. Bose accepted Professor Bayliss's offer, and suggested the names—in addition to Professor Bayliss—of Professor Starling, Professor Oliver of University College, and Lord Rayleigh, Professor of Physics in the Imperial College of Science, South Kensington. This, he said, would give two representatives of animal physiology, one of plant physiology, and one of physics. Professor Starling, however, is in India. Sir J. Bose states that his "demonstration will deal with the definite result that the indication of the crescograph is the magnified movement 'of extremely minute changes of length of *growing organs*,' and not of physical disturbances such as that of heat."

THE CIRCUMLOCUTION OFFICE TO-DAY.

THE General Secretary of the Medical Defence Union, Dr. James Neal, has shown us a file of correspondence which forms a striking illustration of the circumlocutory methods of minor officials. The summary we give below tells how a doctor's claim for the payment of a sum due to him was bandied about from office to office until, as the result of six weeks' determined correspondence, a paymaster was at length tracked down who admitted responsibility for the payment, and undertook to make it, subject to somebody else's approval. On February 4th, 1920, a north-country doctor asked the Medical Defence Union's help in obtaining payment of about £8 for filling up a number of army forms, for which a fee of 1s. each is payable under an Army Council Instruction. In August, 1919, the A.D.M.S. Northumbrian District had told him the formalities with which he must comply in submitting his claims. He sent in his account twice to the A.D.M.S., but no notice was taken of it. Dr. Neal wrote to the D.D.M.S. Northern Command, briefly stating the circumstances and asking that the necessary steps should be taken to expedite payment. This communication was acknowledged by postcard, and on February 13th the D.D.M.S. replied that the claims, being in respect of men of the Royal Naval Division, had been forwarded to the Brigade Paymaster, R.N.D., Alnwick. The letter ended: "This department has no jurisdiction as regards the accounts of the R.N.D. I suggest that you should refer the matter to the Accountant-General for the Navy." A letter was accordingly written next day to the Accountant-General of the Navy stating the facts and repeating the request. Twelve days later came the reply that "as the services for which payment is claimed were rendered to the Royal Naval Division, which is under Army control, and as payment would be made from Army funds, your letter has been passed to the Command Paymaster, Aldershot, for any necessary action." Here we see the old game of battledore and shuttlecock being played between the naval and the military authorities—regardless, as usual, of the shuttlecock, whose account remained unpaid. Dr. Neal wrote next to the Command Paymaster, Aldershot, reciting the facts and asking him who was responsible for the payment of the account, and when payment would be made. He added that it was not right that civilian medical practitioners should experience such delay and difficulty in obtaining payment for professional services rendered at the request of a Government department; and that unless some assurance was forthcoming that the matter would be promptly settled he would have to bring the facts to the notice of the medical Members of Parliament. This letter quickly produced an answer from the Acting Paymaster, Aldershot, who said that the previous letter had been received and passed to the Command Paymaster, Northern Command, for very early action, "as the account is payable by him and not by me." A registered letter was thereupon sent to the Northern Command Paymaster, asking for a definite assurance within four days that the matter would be dealt with by him without delay. The reply by return of post stated that these claims were payable by the Brigade Paymaster, —th Royal Naval Division, Cornwall House, London, to whom they had been forwarded on December 6th, 1919. The writer implied that he had already done his best in the matter; but added that he was sending a telegram to the Brigade Paymaster requesting an urgent settlement, and was also writing to him. On March 20th Dr. Neal wrote again to the Accountant-General of the Navy, summarizing the story up to that date, expressing in mild terms his opinion of the way in which the account was being passed from one department to another, and inquiring who was responsible for payment of it, and when it would be paid. He wrote also to the Brigade Paymaster asking him to say at once whether he was responsible for payment and when it would be made. Two days later the officer-in-charge of the Royal Naval Division pay ledgers at Cornwall House wrote that the original claim had been forwarded to the A.D.M.S., Northumbrian District, on December 10th, for various certificates, etc., required by the Northern Command Paymaster, but that the claim had evidently gone astray. The duplicate claim, however, had now been forwarded to the Northern Command Paymaster for approval of payment, and "when this approval is obtained payment will be made by me." The story speaks for itself; the appropriate comment was made many years ago by Charles Dickens. Remembering how hard the General Secretary of the Medical Defence Union has had to work, we may well wonder whether the doctor unaided would have lived to receive the sum due to him. That it would have been paid in the end we can believe, because these accountant departments in the services, though they grind slowly, are not in the habit of forgetting altogether a penny due from them to someone, or from someone to them. We have seen the greater part of an entire page of an army agent's ledger taken up with the adventures of half a crown deducted in error from a medical officer's pay when he was in France, and at last refunded to his wife after a bewildering correspondence.

THE PROGRESS OF CREMATION.

SIR CHARLES CAMERON, M.D., in his presidential address to the Cremation Society on March 31st, said that one of the results of the war had been to create a greater interest in cremation, not only in this country among returned soldiers, who had seen on the battlefields for the first time what earth burial meant, but also among the people on the Continent. Under the Austrian law cremation was forbidden, but certain Bohemians, inspired by the enthusiasm of a poet who had returned to his native land after a sojourn in the United States, founded a society which in return for an annual subscription ranging from 12 kroner (10s. at par value) in the case of persons under 35, to 50 kroner in the case of sexagenarians, undertook to have bodies cremated at Zitava in Saxony. Under this arrangement 250 cremations were carried out. A German society, Die Flamme, also erected a crematorium at Liberic, an industrial town in Bohemia, but the Austrian Government forbade its use and sealed its doors. After the revolution of October, 1918, the Austrian veto was ignored, and in the nine months following 753 cremations took place in this Bohemian crematorium, while the active membership of the Bohemian society, already over 3,000, rapidly increased. The work was at first carried out without either legal sanction or interference; but in April, 1919, the national assembly of Czecho-Slovakia passed a measure legalizing and regulating cremation. The number of crematoriums in Great Britain is now, Sir Charles Cameron stated, fourteen,

and the number of cremations last year exceeded 2,000, an increase of 15 per cent. over the figure for 1918, and of 33 per cent. over that for 1917. The large number of eminent persons included in the society's list of 22,000 cremations since its commencement proved that among the more intelligent classes of the community the propaganda had not been in vain, but the society had been able to make little headway among the poorer and less educated, although these were the people who were ready to make considerable and lifelong sacrifices to provide for funeral expenses, as instanced by the experience of the industrial insurance companies. The suggestion was made at the meeting that the charge for life membership of the society—which carries with it the payment of all expenses of cremation anywhere in the United Kingdom—should be graduated on the basis of the subscriber's expectation of life, as in the case of insurance premiums. The address of the Cremation Society of England is 324, Regent Street, London, W.1.

NYCTALOPIA OR HEMERALOPIA.

IN an annotation on an epidemic of night blindness which was published last week we used the term hemeralopia as meaning night blindness, following the author whose paper was discussed. This meaning has often been attached to it for the last two centuries by writers throughout Europe. The word has been used as expressing the opposite of nyctalopia or night vision. It seems clear, however, that nyctalopia should be held to mean night blindness and hemeralopia the rarer condition of improved visior with diminished light. A scholarly paper published by Sir John Tweedy in the *Royal London Ophthalmic Hospital Reports* in 1882 traces the history of the words from ancient Greek to modern medical writings. The term nyctalopia used by Hippocrates in describing the cardinal symptom of the obscure epidemic at Perinth in Thrace is defined in one of the writings attributed to Hippocrates as meaning ability to see at night, but in all the subsequent classical writers it is defined as *in*ability to see at night. It is supposed that the privative *οὐ* has been omitted in manuscript ranscriptions, and Sir John Tweedy supplies cogent reasons for believing that night blindness is the correct translation. During the Middle Ages the Hippocratic writings were much neglected, and it was only on the revival of interest in them towards the eighteenth century that the supposed clerical error gave rise to the confusion of meaning. Hemeralopia was seldom used in medical writings before the eighteenth century. It would perhaps be better, in the circumstances, to give up the use of both terms altogether.

THE MEDICAL REGISTER.

THE *Medical Register* for 1920 has been issued.[1] It contains 44,522 names; of these 1,500 are on the Colonial list, and 165 on the Foreign list. The grand total compares with an average during the last five years of 43,794, and with an average for the last twenty-four years of 39,645. At the present time the degrees of nineteen foreign universities in Europe are registrable and those of eight in the United States of America. The right to registration on the Colonial list is possessed by graduates of certain universities and licensing bodies in Australia, Canada, Ceylon, Hong Kong, India, Malta, Newfoundland, New Zealand, and the Straits Settlements. The statistics show a total increase of 596 over the number on the *Register* in 1918, and of 2,582 over the number in 1913, the last year before the war. The number of names removed during 1919 on evidence of death was 643, the lowest number since 1912. Last year 115 names were removed under Section XIV of the Medical Act, 1858, which provides that if no reply is received by the Registrar to an application addressed to a practitioner according to his address on the *Register* the name may be erased. It is, of course, very important that any such inquiry should be answered. Last year thirty-four names were restored to the *Register*, and the majority of these had probably been removed on account of failure to respond to the inquiry.

[1] *The Medical Register* for 1920. London: Published for the General Medical Council by Constable and Co. 1920. (Pp. 1234.)

PROFESSOR WELCH OF BALTIMORE.

PROFESSOR WILLIAM H. WELCH, of Johns Hopkins University, Baltimore, whose reputation as a pathologist is world-wide, was born in Norfolk, Connecticut, on April 8th, 1850. In celebration of his 70th birthday, and as a new expression of the affection and admiration with which he is regarded, it has been decided to collect his chief contributions to medical literature, which are scattered through a great variety of publications, and thus more or less inaccessible. The preparation of the collected edition, which will be issued by the Johns Hopkins Press in three volumes, has been undertaken by a representative committee. The price of the set of three volumes (bound in linen) to subscribers is 16.50 dollars. Subscriptions should be sent to the Johns Hopkins Press, Homewood, Baltimore, Maryland, U.S.A.

THE South African Congress of the British Medical Association will be held next October in Durban at the invitation of the Natal Coastal Branch of the Association.

WE greatly regret to learn that a telegram has been received from Calcutta stating that Dr. Albert J. Chalmers died in the General Hospital on April 6th, at the age of 50, from acute infective jaundice after a week's illness. Dr. Chalmers was associated with Dr. Castellani in the production of the large *Manual of Tropical Medicine*, a new edition of which was issued a couple of months ago.

THE next meeting of the Congress of Physiology will be held in Paris under the presidency of Professor Charles Richet. The proceedings will begin on Friday, July 16th, and will end on the following Tuesday. The last congress was held at Groningen in September, 1913, and it was then decided that the next should be held in Paris. The subscription (35 francs) should be sent to M. Lucien Bull, l'Institut Marey, Avenue Victor-Hugo, Boulogne-sur-Seine (Seine).

Medical Notes in Parliament.

The New Minister of Pensions.

IN the list of changes announced on April 1st it was notified that Sir L. Worthington-Evans had passed from the charge of the Department of Pensions to become a Minister without portfolio (within the Cabinet), and that Mr. Macpherson, on resignation of the Chief Secretaryship for Ireland, had been appointed Minister of Pensions. It must be a source of satisfaction to Sir L. Worthington-Evans that during his charge of the Pensions Office he has been able to do much towards the reorganization of the work there, gearing up machinery so as greatly to reduce the delays, and that he has seen through the revision of the conditions and scales of pensions. Mr. Macpherson comes to the responsible task temporarily worn by his stressful duties in Ireland; but his previous work as Under Secretary for War will stand him in good stead. As a departmental chief he is sure to show the qualities of grip and thoroughness. His unfailing courtesy and patience in the trying period when he was at the War Office won him many friends.

The Easter Recess.—The House of Commons adjourned on March 31st to April 12th.

Deaths from Influenza.—Dr. Addison, in reply to Major Entwistle, said he was advised that the recent small increase in the number of deaths from influenza might be attributed partly to the normal rise which usually occurred at this season of the year, and possibly also to some deaths from pneumonia being ascribed to influenza as a contributory cause. It was noteworthy that the number of deaths from pneumonia had remained practically constant each week since the end of January last.

TREATMENT OF INCIPIENT MENTAL DISEASE.

DURING the last few years evidence has been accumulating that there is a strong movement of opinion, both within and without the profession, in favour of a modification of the lunacy law, the main object being to make better provision for the treatment of incipient or early cases of mental disorder.

The matter was under the consideration of the Medico-Psychological Association of Great Britain and Ireland before the war, and in 1914 a full report on the status of psychiatry was issued. The war prevented any steps being taken to translate the important resolutions then adopted into practice; but the war itself had the effect of arousing new interest in the whole subject of mental disorders, and produced a new attitude on the part of both the public and the medical profession. The Medical Psychological Association therefore felt that the ferment of reconstruction in the air, particularly as regards questions of health, made it desirable that its position on this matter should be reviewed and a further report issued representing the most recent opinion as to how the objects in view could best be accomplished, so that the association would be ready to direct and support any measures of reform that might be proposed. The matter was very carefully considered by a special committee, and its report eventually received the unanimous approval of a general meeting.

In its main features the report is in harmony with views set out from time to time in this JOURNAL; nor do they differ in principle from the recommendations made by the Board of Control in its annual reports. In regard to clinics the Board of Control proposes permissive legislation enabling cases of mental disorder incipient in character or of recent origin to receive treatment in general or special hospitals, mental institutions, nursing homes, or elsewhere for limited periods—say six months—without the necessity for certification under the Lunacy Acts, provided the place is under the supervision of the Board. This is only an enabling proposal, but the word "elsewhere" gives it an exceedingly wide scope. The report of the Medico-Psychological Association advises that the duty of providing and maintaining clinics for these purposes should be imposed on local authorities; evidently some sort of obligation will be necessary if the reforms recommended are to be widely and generally adopted within a reasonable time. It is interesting to observe that the cases under consideration are described by the Board of Control as "incipient in character or of recent origin"; presumably these two phrases are not intended to cover identical cases, and if that presumption be correct it seems to follow that the cases need not be merely "of recent origin," a phrase which it would be extremely difficult to define and when defined to apply in practice, but may be "incipient in character." This would apparently cover many cases which run a long course of an ill-defined or undeveloped type and yet remain incipient in character. Such cases are difficult to deal with at present, and for that reason the extension of the principle would be valuable. If, however, this is the intention of the Board, it is difficult to see why the duration of this mode of treatment should be limited to, "say, six months." The Medico-Psychological Association does not specify the period during which the measures proposed should be applicable, nor does it define what is meant by the term "early stages." That would no doubt have to be dealt with when the matter came before Parliament, but the expressions used by the Board of Control seem to indicate a way of meeting the difficulty and allowing sufficient elasticity for practical needs.

Proposals for Reform.

It may be convenient to set out the main conclusions arrived at in the report of the Medico-Psychological Association:

1. That no steps be taken at present to obtain a complete revision of the Lunacy Acts, but to seek to obtain amendments only to those Acts.
2. That it be made the duty of local authorities, either themselves or by arrangement with voluntary organizations, to establish and maintain clinics for the treatment of nervous and mental diseases in their early stages, special provision being made in the organization for children.
3. That these clinics should be housed in special buildings, or in an annexe to a general hospital, be staffed by a special staff trained for the work, and managed by a special committee appointed for the purpose, and that the buildings should be inspected and approved by a Central Government Department.
4. That all institutions for the insane should be allowed and encouraged to admit patients as voluntary boarders under suitable conditions, one of which is the extension of the notice required to be given by the patient of his desire to leave the institution to forty-eight hours.
5. That the Board of Control should have power to allow the reception of patients suffering from mental disease in its early stages without certification in approved homes, or as single patients in ordinary houses, in regard to which a medical practitioner gives a written recommendation stating that suitable treatment can there be obtained, the fact only of such reception to be intimated to the Board.

Several supplementary recommendations are made for improving the administration of the Act, mainly in the interests of the insane.

There can be little doubt that if anything is to be accomplished quickly it is far wiser in the present pressure upon the time of Parliament to concentrate on the most urgent amendments rather than to aim at a complete revision of the Lunacy and Mental Deficiency Acts. A single comprehensive unifying measure was drafted in 1913, but the Government decided to deal with the mental deficiency question in a separate measure which, owing to the war, has hardly yet come into full operation. The Board of Control, in its annual report for 1917, advocates amendments but not complete revision, nor does the latter process seem necessary in order to secure those reforms on which there appears to be substantial agreement.

It will be noted that the report of the Medico-Psychological Association proposes that it should be made the duty of local authorities to provide and maintain clinics. In this it goes further than the Board of Control, which suggests permissive legislation only, and the report of the committee to the conference of the visiting committees of the asylums in England and Wales, held in the Guildhall, London, in February, 1919. This conference considered that the establishment of special mental hospitals should be encouraged. There is much to be said in favour of imposing action by local authorities as a duty. For the success of the plan no half-hearted approach will be sufficient; it is necessary that it should be familiar and accessible to everyone if it is to establish itself without prejudice as a recognized method; for this we have the precedent of the duties imposed on local authorities by the Mental Deficiency Act, and no doubt provisions will have to be made in regard to financial assistance to local authorities by the Treasury similar to those made in that Act. Where such a clinic is established in a special annexe connected with a general hospital it is contemplated that the local authority should come to some arrangement with the hospital board in regard to the cost, etc. There are precedents for such a course, and it is felt that if hospitals are to be induced to organize clinics on these lines, which both for educational, scientific, and practical reasons is so desirable, such financial assistance will be necessary.

In regard to these clinics it has been felt, not only by the Medico-Psychological Association but also by the Guildhall Committee, that they should as far as possible be detached in the public mind from all association with the Board of Control. It is apparently felt that that body is so closely identified with that aspect of the matter which has to do with restraint of the liberty of the patient, with safeguards against dangerous patients, and with the protection of the hopelessly confirmed insane, that the mere fact of the supervision of the proposed clinics being in its hands would tend to give them a character which would make them distasteful to those for whose benefit they are devised. Obviously they would properly come within the purview of the Ministry of Health, and as the Board of Control will, no doubt, before long be transferred to that Ministry there will be ample facility for proper co-ordination. It is for the same reason that stress is laid on the view that these clinics should be housed in special buildings and be supervised by a committee distinct in name from the Asylums or Mental Deficiency Committee. Only as regards private patients does it seem necessary to adhere for practical reasons to the body administering the Lunacy Acts, as the prohibition for the improper reception of patients is in their hands, and they must therefore be entrusted with the administration of any relaxation of that prohibition.

The Voluntary Boarder System.

In one important respect the Board of Control has gone further than the Medico-Psychological Association. It is prepared to have the principle of the voluntary boarder extended not only to all the various classes of institution, but also made applicable to patients under single care in private houses. A proposal to this effect was put forward by Dr. Weatherley in his book *A Plea for the Insane*, which has been reviewed in these columns. Such a provision, coupled with the proposed provision for private patients in approved homes or as single cases in homes not so approved, would go far to cover all reasonable requirements for suitable treatment of the early nervous and mental disorders in this class of the community. Where detention is necessary recourse can be had to the private asylums, whether as a voluntary boarder or as a certified case. Where the asylum treatment is not necessary detention would be allowed, either under certificates or as a voluntary boarder, or as a single patient, and where neither of these arrangements are necessary or desired, the patient could be dealt with without any formality beyond the intimation to the Board that a patient was being received in a certain house and evidence that suitable treatment can there be obtained. It is proposed that the provisions applying to approved homes shall be applicable also to licensed houses and other institutions for the insane. It will be clear that with such wide and varied liberty of choice it is extremely unlikely that a medical man would recommend a patient to avail himself of any place of treatment which did not adopt one or other of these provisions, and there would be no necessary hardship to the patient in so doing, and consequently no reputable person proposing to receive patients in his house would attempt to evade such provisions. Thus would be eliminated one of the principal difficulties of members of the profession in regard to private patients—that it is not open to them to advise the treatment which they consider best for the health of their patient without the risk of running counter to the law.

The interest taken in the matter was shown a short time ago by the publication of a manifesto on psychiatric clinics for studying the treatment of mental disorders in the early stage, bearing the signatures of Sir Clifford Allbutt, Sir George Savage, Sir Frederick Mott, Dr. Edwin Goodall, Medical Superintendent of Cardiff Mental Hospital, and others more or less directly concerned with the treatment of such disorders. It was therein stated that the necessity of carrying out the reforms outlined had been repeatedly urged in the leading organs of the medical profession, and that the policy recommended would be generally endorsed. The main features of the policy indicated are the provision of clinics in large centres of population, but especially in connexion with the general hospitals and schools of medicine. It is proposed to extend the system of voluntary admission which now exists in respect of licensed houses and registered hospitals for the insane, so that patients, whether of the private or rate-aided class, may place themselves in county borough mental hospitals. It is proposed, further, that the private patient class should be received without certification but with the cognizance of the Board of Control in homes privately owned or supported wholly or partly by voluntary contributions, or in existing public and private mental hospitals (licensed houses). The two methods of admission to county borough mental hospitals, or into private hospitals are given as alternatives, but we presume that both are desired.

The establishment of clinics in psychiatry with in- and out-patient departments as a part of the general hospital system, is regarded as the most important of the above proposals, since it is by this method that the never-ending extensions of existing asylums may best be avoided. In such clinics patients would be received without reception orders or certificates, and subject to the minimum of official supervision. They might be treated under these conditions for six months, and in them students and the future holders of posts in mental hospitals should be taught, all available means of research being provided. It was with this idea that the late Dr. Henry Maudsley eleven years ago made his munificent gift, ultimately amounting to £40,000, which, after much delay, resulted in the erection of the Maudsley Neurological Hospital at Denmark Hill.

Civil and Military Cases.

The manifesto calls attention to the arrangements the army authorities made for mentally disordered soldiers during the war; they were sent into military mental hospitals without any orders or certificates, and were only removed to asylums when, after nine months, they were deemed incurable. Large numbers of men were received in very early phases of the disease, and the advantages were very great. The suggestion is then made that "if these men could be treated thus whilst in khaki, they could and should be similarly treated as civilians, and under far better medical conditions than in asylums." This may be so, but it should not be too readily assumed. Disciplinary powers over the man in khaki are great, and render the need for control by certification in his case superfluous. Whether civilian patients can be equally successfully managed will depend on the extent to which the public will be content to permit a reasonable amount of similar control being exercised in the patients' interest without regularized powers. There may be grounds for hoping that the experience of educational influences during the war may have rendered such an attitude on the part of the public general; but it cannot be denied that there is still an important section of it to whom a meticulous care for the liberty of the individual overshadows the provision for his well-being as a sick person.

There is, however, another difference between the civil and the military case. The soldier who is unfit to continue his duties owing to ill health has no inducement to go on working, and comes automatically under medical direction. The civilian may continue his work when really unfit, or retire to his home and take no steps to secure treatment, or he may refuse to act on his doctor's advice. He and his friends must therefore be taught to turn naturally to the clinic for assistance, and he will judge of the clinic and accept or refuse its help according to the type of malady which will come in time to be associated with it in the course of actual experience.

Legislative Aims.

It is understood that the Board of Control has drafted a bill to carry into effect the changes in this direction which it has recommended in its reports. Although officials speak hopefully of the probability of the early passage of the bill into law, its terms have not yet been made known, and the prospects of early legislation do not seem to onlookers very bright.

The results which will be achieved must to a large extent depend on the detailed provisions and also on the spirit in which they are interpreted. For example, there are some whose principal object is to save those suffering from acute but transitory forms of mental disorder from certification by allowing them to be dealt with under the new provisions; there are others, on the other hand, wh are more anxious to secure the treatment of cases in an early stage so as to stave off mental breakdown, and for this purpose they hope to bring under treatment the antecedent stages which are little regarded by many at present.

It is clear that unless there are very special and extensive facilities, the use of the clinics for the first group of cases would tend to conflict with their utility for the second. The clinics will come to be characterized not by the name that is given to them, but by the cases to the treatment of which they are devoted; care will have to be exercised if they are not to come to be looked upon as simply an unofficial type of asylum.

LAST week we published a letter from Sir Clifford Allbutt and Sir James Mackenzie asking readers to send any medical journals and books they can spare to Vienna, where, owing to the closure of communications during the war and the present high rate of exchange, medical publications in the English language are with difficulty obtained. We have since received an appeal to persons in this country to make contributions to an Anglo-American University Library for Central Europe. The library will be organized on a broad, non-political, non-sectarian basis, and books will be lent to the faculties of the different universities in Central Europe. The proposal has the support of a very large number of scholars and men of science in this country. The secretary is Mr. B. M. Headicar, Librarian of the London School of Economics, Clare Market, London, W.C.2, to whom communications may be addressed.

MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

CURRENT PROBLEMS.

FIVE motoring matters of importance to medical men are to the forefront at the moment. On April 19th the Chancellor of the Exchequer has to introduce a budget, one feature of which we foreknow will be the entire recasting of the scheme of the taxation of motor vehicles to pay for the roads on a basis which, according to rumour, is estimated at an initial levy of no less than £7,000,000 a year; a sum vastly more than was raised from motoring before the war. Secondly, the new income tax allowances concern doctors and their cars. Thirdly, the fuel situation is such that it is impossible, for practical reasons, to raise the money by a tax on motor fuel; yet we are to have no relief in the price of fuel. On the contrary, it is likely to rise. There is even a prospect that we may have to be rationed for fuel this year. Fourthly, cars are coming through in quantity; yet this week Mr. Frank Lanchester, President of the Society of Motor Manufacturers and Traders, at a meeting of that body, had to explain to the public the reasons for the rises in the cost of cars to the public now, three months after the resumption of work by the moulders; production is taking place and deliveries are commencing in quantity from the various factories, while imports of cars are, of course, on a quite unprecedented scale from America. Briefly, as was forecasted in these notes more than three months ago, the cause is that the Government has invited a periodical increase of prices because there are quarterly meetings with labour at which, of course, it would be strange did the labour representatives not stipulate for an increase of price. Consequently, as long as this arrangement exists, it is impossible to prevent a continual putting up of the price until such time as the public refuses to buy cars and the workers find themselves shut out of the gates of the factories because there is no market for their products. Fifthly, in connexion with the remodelling of the road laws and so forth, the Government has entirely to reconsider the problem of headlights for road vehicles.

A LOST OPPORTUNITY.

The ideal basis of motor taxes would be fuel. But it is impossible to define motor fuel for the purposes of taxation. There is also the problem of world shortage of motor fuel, and consequently urgent need to get as much of it as possible under the British flag. We foreknow that there will be at least three years' spade work before we can get anywhere near to a normal situation in regard to supplies, far less tackle successfully the task of differentiating between home and imported fuels and, possibly, even between British raised oversea motor fuels and those obtained from foreign countries.

For these reasons the Government is resolved that the tax shall not, as motor car users wish, be transferred from the car entirely to the fuel, as the only possible basis for arriving at true taxation according to road use enjoyed. Even so there would be the alternative tax on tyres. This, however, we know to be also impracticable, because tyre manufacturing is not to be absolutely guaranteed. The man who has bad luck in buying a bad tyre would be doubly penalized if he had besides to pay a second tax to get a tyre that would stand up. Nevertheless, there are alternative schemes, either for doing something in the matter of engine rating or for treating passenger like utility vehicles under the proposed scheme by taxing them according to weight. The engine scheme is wrong, but, alas! the Government is bent on carrying it through. Nevertheless, in this connexion the Treasury rating will be somewhat altered. Even so, it is impossible to alter the basis of rating without putting a premium on construction according to this plan or that, and therefore preventing the freest possible development of the motor vehicle and, above all, handicapping the industry for supply to the overseas market, because cars here must be primarily designed to meet our taxation conditions.

All this is exceedingly regrettable. Nor can it be pretended that it bears any direct relation to the amount of road use enjoyed by the individual taxpayer. Under this head, however, certainly doctors will come off better than many classes of private vehicle users in that presumably they will at least have a certain minimum mileage a year from their motor vehicles in exchange for their tax. Nevertheless, £1 per horse-power practically predetermines the classes of cars in which they can invest their money hereafter.

Of course, the ideal method would be a tax on weight, because then the Government would not interfere with free development of design; and it would in a sense be a tax at least in some fashion related to the amount of road wear and tear which the given class of vehicle was calculated to occasion. Of course, such a tax would be at a higher rate than for the utility motor vehicle which has to compete with railways and other forms of transport; but its scale need not be any more severe than any scheme of engine tax. All that the Government has to do is to fix the amount of revenue to be raised and divide it among the various classes. Moreover, it is a democratic form of tax in that it would be possible to charge the first ten hundredweight at a lower rate than the second ten; the second ten at a lower rate than the third; and the third at a lower rate than the fourth. However, it is not to be; so, regretfully, we must leave this matter and pass on.

INCOME TAX AND CAR DEPRECIATION.

Another point which interests medical men arises in connexion with the report of the Royal Commission on the Income Tax. Paragraphs 213–216 deal with depreciation of plant and machinery. Some witnesses examined by the Commission were of the opinion that the allowance should be calculated always by a regard to the original cost, on the ground that this is theoretically the correct method. While the Commission sees no reason why the taxpayers who desire it, and who choose to put themselves to the trouble of bookkeeping that this system entails, should be barred from an allowance based on the original cost, it is, nevertheless, convinced that as a general rule neither the taxpayer nor the revenue authorities should be saddled with the burden of keeping elaborate records that would be essential if depreciation allowances were normally to be calculated on the original cost of plant. To allow depreciation on the written-down value is perfectly fair to the taxpayer and to the revenue; and the Commission recommends that this method should be continued, the right being reserved to any taxpayer who has the necessary record to have his depreciation calculated by reference to the original cost of the asset. But paragraph 214 says that there is one defect in connexion with this allowance which calls for a remedy. At present depreciation allowances are confined to traders and manufacturers. This does not apply to professional men. A business man is allowed a deduction for the depreciation of the motor car employed in his business; whereas a doctor, whose practice may equally necessitate the use of a car, is not entitled *in law* to any such deduction, even if he has managed to secure it. Therefore, as has already been noted in the BRITISH MEDICAL JOURNAL, the Royal Commission on Income Tax recommends that the allowance should no longer be restricted to traders.

This seems to mean that doctors may be allowed depreciation on their motor vehicles this year. An allowance for obsolescence of traders' machinery was in practice given as far back as 1897, but it did not receive formal legislative authority until 1918. At present the obsolescence allowance can be granted when the obsolete plant or machinery is replaced. But the Royal Commission recommends that it should be given in the case of machinery or plant disused for any reason, whether replaced or not, except where the disuse is the result of the discontinuance of the business, when it cannot properly be distinguished from the general capital loss entailed by cessation. The ordinary allowance for depreciation is deducted from the average profits when ascertained. The obsolescence allowance, on the other hand, is allowed as a trade expense in the year in which the replacement takes place. Further, any unexhausted depreciation allowance is carried forward for an indefinite period as a deduction from the average profits assessable, but obsolescence allowance is not.

WHEN A CAR IS DISCARDED AND A NEW ONE BOUGHT.

The Royal Commission recommends that in future any ordinary depreciation allowance and obsolescence allowance shall be regarded as trade expenses of the year the profits of which are being calculated. If they are so treated the necessity for carrying forward unexhausted depreciation allowances will cease, since a trading loss caused by the allowance of depreciation will be treated for income tax purposes in the same way as any other trading loss. But the Commission points out that if a taxpayer, instead of claiming a depreciation allowance, prefers to deduct the cost of renewal as and when they occur, it is allowable for him to do so. In the opinion of the Commission this right should remain to the individual taxpayer.

There was some divergence in the evidence as to the correct method of calculating the allowance for such renewal, some witnesses stating that the allowance should have reference to the cost of the machinery replaced, while others held that it should be calculated on the cost of the new machinery. The Commission considers that the allowance for renewal should be calculated by reference to the cost price of the machinery replaced. This puts it in the same position as the allowance for depreciation—which is the alternative to the allowance of renewal—for depreciation is necessarily calculated on the cost of the existing machinery.

Inasmuch as the Chancellor of the Exchequer is understood to have promised that these recommendations are to be carried into law, the situation to be expected after the Budget can be calculated. In regard to motor cars, of course, many now owned are worth more than their original cost, whereas in the next two years they will have a scrap value only; yet they will have to be replaced at post-war costs. That means a very heavy expenditure for the individual medical man in the case of a car, because he can claim depreciation or replacement only on the original cost of the vehicle. On the other hand, should the price of cars fall any time five or ten years hence, when the average medical man will be wanting yet a third car and will be able to buy it cheaply, he will get some of his money back, because he will be allowed to claim the depreciation for the car he is going to buy, say in the next six or eighteen months, at fabulous post-war prices; and all those years hence he will be able to get what will then be a fabulous depreciation allowance for the given vehicle. So that it is really only a question of laying out money without interest; and the law would certainly be much more fair if amended as proposed.

England and Wales.

CONSULTING SURGEON AND HOUSE-SURGEON.

IN the Honours List recently gazetted the name of Mr. Edward J. Domville, Consulting Surgeon to the Royal Devon and Exeter Hospital, appears among the O.B.E. The reason for conferring this honour appears to have been the rather unique position occupied by him during the last three and a half years of the war. Owing to the difficulty of filling the post of house-surgeon, the committee applied to Mr. Domville to help them by resuming a post in the hospital which he had filled some forty years before. Mr. Domville consented to do this, and as the honorary medical staff was temporarily diminished in number owing to the occupation of all its members in war work, the house-surgeon was often called upon to discharge very important duties, medical as well as surgical. When he retired, on the declaration of the armistice, his active colleagues united in giving him a handsome silver rose bowl inscribed with their names, and four silver candlesticks, while the Weekly Committee gave him an antique clock and an album containing a list of subscribers, and a warm expression of their gratitude for the unselfish devotion with which he had carried out the duties of his office.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

A special committee, to be called the Statistical Report Committee, was recently appointed by the Prince of Wales as President of the Fund. It consists of the Hon. Sir Arthur Stanley (chairman), Sir Cooper Perry, and Mr. Leonard L. Cohen. The Fund first issued a statistical report in 1904. Since then it has been enlarged and improved on several occasions, but changes and progress in hospital conditions now call for additions and modifications. The necessity for economy in staff and material during the war led to the omission of various tables, and it was thought inadvisable to make any alterations not absolutely necessary. A considerable number of suggestions have been received during recent years, and the new committee is to consider these and other suggestions and to advise as to the form in which the Fund's statistical report should in future be published.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, LONDON.

At the annual meeting of Queen Charlotte's Hospital and Maternity Training School, Marylebone Road, London, on March 30th, it was reported that during the past year nearly 2,000 patients had been treated in the wards and a similar number attended in their own homes. The increase in the number of applications for admission was largely attributed to the shortage of houses. The chairman emphasized the great importance of the work in the antenatal and child welfare departments, where over 5,000 patients had been treated. A large increase in the number of medical practitioners, students, midwives and nurses attending the hospital was noted, a considerable number of the medical practitioners and nurses being members of the Dominion and American medical and nursing services who had taken out courses before leaving this country. It is recognized that a new out-patient department and other improvements are urgently needed, but the expenditure would be £100,000, and there was a deficit on the year's working of over £2,000.

LONDON DISTRICT DISCHARGE CENTRE.

At a dinner held at the Mitre Hotel, Hampton Court, on March 25th, Dr. T. W. Morcom-Harneis was the recipient of a presentation silver tea service from the members of the Medical Boards of the London District Discharge Centre. In making the presentation Dr. Taylor, J.P., Coroner for the Richmond District, expressed the personal regard of the staff for Dr. Morcom-Harneis during his term of office as D.C.M.S., and said the efficiency and smooth working of the boards was largely due to his tact and consideration for all those who worked with him. Dr. Morcom-Harneis, in replying, expressed his regret that his association with them, which had been of the pleasantest character, had now come to an end owing to the closing down of the centre. Dr. Rees Davies also spoke.

PRESENTATION TO DR. P. V. FRY.

On March 28th Dr. P. V. Fry, Sowerby Bridge, was entertained by his medical friends in the Calder Valley, Hebden Bridge, Sowerby Bridge, and Elland areas, on the occasion of his departure from the district. He was at the same time the recipient of gifts of silver as a mark of appreciation of his services in organizing the local medical society and promoting good fellowship amongst its members. Dr. Fry has represented the Calder Valley area on the West Riding Panel Committee since its inception in 1912, and has for some years been a member of the Insurance Acts Committee of the British Medical Association and of the Ministry of Health Committee.

LEICESTER GRADUATE COURSE.

The Leicester Medical Society has arranged a short course of post-graduate lectures, to start on Tuesday, April 13th, and continuing every Tuesday until May 11th. The course will be given by Dr. W. Langdon Brown, of St. Bartholomew's Hospital, who has taken for his subjects: The sympathetic nervous system and the ductless glands, Glycosuria, and Disorders of the digestive system.

Scotland.

SCHOOL HEALTH ADMINISTRATION IN SCOTLAND.

IN a Memorandum dated March, 1920, the Scottish Board of Health (to which have now been transferred the powers of the Scottish Education Department with regard to medical inspection and treatment of school children and

young persons) describes the leading principles which should guide education and public health authorities in the preparation of their schemes; at the same time, interesting information is given concerning the conditions now existing in Scotland. In all the large cities and eight counties the medical officer of health and school medical officer are independent; and only in twenty-three counties and one burgh is the duty of the school medical officer exercised by the medical officer of health or his assistant. Administrative unity between the two branches is commended, and its inception, where not already existing, is enjoined. Treatment of school children, as distinct from inspection, was not authorized in Scotland until 1913; and during the war "the school medical service in Scotland suffered almost to a point of total suspension," so that it is not surprising to find that schemes of treatment have been organized only by a few secondary education committees in the five burghs. These conditions contrast forcibly with those obtaining in England and Wales, where, in 1914, 266 authorities out of 318 exercised powers of treatment, and 179 provided school clinics. These figures have since been increased to 287 and 252 respectively, and in 1918 dental treatment was given by 169 English authorities. In emphasizing the importance of the provision of treatment, the memorandum insists that treatment and inspection shall be co-ordinated, under conditions of "virtual unity," within the control of the school medical officer. Other sections of the memorandum deal with the provision of school nurses (who appear to exist in very few areas), with inspection in continuation schools, and with physical education. The whole question of the latter, it is said, should come under direct medical supervision with a view, first, to guiding its development as a subject of hygienic purpose, and secondly, "to establishing it on a footing that would make it an effective basis for the application of measures touching other aspects of personal hygiene." With regard to staffing, the Board considers it desirable that all district medical officers should possess the diploma in Public Health or its equivalent; all school medical officers should have experience in as many as possible of the following: diseases of children, diseases of the eye, diseases of the ear nose and throat, diseases of the skin, and school hygiene. Before confirming appointments the Board requires that statements of candidates' qualifications and experience should in all cases be submitted to it.

Ireland.

ROYAL ACADEMY OF MEDICINE.

A MEETING of the Section of Surgery of the Royal Academy of Medicine in Ireland was held on January 30th, with Mr. J. B. Story, President of the Royal College of Surgeons in Ireland, in the chair. Mr. William Pearson showed a specimen of cancer of the caecum, with faecal fistula, successfully removed by operation. Sir W. I. de C. Wheeler read a paper on compression of the lower brachial trunk by the first dorsal rib. Referring to the work done by Stiles, Stopford, and others, he described a case operated on by himself. The condition simulated that associated with cervical rib, but *x*-ray examination revealed no trace of this abnormality. An unusual feature was that while the patient could scarcely write at all with the right hand in the ordinary position, he could write easily when the arm was raised above the shoulder level. The subclavian artery was found to lie well above the subclavian groove. He described the operation for removing the segment of the first rib compressing the nerve trunk. Mr. R. V. Slattery read a paper on the radical cure of inguinal hernia, and described his own method of narrowing the internal abdominal ring. He closed the defect in the transversalis fascia by splitting the fascia and overlapping it, after the method of Mayo in dealing with umbilical hernia; the upper leaf of fascia was sutured to Poupart's ligament. Mr. Adams McConnell read a paper on a case of cyst of the common bile duct. He described the clinical appearances of the caes, and noted that the tumour in the right hypochondrium, the slight icterus, and attacks of colicky pain conformed with the symptoms of other cases described. Drainage of the cyst was carried out, and ten months afterwards the wound had to be reopened because of septic infection. After this operation the patient remained well with the fistula closed. He reviewed other cases that had been reported, and discussed the diagnosis and treatment. He pointed out the rarity of the condition, and the fact that his case appeared to be the only one which had survived after drainage alone had been carried out. Mr. C. J. Macauley described a case of acute inflammation affecting a Meckel's diverticulum which extended to but was occluded at the umbilicus. The entire diverticulum had been successfully resected.

POOR LAW MEDICAL OFFICERS.

At a largely attended meeting held in Clones, co. Monaghan, the following resolutions were unanimously passed:

1. That the salaries of Poor Law medical officers are entirely inadequate; that the salaries of dispensary medical officers be £300 per annum, rising annually by £5 to reach £400 and applied retrospectively.
2. That the salaries of union infirmary medical officers be £200 per annum, rising annually by £5 to reach £300 and applied retrospectively.
3. That the salaries of medical officers of health be £75 per annum for urban districts and £50 for rural districts.
4. That fees for inspection of and report on houses under the new housing scheme be one guinea with mileage.
5. That unless legislation is at once introduced to increase the fees for registration of births, deaths, and marriages to 2s. 6d. per entry, the registrars will cease work; that mileage be paid at 1s. 6d. per mile for journeys to superintendent's office, and that a fee of 5s. per death certificate be paid by the Registrar-General.
6. That fees for vaccination be doubled and that 1s. be fixed as fee for registration of vaccination.
7. That locumtenents be appointed at the rate of 7 guineas per week for dispensary districts and 5 guineas per week for workhouse hospitals; that where both duties are combined the fee be 10 guineas per week.
8. That a full month's holiday be granted annually.

Correspondence.

AWARDS FOR MEDICAL DISCOVERY.

SIR,—In his letter in your issue of April 3rd Sir Ronald Ross invites attention to your report of the deputation to Mr. Balfour (BRITISH MEDICAL JOURNAL, March 6th, p. 347) on the above subject. Its perusal should give food for thought to medical men. Three leading members of the profession represented to Mr. Balfour that, in striking contrast to workers in other branches of science, medical men are denied direct pecuniary benefit from their labours in research; and consequently there existed special reasons that funds be placed at disposal for awards to those who, notwithstanding such unfavourable conditions, have given their labour, sacrificed private means or denied themselves pecuniary benefits in efforts which have contributed to the public weal. Sir Clifford Allbutt stated, in respect to the medical profession, "those conditions were governed by the very highest standard of ethics maintained in the profession. . . . No medical man was permitted to take out a patent." Obviously, therefore, the appeal for funds was made on grounds special to the medical profession. The statesman evidently concluded that he might in his reply spare the deputation the thrust that, rightly or wrongly, the self-imposed code of honour of the profession alone prevented medical men from reaping the fruits of their labour; and confined himself to generalizations which concerned workers in science collectively. But his well-known courteous instincts failed to remind him that not the cold charity of the Civil List Fund—obtainable by "influence"—was indicated, but the employment of ways and means of expressing a nation's gratitude for benefits placed, free of charge, at its disposal.

Parliament has no hesitation n awarding many thou-, sands of pounds to the warrior who, at the cost of lives. saves lives and the commercial possibilities of the nation Are men of the type of Ross, who have, by years of toil and self-sacrifice, saved thousands of lives, and not only rendered commerce possible where formerly it was hopelessly handicapped, but have held open the path for the warrior hitherto "held up" by his most formidable enemy—disease—to be afforded less substantial tokens of gratitude? Even that bugbear of officialdom, the creation of a precedent—in this case as to awards for medical research—does not bar action. A grateful nation awarded (1802) Jenner £10,000, but, repenting subsequently of its illiberal

attitude, presented him (1806) with a further gift of £20,000. Nor did he lack practical gratitude in the tropics —Calcutta sent him £6,000.

The *ad misericordiam* refuge of the Civil List Fund cannot fill the rôle desired by the deputation unless vastly altered as to scope and mode of administration. Should, therefore, the views expressed to Mr. Balfour by the deputation secure from Government no adequate response, is it not time the profession considered whether certain of the self-imposed ethical rulings which govern it with iron severity are not anachronisms? Their modification to suit the times need not imply their abolition. Even the drastic rules of Hindu caste, with its similar penalty of excommunication, possess more flexibility than the caste rules of medicine. Manu defines the "conduct of good and virtuous men" as governed by "custom" handed down from time immemorial, but acknowledges the right to alter the interpretation of the *Shastras* when custom alters with the times.

Accepting the analogy, whilst it is still undesirable a medical man should use his position to canvass his patients on politics, why should it be wrong in the present day of much extended franchise (to the advantage of certain sections of the community to an extent that may unfavourably influence the professional classes) for leaders of the profession, without the trades union taint of compulsion, openly to appeal to the profession to vote as a body for certain political ends? In the next six months, in this manner, more could be done to further medical interests than blind adherence to the fetish of old-time ethics has done in a century.

Again, why should it not be possible to frame rulings administered by leading men of the profession which shall permit the taking of patents by research workers, under circumstances not calculated to injure the honour of the profession?—I am, etc.,

April 3rd. W. G. KING, Colonel I.M.S.(ret.).

OUR OPPORTUNITY.

SIR,—I have read with pleasure the letter headed "Our Opportunity" in your last issue.

We do want our independence, individualism, and freedom, and let us work in harmony with the help of the State. The question of remuneration has been settled by arbitration, and would have been fixed long ago, I think, if proper returns had been sent in by medical practitioners. These returns are sent for the benefit of statistics for future use by the State, and ought to be accurate. Most men have done as much again as they have reported. I find that in 1918 and 1919, out of a panel of 450, there were 213 ill and seen on an average six times. Without a proper return of the work done no correct remuneration can be adjusted, or ever will be, so let us look more to the future than we have done in the past, and in doing so save ourselves from being conscripted, as then all independence and freedom must be taken away, never to be restored.—I am, etc.,

Buxton Spa, April 2nd. J. MCOSCAR.

SIR,—Above all things at present the nursing staff visiting the homes of the sick poor should be very largely developed. In the area in which I work I do not know what would be done at all without the help of the district nurses or kindred organizations. In most cases it is not the doctor who "cures" the patient but efficient nursing and carrying out of the doctor's instructions. In whole areas the condition of life is appalling. All the money earned seems to be spent in any other way whatever except that of home comfort. Families earning many pounds a week have often—even usually—little more than rags upon their beds, and quite inadequate quantities even then; this is not from lack of money, but simply that it is what they have been accustomed to. Then, in many cases, I have actually been afraid to accept the offered chair, owing to the verminous condition of everything. How can one expect in cases like that to cure one's patients? One gives instructions, repeats and repeats these to make them understood, and then finds they are forgotten the moment one's back is turned. The hospitals are very willing to help, but their beds are limited in number, and it is with the greatest difficulty one can get the patients to go to the infirmaries of boards of guardians. There is a social slur connected with these, and patients will really often, as they say, "die first" before they go to them.

What I should like to see, as the first step, before everything else, is to try to deal with the sick poor at their homes. Dispensaries, even hospitals, are secondary to this. It is the bed-rock one must get to first. Develop the sanitary side and enormously increase the district nurses, and let every "panel" or "guardian" doctor be able to receive full assistance from both of these. Then, and then only, will there be the basis for a proper medical service for the poor.—I am, etc.,

Bristol, April 5th. E. J. BALL.

CLINICAL CENTRES.

SIR,—The clearing-houses under the Ministry of Health (SUPPLEMENT, March 20th, p. 81) should have suitable accommodation for the various agencies. In addition to roomy, well-ventilated, and well-heated waiting-rooms (male and female), with proper lavatory facilities, etc., there should be separate rooms for infant welfare, maternity, tuberculosis, eye, throat and ear (with dark room), and for bacteriology and pathology. The "centre" should preferably be in close touch with the local hospital, and facilities for *x* ray and light examinations and treatment should be at the centre or hospital. At present nondescript and often inconvenient accommodation is in use wherein it is difficult to do good work.

Half a dozen observation beds would be very advantageous for doubtful cases. An army ambulance van and disinfecting lorry for each centre would be of great use. In choosing the caretaker or porter knowledge and experience of ambulance work and nursing should count.

If permanent buildings are not at present forthcoming, a start might be made with army or Y.M.C.A. huts. Every district provided such structures for the war, and certainly has a moral right to them for an at least equally useful purpose.

Efficient service at the "centre" will soon pay for itself by earlier diagnosis and treatment, with resulting quicker return to school or work.—I am, etc.,

Newport (Mon.), April 5th. J. LEWIS THOMAS.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—Dr. Freer says (March 20th, p. 417), "it was surely in part to mitigate . . . improvidence . . . forcing the spendthrift to make some slight provision for a rainy day" that the Insurance Act was evolved. It was. The trouble is that it has, and must have, so completely failed. Even the Fabian Society's report shows that it has not lightened the burden of the Poor Law. It is well known that there has ever since been an unwonted run on Poor Law beds. Personally (I hold no parish appointment) I have had to have recourse to the Poor Law oftener these seven years than in all my previous professional life.

A poor law is a statutory provision for the poor out of moneys provided by the law. In this Act the major part of the moneys is frankly of the nature of a State subsidy. Even the direct contribution is forced from the employee and is of the nature of a tax deducted at the source. It does not alter the nature, it emphasizes the deteriorating quality, of the law that the majority of its beneficiaries are not in need of State aid. Dr. Freer knows that every effort was made to convince the working class that the benefit was in the main a gift. It is an abuse of terms to call such a process "insurance." The Act is clearly of the nature of a poor law; and it is a relevant corollary that the benefit, to the poor, of a poor law has always been in direct ratio to the scrupulousness of the regard of its administration for desert.

If Dr. Freer remembers that in order to preserve the shiftless from the consequences of shiftlessness both shiftless and thrifty have to be taxed all through their sunshiny days and the thrifty through the rainy days also, he will see that many deserving people are made poorer in order to enrich the shiftless in the time of stress. The process is precisely on all fours with this question of tuberculous mortality: in which the records show that if ten lives are being preserved by State measures eleven are being sacrificed. (The figures are illustrative merely; I have not calculated them out.)

The State has no right to think for England of to-day

merely, and especially not for the individual of to-day; it must think for the community as a whole, future as well as present. Evidence is accumulating day by day of the superiority—to the community—of voluntaryism over compulsion. It is surely better for the State to lessen morbidity than to make provision for sickness, and a very striking example is that under voluntaryism the morbidity of male workers fell in Denmark from 6.2 to 4.9 days per year during the period 1893 to 1912. In Germany in the same period it rose from 6.6 to 8.2. Now that we have done with the Imperial Government, whose interest in fostering the delusion that compulsory State insurance was for the good of a nation was shown by its large expenditure on propaganda, the truth will more and more clearly emerge; the latest German reports are highly instructive reading.

In conclusion, will you let me say, Sir, that I am grateful—and not I alone—for permission to discuss the Act from the larger standpoint of the national welfare. I have always felt it as a reproach that in the most important organ of our profession (of all classes in the world!) the only question in a measure so ambitious and so large as to be—for good or for evil—revolutionary should seem to be its peculiar reaction on our wages.—I am, etc.,

Rayleigh, Essex, March 28th. B. G. M. BASKETT.

HEAT HYPERPYREXIA.

SIR,—Colonel Willcox, in his interesting paper on heat hyperpyrexia (BRITISH MEDICAL JOURNAL, March 20th, 1920), appears to disagree with my view (BRITISH MEDICAL JOURNAL, April 26th, 1919) that suppression of sweating is the primary cause of hyperpyrexial heatstroke. I would therefore be glad if you would kindly grant me space to make a few comments, which may help to clear the doubt that exists regarding the etiology of this important disease.

In case there may be some confusion regarding the meaning of the term hyperpyrexial heat-stroke as used by me in my note of April 26th, 1919, I would mention that it refers to a state of affairs in which the patient is totally unconscious, has a bodily temperature of 110° F. or thereabouts, and is usually in a condition of convulsions or spasms.

In my experience the lowest bodily temperature required to produce this clinical picture is about 108° F., though many cases may reach 109° F., or more, before the unconscious state is reached; my contention is, that although lower temperatures (which are rightly or wrongly attributed to "effects of heat") may be met with while the patient still retains his power of sweating, actual heat-stroke cannot occur until he has stopped sweating for some variable time previously.

It follows, then, that by taking the onset of suppressed sweating as the warning sign, we can in every case prevent the development of this highly dangerous condition by the simple process of artificially sweating the patient as suggested in my note.

Now, as regards the cases of heat hyperpyrexia mentioned by Colonel Willcox which "suddenly occurred in exposed men who were in good health, without any previous evidence of lack of skin action," and in others "though they had been under observation in hospital for several days," I would point out that suppression often comes on with remarkable suddenness and requires the closest observation to detect it. This is why I found it necessary on very hot days to carry out my inspection of all the patients in the ward *hourly*. During these inspections I would frequently find that a patient whose temperature and skin condition had given me no cause for anxiety at 3 p.m. had by 4 p.m. developed complete suppression of sweating and a temperature bordering on heat-stroke. Unless observation is carried out as systematically as this, it is quite possible for one to form the opinion that suppression had not preceded the attack.

I may mention that throughout the heat wave of 1917 I remained constantly in my ward during the hours of the day when attacks were at all likely to occur, and was thus able to study personally every change in the medical condition of the patients. From these observations and the results of preventive treatment (based entirely on the suggested etiology), which has not failed in one single instance, I have no doubt whatever as to the truth of my conclusions.—I am, etc.,

Royal Infirmary, Hull, April 4th. K. G. HEARNE.

SIR,—I was much interested in reading the papers by Drs. Willcox and Leonard Hill in your issue of March 20th. In my experience I have found two points always precede an attack of heat hyperpyrexia—namely, frequency of micturition and absence of sweating. These facts were pointed out in his lectures forty years ago by Professor McLean at Netley.—I am, etc.,

WILLIAM PIKE,
Salisbury, April 2nd. Major-General A.M.S.(ret.).

SYME THE DISCOVERER OF WATERPROOFING.

SIR,—In the interesting note on the brothers Michelin and their famous tyre works, published in the JOURNAL for March 27th, 1920 (p. 458), it is stated that Captain Daubrée, a cousin of the grandfather of the Michelins, "married a niece of the Scottish chemist, Mackintosh, whose name, through his discovery of the solubility of rubber in benzine, has become associated with waterproof garments."

The discovery of the solubility of rubber is much more interesting to the medical profession, for it was really made by Syme. In Dr. Paterson's *Memorials of Professor Syme* (p. 11), the story is told how Syme, as a young student of medicine, only 19 years of age, worked a great deal in practical chemistry. In March, 1818, he made a short communication to the *Annals of Philosophy* announcing the discovery of a new and cheap solvent for caoutchouc distilled from coal-tar. In that communication he said, "It occurred to me that by distilling coal-tar a fluid might be procured which, like naphtha, would have the property of dissolving caoutchouc. After many trials I completely succeeded, and was enabled to carry into effect several of the applications, for which a fluid state of indiarubber had seemed so desirable. Thus I constructed flexible tubes of the substance itself, and rendered various textures waterproof by brushing a thin solution of it into their interstices."

After the appearance of this communication in the *Annals of Philosophy* (which, by the way, was published in Glasgow) the patent was taken out by Mr. Mackintosh, a manufacturer in Glasgow, for the making of waterproof cloth by means of caoutchouc dissolved in coal-tar naphtha. Syme declined the advice of his friends to take out a patent himself, though, if he had done so, as Dr. Paterson says, he might have realized a large fortune independent of his profession. Some years later, in referring to the matter, Syme said that he gained little credit and no profit by the discovery, except the confidence that results in successfully struggling with a difficulty.

Incidentally it might be remarked that in Glasgow a waterproof coat is known as a "waterproof"; it is only in England, and especially in the South of England, that such a garment is called a "mackintosh."—I am, etc.,

Glasgow, March 30th. JOHN PATRICK.

THE TREATMENT OF UTERINE CANCER.

SIR,—I had previously read Dr. Herbert Spencer's lectures, partly because it is my duty to study whatever is published on tumours, but mainly because it gives me pleasure to read what Dr. Spencer writes. It was, however, to the argument of your leading article on the subject that I took exception. It was reactionary. It despaired of the radical treatment of cancer of the uterus; restricted operation and radium were its sole messages of hope. The former is backed up by citing three cures of cancer of the cervix in advanced pregnancy by vaginal amputation. Even Dr. Spencer himself, in spite of the successes which he recorded with restricted operation in these few cases, stated in his paper: "Operable cases should be treated by Caesarean section followed by *extended* abdominal hysterectomy. If the patient is in fair condition the operation is indicated equally on the ground of science and humanity." The deduction from that is obvious.

There was a surgeon of Alexandria, called Leonides, who, while his contemporaries were treating cancer of

the breast by the application of arsenic and verdigris, operated on the disease with the knife and cautery, cutting into the apparently healthy tissues around the evident growth and applying the cautery to the cut surface. He said that the heat of the latter would kill any remaining cancer in the vicinity. Without anaesthetics, ligatures, or antiseptics he probably had a higher mortality than his fellows, but possibly he was lucky enough in a very few cases to eradicate the disease completely. He was a bold man, as befitted his name, *but he lived eighteen hundred years ago.* No surgeon nowadays would content himself with removing the breast alone; even if the axillary glands were not palpable and though the primary growth were small, he would not think of omitting the thorough clearance of the axilla, the extirpation of the regional lymphatic zones, and the wide removal of the affected organ. The problems of the treatment of cancer of the uterus differ in no essential detail from those of the breast. The high amputation of the cervix by the cautery is the eighteen hundred year old operation of Leonides, and its success is about the same. Dr. Spencer treated three cases and had three cures — 100 per cent. success. Some say that pregnancy has a bad effect on uterine cancer; some think that it would enable the cancer to be detected at an earlier stage; nobody has had sufficient experience of the uncommon conjunction to know. The numbers are too small to permit of any judgement. It is possible that if Dr. Spencer had operated by the same method on 100 such cases he might have had 97 per cent. of failures. It is a matter of luck. The statistics of 915 *post-mortem* examinations of uterine cancer which I published several years ago showed that in approximately 3 per cent. there was no evident spread of the disease beyond the cervix. If we take it that the naked-eye findings *post mortem* would correspond with what the microscope could reveal during life in the average case, then 3 per cent. would represent, with the ordinary run of luck, the possible cures that high amputation would accomplish.

I do not know what facts and statistics Mr. Dickie desires in order to form a judgement. Radical operations are founded on our knowledge of the surgical pathology of the disease, and their worth is estimated roughly by the proportion of cures to all cases seen and not merely to those selected for operation. By the latter method it is obvious that one has to judge an operative technique as it was ten or more years ago whilst all the while it and its results are improving. On both points—the requirements of pathology and the actual results of operation—I cannot do better than refer Mr. Dickie to Berkeley and Bonney's recent edition of *Gynaecological Surgery.* These authors, who have treated perhaps the largest series of cases in this country, could produce an absolute cure rate of about 25 per cent. Doubtless they and others have improved on that.—I am, etc.,

Pathological Laboratory,
The Cancer Hospital, S.W.,
March 29th.

ARCHIBALD LEITCH.

A NOTE ON ARTIFICIAL PNEUMOTHORAX.

SIR,—In an article in the JOURNAL of March 27th (p. 432), under this heading, Dr. Frederic Coley, while describing the introduction of a stuffing box to the ordinary Saugman pneumothorax needle, makes the following reference to myself: "Dr. Clive Riviere obviates this difficulty" (prevention of the entrance of air) "by tying a piece of sheet india-rubber over the open end of the instrument. I believe he uses this either with his own trocar and cannula in primary operations, or for an ordinary needle in doing 'refills'." May I point out the facts? My own trocar and cannula possesses an obturator or stuffing box with a bayonet catch to prevent it from loosening or falling off. Incidentally, I have grown to dislike the bayonet catch, and I think Dr. Coley's screw may perhaps prove less liable to jamb. In describing the Saugman needle in my book I remarked: "This may be provided with an obturator, as is done in the most modern pattern, or the end may be covered, to prevent the entrance of air while clearing, by a thin rubber cap, through which the stilette is passed." These caps were supplied with the needles, but were not devised by me; I have never resorted to sheet rubber, as suggested. For a long time past I have been using for refills Saugman needles provided with a stuffing box, and the March number of the new journal, *Tubercle*, contains an illustration of this modified needle with the following descriptive notice:

The illustration shows a modification of the well known Saugman needle, carried out by Messrs. Downs Bros. at my request. To the stilette used for clearing its lumen has been added a "stuffing box," and this enables the needle to be cleared while in the chest without any risk (as otherwise occurs) of gas embolism. The needle can be obtained at a cost but little above that of the usual Saugman needle, or the modification can be added to needles which have been already in use.

There are now, therefore, two sources from which Saugman needles provided with a stuffing box may be obtained.

The oblique oval point recommended by Dr. Coley is certainly a safeguard when a pointed needle is used at the first operation, and the same is found on the Forlanini and Brauns needles, and on the Morriston Davies needle in this country. A flat guard, similar to Dr. Coley's "holder," is provided with the Courmont needle, but the nut with which Dr. Coley fixes his holder seems an improvement over the lateral screw on the Courmont plate.—I am, etc.,

London, W., March 30th. CLIVE RIVIERE.

BIOGRAPHY OF SIR WILLIAM OSLER.

SIR,—Lady Osler has requested me to prepare a biography of her husband, and I will be most grateful to any one who chances to see this note for any letters or personal reminiscences, or for information concerning others who may possibly supply letters.

Copies of all letters, no matter how brief, are requested, and if dates are omitted it is hoped that they may be supplied if possible.

If the originals are forwarded for copy they will be promptly returned.—I am, etc.,

Peter Bent Brigham Hospital,
Boston, Mass., U.S.A.

HARVEY CUSHING, M.D.

Medico-Legal.

LIABILITY UNDER THE LUNACY ACT.

THE case of Everett *v.* Griffiths and Anklesaria, in which the plaintiff in November last sought to recover damages against the defendants on the ground that they had unlawfully and without good faith or reasonable care signed a certificate that he was of unsound mind, and procured his detention as a lunatic in an asylum from March 27th to April 9th, 1919, was referred to in our issue of November 29th, 1919, page 726. It may be remembered that the jury having disagreed, the Lord Chief Justice entered judgement for the defendants upon the ground that Mr. Griffiths was acting in a judicial capacity, and that the certificate which Dr. Anklesaria had given as to the plaintiff's mental condition was not the effective cause of the latter's detention. The act of Mr. Griffiths had intervened and caused the detention. From this decision the plaintiff appealed, and conducted his case in person before the Court of Appeal, which delivered its reserved judgement last week.

Lord Justice Bankes, in his judgement, dealt with the positions of the two defendants separately. Mr. Griffiths in making the detention order was acting under special authority conferred upon him as chairman of the Islington Guardians by the Lord Chancellor under Sec. 25 of the Lunacy Act, 1891. This section provided that every order signed under that authority should have effect as if made by a justice of the peace, and the appellant had urged that this did not afford to Mr. Griffiths the protection which under Sec. 330 was given to a justice of the peace. This contention he considered to be ill founded. If Mr. Griffiths was honestly satisfied, as it was admitted that he was, that the appellant was at the time he made the reception order a lunatic and a proper person to be detained, Mr. Griffiths was justified in making the reception order and it was immaterial whether or not he used reasonable care in arriving at his decision. It therefore became unnecessary to decide whether in acting as he did Mr. Griffiths was performing a judicial or an administrative function.

Dr. Anklesaria was called in to make the examination of the appellant, which was prescribed by statute, and to give the certificate, without which the reception order could not have been made. Although the doctor was not being employed by the appellant, he was under a duty to him, nevertheless, the extent of which was to be determined by reference to the terms of the statute by which the examination was prescribed. The Legislature could only have contemplated an examination conducted with such care as in the circumstances of each case

could come up to the standard of what was reasonable. To go further and adopt the view that a medical man called in by a magistrate to express an opinion on a person who was alleged to be a lunatic might be liable in damages for making an incorrect diagnosis, though he had acted in perfect good faith and used all the care at his command, would be adopting a view which might render the working of the Act in many cases extremely difficult, if not impossible. There was no evidence that Dr. Anklesaria had failed to use reasonable care and such skill as he possessed in his examination of the appellant and in arriving at the conclusion expressed in the certificate, and the appeal in his case therefore also failed.

Lord Justice Scrutton agreed that the appeal should be dismissed, but Lord Justice Atkin, in a dissenting judgement, considered that there was evidence of want of care on the part of both respondents, and that a new trial should therefore be granted.

The result, therefore, was that the appeal was dismissed by a majority of the court, though it should be noticed that the way in which the court approached the case from a legal point of view differed very materially from that in which the Lord Chief Justice had dealt with it.

INSANITY AND CRIME.

THE decision of the Court of Criminal Appeal in the Holt murder appeal last week was chiefly noteworthy on account of the Lord Chief Justice's criticism of the medical evidence which was called in support of the plea of insanity. The question as to the legal effect of insanity as an excuse for crime was raised in debate in the House of Lords in 1843, as the result of what is now known as Macnaghten's case, and it was determined to take the opinion of the judges upon the whole subject. The opinion, which was delivered by Chief Justice Tindal, and which has been treated as the leading case on this branch of law, was as follows:

Notwithstanding the party accused did the act complained of with a view, under the influence of insane delusion, of redressing or revenging some supposed grievance or injury, or of producing some public benefit, he is nevertheless punishable according to the nature of the crime committed, if he knew at the time of committing the crime that he was acting contrary to the law.

Every man is presumed to be sane, and to possess a sufficient degree of reason to be responsible for his crimes, until the contrary is proved; and to establish a defence on the ground of insanity it must be clearly proved that, at the time of the commission of the act, the party accused was labouring under such a defect of reason from disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it that he did not know he was doing what was wrong.

The accused must be considered in the same situation as to responsibility as if the facts with respect to which a delusion exists were real. For example, if under the influence of his delusion he supposes another man to be in the act of attempting to take away his life, and he kills that man, as he supposes, in self-defence, he would be exempt from punishment. If his delusion was that the deceased had inflicted a serious injury to his character and fortune, and he killed him in revenge for such supposed injury, he would be liable to punishment. A medical man who never saw the prisoner previously to the trial, but who was present during the whole trial, cannot, in strictness, be asked his opinion as to the state of the prisoner's mind at the time of the commission of the alleged crime, but where the facts are admitted or not disputed, and the question becomes substantially one of science only, it may be convenient to allow the question to be put in that general form, though the same cannot be insisted on as a matter of right.

In the Holt case the prisoner had murdered a woman at Blackpool. For some time prior to the crime he had been living with her; he had persuaded her to insure her life for £5,000, and had himself opened a banking account in her name on which she had drawn a cheque in payment of the premium; and, finally, the woman had made a will in Holt's favour.

Holt was tried at Manchester Assizes on a charge of murder, and a preliminary inquiry was held as to his fitness to plead. Eminent medical men were called to show that he was insane, but the jury decided that he was fit to plead, and the trial proceeded, with the result that he was convicted and sentenced to death. From this conviction he appealed to the Court of Criminal Appeal, mainly on the ground that he was insane when he committed the crime, and had murdered the woman under an uncontrollable impulse. He also applied to call further evidence in support of his plea of insanity, and the court allowed this to be done.

Dr. Morton (Exeter) said that in 1914 a woman who was said to be a cousin of the prisoner had been admitted into his asylum suffering from delusional insanity and hallucinations of sight, hearing, and smell. A woman who had been a servant to the prisoner's paternal grandfather said that her master was obsessed with the idea that people were trying to poison him. Another medical witness spoke to having played cards with Holt last December and noticed that he could not concentrate his mind upon the game. He considered that Holt was suffering from hallucinations. Dr. Bernard Day said that from the description of the prisoner in the press during the trial at Manchester he had recognized him as a man he had attended in the East for syphilis at the end of 1916. He was then suffering from shell shock and it was impossible to state the effect of syphilis upon a man in that condition without testing the spinal fluid. A medical man spoke to having seen Holt in October, when he seemed "very wild"; and another said that he saw Holt last July, when he noticed that Holt was unable to concentrate his mind upon anything. Finally, two medical men were called, and said that having listened to the evidence they had formed the opinion that Holt was suffering from delusional insanity, and, probably, also from general paralysis of the insane.

The Lord Chief Justice, in delivering the judgement of the court dismissing the appeal, pointed out that it was not necessary to consider whether the tests as laid down in Macnaghten's case should be extended so as to include "uncontrollable impulse," in view of the fact that this had been left to the jury by the trial judge, and had been negatived by them. He criticized the further evidence which had been called, which, he said, was substantially the same as that which had been called on the preliminary inquiry as to Holt's fitness to plead at the assizes, and emphasized the necessity that the tests laid down and established by Macnaghten's case should be complied with. The evidence which had been given as to Holt's mental condition was hypothetical, and it was not sufficient for medical experts to come into court and say generally that a criminal was insane to warrant a verdict of insanity.

Obituary.

JOHN MORTON, M.B., C.M.,

Surgeon, Western Infirmary, Glasgow.

WE regret to record the death of Dr. John Morton of Glasgow, which took place on March 21st at the age of 54. A native of Newmilns, Ayrshire, he received his medical education at Glasgow University, where he graduated as M.B., C.M., with honours, in 1892, when he was awarded the Brunton Memorial Prize as the most distinguished student of his year. He began practice in the west end of Glasgow, at the same time becoming extra dispensary surgeon to the Western Infirmary, with which institution (ultimately as visiting surgeon) he was connected to the time of his death. For seven years he acted as demonstrator in anatomy in the University of Glasgow, and was examiner in anatomy and surgery to the University of St. Andrews. Although severely taxed by the claims of an ever-enlarging consulting surgical practice he found time to make many contributions to medical journals, the chief of these being "Sarcoma," "Strangulated femoral hernia," "Enterectomy with lateral anastomosis: recovery," "Foreign body in sac of hernia, with remarks on the presence of foreign bodies in the abdominal cavity." "An analysis of a series of 400 cases of perforated gastric and duodenal ulcers"—a paper read to the Partick and District Medical Society, of which he was a valued member—was published in this JOURNAL.

Dr. WILLIAM SNODGRASS (Glasgow) writes:

The medical profession of Glasgow has sustained a heavy loss through the death of Dr. John Morton, on March 21st, after operation in a nursing home. After a brilliant career as a student, he settled in the west end of Glasgow and soon enjoyed an extensive and lucrative practice; nevertheless he was always attracted by the scientific aspects of his profession and acted for many years as demonstrator and assistant to Professor Cleland in the anatomy department of the University of Glasgow. He was also appointed dispensary surgeon in Glasgow Western Infirmary, where, on the retiral of the late Dr. Renton, he became one of the visiting surgeons, and where his teaching powers attracted large classes of students. On the outbreak of war he received a commission as Captain R.A.M.C.(T.F.), and had charge of wards in the 3rd Scottish Hospital during the period of the war. Although his health suffered from overwork, he kept resolutely to his post, where his fine personality and keen devotion to duty were widely recognized and appreciated. In his rare moments of leisure he was fond of a round of golf or a game of bowls, and his quiet, cheerful personality will be sadly missed by his many patients and friends. To a sound judgement in diagnosis he added exceptional rapidity, skill, and neatness as an operator, and his death at a comparatively early age when at the full height of his surgical power comes as an irreparable

loss to the community. He is survived by his widow and his only son, Dr. John W. Morton, to whom the medical profession of Glasgow extends its deepest sympathy.

ON Sunday, March 28th, Dr. JOHN M. CLARK, of the medical staff of the Pilkington Orthopaedic Hospital, St. Helens, Lancashire, succumbed to an attack of pneumonia consequent on influenza. For the past fifteen months since his discharge from the army Dr. Clark has given unremitting service to the hospital, and his death is deeply deplored by colleagues and patients. After a distinguished course of medical study in Glasgow University Dr. Clark acted as house-surgeon in Dr. Paterson's wards in Glasgow Royal Infirmary. In 1916 he joined the R.A.M.C., and for almost two years he shared with cheerfulness and devotion the trying life of our troops in German East Africa. To the work of the Pilkington Hospital, with its special aims and methods, Dr. Clark brought earnestness of purpose and outlook, and high professional ability. As chief of staff under Dr. Kerr, the officer in charge, he will be remembered for his unsparing work, his strong kindly personality, and his whole-hearted interest in the efficiency of the hospital and the welfare of the men.

DR. EVAN WILLIAMS, the oldest medical practitioner in Anglesey, died at Llangefni in his 80th year. He was born at Bryngwran and had lived in Llangefni throughout almost the whole of his long professional life. After studying medicine in Dublin and London, he obtained the M.R.C.S. diploma in 1866 and the L.R.C.P.I. and L.M. in the following year. Dr. Evan Williams was for many years district medical officer and medical officer of health. In 1895 he was made a justice of the peace and attended regularly at the local magistrate's court. He took a keen interest in public health matters, educational work, and parochial business. He served on the county council, was a manager of several schools, and a churchwarden. Dr. Evan Williams was a past-president of the North Wales Branch of the British Medical Association and was always a most loyal colleague and zealous member of the Association. As chairman of the Anglesey Panel Committee he further showed his active interest in all that appertained to his profession. He was a hard worker, genial and courteous to all who met him, and possessed a deep sense of duty not only as a professional man but as a citizen. He leaves a son and daughter and numerous grandchildren to mourn his loss.

WE regret to record the death, which took place on March 29th, of Dr. DUNCAN FRANCIS HUNTER of Wallasey, Cheshire. He was educated at Trinity College, Dublin, and graduated M.B., B.Ch., B.A. in June, 1908, proceeding M.D. in the same year. He volunteered for Army service in November, 1915, and served in France with a Territorial division, until invalided in October, 1917. He never truly regained his health after this illness; nevertheless, on his discharge from the army, with the rank of captain, in May, 1919, he returned to private practice in Wallasey, and continued his professional work to the date of his death. He was devotedly attached to the profession of his choice, and with his varied experience and talents of no mean order he would, no doubt, have achieved a conspicuous and honoured position therein. His early death can without doubt be traced to his anxiety to serve his country. He was the only child of Mr. and Mrs. H. W. Hunter, of Lyndhurst Road, Wallasey, both of whom survive him.

DEPUTY SURGEON-GENERAL CHARLES ALEXANDER INNES, R.A.M.C.(ret.), died at Charmouth, Dorset, on March 17th, aged 88. He was born at Bruges, and was educated at King's College, Aberdeen, where he took a bursary, and graduated M.D. in 1855, at the age of 21; also he took the L.R.C.S.Edin. in the same year. He entered the army as assistant surgeon in March, 1855, and became brigade surgeon in 1881, retiring with an honorary step in that year. He served in the 52nd Foot in the Crimea, where he took part in the siege of Sebastopol, and in the expedition to Kertch, receiving the medal with a clasp, and the Turkish medal, and returning to England in charge of the first batch of patients admitted to the Royal Victoria Hospital, Netley; and in the Indian Mutiny, when he was present at the siege, assault, and capture of Delhi, and received the medal with a clasp. His regiment, the 52nd (Oxfordshire), furnished the storming party at the Kashmir Gate. Subsequently he served in the 16th Dragoons, now the 16th Lancers, and after retiring from the army filled the post of medical officer of the prisons at Hull, Coldbath Fields, and Pentonville, successively, for fifteen years. His father, Lieutenant Alexander Innes, 42nd (Black Watch), and his uncle, Lieutenant Hector Innes, 92nd (Gordon Highlanders), served at Quatre Bras and Waterloo.

THE death occurred on March 3rd of Lieut.-Colonel JOHN PERCIVAL HUNT, R.A.M.C. (retired), in his 75th year. After studying at the University of Glasgow and St. Thomas's Hospital he obtained the L.R.C.P.Edin. and L.R.C.S.I. diplomas in 1864. In 1872 he obtained the M.D. degree of the University of Glasgow and the fellowship of the Royal College of Surgeons in Ireland. Colonel Hunt served in the Sudan in 1885-86, receiving the bronze medal and star. In 1884 he was called to the bar as a member of Lincoln's Inn.

MAJOR GEORGE BLACKER ELLIOTT, R.A.M.C., died at Brixham on March 22nd, aged 55. He was the youngest son of the late William Armstrong Elliott, F.R.C.S.I., of Dublin, and was educated in the schools of the Royal College of Surgeons in Ireland in Dublin, and at King's College, London, taking the diplomas of L.R.C.S.I. in 1885, and L.A.H. in 1887. After filling the posts of demonstrator of anatomy in the school of the Royal College of Surgeons in Ireland and of resident surgeon in various Dublin hospitals, he went into practice at Brixham, Devon, where he was medical officer of Brixham Cottage Hospital, medical officer of health to the Brixham Urban District Council, and Admiralty surgeon and agent. He took a temporary commission in the R.A.M.C. as lieutenant on July 5th, 1915, became captain after a year's service, and acting major on March 20th, 1918.

Universities and Colleges.

UNIVERSITY OF LONDON.

M.S. DEGREE: NEW BRANCHES.

THE Master of Surgery degree, which may be taken two years after taking the degrees of M.B. and B.S., has hitherto been conferred in two branches—general surgery and dental surgery. Under new regulations it may now be taken in ophthalmology, or in laryngology otology and rhinology. Candidates in the new branches must produce certificates of having spent at least two years in the study and practice of ophthalmology or laryngology otology and rhinology as the case may be, at a teaching school or schools approved by the university. In certain circumstances the M.S. degree may be taken one year after taking the M.B., B.S. degrees. The M.D. degree is now granted in six branches—medicine, pathology, mental diseases and psychology, midwifery and diseases of women, state medicine, and tropical medicine. Full particulars of all conditions can be obtained on application to the Academic Registrar, University of London, South Kensington, S.W.7.

UNIVERSITY OF LIVERPOOL.

Liverpool School of Tropical Medicine.

THE diploma in tropical medicine has been awarded to the following:

W. J. W. Anderson, C. E. Cobb, Enid M. M. Cobb, D. D. Fernandes, P. T. J. O'Farrell, E. A. Renner, J. C. Vaughan.

UNIVERSITY OF DURHAM.

AT the Convocation held on March 27th the following degrees were conferred:

M.D.—*Essay:* F. J. Nattrass, H. Reah. *For Practitioners of Fifteen Years' Standing:* C. Edwards, D. Fyfe, J. Livingston, R. G. Murray.
D.HY.—W. H. Rowell.
M.B.—T. H. R. Anderson, P. C. Arnold, N. R. Beattie, J. F. C. Braine, R. C. Brown, J. Hetherington, G. Hurrell, C. D. Newman, A. Patterson.
B.S.—T. H. R. Anderson, P. C. Arnold, N. R. Beattie, J. F. C. Braine, R. C. Brown, J. Hetherington, J. D. Johnson, C. D. Newman.
B.HY. AND D.P.H.—S. Scott, A. H. Towers.

UNIVERSITY OF DUBLIN.

TRINITY COLLEGE.

IE following candidates have been approved at the examinaons indicated:

FINAL M.B., PART I.—*Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene, Pathology:* *E. S. Horgan, *E. R. Murray, *L. Herzenberg, H. C. C. Deane, Edith F. Willock, P. M. J. Bobbett, Constance McIlrath, L. V. Clifford, D. V. Latham, M. R. Coolican, T. W. Panter, Rita Dillon-Leetch. *Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene:* A. H. N. Todd, Vera G. M. Menary; *Pathology*—Doris Holland. *Pathology—completing examination:* F. Y. Pratt, R. H. J. M. Corbet, J. D. Leahy, R. W. Power, R. S. Chapman, A. J. Beckett, J. M. Semple.

PART II.—*Medicine:* P. Jabkovitz, B. Moshal, G. H. Davis, H. A. Lavelle, A. J. L. Snijman, S. L. Feldman, W. B. J. Pemberton, J. B. Maguire, W. T. Micks, A. Blagoff, A. I. Steyn, F. Healy, D. McElwee, S. R. Hill, J. M. B. de Wet, H. V. Exner, R. E. Murphy, J. F. Sheppard, Elsie A. Burns, J. P. de Villiers. *Surgery:* S. L. Feldman, W. de V. Scholtz, G. H. Davis, W. B. Fox, Olive Baile, F. W. Robertson, Eileen H. Dowse, J. Hirschmann, Janie M. Cummins, W. F. McConnell, J. M. B. de Wet, J. F. Sheppard, D. McElwee, Essie S. Smyth, J. R. Waugh. *Midwifery:* *H. A. Lavelle, *B. Moshal, *A. J. L. Snijman, *G. H. Davis, F. Z. Van der Merwe, M. Nurock, J. F. Wicht, H. V. Exner, J. C. Coetzee, E. W. S. Deale, F. V. Small, C. J. L. Brook, J. M. B. de Wet, W. J. A. Russell, Moira M. Brown, Doris L. Graham, Elsie A. Burns, I. Levy.

D.P.H., PART I (*Bacteriology, Chemistry, Physics, and Meteorology*).—C. C. Boyle, C. J. McCarthy, P. Rock, J. Lyons, T. D. Power, M. J. Graham, P. A. Dormer, C. H. Comerford, J. F. Gaha, C. E. Pengelley, A. H. Price, E. L. Sturdee, W. J. Walker, Mary C. Sheppard.

PART II (*Sanitary Engineering, Sanitary Inspection and Report, Hygiene, Epidemiology, Vital Statistics, Public Health Law*).—T. D. Power, C. J. McCarthy, E. L. Sturdee, J. Lyons, W. B. Walker, N. P. Jewell, G. F. I. Harkness, P. A. Dormer, C. C. Boyle, W. H. Sutcliffe, G. O. F. Alley.

* Passed on high marks.

The Services.

R.A.M.C. PAY IN INDIA.

E Secretary of State for India announces the introduction of following scale of grade pay for Regular, Special Reserve, l Territorial officers of the Royal Army Medical Corps in lia, with effect from July 1st, 1919:

	Rs. per Mensem.
Lieutenants	550
Captain, on promotion	650
Captain, after five years' total service	700
Captain, after seven years' total service	750
Captain, after ten years' total service	850
Major, on promotion	950
Major, after three years as such	1,050
Lieutenant-Colonel	1,350
Lieutenant-Colonel, after three years as such ...	1,500

harge allowances as laid down in Army Regulations, India, admissible in addition to the above rates of pay. Army of upation bonus is not admissible concurrently with these es, but in cases where the old rates with the bonus are more ourable they may be retained until the general abolition of bonus or until promotion, whichever is earlier. Children's wance, when admissible under Indian regulations, may be wn with the new rates of pay up to December 31st, 1919. hese rates of pay will not carry exchange compensation wance. They are provisional, and will be subject to revision en permanent rates of pay for the Medical Services in India fixed.

ENERAL IRONSIDE in an appendix to his fourth dispatch kes special reference to Colonel G. St. C. Thom, C.B., I.G., A.M.S., for direction of the medical care of the forces Archangel.

Medical News.

PRELIMINARY committee has been formed to give to George Thane, who recently resigned the chair of tomy at University College, London, after forty-two rs' service, some mark of the appreciation felt for him his old pupils and colleagues. The intention is to ask George Thane to sit for his portrait. Sir Rickman J. llee is honorary treasurer of the fund; subscriptions uld be made payable to the Hon. Treasurer, Thane timonial Fund, and sent to him at University College spital Medical School, University Street, London, .1.

HE annual meeting of the Canadian Medical Associa- will be held in Vancouver, British Columbia, from e 22nd to June 25th. The Canadian Public Health ociation, the Canadian Association for the Prevention Tuberculosis, the Canadian Committee on Mental giene, the National Committee for Combating Venereal eases, and the British Columbia Hospitals Association meet at the same place at the same time.

CAPTAIN CHARLES R. B. EYRE, R.A.M.C., has been appointed assistant surgeon to the British Ophthalmic Hospital, Jerusalem. The work of the hospital is increasingly heavy, and the administration is urging the Order of St. John to extend its activities in combating the ravages of eye disease in the Holy Land.

A DINNER will be held in London on June 10th for medical officers, sisters, and V.A.D. nurses of the hospital and other officers who were members of the mess of St. George's Hospital, Malta, 1915–17. Lieut.-Colonel A. de C. Scanlan, C.M.G., will take the chair. Those wishing to attend are asked to write as soon as possible to Miss D. C. Hare, M.D., 1, Bickenhall Mansions, W.1, or Dr. Neill Hobhouse, 146, Harley Street, W.1, enclosing remittance. Tickets (price 10s.) cannot be obtained later than May 20th.

LIEUT.-COLONEL O. E. BULWER MARSH, M.R.C.S., L.R.C.P., R.A.M.C.T. (ret.), Consulting Surgeon to the Royal Gwent Hospital, Newport (Mon.), has been placed on the Commission of the Peace for the county of Monmouth. Lieut.-Colonel Marsh has been president of the South Wales and Monmouthshire Branch, and chairman of the Monmouthshire Division of the British Medical Association.

THE Lady Priestley Memorial Lecture of the National Health Society will be given by Sir George Newman, K.C.B., M.D., F.R.C.P., on Thursday, April 22nd, at the house of the Royal Society of Medicine. The title of the lecture is "Preventive medicine: the importance of an educated public opinion." Sir James Crichton-Browne will be in the chair and the Princess Christian will present certificates to the society's students immediately before the lecture.

A MISSION from France and Great Britain is about to visit America to study its system of medical education and examination. The British members are Sir Humphry Rolleston, K.C.B., M.D., and Dr. Norman Walker of Edinburgh, Chairman of the Examination Committee of the General Medical Council.

AT a meeting of the Académie de Médecine on March 2nd the President, M. Laveran, paid a tribute to the memory of Sir William Osler, who was an associate member of the Académie. Incidentally, M. Laveran recalled that Osler was one of the first to verify in America his discovery in Algeria of the haematozoon of malaria. A sympathetic notice of Sir William Osler was contributed to the *Wiener klinische Wochenschrift* of February 26th by Professor K. F. Wenckebach, director of the first university clinic in Vienna.

AMERICA, responsible for the term "post-graduate," which it now repudiates, has provided a new term—"premedical." We learn from *Science* that the northwestern division of the Western Society of Naturalists, meeting on January 2nd, at Portland, Oregon, held a discussion on premedical education in chemistry, in biology, for a surgeon, and as a university course.

ON and after April 15th the address of the Wellcome Bureau of Scientific Research will be 25–27, Endsleigh Gardens, London, N.W.1.

THE Chester Royal Infirmary will receive £5,000 under the will of the late Mr. George Barbour of Chester.

THE new German university which was inaugurated in January, 1919, at Cologne, has now more than 2,000 students and forty professors. An academy of practical medicine had been in existence at Cologne since 1904.

IN February seven cases of rabies were notified in Holland, all of them in the province of Overijssel.

PROFESSOR ERICH MEYER of Strasbourg has recently proposed that medical students in their first year should be required to study nursing and dietetics.

DURING a considerable part of the war it became a habit with German airmen visiting the south-east of England to drop bombs upon Ramsgate, both coming and going. The effect of this was disastrous on the town, which probably suffered more than any British watering-place. It may be hoped that now peace conditions are restored this pleasant and healthy sea-coast town will soon recapture its former prosperity. The leading hotel of Ramsgate—the Granville—situated high on the east cliff, has now reopened to the public after five years; during the war it was used by the military authorities as a hospital for Canadians, and later for British troops. The Granville Hotel is noteworthy for its bathing equipment, including Turkish and Russian baths, an installation for treatment by radiant light and heat, high-frequency and sinusoidal currents, iodine and other baths. This part of the hotel has been reconstructed lately under medical supervision.

DR. J. B. CLELAND has been appointed to the newly created Chair of Pathology in the Adelaide University, South Australia. Professor Cleland, who is a son of the late Dr. W. L. Cleland of Adelaide, studied first in the university of that city, and then went to the University of Sydney, where he graduated in medicine with honours in 1903. After spending a couple of years in cancer research at the London Hospital he was appointed pathologist and bacteriologist to the West Australian Government. Afterwards he did research work in Sydney, and in 1913 was put in charge of the microbiological work of the Health Department of New South Wales. His research work has been chiefly with regard to prophylactic vaccines and bacteriological diagnosis. In conjunction with Dr. Alfred W. Campbell he contributed a paper on encephalomyelitis to our columns in 1919. It dealt with an epidemic which occurred in the late summer of the years 1917 and 1918 in certain parts of New South Wales, Queensland, and Victoria. The conclusion was that the epidemic, though related to acute poliomyelitis and lethargic encephalitis, was distinct from both.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediscera, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

INCOME TAX.

"H. G. M." inquires whether the special "service" rate of income tax applies to the emoluments of appointments as "civil practitioner in medical charge of troops," or those under the Ministry of National Service.

*** It has to be remembered that the emoluments must be for service of a military or naval character. This would seem to exclude the second of the two cases mentioned. So far as the first is concerned, the answer would appear to depend partly on the amount of work involved; prima facie we should regard it as within the scope of the claim. (See Current Note in the SUPPLEMENT of March 27th, p. 87.)

ANAESTHESIA IN EPILEPTICS.

DR. H. M. COHEN (Anaesthetist, St. Mary's Hospital, Manchester) writes: It is occasionally stated that during the administration of anaesthetics in epileptic patients a well marked seizure takes place. Recently I administered ether in three such patients without noting any unusual phenomena. As a matter of fact, I do not recall having ever seen a seizure during anaesthesia. As this is of more than mere academic interest it should prove useful to have some reliable data on the subject, and I should be glad to learn what the experience of others has been in this direction; and if a seizure has actually been noted, what was the anaesthetic used, and the nature and duration of the operation.

LETTERS, NOTES, ETC.

NIGHT BLINDNESS IN SCURVY.

CAPTAIN C. J. H. AITKEN, M.D., R.A.M.C., writes: In a report of the discussion on the early signs of scurvy at a meeting of the Section of Medicine of the Royal Society of Medicine in the BRITISH MEDICAL JOURNAL of March 6th, 1920, p. 329, it is stated that "special attention was drawn to the symptom of night blindness, as this was the symptom which finally decided the diagnosis." Some years back a cabin boy was sent to me by his captain with a note saying that the boy was unable to get about in the dark. I decided, after examination, that the case was one of nyctalopia. The problem was—What could I do? The next day I visited the captain on h ship and he asked me to examine one of the seamen who h teeth trouble. I found the gums red, swollen, and bleedin Inquiry elicited the fact that the sailing ship had been mu delayed in its voyage because of bad weather and the fre food had given out. Previous to my visit, which had tak place the day after the arrival of the ship in port, the m had had no fresh food for some weeks. I had the cre paraded and I found that most of them were feeling ill, thou none of them presented signs that I associated with scurv The case of nyctalopia and the case of bleeding gums ma me decide the ship's crew were suffering from scurvy. fresh vegetables and lemons the crew were all feeling well a very short time. The man with bleeding gums was t only one of the lot that took some time to get better. T nyctalopia passed away very quickly.

THE APOTHECARY POET'S HOUSE.

JOHN KEATS, who died ninety-nine years ago, at the age 25, studied medicine at the united hospitals of Guy's a St. Thomas's, and passed the Apothecaries' Hall in t summer of 1816. Thus it is proper to claim him as a memb of our profession, though there is nothing to show that t splendour of his poetry owed anything to his medical studie The house near Hampstead Heath in which he dwelt duri the most active part of his literary career is now, we lear about to be thrown into the market. A representati committee has, however, been formed for the purpose saving this literary shrine from destruction and for securi it for the benefit of the public for ever. The house, no known as Lawn Bank, is in Keats Grove; the garden believed to be that

> melodious plot
> Of beechen green, and shadows numberless,

in which the poet composed his matchless lines to nightingale. To acquire the freehold, restore and repa the building, and adapt it as a Keats memorial house, a so maintain it, £10,000 is needed. Lists of those who co tribute will be preserved in the building. The Honora Treasurer of the Keats Memorial House Fund (Sir Sidn Colvin, the biographer of Keats) will gratefully recei contributions addressed to him at the Hampstead Tow Hall, Haverstock Hill, N.W.3.

MOTOR ACCESSORIES.

MESSRS BROWN BROTHERS (Great Eastern Street, Londo E.C.) have recently submitted for trial samples of mot accessories including a neat little fixture for sparking plug called the Duco plug tester. If one is attached to each pl it is possible to test the firing in one or more cylinders merely pressing the insulated plungers. With their use t trouble of disinterring screwdrivers is avoided, as well possible shocks.

The Duco rubber sponges also submitted are stated to British-made of practically pure rubber. They last long than ordinary sponges and are equally effective in drying o moisture. They are very effective, therefore, in the washi of motor cars; and their greater cost as compared wit ordinary sponges is compensated by their durability.

"Radiator Neverleak" is a remarkable American prepar tion, also sold by Messrs. Brown Brothers. When added the water in a leaky radiator it is said effectually to stop t leaks. Although the claim to effect a permanent repair perhaps exaggerated, there is no doubt that temporary sealin up is effected, without any damage to the cooling system. its use unnecessary labour, and possible trouble, are avoide until it is convenient to have the radiator dismounted an permanently repaired.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medic colleges, and of vacant resident and other appointmen at hospitals, will be found at pages 33, 36, 37, 38, 39, an 40 of our advertisement columns, and advertisements as t partnerships, assistantships, and locum tenencies at pages 3 and 35.

THE following appointments of certifying factory surgeons a vacant: Melksham (Wilts), Youlgreave (Derby).

SCALE OF CHARGES FOR ADVERTISEMENTS IN TH BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable the British Medical Association at the General Post Office, Londo No responsibility will be accepted for any such remittance not safeguarded.

Advertisements should be delivered, addressed to the Manage 429, Strand, London, not later than the first post on Tuesday mornir preceding publication, and, if not paid for at the time, should b accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *pos restante* letters addressed either in initials or numbers.

A Clinical Lecture

ON THE

TREATMENT OF SEPTIC PERITONITIS.*

BY

F. J. STEWARD, M.S., F.R.C.S.,

SURGEON, GUY'S HOSPITAL.

IN recent years there has been a very marked diminution in the death rate from septic peritonitis, and this is no doubt in the main due to better knowledge of the causes of the condition and of the importance of early diagnosis and treatment. There are, nevertheless, still many deaths from septic peritonitis, some of which might, I believe, be prevented by more adequate treatment, and I have for this reason chosen this subject for the present lecture.

I shall first touch upon certain points regarding causation and pathology, and then deal with treatment, and shall describe to you a method of treatment which I have used for the past two years with marked improvement in results obtained.

Septic peritonitis may be produced by a great variety of causes, which may be summarized as follows:

1. *Infection from without* by any form of wound which perforates the abdominal wall.

2. *Infection from within* by traumatic rupture of any hollow viscus, the perforation of ulcers, or by spread of infection from septic processes within the abdomen, such as appendicitis, salpingitis, cholecystitis, and abscesses of various kinds.

3. *Infection through the blood stream*, such as pneumococcal infection.

With such a diversity of causes it is obvious that the type and degree of peritonitis must vary greatly. Consequently it is necessary to make some classification of cases for practical purposes.

It is quite usual to describe cases of septic peritonitis as being either local or general, but the term general is not at all a good one, for it implies something which really very seldom occurs, and it is more in accordance with the facts to use the terms localized and spreading.

Where resistance is high and the infection not very virulent, the area of peritoneum involved quickly becomes limited by a barrier of lymph which produces adhesions between the surrounding structures, the result being a *localized peritonitis*, which may go on to the formation of a localized abscess.

Where, however, resistance is low and the infection a very virulent or massive one there will be little or no attempt at localization and a *spreading peritonitis* will rapidly develop. The area of the peritoneum involved in any given case will depend principally upon the time that has elapsed before the case is operated upon, so that in any early case the peritonitis, although not localized, may yet be local, but in a late case so much spread will have taken place that the condition may approach more nearly to a general peritonitis. There is, however, no hard and fast line between these two types, for the one form may merge into the other; thus a localized peritonitis may, under certain circumstances, become a spreading peritonitis, or peritonitis at first quickly spreading may later become localized by the formation of adhesions. Moreover, the adhesions in such a case may form in different localities, separate localized foci resulting, perhaps, in a number of abscesses being the final stage in a case of acute spreading peritonitis. Some time ago I operated upon a little girl of 5, who was in a desperate condition from a gangrenous appendix. The appendix was removed and much stinking sero-pus let out. There were no signs of adhesions. She did well for a time but relapsed on several occasions and in the end abscesses were opened in the right lumbar region, the left iliac region, and above and to the left of the umbilicus.

Now, what are the pathological results of septic infection of the peritoneum?

They are, in the first place, precisely those associated with inflammation in any other part, but, in addition, there are also special changes which have an important bearing upon treatment. In the first place, a large amount of fluid is poured out, partly as free fluid in the peritoneal cavity, and partly into the tissues of the various organs. This fluid is highly toxic; consequently the patient suffers from an acute toxaemia. Partly owing to this toxaemia, and partly the direct result of irritation of the peritoneum, there is vomiting, which is often very severe and frequent. In the later stages the intestine becomes paralysed and obstruction results, the bowel becoming more and more distended with highly toxic fluid and gas. This in the final stages leads to permeation of the intestinal wall by the organisms in the septic bowel contents, so that a fresh cause of septic peritonitis is added to the original one.

Taken together, these various changes produce in the patient three definite conditions, which must be reckoned with when treatment is instituted:

1. *Loss of fluid* from vomiting, and from the pouring out of fluid into the tissues of the viscera and into the peritoneal cavity.

2. *Toxaemia* due to absorption from the septic peritoneal fluid, and from the septic contents of the bowel.

3. *Intestinal paralysis*, which may pass on to the production of complete obstruction.

TREATMENT.

Bearing the foregoing points in mind, it will be seen that in treating a case of septic peritonitis certain very definite indications can be recognized.

These must be considered separately, and are as follows:

1. To remove the cause.
2. To provide drainage.
3. To make good the loss of fluid.
4. To prevent or treat intestinal paralysis.

Although there can be no doubt as to the advantage of removing the cause of the infection, this should not be a fixed rule never to be departed from, or the patient's life may be sacrificed in carrying it out. For it must be remembered that these patients are many of them very ill indeed, and, above all things, they cannot stand a prolonged operation. In fact, the general condition of the patient must decide. If this is good—in other words, if the case is early—the appendix or tube may be removed or the perforation of an ulcer closed. On the other hand, if the peritonitis is of several days' standing and the patient's condition desperate it may be far wiser to make no attempt to find and remove the cause, except perhaps in the case of a gangrenous appendix which is not tied down or difficult to reach.

The second indication is to provide drainage. Now successful drainage is, I venture to say, the crux of the whole question, for the peritoneum is so tolerant and its reparative power so great that if drainage is efficient improvement as a rule commences at once.

Numerous devices are employed, and their very number is an index of the uncertainty of their efficacy. The following may be considered:

Tubes.

It is obvious that if an abscess has to be drained the simplest and most efficient plan is to make an opening in such a position that the cavity is kept empty by the action of gravity. It is equally obvious that a collection of pus in the abdomen, and especially in the pelvis, cannot be efficiently drained by a tube passed into the cavity through an opening in the anterior abdominal wall. No actual drainage will be accomplished in that way, although a small amount of advantage no doubt does result in two ways—for the tube, in the first place, acts as an overflow pipe, so that tension is relieved and the size of the cavity is no longer an increasing one; and, in the second place, the respiratory movements help by pushing the fluid up the tube.

Nevertheless, this quite inefficient plan is by no means infrequently adopted, and I have seen not a few patients dying from septic peritonitis with one or more drainage tubes full to the brim of foul fluid sticking out through openings in the anterior abdominal wall.

A short time ago I was reading an article written by a well-known surgeon. He describes a case of pelvic appendicitis in which at the operation "offensive purulent fluid welled up from the pelvis," and goes on to say, "a large drainage tube was left in the pelvic cavity." Five days later a second operation was performed for paralytic obstruction, and "the lower three feet of the ileum were

* Delivered at Guy's Hospital, December 17th, 1919.

found to be acutely inflamed and in a state of paralytic collapse."

This account clearly proves that the pelvis was not efficiently drained by the tube, or there would have been no peritonitis five days later, and therefore no paralytic obstruction. A tube may, however, at times be used to advantage if it can be placed in such a position that it will drain a given site with the help of gravity—for instance, through a stab wound in the right loin to drain the kidney pouch. Used in this manner there is nothing more efficient, but, as a general rule, a tube passed from the anterior abdominal wall into the pelvis or elsewhere is, by itself, entirely unsatisfactory.

In order to help matters where tubes are used in this way the plan of sucking them out from time to time by means of a syringe is sometimes adopted, but I cannot say that this has given much satisfaction.

Gauze Drains.

Gauze drains, either in the form of large tampons or as cigarette drains formed of gauze within a rubber tube, are very commonly used. Here the suction action of capillarity is made use of to counteract the effects of gravity, and often with considerable success, but if the amount of fluid is large the gauze soon tends to become blocked and sodden and no longer acts efficiently, so that it must be frequently changed, and herein lies the chief objection to its use.

Continuous Irrigation.

Since, owing to the physical conditions present, drainage in the ordinary sense is so difficult, it is reasonable to attempt to bring about the same effect by other means, such as continuous irrigation. This acts in at least two ways, for it not only washes the pus away but it dilutes it and so diminishes its toxicity. Two years ago I first began to employ the following method of irrigation, and I may say at once that I am more than satisfied with it, for although I have used it in a number of extremely bad cases, some of which I shall describe, the result has in every case been successful.

The method adopted is as follows: After the bulk of the pus has been gently mopped up with gauze sponges, several Carrel tubes are passed into the abdomen in different directions, one or more being carried down to the bottom of the pelvis. A large-bore rubber drainage tube is also carried down to the bottom of the pelvis and fixed to the lower part of the abdominal incision by a fishing-gut suture.

The upper part of the incision is partially closed with sutures, then lightly packed with gauze, which surrounds the tubes, and a large dressing applied. The patient is propped up in bed in the Fowler position with a bedpan beneath him, large wool pads intervening. The Carrel tubes are connected up with a saline bag with a drop regulator in the circuit, and warm normal saline solution is allowed to drip continuously at about the rate of a drop a second. At this rate the amount run in in twenty-four hours is nine pints, which, as far as one can judge, appears to be a sufficient quantity. The irrigation is continued usually from three to six days, according to the condition of the patient. The large tube and all the Carrel tubes excepting one are then removed, the one Carrel tube remaining in the pelvis a few days longer.

The striking rapidity with which the patients thus treated have shown signs of improvement is clear proof of the efficacy of the treatment, for in all of them vomiting has quickly ceased, in a few hours the general condition has improved, and up to the present no case has had any marked degree of intestinal paralysis.

The loss of fluid in these cases of septic peritonitis is very great, and it is of first-rate importance to lose no time in taking measures to replace it. This may be done by saline infusion either into a vein or into the subcutaneous tissue of the axillae, or per rectum.

Axillary infusion should be commenced as soon as the patient is partly under the anaesthetic and continued during and for some time after the operation. In very bad cases the intravenous method is better because more rapid, for the fluid very quickly leaves the circulation and thus replenishes the loss of fluid from the tissues. After the patient is back in bed rectal infusion should be started and continued until vomiting has ceased, when fluid can be given by the mouth.

Paralysis of the intestine is always present in great or less degree in bad cases. If it has not become a serious feature, as judged by the character of the vomit, and the appearance of the intestine at the time of operation, it will usually pass off if drainage is efficient, but in order to assist the process pituitrin in doses of ½ or 1 c.cm. should be given every six hours according to the age of the patient, and, after four doses, this should be followed up with a turpentine enema. In severe cases, however, the most distended coils should be incised and emptied of their contents at the time of operation. Several lengths of small intestine can be quickly emptied in this way and the incisions closed by one or two fine sutures.

Such are, in general, the main indications and the means of meeting them. I shall now describe certain points regarding the practical application of these principles to actual cases.

Many patients suffering from severe septic peritonitis are in a state of collapse when first seen, often owing to being moved some distance to the hospital. No harm will be done in such a case by a short delay before the operation is performed in order that methods of resuscitation may be applied. These consist in the application of warmth, a hypodermic injection of morphine and atropine, and the administration of fluid in the form of rectal or subcutaneous saline.

At the end of an hour the general condition of the patient will usually be so much improved that the operation may be safely proceeded with. In these critical cases details count for much and an apparently small point may make all the difference. Care must be taken, therefore, in the first place, to avoid chilling, the patient's limbs must be warmly clad, the theatre warm, and, if possible, the table specially heated. The patient, already in a toxic condition, must not be unnecessarily poisoned by the anaesthetic, chloroform must therefore be avoided and either gas and oxygen or warm ether vapour given. I do not advise spinal analgesia in these cases, as this involves turning the patient on to the side and back again, a course that must be liable to do harm. Moreover, the fall of blood pressure so often seen during spinal analgesia would be at any rate very serious and might be fatal.

As regards the operation itself, this will vary according to the condition present, and the following types of case may be considered.

A. *Cases Not Requiring Drainage.*

Bearing in mind the fact that the peritoneum is capable of dealing with a considerable degree of infection without harm resulting, one can, in certain cases of early septic peritonitis, be satisfied with removing the cause of infection without drainage, the abdominal wound being completely closed.

For instance, cases of perforation of gastric and duodenal ulcers, if operated upon within eight hours of the catastrophe, may usually be safely treated in this manner, provided that the perforation can be securely closed and the peritoneal cavity efficiently cleansed of escaped gastric or duodenal contents by irrigation with a large quantity of warm saline.

Again, during operation upon certain cases of acute appendicitis the question of drainage or closure of the wound without drainage arises.

Consideration of the following points will help in arriving at a correct decision.

1. *The Character of the Fluid Present.*—If this is only slightly turbid and does not smell much, it may be gently mopped out and the wound safely closed; but if the fluid is thick and more approaching to pus and is foul-smelling, the safer plan will be to drain.

2. *The Condition of the Patient.*—A healthy young adult, whose general condition shows that he is putting up a good resistance to his infection, as indicated by good colour and pulse and a temperature raised a few degrees, may usually be safely treated by complete closure of the wound; but in the case of children whose resistance to peritoneal sepsis is notoriously so poor, in old people, and when the general condition is not good, it is far better to play for safety and provide some adequate form of drainage for a few days.

The following case is a good example. The patient was a healthy boy of 16, in good condition, who was admitted to hospital on November 11th, 1919, for acute abdominal pain of three days' duration. He was tender

and rigid in the right iliac region, his pulse was 104, and temperature 100.2°. At the operation the appendix was found swollen and congested, and there was some fluid in the pelvis, slightly brown but clear. This was mopped out and the wound closed without drainage, except for a gauze wick in the subcutaneous tissue. The patient made an uninterrupted recovery.

B. *Cases Suitable for Gauze Drainage.*

In the next group of cases the area of involvement of peritoneum is small in extent, but there is usually considerable lymph deposit and the fluid is purulent. The causal factor in these cases is usually an inflamed and possibly gangrenous appendix or an inflamed Fallopian tube. In such cases, after removing the appendix or tube, I pack the infected area with sterile gauze tampons, bringing the ends out at one end of the wound, closing the rest of the wound with a few temporary sutures.

After three days, if the patient is doing well, an anaesthetic is given, the tampons removed, and the wound closed completely. The great advantage of this plan is that the wound heals per primam, so that the risk of ventral hernia is disposed of, and, moreover, much time is saved. It may be objected that the second anaesthetic and second operation here advised would be avoided by simply draining the cavity, but to my mind the advantages already mentioned clearly outweigh this objection, and, further, the anaesthetic affords an opportunity of thoroughly inspecting the parts, and thus of detecting early and dealing with any separate collection which may be forming.

C. *Late Cases.*

We now come to those late cases in which a large area of peritoneum is involved in a spreading peritonitis, the cases so often wrongly labelled general peritonitis. If the cause is a perforated gangrenous appendix, as frequently happens, it can be removed, but in other cases the cause may not be discovered at the operation, often because the patient's condition is so desperate that any extended search is out of the question. These are the cases in which the method of continuous irrigation I have already described to you is so valuable. Here are some cases which illustrate the practical application of the method.

CASE I.

Rose W., aged 29, was admitted into Guy's Hospital on April 4th, 1918. She had not felt well for some months, and ten days before admission became very ill with pain in the abdomen and legs and constant vomiting. She became steadily worse, and on admission was in a condition of collapse, with a rapid running pulse and subnormal temperature. The abdomen was somewhat distended, did not move on inspiration, and was rigid and tender all over.

Operation was performed immediately, a median incision evacuating a large quantity of foul pus which filled the pelvis and the lower part of the abdomen but appeared to be partially shut off by omental adhesions above. As the patient was too ill to permit of any search being made for the source of infection, the pus was as far as possible rapidly mopped up and the wound partially closed. Several Carrel tubes were introduced in different directions, one going to the bottom of the pelvis, and with it a large-bore drainage tube for return flow as already described.

The patient remained in a critical condition for several days and then slowly improved. The continuous irrigation was kept up for eight days, and as there was then very little discharge the tubes were removed. A small collection subsequently formed, and was evacuated spontaneously through the wound on the nineteenth day after operation. Apart from this, progress was uninterrupted, and the patient was discharged well on May 23rd.

CASE II.

Annie S., aged 7, was admitted on October 1st, 1918, after four days' illness, with symptoms of appendicitis. The child was obviously very ill and presented a typical picture of spreading peritonitis in an advanced stage.

At the operation the appendix was found to be gangrenous and perforated, the lower part of the abdomen, so far as seen, and the pelvis were full of foul pus, and there was practically no sign of lymph or limiting adhesions. The irrigation treatment already described was adopted and the child soon began to show signs of improvement, but the pulse remained rapid and the temperature continued to swing for several weeks. Four weeks after admission a subphrenic collection on the right side was evacuated, and a few days later signs developed at the right base and proved to be due to a localized empyema, which was drained. Moreover, a faecal fistula formed at the site of the original incision and did not finally close for over two months. However, the child eventually recovered completely and left the hospital in good health on January 16th, 1919.

CASE III.

A man, aged 37, was admitted on January 6th, 1919, having been ill for six days with pain in the lower part of the abdomen and continuous vomiting. The abdomen was distended, rigid, and tender all over, these signs being of maximum intensity in the right lower quadrant. At the operation the appendix was found to be gangrenous and perforated, and free pus was present in the abdomen and pelvis with absolutely no evidence of adhesions.

The general condition of this patient was not so serious as that of the other two, and he improved more rapidly. The irrigation was continued for five days, and after this there was very little discharge, healing being complete at the end of four weeks.

The next case was operated upon by my surgical assistant, Mr. Slesinger, who has kindly supplied me with the following notes.

CASE IV.

J. C., a woman aged 16. No previous attacks. On December 3rd began with abdominal pains and diarrhoea. On December 6th vomiting began accompanied by constipation. Pain became worse, and tended to settle in the right iliac fossa. Vomiting and constipation continued until admission on December 10th.

On admission, pulse 130, temperature 102.4°, respirations 30. Abdomen rigid, distended, and immobile. Tender all over, particularly in right iliac fossa. Tongue dry and furred; well-marked abdominal facies.

Operation December 10th: appendix incision. Appendix gangrenous at base, with perforation of caecum where it was attached discharging faeces. Generalized peritonitis with no signs of adhesions, and quantities of pus everywhere. Appendix removed, and four Carrel tubes—two into pelvis, one across abdomen towards the left, and one towards the liver—inserted, tied to large drainage tube, running down to pelvis. Axillary saline during operation, and rectal saline sodium bicarbonate given later. Continuous saline drip into peritoneum for four days. Attempt to keep pelvis dry by capillary vacuum suction apparatus.

Bowels open with enema on second day and daily after with liquid paraffin. Tongue moist on third day, no vomiting, pulse and temperature settling, abdomen much more supple; general condition very good by fourth day.*

The above cases sufficiently illustrate the method, which I may say has been applied in a large number of other cases with similar results.

Treatment after the operation consists in keeping the patient propped up in the Fowler position, as this helps to prevent spread of infection upwards towards the diaphragm and chest, the administration of saline per rectum or subcutaneously, and injections of pituitrin to overcome the paralysis of the bowel. Sleep very often does not come easily to these patients, owing partly to the position and partly to general discomfort, for there is not usually much actual pain subsequent to the operation. I am sure it is unwise to give morphine if it can be avoided, and as a matter of fact sleep can usually be obtained by other means. I find that medinal gr. 10 or dial gr. 1½ are most useful, and if there is vomiting either can be given with 15 or 20 grains of aspirin in a small rectal saline, and this combination usually acts well. Failing these, heroin gr. $\frac{1}{12}$ or omnopon gr. $\frac{1}{3}$ should be tried before morphine is given, and one or other will usually succeed.

Under this treatment the patient usually does well, and this will be evidenced by dropping of the pulse rate, cessation of vomiting, and cleaning of the tongue.

Complications.

From this time on a sharp look-out must be kept for the onset of complications. The most likely complications are the following:

1. *Cardiac Failure.*—In elderly patients and in the subjects of organic disease an operation for septic peritonitis, although apparently successful for twelve or even twenty-four hours, is liable to be followed by heart failure which almost always is fatal. The patient, who may be otherwise doing well, becomes restless and perhaps a little delirious, and with this the pulse is noticed to be less strong and more rapid, and soon the extremities show signs of becoming cold. In such a case you will, of course, apply the usual remedies—warmth, pituitrin, camphor, and so forth—but they are not likely to be successful.

2. *Paralytic Ileus.*—I have already mentioned that there is always some paralysis of the intestine involved in peritonitis. With appropriate treatment this will usually pass

* This patient died two weeks after this lecture was delivered. She did well for a time, but subsequently developed an empyema and a number of intraperitoneal collections.

off, but sometimes, and especially in cases operated upon late and where the drainage is not really satisfactory, the paralysis after a time gives place to definite obstruction which is accompanied by all the results met with in cases of mechanical obstruction of the intestine. The bowel above the paralysed part becomes distended more and more, and finally the wall becomes sodden and no longer prevents the passage of organisms from the inside, so that a fresh cause of peritonitis may in this way be added to the original one. All this is accompanied by persistent vomiting, first of duodenal and later of intestinal contents, increasing abdominal distension, and a rising pulse rate.

The management of these cases is no easy matter, for it is difficult to say at any given moment whether or no the condition present is due to a degree of paralysis that will pass off or whether the condition has already passed this stage. Moreover, much depends upon the determination of this point, for on the one hand needless secondary operations must be avoided, and on the other hand it is important not to waste valuable time.

Unfortunately, I can give no very definite rules for your guidance, but the progress of the case and the results of treatment are the data upon which opinion must be based.

If several doses of pituitrin followed by enemata result in the passage of flatus, all will probably be well, but if vomiting continues, and no flatus is passed, in spite of these measures, and if, further, the enemata are retained entirely, the outlook is usually bad, and in this case the abdomen should be reopened under gas and oxygen, and several of the most distended coils of intestine opened, and thoroughly emptied of their contents and closed again. Except in the most advanced and hopeless cases this treatment will relieve the condition.

3. *Local collections* frequently form after a spreading peritonitis has been successfully relieved by suitable treatment, and must be carefully watched for.

The danger signal is usually a rise of temperature, and in the presence of this indication careful and repeated examination must be made for local areas of resistance and tenderness, not forgetting rectal and vaginal examination for collections in the pelvis.

If evidence of a collection is found there need not be too much haste to attempt to evacuate it, provided the general condition of the patient is good, for it is not always easy to find a small subphrenic abscess or a collection amongst coils of intestine, and, moreover, the attempt to do so may result in the formation of a faecal fistula from tearing a coil of softened intestine while separating adhesions. Again, there is no doubt that small collections may be absorbed, for a tender lump associated with a rise of temperature may persist for some days and then gradually disappear, especially in the later stages of convalescence. It must be remembered also that empyema is not an uncommon complication of septic peritonitis, so that the chest must be carefully examined from time to time, especially if the temperature continues to swing. This is illustrated in the second case I described to you, in which there was first a subphrenic collection and later an empyema.

4. *Faecal fistula* also complicates a certain proportion of these cases, and is due sometimes to the separation of a gangrenous appendix, at others to pressure from a hard drainage tube too long retained, and occasionally from the giving way of the wall of the caecum when greatly distended and exposed in the wound. In the majority of cases the fistula will close in course of time, but in a few the mucous membrane becomes continuous with the skin and a secondary operation is needed later.

Finally, *ventral hernia* must inevitably occur as a late complication in many cases, and may require an operation for its cure.

A COURSE in dermatology and venereal diseases, open to foreign as well as French graduates, is about to begin in the Faculty of Medicine, Strasbourg. It will consist of forty clinical and ten laboratory demonstrations. It will begin on May 1st and terminate on July 14th. Full particulars can be obtained on application to Professor Pautrier at the Faculty of Medicine, Strasbourg. The fee for the course is Fr. 300. Should a sufficient number of applications be received a further practical course on the Bordet-Wassermann reaction will be arranged.

A Lecture
ON
THE SOLDIER'S HEART AND WAR NEUROSIS:
A STUDY IN SYMPTOMATOLOGY.

DELIVERED AT THE CLINICAL INSTITUTE, ST. ANDREWS.

BY

SIR JAMES MACKENZIE, M.D., F.R.S., F.R.C.P.

(Concluded from page 494.)

IX. THE MECHANISM OF VISCERAL PAIN (THE VISCERO-SENSORY REFLEX).

THE remarkable difference between the sensitiveness of the external body wall and the viscera in response to mechanical stimulation brings out clearly the difference in function of the two divisions of the nervous system—a difference which it is necessary clearly to understand if the symptoms of disease are to be fully comprehended. It shows that when pain is evoked from the organs or tissues which are not supplied by the sensory nerves of the cerebro-spinal system some other mechanism must take part in its production.

The nature of this mechanism is revealed by the study of the symptoms produced in certain forms of visceral disease. If we take the symptoms that are present in certain simple diseases—for example, a gastric ulcer, appendicitis, or renal colic—the mechanism by which a number of symptoms are produced will become clear. In many cases of gastric ulcer there is pain, limited to a small area, in the epigastric region. This pain has a different location from the ulcer. Thus the pain may be situated in the middle line, as in Fig. 6, where the shaded area, A, indicates the site of pain, while the ulcer, revealed at the *post-mortem* examination, is situated at the pylorus, which was found at x in Fig. 6. Moreover, if a patient with this pain breathes deeply, the stomach, with the ulcer, shifts its position, but the site of pain remains fixed. With these facts before us, the mechanism of pain in visceral disease becomes clear. When the disordered sensations of toothache were considered it was seen that the only reasonable explanation was that from the offending tooth a stimulus had been sent into the central nervous system. The effects of this stimulus were not limited to the cells of the nerve supplying the tooth, but spread to the cells of sensory nerves in the immediate neighbourhood, with the result that there was pain and hyperalgesia in neighbouring teeth and in the skin of the cheek.

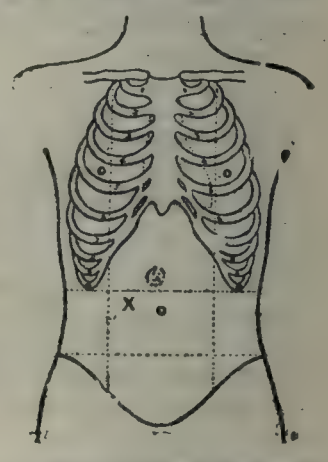


FIG. 6.—The shaded area in the centre shows the position of pain and hyperalgesia in a case of ulcer of the pylorus situated at x.

From the stomach a stimulus is conveyed by the sympathetic nerves into the central nervous system. But as these nerves are not "sensory" nerves in the sense that they are directly connected with any perceptor in the brain, no sensation is felt (Fig. 7). In like manner, so long as the impulses conveyed from the ulcer do not spread no pain is felt. When, however, the stimulus is of such a nature that it spreads to other cells, then we get a reaction peculiar to the cells stimulated. In this case the stimulus reaching the nearest sensory cells of the cerebro-spinal system irritates them, and the pain which results is referred to the peripheral distribution of the nerve stimulated—that is, the nerves supplying the area of skin as already described in paragraph V on referred pain. Fig. 8 illustrates the mechanism by which pain is produced in visceral disease, showing how an organ itself insensitive and supplied only by sympathetic nerves can produce pain by reacting upon the cells of the cerebro-spinal sensory system. The stimulus arising in the organ x passes to the central nervous system, where its cell, x', has no direct connexion with the sensorium, s, but when an adequate

stimulus arises it affects the neighbouring cell, B′, which, being a pain nerve, gives rise to the sensation of pain which is localized at its peripheral distribution, B.



FIG. 7.



FIG. 8.

FIG. 7.—The normal movements of a viscus, X, pass into the central nervous system, X′, but produce no sensation.

FIG. 8.—Shows the mechanism of a viscero-sensory reflex. A stimulus arising in a diseased organ, X (as in gastric ulcer), passes into the central nervous system, X′, and if the stimulus be of a particular quality or strength it will affect a neighbouring sensory cell, B′, which is recognized as pain and referred to the peripheral distribution of the nerve at B.

X. THE MECHANISM OF THE VISCERO-MOTOR REFLEX.

Before dealing with other phenomena produced by visceral disease it is necessary to consider the mechanism of the reflex which produces contraction of voluntary muscles as a result of a stimulation from the viscera. When we carefully palpate the abdominal wall in patients with disease of some abdominal organ, we will frequently find certain portions of the body wall hard and resistant. This manifestly is due to a contraction of a portion of one or more of the broad muscles which form the abdominal wall. It is a reflex contraction produced by a stimulus arising in the diseased viscus and sometimes referred to as "protective rigidity" of the muscles, as its purpose is obviously to protect the diseased organ. Every doctor is aware of this hardness in the epigastrium in gastric ulcer, due to rigidity of the upper portion of the recti muscles. The manner in which it is produced is similar to that operating in the case of the cutaneous reflex contraction, and may be diagrammatically represented as in Fig. 9, where the stimulus from the viscus x, passing to the cell x′ in the central nervous system, excites the motor cell c′, which produces a contraction of the muscle c.

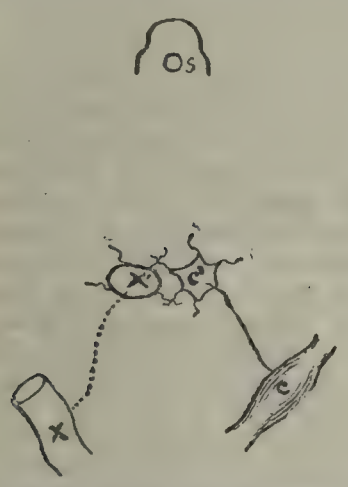


FIG. 9.—Shows the mechanism of the viscero-motor reflex. A stimulus arising in a diseased organ, X, passes into the central nervous system, X′, and affects a neighbouring cell, C′, which causes a contraction of skeletal muscles, C′.

There are different forms of reflex muscular contraction. The cutaneous reflex contraction is accompanied by a sensation; viscero-motor contraction is not necessarily accompanied by a sensation. The cutaneous reflex results is a momentary contraction of the muscle. The contraction of the muscle which arises from the visceral stimulation is persistent. In this persistent contraction of the muscle we get an insight into several processes of a very instructive kind. Light is thrown on some functions of the sympathetic system at present obscure, and some characteristic features of muscular contraction which have been overlooked are revealed.

From the study of this contraction it can be demonstrated that the tone maintained by the flat muscles of the abdomen is partly dependent on the stimuli reaching the motor cells of the muscles from the viscera. If we carefully watch certain cases of visceral disease, such as gastric ulcer, we will often find a varying degree of muscular rigidity. It may be scarcely possible to distinguish this increased resistance from that of the normal tone and resistance to palpation in unaffected muscles. This resistance often increases until the muscle is felt hard and board-like, and after a time it may subside and disappear. When the increased resistance is scarcely perceptible, it can be increased by rubbing gently along the muscle. Sometimes in walking the contraction of the muscle may be increased so that the patient walks with a stoop. The varying degrees of contraction are in all likelihood associated with varying degrees of activity of the disease, and I have at times found them of value in the management of such diseases as gastric ulcer. But the point I wish to make here is that this increase in contraction is evidently but an exaggeration of that condition called tone which is normally present in health.

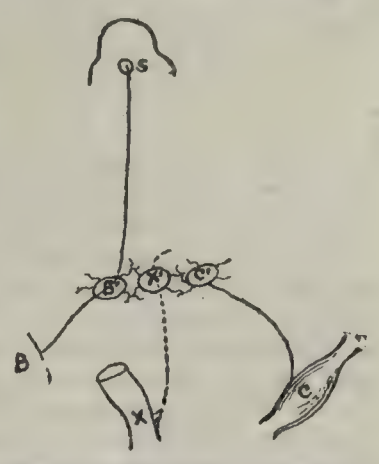


FIG. 10.—Shows the mechanism of a combined viscero-sensory and viscero-motor reflex. (See Figs. 8 and 9.)

Frequently these muscle contractions are associated with hyperalgesia of the skin overlying them, and the muscles themselves may be hyperalgesic. When this cutaneous hyperalgesia is present the cutaneous reflexes show some interesting variations. If the muscle is not contracted, or only slightly contracted, the reflexes may be much more lively in response to stimulation of the hyperalgesic skin. If the muscles are hard and board-like, the reflexes may seem to be abolished; little or no movement is obtained from stimulating the hyperalgesic skin, for the reason that the muscles are already contracted to their full extent.

It occasionally happens that we find the muscle distinctly contracted, with no cutaneous nor muscular hyperalgesia, as shown in Fig. 8. At other times we may find hyperalgesia of the skin only. Most frequently there is both cutaneous and muscular hyperalgesia along with a contracted muscle, as shown in Fig. 10, where the stimuli from X affect B′ and C′, producing in the one case pain referred to B and in the other contraction of the muscle C.

XI. MULTIPLE REFLEXES FROM VISCERAL STIMULATION.

So far, in speaking of reflexes I have referred to some as occurring singly. As a matter of fact, no stimulus produces only one reflex; there are always others. Some of these are so slight as not to be recognizable; others, quite a number of them, can be recognized.

If, for instance, we consider the symptoms provoked by the peristalsis of a hollow muscular organ the origin of a number of phenomena will be revealed. The presence of a small calculus in the pelvis of the kidney may set up a strong peristalsis of the ureter, giving rise to an attack of renal colic. With the onset of the attack uneasiness or pain is first felt, and the muscles of the abdomen become hard. In one patient the testicle was pulled up by the contraction of the cremaster muscle. The pain passes from the loins downwards into the testicle. It comes on in wave-like periods of intensity. Other symptoms arise—for example, vomiting, great prostration, with feeble action of the heart—so that partial loss of consciousness may follow. There is also pallor and profuse sweating. All these phenomena are produced by a stimulus reaching the central nervous

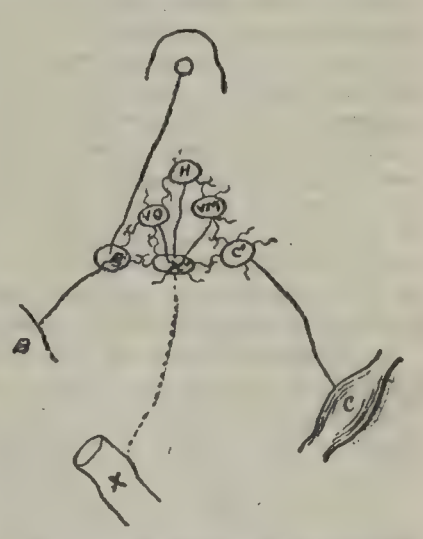


FIG. 11.—Illustrates the mechanism of multiple reflexes produced by visceral stimulation. An adequate stimulus arising in an organ, X, passes to X′ in the central nervous system and affects a series of neighbouring cells, thus giving rise to pain (by stimulating B′), muscle contraction (by stimulating C′), vomiting (by stimulating the centre for vomiting, VO), cardiac depression (by stimulating the vagus, H), pallor and sweating (by stimulating the vasomotor centres, VM).

system and there reacting on a number of special centres, such as the vomiting centres, the centre for regulating the vasomotor nerves, the centre of the vagus (Fig. 11).

When the attack passes off there is left a variety of phenomena, such as an area of cutaneous hyperalgesia with contraction of certain of the muscles of the abdomen. In addition there is usually ushered in a period of great exhaustion or prostration, lasting, it may be, for a number of days. I wish here to clear away one of those beliefs which does so much to darken understanding and hamper investigation. Phenomena, such as exhaustion and vomiting, when they accompany such an attack, are usually attributed to the pain. This is a pure assumption, for the centres which control vomiting and exhaustion are as distinct as the pain centres, and a stimulus which excites pain may, under certain circumstances, also excite those centres. When pain of great severity occurs without vomiting or exhaustion, it simply means that the stimulus which excited the pain did not affect those other centres. On the other hand, those centres may be stimulated, and vomiting and exhaustion may be produced without pain. Thus, it frequently happens that a sudden movement of the bowels resulting in the evacuation of a large loose motion is accompanied by vomiting and fainting without pain.

XII. Diminished Resistance to Stimulation (Focal).

I wish now to direct your attention to a feature of the nervous system which has not received from clinical observers the attention it merits—namely, the lowered resistance to stimulation which is produced by disease and other agencies.

In describing the phenomena of toothache, the well known facts of tenderness of the neighbouring healthy teeth and of the hyperalgesia of the skin of the cheek were commented on. A similar state of affairs is met with in connexion with visceral disease, for we often find in this condition that pressure over certain regions of the abdomen of a degree which in other parts of the body produces only the sensation of touch or pressure, gives rise to pain. In lightly pinching the skin, too, pain is caused over particular areas whereas no pain is felt in other areas. Frequently the skin itself is not hyperalgesic, but the deeper structures of the abdominal wall, especially the muscles, are painful on pressure.

In normal circumstances a stimulus has opposed to it a degree of resistance in producing pain. Its entrance into the pain centres is hindered, so that it must be of a certain strength or quality before it can pass. In these hyperalgesic areas which I have described the resistance to stimulation is greatly diminished, so that a stimulus much weaker than that which produces pain in other regions is sufficient to produce pain in these regions; in technical language, the "threshold of stimulation" is lowered. A similar lowering of the threshold is shown by the cutaneous reflexes. Thus when a hyperaesthetic area of skin is stimulated so as to produce a contraction, a slighter stimulus suffices for the work, and the contraction of the muscle produced is greater than in corresponding parts of the opposite side of the abdomen.

But the evidence of the diminished resistance is not limited to sensory and motor regions in the spinal cord. This may affect the whole nervous regulating mechanism of an organ. The phenomenon is best demonstrated in the circulatory system. In certain cases the movements of the heart and the vasomotor mechanism may respond to mild stimulation in an excessive manner—for example, an excessive rate of the heart on mild exertion or an excessive contraction of the blood vessels from some slight stimulus as, for instance, mental effort or exposure to cold. Thus, in a patient with aortic regurgitation, I have seen the blood pressure rise when the patient was engaged in a quiet conversation, and I have seen this rise followed by a violent attack of pain. Indeed, in certain sufferers from heart disease the nervous mechanism of the organ may become so sensitive to stimulation that this may provoke attacks of palpitation or of pain. This stimulation may consist of factors which do not directly affect the heart—for example, mental excitement, the excitation of the skin of the left chest by pressure of a stethoscope, or a mere movement of the left arm of the patient. Numerous instances of the lowering of the threshold of stimulation will occur. People in whom the fingers become cold, pale, and numb, on exposure to a very moderate degree of cold, have an excessive sensibility of certain vasomotor centres. Some people, again, when worried or fatigued suffer from persistent vomiting.

XIII. Diminished Resistance to Stimulation (General).

The purpose of these illustrations is to call attention to a factor which has only been dimly perceived, but which is a very important element in the production of a large class of symptoms. This factor is diminished resistance to stimulation. So far instances of it have been confined to diseases of a simple kind—for example, toothache, gastric ulcer, disturbances of the heart and vasomotor system, and of the vomiting centre. It will now be profitable to inquire whether there are not conditions in which the diminished resistance may be of a much greater extent, for if such conditions be found we may find at the same time a clear explanation of the manner in which many symptoms are produced.

We know that when a patient becomes the subject of a microbic infection there is speedily induced a loss of the sense of well-being and the appearance of sensations of discomfort or suffering. The daily routine becomes laborious and difficult; it is accompanied by loss of appetite, and fatigue is easily brought on. Indeed, so readily may exhaustion be produced that, even with a mild infection, collapse of an extreme kind may occur—as, for instance, in the case of a youth training for a race who fell and lost consciousness in running a short distance. Before starting he felt seedy, but thought he could throw the feeling off by the exercise. He was found to have a slight rise of temperature; in a few days he was well and resumed his training, which he completed without mishap. If patients with a mild infection be observed it will often be found that their heart's rate is increased, and that their response to effort is accompanied by an undue acceleration of the heart's rate, while breathlessness and fatigue are more readily induced than in health. These facts are well known to every observing doctor, and their interpretation seems to be that something has occurred which has lowered the resistance to stimulation. As a result the heart is more readily stimulated to rapid action, and a disturbance of the vasomotor mechanism takes place which leads to exhaustion or loss of consciousness.

If an individual, the victim of a mild infection, persists in leading the strenuous life he may have pursued when enjoying vigorous health, other manifestations develop. The heart's exhaustion may proceed apace till breathlessness is readily produced on moderate exertion. Pain, too, may be experienced, sometimes of such severity that it is diagnosed as angina pectoris, while the skin of the left side of the chest may become extremely hyperalgesic.

The following experiences show what I am trying to demonstrate. A woman fell into ill health of a vague kind, but developed attacks of pain in the left chest, evidently of cardiac origin, of such severity that several experienced physicians diagnosed the condition as one of angina pectoris of a very grave type. Little relief was obtained, and the case dragged on for months. When I saw her I felt confident that the attacks of pain, though cardiac in origin, were not due to organic disease of the heart, but that she was suffering from some toxic condition, and a search was made for some source of infection. The only suspicious circumstance was an obscure swelling in the pelvis, whose nature an expert gynaecologist could not determine. After a few weeks an abscess burst into the bladder, and after the discharge of pus the attacks of "angina" gradually disappeared, and she made a good recovery.

A man fell into poor health. He became depressed in spirits; his brain was readily exhausted after reading a short time; he was short of breath on exertion, and easily tired. He flushed readily, and his heart beat rapidly on the slightest exertion. Nothing amiss could be detected on physical examination till, after some months, a certain degree of discomfort directed attention to his mouth, and he was found to have an abscess in his antrum. The evacuation of the pus was followed by a speedy recovery.

It is manifest, from a history of such cases, that the primary cause of trouble was an infection which poisoned certain structures of the body, in particular the nervous system and regulating mechanism of the heart and blood

vessels, and rendered those parts abnormally sensitive to stimulation, so that bodily or mental effort, which in health could be undertaken without distress, now induced the signs of exhaustion peculiar to each organ.

What is true of the circulatory system is true also of every other system. When we meet with symptoms of the disturbance of one organ a systematic inquiry will often lead to the detection of evidence of functional disturbance in other organs.

This matter can be illustrated by a consideration of experiences that have lately been familiar to most of you in the so-called "soldier's heart" and the neuroses of war.

XIV. The Soldier's Heart.

For many years before the war I had puzzled over the description of the condition called the "irritable heart of soldiers." Many years ago I had seen men in good health who had been invalided out of the army because of this affection, and I could find nothing the matter with their hearts. When the war broke out I seized the opportunity to find out the nature of this condition. At the suggestion of the Medical Research Committee a systematic investigation was undertaken by Dr. R. M. Wilson and myself, and we produced a preliminary report on the subject. The work was ultimately carried on at hospitals set apart for the purpose; but I continued my own investigations, and briefly the following are the conclusions to which I came: The condition which goes now under a variety of names—as the soldier's heart, the irritable heart of soldiers, disordered action of the heart, effort syndrome, and neuro-muscular asthenia—is not peculiar to soldiers, but is of frequent occurrence in civil life. The ill health or incapacity which is present is not limited or only due to the cardiac condition, for other organs are also affected, so that the cardiac manifestations form but a part of the picture of ill health. The main symptoms of which the soldiers complained were shortness of breath or exhaustion or palpitation easily produced on moderate effort. In some cases pain in the chest was felt, sometimes of great severity, coming on in response to effort or when at rest. An examination revealed in some an increased rate of the heart, and in many an excessive increase in response to effort. Occasionally there was a slight enlargement of the heart.

In the limitation of the response to effort (shown by breathlessness easily produced) and in the increased rate of the heart we get evidences of increased susceptibility to stimulation on the part of the organ.

A heart in this condition of undue excitability, compelled to do the same amount of work as it did when the health was good, will become sooner or later exhausted, and so we will find a series of symptoms arise which are the outcome of exhaustion.

While the over-excitability of the heart is brought about mainly by a disturbance affecting its nervous mechanism, in all probability the same injurious influence affects the myocardium itself, so that the efficiency of the heart may be impaired.

XV. War Neuroses.

The foregoing are, in brief, the chief manifestations of the irritable heart of soldiers. But if the patient be more carefully scrutinized other symptoms will be found. His face is often lined and drawn; he is often nervous in manner, and occasionally he shows fine tremors in his hands and fingers. Inquiry reveals a varying degree of mental disturbance, apathy, disinclination for exertion, mental depression, and irritability of temper. The memory is not retentive, and on mental effort—for example, reading—fatigue is readily induced. In many cases other phenomena are detected, but these are sufficient to show that in nearly all these cases there is a mental side to the ill health as well as a cardiac.

If one were to concentrate the attention on the nervous phenomena in a great many of these cases, the conclusion arrived at would be that the patient suffered from a neurosis. Indeed, this is what is constantly happening, for certain doctors would unhesitatingly class some soldier patients as suffering from neurasthenia, or some other form of war neurosis, while others would class the same patients as suffering from the irritable heart of soldiers.

If the inquiry be carried further definite symptoms of derangement of other organs can be obtained. Thus a rapid respiratory rate, not due to any lung or heart affection, may probably, as Haldane pointed out, be due to an excessive irritability of the respiratory reflex. Digestive disturbances are present in the great majority. Did we possess the knowledge we might almost certainly discover signs pointing to the deranged function of every organ of the body. Indeed, some physicians have detected signs of hyperthyroidism in so many of these cases that they attribute most of the circulatory disturbances to this condition.

XVI. The Mechanism of Symptoms.

The inference drawn from such experiences was that a condition of diminished resistance to stimulation had been induced, and the attempt to lead the life and do the work of healthy vigorous men had proved unavailing. Health had given way from exhaustion. The manifestations of this exhaustion were exhibited by the different organs that had been submitted to the strain; in one case the heart and circulatory system were most affected, in another the nervous system. Thus we get the variety of phenomena which these soldiers exhibit.

This way of looking at the matter illustrates a method of investigation that has not been so fully appreciated or utilized in medical research as it deserves. It shows the importance of applying the "law of associated phenomena" in all medical examinations. This law is based upon the fact that in ill health there are a great variety of phenomena. It has been the habit to a large extent to give consideration to the more prominent signs and to label the disease by the names of such dominant signs. We constantly met soldiers invalided and pensioned on account of so-called aortic or mitral disease, because a systolic murmur had been detected, yet in the vast majority of these cases there was absolutely nothing the matter with the aortic or mitral valves. If the principles underlying the classification of symptoms and the law of associated phenomena had been understood such mistakes would not have arisen.

Physicians who have been engaged in war work are now publishing their experiences, and you will find in the medical journals that the old method of docketing the soldiers' complaints according to the organ supposed to be affected is pursued. Thus we have sick men described as cases of irritable heart, of neurasthenia, and of hysteria; that is to say, the complaints are attributed to the organ whose symptoms are most prominent to the observer.

XVII. Practical Importance of Recognizing the Mechanism of Symptoms.

It may seem to you that this aspect of the matter is already recognized, and that the presentation of it in this way is unnecessary. But it frequently happens that what is supposed to be well known and commonplace is in reality so imperfectly known that its true significance has been entirely missed. In the cases to which I am referring it will be seen that the procedure usually employed in medicine, of describing diseases as limited to one organ or system, is misleading.

Recognition of this general lowering of resistance to stimulation enables one to perceive that the manifestations of the different organs are but an expression of the irritability of their nervous mechanism, and compels an inquiry into the condition which has induced it. In many cases such an inquiry will result in the discovery of some focal disease or in the detection of some infection—for example, malaria or dysentery, or tubercle.

Another important result of this recognition is that we are no longer so likely to be misled in the estimation of the significance of some abnormal sign. A large number of these cases of nervous heart are labelled "valvular disease of the heart" because there is a systolic murmur present, and the limited response to effort, breathlessness on exertion, or increased rate of the heart, is taken to be evidence of an organ impaired by mitral or aortic disease. I know that large numbers of cases have been invalided out of the army and granted pensions because of misapprehension of the significance of murmurs, particularly when these murmurs were associated with the phenomena I have described. The same thing applies to affections of the nervous system. We often find this type of case called "neurasthenia" or some other form of neurosis, and subjected to various methods of treatment based upon an erroneous conception of its nature.

Furthermore, the necessity of recognizing the nature of the phenomena which lowers resistance is seen in the tests which are recommended by the military authorities for determining the fitness of a man. To ascertain the functional efficiency of the heart certain exercises are enjoined. If, in response to these, there is an increase in the rate of the heart or of the breathing, it is assumed that the organ is impaired. The evil symptoms are taken as indications of such impairment. If the principles I have been enunciating be grasped, it will be seen that it is not the heart condition that is being tested by these exercises but the susceptibility of the heart to stimulation. In some cases the increased rate may represent cardiac inefficiency, but in the vast majority of cases it represents nothing of the sort, for the cardiac irritability is but one of many phenomena the detection of which would afford a clue to the real nature of the trouble.

XVIII. Illustration of Harm done by Ignoring the Mechanism of Symptoms.

I have had plenty of experience showing the widespread harm of this limited study of patients' symptoms. I have been frequently consulted by men who have been rejected for the army and pensioned because of a misconception of their symptoms. I saw recently a man who was invalided out of the army and told he had got aortic disease, and that his heart was so damaged that he would never be able to undertake any occupation requiring physical effort. He was given a full pension. When I saw him he was leading a miserable existence, creeping about a few hours a day. He was easily tired, and he attributed his exhaustion to his heart complaint. His heart was easily stimulated to rapid action, and there was present a systolic murmur at the base. When I tried to assure him that there was no aortic disease and that his heart was perfectly sound, I found it was impossible to convince him. When in the army these sensations of exhaustion came on and the army doctors had detected the murmur and called it aortic disease and had treated him for a time in bed and then invalided him out. The pensions doctors had repeatedly confirmed this view of his condition, and had backed up their opinion by giving the largest pension allowance. Is there little wonder that this man cannot be convinced as to the true nature of his condition? He is made a miserable wreck on account of a defect in medical knowledge—namely, ignorance of the nature and significance of symptoms.

XIX. The Origin of Ill Health.

In a careful inquiry into the origin of ill health in over 2,000 soldiers I found that in the case of about 80 per cent. the first onset of their illness began with some complaint of an infectious nature, such as measles, influenza, trench fever, typhoid fever, malaria, dysentery, or "P.U.O." In other cases one could gather that the onset was due to an ill-defined illness suspiciously like an infection.

In a number of cases there was no history of infection, and the onset of the illness seemed to be due to a variety of circumstances. Some of the men were weakly before they entered the army, and the unaccustomed strain had seemingly been the cause. Others, originally quite healthy, had been exposed to a long and continued bodily and mental strain; want of rest had evidently been the provoking agent in these instances.

The history of the origin of these complaints and the manifestation of ill health accorded with the experience of civil practice. We repeatedly meet with patients who, on recovery from a febrile illness, suffer in the same way for varying periods.

Conclusion.

I have given in this lecture a bare outline of one phase of symptomatology, merely to indicate the mechanism by which certain symptoms are produced, and the far-reaching inferences that can safely be drawn from the consideration of this phase. It will be seen that a large amount of work is necessary to complete the picture and to understand the nature of symptoms. The study also affords a guide to further research. For instance, a great number of diseases are only recognizable by the presence of their reflex symptoms—diseases like gastric ulcer and appendicitis. We want to know the nature of the stimulus capable of producing these symptoms, whether it is an an exaggeration of a normal stimulus or a product of disease. It can also be seen how important it is, in examining the sick, to be guided by the law of associated phenomena, while a definite object to be achieved—that of finding the agent which produces the diminished resistance—is held clearly before the investigator.

PUBLIC HEALTH ADMINISTRATION IN EPIDEMICS OF MEASLES.

BY

JOHN BROWNLEE, M.D., D.Sc.,

DIRECTOR OF STATISTICS, MEDICAL RESEARCH COMMITTEE.

DURING the twenty years I was engaged in active work in the Public Health Service the question of the best methods of administration in epidemics of measles came under my subconscious mind at more or less regular intervals. As I was not responsible for the field work, but only for the treatment of those suffering from the disease, there was no need for immediate decision, so that it was not until the end of my hospital experience that I seriously began to consider the subject in its different aspects. In actual practice nothing was being done to limit the spread of measles save to apply those general principles which seemed to offer a reasonable chance of success in combating the spread of all infectious diseases. These principles included notification, isolation of the infected person, and disinfection of the infected articles as a part of the process. They extended, however, much more widely, and included the destruction of unhealthy property, the prevention of overcrowding, and the improvement of general sanitation. It is one of the ironies of health administration that such obvious reforms were neglected year after year until an outbreak of typhus or small-pox brought the necessary stimulus to the lay mind to allow the medical officer to initiate these measures to control infectious diseases. The powers granted to limit infectious disease acted, however, much more to the advantage of the community in improving the standard of health than in the repression of infectious disease.

The present generation now possesses the kind of knowledge which enables it to recognize that the adequate administration of any infectious disease depends only to a small extent upon general principles and chiefly upon an exact knowledge of the natural history of the disease. Thus while the amount of typhus fever was undoubtedly limited through the application of general hygienic measures, these were definitely successful because the measures brought those possibly infected by the disease under such supervision as to ensure that both their houses and clothing were properly cleansed, and thus the louse, the active agent in the transmission of the disease, was eliminated. So also at the present day the control of malaria is found to depend upon measures which, though perhaps indirectly advantageous to the general health, are yet much more potently disadvantageous to the agent by which the disease is spread—namely, the mosquito. A well-known example of a disease which isolation, disinfection and sanitation have proved quite powerless to control is scarlet fever.

The control of measles is a problem, therefore, to be considered solely with reference to the natural history of the disease. The disease is most infectious—in fact it is of the eruptive fevers the most infectious, except small-pox. In contrast to small-pox, no protection such as that afforded by vaccination has hitherto been found. The infection, again in contrast to small-pox, is present in a very intense degree at the first onset of the catarrhal symptoms, and as these precede the appearance of the rash by at least three days, this period passes in most cases before the cause of the symptoms present has been recognized. Through the coughing due to the catarrh the infection is spread through the air. As far as can be statistically estimated at present, all but a fraction of those persons who come within the range of infection succumb at the most to two exposures to infection of the kind experienced in natural conditions.

Only one means of protection exists for any but those gifted with special immunity, and that is a previous attack. Though this is, of course, well known, it may not be inappropriate to state that it was brought very

forcibly under my notice when I visited some years ago a Highland glen from which measles had been absent for more than eighty years. An epidemic had just ended; it swept the glen from the western end to the eastern, hardly anyone—man, woman, or child—escaping the infection. Among the inhabitants whom I met was an old farmer of nearly eighty years of age who had just recovered from the disease. He discussed the matter with a curious mixture of pride and shame—pride that such an unusual experience had been his lot, shame that at his great age he had succumbed to such an infantile malady. It may be noted, by the way, in contradiction of the erroneous and quite common belief, that though the soil was practically virgin in this epidemic, not a single death occurred.

Now a disease which possesses such a degree of infectivity is quite clearly not open to administrative control in the sense that control means prevention. In saying this I do not doubt that the infection of measles might be successfully excluded from a definite area for a limited period of years if proper measures, necessarily very expensive, were adopted. The sole effect of this exclusion would be, however, to permit the development of a population open to the infection—a population which would be devastated the moment the infection were reintroduced; while, if the disease were thus reintroduced, the expense of its extermination would again have to be faced. I do not suppose—nor do I think that anyone else supposes—that there is any hope of success on the lines of prevention of infection in this manner, but that does not imply that some degree of success may not be possible on other lines.

The question of the administration of measles epidemics will now be discussed under two heads:

I. The administrative. With regard to this, there are two points of importance:
  - IA. The source of infection at each age.
  - IB. The variation of the death rate due to measles with age.

II. The medical. Under this heading come the points of:
  - IIA. Early diagnosis.
  - IIB. Hospital treatment.

IA. *Source of Infection.*

It is a general experience among middle-class parents that their children rarely take measles until the school age of the eldest begins. This is not so markedly the case with the working classes. Among these greater facilities of infection are afforded by the children playing together in the street, for such a disease as measles is practically only spread by direct contact. In spite of this, however, in the opinion of a number of medical officers the fire is lighted in the schools, and it is only then that streets and stairheads become of importance as a means of spread. That this holds true can be shown in another way.

In the table the statistics relating to Aberdeen show the rate of infection of the population by measles for each age period up to fifteen years of age. The general facts are as follows: Under the age of six months the disease is not readily taken. From the age of six months to the age of between six and seven years there is an almost uniform rate of attack. After this age the rate at which the population is attacked falls approximately in a geometrical progression. It is probable, as the result of certain calculations, that the greatest susceptibility exists between the ages of three and four years, but this point cannot certainly be determined. Now it is impossible to reason from the form of this distribution as to its probable cause, but it is possible to assume a cause and then construct an age distribution. If it be then assumed that in families of young children the children do not as a rule take measles until the eldest child has become sufficiently old to go to school, as has been suggested previously, and if it be assumed that epidemics occur more or less regularly, the age distribution of attack can be easily calculated. The result of the calculation is to give a distribution essentially identical with that found. It may thus be presumed that in the majority of cases children under five years of age are infected by the elder children who acquire the infection in school. If this be the case some hope of administrative improvement may be entertained.

Table showing the Rate of Attack from Measles per 1,000 Persons Living for Aberdeen and the Case Mortality in Aberdeen and in Glasgow.

	Aberdeen City, 1883-1902.				Glasgow Hospital Cases, 1885-1902.		
	Rate of Attack per 1,000 per ann.	Cases.	Deaths.	Case Mortality per 100.	Cases.	Deaths.	Case Mortality per 100.
Months							
0-3 ...	13.4	244	19	7.8	20	2	10.0
3-6 ...	38.6	665	64	9.6	97	9	9.3
6-9 ...	76.0	1,263	186	14.7	366	78	21.3
9-12 ...	53.2	862	157	18.2	387	79	20.4
Years							
1-2 ...	85.6	5,222	526	10.0	1,227	321	26.5
2-3 ...	85.6	5,195	178	3.4	1,545	240	15.5
3-4 ...	79.3	5,053	82	1.6	1,718	179	10.4
4-5 ...	75.4	4,836	43	0.9	1,600	80	5.0
5-6 ...	86.3	5,352	35	0.7	1,503	65	4.3
6-7 ...	75.2	4,628	21	0.5	1,235	33	2.7
7-8 ...	47.3	2,818	14	0.5	796	11	1.4
8-9 ...	21.0	1,258	5	0.4	398	6	1.5
9-10 ...	11.3	672	4	0.6	214	1	0.4
10-11 ...	6.7	406	1	0.2	110	4	3.6
11-12 ...	4.5	259	—	—	60	3	5.0
12-13 ...	4.1	241	—	—	47	—	—
13-14 ...	2.9	169	2	—	28	—	—
14-15 ...	2.6	150	—	—	23	2	8.7

IB. *Age Variation of Death Rate.*

Here certain facts must be specially discussed. These are shown in the table; in it the number of cases and deaths occurring in the cities of Glasgow and Aberdeen are compared. In the former city the cases admitted to hospital furnish the evidence; in the latter notification was in existence for twenty years, and the death rates for the whole city are available. The same kind of variation in the death rate holds in both places, though the cases in the Glasgow hospitals have very excessive death rates. These cases are drawn largely from the slums, though this is not the whole explanation of the difference, as from year to year when the death rates at ages under five years are calculated for the cities as a whole, those in Glasgow are considerably greater than those in Aberdeen.

Referring to the table, it is seen that the death rate between six months and two years is exceedingly high and from that age declines. In the cases in the Glasgow hospitals to which the statistics refer (18,000 cases in all) the death rates between the ages of one and two years and between the ages of five and six years were respectively 26.6 per cent. and 4.3 per cent.; the average death rate of all the admitted cases was 9.1 per cent. The corresponding figures for Aberdeen between 1883 and 1902, the years of notification, are 10.0 and 0.7 per cent. respectively. But it is not only in the increased death rate at early ages that the damage due to measles is seen. Lung and eye affections, two of the worst complications associated with measles, occur almost solely under the age of five years and are specially common in the first two or three years of life. Not less important is the influence which an attack of measles possesses in lighting up latent tuberculosis. This is also much more common between the ages of one and three.

It seems desirable, therefore, to consider whether it is not possible to limit the number of cases under the age of five years. Of course complete immunity at these ages cannot be secured, but I think that the absolute number of attacks of measles under five years of age should be very much smaller than it is. It is a matter of administration. It cannot be doubted that a very large proportion of those children who take measles under five years of age are infected by elder brothers or sisters who are attending

school. The question, then, which requires to be investigated is how far this can be prevented. I am quite certain that with the machinery in existence—namely, the medical inspection of schools and the sanitary control of the district—this should be a comparatively easy matter. It will want, of course, careful thinking out in every district. It will want special training of the epidemic inspectors and of the sanitary inspectors, as in the event of an epidemic the work would be so much increased that the latter would necessarily be temporarily seconded. Once the training has been accomplished, no further difficulty should be experienced.

Each school will keep a register. When a child of five years is admitted to a class at school it will be noted in the record whether that child is the eldest, intermediate, or youngest member of the family. When measles breaks out in a class the register will be consulted. If the child exposed to infection be the youngest member of the family, nature may be left to take her way—there is no further danger. But if he or she be the eldest, especially if the younger children in the house are of ages between six months and three years, the direct action of nature is no longer a matter of indifference. What is a mild disease at the age of five years may be a matter of grave danger at the age of six months.

Now it may be taken as practically certain that very few children develop the first symptoms of measles within seven days of the infection, and the higher limit may be set at fourteen days. If therefore the child which has been exposed to the infection stay in its home for seven days after exposure no harm will ensue. It is the next seven days which are important. In the entourage of families in towns, especially where the families are very young, the house of at least one grandmother is usually available. There are also quite frequently houses of uncles and aunts in which there are either no children or in which the children have already passed through the necessary attack of measles. It is thus only a matter of arrangement that the child who has been exposed to infection stays with a grandmother or other relative for a specified seven days. It may be objected that this cannot be done. On the contrary, I have made such arrangements for many years with reference to cases of scarlet fever and diphtheria. Where on dismissal there was some doubt as to whether a patient were free from infection or not, and where it was obvious that continued residence in the hospital was not the best way to clear the patient of infection, I at once appealed to the parents. I found that the arrangements made were loyally carried out in nearly every case; the average parents are not selfish as regards their children, but much the reverse. There are, of course, a number of unreasonable and untrustworthy people, but in my dealings I have found these the exception. Once the matter has been carefully explained the ordinary person wishes to act for the best. Of course at the institution of a new method of administration there will be a considerable amount of evasion, but from the moment that the opponents of the system see their children going to the grave while those who accede find their children do not take the disease, the sarcasm of the neighbours will effect more than thousands of regulations. A few years' trial will put all the community on your side, and then the work is done.

The possibility of using reception houses requires consideration. It is of course quite futile to provide reception houses on a large scale, since the gathering together of many children who have been exposed to infection is but to exaggerate the chance of all taking the disease. It might even happen that only one child was infected on admission, and he or she might infect the whole. It is, however, not out of the question with individual cases. In certain instances where there is a large family of young children, and where there is no chance of the possibly infected child staying with friends, such an arrangement might quite well be made, especially in large towns where reception houses are kept open perpetually in view of small-pox and typhus fever there would in many cases be no difficulty in taking suitable action.

II A. *Early Diagnosis.*

The most difficult point in the administration of measles is that which arises from the great amount of infective material given off from the very first symptoms of the disease. I have never seen any reason to believe that there was any power of infecting prior to the first symptoms, so that the problem is reduced to the accurate observation of these. What, then, are the first symptoms? For administrative purposes there are only two which are of the smallest particle of use, nor are these of any certain value. The usual advice to look for the Koplik spots is vanity. By the time these have appeared the damage is done.

The first and most important of these symptoms is a rise of temperature. It is astonishing how often, after nine or ten days from the exposure, the temperature rises for a single evening to 101°, 102°, or 103°. Next morning it is again normal, and remains so for twenty-four to forty-eight hours after this. A chart of this form of onset is given in Wunderlich's *Medical Thermometry*. This is specially observed when measles develops in a person whose body is protected from chill, such as when a child is in bed or in hospital. If there is the slightest suspicion of infection being present administrative measures should be taken immediately on the rise of temperature. This symptom is specially of use when children are under the observation of a skilled nurse and temperatures are taken regularly as a routine.

The second symptom is oedema of the conjunctiva. This is much the earliest symptom of the catarrh to appear. The oedema is confined to the palpebral conjunctiva, and especially that of the lower lid. I have seen it stated that the first appearance of the oedema is on the ocular conjunctiva. This, however, is totally at variance with my experience. Even when the catarrh of the eye is very marked on the third and fourth days of the disease, the ocular conjunctiva is generally almost clear, the congestion and oedema being confined chiefly to the palpebral conjunctiva. When this oedema of the palpebral conjunctiva associated with a rise of temperature in a child who has been exposed to measles infection is observed the diagnosis is practically certain. If the child be removed at once there is some chance, especially if the type of epidemic be not specially infective, that those in the environment will escape. With care these symptoms might be used successfully under skilled observation in a reception house, if there was no close contact between the different children. Measles is a disease I have never found to spread from room to room if there was no direct air connexion between them, nor have I ever seen it carried by nurses from one house to another. It must be confessed, however, that even with the greatest care the effort to prevent spread of infection fails in the majority of cases. An improved technique will be required before success is possible.

II B. *Hospital Treatment.*

If young children have been exposed to measles what procedure is necessary? I think it essential that they be put to bed before the first symptoms appear—that is, eight days after exposure to infection—and kept there for a few days until it is certain whether the infection has been acquired or not. There is all the difference in the world between an attack of measles developing in a child exposed to body chill owing to draughts, etc., and a child developing the disease under conditions of warmth and rest. Even if this stage be missed, with the first symptoms of catarrh bed is the place.

In the next place, if the disease promises to be of great severity, I am quite certain that hospital treatment is the best. When, on the fourth or fifth day of illness, the rash begins to appear in the bronchi, great respiratory distress and cyanosis are frequent. This condition I call "suffocative catarrh" to distinguish it from bronchopneumonia. It is one of the curses of cellular pathology to group all sorts of different diseases under one name. This suffocative catarrh is a part of the disease—measles—and has no relation to true bronchopneumonia, which is quite a different disease. The catarrh kills in a few days, the bulk of the deaths occurring within eight days of the first symptoms of measles. Bronchopneumonia runs a longer course, the bulk of the deaths occurring twelve days after the onset of the disease. It is a secondary infection to measles, while the catarrh is a part of the primary disease.

This catarrh, if severe, is a condition of extreme gravity, which demands careful nursing and also environmental conditions not easily obtained in a private house. I have

not a particle of doubt that these children are very much better treated in the open air. Furthermore, the administration of oxygen in many cases makes all the difference between recovery and death. In addition, though the remark is not strictly appropriate in this connexion, these children, in my experience, are the better of a certain amount of alcohol if they are not too cyanosed to oxidize it. In making these statements I am fully aware that I am speaking somewhat rashly, because, regarding children suffering from severe suffocative catarrh in measles I have never learnt to make anything which can be called an accurate prognosis, and consequently have difficulty in stating the results of treatment statistically. Thus, in teaching I have demonstrated two cases to my students—one as likely to recover, and the other as likely to die—only to have to point out the next day that the child I thought was probably going to recover was now dead, and that the other, if not out of danger, was at least considerably better than on the previous day. This rapid improvement is the rule in cases of suffocative catarrh if cure is to take place. A child may be within the immediate zone of death and within a couple of days be comparatively well. If bronchopneumonia is implanted on the catarrh, the change to convalescence is a matter of ten days to three weeks. The two conditions should not be confounded.

A further point of importance with regard to the treatment of severe cases of measles, and a treatment only easily obtained in hospitals, is the care of the eye. An attack of measles is quite frequently the starting-point of eye trouble. For the proper cleansing of the eye regular washing out is necessary, and the technique requires adequate training on the part of the attendants. Sometimes even hourly cleansing is required, and that cannot be provided at home except in the houses of the rich.

THE PHYSIOLOGICAL COST OF MUSCULAR WORK.

BEING THE SUBSTANCE OF A LECTURE TO THE CHELSEA POLYTECHNIC, FEBRUARY 23RD, 1920.

BY

A. D. WALLER, M.D., F.R.S.

THIS "lecture" is essentially intended as a demonstration of method and apparatus by means of which a fundamental problem—to the answer of which an important part might be contributed by a polytechnic school—can be approached and compassed.

Shortly stated, the general problem requires numerical answer to the question—What, or rather *how much*, is the physiological cost of various forms of mechanical work as done by a dock labourer and a printer, a carpenter and a tailor?

This cost is most readily measured by measuring the CO_2 expired in consequence of the internal combustion that takes place in all living matter—in lowest degree during deepest sleep, in highest degree during heaviest muscular work. And the particular part of the problem on which, at the suggestion of the Principal, I shall invite your answer will be as follows: What is the energy output, expressed in calories per head per hour, (*a*) for a class sitting listening to a lecture; (*b*) for a class carrying out physical exercise drill?

I should like to make it possible as an outcome of this lecture (1) that every student here should be able to give a reasonably good theoretical answer on paper, and (2) that one, or preferably two, of your number should be able of their own knowledge to get out by means of the apparatus now before you a more or less accurate statement of actual fact in, say, a month's time.

The apparatus consists of three parts:

1. The *collecting bag*, with valved mouthpiece and tap, to receive the expired air of the subject for, say, a minute or half a minute.

2. The *analyser*, to measure directly the percentage of CO_2 present in that expired air.

3. The *spirometer*, to measure its volume in litres.

And here are the results of a typical observation like that which has just been made under your eyes:

	Ventilation.		CO_2.		Calories.*
	Per Minute.	Per Second.	Per Cent.	Per Second.	Per Hour.
At rest...	6 litres	100 c.cm.	3	3 c.cm.	60
At work (walking at 3½ miles an hour)	24 ,,	400 ,,	4	16 ,,	320

* The translation into calories per hour assumes that 1 c.cm CO_2 per second = 20 calories per hour. For this equivalence the calorific value per 1 c.cm. CO_2 has been taken = 5 55 calories.

It is obvious to you from this observation that the work of walking has caused a measurable increase of CO_2 output, and you have learned further that the physiological cost of walking at 3½ miles an hour is 320 calories gross, or 260 calories net per hour.

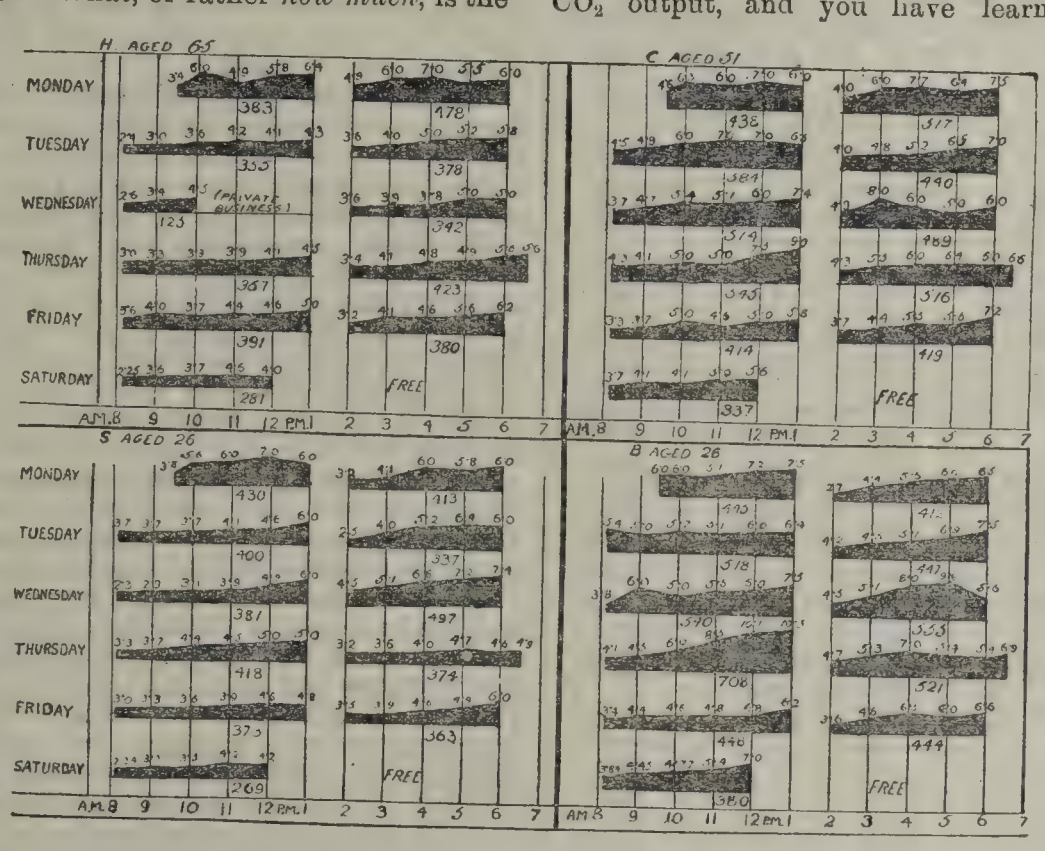
The small value (60 calories per hour) represents the cost of bare life without work—that is, the basal cost; it goes on, of course, during work, and has therefore to be subtracted from the gross cost of work, leaving us with its net cost. (Obviously if we know the mechanical value of the work we can calculate out a value for the ratio

$$\frac{\text{work}}{\text{net cost of work}}$$

which is a measure of physiological efficiency; but with this measure we are not concerned to-day.)

I will now put before you a brief report of a week's observation just concluded by Miss G. De Decker at the printing rooms of the BRITISH MEDICAL JOURNAL, with the helpful co-operation of four compositors—H., C., S., and B.

The procedure was to collect every hour from each man during the six days of work the expired air for a period of one minute. Each bagful was then dealt with as you have just seen done—that is, its volume measured by spirometer and its CO_2 percentage taken by analyser, so that the rate per second of CO_2 discharge was ascertained and plotted on squared paper. The hourly CO_2 ordinate of each man was thus recorded for each day, and the value in calories of the day's energy output was computed as a simple summation of the ordinates, as for



the day given below *in extenso*. (This was the first day, and our observation started at 9.30 a.m., whereas work actually began at 8 a.m., as shown in the week's summary.)

H., aged 65; Weight, 10 st.; Height, 5 ft. 8 in.; Surface, 1.71 M. February 16th, 1920.

Time.	Ventilation.		CO_2.		Calories.
	Per Minute.	Per Second.	Per Cent.	Per Second.	
9.30	8.5 litres	142 c.cm.	2.4	3.4 c.cm.	383
10...	12.0 ,,	200 ,,	3.0	6.0 ,,	
11...	9.0 ,,	150 ,,	3.2	4.8 ,,	
12...	11.5 ,,	192 ,,	3.0	5.8 ,,	
1...	12.0 ,,	200 ,,	3.2	6.4 ,,	
Dinner hour ...	—	—	—	—	
2...	9.0 ,,	150 ,,	3.2	4.8 ,,	478
3...	12.0 ,,	200 ,,	3.0	6.0 ,,	
4...	12.0 ,,	200 ,,	3.5	7.0 ,,	
5...	11.0 ,,	183 ,,	3.0	5.5 ,,	
6...	12.0 ,,	200 ,,	3.0	6.0 ,,	861

The working out of this day's calories is as follows:

Morning: 47+60+96+116+64=383
Afternoon: 48+120+140+110+60=478
861

Total: 861 calories in 7½ hours, or 115 calories per hour.

The summary account of the results of six days of observation on four workers, recorded and calculated as above, is given in graphic form on the preceding page:

Summary for the Week February 16th to 21st, 1920.

Subject.	Day.	Calories per Day.	Hours.	Calories per Hour.
No. 1, H. Age 65. Weight 63.5. Height 1 73. Surface 1.71.	Monday ...	861	7.5	115
	Tuesday ...	733	8.75	84
	Wednesday ...	467	5.75	81
	Thursday ...	790	9.25	85
	Friday ...	771	8.75	88
	Saturday ...	281	3.5	80
No. 2, C. Age 51. Weight 62.6. Height 1.70. Surface 1.68.	Monday ...	955	7.5	127
	Tuesday ...	1,024	8.75	117
	Wednesday ...	1,003	8.75	115
	Thursday ...	1,061	9.25	115
	Friday ...	833	8.75	95
	Saturday ...	337	3.5	96
No. 3, S. Age 26. Weight 63.5. Height 1.80. Surface 1.77.	Monday ...	843	7.5	112
	Tuesday ...	737	8.75	84
	Wednesday ...	878	8.75	100
	Thursday ...	792	9.25	86
	Friday ...	736	8.75	84
	Saturday ...	269	3.5	77
No. 4, B. Age 26. Weight 72.6. Height 1.78. Surface 1.86.	Monday ...	857	7.5	114
	Tuesday ...	965	8.75	110
	Wednesday ...	1,035	8.75	125
	Thursday ...	1,229	9.25	133
	Friday ...	892	8.75	02
	Saturday ...	380	3.5	109
		18,789	183.0	103 ± 2

18,789 calories in 183 hours = 103 calories per hour.

CONCLUSION.

The average rate of energy-output (gross) at the printing rooms of the BRITISH MEDICAL JOURNAL, gauged as described above on four compositors for one week, comes out as: 101 to 105 calories per hour.

I shall be very interested to learn from your own observations at the Chelsea Polytechnic what are the average rates of energy-output per head:

(*a*) For a class of students sitting at lecture.
(*b*) For a class of students during physical exercise drill.

AN ATTENUATED TUBERCLE VACCINE.

BY

NATHAN RAW, C.M.G., M.D., M.R.C.P., M.P.,

LATE O.C. AND SENIOR PHYSICIAN, LIVERPOOL HOSPITAL, B.E.F., FRANCE.

THE object of this short paper is to bring to the notice of the profession a vaccine which in my own experience has been of great service in the treatment of tuberculosis.

Whilst not claiming it to be a specific remedy, it has a remarkable power of controlling the disease and of limiting the spread of the infection in the human body. As is well known, tuberculosis has a tendency to spontaneous cure, and if we can in any way limit the spread of the infection we are placing the patient in a better position by his natural powers of resistance to deal successfully with the original focus. In the BRITISH MEDICAL JOURNAL of January 31st, 1903, I expressed the opinion (as I believe for the first time, and based almost exclusively on clinical and pathological evidence) that

> Human and bovine tuberculosis were separate and distinct diseases, *but* that the human body was susceptible to both, and especially to bovine tuberculosis in the early periods of life. The two diseases were so rarely seen together in the human subject that there seemed strong grounds for presuming that they were antagonistic to each other, and that bovine tuberculosis may confer an immunity against human tuberculosis, and vice versa.

To take an example: A child with primary abdominal tuberculosis or tuberculous glands in the neck—both bovine infections caused by tuberculous milk—is protected against a primary pulmonary tuberculosis; on the other hand, a case of primary pulmonary tuberculosis from inhalation—always caused by the human bacillus—is protected against the lesions caused by the bovine bacillus. In other words, the two types of the bacillus—human and bovine—cannot exist in the body at the same time, and I have never been able to recover both types from the same patient.

The lungs are frequently attacked in the course of a bovine infection either by direct lymphatic extension from the abdomen to the bronchial glands; by direct extension to the apex of the lung from glands in the neck; or in the course of a general blood-stream infection.

For these reasons, and after treating over 3,000 cases of tuberculosis in hospital with tuberculins from various sources, I have come to the conclusion that the best results are obtained by treating human infections with bovine tuberculin, and bovine infections with human tuberculin. Although the results in many cases were good, I must confess on the whole to a feeling of disappointment, and I attributed it to the uncertainty of origin of the tuberculin, which was prepared in many instances from a highly virulent culture, and also to the tuberculin becoming stale and inert by lapse of time. In many cases acute and serious reactions followed its use; in others it seemed to be inert.

For these reasons I decided over fourteen years ago to endeavour to obtain attenuated cultures of bacilli, and to try the effects of a tuberculin prepared from cultures of low virulence and less toxicity. The late Professor Koch gave me in 1905 a pure culture of human tubercle prepared from the sputum of pulmonary tuberculosis; Professor Calmette of Lille, one of bovine tubercle; and Professor Bang of Copenhagen, one of avian tubercle. These original cultures have been subcultured every month since 1905 without any intermission, and to-day they grow true to type, quite normally, although not quite so luxuriantly. The present cultures, which are growing at the Lister Institute, are, of course, highly attenuated and of very low virulence. I have injected them into animals, and they are practically non-pathogenic.

I treated several patients with this tuberculin in 1914, but the war came, and my work was interrupted by a long residence in France. The results were most satisfactory, but I propose to wait for some time before coming to a definite decision.

Tuberculosis is seriously increasing in all the late belligerent countries, due to the stress and rigour of war conditions and the malnutrition of the people, more especially children. We have not yet discovered a specific remedy for the disease, but it is our duty to adopt every possible means to prevent its further spread, and in my

opinion the careful administration of tuberculin on scientific lines will do a great deal to limit the infection.

I venture to make the following suggestions regarding its use:

1. Tuberculin should be prepared from attenuated and non-virulent cultures of bacilli.
2. It should be freshly prepared and used within a week.
3. Given in graduated and increasing doses at intervals of seven days.
4. Acute reactions are not necessary.
5. Not less than twelve injections should be given at intervals of one week, but in some cases a great many more injections are required.
6. The most favourable cases for treatment are local lesions, but early cases of pulmonary tuberculosis may be limited and a further spread to other parts of the lung prevented.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PARAFFIN WAX FOR FIRST-AID TREATMENT IN BURNS.

THE use of paraffin No. 7 in the treatment of burns and various forms of ulceration is well known, but it has occurred to me that ordinary hard paraffin would be an ideal first dressing for a burn through the protection it would afford and the complete absence of pain on removal. Paraffin candles, found in most houses, afford the material necessary, and it is simplicity itself to light the candle and allow the wax to gutter on to the burn.

Attention must be given to several small points: The candle must be held at a fair distance—about 10 in.—so that the paraffin is not too hot when it falls upon the injured part, and it is well not to keep dropping on one place but to dodge about over the surface; a mass of melted wax in one place is painful. The dressing can be completed by putting a small piece of clean linen or cotton-wool over the wax and dropping some more upon it. The heat of the burning candle seems to be sufficient to sterilize the wax, and, in any case, I should suppose that paraffin is not a substance likely to afford much nourishment to micro-organisms.

I have tried this method in a number of cases and found no ill effects; perhaps the healing action is not quite so rapid as with paraffin No. 7, but the painlessness is equal.

Alconbury Hill, Hunts. J. R. GARROOD, M.D.

PARENTAL BLOOD IN HAEMORRHAGE OF THE NEWBORN.

I HAVE met with three cases of haemorrhage of the newborn during my twenty-one years of practice here. The first case died, the two last recovered.

The first case, a female infant, was treated on the usual old-fashioned lines of drug treatment, but died in spite of every effort. The necropsy revealed only the ordinary negative findings.

The two later cases were treated by the subcutaneous injection of the parent's blood, of the father in the first case and of the mother in the second. Magnesium sulphate solution, saturated, was employed to prevent clotting. The effect was immediate and successful.

The notes of the third case are these:

A female infant, full term, well nourished, was born after normal labour on March 8th, 1920. The mother's age was 40. Eight years had elapsed since the previous confinement.

At 1 a.m. on March 11th the child vomited blood and passed some eight or nine abundant stools of blood. I saw her at 1 p.m. and found her feeble and passive—in the condition, in fact, of a child who had lost a great quantity of blood.

I immediately gave the infant an injection of 6 c.cm. of the mother's blood in the right flank. To obtain this blood, some saturated solution of magnesium sulphate was placed in an egg-cup in a saucepan of boiling water, and the 5 c.cm. Record syringe was sterilized in the boiling water. Half a cubic centimetre of the magnesium sulphate solution was drawn into the syringe, and this was then filled with the mother's blood taken from the median basilic vein in the usual manner.

The next action of the bowels was at 7 p.m., and during the night there were four other stools. A stool was passed at 9 a.m. the next day, and again at 7 p.m. All these were black, but contained no fresh blood. A stool passed at 10 p.m. was of the normal character and yellow colour. That at 7 p.m. was a mixture of black and yellow. The child, being too feeble to suck, had been fed by the spoon with mother's milk, drawn by the breast pump; as the quantity was scanty it was supplemented by diluted cow's milk. All the warm water possible was given also, between the feeds. The further progress to recovery was sure and uneventful.

It is extraordinary that since writing the above I have met with my fourth case. A male infant, born on March 31st, vomited blood on April 1st. In this case I was unable to obtain more than 1 c.cm. from the father, as he had a very serious convulsive seizure—due, I presume, to the cerebral ischaemia of a grave faint brought on by the operation—whilst I was drawing off the blood from his arm. I therefore supplemented this by a further 2 c.cm. from the mother, thus giving 3 c.cm. in all. The progress of the case was uneventfully successful.

In the first, third, and fourth cases here recorded the child was the second of the family. In the second case I am unable to trace the parents, and do not recollect what place in the family the child took, and I cannot find any note on the point.

Melton Mowbray. MONTAGUE DIXON, M.D., B.Sc.Lond., M.R.C.S., L.R.C.P.

Reports of Societies.

MODES OF ANAESTHESIA.

AT a meeting of the Sheffield Medico-Chirurgical Society on April 1st a discussion was held on anaesthetics.

Mr. HERBERT HALLAM, after comparing the merits of ether and chloroform, said that the only two safeguards against overdose of the latter were a knowledge of its physiological action and the maintenance of a free airway. He enunciated his theory of the cause of chloroform overdose as follows:

Air containing chloroform enters the lung alveoli and the vapour is absorbed by the blood, such absorption depending on (1) the percentage of chloroform in the inhaled air, (2) the air pressure in the alveoli. Thus a current of air containing chloroform goes in and out of the lung alveoli, and as more vapour is absorbed the characteristic signs of anaesthesia develop. If this exchange occurs with freedom all is well, but if any interference with respiration occurs through obstruction the situation becomes one of extreme danger. Nature's remedy for obstruction is expiratory effort, and the combination of expiratory effort and obstruction raises the alveolar pressure and alters the composition of the residual air; consequently rapid absorption of chloroform occurs leading to an overdose. The patient is poisoned not from the chloroform on the mask, but from that in his alveoli.

Illustrations in support of this theory were: (1) In the operation for tonsils and adenoids a patient "lightly under" might through lingual obstruction or the manipulations of the surgeon become suddenly poisoned. (2) The absence of poisoning where intratracheal administration by catheter was employed and there was free airway. (3) The rapid recovery from poisoning when by removing obstruction and performing artificial respiration intra-alveolar pressure was rectified. Mr. Hallam also referred to the question of idiosyncrasy to chloroform and the value of suggestion before operation.

Dr. W. DAKIN MART demonstrated Boyle's gas and oxygen apparatus, laying stress on the importance of systematic preliminary arrangement of the accessory appliances. He advocated preliminary medication with morphine $\frac{1}{4}$ grain and atropine $\frac{1}{150}$ grain, twenty minutes before the start of the operation. In abdominal operations the abdominal wall should be anaesthetized (after the patient was under) by means of $\frac{1}{2}$ per cent. novocain and $\frac{1}{4}$ per cent. potassium sulphate given independently and injected layer by layer. This prevented the occurrence of pain after coming round, and so enabled the patient to breathe more deeply, and clear the lungs more quickly. It was desirable to start the induction with a pressure of one "hole" of oxygen and three of nitrous oxide. The patient first breathed air until the bag was three-quarters full of this mixture, when the valves were turned on and he breathed from the bag and into the air. Then rebreathing in and out of the bag began. The colour of the ears should be watched; if they became dusky more oxygen should be given.

The signs of complete anaesthesia were regular quiet breathing (sometimes difficult to obtain), pupils small and active, eyes moving, and a normal pink colour. The signs of deep anaesthesia were snoring (difficult to avoid with the rebreathing mechanism), dusky tinge, jactitation, rolling of the eyeballs, and dilatation of the pupils. These signs indicated that more oxygen should be given. Suitable cases were amputations, chest cases, those suffering from severe shock or from pneumonia and bronchitis. Nose and throat cases were difficult to anaesthetize by this method. Advantages over other methods were: No fall of blood pressure, very little vomiting, rapid recovery from the anaesthetic, and often an improved general condition of the patient after the operation.

Dr. FAVELL demonstrated Marshall's apparatus for gas and oxygen, and many other members took part in the discussion, including Dr. ROBERTSON, Dr. HILLIER, Dr. SNEDDON, Dr. MILNER, Dr. HOLROYD, Dr. STEDMAN, and the PRESIDENT.

CONSTRICTION OF URETER.

AT a meeting of the North of England Obstetrical and Gynaecological Society, held at Sheffield on March 19th, the President, Mr. MILES H. PHILLIPS, read a short paper on unilateral pelvo-abdominal pain due to constriction of the ureter. The type of patient he had in mind complained of a definite, localized and clearly described pelvic or pelvo-abdominal pain intensified by menstruation and for which the most careful pelvic examination or even abdominal exploration could find no satisfactory explanation. By a study of the following cases he showed that constriction of a ureter by scar tissue or other band was a sufficiently likely cause to warrant exploration with the cystoscope and ureteral catheter.

Case 1.—Pain in right iliac and lumbar regions, commencing three days after hysterectomy for fibroid, causing post-partum haemorrhage. Pain persisted although the general condition was steadily improving. Bladder examined a fortnight after operation, and right ureter seen to be acting less frequently and ejecting a smaller stream of urine than the left. At further examinations, a week and fourteen days later, right ureter apparently blocked. Abdomen reopened and affected ureter found dilated at pelvic brim and constricted about one inch from bladder by a tough fibrous cord containing vessels and evidently resulting from tissue dragged inwards and included in the ligature round right uterine artery at previous operation. Division of cord was followed by rapid recovery and no further pain.

Case 2.—Pain in left iliac and lumbar regions dating from confinement seventeen years previously. Menorrhagia and premenstrual exacerbation of pain. No enlargement of left kidney. Cervix deeply split on left side and firm scar in left fornix. Abdomen opened and left ureter found distended above point opposite cervix where it plunged into dense mass of scar tissue. Ureter separated with difficulty and hysterectomy performed. Operation two years ago, and no pain since.

Case 3.—Single girl. Pain in right iliac fossa, commencing in 1914. Dilatation of cervix brought no relief. Right kidney unduly mobile. Kidney fixed to fascia and muscles of loin eighteen months later, but pain continued. Abdomen opened after further interval of eighteen months. Uterus, appendages, and vermiform appendix normal. Right kidney well fixed. Extensive Jackson's membrane across ascending colon, and strong peritoneal bands about caecum. Right ureter bound by fibrous band hardly more than ridge of peritoneum, at point 2 in. above pelvic brim. Band divided and patient perfectly relieved.

In none of the cases was there any tangible enlargement of the kidney, but a hydronephrosis would probably have resulted had the obstruction not been removed. The symptoms complained of were those of early ureteric obstruction, and the fact that an increase in pain occurred before or during menstruation brought such cases under the care of the gynaecologist.

Factors in Abortion.

Drs. DOUGAL and BRIDE (Manchester) read a paper on factors causing abortion, based on a clinical and pathological examination of 100 consecutive cases of abortion admitted to the maternity department of St. Mary's Hospital, Manchester. The authors pointed out that the work was in the nature of an experiment, and that 100 cases were too small a number on which to base authoritative results. They hoped, however, to continue the work along similar lines. The following conclusions were arrived at as the result of the investigation:

(1) Abortion occurs most commonly between the third and fourth months. (2) It is comparatively uncommon in primiparae—less than one-fifth of the series belonged to this category. Most women who abort have borne previous full-term children, and, in a majority of cases, more than one. Frequent abortions in the same patient are uncommon, and not necessarily due to syphilis. (3) As regards the factors producing abortion, accidental and reflex causes account for 18 per cent., general disease of the mother 7 per cent., disease or displacement of the mother's genital organs 12 per cent., and gross abnormalities of the fetus, cord, or placenta other than those due to haemorrhage and infarction, 6 per cent.

They considered that the importance of syphilis as a cause of abortion had been somewhat exaggerated. The Wassermann reaction was positive in 12 cases, but in half of these some other abnormal condition was present which by itself might have produced the abortion. In only one case were clinical signs of syphilis present, and in no specimen could typical syphilitic changes or spirochaetes be demonstrated. They estimated at not more than 10, and probably nearer 8, the percentage of cases in which syphilis produced abortion. The percentage of self-induced cases was difficult to estimate, but probably not less than 20 per cent. Ten patients in the series admitted that they had wilfully brought on abortion, and eight employed lead pills for the purpose. In 30 per cent. of the cases no cause could be assigned, and pathological investigation threw little additional light on the subject. It appeared, however, that in the great majority of cases the mother was at fault as the result of some diseased condition, whether of an organic nature or merely an increased irritability of the centres presiding over the expulsive action of the uterus.

Rebiews.

GENERAL PHYSIOLOGY.

IT is always refreshing to find a familiar subject treated in a new fashion. Will fresh light, one asks, be thrown on the old material? will thought be stimulated? Professor M. ARTHUS, in his book *La Physiologie*,[1] has in some respects broken new ground so far as the systematic treatment of his subject matter goes. Is he successful? does he stimulate thought? does he charm or irritate? does he point to new horizons? The book certainly is interesting; it has its value. Physiology is discussed in a fresh way, but somehow it fails to satisfy. It is difficult in the first place to understand for what audience the book has been prepared. At one moment it would appear to be for students of medicine who have a fair knowledge of the subject; at another it might be presumed it was for the intelligent layman without specialized knowledge. Like all such volumes it is weakened by its attempt to meet every demand.

The volume is curiously arranged. It is divided into two books called (I) the methods, and (II) the results and hypotheses, respectively. The first book is in turn subdivided into three parts: (1) Observation, (2) experiment, (3) pathology; the second book consists of one part only. Under the heading observation, the various methods by which our information is obtained are discussed in rather a perfunctory fashion; under experiments there is a wide range of discussion, from the choice of the animal on which the observations are to be made, to the interpretation to be put upon the observed facts; finally, under the heading pathology there is a rather thin disquisition on the interrelation between the study of the normal and the abnormal, and more particularly on the question whether the physiological observations made on animals can be applied to man. Such matters as cerebral localization, hepatic disease, myxoedema, and diabetes are discussed, and it is shown how the information collected by laboratory methods is applicable to the human subject. Stress is quite properly laid on the fact that there ought to be much more intimate co-operation between the physiologist and the practising medical man, that the advantages to be

[1] *La Physiologie.* Par Maurice Arthus, Correspondant national de l'Académie de Médecine, etc. Paris: Masson et Cie. 1920. (Cr. 8vo, pp. 430. Fr. 10 net.)

gained are mutual, that by keeping touch with the practical applications of his science the physiologist will perform more useful work, and that the medical man, by following the advances in physiological science, will find his work lightened and rendered infinitely more interesting.

The second book, on results and hypotheses, is much more interesting, dealing as it does with the more speculative side of the question, but it is precisely this book which causes the disappointment. The field is so inviting, so little has been done in recent years to correlate the various hypotheses or to attack the effete and the shams. The introduction is so promising. The physiologist is no mere collector of facts; he discusses them, he interprets them, he classifies them, and he arrives through them at the great laws which preside over the manifestations of life. This work is not exclusively physiological, it is also philosophical; but the physiologist can undertake it because *il y a toujours un philosophe que sommeille au fond d'une âme physiologique.* It is true every word of it, but M. Arthus has failed to justify the faith that is in him. The mechanists, self-appointed guardians of the physiological shrine, may dissent; but it is a fact that, simply because no one has had either the courage or the necessary training, with the notable exception of Dr. John Haldane, to tackle the mass of physiological facts in a philosophic manner, modern physiology tends year by year to assume the appearance of a mass of ugly conglomerate. Some day M. Arthus may be tempted to write a shorter book in which he will allow his fancy freer rein; then we may expect an essay which will be both stimulating and charming. As it is, however, the present volume can be strongly recommended to all medical students and practitioners who desire a knowledge of the applications of physiology.

CYSTOSCOPY AND URETHROSCOPY.

THE task of translating a standard work and of ensuring that it loses as little as possible of its original vitality in the process is not light. It is fortunate, therefore, that LUYS should have confided the production of the volume *Cystoscopy and Urethroscopy*[2] to the competent hands of Dr. ABRAHAM WOLBARST, who is himself an eminent urologist, and, as he confesses, an ardent admirer of the French author. He feels that in extending more widely amongst English-speaking urologists the knowledge of Luys's important treatise, he is not only performing an act of homage to its distinguished author, but also contributing to the progress of genito-urinary science. Luys's avowed object in writing his treatise was to illustrate and popularize the use of direct vision cystoscopy and urethroscopy. Neither in Great Britain nor in America has this method of cystoscopy received the extensive recognition that has been accorded to the indirect method. Whatever may be the reason for this marked preference for indirect cystoscopy, urology will surely gain in both countries from a clear exposition of the direct method.

Luys's book is worthy of an important position in the library of the urologist as a standard reference work on the science of endoscopy. It contains an extensive and illuminating account of the origin and development of cystoscopy and urethroscopy. Various types of urethroscope and cystoscope are described, beginning with those employed in the earlier days of the science, and concluding with the more modern instruments. Both indirect and direct methods are passed under review, the author finally giving judgement in favour of the latter. His reasons for preferring direct cystoscopy are, in the first place, that in it the personal equation is reduced to a minimum; far less experience is required in interpreting the view of the bladder obtained in direct cystoscopy than that furnished by the indirect instrument. The bladder wall may be viewed not only full-faced but in profile, a facility which permits of slight elevations and depressions being detected. In addition to this, the colour of the mucous membrane appears more natural under air than under water distension, and no difficulty is experienced in viewing a contracted viscus which cannot be properly distended. Luys also claims that haematuria and pyuria are less troublesome with direct cystoscopy and under greater control. Finally, he claims that this method is the only one applicable to cases of vesical fistula, and that it permits of cystoscopy in pregnancy and in cases of abdominal tumour. It is, he asserts, vastly more convenient when treatment is required. As a set-off to these weighty advantages he mentions the diminution in the visual field with the direct cystoscope, the necessity for employing an instrument of large calibre, and the occasional failure to obtain sufficient unfolding of the vesical walls. To these objections we should have added the greater discomfort inflicted on the patient.

After giving Luys's reasons for preferring the direct method of cystoscopy, the translator and editor has inserted a summary of the position as viewed by an American advocate of indirect cystoscopy, Dr. W. F. Braasch; it is a very fair review of the question, and while maintaining the preference of the majority of American urologists for the indirect instrument, the advantages of direct cystoscopy in certain special cases are admitted.

The book contains a great many illustrations and coloured plates representing various pathological conditions of the bladder and urethra. Although some of these illustrate rarities that may very seldom be encountered, they are rightly included in a book that aims at being a comprehensive and complete work of reference.

[2] *A Treatise on Cystoscopy and Urethroscopy.* By Dr. Georges Luys. Translated and edited with additions by Abr. L. Wolbarst, M.D., Cystoscopist, Beth Israel Hospital. London: H. Kimpton. 1918. (Sup. roy. 8vo, pp. 386; 217 figures; 24 plates, including 76 drawings from original water colours.)

ATLAS OF SYPHILIS.

INTRODUCED with a foreword by the Director-General A.M.S., the large and expensive *Atlas of the Primary and Cutaneous Lesions of Acquired Syphilis in the Male*,[3] by Major WHITE and Dr. BROWN, is based on the experience gained from some 19,000 cases of syphilis seen at a large venereal hospital; of these many were suitable for the taking of photographic records. The urgency of the problem of the early diagnosis and treatment of syphilis is universally recognized, and the authors of this *Atlas* have set up as its chief aim the giving of assistance in the early diagnosis of the disease; the majority of the pictures, photographic or coloured, are of its primary and secondary manifestations.

The primary syphilitic and non-syphilitic sores are described in considerable detail, as their early recognition is so essential; the text is in no sense a treatise on syphilis, but confines itself strictly to questions of diagnosis. It is interesting to note that multiple primary chancres were observed in 19 per cent. of 9,000 cases analysed; 834 patients showed two each, and four patients had respectively as many as 14, 15, 16, and 49 primary chancres apiece; it is pointed out that the presence of external abrasions (such as those produced by *Acarus scabiei*) predisposes to multiplicity of the primary lesions in syphilis. The seventy-nine photographs, many of them in stereoscopic view, and the five coloured plates are all excellently reproduced, and do equal credit to their artists and to the printer. The authors of this *Atlas* are to be congratulated, and their work should be of great service to medical students and workers in venereal clinics all the world over.

ITALIAN WAR SURGERY.

FORNI, in a modest, workmanlike account of an Italian surgeon's experience with a surgical ambulance during the war,[4] records 60 cases of cranial and cranio-cerebral wounds and 38 cases of penetrating wounds of the abdomen. The cases are described in detail and illustrated by 58 photographic reproductions showing the nature of the wounds. The first chapter is devoted to cranial wounds without lesion of the dura (8 in the frontal region, 9 in the parietal, 4 in the occipital, 2 at the base). The second chapter deals with wounds affecting the cerebrum as well as the cranium, and comprises 32 cases. In the next chapter the author discusses the pathological anatomy and symptomatology of both groups

[3] *An Atlas of the Primary and Cutaneous Lesions of Acquired Syphilis in the Male.* By Charles F. White, O.B.E., M.B., and W. Herbert Brown, M.D. London: John Bale, Sons, and Danielsson, Ltd. 1920. (Double demy 8vo, pp. 32; 79 photographs, 4 coloured plates. 27s. 6d. net.)

[4] *Ferite del Capo e dell' Addome in un Ambulanza Chirurgica d'Armata.* By Dott. G. G. Forni, Libero docente nell' Universita di Bologna. Bologna: L. Cappelli. 1919. (Sup. roy. 8vo, pp. 181; 58 figures.)

of cases. Like most surgeons he points out that there is no certain relation between the injuries of the soft parts and those of the skull and encephalon, hence the necessity of careful and thorough exploration of all the wounds. Early symptoms pointing to cerebral lesions may sometimes clear off quickly, and prove to be merely due to shock; but, on the other hand, serious injury may be slow in showing definite signs and symptoms. Arrhythmia is usually of bad omen, even when the general and local symptoms suggest a hopeful prognosis. On the important question whether the dura should be opened in cranial wounds or left alone, the author expresses the opinion that it is necessary only in a relatively small number of cases, and only when symptoms of compression develop and either do not disappear or become accentuated. The author records 26 cases in which fragments of shell or other foreign bodies were present. The much more fatal character of cranio-cerebral wounds when compared with cranial wounds is shown by the mortality—for example, out of 28 operated on for cranial wounds only 1 died, whereas out of 32 with cranio-cerebral wounds 14 died.

The second part of the book is devoted to penetrating wounds of the abdomen; the cases related comprise 24 penetrating wounds with lesions of the gastro-intestinal tube, 5 with injury to intestines and parenchymatous organs, 6 with injury to pancreas and bladder, 2 with multiple lesions, and 2 with visceral lesions. Of the 38 operated on, 20 recovered and 18 died. Ether was used as anaesthetic if possible. One of the signs to which the author attached much value as establishing the diagnosis of penetration was the abdominal pain, whether spontaneous or provoked, and the rigidity of the abdomen. The state of the pulse as regards its strength and frequency was more valuable in prognosis than in diagnosis. Absence of hepatic dullness or presence of fluid in the abdomen were of comparatively slight importance, or at any rate not much attention was paid to them.

Clear straightforward accounts of surgical experiences such as Forni provides in his book form valuable additions to the large amount of surgical war literature. The collation and critical examination of such contributions to surgery ought to add much valuable information to our knowledge of the class of cases dealt with and help to fix the best mode of treatment for some years to come. There is nothing new or specific about war surgery, but the frank records of war surgeons of capacity must always be of value.

TEAM WORK IN HOOKWORM DISEASE.

DR. H. H. HOWARD, who is Director for the West Indies under the International Health Board of the Rockefeller Foundation, has published a practical book on the control of hookworm disease.[5] He describes very fully the work and composition of a field unit. The medical director sees all cases before curative treatment is commenced, is in administrative charge, and directs propaganda; four microscopists are recruited locally, one of whom is in charge of the others, and confirms all positive findings; twelve nurses collect specimens from the whole population of the area, and administer anthelmintic treatment as the medical director prescribes; the unit is completed by clerks and menials.

The aim of the Rockefeller Foundation in putting such teams in the field in various parts of tropical and subtropical America is the complete eradication of the ankylostome from the countries under treatment—its eradication, moreover, within a period of months. It is in this sense that their methods are intensive. To realize the courageousness of the undertaking it is only necessary to remember that more than half the population in these countries is infested with hookworm. Undoubtedly the intensive radical method is the only one that can in the end be successful. It is costly of course, but much less so than the treatment of those who present themselves, while the mass of the population, including of course the mild cases and the carriers, is left untouched. Eradication is of course the aim of certain tea-planters' associations whose coolies are infested with these worms; but only too often they content themselves with treating cases and effecting sanitary improvements. The aim is too low, and in the end it is found that the work has been expensive and useless.

Dr. Howard's book deals solely with administration and the organization of a campaign. It tells us how the units are equipped and paid, how long it should take to treat a given population, and what are the dangers of the administration of thymol. Specimens of case records, microscopists' report forms, and popular handbills are given, and the index is good.

[5] *The Control of Hookworm Disease by the Intensive Method.* By H. H. Howard, M.D. New York City: The Rockefeller Foundation. 1919. (Demy 8vo, pp. 189, 24 figures.)

MODERN SPIRITISM.

DR. SCHOFIELD'S book, *Modern Spiritism*,[6] it is stated in the preface, was written at the earnest request of a medical friend to present "to the public some fairly comprehensive monograph on the subject." He is anxious that his account of the matter should be found impartial; he is repelled by the publications of some recent converts, and is impressed by the danger for persons of unstable equilibrium who accept the invitation to investigate the alleged phenomena. The author's own view may perhaps best be described as orthodox in the theological, Christian sense. Thus he holds that the true Bible spiritualism is a noble science, and protests against its degradation by the modern spiritism of to-day. He points out that even spiritists recoil with disgust from the pranks, too often marked by falsehood and deception, that so frequently characterize their meetings, and quotes Maeterlinck as saying that the unknown power moves tables, produces flowers, ghosts, and so on, "all on one condition: that all performances must be without rhyme or reason, vain and puerile." The net result is not only disappointing; it is also undoubtedly dangerous to spirit and body. The atmosphere is profoundly unhealthy, repellent to common sense, and repugnant to reason. As a religion it has no firm basis, being sometimes pantheistic, at other times atheistic or purely "modernistic." Dr. Schofield holds, however, that there is a residuum of truth in so-called phenomena attributable partly to the "unconscious" mind of the medium, and partly to the existence of evil spirits, which are not spirits of the departed. As against this ingenuous view the sceptic may say that where so much is fraud, is it not possible that the residuum may have but little better basis? There is a most illuminating story in Dr. Schofield's book of a séance at the house of Mr. W. T. Stead, whereat were all the surroundings necessary for spiritist "truth"—special atmosphere, special attitude, and special apparatus. The room was darkened, hands were held tightly; there was strained attention, earnest expectation, intense desire to see something. In this atmosphere, after grave scientists had crooned American revival hymns for two hours, manifestations took place. It was in vain that the two American performers had asserted that they were not mediums, but only professional entertainers. The effect of what Dr. Schofield calls "collective hypnosis" was such that the company went away convinced that the manifestations were genuine.

While sympathy may be felt with Dr. Schofield's plea that powers exist with which we are not fully acquainted, it may be doubted whether he is justified in asserting that "auras are facts, and not the imagination of visionaries or the fancies of the mediaeval." And is it quite fair to class together hypnotism, telepathy, and wireless telegraphy as if they were of equal validity? Perhaps Dr. Schofield is inclined to hasty statements without taking sufficient pains to verify his references. At all events, it is rare to meet with three errors in two lines of print, as in the assertion that *Henry* Irving founded the *Holy Apostolic Church* or Church of the *Latter Day Saints*.

NOTES ON BOOKS.

The Road to Endor[7] is an account of how two officers, Lieutenant E. H. JONES, I.A.R.O., and Lieutenant C. W. HILL, R.A.F., contrived their escape from a Turkish prisoners' camp. It is noteworthy for two reasons, for

[6] *Modern Spiritism.* Its Science and Religion. By A. T. Schofield, M.D. London: J. and A. Churchill. 1920. (Cr. 8vo, pp. viii+259. 3s. 6d. net.)

[7] *The Road to Endor.* Being an account of how Two Prisoners of War at Yozgad in Turkey won their way to Freedom. By E. H. Jones, Lieutenant I.A.R.O. With illustrations by C. W. Hill, Lieutenant R.A.F. London: John Lane. New York: John Lane Co. 1920. (Cr. 8vo, pp. xiii+351. 8s. 6d.)

in it is described with much wealth of detail the *modus operandi* of avowedly "faked" mediumistic séances; the later part of the book tells how these enterprising and courageous officers simulated madness in order to obtain their release. The story of their pluck, endurance, and resource in the pursuit of freedom is enthralling. In order to complete the picture of mental derangement they even went the length of half-strangling themselves. Later on, in Constantinople, Lieutenant Jones, who was malingering as a case of general paralysis of the insane, had to undergo lumbar puncture for diagnostic purposes. "They then tackled my spine. I saw an orderly blow down the hollow needle and *wipe it on the back of his breeches* before handing it over to the doctors, and it nearly gave me a fit . . . for I knew enough about needles to be in mortal terror of a dirty one." There is much food for thought in this book; people who are inclined to look indulgently on spiritualism will find the subject treated with much candour and ability; its perusal may render them less likely to be dazzled by the glamour lent to the cult by some great names in modern science.

The chemistry of colloids has made great strides during the present century, finding as it does so many applications in technical chemistry as well as in the chemistry of the physiological or physical laboratory. Dr. HATSCHEK has done the science good service by publishing a *Laboratory Manual of Elementary Colloid Chemistry*;[8] its scope is clearly expressed in the title. General theories are not discussed, but accurate and detailed directions are given for carrying out the fundamental operations, for making a number of representative preparations, and for examining them by standard methods. Simple examples have been chosen, involving little expense for apparatus or material; references to the more recent literature are given at the end of each chapter. The book is clearly written, and should be available in every physiological laboratory.

The plastic surgery of the face is one of the many special departments of surgery brought into prominence by the war. In France this led to the creation of regional chief maxillo-facial surgeons with staffs to attend to the many cases of this class. Dr. HERPIN, who was a chief surgeon in charge of stomatology at Bordeaux, has written a valuable account of the various surgical treatments adopted by himself and his colleagues in these patients in a monograph on gunshot wounds of the lower jaw[9] which is full of detail, well illustrated, and based on a considerable personal experience. At the time of writing he was able to classify 572 of his 619 cases as "evacuated cured," and 11 were referred to auxiliary services; only 2 were discharged from the service, while 34 were convalescent or under treatment. The book is clearly written, and should be in the hands of surgeons dealing with cases of the class with which it is concerned.

Chemistry for Public Health Students,[10] by E. GABRIEL JONES, contains full and clearly written instructions for the performance of the experimental work in chemistry which is required by those preparing for the D.P.H. examination. Methods are adequately described, and at the same time brief but clear accounts of the principles involved are not lacking; particular attention is devoted to calculations. Concise notes are given in each chapter on the more important matters concerning public health in connexion with water, air, milk, etc. Chiefly useful as a manual of practical instruction, this volume will also serve the candidate who is revising his knowledge, as a partial substitute for the use of larger textbooks and of monographs. It contains a number of examination questions and a useful bibliography.

[8] *Laboratory Manual of Elementary Colloid Chemistry.* By Emil Hatschek. London: J. and A. Churchill. 1920. (Cr. 8vo, pp. 135; 20 figures. 6s. 6d. net.)

[9] *Les fractures de guerre du maxillaire inférieur.* Par Dr. A. Herpin, Chef de service de Stomatologie de la 18e région (Centre de Bordeaux). Paris: Félix Alcan. (Royal 8vo, pp. viii + 155; 100 figures. Fr. 4.40.)

[10] *Chemistry for Public Health Students.* By E. Gabriel Jones, M.Sc., F.I.C. London: Methuen and Co. 1920. (Cr. 8vo, pp. ix + 244. 6s. net.)

A SWISS medical congress will be held at Berne on June 5th and 6th.

THE deaths which occurred in the Italian sanitary service during the war were as follows: Medical officers, 1,060, including 377 killed in action, 216 students, 40 dispensers, 40 chaplains, 33 nursing sisters, and 11 Red Cross staff.

MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

CAR LIGHTING PROBLEMS.

DOCTORS are concerned perhaps more than any other class of the community with the matter of the safe lighting of road vehicles. It is unfortunate that, in connexion with the forthcoming regulations, it has practically been decided by the authorities that, as the dazzle problem has not been settled absolutely, the limitation of headlights must be enforced, despite the evidence furnished by existing devices. An instance was afforded by a demonstration, arranged by Messrs. C. A. Vandervell, which proved that some classes of lamps give much more glare than others. Everybody knows that it is possible to be blinded by an ordinary oil bicycle lamp, or, for that matter, by a gig lamp, because in the design of such lights no attempt was made to reduce dazzle.

The committee set up by the Ministry of Transport to investigate this problem has issued an interim report; it is still pursuing its investigations with regard to headlamps on motor vehicles, and though not in a position to make any definite recommendations, it states that the evidence heard, and the result of tests carried out, strongly point to the following conclusions:

1. No satisfactory practical dimming device to avoid dazzle has yet been discovered. Such devices as avoid dazzle to any appreciable extent unfortunately fail to give a safe driving light; also, of course, they cause an extremely large percentage of loss of lighting power.
2. Far too powerful headlights are in common use at the present time.
3. Pending the discovery of some satisfactory dimming device, a maximum power light sufficient to give a safe driving light should be fixed, and the reflectors in the case of all lights should be limited in size, varying in accordance with the power of the light.

This would not give us safe lighting or driving. Moreover, such a course would lead to the abandonment of the investigation of the problems of dazzle, and would put a premium on unscientific lamp construction, and cause the maximum dazzling effect with a bulb of the limit size —say 20 c.p.—because other road users would the more probably get out of the way of an oncoming vehicle so lit. All which would be regrettable.

THE FUEL QUESTION.

Governments respect votes; therefore it is to the interest of every medical man to do what he can to obtain signatures to a petition in regard to the high prices prevailing for motor fuel which the Automobile Association has organized on behalf of the public for presentation to the Prime Minister. The cost of the petition is being borne by the Automobile Association, which has over 100,000 members, all of them motorists. But it is not merely a motorists' petition; it is, on the contrary, a petition from all members of the community, including those who use omnibuses or whose concern in the present high price of fuel is due to the fact that their foodstuffs are brought to market or distributed by motor traction. Copies of the petition can be obtained from, and signatures will be received by, the Automobile Association, 66–68, Whitcomb Street, London, W.C.2.

It is not expected that a reduction in the price of petrol will be an immediate result of the petition; that would be impossible. What is required is a direct pronouncement of this kind, making it plain to the Government that the public is fully alive to the gravity of the present situation and determined to have the business put on a proper footing. Sir Hamar Greenwood, speaking as a member of the Government at the recent exhibition of marine motor plant at Olympia, Kensington, said that his colleagues were fully alive to the importance of the motor fuel question, and were taking every possible step to bring more and more of the production, as well as of the distribution, under the British flag. But this will take time, and it is useless to suggest, as Viscount Curzon, M.P., did on the same occasion, that because nothing could be done to produce an immediate effect on prices the petition to the Prime Minister would be useless. This is a mistake, for the more this or any future Government realizes that the whole public is concerned with the price of motor fuel the more prompt and the more sincere and unremitting will

be its efforts to see that new sources of production are opened up and alternative fuels provided.

What is Being Done.

At the moment every possible sort of oil well is being tested. Undoubtedly a result will be that the production of crude oils will be enormously expanded in the course of the next three to five years.

At the moment it is impossible to do anything material in the way of producing benzol because the coal miners are producing something like 50 per cent. short of what is needed for the bare requirements of our ordinary industries, apart altogether from the distillation of benzol from such coal. When the miners are prepared to work fairly in exchange for high wages, then we shall have sufficient coal to be able to distil much benzol. The Government is already keen on this, but it will be the keener as signatures are secured to such petitions as that being promoted by the Automobile Association and Motor Union. Therefore, as the average medical man in this age requires motor fuel in order to pursue his profession, it will be in his own interests as well as in that of the nation in general if he would, in his leisure moments this week, point out to any with whom he comes in contact that those petition forms should now be sent in to the Automobile Association, whether they have a few only or the full number of sixty signatures which each may carry. No form need be signed by a motorist. All that is needed is that the signatures should come from members of the public.

The price of fuel in America has risen. It is almost inevitable that there should be a corresponding rise in this country. Matters are likely to go worse before they become better. But in the measure in which they grow worse we are more assured of coming, and that at an earlier interval, to a more favourable state of affairs. The position at present is frankly impossible. The various nations are bidding against one another for the insufficient supplies of motor fuel in relation to the total demand.

The Only Way.

Unfortunately the motor fuel proposition is inextricably bound up with many others. It is not a case of one trust monopolizing the whole world. Instead there are many big rival corporations. Shortage of supplies in relation to world demand is the lever that raises the price. Further, the demand for motor fuel in America is advancing enormously because the motor vehicle industry there has not suffered any interruption of output and the agricultural motor, the use of which is rapidly extending, is making additional demands, so that the total world production of oil could be absorbed in the United States of America alone. Consequently it is impossible for our Government, or any other in Europe, to take up a dictatorial attitude. All that would happen as a result of that would be that the British market would be neglected and supplies sent elsewhere. So serious is the position that it is not altogether unlikely that, before the year is out, we may be rationed for motor fuel in this country just as we were during the war.

Of this the Government is better aware than the general public. It is concerned, of course, with oil as such, because we are a maritime people. The future power for ships must be furnished by oil fuel, not used in the liquid fuel internal combustion engine as far as the majority of ocean-going vessels is concerned, but by the burning of crude oil for the raising of steam. Some motorists vainly imagine that the more this market develops, the greater will be the prejudice wrought to, and the shortage of supplies for, passenger cars and utility motor vehicles. Than that nothing could be more wildly absurd. The first thing for the Government is to do everything to stimulate all the wells in the country being exploited as promptly as possible, and at the same time to bring into use all the possible oil wells in the British Empire, and after that to get as many as possible in foreign countries under British control.

The only way to do that is to encourage private enterprise of every sort and not grudge those who embark on it any profits they reap, because, provided the profits look big enough, they will go ahead in ever-increasing numbers, and the net result will be that, presently, supply will overtake demand; then commercial competition between them will cause the price to fall. This is the only possible way. Further, by looking at the matter in a broad way, and discussing oil rather than petrol, the greatest amount of progress will be made; because we must find a market for the residuary products of the crude oil, otherwise petrol can be produced only at utterly uncommercial prices. It is a fact that petrol sold in this country to-day yields practically no profit. That is why there is a likelihood of the price rising very shortly. This, of course, does not mean that the big petrol vending companies are not making enormous profits, but they are made out of selling their motor spirit outside this country. Shipping, distribution and kindred costs are so high that the profits are relatively negligible at present prices, for it must be kept in mind that prices are varying every week, and, unfortunately, all the variations that have taken place this year have been in an upward direction.

The Dangers of Advocating Monopolies for Motorists.

In face of the need to encourage, not to discourage, the development of oil fields, and the fact that it is quite impossible to talk about benzol being made available in sufficient quantities in this country, since the amount of coal raised must be increased by 50 per cent. if it is to suffice for the needs of our industries alone, far less for the needs of warming our houses and for our export trade, it is idle to suppose that any miracle can be performed that will give us all the benzol we need. The Government has in mind the development of the benzol industry and hopes also that presently alcohol fuel will become available in sufficient quantities.

The point is that motorists should never cease organizing, agitating, and, above all, educating the public by conversation at every possible turn concerning the importance to itself of sufficient liquid fuel supplies of all sorts. That is one reason why we ought to use the broad term "oil." Not only does oil make for greater economy; it is, besides, something that the public can appreciate as driving the ships to bring their foodstuffs and raw materials into this country and take exports away from it. Link that problem up in the public mind with road transport for personal convenience and the cheaper marketing of foodstuffs, and the public will begin to understand the importance of the oil era to the community at large. To argue, as some do, that utility motor vehicles should not be allowed to use either benzol or petrol is the most harmful thing that could be done for motoring in a democratic country and age. We shall never succeed by urging a monopoly for car users.

Our present sorry case should stimulate the evolution of very much lighter motor vehicles to ensure less consumption. Be that as may be, the point is that the situation is so grave that the Government dare not neglect it any longer. A result will be that, if enterprise continues to be accelerated at the rate to which it is being forced now, it is likely that in three years we shall arrive at a satisfactory situation. On the other hand, were there any slacking in the present, or any inclination on the part of the public not to force the Government's hand in the matter, unquestionably we should have to start three years hence and then probably it would take six years to put the situation right.

From all this it will be understood that the coming basis of the taxation of motor vehicles, which will be announced in the Budget, cannot possibly be, as would be ideal, by process of the fuel tax. The problem is too fraught with difficulties from the point of view of the Government—which is concerned, not with taxing fuel, but with getting sufficient fuel first, and then of getting it sufficiently cheaply—for it to be possible to raise revenue in that way, in face of the differentiation for home produced fuel, and of the difficulties of defining motor fuel for taxation purposes.

The sole tax on motoring of the passenger sort will probably be on the engine; though the method of rating may be different from that at present adopted by the Treasury. Whatever the method, engine rating is the least satisfactory way. It cannot be pretended that it bears any relation to the use of his motor vehicle enjoyed by the individual taxpayer. Further, it predetermines design and utterly fails to give any encouragement to the development of chassis construction or bodywork. Infinitely the better course would have been to tax vehicle

weight, as is proposed in regard to utility motor vehicles. That would encourage more economical motoring, lighter motor vehicles, and would not prejudice the method of design in any way.

FOREIGN MINERAL WATER RESORTS.

THE fact that we are now enjoying the blessings of peace—if indeed it be a fact—is turning the thoughts of the British, who are inveterate wanderers, towards the possibility of visiting foreign countries. Among these are a certain number of persons who wish to combine a holiday with spa treatment. We have recently received two communications, one from Dr. D. W. Samways, of Mentone, about Brides-les-Bains — sometimes called the French Carlsbad—and the other from Dr. T. Gerald Garry, of Cairo, about Pistany, called before its incorporation in the Czecho-Slovak Republic "Pöstyén."

BRIDES-LES-BAINS.

Brides-les-Bains, in Savoy, lies at an elevation of 1,800 ft., amidst, as Dr. Samways says, magnificent mountain scenery. Brides-Salins is two miles away. At Brides-les-Bains, where most visitors reside, the daily yield is about 100,000 gallons of water at 95° F. It is closely analogous to the Sprudel source at Carlsbad, there being about the same total mineralization, very similar constituents, and the same quantity of free carbonic acid gas. The output of medicinal water at Brides-Salins is very abundant—about one and a half million gallons daily. The temperature is 96° to 97° F. The principal source at Nauheim (the Frederic Wilhelm) has the same temperature, and, except that it is somewhat stronger, essentially the same composition as that at Salins, though as weaker waters are commonly employed in the earlier stages of treatment, the Salins waters are suitable for these stages, and, by concentration, for the later stages also. The concentration of carbonic acid gas at Nauheim is about half as much again as at Salins, but the superabundance of water at Salins is a great asset, and the private as well as the swimming baths are commonly taken in running water. Dr. Samways continues:

> Persons suffering from disorders affecting the abdominal organs, liver, stomach, intestines, or kidneys, will generally profit considerably by a course of waters at Brides. Gout, diabetes, and obesity are likewise treated. The waters at Salins are suitable for young people with enlarged glands, anaemia, chlorosis, and debility, and great numbers of French children are sent there, as also are convalescents generally. Cardiac cases are treated as at Nauheim. Women suffering from disorders peculiar to their sex were specially recommended to visit Brides by Professor Buchanan of Glasgow, who was much impressed by the value of the waters for these cases (*Glasgow Medical Journal*, December, 1889).
>
> It is many years since I practised at this wonderful little spa, but I have never seen in England or in France any spa which can compare with it for range of possibilities or inherent merit. It has, moreover, the additional advantage of being situated in the middle of one of the most beautiful districts in France.

Brides-les-Bains is reached by passing through Aix-les-Bains to the terminus of Moutiers, sixty miles beyond Aix and three miles from Brides. The best and usual season for English visitors is from the middle of May till the middle of July, after which it is almost impossible to find accommodation, while for English visitors it is too hot.

PISTANY.

Dr. Garry writes in praise of the therapeutic properties of the thermal water and mud available at Pistany in Czecho-Slovakia. They were praised in this JOURNAL as long ago as 1888 by the late Sir T. Spencer Wells, who spoke of the benefit derived by patients crippled through gout or rheumatism and by chronic diseases of the joint. Inveterate cases of sciatica, he said, had been cured, and also chronic periostitis and catarrhs of certain internal organs. Sir Spencer Wells added that "after the [then] last war a great many men who had suffered from simple and compound fractures of bones, or chronic exudations after other injuries, or neuralgia after amputation or resections, recovered rapidly at" Pistany. Dr. Garry suggests that at the present time, when so many are crippled or suffer intractable pain of a rheumatic or neuralgic character due to hardship or exposure in the recent war, the experiences of so eminent an authority at Pistany cannot be too widely circulated. Both the water and the mud have a natural temperature of 140° F., and both, but especially the mud, possess a high degree of radio-activity, the mud retaining this property while in use.

The "cure" consists in drinking the water and taking baths: (*a*) the basin bath of pure mineral water (mirror bath); (*b*) the basin bath with natural mud residuum; (*c*) private baths of pure mineral water; (*d*) private mud baths; (*e*) localized mud baths and poultices.

The treatment, Dr. Garry says, is efficacious in the following conditions:

> In inveterate cases of arthritis (often completely cured), chronic gout and rheumatism accompanied by pain, stiffness or thickening in the muscles and joints, after injuries to bones, tendons, or the joints, especially in the painful conditions so frequently noticed as a result of defective or imperfect union of fractures, chronic sciatica, lumbago, neuralgia, and neuritis.
>
> Chronic pelvic troubles are relieved, also the painful conditions following appendicitis or peritonitis.
>
> Pistany has obtained a reputation in the treatment of chronic spinal affections; the cases, however, which are speedily and permanently cured are that large class comprised under the various forms of paralysis of functional origin, generally associated with peripheral neuritis, and due either to toxaemia after infectious fevers, or to gout, alcohol, or metallic poisoning.
>
> Many cutaneous affections are greatly benefited. Obesity is also favourably influenced as well as the trophic disturbances associated with varicose veins. A British physician practises at Pistany during the summer months, and at the present time living for English-speaking people, owing to the rates of exchange, is very cheap and food is plentiful and good.

Pistany is three hours from Vienna, three and a half from Budapest, and one from Pressburg. The surrounding country is beautiful and of historical interest. Hale persons accompanying invalids will find facilities for fishing, boating, golf, and tennis. Persons who may think of trying Pistany this year will be well advised to obtain reliable recent information about the journey.

HONOURS.

A SPECIAL Supplement to the *London Gazette*, dated March 30th, contains the following promotions in and appointments to the civil division of the Order of the British Empire for services in connexion with the war:

M.B.E.

Tom Bland Abbott, L.S.A., Medical Services, Lotherford Hall Auxiliary Hospital, Aberford, West Yorkshire. George Reinhart Anderson, F.R.C.S., L.R.C.P., Surgeon, Southport Infirmary. James Edwin Anderton, M.R.C.S., L.R.C.P., Medical Officer, New Mills Auxiliary Hospital, Derbyshire. Bennett Harvey Andrew, M.D., Medical Officer, Thame Auxiliary Hospital, Oxfordshire. Henry Edward Annett, M.D., Medical Officer, Joint Committee Hospital, The Vicarage, Runcorn, Cheshire. Frederic Fairburn Armytage, L.R.C.P., L.R.C.S., Medical Officer, Askam Grange, Clifford Street and Nunthorpe Hall Auxiliary Hospitals, Yorkshire. John Parkinson Atkinson, M.R.C.S., L.R.C.P., Senior Medical Officer, Walden Place Hospital, Saffron Walden.

Edwin Baily, M.D., Medical Services, British Red Cross Convalescent Home for Officers, Hotel Californie, Cannes. Lieut.-Colonel Frederick Rowland Barker, M.B., Secretary, Worthing Branch, British Red Cross Society. Ernest James G. Berkly, F.R.C.S., Divisional Inspector, Southwark, British Red Cross Society; Medical Officer, Divisional Hospital. William Henry Bishop, M.B., B.S., Medical Officer, 14th Northumberland V.A.D. Hospital, Holeyn Hall, Wylam-on-Tyne. Richard Oxley Bowman, M.D., Medical Officer in charge, Fairview Auxiliary Hospital, Ulverston. Frederick Augustus L'Estrange Burges, M.R.C.S., L.R.C.P., Member of Medical War Committee, Sheffield, Ministry of National Service. Ernest Joseph Burnett, M.B., Commandant and Medical Officer of Skelton Red Cross Auxiliary Hospital. Henry Ambrose Burrowes, M.D., J.P., Medical Officer and Officer in charge, Lynn Auxiliary Hospital, Cheshire. Henry Branson Butler, F.R.C.S., Surgeon, Auxiliary Hospitals, Guildford.

William Edmund Cant, M.D., F.R.C.S., Medical Officer, Woodhouse and Great Horkesley and Gostwycke Auxiliary Hospitals, Colchester. Arthur Ernest Clarke, M.D., Medical Officer, St. Augustine's Hospital, Rickmansworth, Hertfordshire. George Crau, M.D., V.D., J.P., County Director, Kincardine Branch, British Red Cross Society; Medical Officer, Weal Auxiliary Hospital.

James Henry C. Dalton, M.D., J.P., Member of Cambridge Borough Local War Pensions Committee. George Day, F.R.C.S., Medical Officer to H.M. Cylinder Dépôt, Bucknall, Ministry of Munitions. William Thomas Dempster, M.R.C.S., L.R.C.P., Commandant and Honorary Medical Officer, South Croydon Red Cross Hospital. Major Herbert Crowley Dent, Medical Officer, V.A.D. Hospital, Colne House, Cromer. John Henry Dewhurst, M.D., M.R.C.S., Medical Officer, Norton Hall Auxiliary Hospital, Gloucestershire. Alexander Dey, M.B.,

C.M., Medical Officer, 12th Northumberland V.A.D. Hospital, Fowberry Hetton, and 13th Northumberland V.A.D. Hospital, Etal Manor, Cornhill-on-Tweed. Eustace James Carey Dicks, M.D., B.S., Medical Officer, Eastor Park Hospital, Suffolk. Herbert Dobie, M.D., Principal Medical Officer, Eaton Hall Auxiliary Hospital; Medical Officer, Oakfields Auxiliary Hospital, Upton, Cheshire. Herbert Leopold Dowsing, M.R.C.S., L.R.C.P., Medical Services, St. John Voluntary Aid Hospital, Hull. Thomas Lambert Drapes, M.B., B.C., Medical Officer, Portskewett and Gwy House Auxiliary Hospital, Chepstow, Monmouthshire. Motherwell Duggan, M.R.C.S., L.R.C.P., Medical Officer, Rayner Croft and Haigh Lawn Auxiliary Hospitals, Bowdon, Cheshire, and John Leigh Officers' Hospital, Altrincham. Robert Harold W. Dunderdale, M.R.C.S., L.R.C.P., Medical Officer, Blackpool Hospital, and Secretary to Medical Board. William James Durant, M.D., Medical Officer, United Alkali Company, Limited. John Richard Haigh Dyson, L.R.C.P., L.R.C.S., Medical Officer, Honley Auxiliary Hospital, Huddersfield.

Flavell Edmunds, M.R.C.S., L.R.C.P., Medical Officer, Chesterfield Auxiliary Hospital, Derbyshire. Bogdan Edward J. Edwards, M.B., C.M., Commandant and Medical Officer, Boothroyde Auxiliary Hospital, Brighouse, West Yorkshire. Roger Bellis Edwards, M.B., B.S., Medical Officer, Leeswood Hall Auxiliary Hospital, Mold, Flintshire. Arthur Campbell Elliott, M.B., C.M., Medical Officer in Charge, Chaseside Auxiliary Hospital, St. Anne's-on-Sea. Harry Loft Evans, M.R.C.S., L.R.C.P., Member of Hull Medical War Committee, Ministry of National Service. William Owen Evans, L.R.C.P., L.R.C.S., Voluntary Medical Services to sailors and soldiers and their dependants in the Swansea Valley.

Frank Fawssett, M.B., B.S., Medical Officer, East Chiltington Hospital and St. Ann's Auxiliary Hospital, Lewes, Sussex. Edgar Hall Felton, M.R.C.S., L.R.C.P., Medical Officer, Cleethorpes Auxiliary Hospital, Lincolnshire. Bernard Gilpin Forman, M.B., Ch.B., Commandant and Medical Officer, Cober Hill Hospital, Scarborough. Alfred Wightman Forrest, M.B., C.M., Member of Sheffield Medical War Committee, Ministry of National Service. Miss Sarah Louise Fraser, M.D., B.S., Medical Officer, Nunthorpe Hall Auxiliary Hospital, York.

Henry Willoughby Gardiner, M.D., F.R.C.P., Medical Services, Quarry Place Auxiliary Hospital, Shrewsbury. Thomas Gerald Garry, M.D., Cairo Representative, St. John Ambulance Association. Captain James Albert Gibson, M.D., Medical Officer, Galcombe Auxiliary Hospital, Isle of Wight. John Cecil M. Given, M.D., Medical Officer, Holt Auxiliary Medical Hospital. Hope Wilkes Gosse, M.R.C.S., L.R.C.P., Medical Officer, Eccleshall Auxiliary Hospital, Staffordshire. Lieut.-Colonel Robert Balfour Graham, V.D., F.R.C.S., J.P., County Director, Fifeshire Branch, British Red Cross Society. George Gunn, M.D., F.R.C.S., Medical Officer, Parkgate Auxiliary Hospital, Cheshire.

Edward Marrack Hainworth, F.R.C.S., Medical Services, St. John V.A.D. Hospital, Hull. John Halliwell, M.R.C.S., L.R.C.P., Medical Officer, Winchcombe Auxiliary Hospital, Gloucestershire. Andrew Harris, F.R.C.S., L.R.C.P., Medical Officer, Red Cross Hospital, Keyford, Frome. Louis Brightwell Hayne, M.D., Medical Officer, Grove House Hospital, Harrogate. John Edridge Healey, M.B., Ch.B., Medical Officer, Moor Park Auxiliary Hospital, Preston. Captain George Brown Hillman, Medical Officer, Ledston Hall Auxiliary Hospital, Castleford, Yorkshire. Arthur Henry William Hunt, L.R.C.P., M.R.C.S., Medical Officer, Tettenhall Auxiliary Hospital, Staffordshire.

Joe Iredale, L.R.C.P., M.R.C.S., Medical Officer, Mablethorpe Auxiliary Hospital, Lincolnshire.

Daniel Noel Jackson, M.B., B.S., Medical Officer, 4th Northumberland V.A.D. Hospital, Dilston Hall, Corbridge-on-Tyne. Edward Siddall Jackson, M.D., C.M., Consulting Surgeon, Wray House Auxiliary Hospital, Wray, and Medical Officer, Bleasdale Auxiliary Hospital, Silverdale, Carnforth. Charles Saint Johnston, M.R.C.S., Medical Officer, Gloucester Red Cross Auxiliary Hospital. John Jones, L.R.C.P., D.L., J.P., Chairman, Dolgelly Sub-area War Pensions Committee; Member, North Wales (Joint) Disablement Committee. Owen Thomas Jones, L.R.C.P., M.R.C.S., Medical Officer, Barry Dock Hospital, Glamorganshire.

Charles Scott Kilner, M.B., C.M., J.P., Medical Officer, West Suffolk General Hospital and Red Cross Hospital, Northgate Street, Bury St. Edmunds. Thomas Ramsay King-Edwards, M.D., Medical Officer, Swyncombe House Auxiliary Hospital, Oxfordshire.

Major Frederic Charles Langford, M.D., M.R.C.S., Divisional Inspector, Camberwell Division, British Red Cross Society. George Johnson Langley, M.D., Medical Officer, Loversal Hall Auxiliary Hospital, Doncaster. Alexander Ledingham, M.D., County Director, Banffshire Branch, British Red Cross Society. Lieut.-Colonel John Daniel Lloyd, T.D., L.R.C.P., M.R.C.S., J.P., Medical Officer, Brynkinalt Auxiliary Hospital, Chirk.

William Neil Macall, M.D., C.M., Secretary and Medical Officer, Meols Hall Auxiliary Hospital, Churchtown, Southport. John Macdonald, M.B., C.M., J.P., Acting County Director, Fifeshire Branch, British Red Cross Society. Duncan McFadyen, M.B., J.P., County Director, Inverness-shire Branch, British Red Cross Society. Kenneth Child Mackenzie, M.D., Medical Officer, Red Cross Hospital, Caerphilly, Glamorganshire. Harold Hay Brodie MacLeod, F.R.C.S., L.R.C.P., medical services, Quarry Place Auxiliary Hospital, Shrewsbury. Henry Carter Mactier, M.B., B.Ch., Member of Wolverhampton Medical Board, Ministry of National Service. John Ogdin March, M.R.C.S., L.R.C.P., Medical Officer, Bulford Manor Hospital, Wiltshire. Herbert Harrison Marsden, M.R.C.S., L.R.C.P., Surgeon, The Cottage Hospital, Ormskirk, Lancashire. William Martin, M.B., Ch.B., J.P., Honorary Medical Superintendent, King's Road Convalescent Hospital and Railway Rest Home, Whitehead, co. Antrim. John Wright Mason, M.B., C.M., Medical Officer of Health, Hull. Walter Byron Maurice, M.R.C.S., L.R.C.P., J.P., Medical Officer, Marlborough Auxiliary Hospital, Wiltshire. Robert Mitchell, M.D., C.M., Medical Officer, Hooton Pagnell Hall Auxiliary Hospital, Doncaster. Alexander Patrick Mooney, M.D., J.P., Surgeon, St. Joseph's Auxiliary Hospital, Mount Street, Preston, Lancashire. James Murphy, F.R.C.S., Assistant County Director, Middlewich Division, Cheshire Branch, British Red Cross Society; Medical Officer, Middlewich Auxiliary Hospital and Annexe.

Arthur Edward Normington, M.B., Ch.B., Honorary Medical Officer, Reedyford Hospital, Nelson, East Lancashire.

Hugh Falconer Oldham, M.D., B.Ch., J.P., Founder and Medical Officer, St. John Auxiliary Hospital, Morecambe. John Orford, M.R.C.S., L.R.C.P., Medical Officer, Stapleton and Swillington Auxiliary Hospitals, Yorkshire. Mrs. Marie Orme, L.R.C.P., Commandant, Voluntary Aid Detachment No. 22, Derbyshire. William Fletcher Oyston, M.B., Ch.B., Medical Officer, Flounder's College Auxiliary Hospital, Ackworth, Pontefract, West Riding.

Charles O'Connor Parsons, L.R.C.P., L.R.C.S., Joint Honorary Medical Officer, Dore Auxiliary Hospital, Sheffield. John Edward Hocking Parsons, M.R.C.S., L.R.C.P., Medical Officer, Chipping Norton Auxiliary Hospital, Oxfordshire. Wallace Petherick, M.R.C.S., L.R.C.P., Medical Officer, V.A.D. Hospital, Garboldisham, Thetford, Norfolk. Joseph Henry Philpot, M.D., M.R.C.P., voluntary services in connexion with war refugees. Cecil Westland Pilcher, M.R.C.S., L.R.C.P., Medical Officer, Holden House Red Cross Hospital, Boston, Lincolnshire. James Damer Priest, M.R.C.S., Medical Officer, Royal Gunpowder Factory, Ministry of Munitions. John Skardon Prowse, M.B., B.C., Medical Officer, Basford House Auxiliary Hospital, Old Trafford.

Reginald Maurice Henry Randell, M.D., M.R.C.S., Medical Officer, Balgowan, V.A.D. Hospital, Beckenham.

Frank Reginald Sawdon, M.B., Commandant and Medical Officer, Auxiliary Hospital, Buxton, Derby. Leonard Edmund Scanlon, M.R.C.S., L.R.C.P., Medical Officer, Willow Bank Hospital, Manchester. George Edward Scholefield, M.D., C.M., Founder and Medical Officer, Aughton Auxiliary Hospital, Lancashire. Frank Scorer, M.R.C.S., L.R.C.P., Medical Officer, Crag Head Hospital, Bournemouth. Alexander Thomas Scott, M.R.C.S., L.S.A., Assistant Commander, Metropolitan Special Constabulary. Thomas James Selby, M.B., Senior Medical Officer, Auxiliary Hospital, Frodsham, Cheshire. Richard Holgate Shaw, M.R.C.S., L.R.C.P., Medical Officer, Auxiliary Military Hospital, Hampstead Garden Suburb. Thomas Frank Southam, M.D., Medical Officer, Cecil Road Auxiliary Hospital, Hale, Cheshire. Duncan Stewart, V.D., L.R.C.P., L.R.C.S., Medical Officer, Hexham V.A.D. Hospital, Northumberland. Walter Grahame Stewart, M.B., B.S., Medical Officer and Commandant, Priory Auxiliary Hospital, Ware. Robert Day Stokes, L.R.C.P., L.R.C.S., Commandant, Sidmouth Auxiliary Hospital, Devon. Charles Henry Sykes, M.R.C.S., L.R.C.P., medical services, Lotherton Hall Auxiliary Hospital, Aberford, Leeds.

William Henry Thorman, M.R.C.S., L.R.C.P., Medical Officer, Kirkburton Auxiliary Hospital, Huddersfield. Charles Augustus Thorne, L.R.C.S., L.R.C.P., J.P., Joint Honorary Medical Officer, Dore Auxiliary Hospital, Sheffield. Edward Tonge, M.B., B.S., Commandant and Medical Officer, Seaton Auxiliary Hospital, Devon.

Alfred Bertram Vine, M.B., Medical Officer, Timberhurst Hospital, Bury.

Edward Walker, M.D., Member of Huddersfield Medical War Committee, Ministry of National Service. Reginald Field Walker, M.R.C.S., L.R.C.P., Medical Officer, Esher Auxiliary Hospitals, Surrey. John Thompson Wallace, M.B., Member of Bristol Medical War Committee, Ministry of National Service. Ernest Ward, M.R.C.S., L.R.C.P., Medical Officer, Ridgelands, Church House, Popeswood and Buckhurst Auxiliary Hospitals, Berkshire. Howard Percy Ward, M.B., M.R.C.S., Medical Officer, Highfield Hall Auxiliary Hospital, Southampton. Arthur Muriel Watkins, M.R.C.S., L.R.C.P., Medical Officer, Broughall Cottage Hospital, Whitchurch, Shropshire. Edwin St. John Whitehouse, M.R.C.S., L.R.C.P., Medical Officer, "Hermitage" Auxiliary Hospital, Solihull, Warwickshire. Edward Richard Williams, M.R.C.S., L.R.C.P., Medical Officer, Carmarthen Auxiliary Hospital. Richard Williams, M.R.C.S., L.R.C.P., Medical Officer, Roseneath Auxiliary Hospital, Wrexham. Henry Chadwick Woodcock, M.R.C.S., L.R.C.P., Organizer of Red Cross work and Lecturer on First Aid in Enfield. Herbert Miall Woodhead, M.B., C.M., Medical Officer, Auxiliary Hospitals, Ingestre, Staffordshire, and Ashton-on-Mersey and Linden Lea, Cheshire.

FOREIGN DECORATION.

Honorary Colonel Sir Alexander Ogston, K.C.V.O., LL.D., R.A.M.C.(T.F.)., has been appointed a Cavalier of the Order of the Crown of Italy for distinguished services rendered during the campaign.

British Medical Journal.

SATURDAY, APRIL 17TH, 1920.

THE MECHANISM OF SYMPTOMS.

OF the various methods now employed to advance the science and art of medicine—the purely clinical, the laboratory, the combination of these two as practised in the recently established whole-time hospital units, and the epidemiological—the first is the oldest; it is also the most difficult to carry out with success, though this has only recently been suggested, and is, perhaps, not yet generally recognized. It is not easy to realize that our familiar means of dealing with a patient's complaints can be so improved and organized as to yield advances equal to, perhaps even more important than, those now regarded as the natural fruits of the clinical laboratory. But by a process of somewhat relentless logic, embodied in repeated papers, Sir James Mackenzie has awakened in us a feeling of uneasiness as to the character and efficacy of the clinical methods in ordinary hospital practice. He is, however, far from being a merely destructive critic, as is proved by his energy in establishing the St. Andrews Clinical Institute, where his methods of clinical research, carefully thought out through many years of general and consulting practice, are now in active use.

The failure in the past to obtain results commensurate with the labour devoted to the clinical investigation of symptoms is explained by Sir James as fundamental and due to the absence of sound general principles, especially of a proper conception of the mechanism of production and significance of symptoms. Such principles can only be evolved, like "the holy spirit of man," to quote from *Atalanta in Calydon*, "with travail and heavy sorrow," and in his study in symptomatology, the publication of which is concluded this week, Sir James Mackenzie emphasizes the need for a thorough educational training, and refers rather pathetically to the wasted labour of years due to the want of essential guiding principles.

Although only recently opened the St. Andrews Institute for Clinical Research is the outcome of long and careful investigation by its director, who set forth its objects in our issue of January 24th last, and now follows this up with a philosophical conception of the basis of symptoms. The effort to grasp the full significance of this thesis is not free from difficulty, for it demands not only the exercise of clear thinking, but freedom from the bias, often quite unconscious, engendered by the training and custom of a professional lifetime. In this welcome instalment of his teaching he shows that each organ when strained or exhausted produces symptoms peculiar to itself, and this is illustrated towards the end of the article by the phenomena of "the soldier's heart" and of the war neuroses. The detailed study of the reflex symptoms due to a reaction in the central nervous system or in the nervous mechanism of the organs leads on to a consideration of a somewhat neglected feature of the nervous system when under the influence of disease or other agencies—namely, its lowered resistance to stimulation. This is an all-important factor in the production of symptoms which, though referred to one or more organs, owe their appearance not so much to the local visceral condition as to a lowered threshold of the nervous system to stimuli. In various infections the general health is impaired and the organs then submitted to strain are shown by the resulting symptoms, but the underlying cause which, for successful treatment, must be combated and removed is not in these organs but in the infection.

THE LEAGUE OF RED CROSS SOCIETIES.

THE meeting of the first General Council of the League of Red Cross Societies at Geneva from March 2nd to March 8th, 1920, was briefly mentioned in our issue of March 13th. The complete proceedings of the general sessions and of the meetings of the various sections will be published in English and French during the course of the summer; but in the meanwhile the current number of the *Bulletin* of the League gives a running account of the business transacted during the week of congress and prints several of the addresses and speeches delivered at the full sessions, together with the reports presented by Sir David Henderson, Director-General of the League, and Dr. Richard P. Strong, the General Medical Director.

Twenty-seven of the thirty Red Cross Societies comprising the League were represented at the congress; delegates were sent also by the League of Nations and the International Red Cross Committee. After the opening session the council broke up into two parts—the section of organization and the medical section—which each met twice daily to ensure rapid progress in fulfilling the objects set forth in the programme. The medical section discussed the reports submitted by the various branches of the medical department of the League, and the projects brought forward by members of the General Council. The subjects included child welfare, tuberculosis, communicable diseases, nursing, medical information, sanitation, vital statistics, social hygiene, malaria, and public health laboratories. The reports relating to medical topics have been prepared in English and French, and printed copies may be had on application to the head quarters of the League at Geneva. The section of organization discussed the various phases of national Red Cross organization and peace-time activity, as outlined in a report by Mr. Frank Persons, which also may be obtained from the League.

The conclusions of the two sections were summed up in a series of resolutions, which were put into shape by a joint medical and legal committee and adopted by the Council in plenary session. The resolutions relating to medical matters will not be published until they have been discussed by the Advisory Medical Council referred to below, and by the Board of Governors, but the Director-General's report described the progress made in setting up special departments within the medical office of the League. It was thought advisable to confine the work of this department at the outset to the preparation of reports which would define the programme proposed by the League in a form suitable for discussion by the General Council. Beyond this preparations are being made for continuous communication on medical subjects with the Red Cross Societies in three different ways: The first is by means of a technical medical journal in which will appear articles of scientific medical interest on subjects in which the League is interested. "It is hoped to sustain this journal on a high level in order

that the Medical Office of the League may be reckoned as a high medical authority and its directors as experts, and also that the journal may be a medium through which recognized medical authority outside the League may be glad to make known their views and discoveries." Secondly, the *Bulletin* of the League will issue articles on medical or welfare subjects suited to popular reading. Thirdly, special articles will be distributed on subjects whose importance or urgency calls for immediate publication as separate pamphlets.

With regard to relief measures in Eastern Europe, it is said that the operations in Czecho-Slovakia are of the nature of general relief and present no serious administrative difficulties. In Poland, however, the problem is much more complicated and relief work is seriously hampered by the lack of preliminary necessities—food, fuel, clothing and transport. The provision of these on an adequate scale is beyond the resources of the voluntary societies. Further Government assistance is held to be necessary if the danger of an extension of the typhus epidemic is to be averted.

The Medical Director in his report sketched the organization of the medical department at head quarters for the improvement of public health and the prevention of disease. The planning of this department has largely followed the suggestions put forward at the medical conference at Cannes twelve months ago, which was attended by leading scientific authorities from England, France, the United States, Italy and Japan. The work has been split up into a number of divisions under the co-ordinating control of Dr. Strong, but the establishment of a Hygienic Laboratory and Museum has been deferred until its aims, functions, and equipment have been formulated. This is a matter obviously needing careful study before action is taken.

It has been decided that the International Medical Advisory Board shall be limited to fifteen members, not more than three representing any one country. The members will be kept in touch with the health work undertaken by the League by correspondence, and they in turn will be asked to keep the Medical Director informed of the progress of health work in their representative countries and of any important developments in the field of public health, or of any unusual opportunity for service which the League might render. It is proposed that the Medical Advisory Board shall meet at Geneva once a year, and at other times of emergency on the call of the Director-General or the Board of Governors. The first meeting will probably be held at the beginning of June next. Colonel S. Lyle Cummins, C.B., C.M.G., Professor of Pathology at the Royal Army Medical College, Sir Walter Fletcher, K.B.E., Secretary of the Medical Research Council, and Sir George Newman, K.C.B., Chief Medical Officer, Ministry of Health, have been asked to represent Great Britain on the Board.

It is worthy of note that the medical department regards the encouragement of scientific investigations in hygiene and sanitary science as a function proper to the League of Red Cross Societies, "since progress in the domain of public health depends upon the advancement of knowledge and the application of new principles." It does not, however, recommend that the League should forthwith organize an extensive laboratory force and set up a large laboratory of its own exclusively for research purposes. What the policy of the League should be in relation to research in public health and preventive medicine is submitted in the following words: "Its attitude in general should be to organize and to encourage and stimulate research work in preventive medicine and hygiene in connexion with those excellent scientific institutions already established in different countries, and also to attempt to co-ordinate national efforts in research, particularly with the idea of obtaining more uniform and correct results in medical investigations regarding which different and conflicting results have been obtained by different workers or different groups of workers in various countries. It should also, where original investigations appear advisable and of an urgent character, appoint from time to time special commissions for such researches to be prosecuted either in permanent laboratories or in the field."

VOLVULUS OF THE STOMACH.

According to Tuffier and Jeanne,[1] a volvulus of the stomach is "an error of position of this organ consisting essentially in torsion around an axis the situation and direction of which is a little variable, but usually extends from the cardia to the pylorus." This little known condition may be complete or partial; in the latter case the pars pylorica is involved. The direction of the torsion is almost invariably from below upwards and from behind forwards. Such a movement is normal during the filling of the stomach, and volvulus is merely a gross exaggeration of what is in its inception a physiological process.

It follows from this that any condition which leads to obstruction and overfilling of the viscus is, *ipso facto*, a predisposing factor in the production of volvulus. When this accident overtakes a diseased stomach the volvulus is usually described as "complicated." But it may occur when the organ is apparently perfectly healthy, and in these circumstances Continental writers refer to the condition as "simple or idiopathic volvulus." We say "Continental writers" advisedly as the vast majority of British authors make no reference to the condition at all. In this idiopathic variety there is invariably a considerable degree of gastroptosis, a long gastro-hepatic omentum and a freely mobile stomach being essential. This is further helped by the relative approximation of cardia to pylorus which this ptosis often entails.

Niosi[2] of Pisa, in a long and reasoned contribution to this subject, adds two more cases to those which he recorded some years ago. The first was of the idiopathic type, and here the stomach of a woman, 41 years old, had twisted through 400 degrees. There was a long-standing history of dyspepsia, with attacks of pain in the left hypochondrium and a feeling of epigastric fullness, culminating in a severe attack, with vomiting of small quantities of fluid and a tense swelling beneath the left costal margin. Gastropexy and gastro-enterostomy were performed and the patient recovered. The stomach was not diseased. It is of interest to note that the early attacks of pain had led to a mistaken diagnosis of movable kidney and a belt had been provided. In the second case a woman of 42 years was seized with a violent epigastric pain and vomiting; a tense tympanitic swelling in the upper abdomen presented a great contrast to the flat, supple, lower abdomen. Niosi diagnosed a volvulus of the stomach and was fortunate in being able to pass a stomach tube and so tided her over the emergency. There was no recurrence of the acute stage, and *x* rays later showed an hour-glass stomach. Operation was eventually performed and all that remained of the

[1] *Maladies de l'estomac et de l'oesophage.* Mathieu, Sencert, Tuffier. Paris. 1913.

[2] F. Niosi, Nuovo Contributo alla Conoscenza del Volvolo dello Stomaco, *Archiv. Ital. di Chir.*, 1919, i, 275.

volvulus was a partial twist of the pyloric sac. Gastro-gastrostomy and gastro-enterostomy were carried out. Many cases of partial volvulus in hour-glass stomach are now on record.[3]

Niosi has a full discussion of the symptomatology and differential diagnosis of the condition. The most important signs are continued vomiting of very small quantities of fluid or retching only, with a resonant tense swelling in the left epigastrium, difficulty in passing the stomach tube, displacement of the heart to the left (inconstant), a subjective dragging sensation in the cervical portion of the oesophagus due to the traction of the twisted stomach, and cardiac distress. The most difficult differentiation is from diaphragmatic hernia, which Payer[4] regards as a frequent cause of volvulus itself. In the former condition dullness at the lung base and displacement of the heart to the right are important helps to diagnosis, whilst the upper abdominal swelling and flat, soft lower abdomen in contrast are very characteristic of volvulus. As for treatment, Niosi is in favour of gastro-enterostomy to prevent overfilling and to anchor the stomach. He thinks gastropexy, which suffices for Tuffier, is not enough.

UNIVERSITY OF MANCHESTER.

THE University of Manchester has issued an appeal for £500,000 to make extensions in buildings and staff which are considered absolutely necessary. All the departments, including the new Arts building recently completed, are overflowing; in some the conditions of work are described as almost impossible, and it is stated that this presses most on students of chemistry and medicine. If justice is to be done to the students and to the great opportunities for public service they represent, it is felt that expansion of the teaching staff and equipment is absolutely necessary. It was realized early last year that the university had grown so suddenly that everything must be planned upon a larger scale; subsequent developments have made the needs still greater. In the interests of medical students a large expenditure is required for the equipment and staff in the department of physiology, which are far below the actual present requirements. Increased accommodation is also needed in other scientific departments. Manchester, it is said, possesses unsurpassed opportunities for clinical study and research, which should lead to a great development of the medical school. The number of students who can be admitted to the medical school at present is restricted by the lack of space in the science departments which prepare students during the first year of their medical course. As soon as this limitation is removed the number of students will, it is believed, very greatly increase, and the school of medicine in Manchester become one of the greatest institutions in the kingdom. Not only are entirely new buildings required for at least pharmacology and pathology, but whole-time professorships of medicine, surgery, and gynaecology should be established as soon as possible. Another need produced by the great increase of students is the provision of hostel accommodation. Something has been done for women students by purchasing and equipping two houses, but further provision is needed for hostel accommodation for men. The Students' Union and refectory also are quite inadequate for the present numbers. Finally, the athletic grounds are far too small. "A university," it is said, "without proper provision for the housing and exercise of its students is not in a healthy condition." The University of Manchester, which is the senior of the four northern universities at one time grouped together, has achieved a great reputation and set a high standard in teaching and research for its degrees. We do not doubt that an immediate response will be made to the appeal, which is signed by the Chancellor (Lord Morley), by the chairman, vice-chancellor, and treasurer. Communications may be addressed to the organizing secretary, Mr. George A. Marriott, at the university.

[3] Hermes, *Deut. Zeit. f. Chir.*, 95, 1908; Reinecke, Ibid., 119, 1912; Richter, Ibid., 131, 1914.
[4] Payer, *Mittheil. a. d. Grenzgeb. d. Med. u. Chir.*, 20, 1909.

THE FUTURE OF DENTISTS' REGISTRATION.

THE Departmental Committee appointed to "inquire into the extent and gravity of the evils of dental practice by persons not qualified under the Dentists Act" presented a comprehensive report[1] in February, 1919. While the importance of making skilled dental treatment available for all needing it was insisted on, the Committee recognized that the number of dentists at present registered was insufficient. *The Dentists' Register*[2] for 1920, which has just been issued, shows that the total number of registered dentists this year is fewer by 112 than in 1919. The total of licentiates and graduates in dentistry of universities and colleges in the United Kingdom on the *Register* this year is 4,367; there are in addition 39 registered dentists holding colonial qualifications and 21 with degrees or diplomas of foreign universities. The total on the *Register* is made up of 1,030 persons placed on the *Register* at the time of the passing of the Act, as being in bona fide practice of dentistry; of these, seven hold medical or surgical qualifications and the remainder have no qualification. The Committee was of opinion that the main causes of shortage of registered dentists were two: one was the unsatisfactory state of the law, which allows the practice of dentistry by unregistered persons not qualified by a prescribed course of instruction, training, and examination; the other was the length and great expense of the minimum course of instruction and training for dental students. *The Medical and Dental Students' Register*[2] for 1920, which is just issued, shows that the number of dental students registered was 612, a large increase as compared with 1918, when the number was only 161. The largest number previously recorded was 361, in 1913. The Committee advised that the practice of dentistry by persons not registered should be prohibited, but that some of those who, without breaking the letter of the law, have engaged in practice without any qualification should be included in a register under certain conditions, one of which was that persons so registered should have been in practice for five years. In order to encourage students to pass through the curriculum for a registrable qualification the Committee recommended the establishment of a system of scholarships, the issue of increased grants to dental schools, and a reduction in the minimum time required to be spent by dental students in obtaining a qualification in dental surgery. It also recommended the establishment of a system of treatment for school children, for expectant mothers, and for children under five years of age, and the employment of dental dressers or assistants acting under the supervision of registered dentists in school and public dental services. The Committee considered that a new statutory board should be set up to administer any Act drafted on the lines of its report. The majority of the members of this new board would be dentists, but it would include a certain number of lay representatives, on the ground that as the Act would be passed for the public weal, the public should be represented upon any body formed for its administration. The General Medical Council will, if the proposals are carried into effect, retain a certain measure of control over the actions of the proposed statutory board.

[1] BRITISH MEDICAL JOURNAL, 1919, vol. i, pp. 256 and 286.
[2] Published for the General Medical Council by Constable and Co., Ltd. 3s. 4d. and 2s. 6d. respectively.

DUBLIN RADIUM INSTITUTE.

THE annual report for 1919 of the Royal Dublin Society, which controls the Dublin Radium Institute, records the issue during the year ending October 31st, 1919, of 3,215.4 millicuries (measured by its gamma ray activity) as compared with the average issue of 4,203 millicuries during the three previous years. The emanation issued during the past year included 1,295 millicuries, supplied to two military hospitals, one at Alder Hey, Liverpool, and the other at Blackrock, co. Dublin, for the treatment of orthopaedic cases. Dr. Walter C. Stevenson gives a brief report of the treatment of 128 cases at these hospitals and of 28 civilians. With two exceptions the former group were orthopaedic cases (gunshot wounds) in whom the period of convalescence seems to have been materially abridged by the course of radium treatment. "It takes months and often years of treatment to make a limb useful where the muscles are matted together by inflammation, the joints stiff and often the nerves injured as well. Radiation aids recovery by softening scar tissue and by improving the nutrition of the part, owing to its action on the blood vessels and nerves, and by its analgesic effect on painful and tender scars. Cases have occurred where a patient has been unable to use an artificial limb until the tenderness of the stump has been allayed by radiation." Of the 28 civil cases 17 were cancerous; 15 were inoperable, and radiation was applied palliatively with much success. One case, in which the growth occurred on the hand, appeared to be cured. The most striking result was obtained in a case of Hodgkin's disease, in which the glandular enlargement in the neck was causing acute pressure symptoms. No benefit was obtained in two cases of tic-douloureux. Dr. Stevenson found it impossible to get sufficient emanation to treat efficiently the less serious conditions (such as tuberculous glands, lupus, psoriasis, sinuses, and chronic ulcers) which derive benefit from radium treatment. The emanation was in constant use, being transferred from one patient to another without delay night or day; but the number of patients whom it was possible to treat was limited by the small quantity of radium possessed by the Institute.

CALCUTTA SCHOOL OF TROPICAL MEDICINE.

SATISFACTORY progress has been made both towards the completion of the buildings and with the organization of the staff for the Calcutta School of Tropical Medicine, the foundation of which is due to the enthusiasm and persistent energy of Sir Leonard Rogers. It is intended that the school shall have six departments—tropical medicine, protozoology, entomology, pathology and bacteriology, pharmacology, and biochemistry. In addition, a course will be given on serology and immunology. Attached to the school is the Institute of Hygiene, to which it is proposed to appoint a professor of hygiene and a professor of chemistry to give courses on the analysis of food, water, and drugs. During the cold weather (October to April) the institute will give a six months' course for the diploma of public health granted by the State Medical Faculty. This course is open to qualified men of any nationality, and, in addition to members of the Indian Medical Service, applications have been received from America, and the Chinese Government has reserved two places. A shorter course, lasting three months, will be given from June to September; it is designed to afford to members of the various local medical services in India an opportunity of gaining knowledge of the practical application of the higher branches of tropical research. The Governing Body of the Calcutta School of Tropical Medicine consists of members of the medical profession, and it will enjoy a large measure of autonomy. The total amount of the annual funds at its disposal will be about £11,500. Of this three Associations—the Tea Planters', the Jute Makers', and the Mine Industry's—will contribute £2,000 a year each. For the Department of Biochemistry an annual income of £2,000 a year is provided, of which the greater part is made up by gifts of £900 a year from Sir David Yule, one of the chief merchants in Calcutta, and £1,000 from Sir Dorab Tata's companies. A special endowment fund provides for four research appointments in the School of Tropical Medicine; the subjects to be immediately taken up are leprosy, ankylostomiasis, and pneumonia. The investigation into diabetes in Bengal begun by Dr. McCay, Professor of Physiology in the University of Calcutta, and his assistants, is to be continued by the Indian Research Fund Association, which will be provided with laboratory accommodation in the School. The new buildings will be formally opened, it is hoped by the Prince of Wales, in October or November next, but Sir Leonard Rogers will not be present to see the crowning of his twenty years' work for tropical medicine in India, as he has returned to this country with the intention of prosecuting his researches into the treatment of tuberculosis by preparations of unsaturated fatty acids, upon which he published a preliminary note in our issue of February 8th, 1919. The Calcutta *Statesman*, in its issue of March 3rd, published a very warm tribute to his services, especially to the practical application of his scientific researches in the treatment of cholera, kala-azar, dysentery and liver abscess, and leprosy. "We may be sure," our contemporary writes, "that he was touched and pleased by the appreciation shown by the members of his own profession, who subscribed for a bust, which now stands in the School of Tropical Medicine." Our contemporary expresses the opinion that the Government of India should not let Sir Leonard Rogers terminate his career in its service without some more conspicuous mark of its appreciation of his great services.

IMPROVEMENTS IN THE ASYLUM MEDICAL SERVICE.

IN a circular letter, dated March, 1920, and addressed to the visiting committees of all county and borough asylums, the Board of Control makes several interesting recommendations concerning the conditions of medical service in asylums. Allusion is made to the difficulty of filling vacant appointments, which is attributed to two chief causes. The first cause is said to be, that in view of the special knowledge required, "the salary is frequently inadequate to the responsibilities, and insufficient to enable a man to support a wife and family." A general increase in the salaries is recommended, and the suggestion is made that several of the senior members of the staff should be called senior assistant medical officers, receiving remuneration on a higher scale; the senior assistant medical officer (present style) should receive recognition of his status in the title of "deputy medical superintendent," and should be paid a salary more closely approximating to that of the superintendent. The second cause assigned for the dearth of applicants for staff appointments at asylums is that "permission to marry has usually to be obtained, and is not infrequently withheld on account of lack of suitable accommodation." This circumstance constitutes a very real grievance of asylum medical officers, and has on several occasions been mentioned in our columns. It is satisfactory to find that the Board of Control in its circular not only makes the general recommendation that in the case of permanent officers permission to marry be not refused, but also—what is a new departure from previous ordinance—that, subject to rules approved by the Secretary of State and with due regard to proper administration of the institution, permission may be granted to live out. Another suggested provision, which will tend to render the asylum service more attractive to many medical men, is the granting—as in the naval and other services—of study leave (with continuance of salary), during which assistant medical officers may take out one of the available special courses of instruction, and possibly prepare for a diploma or degree in mental diseases.

ATROPINE IN PYLOROSPASM AND PYLORIC HYPERTROPHY.

THE question whether congenital hypertrophic stenosis of the pylorus depends primarily on a pure developmental excess of muscle limited to the circular fibres of the pylorus, spasm subsequently supervening and so causing obstruction, or whether the hypertrophy is the result of spasm however excited, is still awaiting an answer. Dr. Pirie and Mr. Tyrrell Gray[1] suggested that the spasm was due to an excess of adrenalin in the blood, but this attractive speculation remains unproved. Just about the same time Haas[2] described the atropine treatment of pyloric spasm and stenosis based on a line of argument which is of interest in connexion with Pirie and Gray's view. Haas believes that congenital hypertrophy of the pylorus is the result of spasm, and that they are both features of what he calls the "hypertonic infant"—namely, one prone to spasm not only of the skeletal but also of the visceral muscles, as is shown clinically by colic, vomiting, visible peristalsis, and constipation. The hypertonic infant presents the symptoms of vagotonia, or overaction of that part of the autonomic system, of which the vagus is a constituent. Atropine inhibits the vagus and this part of the autonomic system, and therefore should be a rational remedy. Its use in congenital pyloric stenosis has probably failed in the past for several reasons: in the first place, it is important to use a fresh preparation of the alkaloid, as it rapidly loses its pharmacological power, and, next, to give a sufficient dose. During the previous four years, carrying out these precautions, all the cases of pylorospasm under his observation, including four on which operation had been advised, responded to treatment by atropine. The treatment was begun by giving one-thousandth of a grain of atropine by the mouth, and if no idiosyncrasy to the drug was declared the dose was rapidly increased with each feed; a common dose of atropine for an infant of a few weeks or months was $\frac{1}{50}$ to $\frac{1}{25}$ grain with an extreme of $\frac{1}{16}$ grain in the twenty-four hours, an amount he gave to an infant two weeks old. Although the explanation of the hypertonic infant and vagotonia may arouse some doubt and criticism, the results deserve notice and repetition, with attention to the use of fresh preparations and of the large doses. It would be interesting to know whether hypodermic injection of atropine acts as effectively or better. It may be pointed out that adrenalin, which increases the activity of the thoracic and not of the cephalic part of the autonomic system, does not appear to have been given to infants with pyloric spasm to see if it aggravated the symptoms; if it had been shown to have this effect, Pirie and Gray's hypothesis would be supported, and the theory of vagotonia weakened.

BRITISH MEDICAL ASSOCIATION LECTURE.

LIEUT.-COLONEL R. MCCARRISON, I.M.S., will give a British Medical Association Lecture at a meeting of the South Wales and Monmouthshire Branch at Carmarthen at 3 p.m., on Thursday, April 22nd. Colonel McCarrison intends to give a brief outline of the sources and modes of action of vitamines, and the consequences of a deficiency of these substances in the diet. He will point out the various factors which influence the production of the symptoms due to a deficiency of vitamines in general terms, but will direct special attention to the bearing of the results of his recent experiments on the genesis of intestinal disorders. These results were obtained from a long research carried out at the Pasteur Institute, Coonoor, Madras, for the Indian Research Fund Association.

JUNE MEETING AT CAMBRIDGE.

THE following provisional programme has been drawn up for the discussions in the Section of Physiology and Pharmacology at the Annual Meeting of the British Medical Association this summer. On Wednesday morning, June 30th, a discussion on acidosis in disease will be opened by the President of the Section, Professor F. Gowland Hopkins, F.R.S. On Thursday morning, July 1st, a discussion on the physiology and treatment of denervated muscle will be opened by Professor J. N. Langley, F.R.S. On Friday morning, July 2nd, a pharmacological discussion on quinine and its derivatives will be opened by Professor W. E. Dixon, F.R.S.

[1] G. R. Pirie and H. T. Grav, *Lancet*, 1919, ii, 513.
[2] S. V. Haas, *New York State Journ. Med.*, 1919, xix, 365–371.

THE Council of the British Medical Association, at the meeting of April 14th, resolved unanimously to recommend the Annual Representative Meeting that Dr. David Drummond, C.B.E., M.D., F.R.C.P., should be elected President of the Association for the year 1921–22, to take office at the Annual Meeting to be held at Newcastle-on-Tyne in 1921. Dr. Drummond is Vice-Chancellor and Professor of Medicine, University of Durham, and Consulting Physician Royal Victoria Infirmary, Newcastle. The Council decided also to accept an invitation from the Glasgow and West of Scotland Branch to hold the Annual Meeting of 1922 in Glasgow.

Medical Notes in Parliament.

The Resumed Session.

THE House of Commons, on April 12th, resumed its sittings after the Easter vacation; it has a large amount of business to get through. The Budget will be introduced on April 19th, and it may be necessary to have two Finance Bills. It is hoped that consideration of the Insurance Bill in grand committee will begin on April 22nd. Dr. Addison is also pressing forward the arrangements for the proposed legislation dealing with health matters. The draft of the Patent Medicines Bill has been passed by the Cabinet subject to settlement of certain points affecting the wine trade. The Milk Bill has been drafted; the intention is to encourage local authorities to provide a supply, but there is no desire to interfere with private trading which fulfils requirements. The Tuberculosis Bill is not yet ready, but there will be no break between the provision at present made under the Insurance Acts and that to be made under the coming measure; the reason for the delay is that the scheme will be large and comprehensive. The Census Bill has been framed; it will differ little from that of nine years ago, but one or two fresh categories may be added. Dr. Addison still hopes that he may be able to present the bill to deal with the Poor Law system and with Health Services this session, but it cannot be discussed until the autumn.

Asylums as Military Hospitals.—Mr. Shortt, in answer to Mr. Kiley on April 12th, said that the following asylums were still being utilized for the care and treatment of soldiers and pensioners suffering from neurasthenia or loss of mental balance: (1) The Oxfordshire County and City Asylum (Ashurst War Memorial); (2) the Ewell Epileptic Colony (County of London) War Hospital; (3) a block of the Middlesex County Asylum, Wandsworth (Springfield War Hospital); (4) the Lancashire County Asylum, Winwick (the Lord Derby War Hospital). The men in these hospitals who were serving soldiers were still under military control. Pensioners could not be detained against their will. The present status of the Maudsley Hospital was that of a Ministry of Pensions Hospital, but it was to be handed back to the London County Council in July next. Mr. Shortt added that he had no information as to the Maghull, Monyhull, or Craigleith institutions, to which reference was also made in the question.

St. Luke's Hospital, Bradford.—Mr. Myers asked a question, on April 12th, as to an agreement made between the Bradford Corporation and the Bradford Board of Guardians for utilizing St. Luke's Hospital as a municipal general hospital, an arrangement which would enable the Bradford Corporation to treat the sick irrespective of their economic circumstances, and avoid placing on them the stigma attached to Poor Law treatment. He asked whether the Ministry was prepared to encourage and assist the project. Dr. Addison replied that the scheme had been approved last month.

Nurses in Malta.—Lieut.-Colonel Fremantle asked, on April 12th, whether nurses sent to Malta on active service in 1915 were ineligible for the 1915 medal, while nurses serving in Alexandria under similar conditions were entitled to it; and whether there were any reasons other than those of administrative convenience why equal services in Malta should not be equally recognized. Mr. Churchill replied that service on the establishment of a unit in a theatre of war was essential to qualify for the award of the 1914–15 Star. Malta was not a theatre of war, and nurses who served there in 1915 were consequently not eligible for the star.

Correspondence.

TREATMENT OF PULMONARY TUBERCULOSIS IN PRIVATE PRACTICE.

SIR,—Pulmonary tuberculosis has increased considerably in this country during and since the war. A recent authority[1] states that 65 per cent. of the population exhibit definite evidence of tuberculous infection of the lung. To one like myself who has returned to practice in England after many years' absence, the number of tuberculous patients encountered is appalling. The condition of these cases and their families is sad and depressing—depressing to the practitioner especially, because of the utter failure of the present system of treatment either to deal effectively with existing cases or to prevent others from developing.

This decade has been called the era of *preventive* medicine, but in many parts of England preventive medicine is still unknown. Take, for instance, the construction of the dwelling house. Is it not essential that the child (born of tuberculous parents) in whom we wish to prevent the development of the disease should live in a dry, airy, healthy building, with plenty of sunlight? Where do we find such buildings? Many of the towns of Devonshire are built in narrow combes or valleys, into which the sunlight only penetrates for a few hours. The houses are dripping with moisture, moss grows on many of the walls, and a strong smell of mould pervades the tiny dwelling rooms. The windows, even if not fixed, are seldom opened. Such houses (I speak as I find them in the old fishing town of Brixham, but the description fits the poorer quarters of many towns in South Devon) could scarcely be better selected for fostering the growth of tubercle. Damp-proof courses, which in this humid climate of ours are as essential as a weather-proof roof, are practically unknown. Air bricks, or modes of ventilating the interiors independently of the open window, are absent, and sanitation is defective. What are the chances that a child, born and reared in such unhealthy surroundings, and brought in contact with tuberculous subjects, will not acquire a disease which, according to a considerable majority of authorities, is definitely communicable? Either the child should be removed from contact with its infected relations or the latter should be removed from it.

We all know that the sanatoriums are quite inadequate to deal with more than a very small proportion of the cases—namely, the early ones. The advanced and most dangerous cases remain at home to infect the children. The early cases are given a certain time at the sanatorium and then discharged; about two-thirds of these cases relapse and become eventually "advanced cases." It is these cases especially that the private practitioner has to treat in most unfavourable surroundings. His treatment for the most part becomes the treatment of symptoms; it does not strike at the root of the disease, but it makes the remaining life of the patient more comfortable. It is eminently unsatisfying to the keen practitioner, who often feels uncertain as to the efficacy of his remedies, and yet has no research treatment institution to apply to in order that they may be tested.

Treatment, which is the only thing the patient cares about, has been much more neglected than any other branches of medical knowledge. The profession is too apt to imagine that it must thoroughly understand the pathology of a disease before it can begin its treatment; meanwhile patients are dying of the disease. Many of our most potent remedies have been discovered by experiment, trial, or intelligent thought—quite apart from a knowledge of the pathology of the disease. If more time were spent on therapeutic research, the general practitioner would be enabled to deal more efficiently with diseased conditions.

What can the general practitioner do against such a mountain of difficulty? He can only work and pray—pray that the people may become more enlightened and co-operate; pray that the Ministry of Health will come to his rescue and help in the sanitation of his town, and that the country will build proper houses in proper situations, and let the air and sunlight into the alleys. He must pray also that the proper authority will build hospitals or open wards for advanced and infective cases and remove them from contact with the young, and that the Government will not only sanction but press forward the foundation of a research treatment institution, which shall test remedies submitted to it and issue authoritative reports thereon.—I am, etc.,

W. SIDNEY SWEET, B.Sc., M.D., B.S.Lond.,
Bachelor of Civil Engineering; late Chief Resident Medical Officer of the Perth Public Hospital and Subiaco Sanatorium, Western Australia.
Brixham, March 31st.

[1] Dr. Thomas Beattie, BRITISH MEDICAL JOURNAL, January 24th, 1920

VILLAGE TUBERCULOSIS SETTLEMENTS.

SIR,—In your report of the interview between Dr. Addison and the deputation headed by Sir Montague Barlow, M.P., I notice that "the case for the establishment of village settlements" was put forward on two grounds—namely:

Firstly, *the patient* should be in a position to look forward to being able, on completion of his course of treatment and training, to take up his permanent residence in a settlement where, still in close touch with the sanatorium, he could work under conditions which would enable him to maintain his health and have his family or dependants with him.

Secondly, *the community* would gain in the result by the prevention of the spread of infection and the fact that the tuberculosis patient would remain a productive worker.

These two objects seem on the face of them highly desirable and most ideal if they are not incompatible.

As illustrating the results of establishing a village settlement on these lines it was stated that at the Cambridgeshire Tuberculosis Colony, out of thirty cases who had passed from sanatorium treatment and training into the settlement there, not one had died in four years.

How many of these were cases in which the tubercle bacillus was found? Dr. Bardswell has recently shown that of 1,390 persons with tubercle bacilli present in the sputum who applied to the London Insurance Committee in 1914 for sanatorium benefit, 997, or 71.7 per cent., were dead in December, 1918, while some observations (unpublished) of my own in North Kensington showed a similar result, and even suggested that, with a certain proportion of exceptions, those in whose sputum tubercle bacilli were found in large numbers seldom lived much longer than six to twelve months after this discovery. Nor are the lives of cases with tubercle bacilli greatly lengthened by even the most efficient sanatorium treatment. Dr. Bardswell himself, one of the greatest advocates of sanatorium treatment in this country, practically acknowledges in his report that they are not, and the paragraph preceding Table IV in his report is merely an elaborate paraphrase of this opinion.

A very large proportion of the cases discharged from our sanatoriums as "arrested" or "cured," and who are alive five years later, are cases in whose sputum tubercle bacilli have never been found, and a certain proportion of these are undoubtedly cases in which the diagnosis of tuberculosis was wrong in the first place.

It seems to me that these are the cases which will inevitably fill the village settlements. And, if so, it is a puzzle to see how the community will benefit by "the prevention of the spread of infection." Already one of the new colonies demands a negative bacteriological report on the sputum by the tuberculosis officer who signs the application form.

These colonies and settlements are going to cost an enormous amount of money, and it would be interesting to know how many tuberculosis officers have been consulted as to their practicability and value. That there is a limited number of men patients (with tubercle bacilli in their sputum) who would appreciate the opportunities offered and who could and would benefit thereby is undoubted. But that their number will prove comparatively infinitesimal I feel assured. Meanwhile what seems to me the most urgent necessity of the antituberculosis campaign—what I believe every practical tuberculosis officer in the country most desires—is the provision of increased and improved accommodation (free from all stigma of pauperism) for the isolation of the far advanced and also of the less advanced but chronic ambulant cases with tubercle bacilli in their sputum (who are together, I believe, the source of nine-tenths of the infective material). This takes a secondary place and appears to be in danger of being indefinitely postponed "for want of funds."

If only these cases with tubercle bacilli could be isolated more effectively and a milk supply free from tuberculous contamination be attained, it is my firm belief that tuberculosis could be almost eradicated in one generation. This object will never be achieved, in my opinion, by any further attempts (costly as they are) to bolster up our present defective means of treatment and prolong the lives of a few isolated cases.—I am, etc.,

D. J. WILLIAMSON,
April 6th. Chief Tuberculosis Officer, Portsmouth.

THE ILEO-CAECAL VALVE.

SIR,—In the BRITISH MEDICAL JOURNAL of August 9th, 1919, Mr. Short reports a case in which he had the ileo-caecal valve under observation. There is an important difference in this case to the one I reported in 1914 (*Ileo-caecal Valve*, Lewis). In Mr. Short's case there is a "prolapse of the bowel about the size of an orange," . . . "in the centre of the protuberant mass the ileo-caecal valve is plainly visible all the time."

In the case mentioned by me in 1914 the ileo-caecal valve was not prolapsed, and could only be observed when peristalsis was active. When seen the ileo-caecal valve resembled half a red cherry, with a dimple in the centre, from which five radiating corrugations ran out for about 6 mm. It was in tonic contraction and circular. When peristalsis was sluggish the papilla remained hidden under the folds of mucous membrane, and fluid faeces welled up from the colon and caput caecum coli. But faeces were passing through the ileo-caecal value all the time.

In the case described by Mr. Short the ileo-caecal valve was oval in shape, and faecal matter only voided when food was taken by the mouth; also the ileo-caecal valve was insensitive to touch. These differences may be due to the fact that in the case reported by Mr. Short there was a prolapse of a mass of caecum and ileo-caecal valve. The pulling of the mesentery of the small bowel is probably responsible for the oval shape of the ileo-caecal valve in his case, because he says even "when the sphincter is contracted it [the slit-like orifice] is about three-quarters of an inch long." . . . "It grips the inserted finger."

A circular muscle in a state of contraction, as the above evidently was, must assume a circular shape unless other forces are brought to bear. The pylorus is circular, also the internal anal sphincter. In the case described by the writer in 1914 the ileo-caecal valve was free to move and was always circular, even when relaxed in the discharge of semi-fluid faecal matter. It is inconceivable that a sphincter should be otherwise than circular when free to move and in tonic contraction.

In spite of the above references, the case reported by Mr. Short corroborates in a marked degree the case the writer reported in 1914, to which Mr. Short kindly refers.

The time to observe the ileo-caecal valve is within a very few hours after death, when it will be found as a circular mass, in tonic contraction, about 1.8 cm. in diameter, with a dimple in the middle. Soon after death the muscular fibres of the valve relax and the orifice becomes a slit. Later there is complete relaxation of the muscular fibres, with the familiar slit-like orifice of the dissecting room.

In your issue of August 16th Professor Keith claims to be the first to announce, in the *Proceedings* of the Anatomical Society, November, 1903, "that the ileo-caecal orifice is guarded by a sphincter in man and in all other vertebrate animals." Professor Keith is evidently not aware that this same statement was made in 1877 by Bureau in his *Thèse de Paris*, quoted by Poirier and Charpy 1901, p. 329, Tome IV. In regard to the evidence brought forward by Professor Keith in 1903: In his anatomical evidence he states that (1) the longitudinal fibres common to the bowel do not enter into the ileo-caecal valve; (2) that the muscular fibres surrounding the orifice form a series of racket-shaped loops, which, springing from the posterior frenulum, encircle the anterior angle of the orifice and return to end in the posterior frenulum. The posterior frenulum is the basis from which these fibres act.

Keith describes the closure of the valve as due to the pulling of the handle of the racket, aided by the fibres surrounding the orifice. In the microscopical evidence submitted by the writer in 1914 it is shown that (1) the longitudinal fibres common to the small and large bowel passed at the top of the valve between the circular fibres; (2) that thick bands of circular muscular fibres surround the orifice of the ileo-caecal valve. If the writer's interpretation of the microscopical section published in 1914 as frontispiece to his book is correct, there is a special circular bundle of fibres in the ileo-caecal valve over and above the circular bundles continuous of those from the small and large intestine.

Now, Bureau in 1877, Professor Keith and Professor Elliott in 1903, stated there was a muscular sphincter at the ileo-caecal orifice. Not one of them, however, has brought forward sufficient proof that is necessary to establish such an important fact. By proof necessary the writer means anatomical and microscopical evidence. To obtain this it is necessary, first, to study the ileo-caecal valve *in situ*, as described by the writer in 1914, not prolapsed, as Mr. Short's case; secondly, to use only specimens secured immediately after death. From Professor Keith's anatomical description it appears he did not do this, or he would have described a sphincter with longitudinal muscular bundles running between the circular to the summit of the valve. This sphincter would have been strong enough to act without the aid of the handle of the racket he mentions, formed by muscular bundles in the right frenulum. He says "the posterior frenulum is the basis from which these fibres act."

Mr. Short reports and figures the ileo-caecal valve as oval. Now the writer must emphatically state that the normal valve is circular, not oval. This is true not only in man, but also in the dog, as has been already mentioned in his book in 1914.—I am, etc.,

Sydney, Dec. 2nd, 1919. A. H. RUTHERFORD.

THE DIAGNOSIS OF DISEASE OF THE PANCREAS.

SIR,—I have read with very great interest the Schorstein Lecture by Sir Archibald Garrod published in your issue of April 3rd.

He refers to Loewi's adrenalin mydriasis test. The dilatation of the pupil that follows the application of a few drops of 1 in 1,000 adrenalin solution to the conjunctiva is, as he explains, due to excessive irritability of the true sympathetic, as the result of the removal of the restraining influence of the pancreas. He mentions a few of the pitfalls in connexion with the test, but has omitted the fact that in some individuals there is normally a predominating action of the sympathetic — the so-called sympathicotonic group of Eppinger and Hess. Such individuals would respond to the adrenalin test even in the absence of any pancreatic mischief. Possibly those cases in which Sir Archibald Garrod obtained a positive result without there having been any gross lesion of the gland may have belonged to this group. It is difficult to see how altogether to exclude this error unless the normal response of the patient to vagotropic or sympathicotropic drugs, before the onset of the suspected pancreatic disease, is known. In patients who are known to be vagotonic a positive Loewi's test should be of extremely great value.

It would also be interesting to know from Sir Archibald Garrod whether he tried the effect of pancreas feeding on the adrenalin mydriasis test. Should the administration of pancreas gland result in giving a negative Loewi's test in a case in which the test was at first positive, the evidence in favour of pancreatic disease should be practically conclusive.

I wish to suggest one or two other tests which are based upon the same physiological principle, and would therefore be subject to the same reservations as Loewi's test. The advantage of the following tests over Loewi's is their rapidity, the response occurring within a few seconds instead of about an hour, as well as the fact that they can be utilized even in cases of irides fixed by synechiae. Loewi's test is also, for obvious reasons, not suitable in cases of glaucoma. The tests I suggest are the following:

(*a*) *Aschner's Oculo-cardiac Reflex.*—This test consists in observing the effect upon the pulse of compressing the eyeball with the thumb. In vagotonics (and, indeed, in my own limited experience, in most people) a retardation of the pulse by about ten beats per minute is noticed within a very few seconds. In known sympathicotonics there is either no retardation or there is an actual acceleration of the pulse. If, therefore, the response in a case of

suspected disease of the pancreas is sympathicotonic in type, especially in a case previously known to be vagotonic, there should be strong presumptive evidence in favour of disease of the gland.

(*b*) *The Respiratory-cardiac Reflex.*—Vagotonics, as well as those who have some septic focus about them such as furunculosis or rheumatism, show, on taking a deep breath, a retardation in pulse frequency as well as a diminution in the volume of the pulse as shown by the sphygmograph (Wilson and Carroll). It may therefore be expected that in disease of the pancreas this reflex would be either diminished or abolished.—I am, etc.,

London, W., April 5th. W. M. FELDMAN.

THE TREATMENT OF UTERINE CANCER.

SIR,—Your leading article has had a curious effect on Dr. A. Leitch, who says he is sad, but shows no signs of it in his letter published on April 10th, p. 521, which reminds me of the author of *Alice in Wonderland*. He has proved that my three cases of cure of cancer were due to luck by asserting it three distinct times. As for poor old Leonides, who had the temerity to live and operate eighteen hundred years ago, "off with his head"; it is evidently the only kind of amputation of the cervix Dr. A. Leitch believes in. "Curiouser and curiouser" is his knowledge of that old fellow's mortality statistics. Curiousest of all—and here the Cheshire cat would have enlarged its smile—is his opinion that only 3 per cent. of cases of cancer of the cervix can be cured by amputation, because only 3 per cent. of cases dead of the disease show no extension beyond the uterus. Sad? No, Sir, the writer (like the reader) of his letter must be a merry fellow.—I am, etc.,

London, W., April 10th. HERBERT R. SPENCER.

FIBROIDS COMPLICATING PREGNANCY: HYSTERECTOMY: RECOVERY.

SIR,—Mr. Stawell (April 10th, p. 498) omits to give the date of the operation in his interesting case. I cannot suppress a hope that it occurred previously to the publication of my Lettsomian lecture on the subject, which he quotes. For one of the chief reasons for that lecture was to show that infanticidal hysterectomy is rarely necessary. Judging from the particulars given of Mr. Stawell's case, in which an enema removed the only symptoms from which the patient suffered, I think it highly probable that pregnancy might have been allowed to progress until the child was viable, when Caesarean section, followed by total abdominal hysterectomy (and the removal of the dermoid tumour at the same time), would, I doubt not, in Mr. Stawell's hands have caused the patient to rejoice at getting completely rid of her neoplasms and at having a living child.—I am, etc.,

London, W., April 10th. HERBERT R. SPENCER.

THE MENTALLY DEFECTIVE.

SIR,—It was with pleasure I read the article on the Birmingham scheme, by Dr. W. A. Potts in your issue of April 3rd, 1920, p. 472. Anyone who has had much experience of prisons, more particularly of prisoners, must feel that an educative policy should be vigorously prosecuted, preparatory to legislative reform in our penal systems. Not only the laymen and medical men, but even the medical staffs of asylums, require education in this direction. Medical officers of asylums and of institutions for the mentally defective have excellent opportunities of gaining valuable information concerning the lower grades of mental deficiency; but the prison medical officers have much better opportunities of observing the higher types.

In all my experience among inebriates I have never yet seen one who did not present evidence of mental defect. It is quite true, I admit, that in some cases—in fact in the majority—the defect is of the higher grade, while in a relatively small number it is not manifested till the patient has been some considerable time under observation and treatment in the institution.

Mental deficiency is a more complex disorder and is a more difficult subject to investigate and study than what we call "insanity." No one will dispute that there are many cases of either disorder which can be recognized as soon as they come before the examiners. There are, however, certain types of insanity which cannot be certified till seen several times; and a proportion of cases, though undoubtedly insane, cannot be certified at all.

Many of the higher grades of mental deficiency require prolonged study before correct diagnosis can be made. These are the cases which are the gravest danger to society, because they can carry out schemes of cunning which the average medical man would not credit. I have had prolonged conversations with the acknowledged premier criminal in Scotland. Very few medical men would admit he was a higher grade defective from anything seen or elicited; but that a man fails to unmask signs and symptoms is no proof that they are absent.

Let me conclude by saying that the specialist should have training and experience so as to be considered as such before his appointment to the highly important position as medical officer of a large prison. This may be one of the advantages—perhaps the only one—of having criminal lunatics in a special department of a prison; and in Scotland, where this has been in force for many years, this expert opinion has been freely used by the courts in the case of untried prisoners.—I am, etc.,

H. FERGUSON WATSON, M.D.,
Edinburgh, April 5th. D.P.H., L.R.C.P.

THE INDIAN MEDICAL SERVICE.

SIR,—I enclose a cutting received from *The Pioneer*. The information it contains, emanating from the Director-General of the I.M.S., and the confidant of the Government of India, is of such a nature as to deserve the most careful attention of all who think of entering the I.M.S. and of all who are responsible for guiding them in their choice.

I shall not, for the moment, offer any further comment on it.—I am, etc.,

R. H. ELLIOT, Lieut.-Colonel I.M.S. (ret.).

*** The cutting enclosed by Colonel Elliot is from *The Pioneer* of March 11th, 1920, and is a portion of the report of a speech by the Director-General I.M.S. in the Viceroy's Legislative Council:

"General Edwards in conclusion referred to the Indian Medical Service, which, until recent years, did not contain more than 7 per cent. of Indians. The Secretary of State decided not long ago that one-third of the new recruits should be Indians, and the latest private information was that this number might still further be increased. More than this there was a proposal that in order to facilitate the entry of Indians scholarships or nominations should be given to the most promising Indian students who wished to enter the service. In the former case they would proceed to England to complete their curriculum and then compete for the Indian Medical Service. In the latter case they would proceed to England for a further course of instruction only. Indians should no longer regard this service as one in which they had no interest. For the first time India was beginning to control her destinies. It was at such a crisis in the history of the nation that they may look for the birth of men great in the highest sense of the word. He earnestly desired that Indians should come to the front in the medical and scientific world. The Indian Medical Service had been a great asset to India in the past, and attracted her best intellects from the British medical schools. Let it now attract the best from the schools of India."

RARE ACCIDENTS PRESUMED DUE TO NEGLIGENCE.

SIR,—In the Court of King's Bench on March 24th, 1920, in the course of his judgement in an action for damages brought against a dental surgeon, Mr. Justice Bailhache laid down a principle of great importance and wide application. As it seems to be unsound, both in law and logic, it ought not to pass unchallenged, especially as the fallacy of it is not readily apparent to most people. Mr. Justice Bailhache said:

One must remember that an operation of this kind, with this carborundum wheel, is a very common, and indeed I should suppose, an everyday dental operation. One asks one's self whether that operation is attended commonly, or even rarely, with any danger of injury to the tongue or mouth. The very competent witnesses who have been called for the defendant have all said that in their own experience with such a wheel as this they have never heard of such an accident, or such an incident as happened in this particular case. They have not heard of it, nor, according to one of the witnesses, can such an instance be found in the textbooks on the subject. One starts with this, therefore: here is a very common operation practically never producing any detrimental results, and never producing any injury to the mouth, but on this particular

occasion inflicting a severe wound in the floor of the mouth. It seems to me, under those circumstances, it lies upon the dentist who was conducting the operation to give some satisfactory explanation to the court as to why, in this particular instance, the unexpected happened; why it was that in this particular instance an operation of this kind resulted in an injury which nobody has ever before heard of in connexion with this particular operation.

Later on this point of view is emphasized, and the judge says:

> Of course, if this were an injury that often happened one would come to a different conclusion; but it is an injury, as I say, which nobody has ever heard of in practice before.

This last statement of the judge, as I can myself testify, although somewhat supported by the evidence in the case referred to, is quite inaccurate. The accident does occur from time to time. The principle of the decision is, however, what concerns us most. The decision amounts to this: "Where an extremely rare accident occurs in a very common operation, the onus falls on the defendant of proving that he was not guilty of negligence which will otherwise be assumed." From the legal point of view it ought not to be presumed that a man is guilty solely because he cannot prove his innocence. The accident referred to by the judge happened in so short a space of time and under such circumstances as to make it impossible to do more than guess at the causes of it. There was not a particle of evidence of any negligence of which anyone present at the operation was aware. The defendant was found to have been negligent because he could not bring any evidence beyond his own statement on oath that he had not been negligent. The fact that the accident had occurred was regarded as in itself establishing negligence unless some cause for the accident was established inconsistent with the presumption of negligence.

It is hardly necessary to explain to surgeons that in the performance of many operations the most skilful and careful operators will from time to time cause accidental injury to a patient. In some cases these accidents are very rare and in others not uncommon. In abdominal operations, for instance, with all care and skill an operator occasionally makes an opening into the intestine unintentionally. If improved methods make a particular accident very rare, does that make it an indication of carelessness although when more common it did not indicate negligence? Even the rarest of unavoidable accidents will usually be found to occur with a wonderful regularity if a large enough experience is available, and the mathematical principles of the theory of chances will apply. Accidents due to negligence, on the other hand, will multiply or diminish according to the presence or absence of conditions conducing to negligence, and will therefore be liable to considerable fluctuations in frequency. There are, of course, accidents which by their very nature indicate negligence. If a barber in shaving a customer cuts the carotid artery, negligence might be assumed in the absence of evidence to the contrary, but not because the accident is "practically unknown." As regards the particular accident which gave rise to the legal proceedings referred to above, I remember an instance of its occurrence in which it was, in my opinion, due to negligence because there was evidence of negligence. When there is no evidence of negligence, it is quite wrong to assume negligence because the accident is rare. Any competent dental operator knows that this particular accident may happen without any negligence or want of skill whatever. As Mr. Hopson said in his evidence, the accident had never happened to him, but he attributed that fact to good luck. In other words, an accident which happens on an average once in 100,000 cases may befall one operator and not another without any difference in care or skill between them.—I am, etc.,

32, Craven Street, Strand, W.C.2, April 1st. HUGH WOODS, M.D.

NYCTALOPIA OR HEMERALOPIA.

SIR,—With reference to your remarks (April 10th, p. 514) regarding the double use of the term "nyctalopia," the uncertainty as to its meaning arose long before the Middle Ages. St. Isidore of Seville (d. A.D. 636) says in his *Etymol.*, Bk. IV, *De Medicina*, cap. 8: "Nyctalmus is a disease in which those suffering from it lose their sight by day and regain it as night approaches; or vice versa, as many say, they can see by day and are blind at night." This statement Isidore may have taken directly from the Isagoge, attributed to Galen, cap. 16: "Nyctalopes are those whose sight is dim during the daytime, who see better as the sun declines, but see best at night; or the reverse, they see not too well by day and not at all in the evening." In the Medical Definitions (No. 343) of Galen, if they are his, nyctalops is an affection of the eyes in which, without apparent cause, the patient cannot see by day but is able to do so at night. This agrees with the opinion usually ascribed to Hippocrates, his great authority. Theodorus Priscianus (*Euph.*, 12, 39) uses the term in the same sense. Nyctalopia, "the night eye," may be compared with nycticorax, which Isidore (*Etymol.*, 12, 7, 41), on the authority of St. Jerome, describes as the night bird which loves the night and avoids the day, because it cannot see in the sunlight.

On the other hand, the weight of evidence is in favour of nyctalopia as "night blindness." It is used in that sense by Aristotle, Pliny, Celsus, Aetius, Oribasius, Alexander and Paul.

Nor was the ambiguity of meaning confined to the Greek word. The early Latin term was luscitio: "luciosos . . . nyctalopas a Graecis dictos" (Pliny, *N. H.*, 28, 11, 47, 170). Paulus ex Festo (that is probably Verrius Flaccus, 1st century B.C.) "luscitio vitium oculorum quod clarius vesperi quam meridie cernit"; but on the other hand, Varro, the contemporary of Verrius, "vesperi non videre quos appellant lusciosos" (Varro apud Non, 135, 12). Vegetius calls the disease "lunaticus oculus."

According to Hippocrates (*Pror.*) and Aristotle (*De Gen. An.*, 5, 1), the disease is more apt to attack young persons and, adds the latter writer, those who have dark eyes. For, says Aristotle, there is more fluid in dark eyes and also in the eyes of the young because their brain is more fluid. This excess of fluid interferes with the transparency of their eyes so they see less well in the twilight, as the light is then weak.—I am, etc.,

London, S.W., April 10th. RORY FLETCHER.

WAR HONOURS.

SIR,—In several recent numbers of the JOURNAL there have appeared letters by civil surgeons complaining that there is no issue to them of war medals or other simple recognition of services rendered by civilian doctors in connexion with the war.

The following paragraph, which has appeared in the *Cape Times*, will be read, therefore, with both interest and surprise by English medical men:

> As a result of strong representations made by the Union Government to the Imperial authorities, the grant of the British war medal has now been extended to South African troops who were employed for a period of not less than thirty days between August 4th, 1914, and November 11th, 1918, within the Union of South Africa on coast defence, or other military duties directly connected with the war; also to European civilians employed on the staffs of the South African military hospitals, or as a member of recognized organizations who actually handled sick and wounded soldiers and who served forty-eight hours a week for not less than fifty-two weeks, whether continuously or not.

Surely it is not too much to suggest that what can be done for lay persons who have rendered services—often of a very minor kind—out here and at this distance from the seat of war should also be done for the many civilian doctors who—often under great personal difficulties, strain, and self-sacrifice—put in hard professional work in the treatment of wounded and sick soldiers.

I was myself a whole-time civil member of the medical staff of a large war hospital in England for two years, and therefore had a good opportunity of seeing the greatness of the work done by civil doctors, for which the pecuniary remuneration allowed by the War Office was a mere bagatelle—less, indeed, than the pay of many a girl munition worker.

Perhaps the British Medical Association may see its way to move in this matter—with a little real spirit.

Although I do not personally seek any such recognition I prefer not to subscribe my name.—I am, etc.,

Cape Town, March 26th. ONE WHO WAS OVER AGE.

TAXATION OF MOTORS.

SIR,—In the various press reports forecasting provisions in the forthcoming Budget and predicting an increased tax on motor cars estimated at 15s. or 20s. per horse-power.

I have failed to observe any mention of relief to medical men. The medical profession surely should not be classed with those who use cars as a luxury or simply as a personal convenience.

It is to be hoped that our interests are being looked to in the House of Commons.—I am, etc.,

Harrogate, April 10th. R. RAINES.

Obituary.

G. A. WRIGHT, F.R.C.S.,

Consulting Surgeon Royal Infirmary, Manchester.

THE death in retirement of Mr. G. A. Wright has caused much regret to old students of the Manchester School of Medicine. George Arthur Wright, who was in his 69th year, was a son of the rector of Vange, Essex, and was educated at Marlborough and Oxford, and afterwards at Guy's Hospital. He graduated M.B.Oxford in 1877, and became M.R.C.S. in the same year. He took the F.R.C.S. in 1878, and held the appointments of house-surgeon and surgical registrar to Guy's Hospital. His connexion with Manchester began when in 1880 he became resident surgical officer at the Royal Infirmary; two years later he was appointed honorary assistant surgeon to the infirmary and surgeon to the Pendlebury Children's Hospital. This latter appointment and the fact that he did not become full surgeon to the Royal Infirmary for eighteen years probably account for the fact that his greatest interest was in the surgery of childhood. His first publication was a book on hip diseases in childhood, published in 1887, but the work by which his name is best known to the profession generally is that on *The Diseases of Children*, which he wrote in conjunction with the late Dr. Henry Ashby; it was published in 1889, and was founded on the experience of the authors during the previous ten years at the General Hospital for Sick Children, Pendlebury, Manchester. The book was both learned and practical, and immediately took its place as at that time by far the most comprehensive work on the subject. A fifth edition was published in 1905. Wright put his best work into the book. He was a pioneer in the treatment of tuberculous disease of bone and of the spine, and one of the first to treat spinal abscesses by evacuation without drainage—a method which he described to the American Orthopaedic Association in 1891. He was a bold but careful operator, with a profound knowledge of anatomy; in 1902 he published a *Handbook of Surgical Applied Anatomy*, written in conjunction with Mr. C. H. Preston; it reached a second edition in 1904. He was for some time lecturer on operative and practical surgery in the University of Manchester, and on the death of Professor Tom Jones in South Africa in 1900, succeeded him as professor of surgery. When he retired in 1911 under the age rules, he was appointed Emeritus professor.

Mr. Wright was a member of the Council of the Royal College of Surgeons of England from 1906 to 1910. He was secretary of the Section of Surgery at the Annual Meeting of the British Medical Association at Bristol in 1894, vice-president of the same section at Manchester in 1902, and president at Exeter in 1907. He was a lieutenant-colonel R.A.M.C. and administrator of the 2nd Western General Hospital T.F. He had retired before the war, but returned to work and was attached first to the Red Cross Auxiliary Hospital at Worsley Hall and afterwards to the Military Hospital at Whalley.

Mr. Wright was greatly esteemed by the profession in Manchester and many miles around. He was at various times president of the Manchester Pathological and Medical Societies. As a clinical teacher he was most successful and the warm interest he took in all matters affecting the welfare of the students of the school won their respect and affection.

JOHN ALFRED CODD, M.D., B.Sc.LOND.,

Physician, Wolverhampton General Hospital.

WE regret to record the death, which took place suddenly on March 3rd, at the age of 51, of Dr. J. A. Codd, of Wolverhampton. A son of the late Rev. John Codd, of that city, John Alfred Codd was educated at Leeds, and graduated B.Sc.Lond. in 1886, M.B. in 1891, and M.D. in 1896. After holding the posts of assistant demonstrator of anatomy in the Yorkshire College and house-physician at Leeds General Infirmary, he went to Wolverhampton in 1893 as house-physician to the General Hospital, subsequently becoming honorary physician, and physician to the ear, nose, and throat, electro-therapeutic and radiographic departments. For many years he served as M.O.H. of Heath Town.

Dr. Codd had an extensive consulting practice in Wolverhampton and district, and made a number of useful contributions to medical periodical literature, notably "The dosage of tuberculin," "Treatment of malignant disease by *x* rays," and "Angeioneurotic oedema cured by adrenalin," published in this JOURNAL. He was also the author of "The utility of intubation of the larynx" and other short monographs. He was prominently associated with local social and religious organizations, and took a keen interest in many non-medical branches of science, notably conchology. He was president of the South Staffordshire Naturalists' Society.

Dr. Codd rendered many valuable services to the British Medical Association. He was from 1903 to 1910 honorary secretary, and in 1915 chairman, of the South Staffordshire Division. In 1910 he was elected president of the Staffordshire Branch, and in the following year he served as vice-president of the Electro-Therapeutic Section at the annual meeting of the Association at Birmingham. He was president of the Midland Branch of the Society of Medical Officers of Health. He was appointed by the Insurance Commissioners a member of the Wolverhampton Insurance Committee in 1912, and was a very regular attendant at its meetings. His death is mourned, not only by a large circle of patients, colleagues, and friends, but also by the many charitable and scientific associations for whom he worked with such conspicuous zeal and devotion.

The Services.

DEATHS IN THE SERVICES.

SURGEON LIEUTENANT PETER BURROWES KELLY, D.S.O., late R.N., died at Crookstown House, Ballytore, county Kildare, on April 6th, aged 31. He was educated at the Cecilia Street Hospital, Dublin, and at St. Bartholomew's and Charing Cross Hospitals. He took the Irish double qualification in 1911, and the day after war was declared, August 5th, 1914, entered the navy as a temporary surgeon. He served in the Dardanelles in 1915, taking part in the landing of the expeditionary force, when he was wounded, mentioned in dispatches, and received the D.S.O. The last post he held, before he was demobilized in April, 1919, was that of medical officer to the Royal Naval College at Osborne, Isle of Wight.

Major Thomas Henry Balfour, M.C., R.A.M.C., died at Quetta on March 16th. He was the youngest son of the late Dr. Andrew Balfour, of Portobello, and graduated M.B. and Ch.B.Edin. in 1909, taking the D.P.H. of the Scottish Colleges in 1911. He entered the R.A.M.C. in 1912, was promoted captain on March 30th, 1915, and to acting Major on February 25th, 1918. Before going to India he had served for most of the war in France, first with the 2nd Battalion Argyll and Sutherland Highlanders, and then as D.A.D.M.S. with the 12th Division and 15th Corps. He received the Military Cross on February 18th, 1915.

Colonel Douglas ffrench-Mullen, Bengal Medical Service (retired), died on April 2nd, aged 68. He was educated at Queen's College, Galway, and Steevens's Hospital, Dublin, and graduated M.D. Queen's University, Ireland in 1873. He entered the I.M.S. in 1877, and attained the rank of full colonel in 1907, and retired in 1912. Most of his service was spent in political employment, as medical officer of various states in Rajputana; latterly he held the post of D.D.M.S. at Simla. He was joint author, with Lieut.-Colonel P. D. Pank, I.M.S., of *A Medico-topographical Account of Ajmere*, 1900. Colonel-ffrench-Mullen was the third of four brothers, all of whom entered the public medical services. The eldest was in the navy, and after his retirement stood unsuccessfully for South Dublin as a Parnellite in 1892. The second, the late Lieut.-Colonel Thomas ffrench-Mullen, entered the I.M.S. in 1866, retired in 1896, and died on October 12th, 1896. The fourth, Lieut.-Colonel Jarlath ffrench-Mullen served in the Colonial Medical Service in Jamaica from 1874–76, in the R.A.M.C. for six months in 1877–78, and in the I.M.S. from 1878 to 1908, and still survives.

Brigade Surgeon Lieut.-Colonel Joseph Forbes Keith, Bombay Medical Service, retired, died on April 1st, aged 79. He was educated at Aberdeen, where he graduated M.B. and C.M. in 1866 and M.D. in 1870. He entered the I.M.S. as assistant-surgeon in 1867, and retired in 1894. He served in the Abyssinian war of 1868, at the general hospital at Zoola, receiving the medal; in the second Afghan war of 1879–80, when he took part in the defence of Kandahar, the sortie of Deh Khoja, and the battle of Kandahar on September 1st, 1880; was mentioned in dispatches, and gained the medal with a clasp; and in Burma in 1886–88, when he got the medal with two clasps.

Universities and Colleges.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on March 24th. It was resolved to institute a university chair of physiology at St. Mary's Hospital Medical School.

Professor A. D. Waller, F.R.S., was re-elected director and Dr. T. D. Lister treasurer of the Physiological Laboratory for 1920.

Dr. Philip Hamill has been appointed a member of the Board of Examiners in Pharmacology for the second examination for medical degrees, Part II, vice Dr. E. Mellanby, resigned, and Dr. F. Ransom has been elected chairman of the board for the remainder of the session 1919-20.

Dr. W. G. Savage has been appointed an external examiner in hygiene and bacteriology for the university diploma in household and social science in July, 1920. Professor E. Mellanby will give a course of eight lectures on nutrition at the Household and Sanitary Science Department, King's College for Women, Campden Hill Road, on May 3rd, 4th, 10th, 11th, 17th, 18th, 31st, and June 1st, at 5 p.m.

Presentation day will be held in the Royal Albert Hall on Wednesday, May 19th, and not May 5th, as formerly arranged. A service will be held at Westminster Abbey at 6 p.m., and a graduation dinner will be held in the evening at the Guildhall.

Applications for the Beit fellowships for scientific research to be awarded in July, 1920, must be received by the Rector, Imperial College, South Kensington, S.W.7, by April 19th.

KING'S COLLEGE OLD STUDENTS' ASSOCIATION.

At a general meeting of old students, held recently at King's College, Strand, it was decided to form the King's College, London, Old Students' Association, for the purpose of promoting social intercourse, and of keeping the members in touch with their old college. The association hopes to include students from all faculties, and the subscription of 10s. 6d. per annum will include the *King's College Review*, published once a term, and a list of members with their addresses (and possibly the work on which they are engaged). This should prove to be of great value to members wishing to renew acquaintanceship with contemporaries who may be in the same locality as themselves. Further particulars and forms of application for membership may be obtained from Miss M. A. V. Fairlie, Honorary Secretary, 3, St. Julian's Farm Road, West Norwood, S.E.27.

Medical News.

PROFESSOR STARLING, who has gone to India to advise the Government with regard to the foundation of a central medical research institute for India, will visit Bombay, Poona, Bangalore, Calcutta, Delhi, and Kasauli. He will be accompanied on his tour of inspection by Lieut.-Colonel Greig, C.I.E., I.M.S.

COLONEL C. PYE OLIVER, C.M.G., M.D., Assistant Director of Medical Services, Home Counties Division, has been appointed to the Commission of the Peace for the County of Kent.

A COURSE of ten lectures on the theory and application of mathematical statistics to social, educational, economic, meteorological, and medical problems will be given by Dr. E. C. Snow, M.A., at the Sir John Cass Technical Institute, Jewry Street, Aldgate, E.C., during the summer term. The first lecture will be given at 7 p.m. on Friday, April 23rd. The fee for the course is 5s.

DR. A. T. SCOTT, M.B.E., Assistant Commander of the Y Division, Metropolitan Special Constabulary, has been appointed an honorary associate of the Order of St. John of Jerusalem, in recognition of his services to the wounded, etc., during the air raids.

OWING to the increase of the cost of labour and materials—steel alone has risen 50 per cent. since the armistice—the prices of the Austin "Twenty" cars have been raised to £695 for the touring car and £875 for the landaulette. The price of the chassis only is £550.

THE fuel difficulty lends interest to the announcement by the Department of Scientific and Industrial Research that the Board of Trade has issued a licence to the Scottish Shale Oil Scientific and Industrial Research Association, which is found to comply with the conditions laid down in the Government scheme for the encouragement of industrial research.

A SCHOOL of puericulture in connexion with the Faculty of Medicine will shortly be inaugurated at the Edith Cavell Hospital in Paris. The school will be under the direction of Professor Pinard, and will consist of three sections—pre-natal period, infancy, and childhood—under the charge of Professors Couvelaire, Marfan, and Léon Bernard respectively.

AT a meeting of the Child Study Society on Thursday, April 29th, at 6 p.m., Sir A. E. Shipley, G.B.E., D.Sc., F.R.S., will give a lecture, illustrated by lantern slides, on biting insects and children. The lecture will be given at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1.

A LIEBIG museum was opened at Giessen on March 26th, when an address was given by Professor Burger on the relation of Liebig to medicine.

THE University of Louvain has been reopened, and 3,141 students have been enrolled in the various faculties.

THE thirty-second meeting of the Deutsche Kongress für Innere Medizin will be held on April 20th–23rd in Dresden under the presidency of Professor Minkowski. The chief subject for discussion will be the present position of immunotherapy and chemotherapy in infectious diseases. Professors Kraus, R. Schmidt, Pfeiffer, and Morgenroth will take part in the discussion.

M. EMILE J. B. BAILLIÈRE, the head of the well-known medical publishing firm of Paris, has recently died at the age of 89.

AT the Serum Institute in Copenhagen investigations are being conducted into the various types of pneumococcus existing in Denmark. Danish practitioners are urged to send specimens of sputum from their pneumonia cases, and pus from cases of otitis and other suppurative conditions that may be due to pneumococci. It is intended to prepare specific serums.

A COMMISSION appointed by the Swedish Government has recently issued a report in which the introduction of compulsory insurance against sickness is unanimously advocated. Maternity insurance is also recommended. It is calculated that 80 per cent. of the total population will be included in this scheme. The highest and lowest daily sickness benefits will be 10 kr. and ½ kr. respectively. It is anticipated that the annual cost of medical treatment and drugs will be 39 million kr., medical benefit will cost 60,800,000 kr., maternity benefit 11 million kr., administration 7½ million kr., the total cost being about 118,300,000 kr. On this basis the State would contribute 73½ million kr., the remainder being found by the insured, with the exception that employers would contribute to cover certain risks.

THE National Health Week for 1920 is to begin (after six years' suspension) on May 2nd. Its object is to focus public attention on matters of health, and arouse a sense of individual responsibility among all sections of the community. The improvement of health is held to be "fast approaching its limit on present lines," and the dominant idea for 1920 is to be "self-help, and the consideration of what each individual can do for himself and his neighbour in securing a healthy life." The King and Queen are patrons of the movement, and the preliminary committee includes the names of twenty medical men and women prominently associated with public health and kindred branches of medical science. Local committees are to be organized, and the Health Week Committee has many suggestions to make concerning lectures, exhibitions, demonstrations, etc. The secretary is Mr. E. White Wallis, Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.

IN a paper on industrial lighting and its relation to efficiency, read before the Royal Society of Arts, Mr. Leon Gaster quoted some recent statistics collected by one of the large American insurance companies. It was estimated that of 91,000 accidents in 1910, 23.8 per cent. were due to imperfect illumination; after eight years' propaganda work on the lines of "safety first" this proportion was reduced to 18 per cent. During these eight years an aggregate of 100,000 years of work has been lost to industry through accidents which might have been prevented had the illumination been efficient. In the United States it has been calculated that increased expenditure on the lighting of factories, amounting to not more than 5 per cent. of the pay roll, would lead to an increased production of quite 15 per cent. That particular phase of industrial lighting which concerns the illumination of mines was the subject of a paper by Dr. T. Lister Llewellyn at the meeting of the Illuminating Engineering Society on February 25th, reported in our issue of March 6th, p. 327. At that meeting, which was attended by members of the Council of British Ophthalmologists and of the Ophthalmological Section of the Royal Society of Medicine, it was suggested that the question should be thoroughly studied by a joint committee representative of the three bodies. The suggestion is being placed before the Home Office, where a committee on miners' lamps is now sitting.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediscera, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

H. E. B. desires to hear of suitable home in apartments for an elderly gentleman suffering from epilepsy, and his wife. Very moderate means.

H. G. asks for authenticated examples dating before 1914 of several persons under one roof contracting pneumonia in a manner which has recently become common.

INCOME TAX.

B. C. G. inquires whether he is entitled to deduct cost of keep from any income derived from occasional resident patients.

*** The "income" so derived is the profit, and the cost of food, laundry, domestic service, and similar expenses incurred on behalf of the resident patients can without doubt be properly deducted from the gross receipts in calculating the profit.

TRADE TEACHING FOR FEEBLE-MINDED YOUTH.

F. M.—The most appropriate place for a feeble-minded youth of 20 to be sent to "learn a trade" is The Royal Earlswood Institution, Red Hill, Surrey, where there is a series of workshops for practical instruction in printing, carpentering, tailoring, shoemaking, matmaking, etc., besides a farm and large gardens and grounds for outdoor work. Particulars can be obtained from the Secretary, H. Howard, Esq., Earlswood Offices, 14-16, Ludgate Hill, E.C.4. Payments vary according to means of parents and class of accommodation required.

ANAESTHESIA IN EPILEPTICS.

DR. C. LANGTON HEWER (Assistant Anaesthetist to St. Bartholomew's and to St. Andrew's Hospitals) writes: With reference to Dr. Cohen's letter *re* anaesthesia in epileptic subjects (p. 526), I might mention that some four months ago I anaesthetized an epileptic, who had two distinct seizures on the operating table. The first occurred just as the surgeon had begun, and the second about a quarter of an hour later. They consisted of clonic spasms of most of the voluntary muscles, and were sufficiently pronounced to stop the operation while they lasted. They were quite different in character from the fairly frequently observed "ether clonus," and lasted about two minutes. No initial tonic stage was observed. The patient was a young man who was being operated upon for tuberculous cervical glands. The anaesthetics used were gas and ether for induction, and then a mixture of C_1E_4 on an open mask. The patient made a good recovery, and had no more fits while in hospital.

DR. A. M. BARFORD (Chichester) writes: During the time I was giving anaesthetics in London I had occasion to administer to four epileptics. On each occasion I gave chloroform only, and there was no seizure during or after the administration. The patients were acute abdominal cases. Recently I had occasion to operate upon an epileptic child for tonsils and adenoids. The usual ether and chloroform mixture was used, and there was a marked seizure before and after the operation. Dr. Cohen's cases are interesting, as I have always thought epileptics could not tolerate ether.

DR. J. PEREIRA GRAY (Exeter) writes: The following experience of mine may be of interest to Dr. H. M. Cohen. On January 3rd last I was summoned to the Exeter Poor Law institution to deliver a woman, aged 22, whose labour was unduly prolonged. I found an occipito-posterior position. I gave chloroform and delivered. The anaesthetic was discontinued, the woman was lying quietly on her left side, and I was waiting for the expulsion of the placenta. Suddenly she stopped breathing, began to twitch, and then was convulsed. In fact, she had a typical epileptic fit. At its height a smart haemorrhage ensued, and the placenta was expelled. The whole affair took place between two and three minutes. She passed again into quiet anaesthetic sleep. There was never any albumin in the urine. Mine was a case, not of anaesthesia in epileptics, but of an epileptic fit in anaesthesia. The woman stated she was not subject to fits.

LETTERS, NOTES, ETC.

LENGTH OF GESTATION.

"M.R.C.S.," writing with reference to the correspondence on the length of gestation which appeared in the JOURNAL last year, sends the following facts: Last April I menstruated from April 24th to 28th inclusive. There was only one day during the following month on which connexion took place, this being May 2nd. Our baby, the fourth child, was born at 1 a.m. on February 3rd, 1920.

QUADRUPLETS.

M. PINARD reported recently to the Académie de Médecine a case in which quadruple pregnancy was brought to a successful termination. The children (two boys and two girls) were born on January 17th, 1915, have grown well, and were all alive on their fifth birthday. The mother was attended by a midwife (Madame Verdon) and Dr. Crouzat. The first child, a girl, which presented by the head, was born at 4 a.m. and Dr. Crouzat assisted delivery by forceps. The second child, a boy, which presented by the breech, was born an hour and a half later. In another half hour a third child, a girl, which presented by the breech, was born, and the fourth child, a boy, which presented by the breech, was born two and a half hours after the birth of his eldest sister. The three younger were born without instrumental assistance. Twenty minutes after the birth of the fourth severe haemorrhage occurred; it was treated successfully by delivering the placenta and the injection of hot water. The placenta was single, very large, and presented four distinct sacs. The mother suffered during the last month of pregnancy from the great size of the abdomen and from oedema in the lower part of the abdomen, the vulva, and legs. The urine did not contain albumin. She had previously had six children, born singly after normal confinements. A very complete family history was obtained, and on the side of neither parent was there any record of previous multiple pregnancies. M. Pinard stated that in France, according to Puech, quadruplets occurred once in 2,074,306 pregnancies.

ADVERTISING'S ARTFUL AID.

THE art of advertising is developing, and there are, we believe, schools where professors give instruction. The day of the simple-minded advertiser who tries to "direct attention to the subject" by using three or four sizes and kinds of type in as many lines is passing. The modern advertiser employs other methods. A word of praise may be given to the ingenuity of a little publication recently issued by Messrs. Oppenheimer. It consists of a number of more or less familiar proverbial sayings, with recommendations of the firm's products dropped in here and there; the author has so ingeniously arranged matters that the collocation of proverb and recommendation is sometimes distinctly amusing, so that the reader will be disposed to show his discoveries to friends. For instance, "All our geese are swans," "A therapeutic consideration of Roboleine supports all claims for it as *the* reconstructive." Or, again, "Bread is the staff of Life," "By its palatability and general excellence has taken high rank." Again, "For hope is but the dream of those that wake." "Favourably spoken of in relieving bronchial catarrh, asthma, and irritable winter coughs." And finally, Mark Twain and the BRITISH MEDICAL JOURNAL.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 38, 39, 40, 41, and 42 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 36 and 37.

THE following appointments of certifying factory surgeons are vacant: Hebden Bridge (York, West Riding), Liskeard (Cornwall), Markfield (Leicester), Singleton (Sussex), Stonehaven (Kincardine), Stornoway (Ross and Cromarty), Wolverhampton (Stafford).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

NEW VIEWS ON THE PATHOLOGY, DIAGNOSIS, AND TREATMENT OF GASTRIC AND DUODENAL ULCER.

A BRITISH MEDICAL ASSOCIATION LECTURE DELIVERED BEFORE THE TUNBRIDGE WELLS DIVISION ON JANUARY 20TH, 1920.

BY

ARTHUR F. HURST, M.A., M.D.OXON., F.R.C.P.,

PHYSICIAN AND NEUROLOGIST TO GUY'S HOSPITAL.

THE GASTRIC ULCER AND DUODENAL ULCER "DIATHESES."

THE exciting conditions which give rise to gastric and duodenal ulceration are common to many people who never develop an ulcer, so that the question arises, What is it about one individual that makes him liable to gastric ulcer, about a second that makes him liable to duodenal ulcer, and about others—the majority of people—that save them from being liable to either?

I propose to offer an answer to this question, which will in turn suggest methods of prophylaxis and of after-care which should render the patient treated by the most approved medical means even less liable to relapse than the patient who has undergone an operation, but without running the small but undoubted risks inseparable from the latter.

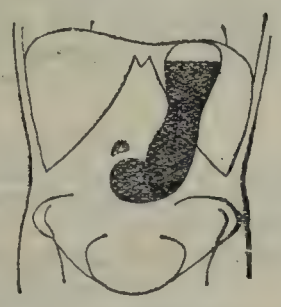


FIG. 1.—Average normal stomach.

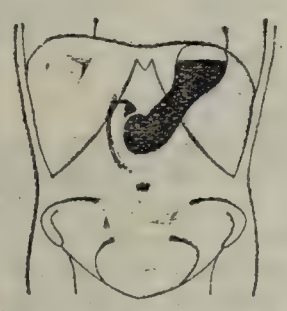
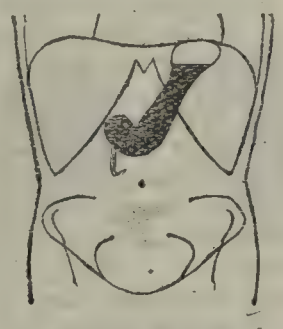


FIG. 2.—Hypertonic type of normal stomach.

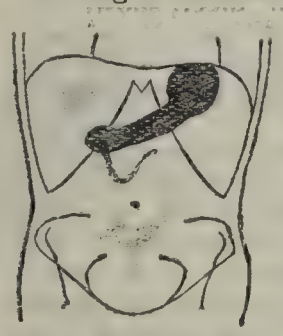


FIG. 3.—Hypotonic type of normal stomach.

Although there is a certain shape and position which may be regarded as the average normal stomach (Fig. 1), considerable variations occur in two directions. Whereas with a standard opaque meal the greater curvature of the average or orthotonic stomach reaches the umbilicus or just below it in the erect position, in some normal individuals the stomach is hypertonic, and in others it is hypotonic. In the former the stomach curves obliquely to the pylorus, which is almost its lowest point, and the greater curvature is situated some distance above the umbilicus (Fig. 2); in the latter the stomach is hook-shaped, and the greater curvature is situated more than an inch below the umbilicus, the upper level of the gastric contents being correspondingly low (Fig. 3). The hypertonic stomach generally empties itself more rapidly than the average normal one, and the hypotonic stomach generally, but not so constantly, empties itself less rapidly.



(A) Vertical position.



(B) Horizontal position.

FIG. 4.—Duodenal ulcer with thirty years' history. Hypertonic stomach hides duodenal cap.

Rehfuss has recently introduced a method of gastric analysis which is destined, I believe, to have a profound influence on our knowledge of the physiology and pathology of the stomach. Instead of passing a tube an hour after a meal and then emptying the stomach, a perforated metal bulb is swallowed just before the meal; attached to it is a fine rubber tube, the end of which remains hanging out of the patient's mouth. The stomach is emptied of its fasting contents; the test meal is then taken and a small quantity is aspirated through the tube every quarter of an hour until digestion is finished. By means of this "fractional test meal" a curve can be constructed showing the quantity of free and active hydrochloric acid present at each period of digestion. Rehfuss and Crohn of New York have found three types of curve in normal individuals—the average normal or isosecretion, hypersecretion, and hyposecretion.

Although comparative investigations of the motor functions, as ascertained with the *x* rays, and of the secretory functions, as determined by the fractional test meal, have not yet been carried out on a large scale, there is reason to believe that the hypertonic stomach generally shows hypersecretion. The hypotonic stomach generally shows hyposecretion, but it may—and this is a very important fact—also show hypersecretion.

Barclay and I, working independently, found that the stomach in cases of duodenal ulcer is hypertonic (Fig. 4) and empties with unusual rapidity, the onset of pain corresponding with the moment when the stomach has almost entirely emptied itself. More recently it has become recognized that the stomach in cases of gastric ulcer is generally somewhat hypotonic, and almost invariably empties itself more slowly than the average normal.

One of the earliest discoveries resulting from gastric analysis was the frequent association of hyperchlorhydria with gastric and duodenal ulcer. The more accurate investigations of Crohn by means of fractional test meals show that hypersecretion and hyperchlorhydria are constantly present in both of these conditions.

I have had several opportunities of examining patients who have recovered from duodenal ulcer as a result of medical treatment, occasionally after many years of complete freedom from symptoms. The hypertonic, rapidly emptying stomach has always been found to be still present. One of the group of six patients with symptoms of duodenal ulcer upon whom Sir Berkeley Moynihan operated when I visited his clinic for the first time in 1909 was found at the operation to have no trace of an ulcer, and therefore nothing more was done. This was his first attack, and the symptoms had only been present a few months. But I had previously demonstrated with the *x* rays that his stomach was hypertonic and emptied rapidly, just like the other five cases in which an ulcer was found. These observations prove, I think, that the characteristic *x*-ray appearance of the stomach in duodenal ulcer is not due to the ulcer, as it is present before it develops and persists after it has healed.

The same thing is true with regard to secretion, as Crohn has found that the curve shows the same hypersecretion and hyperchlorhydria after a gastric or duodenal ulcer has healed under medical treatment as it did before treatment began.

The conclusion which can, I think, be reasonably drawn from these facts is that there is one type of stomach in which a gastric ulcer will develop and another type which is likely to lead to ulceration of the duodenum, if the necessary exciting causes are present, but the latter will not give rise to ulceration at all in an individual with the average normal type of stomach.

I have seen a number of cases in which two or more brothers and sisters have suffered from gastric and from duodenal ulcer, and still more in which brothers and sisters of a patient with a gastric or duodenal ulcer have had symptoms of a similar character, but so much less severe that it seemed impossible that actual ulceration was present. In the most remarkable duodenal ulcer family I have met with the father and two out of nine children were dyspeptic, and four others had typical symptoms of duodenal ulcer, one dying from a perforation. It is a remarkable fact that I have never seen one member of a family with a gastric ulcer and another with a duodenal ulcer. This suggests that the types of stomach which predispose to the development of gastric and of duodenal ulcer respectively are congenital, and either one or the other may exist in several members of a family.

THE EXISTING CAUSES OF GASTRIC AND DUODENAL ULCER.

An ulcer of the peculiar type found in the stomach occurs nowhere else in the body except the first part of the duodenum and the part of the jejunum immediately adjoining the stoma of a gastro-enterostomy. The one

common feature of these three situations is the presence of gastric juice. But gastric juice will not digest the normal mucous membrane. Only if a small area of mucous membrane has had its vitality so lowered that it can no longer resist digestion does a superficial erosion form, which may develop into an acute ulcer and ultimately into the typical chronic gastric or duodenal ulcer. The vitality is most likely to be lowered by the action of toxins, which are generally of bacterial origin. The two most important sources are the teeth and the appendix. Bacterial toxins produced by chronic periodontitis (pyorrhoea alveolaris) and by root infection may be excreted by the gastric or duodenal mucous membrane after absorption into the blood stream, and may lead to local necrosis, just as the toxins produced by burns may in rare instances damage the duodenal mucous membrane, and those of uraemia may cause ulcerative colitis. In twenty-four hours very large quantities of pus are produced by the ulcerated areas in pyorrhoea alveolaris, and as all of this is swallowed, it can hardly be doubted that it leads to irritation of the gastric and duodenal mucous membrane, especially in the night, when it is no longer diluted by the food, and when the bacteria are no longer destroyed by acid gastric juice. Some organisms are probably absorbed from the mucous membrane, particularly if it has been damaged as a result of any of the other factors which will be mentioned. The minute submucous lymphoid follicles thus become inflamed, and may finally break down and open into the stomach, producing minute erosions, the precursors of definite ulcers. Septic foci in the pharynx and nasal sinuses probably act in the same two ways.

The association of chronic appendicitis with both acute and chronic gastric and duodenal ulcer is too common to be a coincidence, and the greatly diminished tendency to relapse, especially of acute ulcers, following removal of the appendix without interfering with the ulcer, shows that the appendicitis is the primary condition. It probably leads to ulceration in much the same way as the first of the two channels described in connexion with dental infection.

Chemical irritants, such as alcohol, especially when taken on an empty stomach, vinegar, the acids of unripe fruits, and mustard, pepper, and curry, taken in excess, may irritate the mucous membrane to such an extent that it becomes less capable of resisting digestion by the gastric juice. Insufficiently masticated food, and hard indigestible particles, such as pips and skins of fruit, fibres of raw vegetables, such as celery, and nuts have a still greater effect. When the movements of the stomach are watched with the *x* rays it is seen that the peristaltic waves at the pyloric end are so deep that they divide the extreme distal end of the stomach almost completely from the rest, and as the wave passes on, some of the contents are pushed forcibly through the very narrow pyloric canal, whilst the rest is pushed back into the body of the stomach through the equally narrow channel in the centre of the ring formed by the advancing wave of contraction. The muscular coat of the pyloric end of the stomach thus does the mechanical work which should have been done by the muscles of the jaws and tongue, and the hard particles of food are consequently rubbed against the delicate mucous membrane. It is not surprising that minute erosions develop, which may form the starting point of ulcers; this no doubt explains why ulcers are so much more common in the pyloric end of the stomach than elsewhere.

The occurrence of ulceration is rare in comparison with the frequency of the various exciting causes just described, because it is unlikely for the injured mucous membrane to be digested by the gastric juice unless the stomach has the physiological characteristics already described as predisposing to the production of gastric or duodenal ulcer. The explanation of this is clear. In the gastric ulcer type not only is the acidity high but the emptying of the stomach is slow, so that an exceptionally strong gastric juice remains in contact with the gastric mucous membrane for an exceptionally long period, and the passage of acid chyme through the duodenum is so slow and intermittent that the alkaline duodenal contents are capable of neutralizing it to a great extent. On the other hand, in the duodenal ulcer type the first part of the duodenum is kept constantly filled with exceptionally acid chyme, and neutralization with the alkaline duodenal juice is impossible; even when the stomach is empty gastric juice continues to be secreted, and passes rapidly into the duodenum without being diluted and partially neutralized by admixture with food.

I am convinced that the tendency to develop a duodenal ulcer is increased by excessive smoking; the nicotine apparently acts through the autonomic nervous system, and increases the hypertonus and hypersecretion of the stomach.

DIAGNOSIS.

We owe most of the accurate knowledge we possess concerning the symptoms of gastric and duodenal ulcer to the pioneer work of a number of surgeons, chief of whom should be mentioned Sir Berkeley Moynihan in England and the Mayo brothers in America. A diagnosis can generally be made from an accurate history of the symptoms, together with the results of an *x*-ray examination, which gives much information obtainable in no other way. A fractional test meal and the examination of the faeces for occult blood are of some value; direct inspection and palpation of the abdomen rarely give much information.



A, Vertical.



B, Horizontal. *i*, Incisura.

FIG. 5.—Spasmodic hour-glass stomach, due to a gastric ulcer.



A, Vertical.



B, Horizontal.

FIG. 6.—Spasmodic hour-glass stomach, due to a gastric ulcer.

I presume that you are all familiar with the writings of Sir Berkeley Moynihan on the symptoms of gastric and duodenal ulcer. I need only briefly summarize his description, to which I can add little of importance. The symptoms tend to appear in attacks which are generally brought on by an indiscretion in diet, overwork, especially if associated with worry, or exposure to sudden changes of temperature. The attacks are more common and generally more prolonged in winter than in summer. This periodicity is more constantly observed with duodenal than with gastric ulcers.

The one constant symptom is pain. It differs from the pain in all other abdominal disorders in the regularity of its relation to meals. In a given case the pain comes on at a definite interval after a meal of a given size, so that if a patient has pain an hour after dinner one day, he will have pain at exactly the same time every day if his dinner is of approximately the same size. The pain comes on immediately after taking food if the ulcer is close to the cardia; the onset is progressively later as an ulcer approaches the pylorus, and with a pre-pyloric ulcer it generally begins from an hour and a half to two hours after a meal of moderate size. In duodenal ulcer the onset of pain is still later, the usual time being between two and three hours after a meal; it is very characteristic for the pain in duodenal ulcer to be delayed after the last meal so as to wake the patient at 1 or 2 a.m. The pain is always in the epigastrium, and tends to be higher up the nearer the ulcer is to the cardia. In gastric ulcer it may spread towards the left and in duodenal ulcer towards the right, but this is by no means constant. The pain may radiate to the back, especially if the ulcer is on the posterior wall of the stomach and eroding the pancreas. The pain is always relieved by food unless the ulcer is at the cardiac orifice.

The relief is more marked and more prolonged the nearer the ulcer is to the pylorus, and particularly when the ulcer is in the duodenum. The pain is also relieved immediately by alkalis, and there is no doubt that, whatever its actual cause may be, it is associated with the presence of free acid in the stomach, and food acts by diluting and to some slight extent by neutralizing the acid. Localized deep tenderness is almost always present when spontaneous pain is actually felt, but in the intervals it may be completely absent. When the ulcer has penetrated so deeply that local peritonitis is produced, the situation of the tenderness is found with the *x* rays to correspond precisely with that of the ulcer.

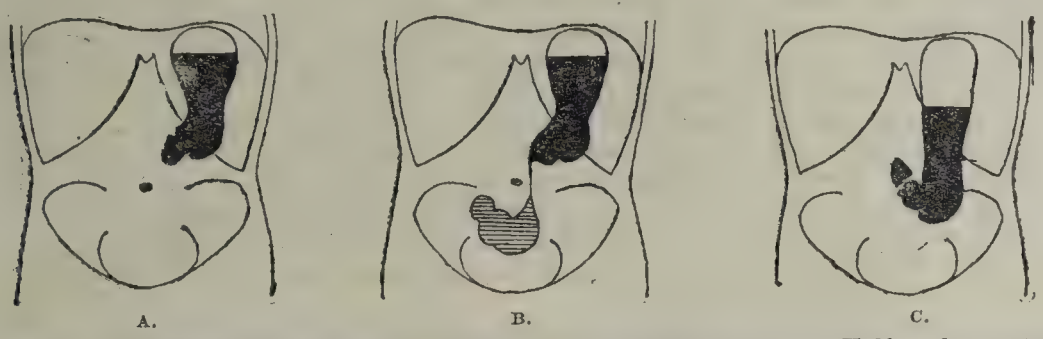


FIG. 7.—Hour-glass stomach, due to cicatrization of a gastric ulcer. A, Half an hour after opaque meal. B, Six hours after opaque meal. C, Three weeks after gastro-gastrostomy by Mr. R. P. Rowlands.



FIG. 8.—Gastric ulcer, producing "niche," N, in hypotonic stomach.

Vomiting is not uncommon in gastric ulcer, but is rare in duodenal ulcer. Its presence in the later stage of either generally indicates that the ulcer is invading the pylorus and producing obstruction, or, in the case of gastric ulcer, that an hour-glass contraction is developing. The pain is at once relieved by vomiting, which removes the acid contents of the stomach.

Haematemesis is far less common than is generally supposed. It is important to exclude such conditions as cirrhosis of the liver and splenic anaemia, which may also give rise to it, but its association with ulcer symptoms clinches the diagnosis. Much more commonly traces of occult blood, which can only be found by chemical means, are present in the stools, but the test is so delicate that this is only of importance if the patient is on a diet which contains no flesh food. The presence of melaena is of the same significance as haematemesis. It should be remembered that if the blood in the stools is bright red it cannot come from a gastric or duodenal ulcer.

In every case in which the possibility of gastric or duodenal ulceration exists an *x*-ray examination should be carried out. A standard opaque meal is given when the stomach is empty, and a second examination should be made six hours later, nothing having been eaten or drunk in the interval. The type of stomach present can at once be recognized, whether it has the average normal orthotonic appearance, or whether it is hypotonic or hypertonic—the types which are likely to be associated with gastric and duodenal ulcer respectively. The activity of peristalsis and the rate at which the contents of the stomach pass into the duodenum are next observed, the slow rate characteristic of a gastric ulcer being in marked contrast with the rapid rate characteristic of a duodenal ulcer.

Although both hypotonic and hypertonic stomachs in healthy individuals without symptoms are invariably empty within six hours, and the latter generally within a couple of hours, some residue is frequently found after six hours when a gastric ulcer and occasionally when a duodenal ulcer is present, even in the absence of organic pyloric obstruction; this is due to the occurrence in the later stages of gastric digestion of pylorospasm, or more frequently to pyloric achalasia—absence of the normal relaxation of the pyloric sphincter when each peristaltic wave reaches it in the later stages of gastric digestion. Some residue after six hours is therefore strong evidence that actual ulceration has occurred in the hypotonic or hypertonic stomach, although the latter has probably existed since childhood or even since birth.

In gastric ulcer spasm of part of the stomach is frequently present. The spasm may be confined to a very narrow segment corresponding with that on which the ulcer is situated; it then gives rise to a characteristic "incisura" (Fig. 5). In other cases a wider area is involved (Fig. 6), and the appearance may suggest the presence of an organic hour-glass constriction, but the upper segment never sags below the neck joining it to the lower one, as is invariably the case in organic hour-glass stomach (Fig. 7).

The same two varieties of gastric spasm sometimes occur in duodenal ulcer, and still more frequently in chronic appendicitis and gall stones. But in these conditions it is only present intermittently, and may come and go during the course of the *x* ray examination; it disappears when the stomach is gently massaged and on injection of gr. $\frac{1}{100}$ atropine sulphate, whereas the spasm in a case of gastric ulcer is generally unaffected under these conditions.

The *x*-ray signs so far described are present in acute as well as in chronic ulcer. The former is so shallow that no direct evidence of its presence can be expected, but the latter almost invariably gives rise to a highly characteristic picture. In gastric ulcer this consists in the production of a minute diverticulum or "niche," which represents the crater of the ulcer filled with the opaque salt (Fig. 8); in duodenal ulcer there is a more or less definite deformity of the duodenal cap, which is partly caused by the ulcer itself, and partly a result of spasm (Fig. 9). The visualized ulcer is often found to be the seat of considerable tenderness, strictly localized to the area of ulceration, especially in the case of the stomach, as duodenal ulcers are more deeply seated and less accessible to palpation.



FIG. 9.—Duodenal ulcer. P.C., Pyloric canal. P.S., Pyloric sphincter. D.C., Duodenal cap. C, Crater of ulcer. A, Diagram of normal *x*-ray appearance of pyloric end of stomach. B, Duodenal ulcer, deforming duodenal cap and invading pylorus. (Reproduced from skiagram by Mr. Reitz.) C, Section of pyloric end of stomach and duodenal cap, reconstructed from B, to show extent of ulceration.

The *x* rays also give quite definite evidence of the existence of organic hour-glass contraction (Fig. 7), the appearance of which is quite distinct from that caused by spasm, though the two are often associated together so that the degree of narrowing found at operation may be much less than what the *x* rays would suggest. Dilatation, even with a history of duodenal ulcer, and marked delay in evacuation in spite of abnormally vigorous peristalsis, which may be associated with occasional antiperistaltic waves, prove that pyloric obstruction is present.

PROPHYLAXIS.

I have already referred to a patient with all the symptoms of duodenal ulcer as well as the characteristic hypertonus and rapid evacuation of the stomach in whom nothing abnormal was found at operation. The symptoms had only appeared a few months before, and it is highly probable that a pre-ulcerative condition was present, which would have led to the development of an ulcer if no prophylactic treatment had been undertaken. It is not at

all uncommon to find people suffering from slight symptoms, which have either been present for only a short time, or, if for longer, have been intermittent and have rarely lasted for more than a few days at a time, but which are otherwise quite characteristic of gastric or of duodenal ulcer. In all such cases the type of stomach characteristic of gastric or duodenal ulcer is found, but no deformity of stomach or of duodenal cap, which alone proves conclusively the presence of an actual ulcer, can be seen with the *x* rays; there is no residue of food six hours after the barium meal, and no occult blood is present in the stools.

These patients are, I believe, suffering from a pre-ulcerative condition, which will certainly lead to actual ulceration in time unless all the exciting causes I have already described are removed. The teeth should, therefore, be put into perfect order, and the patient should in the future have his teeth thoroughly overhauled every six months. The pharynx and nasal sinuses should be examined for possible sources of infection, which should be dealt with if any are discovered. The appendix should be removed if there is evidence of chronic inflammation. The stomach, duodenum, and gall bladder should be inspected at the same time, but a gastro enterostomy should not be performed unless, after all, an ulcer of considerable size in the immediate neighbourhood of the pylorus is found, but this is not likely to occur under the conditions described, especially in the absence of any six-hour food residue.

The patient should be made to realize the danger he runs of an ulcer developing unless he eats slowly and chews his food very thoroughly. He should take nothing which is chemically irritating to the stomach, such as alcohol, vinegar, unripe fruit, mustard, pepper, chutney, pickles, and curry; a little well-diluted whisky is, however, permissible, but only if taken with meals. Very hot and very cold drinks should be sipped, and ices allowed to melt in the mouth before swallowing. Any food which cannot be chewed to a fluid consistence should be avoided; this includes tough meat, new bread, raw vegetables in the form of salads, and indeed all green vegetables unless prepared as purées, pips and skins of fruit, whether raw, cooked, in jam or marmalade, nuts, and especially currants and raisins in cakes and puddings. Smoking should only be permitted in strict moderation.

With the gastric ulcer type of stomach, which empties slowly, three good meals without any intermediate feeds, such as afternoon tea, should be taken. But with the duodenal ulcer type of stomach, which empties itself too rapidly, a tablespoonful of olive oil, which delays the evacuation, should be taken before each of the three chief meals; this has the further effect of diminishing the secretion of gastric juice, as Craven Moore has conclusively proved. Some milk should also be taken about three hours after breakfast, and afternoon tea should be taken at 4.30 or 5 p.m. More milk should be drunk just before going to bed, and a little should always be kept at the bedside to drink if the patient should wake in the night.

Care should be taken to avoid exposure to sudden changes of temperature, and if the patient is accidentally chilled he should as quickly as possible get thoroughly warmed, and, if necessary, have a hot bath and go to bed. It is quite unnecessary for patients of this kind to stay in bed or have a period of stricter dieting than what I have described, but the precautions mentioned should be continued for an indefinite period. The patient should also be given a powder containing equal quantities of oxide of magnesia, calcium carbonate and bismuth carbonate, which he can take whenever he has the least discomfort, in frequently repeated but very small doses—just sufficient to keep himself completely comfortable. He should also be careful to keep his bowels regular by means of paraffin, which has the advantage of being entirely devoid of irritant action, and, if necessary, with oxide of magnesia after each meal, as this has the additional advantage of neutralizing the excessive gastric secretion without irritating the mucous membrane.

MEDICAL TREATMENT.

As a preliminary to the treatment of the actual gastric or duodenal ulcer the teeth should be put into perfect condition, and any infected focus in the nose or throat should be treated. Throughout the treatment the mouth should be kept absolutely clean, and the tongue frequently scraped with a wooden spatula if any fur accumulates on it. If chronic appendicitis is present the appendix should be removed, but a gastro-enterostomy should not be performed unless the ulcer is very large, or is giving rise to mechanical difficulties owing to hour-glass contraction or pyloric obstruction.

The patient should be kept warm in bed throughout the treatment, but he should get up every day to have a bath and to open his bowels, the difficulties with which are greatly reduced if a bed-pan can be avoided.

The object of treatment is to reduce the secretion of gastric juice as much as possible, and to keep the hydrochloric acid in the stomach completely neutralized throughout the day, and, what is almost invariably neglected, throughout the night. The evidence is conclusive that free hydrochloric acid prevents an ulcer healing, whatever additional factors may have contributed towards its production in the first instance. At the same time as much food as possible is required to maintain the patient's nutrition, especially when he has lost much weight, as is often the case with gastric, though rarely with duodenal, ulcer. Finally, the food should be as unirritating in its mechanical and chemical characteristics as possible.

These are the commonly accepted principles of treatment, but several years ago I realized how inadequately it was carried out by the various methods in use both in England and abroad. I tried in various ways to fulfil these principles more satisfactorily, but it was not until I read a paper by Dr. Sippey of Chicago just before the war that I realized how far short of perfection my improved methods still remained. I had the good fortune to meet Dr. Sippey during my recent visit to America, and I have now adopted his method of treatment with certain modifications based on my previous experience.

Five ounces of milk (or preferably milk and cream in equal quantities) are given every hour from 8 a.m. to 8 p.m. inclusive. To each feed gr. x of sodium citrate, which combines with the lime in the milk, and consequently prevents the formation of irritating clots by the rennin of the gastric juice, dissolved in 2 drachms of emulsio magnesiae are added; the latter contains gr. v oxide of magnesia to the drachm. This has the advantage over sodium bicarbonate in having four times its neutralizing power, in giving off no carbon dioxide, which is liable to distend the stomach on reacting with the hydrochloric acid, in having a mild aperient action, and in producing a very much smaller secondary increase in secretion after the initial neutralization than sodium bicarbonate, which Crohn has shown by the fractional test meal to be the most powerful stimulant of gastric juice in existence.

Immediately before alternate feeds, beginning at 7.30 a.m., half an ounce of olive oil is taken. This inhibits the secretion of gastric juice; at the same time it supplies a digestible and absolutely unirritating food of very high nutritive value in a concentrated form. Immediately before the remaining feeds m v tinct. belladonnae, which has a similar inhibiting effect, is given, as oil before each feed sometimes gives rise to nausea and is more than can generally be digested.

Half an hour after every feed, and at 9, 9.30, and 10 p.m. a powder containing gr. x calcium carbonate and gr. xxx bismuth carbonate is taken in a little water. The former has two and a half times, the latter only one-third the neutralizing power of sodium bicarbonate, but neither gives rise to any secondary hypersecretion, and they neutralize the acid so slowly that the carbon dioxide set free is dissolved in the gastric contents as rapidly as it forms. At 6 a.m. half an ounce of bismuth carbonate, shaken up but not suspended in five to ten ounces of water is swallowed, and the patient then lies on his right side, or in such a position that the powder is likely to come in contact with the ulcer. This forms a protective covering to the ulcer, and at the same time neutralizes any acid present, and calls forth a local secretion of protective mucus.

By these means the contents of the stomach are kept neutral or alkaline from 6 a.m to 10 p.m. If the ulcer is in the neighbourhood of the pylorus, and especially if it is giving rise to any obstruction, continuous hypersecretion of gastric juice will occur throughout the night. It is then impossible for the ulcer to heal, and in the past it has been supposed that such cases must be operated upon. But the obstruction is generally due entirely, or in great part, to surrounding oedema and inflammatory swelling

and pylorospasm, and in such cases, if the ulcer can be caused to heal by medical or surgical treatment, any scarring produced is insufficient to give rise to obstruction.

Sippey has shown that by preventing the accumulation of acid in the stomach during the night these ulcers heal, and a cure can be obtained in most cases without resorting to surgery. At 11 p.m. the stomach is completely emptied by Senoran's evacuator; if not more than two ounces of fluid are present on two consecutive nights, this can be discontinued. If half a pint or more is removed at 11 p.m., the stomach should be evacuated again at 1 a.m. At 11 p.m. atropine sulphate is injected subcutaneously in order to inhibit the further secretion of gastric juice; the largest dose which does not produce unpleasant dryness of the mouth should be given, beginning with gr. $\frac{1}{50}$. At the same time the alkaline powder should be given, and if more than two ounces of fluid were evacuated it should be repeated every two hours through the night. In most cases the continued nocturnal secretion is rapidly controlled by this treatment.

If the patient is constipated the dose of magnesia should be increased, and if the bowels are not opened on two consecutive days an enema should be given. If diarrhoea occurs some magnesia should be replaced by an equivalent amount of bismuth carbonate.

The strict treatment just described should be continued until for three weeks the patient has had no spontaneous pain, no trace of tenderness has been present, no occult blood has been found in the stools, not more than two ounces of fluid have been removed on any one evening, and the *x* rays show no evidence of *active* ulceration. The pain and tenderness generally disappear within forty eight hours; the other signs of healing appear considerably later, the exact time depending upon the size and age of the ulcer and its proximity to the pylorus.

The diet can now be rapidly increased until at the end of a week everything is taken with the exceptions I mentioned in discussing prophylaxis.

Before returning to his ordinary occupation the patient should be given written instructions as to how he is to prevent a recurrence of his ulcer on the lines laid down under prophylaxis. With large and chronic ulcers he should in addition take a small quantity of the alkaline powder as nearly as possible at hourly intervals between meals for at least six months, but in the case of duodenal ulcer a small feed is equally or more efficacious.

Surgical Treatment.

Everyone must agree that the surgical treatment of gastric and duodenal ulcer is a confession of failure. If the prophylaxis I have spoken about could become universal, or even if ulcers were adequately treated at a sufficiently early stage in their development, operations would only be required for such rare emergencies as the perforation of an ulcer which had previously given few if any signs of its presence. It is not as if a gastro-enterostomy was completely without danger, invariably cured an ulcer, and never gave rise to unpleasant after-effects. I can recall three patients who died as a direct result of a gastro-enterostomy, although all the conditions appeared to be most favourable for success. I have seen a small number both of gastric and duodenal ulcers which have not improved as a result of the operation, or have recurred later, and several surgeons have recorded cases in which cancer has developed in the scar of an ulcer several years after the performance of a gastro-enterostomy. A jejunal ulcer is the most serious sequel; I believe it always heals eventually under the complete neutralization régime I have described. More frequently a certain amount of discomfort after meals, often associated with diarrhoea, which is occasionally very severe, follows the operation, sometimes only after several years of freedom from symptoms. It is true that the worst results follow gastro-enterostomy, when it has been performed for indigestion in spite of no ulcer being found at the operation. Excluding these cases, which all agree should never have been operated upon, a gastro-enterostomy is most likely to be successful when an ulcer is producing definite pyloric obstruction; equally good results follow a gastro-gastrostomy for organic hour-glass contraction. Moynihan has become so convinced that a gastro-enterostomy is unsatisfactory for gastric ulcers not causing obstruction that he now performs a partial gastrectomy instead, simple excision of the ulcer being in his opinion insufficient. Although this operation or destruction of the base of the ulcer by a cautery, combined, if the ulcer is very large, with a jejunostomy, may occasionally be indicated, the operation is such a serious one that it should never be resorted to until the most thorough and prolonged medical treatment has failed.

Indications for Operation.

There must thus still be some uncertainty as to the exact indications for operation, but at present I would state them as follows:

1. At the earliest moment after a perforation.
2. For pyloric obstruction without symptoms of active ulceration.
3. For pyloric obstruction with symptoms of active ulceration, if the *x* rays still show well marked stasis after ten days of the complete neutralization treatment.
4. For gastric ulcer causing organic hour-glass contraction.
5. When the symptoms recur after one or more courses of thorough medical treatment followed by adequate after-treatment. The number of such courses which should be tried depends upon such circumstances as the age, social position, occupation, and place of residence of the patient; thus, the older a patient, the better his social position, the less strenuous his occupation and the less important occasional absences from business, and the warmer and more equable the climate, the less urgent is the necessity for operation.
6. If severe haemorrhage occurs more than once, especially in patients past middle age, when it probably comes from a sclerotic vessel which cannot contract. An attempt should then be made to excise the ulcer, or, if this is impossible, to ligature the bleeding point; failing this a series of sutures should be tied round the ulcer so as to cut off as much as possible of its blood supply. Whenever possible it is best to wait until the patient has got over the initial collapse following a severe haemorrhage.
7. When for any reason—such as the persistence of pain or of occult blood in the stools in spite of treatment—it appears possible that a growth is present, the abdomen should be explored, and unless a growth can be excluded with certainty partial gastrectomy should be performed.

After any operation for gastric or duodenal ulcer the patient should follow exactly the same after-treatment as after medical treatment, or various ill results, which I have already mentioned, may ensue.

In conclusion, I think we may look forward with confidence to a time when not only the medical treatment of gastric and duodenal ulcer will have become so efficient that operations will no longer be required for them, but prophylaxis will be brought into play so early and so adequately that actual ulceration will be regarded as a rare condition which should never be allowed to occur.

An Address
ON
SURPRISES IN DIAGNOSIS.

DELIVERED TO THE ROYAL MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

BY

EDMUND I. SPRIGGS, M.D., F.R.C.P.

THE late Dr. Gee has recently been quoted as having said: "Medicine has three parts: the first is diagnosis; the second is diagnosis; and the third is diagnosis." Which is an allegory. If we look back on the progress of the art of diagnosis we observe that for centuries able minds had given themselves to the study of symptoms and signs, checking their deductions by the later development of the disorder. In the nineteenth century, to which Gee belonged, the study of morbid anatomy became general, with the result that enormous strides were made in the recognition and classification of diseases. No one can say how much more is to be learned by these methods as time goes on, though we must admit that we cannot hope to excel, if indeed to equal, those who have gone before in acuity of observation and reasoning. The introduction of aseptic surgery led to another great advance in the knowledge of disease by allowing the study of morbid anatomy during life. An exploratory operation is often a most valuable means of diagnosis, though all will agree that,

provided time and the condition of the patient allow, it should follow and not precede other investigations.

But in addition to the study of symptoms, aided as it is by a general knowledge of medicine founded upon normal and morbid anatomy and physiology, various scientific methods, belonging to the laboratory rather than the consulting room, have come into use, by which we may get closer to the knowledge of many disorders at an earlier stage. In some cases facts can be recognized which until recently could be learned only on the operating table; in others conditions can be found during life which were not revealed formerly until after death; and in yet others we can get information, for example, of the functional efficiency of the heart, digestive glands, stomach, and intestines, which neither the surgeon nor the morbid anatomist has ever been able to supply.

The progress of discovery of scientific methods such as may be used in the diagnosis of disease has naturally been faster than the growth of facilities for applying those methods to the needs of the general mass of sick folk. The poor in the large teaching hospitals have been the most fortunately placed, especially as regards the use of bacteriological and chemical methods of diagnosis. Medical work outside hospitals has also had the advantage of the services of excellent clinical laboratories in the great centres of population from which accurate reports can be obtained quickly by letter or telegram. Sanatoriums for special diseases have also long existed on the Continent, and a few in this country; and in many of these laboratory investigations were made either in the sanatorium or in its neighbourhood. It has been my lot to work at a private hospital which is, I suppose, as regards its particular character and range, the first of its kind in Europe, in so far as the physicians are able to follow the investigation of their patients—whether chemical, radiological, bacteriological, or protozoological—under one roof, and to control the food, drink, rest, exercise, and general mode of life during the process. Looking back over seven years the chief impression which remains, after the consciousness of errors and shortcomings of all sorts, is the impression of the constant interest which frequent surprises in diagnosis have given; an interest common, indeed, to all medical work, but shared especially, as I hope to be able to show you, by this particular kind of work.

I propose to relate briefly a few such surprises. The examples of unexpected diagnoses taken are, with one exception, not extraordinary. No attempt has been made to select rare complaints or find cases in which the disease has been thought to be in one part of the body and found in another; such outstanding surprises occur to all of us from time to time. My object is rather to illustrate the working of a routine in which clinical and laboratory methods are used together. Seven out of the eight diseases quoted are common or fairly common. The eighth, diagnosed as sprue, is included because of its special interest.

Hypochlorhydria (Achylia).

This complaint may give rise to considerable derangement of health, and is, in my experience, seldom diagnosed from the symptoms.

1358. A middle-aged man complained of three months' discomfort in the upper abdomen and lower chest, coming on after food, relieved by application of heat but not by alkalis. Three years ago a diseased appendix had been removed; the gall bladder, duodenum, and stomach were then looked at and appeared healthy. A further operation was now contemplated. Chemical analysis of the gastric contents showed that the patient was the subject of a persistently poor gastric juice. On *x*-ray examination no evidence of a gross lesion of the stomach or duodenum was obtained. Treatment by dry diet, gastric lavage, acid and pepsin led to disappearance of symptoms.

677. A man, aged 48, after some years of overwork, had for six months felt weight in the epigastrium with regurgitation and loss of appetite. He had consulted distinguished members of our profession, who thought, as, indeed, any physician of experience might think from his story, that he was the subject of hyperacidity and perhaps duodenal ulcer. The analysis of the gastric contents (by Mr. A. J. Leigh, B.Sc.) showed—

	Free HCl.	Total Acidity.	Active Chlorides.
			Per cent.
Test breakfast	Trace	3	0.01
Test lunch	Trace	14	0.01

The digestion of fibrin was very slow; it was improved by the addition of 0.04 per cent. HCl. *X*-ray examination of the alimentary tract showed nothing abnormal except some delay in the ileum. The urine and faeces were normal.

With treatment for hypochlorhydria steady progress was made, and the symptoms disappeared. Six weeks later the active chlorides were 0.03 per cent., a slight improvement. He continued at home the regimen advised, and has remained well. From time to time tests were made, with the following results:

	Free HCl.	Total Acidity.	Active Chlorides.
			Per cent.
Three months later	Present	22	0.08
Nine months later	Present	34	0.13
Fifteen months later	Present	40	0.13
Eighteen months later	Present	46	0.18

showing that the gastric juice gradually regained its strength.

The diagnosis of hypochlorhydria must not be made upon one test meal, or even, unless all elements of doubt can be excluded, upon two results. The accidental factors which are most likely to alter the composition of the gastric contents, especially dilution with mucus or inadvertent taking of alkaline medicine, are factors which lessen the acidity of the material tested. Errors in analysis are also likely to tend the same way.

Amoebic Dysentery.

In the following case the diagnosis, though unsuspected, was made at once from the routine examination of faeces for protozoa.

1218. A patient had suffered from diarrhoea for eight years, during which time he had had the advice of several of our most able physicians and surgeons. He had been treated by vaccines, tuberculin, and rectal injections. The appendix and caecum had been removed. He was sent to Duff House by a surgeon for further observation before another operation was undertaken. The routine examination showed that cysts of *Entamoeba histolytica* were present in numbers. The sigmoidoscope showed superficial ulcers. With *x* rays the colon was seen to have an irregular ragged outline. The diagnosis made was "chronic amoebic dysentery with secondary ulcerative colitis." Under treatment with emetine the cysts disappeared in a month. The colon had suffered much damage during the eight years of illness, and improvement of the general state was slow though definite.

The patient had not lived in the tropics, and that was why the diagnosis of dysentery had not suggested itself to his former advisers, or to us before examination was made.

Sprue.

651. A young middle-aged woman was admitted with a diagnosis of atony of the large bowel, ascribed to autoinfection, and leading to severe attacks of tetany. She had been ill on and off for years and a complete invalid for more than one year. Large motions had been passed since infancy. The average weight of the stools (taken over seven days) in the first weeks of her stay varied from 250 grams (with 83 per cent. of water) to 600 grams a day, the normal weight for a healthy woman of her small build being about 100 grams a day. Ulcers of the mouth and tongue were troublesome. *X*-ray examination revealed nothing abnormal. The faeces were light and semi-liquid; a chemical examination of them, the patient being upon a fixed diet, showed that absorption of fat and protein was deficient. The following table shows the amount of nitrogen, carbohydrate, and fat in the diet and faeces and the proportion absorbed:

	Grams per Day.		Percentage of Dry Faeces.	Percentage Absorbed.
	In Diet.	In Faeces.		
Nitrogen	13	2	4	85
Carbohydrate ...	178	2	5	99
Fat	98	20	47	80

Pancreatic disease was suspected, but the pancreatic ferments, trypsin (in faeces) and diastase (in urine), proved to be present in normal proportion. A diagnosis of sprue was then made, although the patient had only once been in the tropics, and some of her symptoms had been present before she made that journey. Appropriate treatment by a meat diet was instituted. In three months the ulceration of the mouth was gone, and there was no tetany. A steady recovery followed, and faecal analysis six months later showed that assimilation had

become normal, the daily weight of faeces being 97 grams, with 74 per cent. water.

	Grams per Day.		Percentage of Dry Faeces.	Percentage Absorbed.
	In Diet.	In Faeces.		
Nitrogen	18	2	7	90
Carbohydrate ...	237	0.4	1.5	99 8
Fat	131	6	24	95

The average daily weight of stools sank to 90 grams.

Glycosuria.

A gratifying class of case is that in which diabetes is suspected but the glycosuria turns out to be of different type. In these patients there has often been a lesion or operation about the epigastrium, from which, presumably, the pancreas has been affected.

845. A woman over 50 was sent for treatment for glycosuria, but also complained of pain and vomiting. She had had cholecysto-duodenostomy performed for jaundice. The sugar in the urine never exceeded 9 grams a day, with plentiful carbohydrate in the food, and was evidently not the cause of the loss in weight. *X*-ray examination showed that the stomach did not empty itself and that a constriction of the duodenum was present, for which a further operation became necessary. The symptoms had been masked by the daily use of an opium pill.

92. A man approaching 60, suffering from loss of weight and energy, with glycosuria, was found to be also the subject of anaemia and a hypotonic dropped stomach. Tests showed that the quantity of sugar passed was always small, between 1 and 6 grams per day, and bore no reasonable relation to the carbohydrate in the food.

Date.	Sugar (per Day).	Carbohydrate in Food (per Day).
August 7th	3.1 grams	154 grams.
September 6th ...	1.0 gram	13 grams (strict diet).
September 8th ...	6.4 grams	100 grams dextrose and an ordinary diet.
September 9th ...	2.8 ,,	Ordinary diet.

The opinion was given that the glycosuria was not of importance. Six years have passed, during which there has been no restriction of carbohydrate in the food, and the patient remains well.

Such patients have come to us less frequently of late; perhaps because tolerance tests are made more often than they were formerly.

Chronic Appendicitis.

The following case illustrates the value of *x*-ray examination after a barium and buttermilk meal in the diagnosis of chronic appendicitis:

554. A young man had had ill health at intervals since childhood, including pneumonia, pleurisy, intermittent pyrexia, and "colitis." He was thought to be tuberculous. These illnesses had prevented him from remaining at school. He joined the army, but was invalided out. *X* rays showed that the appendix filled in its proximal part and showed vigorous contractions. The shadow beyond was dilated with an irregular cupped or V appearance due to barium reaching round the sides of a faecal mass. This part and the base of the appendix were tender.

At operation two inflamed enlargements of the appendix were found. There was no appearance of tuberculosis in the appendix or surrounding peritoneum. The subsequent progress makes it probable that the pyrexial attacks he had suffered for years were due to chronic appendicitis.

Carcinoma Recti.

582. An elderly man was sent for colitis of fifteen months' duration. The routine microscopic examination of the motions showed the presence of pus and blood. With *x* rays dilated ileal coils were seen and the sigmoid was segmented irregularly. The sigmoidoscope was then used and a growth found 12 cm. from the anus. Surgical aid was sought and a colostomy done, which enabled him to follow his occupation for more than two years.

Mediastinal Growth.

550. An elderly man was sent for treatment for diabetes, his doctor mentioning that he had an irritable cough, which might be due to too much smoking, and had had one or two febrile attacks. On examination some rhonchi were heard at the right base, with diminished breath sounds. Three days later a faint stridor was heard. The *x*-ray screen showed the presence of a mediastinal growth.

Calculus.

936. An elderly man complained of constipation, piles, frequency of micturition and sometimes discomfort or pain. He had passed blood in the water seven years before and had been *x* rayed twice and told there was no stone. *X*-ray examination showed a large stone in the bladder, of which I show you a radiograph on the screen. It was removed with complete relief.

At former *x*-ray examinations the whole urinary tract had been screened but photographs had been taken of the kidney region only.

In considering such surprises in diagnosis as those related, and many others, I became curious to know how often they occurred; and it seemed that it might be of interest to express by figures the assistance given by laboratory methods in the diagnosis of a series of cases. So far, about 1,500 cases have been admitted, but for the present purpose I have confined myself to an analysis of the last 500, and have made a comparison between the preliminary diagnosis and the diagnosis after investigation. In considering this analysis one or two points must be borne in mind:

First, the patients are not average patients, but are selected, many of them not having been sent to Duff House until after they had been suffering for some years. In a good proportion the medical advisers of the patients had taken them for consultation to various physicians and surgeons. We may fairly assume that in most of these cases considerable skill and experience had been brought to bear upon the diagnosis of the condition, so far as that can be made from the symptoms, signs, and history. In many cases also certain investigations, such as *x*-ray examinations, had been made before admission. Nearly two-thirds of the cases (62 per cent.) were abdominal in type.

The second point which I wish to make clear is that in the following series I am not comparing the diagnosis before admission with the diagnosis made after admission. The comparison lies between the first diagnosis made by us upon the history, symptoms, and physical signs, with the valuable help given by the patient's medical adviser or advisers, and the second diagnosis made after such scientific investigation as seemed desirable had been carried out. On admission the patient's history is taken, his symptoms are noted down, and a physical examination made. It is from this information that what I call the preliminary diagnosis is noted. I need hardly say that in most cases it corresponds with the opinion expressed by the patient's medical man in his letter about the case. After investigation the case is reviewed again, and then is made what is called in the following classification the second diagnosis.

The third point is sufficiently obvious. It is that when I speak of the routine examination I do not mean that every patient is subjected to the same routine. The examinations made are those which appear to be directed to the symptoms complained of. The more general ones are chemical and microscopical examination of urine and faeces, including examination for bacteria and protozoa, of gastric contents, and sputum if present, special examination of nose, throat, and rectum, *x*-ray screening of the chest, photographing of the abdomen for opacities, and examination after a barium meal. In cases of deficient absorption, particularly suspected pancreatic disease, a valuable test is the analysis of the total excreta upon a fixed diet for a period of three days.

Sources of Error.

Fourthly, we do not, of course, assume that the second diagnosis is final and comprehensive. Although in most instances the development of the case or an operation showed that it was near to the truth, there was a proportion of errors and inaccuracies, and of these I shall speak in discussing the various classes in which the cases are ranged. There are doubtless also other errors, so far undiscovered or not known to us.

CLASS I.

In the 500 cases, 53 were of diabetes, in which the diagnosis itself offered no difficulty, though the determination of the kind of case and the appropriate treatment calls for prolonged daily dietetic and chemical observations; 2 others were thought to be diabetes but proved to be a different form of glycosuria, and are not included. Of the

53 diabetic cases, in 48 there was no unexpected complication. In 5 others were found: in 2 heart disease, one Bright's disease, one a large abscess in the leg, and one tobacco poisoning.

CLASS II.

In 143 cases the diagnosis made after investigation coincided in all important respects with the first diagnosis made on the history, symptoms, and physical signs. If we add to these 143 the 53 cases in Class I we find that in 196 cases—namely, 39 per cent. of the whole—the preliminary diagnosis, so far as we were able to test it, was correct.

CLASS III.

In another large class the second diagnosis confirmed the first one, but some material and important point was added by the investigation. For example, a case diagnosed as gastric ulcer found to have a severe constriction of the stomach, a case of ulcerative colitis found to have a cancer of the sigmoid, a case of obesity found also to be suffering from malaria, would be put in Class III. In this class there were 96 cases, made up as follows: In 10, in addition to the condition diagnosed, an affection of the appendix was present, confirmed by operation in 5. In 5 others the presence of gall stones was detected. In 5 the diagnosis was corrected as to the position of an ulcer, a supposed duodenal ulcer being found to be gastric or vice versa. The other findings were: Hyperchlorhydria, 8 cases; hypochlorhydria, 5 cases; amoebic dysentery, adhesions of the bowels, 4 cases; constriction of stomach (verified by operation), gastric ulcer, duodenal adhesion, constipation, alcoholism, oversmoking, nervous exhaustion, 3 each. There were also 3 cases in which intestinal stasis had been diagnosed, but in which the delay proved to be rectal only. Cancer of the bowel, cancer of the stomach, anaemia, ulcerative colitis, 2 cases each; diabetes, constriction of the oesophagus, deformity of stomach, constriction of the colon, adhesions about the gall bladder, colitis, sigmoiditis, *fistula in ano*, sprue, renal calculus, pyelitis, bacilluria, paratyphoid carrier, septic tonsils, deficient teeth, pyorrhoea, heart disease, fibroid lung, bronchitis, pleuritic effusion, climacteric, post-influenzal toxaemia, malaria, 1 each. Diverticula of the intestine were also found in several cases, but did not seem to be associated with symptoms.

CLASS IV.

Is really a subclass of Class III. It contains 83 cases admitted with a diagnosis of one of two or more gastro-intestinal lesions—that is to say, the case was regarded as probable appendix, or duodenum; or gastric or duodenal ulcer; or ulcer or gall stones, without specifying which; and it was desired to ascertain, if possible, whether such a lesion were present, and if so where it lay. In 74 of the 83 the diagnosis was justified, evidence of lesion being found. The second diagnosis was as follows: Duodenal ulcer 16 cases (9 operations); chronic appendicitis 30 cases (22 operations); gastric ulcer 7 cases (2 operations); growth of bowel or stomach 5 cases (2 operations); ileal bands or adhesions 4 cases (2 operations); severe constriction of bowel or stomach 3 cases (3 operations); lesion of gall bladder 3 cases; retrocaecal appendix 2 cases (1 operation); deformity of duodenum, cancer of liver, adhesions after operation, and pancreatic disease—1 each. In 9 cases no mechanical lesion was found; 2 were the subjects of hyperchlorhydria, 2 of achylia, and in 5 no disease of importance was discovered.

CLASS V.

Next is a small class of 18 cases of patients seeking relief after gastro-jejunostomy. In 16 of these evidence of some abnormality in the working of the stoma or a lesion in the neighbourhood was found; 6 of these have so far been operated upon again with excellent results; in 2 the stoma was working well and no mechanical abnormality was found.

CLASS VI.

I come now to a class in which the second diagnosis differed materially from the first, having neither been mentioned by the medical adviser of the patient nor diagnosed by ourselves in our preliminary examination of the case. In this class there were 96 patients, and the second diagnoses were as follows: Chronic appendicitis 16 cases (5 operations so far); achylia 9 cases; duodenal ulcer, gastric ulcer, heart disease—4 each. There were also 4 cases in which intestinal stasis had been diagnosed but was not found present. Bronchiectasis, tobacco poisoning, caseous masses in the abdomen, phthisis, renal calculus, mediastinal growth, neurosis—3 each. Uterine myomata, prostatitis, hyperpiesis, hyperchlorhydria, colitis—2 each; amoebic dysentery, fibroid lung, bronchitis, anaemia, constriction of duodenum, growth of the bowel, adhesions of the bowel, growth of the stomach, volvulus, atonic stomach, enteroptosis, pancreatitis, gall stones, cholecystitis, constipation, sprue, uterine retroflexion, lesion in sphenoidal cell—1 each.

It will be noticed that cases have been included in this group—phthisis, bronchitis, fibroid lung—in which the diagnoses may have been made by physical examination. These were patients in whom either a lesion which had not been detected was found during continued observation, or in whom the effects produced had been ascribed to some other cause which was not found to be present.

I have also added to this class 5 cases in which no first diagnosis, except that of a symptom, was made. Two complained of headaches: one was found to have chronic appendicitis, and the headache was relieved by removal of the appendix; the second was found to be suffering from an error of refraction and hyperchlorhydria. A third patient complained of irregular mild indigestion, and was found to be the subject of constipation and hyperchlorhydria. The fourth complained of headaches and constipation, and was taking excess of tobacco; and the fifth complained of palpitation, and was the subject of anaemia and basal bronchitis.

CLASS VII.

In this class are three cases in which no diagnosis was made and the examinations were negative.

CLASS VIII.

The last class consists of 8 cases in which errors in diagnosis were made. In 4 cases the second diagnosis was frankly wrong. In one of them a shadow was diagnosed as a renal calculus, which proved to be a gall stone. A second diagnosed as splenic anaemia proved to be malignant disease. In another the diagnosis was made of a retrocaecal appendix and deformity of the duodenum; the appendix was retrocaecal and diseased, but no lesion of the duodenum was found. In a fourth a diseased appendix was diagnosed and a lesion of the stomach; cancer of the stomach was present, but the appendix was healthy.

In a fifth case the appendix, which lay deeply in the pelvis, filled in part only and was tender, and was thought to be abnormal; at the operation it was reported healthy and the symptoms ascribed to ptosis of the caecum. The case is not, however, conclusive, as no microscopical examination of the appendix was made. We have repeatedly found small lesions of the mucosa causing symptoms of appendicitis which are not detected by external examination of the appendix.

In the remaining three cases, although the diagnosis made was correct so far as it went, something important was missed. In one chronic appendicitis was diagnosed, but gall stones were also present and had not been detected. In another cancer of the stomach was diagnosed successfully, gall stones again being missed. In a third chronic appendicitis was diagnosed and was present, but a tumour of the pancreas had not been detected, although the surgeon's attention was directed by us to that region because an unusual deformity of the duodenum, which we could not explain, was caused by the tumour. I show you the radiograph on the screen.

In palliation of these errors it may be said that in every one of the patients in this class, with the doubtful exception of the fifth case, the operation advised was necessary.

The following table summarizes the figures which have been quoted.

Summary of Statistics.

		No. of Cases.	Per cent.
Class I ...	Diabetes	53	10.6
Class II ...	First diagnosis confirmed	143	28.6
Class III ...	First diagnosis confirmed with addition	96	19.2
Class IV ...	(*a*) First diagnosis confirmed with differentiation	74	14.8
	(*b*) First diagnosis not confirmed	9	1.8
Class V ...	Gastro-jejunostomy	18	3.6
Class VI ...	Second diagnosis differing materially from the first	96	19.2
Class VII ...	No diagnosis	3	0.6
Class VIII...	Errors in second diagnosis	8	1.6
		500	100.0

It has probably occurred to my readers that the various classes into which I have divided the cases run into one another and that the boundary line must often have been indefinite. This was so, and on that account the actual figures must not be taken too seriously. If there has been bias in the process of classifying I have tried to direct it towards the swelling of Class II—cases in which the first diagnosis was confirmed—and Classes III and IV *a*—in which the diagnosis was added to or made more accurate, rather than towards Class VI, in which the diagnosis was altered.

In the following table some of the classes are thrown together to obtain a general view.

General Classification.

		No. of Cases.	Per cent.	
Class I Class II	First diagnosis confirmed	196	39.2—40	
Class III Class IV*a*	First diagnosis confirmed with important addition or differentiation	170	34.0	55
Class VI Class IV *b*	Diagnosis altered after examination	105	21.0	

Therefore, in 40 per cent the diagnosis was confirmed, and in 55 per cent. it was modified or altered.

We may summarize the figures by the statement that out of 500 consecutive cases of varying nature, of which two-thirds were abdominal cases, the first diagnosis made on the history, symptoms and signs was confirmed by appropriate laboratory examinations and tests in 40 per cent. of the cases, was materially added to or modified in 34 per cent., and was altered in 21 per cent.

It appears, therefore, that in over half of the cases a material advance was made in diagnosis by the methods of investigation used.

We must never forget, ladies and gentlemen, that the ultimate unit is the patient and not the case. No objective investigation will ever enable us to do without personal observation. A laboratory report may be the corner-stone of the diagnosis, but it cannot of itself be the diagnosis. For example, a man may harbour the germ of an infective disease or may have a stone in his kidney whilst his ill health is due to another complaint or condition altogether. The doctor must observe and appraise the patient himself, his symptoms, signs, temperament and circumstances, using also all other means that the growth of knowledge has given.

[The address was illustrated by lantern slides.]

CONCLUSIONS.

1. The first need in diagnosis is the careful study of the history, symptoms, signs, and general condition of the individual patient. By such means an accurate diagnosis was made in 40 per cent. of 500 patients.

2. In a large proportion of cases, especially those in which the functions of secretion, nutrition and excretion are affected, or in which infections, calculi or growths are present, the routine use of scientific methods of investigation is an invaluable aid. In over half of the series of 500 cases the preliminary clinical diagnosis was modified or changed after routine investigations had been made.

3. Facilities for such examinations are at present widely needed, especially for folk of moderate means as compared with those who are treated in public hospitals and with the well-to-do.

4. For want of such investigations large numbers of patients are given advice and treatment which is not the best suited to their complaints, hundreds of unnecessary operations are done, and hundreds of operations that ought to be done are left undone.

RESULTS OF THE PEPTONE TREATMENT OF ASTHMA.

WITH A NOTE ON THE TREATMENT IN CERTAIN PATHOLOGICALLY ALLIED CONDITIONS.

BY

A. G. AULD, M.D., M.R.C.P., D.P.H.OXON.,

LONDON.

IN previous communications[1] the peptone* treatment of asthma was described in detail, and it may now be profitable to consider the extended results. These are based on a fairly large number of cases, all of which received treatment over a year ago. It was formerly pointed out, *inter alia*, that certain types of cases were amenable to the treatment; that the method of immunizing depended on the type of case; that no reaction appreciable to the patient should follow the injection (intravenous); and that the latter should be made slowly.

The treatment has been instructive in respect of the grouping of asthmatical cases. Two main groups occur which show no tendency to pass into each other. One group comprises such as quickly respond to the treatment, and the effect is more or less lasting, the recurrences being infrequent and milder in character. The other group is resistant, and is subdivisible into such as are totally resistant and those in which, by careful immunization, the disease may be largely overcome.

Group 1.

The first group presents as a rule most of the following characteristics: General good health, little family predisposition, limited duration of the disease (though a variable factor), regularity in recurrence of attacks, freedom from bronchitis and emphysema. This group is illustrated by such cases as the following:

Male, aged 22. Has suffered for four years. Attacks occur regularly every night during winter and spring; less frequent in summer. They last from one to three hours, and some relief is obtained by burning asthma powder. Is quite well in the daytime. After seven injections the attacks began to yield and ceased entirely after the tenth. The patient remained quite free of asthma for about a year, when he returned desirous of having some treatment as a prophylactic for the winter months. There has been no return of the asthma.

The relief, however, is not usually as complete as this. More frequently the history is somewhat as follows:

Female, aged 37. Asthma four and a half years; worse in summer. Is disturbed practically every night by slight attacks, for which she burns the usual powders, but, in addition, about every three weeks she suffers a bad attack which prostrates her one or two days. The response to treatment was very rapid, she soon began to have good nights, and could exert herself without any respiratory discomfort. After eleven injections she remained quite free for five months, when the disease returned in a milder form. Another short course of treatment was given, and during the next year she only had three slight attacks.

Such cases might be multiplied almost indefinitely. The treatment is simple and the results very gratifying. The only trouble encountered is the taking of "colds," to which our population is doomed during the greater part of the year. This is often a most distressing factor, and one can only wait and resume.

Occasionally cases are encountered which, from the

* Although it is the proteose fraction of the peptone of commerce which is the active ingredient, I have retained the term "peptone," as it has not yet been proved that the peptone fraction is without any effect.

history, would seem to belong to the second group, but in reality are of the simpler type. As an instance:

Female, aged 45. Has suffered for eighteen years, the asthma developing after childbirth. At first the attacks occurred about monthly, but then changed to weekly. Worse in summer. Attacks last on an average twelve hours. A short course of treatment brought the attacks to an end, no trace of the disease appearing for many months. During the past year she has only had occasional mild attacks, brought on, as she thinks, by indigestion.

None respond better to the treatment than children. In them I make the injection into the spinal muscles, basing the practice on an observation by Meltzer that the venous arrangements in these muscles are such as to cause the absorption of the medicament to approximate more to an intravenous injection. Witte's peptone must not be used, as it may cause a severe local reaction. Most other varieties, however, are innocuous in this respect. The same dose as that used intravenously for an adult should be given, but in double concentration.

Boy, aged 6. Shortly after birth developed eczema, which lasted for two years. On its disappearance asthma set in. The attacks lasted from a few hours to a week; then about a week's respite. All the year round. The attacks quickly began to yield and ceased after eight injections. He remained perfectly well for three months, when an attack supervened. Seven months elapsed before he had another, then three months, and four months. It has not been necessary as yet to repeat the treatment.

Girl, aged 3½. Attacks since the age of one year, lasting for three days. Then about four weeks free, with perfect health. She received eight injections into the spinal muscles, and now seventeen months have passed without any recurrence.

Boy, aged 13. Asthma for five years. Attacks lasted seven days with two months' interval; all the year round, and also after exercise, such as games. Since treatment two years ago, he has not had a trace of asthma, and can play a strenuous game of football.

Bronchitis complicating asthma in a child is not the bar to treatment which it presents in an adult. None of the children hitherto treated have been refractory.

Group 2.

A few observations may first be made regarding cases which resist the treatment. They include nearly all those with chronic bronchitis and developed emphysema, and cases presenting any degree of cyanosis, even without bronchitis. Also those in whom, apart from the asthmatical paroxysms, a more or less oppressed condition of the respiration is practically never absent. As a rule, the affection has lasted many years, dating from childhood, or from the age of puberty, and a family history of asthma can nearly always be elicited; sometimes hay fever also is found. Often the only effect that can be produced in such cases by means of peptone—and it has very important bearings—is the complete suppression of the attacks for a short period by a mildly toxic dose. For two or three weeks the patient for the first time experiences complete relief and thinks a cure has at last been made, only to be sadly disappointed. The dose of peptone necessary to effect this desensitization must be carefully considered in relation to the individual case, and should produce, in from one to two hours, headache, malaise, shivering, slight rise of temperature, sickness, with pain in the abdomen and diarrhoea. Sometimes a herpetic eruption occurs about the mouth or more widespread.

But this group also includes many cases in which very satisfactory results may be obtained, as follows:

Male, aged 29. Asthma for twenty years, induced without any obvious cause, but also precipitated by what he described as "horse dust." Of rather an asthmatic "habit," breathing slightly laboured, a low degree of emphysema, with a fairly good chest expansion. Bronchitis was occasionally troublesome, and there was considerable expectoration after the attacks. These occurred as a rule nightly, but from time to time he had bouts lasting a few days. After three weeks' treatment there was no definite improvement. The method of immunizing was modified, and the dermal reaction to peptone recorded. In the fifth week a definite improvement set in, and after eight weeks the asthma had ceased; there was no oppression of the chest, and he could easily and freely expand it. A year later he wrote: "During the past year I have not had one bad day or night; only one or two slight attacks owing to weather changes."

Immunization in Certain Cases.

In regard to the immunization in difficult cases there are two if not three necessary considerations: (*a*) The rate of injection of the peptone and its dilution, (*b*) the peptone to be used, and (*c*) the indications afforded by the dermal reactions as the case proceeds. If the patient takes the peptone well larger doses may succeed, given by very slow injection to avoid reaction. If the patient is sensitive to peptone, however, great care is required, as the larger dose given in this way may precipitate an attack of asthma. Rarely this occurs very quickly—in a few minutes—with concomitant flushing of the face, especially if Witte's peptone be used, which seems to contain a toxic ingredient not present in muscle peptone. Again, a mixture of peptones sometimes succeeds best. The dermal reaction (which may be produced by a von Pirquet borer) is not of much value at the beginning, as non-asthmatical subjects may give it, and it varies considerably in different persons, but as immunization proceeds it ought to lessen, and finally disappear—that is, show no distinction from the control made with the solution in which the peptone is dissolved. Experience proves that the immunizing injection should never reach the critical point; it only injures the immunity mechanism. As a general rule also, there ought to be three clear days between each injection. Another case in which the result was very satisfactory may be cited:

Female, aged 23. Had suffered severely since 3 years old. Had tried every known alleged remedy without any benefit. The attacks lasted from four days to a week, with about three weeks' remission. During this time, however, she suffered from constant nocturnal asthma, lasting from 2 a.m. to 7 a.m. Had but little bronchitis and a very moderate degree of emphysema. Improvement did not set in until the fifth week, and from this time onwards the patient had "tightness" in the chest but no definite attack. This sense of tightness or oppression was only induced on exertion. She continued so for three months, when attacks began, but lighter in type. Another course of treatment was given, with the result that only the "tightness" remained as before, and a few months elapsed ere the attacks recommenced. They did not last long, and for months past the patient has been better than ever before.

Reference may finally be made to two cases which closely resembled each other and showed features of considerable interest:

Boy, aged 14. Fairly well grown, but of the asthmatical "habit." The disease had existed "ever since birth." Family history of asthma. Attacks occurred about every ten days, and lasted three to five days, when he had to be propped up in bed. Was well between the attacks. Dieting was without any influence. The attacks were preceded and ushered in with sneezing, headache, sickness with vomiting, diarrhoea, and fainting fits. Treatment revealed that the boy was sensitive to peptone, 10 minims of a 2 per cent. solution of Witte's peptone producing a distinct reaction. It was diluted with beef peptone and carefully regulated. Punctually to time the attack came on, but the next attack, though punctual, only lasted one day. The next, however, did not arrive until the eighteenth day, and was of a light character. Treatment was continued for two months, with an interval of ten days after the first month (this is often advisable in sensitive cases). The attacks had now ceased, and during the next two months he had only two minor attacks. For the last eighteen months occasional but much lighter attacks have occurred, and the boy has gained much in weight and looks ruddy.

The interesting point in the case is that the onset of the attack was accompanied by symptoms identical with those following a mildly toxic dose of peptone, and herein may lie the explanation of the condition of sensitiveness to that substance on the patient's part. Curiously enough, while this boy was under treatment another case, also in a boy, with practically identical history and symptoms was encountered. The attacks also began with headache, shivering, vomiting, etc., and for years he had suffered severely. The result of treatment was excellent, as he has only had two minor attacks in the course of the past year.

In the large number of cases of asthma treated during the past three years the patient's diet has been largely a negligible factor. The diet must, of course, be regulated, but the cutting out of certain articles rarely produces any marked or lasting effect. No doubt there are cases, but they form a small class, in which idiosyncrasy exists in respect to some particular food (which may be entirely carbohydrate). The same applies to asthmas caused by animal or vegetable emanations. Again, the dyspnoeic attacks in bronchitis may be due to the products of bacteria locally. But in the great majority of genuine asthmatics the explanation is rather to be sought in a defect in the hydrolysis or metamorphosis of foreign protein residing in the digestive organs or in the lymph or the body cells. To this protein poison the asthmatic

individual is sensitive, and the bronchial muscles contain the dominant receptors for it.* This sensitiveness may be either hereditary or acquired, and is influenced by climatic and other environmental conditions. This leads one to consider the likelihood of other organs or tissues behaving in a similar manner, and causing recurrent fulminant disorders in which no local gross lesion is discoverable. The fact that in animal experiments the protein poison or a foreign protein selects different organs in relation to the species may be of some significance in this connexion.

The Application of Peptone Therapy to Cases Pathologically Allied to Asthma.

It has just been stated that where sensitiveness to a particular foreign protein exists, it is common to the organism as a whole, though the brunt of the attack seems to fall on a particular part—in the case of asthma, on the smooth muscle of the bronchi. Such a part or organ possesses a positive chemotactic relationship to the antigen, either from some peculiarity in itself or in the antigen. An antigen similar in nature, therefore, to that which provokes asthma in one individual may cause explosive attacks in the stomach or liver or central nervous system or circulatory system, etc., in others. I first put this view to the test some little time ago in a case of migraine:

Female, aged 37. Had had right-sided migraine since the age of puberty. Looked well, and was otherwise in good health. At first the attacks occurred about once a month, but during recent years they recurred regularly once a week. No family history of migraine or asthma. Diet was without any influence. Worse in spring. They began with pain and throbbing in the right side of the head, which gradually got worse, and attained its maximum in twelve hours. Then sickness with vomiting came on and lasted about half an hour, which seemed to bring some relief. The pain then gradually subsided, and in another twelve hours the attack was over. The peptone was administered as for asthma. A day or two after the second injection the attack was due, but did not appear. The patient, however, reacted to the third peptone injection (showing sensitiveness), and this caused a headache which lasted a few hours. The dose was reduced, and the peptone slightly altered. Excellent progress was made, the attacks becoming slight and infrequent, the last report stating that the patient was completely free from headaches.

Of course one swallow does not make a summer, but as a beginning it is encouraging. Treatment is also being tried in cases of severe recurrent gastric and hepatic attacks which prostrate the patient at the time and are succeeded by a variable period of good health, but the time for their discussion is not yet ripe.

Rationale of the Treatment.

It must in the first place be recognized that, though it may be convenient and indeed correct to speak of these cases as "anaphylactic," yet there is no such thing in nature as the anaphylactic shock which we artificially produce. Clinically, "anaphylactic" means sensitive. But when we inquire how the immunization by means of peptone may be supposed to act, the phenomenon of artificial anaphylaxis forms the basis of our conceptions. This phenomenon is brought about by whole protein as the antigen. Proteose, on the other hand, is only feebly antigenic—that is, it has but slight power of sensitizing to itself; it does not form complement binding antibodies, nor does it produce a precipitate with the homologous serum. In view of the importance of the latter point in anaphylaxis, serums from two cases treated with peptone were kindly examined for me at the Lister Institute, but with entirely negative results. As to the power of proteose to desensitize to whole protein, the experimental results are rather conflicting, as many of them were obtained by denatured proteoses, but there is certainly an effect.

In artificial anaphylaxis a shock is produced which in no respect differs from primary peptone shock. This is true not only of the general reaction, but also as regards those local reactions which are characteristic of the species, and extends even to the microscopical changes. Thus, in the guinea-pig the bronchial spasm; in the dog the swollen and highly congested liver; and in the rabbit the block in the cardio pulmonary circulation are equally produced. It was also found by Dale and Laidlaw[2] that the isolated virgin uterus of the guinea-pig, when placed in a bath containing a solution of Witte's peptone, responded by a contraction identical with that given by the sensitized uterus when bathed with the antigen. Hence it looks as though the toxic substance were identical in the two cases, the substance in the case of anaphylaxis being produced by lysis of the antigen by antibody and complement, and in the case of the peptone being more or less openly present.

But the matter is not so simple. Van Slyke and Whipple[3] have demonstrated that when a toxic or subtoxic dose of proteose is introduced into the blood there is a great and rapid increase in autolysis of body protein. The non-protein nitrogen of the blood is increased by 40 per cent., chiefly blood urea nitrogen, though the amino and peptide nitrogens are also increased. The possibility is not excluded that "among the products of induced autolysis there may be toxic proteoses which add their effect to the injected or absorbed proteose." Hisanobu[4] lately confirmed these results, and also obtained precisely similar but rather more intense changes in anaphylaxis. He concludes that the poison in both must be identical. It may be noted that support is given to the view that the poison may be a specialized product of tissue autolysis from the fact that the reaction can be induced by certain non-protein substances which can only be supposed to exert their effects through injury to the protein of the host. Certain inorganic colloids have very remarkable powers. Thus, colloidal silicic acid is capable of taking the place of immune body in the lysis of red blood cells by complement. The toxic body, if produced from the interaction of antigen and body protein, is related to the rapidity of the injection, as a similar amount of antigen slowly injected may be void. At a certain point cell oxidation may be suddenly paralysed and a product result of the type of histamine or muscarine. Some observers have regarded this poison as originating in the liver.

The view that there is a toxic substance common to anaphylaxis and peptone shock does not commend itself to Dale. In his recent Croonian Lecture[5] he inclines to the view that these factors have a similar action because a change in the state of dispersal of the cell colloids is common to both, which, in the case of anaphylaxis, does not call for the intervention of a posion at all. No doubt such an aggregation might be produced in either case, and cause changes in surface action and osmotic pressure, together with a certain amount of depolarization of the cell membrane, but it is scarcely likely that such an excessively minute quantity of native protein would cause the extreme permeability which occurs in the endothelium of the blood capillaries, as in those of the liver in the dog, and other profound effects of the shock. Dale counters this with the statement that the antigen, when applied to the isolated anaphylactic uterus, acts in about ten seconds, and it is difficult, he says to suppose that this time suffices for the elaboration of a poison. He also finds that the reaction is largely governed by a stereo-chemical relationship of antibody and antigen. But is not the very object of this configuration on the part of the antibody the rupture of the molecule?

Another consideration introduced by Dale is rather puzzling. The instructive fact is recorded that the serum of the immune animal is capable of conferring passive anaphylaxis even better than that of the anaphylactic animal, its efficiency being closely parallel to the intensity of its precipitating quality. It is found in immunity experiments that the anaphylactic antibody fluctuates with the precipitin, and the two may be identical. The resistance of the immune animal Dale considers to be due to abundance of antibody in the blood which uses up the antigen before it can reach the tissue cells, the shock being caused exclusively by the cellular reaction, as it can be produced in the isolated uterus of the immune animal. But it is admitted that the blood of the anaphylactic animal contains no precipitin, and the shock is attributed by Dale to the absence of antibodies from the blood which have migrated to the tissue cells. How, then, it may be asked, is this blood, deprived of antibody (and precipitin), capable of conferring passive anaphylaxis?

Contraction of an isolated muscular organ is only one element in a very extensive picture, and until some more convincing evidence is forthcoming, the anaphylactic shock and peptone shock may be regarded as produced by an identical toxic substance. Immunization by peptone

* This view was put forward by the writer in the JOURNAL in 1903 as "a defect of metabolism the burden of which comes to be thrown on the lungs."

therefore is applicable to cases in which the symptoms may be caused either by whole or split foreign protein. The milder cases of asthma are probably associated with the latter, clinical evidence for which has already been recorded, and one attack affords little or no protection. A good example of the same thing is afforded in the malarial paroxysm. In many of the severe cases of asthma no doubt a larger molecule operates which is antigenic, and is succeeded by a period of desensitization. In either case protection confers on the body fluids a resistance to the induced poison, when used either in small immunizing doses, or in one dose large enough to produce a definite reaction.

Non-specific immunization does not possess the independence of action which is the prerogative of the specific (in the bacteriological sense). Hence the necessity during treatment of a carefully regulated mode of life. This comprises strict moderation in diet, and, above all, abstinence from alcoholic stimulants, the avoidance of chills, the avoidance of any exercise entailing a marked degree of hyperpnoea, and of anything which raises the normal body temperature, as hot baths of any kind. The patient should go to bed early, and ought not to indulge in social or other excitements, or in changes of residence. After the treatment, preventive measures will naturally be thought of in relation to many of the cases. The protein poison has been found to pertain to the acidic portion of the molecule, and its effects are to some extent neutralized by the simultaneous introduction into the body of alkali. A course of mildly alkaline treatment by natural waters or otherwise from time to time may therefore prove of some service as a prophylactic.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, vol. i, 1917, p. 580; and vol. ii, 1918, p. 49. [2] *Journ. Physiol.*, 41, p. 337. [3] *Journ. Exper. Med.*, 1918, vol. 28, No. 2, p. 213. [4] *Amer. Journ. Physiol.*, 1920, vol. 50, No. 3, p. 357. [5] *Proc. Roy. Soc*, Series B, vol. 91, 1920, p. 126.

THE MYOCLONIC FORM OF EPIDEMIC ENCEPHALITIS.

BY PIERO BOVERI, M.D.,

PRIVAT DOCENT OF THE UNIVERSITIES OF PAVIA AND TURIN; FORMERLY DIRECTOR OF THE FIRST SECTION OF THE NEUROLOGICAL MILITARY CENTRAL HOSPITAL, MILAN.

THE systematic and comparative study of many cases of encephalitis in the principal hospital in Milan enables us to state that besides the classical form of lethargic encephalitis, in which lethargy, fever, and ocular paralysis are the cardinal symptoms, other clinical varieties, less frequent and greatly different, are to be recognized. We can sometimes observe cases in which the symptoms are not lethargy, but excitement, delirium, and myoclonic contractions.

The two following cases are of this second or myoclonic type:

CASE I.

A girl, aged 19, entered the hospital on January 21st last. No hereditary antecedents; she had had influenza with bronchopneumonia in October, 1918, and typhoid fever in January, 1919. On January 17th she began to feel great pain in the muscles of the neck and shoulders, and a few days later she had fever and delirium.

The symptoms present were: Slight cyanosis of the face, injection of the ocular conjunctiva, irregular contractions of the hands, and delirium; the temperature was 38.2° C., the pulse 104, and the respirations were 25; arterial blood pressure 145 mm. (Riva-Rocci). No paralysis of the eyes nor of the cranial nerves. Pupil reflexes to light and to accommodation present and well maintained.* Cutaneous and tendon reflexes normal. A lumbar puncture gave the following result: Liquid perfectly clear, at almost normal pressure; albumin just noticeable; Nonne and Boveri's reactions negative; six lymphocytes per cubic millimetre (Cellule de Nageotte). Cultures from the blood and cerebro-spinal fluid gave negative results.

The patient remained in this condition for about ten days. On February 4th there appeared in the flexor muscles of the arm and of the hand and fingers on both sides, but mostly on the right side, short rhythmic contractions at the rate of 66 to 68 per minute. In the right thigh a contraction of the quadriceps was observed, which produced attempts at flexion of the hip. No sensory troubles were present. Two days later, to the above movements were added slight inspiratory contractions of the diaphragm, synchronizing with the contractions of the arm. These movements continued even during sleep. There was no lethargy. The pupillary reflexes to light and to accommodation were always regular and no paralysis of the cranial nerves was demonstrable.

This is still the condition of the patient, who at present has pain in the arms.

CASE II.

A woman, aged 40, entered hospital on February 16th last. No hereditary antecedents; no history of influenza. On January 25th there had been great pain in the left arm and shoulder, passing to the right side and the abdominal wall. Shortly afterwards rapid and rhythmical muscular contractions appeared which convulsed the patient. There was delirium, with slight fever; no lethargy, no affection of ocular motion nor of sight.

On entering the hospital this woman, who was of average physical development and well nourished, presented a curious and striking symptom-complex. The right sterno-cleido-mastoid and trapezius muscles and the diaphragm exhibited rhythmic contractions, forty-eight per minute. She perspired freely, and was agitated and delirious. No paralysis of the ocular and cranial nerves. No symptoms in the lower limbs. All reflexes normal. Lumbar puncture gave clear liquid, with increased pressure; albumin 0.2 per cent. Nonne and Boveri's reactions negative; five elements per cubic millimetre (Cellule de Nageotte); temperature 37.8° to 38° C.

Five days later the contractions of the neck ceased; at the same time strong rhythmic contractions, which never for a moment left the patient, appeared in the abdominal wall. Synchronizing with the abdominal and diaphragmatic convulsions, the right thigh presented rhythmic contractions of the abductor muscles and sometimes of the sartorius. Such is the patient's condition at present. All these muscles are painful, as well as the back and the whole arm.

The striking symptom in these two cases was the presence of myoclonic movements, both rhythmic and partial, as though produced by an electric current.

We can therefore speak of a myoclonic type differing from the lethargic type, for a certain period of the disease at least. Thus, while waiting for etiological enlightenment we should speak of epidemic encephalitis in general, and should divide it into lethargic and myoclonic types according to the different symptoms noted.

This myoclonic form of encephalitis naturally leads us to ask whether we are in the presence of the disease described by Dubini,[1] and called by him "electric chorea." It has not been mentioned since his time (1840–1870). He presented to the seventh meeting of Italian scientists (1846) a memorandum describing a new disease of which he had studied 38 cases in a period of nine years. "It is," Dubini writes, "nearly always a fatal disease," characterized "by muscular contractions occurring at different intervals, but always identical in each case, as if produced by a repeated electric current. These convulsions affect at first a finger or limb (more frequently the right upper limb) or one-half of the face (the right) and in a few days invade the whole of that side of the body." Dubini added that, in addition to these rhythmic movements, convulsive attacks might occur two or three or even more times a day, giving way afterwards to paresis and paralysis. Dubini's description was followed by those of Frua,[2] Morganti,[3] Pignacca,[4] Stefanini,[5] Behrend,[6] and, later, Grocco, 1884.[7]

However accurate were the observations made by these scientists in the middle of the last century, the limited pathological knowledge which then existed did not enable them fully to appreciate their significance; reading to-day all these memoranda, we see described under the name of Dubini's disease a great number of cases which could better be classed as typhoid or malarial fevers, or Jacksonian epilepsies. Apart from this question, it seems to us that Dubini's disease might be connected with the myoclonic form of epidemic encephalitis as we see it at present.

The difference of the symptoms seen in the lethargic and the myoclonic types suggests a different pathological localization of the virus. In the lethargic form the encephalitis is localized particularly in the regions of the cerebral peduncles and the locus niger. It is a question whether in the myoclonic type the centres of infection might not in different degrees and in a transitory manner be localized in the optic thalamus.

REFERENCES.

[1] A. Dubini: Primi Cenni sulla Corea Elettrica, VII Congresso degli Scienziati Italiani in Napoli, *Annali Universali di Medicina*, Gennaio, 1846. [2] Frua: Del Tifo Cerebrale convulsivo—Corea Elettrica del Dott. Dubini, *Annali Universali di Medicina*, vol. 144 and 145 (1853). [3] Morganti: *Gazetta Med. Lomb.*, 1853–1854. [4] Pignacca: *Della Corea Elettrica osservata in Pavia dall' anno 1848 al 1854*, Pavia, Tipogr. Fusi, 1855. [5] Stefanini: Sulla Corea Elettrica, *Annali Universali di Medicina*, 1875, p. 201; Nuovi Fatti alla Contribuzione dell' Anatomia Patologica della cosi detta Corea Elettrica, *Annali Universali di Medicina*, vol. 253, p. 493, 1880. [6] Behrend: Ueber Spasmus Dubini oder Sogenante Chorea Electrica, *Journ. f. Kinderkr.*, xx, 34, 1854. [7] Grocco: Studi e Considerazioni sulla Corea Elettrica o Malattia del Dubini, *Annali Universali di Medicina*, vol. 269, anno 1884.

* See P. Boveri, Société de Neurologie de Paris, March 4, 1920. It is there stated that in the lethargic form of encephalitis one of the first and most important signs is the paralysis of pupillary accommodation, while the reflex to light may be maintained.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SPONTANEOUS RUPTURE OF MALARIAL SPLEEN.

AN ex-soldier, aged 25, was admitted to King Edward VII Hospital, Windsor, sent in by Dr. Osborn of Windsor. On the morning of admission, while wheeling a wheelbarrow he was attacked by violent pain in the back and in the abdomen on the left side.

On admission the pulse was soft and fluttering, 124, and the respiration rate was 42. The rigidity of the abdomen was extreme above the umbilicus, and the patient laid particular stress on pain in the left shoulder and behind the shoulder blade. He gave a history of malaria contracted in Turkey in 1919 and repeated slight attacks since.

Under an anaesthetic a large spleen could be felt easily, and incision showed the peritoneum full of blood. The large spleen presented in the median incision, and on examination showed on the posterior superior surface a rent some 2½ in. long, which was bleeding freely. Sutures proving useless, the spleen was excised, the operation presenting no difficulty.

Examination of the removed organ showed great enlargement but no sign of "ague cake." On the superior surface were the remains of some fine adhesions, and the remnants of one of these by the edge of the tear in the spleen leads one to suppose that the fixation of the spleen by these adhesions led to the rupture. Fourteen hours after removal the spleen weighed 1 lb. 9 oz., though it had partly dried.

With the exception of two slight malarial attacks the patient made an uninterrupted recovery and left the hospital in excellent health twenty-six days after operation. The blood contained a large quantity of malaria parasites.

In this case time and blood were lost by endeavours to check the haemorrhage instead of at once proceeding to splenectomy. The median incision was found very suitable for removal of the spleen, as the hilum could be reached with ease.

Windsor. J. SKEVINGTON, F.R.C.S.

VENTRIFIXATION BEFORE THE MENOPAUSE.

THE following case may be worth recording if only as a warning to those surgeons—and there are some—who consider that the operation of ventrifixation can be performed with impunity in all cases of prolapsus uteri, notwithstanding warnings as to its danger of performance in most textbooks.

Mrs. P., aged 26, a unipara, suffered from prolapsus uteri after the birth of her child, aged 4, and was operated on in 1915, ventrifixation and shortening of the round ligaments being performed.

She again became pregnant, and the child was expected to be born in the first fortnight of July, 1918. Throughout this pregnancy she complained of pain and "a lump" in the right side of the abdomen, apparently the fetal head. This gradually rose higher until finally it was in contact with the rib in the region of the gall bladder; during the last two months she remained in bed owing to the discomfort. On July 6th I was sent for to see the patient as she was having labour pains. I was again sent for on July 16th; for some hours she had been having regular pains, apparently those of the first stage of labour. I did not see her again until the following night. The pains had continued, but there had been no vaginal discharge. She was becoming exhausted. I now made a vaginal examination for the first time; no part was presenting and the os could not be felt. The vagina was filled in front by a tense swelling, and it was some time before I realized what had happened—namely, that the uterus had practically turned a somersault, the fundus being down in the pelvis and the os at the gall bladder, with the vagina stretched and elongated into a narrow tube.

She was removed to the Forest Hospital, and in the early hours of the morning I performed Caesarean section, Dr. B. F. Pendred assisting. On opening the abdomen the fundus uteri was found attached, by a strong fibrous band just above the pubis, to the anterior abdominal wall. The os was in the region of the gall bladder; consequently the posterior wall of the uterus was forwards, and through this I had to make my incision. The uterine wall was not more than ⅛ in. thick. A dead female child and placenta were delivered. I was then surprised to find a second child; its head was partly through the os, and so firmly grasped by the ring of Bandl that it took some minutes to deliver. I sutured the walls of the uterus, and the fibrous band having been divided, it contracted and righted itself, so that my sutures then became posterior.

The patient and second child made an uneventful recovery, excepting for a slight rise of temperature for one or two days in the second week, for which I could not account.

Buckhurst Hill. GEO. NORMAN.

ACUTE OEDEMA OF THE LUNGS.

IN connexion with the descriptions of this condition which have recently appeared in the JOURNAL, the following case may be of interest. It is very similar to that reported by Dr. Brown in the issue of March 27th.

A retired farmer, aged 65, the subject of chronic nephritis, with high blood pressure, generally about 200 mm. Hg, had six months ago a small cerebral haemorrhage, from which he recovered well, and, except for some dyspnoea, was in fairly good health. He went to bed as usual on the night of March 22nd, 1920, and awoke at midnight with a sensation of suffocation, and began to expectorate quantities of pink froth. When I saw him he was cyanosed (ashy grey), sitting up in bed, and constantly spitting up this froth. Fine crepitations could be heard all over both lungs; the pulse was rapid and irregular, but the restlessness, which had been very marked at first, had ceased. I gave him morphine sulphate gr. ⅙ hypodermically, and made preparations to perform venesection. However, in a short time his colour had improved, the expectoration was less, and in an hour he was asleep. Later in the day he seemed fairly well; except for coarse moist sounds at the bases the lungs were clear, but the pulse remained rapid. He was given a mixture of ammonium carbonate, tincture of digitalis, and trinitrin, and has now practically regained his former state of health, except that his blood pressure is 230 mm. Hg.

Dr. R. A. Young, writing in Latham and English's *System of Treatment*, recommends prompt venesection, followed by injections of strychnine and atropine. In my case the man's general appearance certainly suggested venesection, and I should have performed it if the more easily available remedy had not been successful.

KENNETH ANDERSON, M.B.Lond.,
Banwell, Somerset. M.R.C.S., L.R.C.P.

I HAVE read with interest the various accounts given recently of experiences of acute pulmonary oedema. In twenty years' experience of general practice I have seen two cases.

The first was a tragic occurrence. During my very early years as an assistant in Warwickshire I was asked to see a platelayer who had been working in his garden in the morning apparently in his usual health when a sudden attack of pain in the chest forced him to go to bed. When I saw him about noon he was sitting up in bed spitting up large quantities of white frothy fluid. His temperature was normal, and there was no cardiac or respiratory distress. The chest was amazingly full of râles. I told his wife to apply a poultice, mainly, I am afraid, to give her something to do, and to give me, in my inexperience, something to say. I did tell her that I was not sure what was the matter, and asked her to send for some medicine. I mounted my horse and rode away. After I left the wife busied herself in the kitchen getting materials for the poultice. She then went upstairs and found her husband dead. Apparently he was drowned in his own secretions. This occurred within fifteen minutes of my departure. I happened to see the late Sir Robert Simon that day, and he gave me the diagnosis of acute pulmonary oedema—a condition I had never heard of. He also directed my attention to five recorded cases, four of them rapidly fatal; the fifth recovered because the visiting physician dosed him with heroic doses of tincture of belladonna, of which he fortunately had a supply in his pocket.

My second case occurred in 1918, when I was in charge of the medical division of the 36th Stationary Hospital at Gaza. A man, aged 50, belonging to a garrison battalion of the Northants Regiment, was brought in late one night with symptoms similar to those in the case described above but with much dyspnoea and cyanosis in addition. The orderly officer (Captain Soden, R.A.M.C., T.) did not call me but treated the case with hypodermic injections of atropine, which promptly relieved the urgent symptoms. The lungs cleared up rapidly within two or three days.

Winchcombe. WILLIAM S. SCOTT.

Reports of Societies.

AT a meeting of the Pathological Section of the Liverpool Medical Institution, held on March 18th, with the President, Dr. J. E. GEMMELL, in the chair, Professor ERNEST GLYNN contributed a critical review of so-called "ovarian hypernephromas." He was of the opinion that such tumours were exceedingly rare, if they ever did occur, and gave three reasons for his view: (1) there was only one recorded case of a cortical rest *in* the ovary (1913), and even this was doubtful and unconfirmed by other observers. It was undoubted that such rests were frequently found in the broad ligament. (2) Ovarian hypernephromas were never associated with hirsuties and changes in the sex characters so common in primary neoplasms of the adrenal cortex in women before the menopause. (3) There was little if any difference, clinically and histologically, between ovarian tumours described as "hypernephroma" and as "malignant lutein" formations respectively, yet both these tumours were apparently quite unlike true neoplasms of the adrenal cortex itself. Dr. G. F. R. SMITH read a paper on the urine after anaesthesia, based on a quantitative investigation of acidosis following various types of anaesthesia. He noted the development of acidosis after ethyl chloride and ether as well as chloroform, and discussed predisposing causes. He was of the opinion that warmed ether given by the open method to a patient not unduly starved before operation was the safest anaesthetic available.

Reviews.

ANTE-NATAL AND POST-NATAL PHYSIOLOGY.

DR. FELDMAN'S book, *The Principles of Ante-natal and Post-natal Child Physiology, Pure and Applied*,[1] marks a distinct step forwards in our knowledge of young life in its intimate and essentially most important characters. It does more than this, but it does this in the first place. With this book in hand we start afresh and from a new vantage point in our understanding of the physiology of the most obscure part of child life (the ante-natal) and of the most dangerous to health (the neonatal); and it will not be Dr. Feldman's fault if the clinicians and the hygienists do not pass onward to new triumphs of preventive and curative medicine founded thereupon. It may be possible with great labour to find much of the content of the book in monographs and periodicals scattered through the literature of all countries, and in that sense novelty may be lacking; yet it is a strikingly novel work, by reason of the fresh facts and conclusions revealed by the simple bringing together of the many data in it. It has the resultant novelty of a wider and a newer outlook, which is also more penetrating in its intensity.

It is admirable in its arrangement. After a general introductory chapter which has for its heading Samuel Butler's paradoxical truth, "birth . . . is commonly considered as the point at which we begin to live; more truly it is the point at which we leave off knowing how to live," Dr. Feldman divides his subject matter into three parts—ante-natal physiology, natal, and post-natal—and subdivides the first of these into ante-conceptional, conceptional, and post-conceptional or intra-uterine, with a further subdivision of the post-conceptional into germinal, embryonic and fetal. The life after birth is dealt with under the four headings of neonatal, infancy, childhood, and puberty. The continuity of the life which begins in the germ cells is thus traced onward up to the time when it in its turn is ready to initiate a new life at puberty. At each stage in this process the characters of the vitality differ, in the earliest stages most startlingly, and Dr. Feldman succeeds well in tracing the physiology of each, so that in his chapters fertilization, Mendelism, heredity, development, pre-natal metabolism, neonatal rearrangement of function, child life all fall into their proper places and serve to explain each other. To the physiologist as well as to the pediatric physician there will not be a chapter which does not supply some new seed-thought from which others will spring. One of the most striking features of the book is the evidence it affords upon almost every page of the modern tendency of physiology to become increasingly mathematical, and perhaps on that account more exact; not only is this seen in such a chapter as that on the biodynamics of growth (where it was to be expected) and in those on the mechanics of development and of the child's body, but also in those dealing with the circulation and the nervous system both before and after birth. The physiology of the prematurely born—a subject of immense importance from the point of view of life-saving—is treated at the end in a special chapter; but we miss an adequate consideration of the companion and yet widely different problem of the infant post-maturely born. There are, of course, many blanks in our knowledge of the physiology of all these periods of life, and more especially in the ante-natal, and these are necessarily reflected in this work: but they are not faults in the author; indeed, but for him we should not be able to put our finger upon them, and his book will do much to stimulate others to undertake the task of expanding our scientific acquaintance so as to fill up all such lacunae.

There are some 700 pages in the work, and on almost every one of them will be found a thought-stimulating statement. There are numerous plates, including some photographs of well-known workers in this most modern field of research; there are 129 illustrations, and there are crowds of tables and schemes. There are two excellent indexes. The language is always clear and terse, if at times a little inclined to the bare condensation of the textbook which aims at curtailment of space; now and then the greatness of his subject grips the author and shows itself in a sort of restrained enthusiasm, restrained as befits a scientific work and yet enthusiastic because here one is dealing with the very springs of life and is feeling after measures of preventive medicine with almost unthought-of beneficent possibilities. Dr. Feldman has not only written a good book: he has accomplished the yet more valuable achievement of putting forth a work which will stimulate physiologists, obstetricians, and pediatric physicians everywhere, and which will give origin to many other books, small and large. His own book will be often quoted, and it will be many a time utilized without being quoted, as all really stimulating and progress-making books are. The science of child welfare, ante-natal and post-natal, is making great strides in these days, both in its scientific and in its practical aspects, and it has found an invaluable ally in the present work.

[1] *The Principles of Ante-natal and Post-natal Child Physiology, Pure and Applied.* By W. M. Feldman, M.B., B.S.Lond. Longmans, Green, and Co., London, New York, etc. 1920. (Demy 8vo, pp. 721; 6 plates; 129 figures. 30s. net.)

MINERS' NYSTAGMUS.

DR. STASSEN of Liége, in his book on fatigue of the visual apparatus in miners,[2] has written a very useful little monograph on miners' nystagmus. This disease, as is well known, has only recently attracted the attention it deserves. The coal miners of the past, although daily running the risk of explosion, do not seem to have suffered from nystagmus. By 1860, however, the use of the safety lamp had extended, and the results of diminished illumination began to be observed. Stassen traces his subject from the pit-head, where the miner enters the cage with his eyes adapted to "cone" vision in bright light and with his aural apparatus adapted to atmospheric pressure, to the bottom of the shaft and the coal face, where his eyes have now to be adapted to "rod" vision in a dim light and his labyrinth subjected to a higher pressure. The author has

[2] *La fatigue de l'appareil visuel chez les ouvriers mineurs.* By Dr. M. Stassen. Liége: H. Vaillaut-Carmanne. 1914-1919. (Demy 8vo, pp. 233; 20 figures.)

examined also the conditions obtaining in iron and zinc mines, where nystagmus among the workers, though not unknown, appears to be much less common than among those who work in coal mines.

A full account is given of the various sources of illumination employed and of the different lamps in use. Numerous illustrative cases and statistical tables add greatly to the value of the book. Stassen considers that deficient illumination and strained position at work are the main causes of nystagmus, and, in agreement with most of the authorities in this country, considers that the former plays the more important part.

The last two chapters in the book deal with the law of accidents occurring in cases of nystagmus while at work, and also with the prevention and treatment of the disease. A good bibliography accompanies the monograph, but it is disfigured by faulty spelling of the names of English writers.

DIPHTHERIA, MEASLES, AND SCARLATINA.

DIPHTHERIA, measles, and scarlet fever are important causes of death, especially in the young; thus, in the year 1919 there were just over 500,000 deaths in England and Wales, and nearly 9,500 of them were due to one or other of these three specific fevers. An excellent account of their symptoms, diagnosis, prognosis, and treatment is given by Dr. F. V. G. SCHOLES in his *Lectures to Students on Diphtheria, Measles, Scarlatina*.[3] The author is Medical Superintendent of the Fairfield Hospital at Melbourne, and writes with the authority of what is clearly a very large experience of these diseases.

Half the book is taken up with the consideration of diphtheria; Dr. Scholes is very firm and precise in his instructions as to the early and adequate use of antitoxic serum in these cases, and brings out many interesting points as regards prognosis and treatment in the analysis of the 19,000 cases he has dealt with. It would be interesting to know what line of treatment he would adopt in the case of the inveterate and incurable carriers of virulent diphtheria bacilli sometimes met with, that resist all ordinary forms of local disinfection and treatment; fortunately they are very rare. In his chapters on measles he notes the rarity with which second attacks of the disease actually occur—something over a hundred seem to have been reported—and contrasts it with the frequency with which patients give a history of two or more attacks; such histories he rejects, and adds that he has himself seen but one "possible case" of recurrence. Describing scarlatina, he gives an interesting discussion on its incubation period—which seems to be from two to seven days in one group of cases, from eight to twelve days in another—and on surgical scarlet fever: the difficulty lies in the existence of numerous atypical cases of the disease, in which fever or sore throat or the characteristic eruption may fail to appear.

The book is full of facts, clearly written, and well arranged; the treatments advised are fully described and practical hints abound. We recommend the volume very warmly to senior medical students engaged in doing their course of instruction in "fevers," and to medical men, who will find in it a thoroughly practical discussion of an important subject.

CHLORINATION OF WATER.

THE *Chlorination of Water*,[4] by Dr. JOSEPH RACE, is a most excellent and painstaking account of the whole subject in its various aspects, handled in a manner which denotes first-hand knowledge of facts. The book is dedicated to Sir Alexander Houston, whose great services in the purification of drinking water are so well known. After a few preliminary historical notes, the author considers the *modus operandi* of chlorine and hypochlorites, discusses the bacteriological aspect of chlorination, and explains the quantity of "bleach" required, its admixture and accurate estimation. The fifth chapter is founded on the author's extensive experience in dealing with complaints received from persons using chlorinated water. While laying stress on the importance of giving very careful attention to such complaints, he makes the observation, with which others having experience in the matter will agree, that auto-suggestion has frequently much to do with the objections made. He takes as an example the causation of colic; in the amounts of chlorine used for purifying a drinking water, a person would have to drink 140 gallons of chlorinated water in order to obtain the very ordinary medicinal dose of one grain. During the war, on several occasions, such complaints were heard in France when in point of fact the water had not been chlorinated at all; in many of these cases the complaints were lodged by members of the medical profession. The advantages and disadvantages of various plants are discussed, as are also economic considerations. The work ends with a clear summary of results. There is an appendix and a good bibliography. Mr. Race is to be most heartily congratulated on the production of a book which will be a standard work on the subject of chlorination of water; it will undoubtedly interest and quite conceivably instruct all those authorities in whose hands lies the control of drinking water.

INDIGESTION.

THE fourth edition of the late Dr. HERSCHELL'S *Textbook of Indigestion*,[5] revised and rewritten by Dr. ABRAHAMS, has been extensively remodelled by its editor. Though containing chapters on organic disease of the stomach, a subject excluded from previous editions, the book is notably smaller than its predecessor; Dr. Abrahams employs an economy of words and repetitions for which his readers will be grateful to him. The first two chapters deal with normal digestion and the general nature and causation of indigestion; the next seven are given to the various methods of investigation to be employed in cases of indigestion, and the author is to be congratulated upon the sound judgement with which he assesses their relative values and trustworthiness. The remaining ten chapters are devoted to acute and chronic gastritis, gastric and duodenal ulcer, malignant disease and dilatation of the stomach, pancreatic and reflex indigestion, the association of indigestion with organic affections other than gastric, and nervous indigestion.

An appendix of fifty pages, mainly the work of the late Dr. Herschell, deals with the cooking of food for patients with indigestion. Dr. Abrahams has produced an excellent book full of practical advice and common sense, which should enjoy wide popularity.

NARCOTIC ADDICTION.

PROFESSOR BISHOP'S little book on *The Narcotic Drug Problem*[6] gives a highly sympathetic account of the subject, a picture of the light in which sufferers from the drug habit would wish their proclivity to be regarded. The condemnatory terms "drug habit" and "drug fiend" Professor Bishop would replace by the non-committal names "drug addiction," "narcotic addiction," "drug disease," and "drug addict"; he believes that neurotic tendencies, weakness of will, perverted appetite, and the like are of no importance in the production of the average drug "addict." The majority of them, he says, acquired their narcotic addiction accidentally or innocently, and "had no voice nor conscious part in the early administration of opiate, realizing no desire or need for it by name, but only wishing for the unknown medicine which relieved their sufferings." In an appendix Professor Bishop quotes a practising physician who says that "there are estimated to be as many as 500,000 or more addiction cases in the State of New York alone." It is not easy to realize the circumstances in which the majority of so large a number of people could come to be taking opiate drugs by accident or in innocence.

Professor Bishop would treat drug "addicts" by reducing the opiate gradually to the minimum found by experience

[3] *Lectures to Students on Diphtheria, Measles, Scarlatina.* By Frank V. G. Scholes, M.D., B.S.Melb., D.P.H.Camb., Medical Superintendent, Infectious Diseases Hospital, Fairfield, Melbourne. Melbourne: Modern Printing Company Pty., Ltd. 1920. (Demy 8vo, pp. 236.)

[4] *Chlorination of Water.* By Joseph Race, F.I.C., City Bacteriologist and Chemist, Ottawa. London: Chapman and Hall, Ltd. New York: John Wiley and Sons, Inc. 1918. (Demy 8vo, pp. viii + 153; 12 figures, 16 diagrams. 7s. net.)

[5] *Dr. G. Herschell's Textbook of Indigestion.* Revised and rewritten by Adolphe Abrahams, O.B.E., M.D.Camb., M.R.C.P.Lond. Fourth edition. London: Edward Arnold. 1920. (Demy 8vo, pp. 228; 8 plates. 10s. 6d. net.)

[6] *The Narcotic Drug Problem.* By Ernest S. Bishop, M.D., F.A.C.P., Clinical Professor of Medicine, New York Polyclinical Medical School, etc. New York: The Macmillan Company. 1920. (Cr. 8vo. pp. 165. 8s. net.)

necessary in each individual case; he disapproves of the treatment by sudden withdrawal and the substitution of other drugs, such as belladonna, hyoscyamus, and pilocarpine, for the opiate. Many "addicts" can be cured completely; in others the disease can be arrested, and the patient will continue to take the minimum daily quantum of opiate, in doses at intervals as wide apart as possible. The co-operation of the patient, it is said, is rarely withheld if he is treated rationally by his medical attendant. The book gives a gloomy view of the present outlook of the rational drug "addict" in New York, where the strict laws regulating the use and abuse of opiates make no allowance for his needs and existence.

AUSTRIAN MEDICINE.

A CAREFUL effort to rehabilitate Austrian medical science and the ancient school of medicine at Vienna lies before us in the form of the first number of a new periodical, the *Wiener Archiv für Innere Medizin*,[7] dated March 1st, 1920. Under the editorship of Professors FALTA and WENCKEBACH, two painstaking, honest, ingenious, and speculative medical men, this periodical bears on its cover the names of the most eminent professors of medicine and its allied subjects in Austria; its contents are to deal with the clinical and experimental sides of the whole subject of internal medicine. The first number contains six papers; the first of these, by Professor Wenckebach, is on pathological forms of the thorax and of respiration, and all six are on subjects of clinical importance. One could wish that the editors had thought fit to make all their contributors summarize their conclusions or deductions under a few numbered headings at the end of their articles. This practice has the double virtue of compelling the long-winded to be at any rate in part concise, and of enabling he reader to extract with speed the few needles of valuable fact that so often lie hidden in the haystacks of verbiage to which those who write for archives, particularly archives in the German tongue, are so notoriously prone.

NOTES ON BOOKS.

DR. SOUTHARD presents *Shell-shock and other Neuropsychiatric Problems*[8] to physicians and experts in mental disease, in the form of nearly six hundred case histories drawn from the vast literature of the subject. At the end of the volume is a briskly written summary or epicrisis, in which the use of the term "shell-shock" is defended; the various types of shell-shock cases are noticed, and diagnosis and treatment are briefly discussed. Over two thousand references to the literature are appended to the volume. An interesting feature of the book is Dr. Southard's use of the first two hundred cases to illustrate defects or pathological conditions which furnish weak spots for the development of "psychopathia martialis" when the sufferer is exposed to a strain too great for his individual endurance or *moral*.

Mr. STANLEY UNWIN'S little book on *The Work of V.A.D. London 1 during the War*[9] gives a clear and admirably written account of the doings of this detachment, contributed by half a score of authors who were the officers most closely identified with the work described in its eleven chapters. Varied the duties of the detachment certainly were. They included such things as attendance at Buckingham Palace, transport of the wounded, air-raid duties, entertaining the wounded, and many other less well defined businesses. The work of the Voluntary Aid Detachments during the war has not hitherto received due notice, commendation, or reward, largely, no doubt, for want of proper knowledge of their performances. We commend Mr. Unwin's volume to all our readers, and trust it may be successful in drawing attention to the merits of a most hard-working branch of Red Cross activities.

[7] *Wiener Archiv für Innere Medizin.* Under the editorship of Professors W. Falta and K. F. Wenckebach. Berlin and Vienna: Urban and Schwarzenberg. 1920. (Sup. roy. 8vo, pp. 210; 25 figures; 11 plates. M.54.)

[8] *Shell-shock and other Neuropsychiatric Problems.* Presented in Five Hundred and Eighty-nine Case Histories. From the War Literature, 1914–1918. By E. E. Southard, M.D., Sc.D., Director (1917–1918) U.S. Army Neuropsychiatric Training School (Boston Unit) Boston: W. M. Leonard; London: Stanley Phillips. 1919. (Med. 8vo, pp. xxxvi + 982 60s. net.)

[9] *The Work of V.A.D. London 1 during the War.* Edited by Stanley Unwin. London: G. Allen and Unwin, Ltd. 1920. (Cr. 8vo, pp. 96; illustrated. 5s. net.)

TAXATION OF MOTOR CARS.

THE NEW TAXATION.

BY H. MASSAC BUIST.

THE Government's new scheme for the taxation of motor vehicles follows the suggestions of the Departmental Committee on the taxation and regulation of motor vehicles in Great Britain and Ireland in the Interim Report, details of which are published at page 575. Those concerned with the use of privately owned passenger vehicles regret that, beyond recognizing the desirability of a single tax on the motor movement as has been urged in these columns at intervals for years past, there is no evidence in the scheme of recommendations that any progress is to be made towards adopting a suitable basis of taxation. While motorists in the aggregate are sufficiently broad minded to recognize that the fuel situation is too complex for the revenue to be raised by taxing motor spirits of every sort; nevertheless, they did not expect that the only alternative would be what is in effect an aggravation of past errors by retaining the Treasury R.A.C. engine rating, and employing it as the sole means of arriving at a single tax; yet, where motor bicycles are concerned, the method of tax is precisely that proposed for motor vehicles, and advocated in these columns for privately owned passenger cars, namely, weight. Moreover, as showing the unfairness of the proposed law, it may be pointed out that a firm might design and build a motor bicycle of any size and power not weighing more than 7 cwt., so that, in effect, it might be rigged up as a Rolls-Royce limousine, yet the maximum tax in respect of the use and ownership of it would be £3 a year. That point is the basis of a very amusing illustration in *The Motor*.

Theoretically and Practically Undesirable.

The two bodies concerned with the interests of passenger motor vehicle owners are the Royal Automobile Club and the Automobile Association. The representatives of the former body are, in effect, silenced on the point of tactics, because the Treasury rating is practically based on the R.A.C. formula; but the A.A's representative, Major Stenson Cooke, is responsible for the minority report noted below. The Automobile Association itself is strongly opposing the proposals of the Taxation Committee, and has started a vigorous parliamentary campaign on what are, however, lines doomed to failure, and deservedly so, because they are based on the mere iteration of the point that motor spirit is the fairest basis of taxation. While the bodies which profess to represent the views of motor users reveal such an absence of mental grasp it is not to be expected that this or any other Government will do that which is best in the interests of passenger car users.

The seriousness of the situation is that this obstinate adherence to an attitude that has been proved impossible leads to the institution of a single tax on another wrong basis, namely, by Treasury horse-power engine rating, which for perhaps half a generation is likely to determine design in favour, for example, of a relatively long-stroke and, in any case, high-speed engine. If the argument is that there is no positive committal on the part of the Government to an indefinite continuance of the proposed scheme of taxation of privately owned passenger motor vehicles, then we find only that injury of another sort is being done, for designers and manufacturers will have to live from year to year in apprehension of yet another change in taxation schemes, and owners will never know to what they are committing themselves when they buy any given type of car.

Making Confusion Worse Confounded.

Of course, what we want in taxation, as in individual and collective activities, is a fixed basis for reconstruction and an end of all disturbances and doubts. But obviously, before we fix our basis, we should make sure that it is satisfactory. For example, while the proposed quarterly licence scheme as a concession towards recognizing the amount of road use a motorist shall enjoy for his tax is a step in the right direction, there is bound to be ill feeling on the part of numerous owners of Ford cars about the country when they find that they have to pay £21 a year where the owner of a post-war Rover, for example, has to

pay £13 a year. Yet we cannot expect the engine-rating scheme to be reversed to favour the Ford car against the bulk of the English cars which have been designed for years past under the influence of the Treasury horse-power rating scheme.

Far from being proportionate to road wear and tear, the proposed tax is based on the principle that the more you motor the lighter the tax and the less you motor the heavier. For example, the theory is that a Ford owner driving 10,000 miles a year would really be economizing £4 14s. 10d. under the proposed scheme because the existing horse-power and petrol tax on that mileage would work out at £22 19s. 4d. On the other hand, if the mileage were 7,500, the new tax would represent an extra expenditure of 2s. 4d.; if it were 5,000 miles, he would be £4 19s. 7d. out of pocket; while if he motored 2,500 miles a year only, he would have to pay £9 16s. 10d. more than his present horse-power and petrol taxes combined.

Doubtless the proposal to abolish the rebates hitherto granted to medical men is based on the assumption that as their cars are used for their work they get the advantage of having an annual mileage of round about 10,000 as distinct from the 5,000 mark, which would mean that with petrol rebates currently in force they would be saving about £12 a year on a Ford car on a 10,000 miles basis, for it should be noted that the official figures of the Ministry of Transport omit the rebates granted to medical men. In one sense, too, the withdrawal of the tax from the fuel is a greater boon to the medical man than to the average motorist, because the very nature of a doctor's work necessitates his undertaking the maximum amount of acceleration, as in constantly starting on a series of relatively short runs, so that he uses proportionately more fuel.

The curious thing is that the committee on whose report the Government is acting states that it considered various other suggested bases of taxation, and that the only one which showed any prospect of providing a possible solution was a tax on tyres. Yet for purposes of taxation it classifies motor bicycles and commercial motor vehicles in relation to weight. Why is unladen weight impracticable for privately owned passenger vehicles while it is practicable for motor cycles and commercial motor vehicles? No light is thrown on this.

The scale of horse-power basis of rating private cars is now much more finely graduated than the present Treasury rating in force, and a refund is allowed in respect of the ownership of old engines, which means incidentally that Ford cars of pre-war production should be in more demand than the post-war series. Fortunately the new scheme is not to come into force in any case until the end of the year. Whatever the fate of that part of the Budget proposals which concerns the basis of taxation on passenger cars, it is certain that all motorists will have to carry yet another "gadget" on their motor vehicles, for the new style licence will have to be displayed on them. The report says that this must be done "in a conspicuous place where it [the licence] can be seen by any passenger or when the vehicle is stationary by any police or taxation officer, and to be protected against damage by rain or other causes." How it is expected, as the report hints, that this scheme will probably check the stealing of cars is at present a mystery.

RECOMMENDATIONS OF THE DEPARTMENTAL COMMITTEE.

THE interim report of the Departmental Committee on Taxation and Regulation of Road Vehicles in Great Britain and Ireland,[1] referred to above by Mr. Massac Buist, was issued on April 16th, two working days before the Budget. The problem the Committee was set to solve was how might best be raised an annual revenue estimated at £7,000,000, which, after payment of the contemplated contributions by the central Government towards the maintenance of the first and second class roads, would still leave in the hands of the Ministry of Transport a sufficient sum to enable a substantial measure of new road construction and road improvement to be undertaken forthwith.

Under the proposals of the Committee the whole of the increased contributions towards roads will be borne by the owners of mechanically propelled vehicles. It is not much consolation to be told that the Committee regards this as a temporary arrangement due to the immediate necessity to provide moneys for roads and to the existing financial conditions. It holds that at the earliest opportunity the Exchequer should provide out of general funds a fair proportion of the highway expenses.

The Committee by a majority advises the abolition of the motor spirit duty because the system of rebates occasions difficulty of collection, because it fails to cover all the liquid fuels used for mechanical traction, and because it applies to imported fuel only. The petrol companies have given an assurance that if the duty of 6d. be taken off they will immediately reduce the price to the public by 7d., the additional 1d. representing a saving to the suppliers in respect of administration expenses. The Committee points out that the price of petrol to-day is governed by the fact that the demand has outrun the supply and that the market is a closed one, in which there is no effective competition. The Committee is thus in disagreement with the Central Committee on Motor Fuel under the Profiteering Act, 1919, which expressed the view that so long as any special taxation is thought necessary in the case of motor cars, a tax on motor fuel would be more equitable than a tax on cars. The Committee received applications from clergymen, road surveyors, commercial travellers, and relieving officers, asking that they should be granted rebates similar in character to those granted to medical practitioners and veterinary surgeons. The Committee, however, decided to recommend the abandonment of the principle of rebate in respect of any classes of car, commercial or other. The Committee has, however, made two exceptions. The first is in the case of private cars the engines of which were constructed prior to 1913, for which they recommend an allowance of 25 per cent., because the rating of this engine is considerably higher than of a modern car developing the same horse-power. The concession is considered expedient in order not to hamper the continued use of cars of obsolete type at a time when the supply of new cars is not equal to the demand. The other exception will apply to power alcohol, to home produced benzol and to shale motor spirit. The Committee advises that in the event of any duty or excise being charged on such fuel, or mixtures containing such fuel, the duty or excise shall be recoverable by any consumer who has paid a statutory vehicle duty.

The Committee recommends that all licences should expire on fixed dates—yearly licences on December 31st, and quarterly licences on the last day of March, June, September or December. It is recommended that the new rates should come into force on January 1st, 1921. The following are the rates for motor cycles, motor vehicles for invalids, and private vehicles; the rates for commercial goods vehicles are added for comparison.

	£	s.	d.
Motor cycles (including motor scooters and other motor-assisted cycles)—			
Weight not exceeding 200 lb. unladen ...	1	10	0
Weight exceeding 200 lb.	3	0	0
With trailer or side car, and other motor three-wheelers	4	0	0
Motor vehicles for invalids electrically or mechanically propelled, bath chairs or other vehicles for invalids, not exceeding 5 cwt. in weight, inclusive of any batteries	0	5	0
Private motor cars, including three-wheelers weighing 7 cwt. or over unladen: £1 per unit h.p. with minimum of	6	0	0
Electrically propelled private cars to pay only the minimum rate of	6	0	0
Owners of private motor cars the engine of which was constructed prior to January 1st, 1913, are entitled to a rebate of 25 per cent. of the duty.			

Quarterly licences on private motor cars to be issued on payment of 20 per cent. above one-fourth of the annual duty (that is, 30 per cent. of full annual duty). Motor cycle licences taken out in the last quarter to be 50 per cent. of the annual charge.

	£	s.	d.
Commercial goods vehicles including three-wheelers weighing 7 cwt. or over will pay according to weight, unladen—			
If not exceeding 12 cwt.	10	0	0
Above 12 cwt., but not exceeding 1 ton ...	16	0	0
,, 1 ton ,, ,, 2 tons ...	21	0	0
,, 2 tons ,, ,, 3 tons ...	25	0	0
,, 3 tons ,, ,, 4 tons ...	28	0	0
Over 4 tons	30	0	0
With right to draw trailer	2	0	0

[1] Command Paper, Cmd. 660. Price 3d.

The Chancellor of the Exchequer in his Budget speech said: "We propose substantially to adopt the recommendations of the committee." It appears, however, that in fact all the recommendations have been adopted and the Estimates presented to the House of Commons refer "for fuller details" to the text of the report. The only point open is whether three-wheelers weighing 7 cwt. or over unladen will be subject to the tax of £1 per unit h.p., but from the reference in the report this is no doubt intended. Mr. Chamberlain stated that he proposed to continue the existing motor car tax and motor car duties until December 31st, 1920, when they will be superseded by the new tax, and "the abatement of duty granted in the case of motor cars used by medical practitioners or veterinary surgeons will cease."

Minority Report.

One of the members of the Departmental Committee, Major Stenson Cooke, secretary of the Automobile Association and Motor Union, presented a Minority Report. He expresses the opinion that the substitution for the petrol duty of a heavy initial tax will have a disastrous effect on the development of motoring. His dissent is influenced by the following considerations:

"(*a*) That despite the proposed heavy increase, which presumably is intended to include the petrol tax already paid by the motorist, the Government are clearly unable to give any guarantee that when the duty is removed the petrol groups will give the consumer the benefit of any *permanent* reduction in price.

"(*b*) That the payment of a heavy initial tax, regardless of the extent to which the vehicle is used, will operate unfairly:

1. Upon owners of low priced cars of moderate speed. (Powerful cars, costing four times as much as the cheap low powered car usually owned by the motorist of moderate means, will actually pay less in taxation.)
2. Upon persons owning two or three cars, only one of which is on the road at a time.
3. Upon the large number of owner-drivers who by force of circumstances are, throughout the whole year, only able to use their cars occasionally or at week ends.

"(*c*) That this special taxation of motorists is a road tax, but on the unit system the amount of tax paid bears no true relation to the extent to which the road is used.

"(*d*) That the removal of the petrol duty automatically withdraws the preferential treatment rightly accorded to benzol, the chief home produced fuel, and thereby strengthens the already powerful grip of the petrol groups upon both industry and user.

"(*e*) That the heavy taxation proposed will discourage motoring, resulting in a reduction in the output of new cars and the restriction of the use of those already existing, with a consequent loss of revenue."

He goes on to say that the tax recommended by the majority of the Committee is calculated on an estimate of the total number of vehicles which will be in use at midsummer, 1920, when the output of cars will still be restricted; the proposed new tax will not be operative until 1921, in which year the number of vehicles will have greatly increased, so that the contributions required from the individual to the total sum would be much smaller. He contends that so long as special taxation of vehicles for road revenue is considered necessary there can be no justification for imposing the whole burden of it on one particular class of road users, and that all classes of vehicular traffic should contribute their proper quota for road purposes.

Major Stenson Cooke would continue the taxation on imported motor spirit on a flat rate basis, excluding all rebates, and would provide for a reasonable adjustment of the existing taxation with certain necessary amendments for the issue of quarterly licences, for the transfer of licences from one owner to another when a car or motor cycle changes hands, and for abatement of tax on old cars.

Transport Ministry's Calculations.

Appended to the report is a table prepared by the Ministry of Transport showing the relative burden of the present and proposed taxation. The calculations are based on the present taxes—namely, licence according to horse-power, and petrol tax 6d. a gallon, and the proposed new tax of 1s. per horse-power with no petrol tax.

The estimate is founded on the assumption that the reduction of 7d. per gallon promised by the petrol companies will be maintained, but, as the Committee points out, no guarantee that this will happen can be given. The character of the table may be illustrated by one or two items:

It is calculated that on a car 21.9 rating, with a consumption of 15 miles to a gallon and covering 7,500 miles a year, the present licence and petrol tax would be £18 16s.; the new horse-power tax, without petrol tax, would be £19 18s. 4d.

On a car 16.3 rating, with the same number of miles per annum, the present licence and petrol tax would be £18 16s.; the new horse-power tax, without petrol tax, £14 18s. 4d., a saving of £3 17s. 8d.

On a light car, 11.5, the present tax would be £10 13s., the new tax £10 15s., an increase of 2s.

These calculations do not take into consideration the rebate to medical men, and the estimates therefore are not applicable to their case. For instance, on a car 21.9 rating, the old licence was £3 3s. and the rebate on petrol £6 5s.; this is to be deducted from the present licence and petrol tax amounting to £18 16s., which is to be compared with the proposed new horse-power tax of £22.

Action by the British Medical Association.

The Chairman of the Medico-Political Committee of the British Medical Association has addressed the following letter to the Chancellor of the Exchequer, asking him to receive a deputation from the Association to lay before him the manner in which the medical profession will be affected by the new proposals:

Sir, 20th April, 1920.

As Chairman of the Medico-Political Committee of the British Medical Association, which represents a very large proportion of medical practitioners of the country, I desire to take the earliest opportunity of pointing out to you that the medical profession will be injuriously affected by the proposed changes in the motor car taxation set forth in the Budget. Their cars are used exclusively for purposes of their practice, and many of them have cars the power of which is much exaggerated by the R.A.C. formula; if all rebates are abolished the extra cost to the owner of a 21 h.p. car (R.A.C. rating), doing a mileage of 7,500 in the course of the year, will be £11 12s. In addition to this, it is absolutely necessary that some medical practitioners in rural and sparsely populated districts should keep two cars in order that they may not be prevented attending an urgent call owing to a car breakdown.

I beg to ask you to be good enough to receive a deputation from the British Medical Association to discuss this and other cognate matters which may be deemed desirable to lay before you.

Yours faithfully,

E. B. Turner.

A communication has also been addressed to the Secretary of the Committee of Medical Members of Parliament, asking them to meet the members of the Medico-Political Committee in conference.

The Owner of Two Cars.

Dr. W. Robinson (Sunderland) writes: It must be remembered that it is necessary for most doctors to keep two cars in order that one may always be in running order, because of the liability of all cars in constant use to break down, and still more because of the great length of time—weeks or months—which it now takes to get a car repaired. Thus medical men will have to pay a double tax. For example, I use 400 gallons of petrol a year (net tax £5) and keep two cars (15 and 21 h.p.). The new tax will be £36 in full. It is to be hoped that only half the tax will be payable by medical men. The petrol tax is much the fairest, and those who use the roads most pay most.

The Automobile Association.

The Automobile Association intends strongly to oppose the proposals of the Committee, and has issued a letter to every member of the House of Commons who is a member of the association. The letter states that the executive committee of the Automobile Association has unanimously resolved that the petrol tax should be retained as against any alternative proposal for a largely increased tax on the motor vehicle, which it considers would be contrary to the interests of the country and have a disastrous effect on the development of motoring. It is urged that the equitable adjustment of the individual contribution for road purposes cannot be achieved by the payment of a lump sum per annum calculated upon horse-power or any other basis which excludes the gradation of the tax in proportion to the extent of road used. A list is given of the injustices to certain classes of motorists, among whom are (1) owners of cheap low-powered cars of moderate speed which, on the horse-power basis, actually pay more in taxation than powerful cars costing four times as much; (2) persons owning two or three vehicles, only one of which is on the road at a time. The opinion is expressed that the plan of taxing horse-power will defeat the object to raise a larger revenue, and a strong plea is made for putting the tax on motor spirit.

British Medical Journal.

SATURDAY, APRIL 24TH, 1920.

THE BUDGET.

To members of the professional classes the most important feature of the Budget introduced by the Chancellor of the Exchequer on April 19th is his undertaking to adopt, "with one or two trifling modifications in favour of the taxpayer," all the recommendations of the Royal Commission on the Income Tax with regard to differentiation and graduation of tax. The broad effect of the new system will be to do away with sudden jumps as an income rises, and to produce an effective rate of taxation which will progress uniformly as the income of the individual taxpayer increases. It also has the effect of transferring a certain portion of the charge hitherto borne by the smallest incomes to the larger and largest. Increased consideration is given to the responsibilities of the taxpayer who is married and has a family. A single person with an earned income up to £150 will pay nothing; a married couple without children will pay nothing up to £250, and a married couple with three children will pay nothing up to £350. A married couple with three children will pay £6 15s. if the earned income is £400; this is equivalent to a rate of 4d. in the £. At £500 the rate is 9½d.; at £800, 2s. 2½d.; at £1,000, 2s. 10d.; and at £1,250, 3s. 4d. All these rates are lower than hitherto paid. The super-tax will apply to all incomes exceeding £2,000, an alteration which it is considered will bring an additional 30,000 persons within the scope of the Act. Mr. Chamberlain's statement that he intends to embody the recommendations of the Royal Commission on Income Tax in a Finance Bill absolves us from going into further details here, for the whole system was fully explained in an article on income tax reconstruction published in the JOURNAL of March 27th last, p. 442.

A point of considerable interest and importance is that Mr. Chamberlain has accepted the suggestion to abolish the term "unearned income." It reflected a certain phase of political propaganda which has followed the doctrine of land values duties into limbo. It is now admitted that most unearned income is income from savings a man makes to provide for his own old age or for the maintenance of his widow and children. It is in future to be called "investment income," and although it will pay more it will not pay so much more as the doctrine of the past would have required. This principle was, indeed, admitted when allowance was made for premiums for life assurance. In some cases, when allowances for wife and children operate, an investment income will pay less than it did. A married couple without children with an investment income of £700 a year will in future pay exactly the same as before; with an investment income of £600 a year they will not pay so much. Thus the position of a man who has saved his money approximates to that of a man whose conditions of employment entitle him to a pension. On the other hand, married couples with earned income of £800, £900, and £1,000 a year will pay rather more. An earned income of £800 will pay £2 5s. more, of £900, £6 15s. more, and of £1,000, £18 15s. more. A married couple with an earned income of £800, entitled to the allowance for three children, will pay £11 5s. less than before; with £900, £14 5s. less, and with £1,000, £2 5s. less. These calculations are to be deduced from the tables in the Financial Statement issued on the day the Budget was introduced. A single person with an income above £350 will always pay more than hitherto, whether his or her income is earned or derived from investments. A single person with an earned income of £900 will now pay £168 15s. instead of £135, and with £1,000 he or she will pay £195 15s. instead of £150.

The result of the changes now to be made may be further illustrated by taking the effective rates of income tax on an earned income of £1,250, the amount in the tables which most nearly approaches the £1,300 a year which it was claimed during the arbitration on the rate of insurance medical remuneration should be the average income "for a good general practitioner successful enough to have enough work to occupy his whole time and filling up that time properly and conscientiously." For a single person the amount at present paid is £234 7s. 6d., an effective rate of 3s. 9d.; the proposed charge will amount to £263 5s., an effective rate of 4s. 2½d. For a married couple without children the charge now is £234 7s. 6d., an effective rate of 3s. 9d.; it will be £236 5s., an effective rate of 3s. 9½d. For a married couple entitled to the allowance for three children the amount now is £234 7s. 6d., an effective rate of 3s. 9d.; it will be £209 5s., an effective rate of 3s. 4d.

The supertax will in future affect incomes over £2,000, but the rate of increase on incomes near the margin rises slowly. Thus for the married couple entitled to an allowance for three children the supertax on £2,250 will be £19, and the total charge will be less than hitherto; it will be £506 in place of £591. The new rate is calculated to be equivalent to 4s. 6d. in the £. With an income of £4,000 a year the effective rate begins to rise rapidly; it is in the same case 6s. 1d. at that amount, 8s. 7d. at £10,000, 9s. 9d. at £20,000, 11s. at £50,000, 11s. 6d. at £100,000, and 11s. 8d. at £150,000, the limit of income beyond which the imagination of the Treasury does not extend.

In the changes proposed in the method of taxation of motor vehicles the Chancellor of the Exchequer has closely followed the recommendations of the Departmental Committee, details of which are given at p. 575. The effect will be to increase the amount medical practitioners will be called upon to pay when the effect of rebates now enjoyed is taken into consideration. Mr. Massac Buist dealt with the matter in an article published on April 10th, and deals with it again this week (p. 574); and on p. 576 is a letter the Chairman of the Medico-Political Committee of the British Medical Association has addressed to the Chancellor of the Exchequer, asking him to receive a deputation from the Association to lay before him the manner in which the medical profession will be affected by the new proposals. In this letter Mr. Turner lays special stress on two points. The first is that the R.A.C. rating is not a sound basis of calculation, since the calculation of horse-power by that formula ignores the length of stroke and relies upon the diameter of the piston and the number of cylinders. The second point is that medical practitioners in sparsely populated districts are often practically compelled to keep two cars to avoid the risk of a breakdown in one. We invite all members who use motors to read carefully the articles to which reference has been made and Mr. Turner's letter. The matter will be fully considered by the Committee of the Association at an early date. The whole scheme will come in for a good deal of opposition, and many members of Parliament have already expressed their intention to submit amendments.

TYPES AND TREATMENT OF EPIDEMIC ENCEPHALITIS.

M. NETTER, who has been so diligent in the study of lethargic encephalitis that some of his countrymen apply his name to the disease, recently communicated to the Académie de Médecine an account of his views on its treatment.[1] Before reproducing his recommendations we may note his statement that there have been more than 1,500 cases in Paris and about 10,000 in other parts of France. He admits that it is difficult to fix the rate of mortality, owing to the number of abortive, slight, and ambulant cases, but he estimates that about a third of the patients in whom a definite diagnosis can be made die. The high rate of mortality he attributes to several causes: firstly, the frequent affection of the medulla oblongata; secondly, the occurrence of pneumonia secondary to paralysis of the vagus or the glosso-pharyngeal; and thirdly, the marasmus, often complicated by bedsores, which is the fate of patients in whom symptoms last for several months.

Drs. Farquhar Buzzard and Greenfield, in a paper in the current issue of *Brain*,[2] in commenting on several cases of mild encephalitis in which the physical signs were generally trivial and but for careful examination would easily have escaped notice, express the view that the total number of cases must have been very numerous during the last two years. Mild cases, they state, are characterized by an inclination to fall asleep while sitting down to rest, a tendency to forget the small things of everyday life, and sometimes by an alteration of temperament. The patient may complain that although he is always dropping off to sleep in the daytime, at night he is restless and disturbed by mild cramps or pains in the limbs, so that he wakes every hour or two. In such cases there may be neither headache nor fever, and diplopia may be very transitory; diagnosis therefore may be difficult and the history given by the patient a most important factor. Yet early diagnosis is a matter of great importance, since patients suffering from inflammation of the brain should be prevented from carrying on their normal activities, even though not troubled with headache, vomiting, or pyrexia. In more severe attacks the symptoms vary very much, but, as is observed, this is to be expected in inflammation of an organ with so many functions. The diagnosis must be determined by a consideration of the onset and course of the disease and by the elimination of other pathological conditions capable of producing similar symptoms and physical signs. Thus in one class of cases hemiplegia or hemianaesthesia is present; in another the symptoms resemble those of paralysis agitans (the basal ganglia group); while those of a third class are characterized by disturbances of function of the cranial nerves, the commonest evidences of which are diplopia and ptosis.

G. Sabatini[3] proposes to classify the cases, according to the predominant symptoms, into four varieties. In the first, lethargy is the chief feature; ocular palsies are limited and delirium and symptoms of motor irritation are absent. In the second or hyperkinetic form,[4] after a short prodromal stage characterized by headache, pains in the bones, restlessness and slight rise of temperature, choreiform movements (clonic muscular jerks) of the abdominal muscles, face, and limbs, develop, accompanied by muscular hypertonus and rigidity of the vertebral column, with high fever and delirium. Cases of this type may die within a few days, but in others there is a remission, followed often by lethargy, which may deepen into coma ending in death. In a third type paralysis of the cranial and spinal nerves predominates, and the general condition and mental state are unaffected. The fourth or mental form is rare; in it the patient is in a state of confusion with regard to time, place, and personality, critical power and will being abolished.

Buzzard and Greenfield call attention to the fact that months after the original illness relapse may occur, attended by involuntary movements, which may be irregular and choreiform and limited in distribution. They are present when the patient is resting, but disappear during sleep and when the limb is in voluntary use. The paper contains a report of careful histological examinations of the brain in a series of fatal cases. The appearances varied, but the features common to all cases were vascular congestions, toxic degeneration of the nerve cells and neuronophagy, infiltration of the nervous tissue by proliferating cells of the vessel walls, small cell infiltration of the space around the veins, and glial proliferation. Venous thrombosis and haemorrhage were observed in a considerable number of cases; sometimes the haemorrhage surrounded a congested vessel, but in others it had broken through and spread into the tissues for some distance beyond.

Professor Netter is convinced that the virus of lethargic encephalitis is of the same type as that of poliomyelitis, and, like it, is filtrable, and to be found not only in the nervous system, but in the nose, throat, and the mouth. He bases his treatment upon this conception. Though he thinks that some value is to be attached to specific treatment by the intrathecal injection at the onset of the disease of serum taken from a patient who has recovered from it, he considers it premature to recommend this method, for the reason that there is no evidence that an antibody appears in the blood in lethargic encephalitis at an early date, and also for the further reason that in a case lasting several months it would be necessary frequently to repeat the injection. He believes that the administration of hexamine is likely to be useful, but insists that it must be given by the mouth and not by intravenous injection, since the object is to produce a continuous action on the nerve centres, and the drug if injected into the blood disappears very rapidly. The fact that in some cases swelling of the salivary glands and salivation has been observed, and the further fact that the virus of rabies and of poliomyelitis may be found in the mouth, led him to recommend resort to pilocarpin, in the hope of hastening the elimination of the virus; he would combine with it adrenalin to counteract the depressing effect of pilocarpin on the heart. His great standby in treatment, however, is the production of a local abscess by an injection of turpentine. In all serious cases he injects at the earliest possible date one or two cubic centimetres (16 to 32 minims) of turpentine into the outer side of the thigh. In 27 cases so treated an abscess, requiring incision, was produced in 19; only two of the 19 died, and 13 of them, who had been in an apparently hopeless condition, recovered completely; that is to say, he had 17 recoveries out of 19 cases in which an abscess formed, whereas of 25 serious cases not so treated, 13 died. Of the 19 cases 14 were of the myoclonic type in which the prognosis is said to be particularly bad. He recalls the fact that Hippocrates, who knew a disease called lethargus, said that the patients who recovered generally had an

[1] *Bull. de l'Acad. de Méd.*, lxxxiii, p. 303.
[2] Vol. xlii, part iv.
[3] *Il Policlinico*, Sez. Prat., January 25th, 1920.
[4] Two examples of this form are recorded by Dr. Boveri of Milan at p. 570.

empyema, by which is to be understood an abscess in any part. Why the injection of turpentine, leading to the formation of an abscess, should produce such a favourable effect, Netter does not find it possible to explain, but he suggests that the reaction caused by the turpentine affects the organs which produce the bodies that enable the system to defend itself against the disease; he mentions that his house-physician had shown that myelocytes appear in the blood, indicating, as he thinks, that the bone marrow is stimulated to special activity. He considers that the various serums, vaccines, prepeptones, and nucleinates that have been recommended have probably produced their effect in the same way, but are not so free from danger as the production of an artificial abscess. Finally, he condemns very strongly the use of arsenic, having seen neo-salvarsan produce a disastrous result, and of antimony he says that it seems to have no effect.

"*Hic morbus non est novus*," Dr. F. G. Crookshank quotes from Polydore Vergil in an article[5] founded on a paper contributed last year to the Section of the History of Medicine of the Royal Society of Medicine. It will be remembered that at a discussion[6] at that Society in October, 1918, Dr. Hamer, medical officer of health for London, dwelt on the epidemiological relations of influenza, cerebro-spinal fever, and lethargic encephalitis. Dr. Crookshank also goes back to Hippocrates, who described paraplegias occurring in association with burning fevers, by which is to be understood influenza. He, however, contents himself with asserting that clinical cases of the nature now ascribed to encephalomyelitis or encephalo-myelo-meningitis, have been reported for the last 450 years at least, and that they have occurred and been noted as incidental to major prevalences, known historically as the sweating sicknesses, the epidemic catarrhs, influenzas, and the like. Special prevalences of such cases have been described as manifestations of special diseases, but have usually appeared shortly before or after major influenzal epidemics or in geographical proximity. Epidemic encephalo-myelo-meningitis, Dr. Crookshank considers, represents an intensive and specialized reaction that has the same epidemiological relation to pandemic influenza as have the prevalences and epidemics of "septic" pneumonia, of gastro-intestinal illness, and of other maladies described as occurring before and after the wide diffusions generally referred to as pandemic influenza.

We must accept the epidemiological evidence for these associations, but their explanation remains mysterious, for the epidemiologists must not convince us that influenza and poliomyelitis or lethargic encephalitis are due to the same virus.

PATHOLOGICAL MUSEUM AT THE CAMBRIDGE MEETING.

The Committee appointed to organize the Pathological Museum in connexion with the Annual Meeting of the British Medical Association at Cambridge in June propose to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers in the various Sections. (2) Specimens and illustrations relating to any recent research work. (3) Individual specimens of special interest or a series illustrating some special subject. (4) Instruments or appliances relating to clinical diagnosis and pathological investigation. The Museum will comprise a series of exhibits illustrating the following subjects: "War specimens," arthritis, cerebro-spinal meningitis, parasitology. The committee will be glad to take charge of and place in the Museum for exhibition any specimens, casts, photographs, diagrams, or microscopic slides during the time they are not required by those who are reading papers or taking part in the discussions. The Museum will occupy a central position in two temporary buildings in the first court of the Medical Schools. It will be open during the entire week beginning Monday, June 28th. So far as practicable each section will be under the charge of a curator for demonstration purposes; but arrangements will be made for exhibitors to have an opportunity of demonstrating their own specimens. Every care will be taken of the specimens, and the contents of the Museum will be insured. The chairman of the Pathological Museum Committee is Sir G. Sims Woodhead, K.B.E., Professor of Pathology in the University of Cambridge. The honorary secretary is Dr. H. B. Roderick, to whom communications regarding material for exhibition should be addressed at the Surgical Department, Medical School, Cambridge.

[5] *Medical Press*, 1919.
[6] British Medical Journal, 1918, vol. ii, p. 488.

A TIME FOR SPEECH.

The *Nottingham Guardian*, on April 12th, published a very good letter under the heading "Nottingham M.P.s taken to task." Plainly, it is written by one of our profession in Nottingham; he writes well and with authority, and he deals faithfully with two members of the House of Commons who are favouring antivivisection. They are probably feeling some surprise that they are thus called to account. For Nottingham is accustomed to antivivisection statements, and our profession in Nottingham was working too hard through the war to give attention to them, or was indifferent to them. It is likely enough that these two members of Parliament thought that nobody would be seriously offended by their action. But here is somebody who is very seriously and very properly offended. And he has set a good example to all of us, especially to our profession in Nottingham. Of course the public is well aware that "the doctors" are solidly hostile to antivivisection. How could they not be when it is furiously attacking the use of diphtheria antitoxin and the protective treatments against typhoid and paratyphoid and tetanus? But so long as it can find among 50,000 doctors half a dozen on its side it will tell the public that "medical opinion is divided on these questions of treatment," and will advise people not to let the doctors "pump animal filth" into them. That, indeed, is why we hate antivivisection. Over a good many points we are willing to make allowance, concessions, compromises; but when we find antivivisection, with its nonsense about antitoxin, behaving as an enemy of the people, then we, who are honest servants of the people, do well to hate it. For example, one of the antivivisection societies is distributing everywhere a tract which says: "It is admitted, even by the supporters of antitoxin, that this 'remedy' is accountable for a great increase in the cases of paralysis. . . . Antitoxin is useless, unscientific, and harmful." We must not be polite to the devil when we find him sowing tares among our wheat. It is most unlikely that the two Nottingham members would countenance this "evidently effective piece of propaganda," as one antivivisection society calls the tract from which we have quoted. Still, it is a good thing that a Nottingham doctor has taken them to task. And some of us may have occasion to follow his example. It is of little use to say anything during the rush and excitement of election time. Every member, or would-be member, of the House of Commons is at that time besieged and overwhelmed with all sorts of appeals, but we can say something in quieter times if our local representatives in Parliament give their support to a "propaganda" which misrepresents us, derides our faith, abuses our works, and is dangerous to the public health. We may be content to say it privately or we may feel bound to say it in the press. One way or the other we ought to say it.

POST-GRADUATE EDUCATION IN LONDON.

THE co-ordination and organization of medical post-graduate education in London is being methodically and effectively continued by the Fellowship of Medicine upon the sound lines laid down by its promoters at their foundation meeting. One of the original aims of the Fellowship was the establishment of a central bureau from which information respecting post-graduate facilities in Great Britain could easily be obtained. This has now been established and the Fellowship has become a recognized centre for such information. Inquiries daily arrive from medical men in all parts of the world who wish to map out courses of work in London and the provinces. Visitors from the Continent and from Overseas seem usually to find their way to the offices of the Fellowship within a few hours of their arrival. Last year's energies are also bearing gratifying fruit: the graduates who attended the London hospitals and schools last summer have clearly given a satisfactory account of their reception, for most of those who are coming over now from the Dominions and the United States are "personally recommended." The legend that London is a "cold place" for the medical stranger (a widely-spread reputation which has done incalculable harm to post-graduate work in this country) is at last being destroyed. It is admitted that London offers not only a vast field of work, but also a warm welcome to those who wish to avail themselves of such opportunities. The last issue of the weekly *Bulletin* of the Fellowship shows clearly the possibilities of the work as now co-ordinated by the present organization. The medical graduate, after a short study of the daily programme, can easily plan a course of study in any department and carry it out at almost any time of the day. These advantages are certainly not being fully appreciated by practitioners in London and the provinces, and the fact is somewhat disappointing. Whilst the London courses are attracting graduates from Overseas and from the Continent, they have not yet aroused the enthusiasm of men who are within easy access of such valuable facilities. Many reasons may be suggested, but perhaps one explanation is that the present courses arranged by the Fellowship are not sufficiently known to the British medical man. If this be so he cannot do better than write to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, London, W.1, for a copy of the *Bulletin*. If he states the special department of work in which he is interested his name will be registered, and it will be strange if his needs are not met.

THE MIDDLESEX HOSPITAL.

WE recorded in the early part of this year the endowment by Mr. S. B. and Mr. J. B. Joel of a chair of physics in the Middlesex Hospital and the appointment to the hospital of a professor of pathology and radiology, both, like the Joel professor, professors in the University of London. Of the 500 beds in the Middlesex Hospital, 100 are reserved for patients suffering from cancer; it possesses special cancer investigation laboratories, and the Bland-Sutton Institute of Pathology, both admirably equipped for investigation and teaching, and all these, together with the medical school, are closely connected. The governors of the hospital, at a special meeting on April 15th, showed their appreciation of the importance of promoting medical research. Lord Athlone, who presided, moved a resolution whereby the scheme for the amalgamation of the cancer research department and Bland-Sutton Institute of Pathology with the medical school, as adopted by the weekly board of governors, was approved, and subsequently the necessary alterations were made in the laws of the hospital. The scheme not only provides for the closer union of research, teaching, and treatment, but contemplates also a considerable enlargement of the provision for cancer and other research. If sufficient philanthropic aid be forthcoming, it is sought to endow chairs of chemistry and pharmacology, and thus it is hoped to have professors of chemistry, physics, radiology, anatomy, physiology, pathology, and pharmacology, each of whom shall be a professor of the University of London, and shall at the same time be attached both to the medical school and hospital. At the latter each will have direct access to the wards and at the former he can conduct his investigations in the laboratory and communicate his findings in the classroom, so that research, treatment, and teaching will be systematically bound together. Benefit is bound to accrue from the close association and co-operation within one institution of the workers in all the different departments. Problems arising in medical research are of such complexity as to demand for their ultimate analysis and solution knowledge of many branches of pure and applied science; advantage must, therefore, be derived from close co-ordination and interrelation of kindred groups of workers.

DRIED MILK AND VITAMINES.

A CORRESPONDENT informs us that he has been told by an analytical chemist of his acquaintance that at least 30 per cent. of the milk sold in London is compounded from dried milk, and that so long as this mixture shows the presence of the minimum legal amounts of fat and non-fatty solids it can be lawfully sold as cow's milk. He assumes that "dried milk has lost its vitamines," and suggests that such milk, given in good faith to infants, may have a deleterious effect on their growth. The suggestion that a considerable proportion of London milk is made from desiccated milk powder should not be too readily accepted, although a solution of dried skimmed milk would no doubt serve for diluting milk to the legal standard of fat content. Samples of milk are regularly examined by the Public Health Department of the London County Council in connexion with the feeding of school children. In 1917 and 1918 the extent to which they were found to be adulterated was great; 37 per cent. showed evidence of adulteration in 1917. Conditions have greatly improved since, and samples recently taken have usually been normal in appearance and have not shown the white deposit or other peculiarities of diluted dried milk. The Department, we understand, has no reason to believe that the compounding of milk for sale in London from dried milk takes place to any great extent. The assumption that "dried milk has lost its vitamines" is only partially correct. It is true that the antiscorbutic vitamine (water-soluble C) is rapidly destroyed by heat, and is absent from even the most powerful antiscorbutics when they have been desiccated; but the water-soluble B, or anti-beri-beri vitamine, is resistant to heat, and only very slowly undergoes disintegration at the temperature of 100° C. The stability of the fat-soluble A factor is not so clearly established. Osborne and Mendel, and also Drummond, believed it to be very resistant to heat; but according to American experiments, confirmed in this country, and mentioned in the Report of the Medical Research Committee[1] (p. 23), the fat-soluble accessory substance A is gradually destroyed at 100° C., and four hours' exposure to that temperature is sufficient to render butter fat of little greater value, as far as vitamines are concerned, than an equivalent quantity of lard. It seems clear, therefore, that in the process of desiccation there is a risk of losing the antiscorbutic vitamine (C); the extent to which the other two accessory factors are destroyed depends upon the particular method used by the manufacturer. Dr. F. J. H. Coutts, in his report to the Local Government Board (1918), shows that the degree of heat employed in the various commercial processes varies greatly; in some the milk, it is said, does not attain a temperature of more than 50° C., but in others temperatures considerably higher than 100° C. are used. The freezing process described in 1910 by Lecomte and

[1] Report of Medical Research Committee, 1919. H.M. Stationery Office.

Lainville, which would appear to be ideal so far as the preservation of vitamines is concerned, does not seem to have been used on a commercial scale. Besides the possible destruction in preparation, however, disintegration of vitamines may occur (as Dr. Coutts has pointed out) when the dried milk is kept for long periods of time. The medical officers of many infant welfare centres where much dried milk is dispensed have prescribed fruit and vegetable juices to supplement a possible vitamine deficiency of the dietary; some, however, have come to the conclusion, as a matter of experience, that this precaution is not needed.

THE MACKENZIE DAVIDSON MEMORIAL LECTURE.

THE first Mackenzie Davidson Memorial Lecture was delivered by Sir Ernest Rutherford, F.R.S., at the meeting of the Section of Electro-therapeutics of the Royal Society of Medicine on April 16th. Professor Rutherford paid a tribute to the scientific enthusiasm and imagination of the man the lecture commemorated, and in particular to his remarkable readiness to help his colleagues and give freely of his time and ideas. He referred also to the Mackenzie Davidson Memorial Fund, which has in view the establishment of an institute for teaching and research in radiology, to which possibly a chair at some university could be attached. Radiology had arrived at the parting of the ways, and the old haphazard organization would not suffice if a steady advance was to be maintained in knowledge and in methods. In the past there had been little or no systematic teaching of radiology, and it spoke volumes for the enthusiasm of many workers in this field that they had surmounted the difficulties attaching to the subject and acquired a working if not a profound knowledge of its physical as well as of its medical side. The University of Cambridge had established a diploma in radiology and electrology, and in London, under Sir William Bragg at University College, about thirty students were now taking the first course with a view to that diploma. Until the diploma was well established it seemed desirable to have systematic courses of instruction in two or three convenient centres. In the second part of his lecture Sir Ernest Rutherford devoted himself to a review of the effects of radiations upon matter. He pointed out that the effects of x rays in treatment were in most respects similar to those of the beta and gamma rays of radium. This similarity of effect produced by two sets of rays proceeding from such different sources was only what would be anticipated from the standpoint of physics; for the effects of x rays, and of radium rays also, were due not to the direct action of the rays themselves on the tissues, but to their power of causing the ejection of a high-speed electron from matter. All radiological effects were ultimately reducible to the effect of electrons in motion. The therapeutic effects of x rays and radium rays were to be ascribed to chemical action; the physical changes observed in treatment, however important these might be, were only secondary and a consequence of the primary chemical changes produced by the radiation. The researches of C. T. R. Wilson and others had shown that radiations did produce such chemical changes in gases, and it was extremely probable that the same kind and order of changes took place in the tissues. The main problem of radiology was to find out the conditions under which x rays and radium rays passing into the tissues could exercise a beneficial action and not a detrimental one, and with a view to its solution he pleaded for a closer co-operation between the physicist and the medical man in research.

THE MEDICAL STUDENTS' REGISTER.

THE new *Medical and Dental Students' Register*,[1] issued by the General Medical Council, gives the names and other particulars of all students registered during the year 1919, together with statistical matter. There is also the usual tabular statement of the number of medical students registered in each year in each of the three divisions of the United Kingdom from the beginning of students' registration in 1865 to the end of the year under review. In our issue of November 1st, 1919, p. 565, the analytical table given in the *Students' Register* for 1918 was summarized, and we printed a chart showing in graphic form the numbers of medical students registered in each of the preceding fifty-four years. From 1865 until 1881 the total number of registrations in the United Kingdom mounted steadily from 600 to 2,171; then for the next nine years it fluctuated around 1,900. In 1891—the year before the enforcement of a compulsory five years' curriculum—there was a sharp rise to 2,405, with an even more abrupt fall in the following year. Throughout the two following decades the total gradually declined to 1,232 in 1911—the smallest entry since 1873. From this low level it mounted year by year until 2,253 was reached in 1918. The figures for 1919 far surpassed all previous records. The total number of registrations in the United Kingdom was 3,420, being more than 1,000 greater than the record entry of 1891. Scotland again heads the list, with 1,387 new students; England and Wales had 1,375, and Ireland had 658. During the fifty-five years of students' registration rather more than 89,500 medical students were registered in the United Kingdom, the percentages being approximately 47.5 for England and Wales, 32.9 for Scotland, and 19.6 for Ireland.

[1] London: Constable and Co.

MEDICAL INSPECTION IN SECONDARY AND CONTINUATION SCHOOLS.

THE Education Act of 1918 greatly extended the responsibility of local education authorities with regard to medical inspection of schools. Previously the duties of these authorities were limited to elementary schools; the Act imposed on them responsibilities with regard to secondary schools, continuation schools, pupil teacher centres, junior technical schools, and other similar schools or institutions provided by an authority. The provisions came into force in August, 1918, but they were not obligatory. The Board of Education has now made an Order fixing April 1st last as the day on which the operative section (18) of the Act came fully into force, and has issued a memorandum explaining the object in view, together with draft statutory rules,[1] which will come into force unless objection is raised to them in Parliament. The order applies only to pupils in secondary schools provided by an authority, but it is hoped that authorities will show themselves willing to provide for the medical inspection of pupils attending any school or educational institution if so requested by the governing body. The board considers that the medical examination at the age of 12 should as a rule be complete, and holds that the examination at the age of 15, which comes at the end of the school career of the majority of pupils, is of special importance, and should be complete in all cases. The memorandum goes on to point out that medical inspection is not an end in itself, but is intended to provide data for appropriate action, remedial or preventive. It is considered that the remedial provision to be made by an authority would probably be limited in practice to the examination of eye defects and the provision of spectacles, to dental inspection and treatment, to the operative treatment of tonsils and adenoids, to the treatment of such minor ailments as skin diseases, running ears and sore eyes, and to remedial exercises. The medical inspector would give attention also to the sufficiency of the general measures for the prevention of infectious diseases, to the adequacy of the ventilation, lighting, and sanitation, to the suitability of the physical training, and to the means taken to avoid over-pressure in the course of preparation for examinations. The order enumerates the conditions upon which grants will be made; they include,

[1] (Cmd. 635) Price 1d.

in addition to initial medical inspection in the term following admission, inspections in subsequent years; adequate steps are to be taken to co-ordinate the system with other activities of the school medical service, and also with the work of the public health service in the area. It is recommended that a woman doctor should, where practicable, be employed to inspect girls. A model schedule is given to be used as a form of record; this follows closely the lines of that which is in use in elementary schools, but additional headings are inserted for inspiratory and expiratory chest measurements, near vision, colour sense, flat-foot, and catamenia.

ANNUAL OPHTHALMOLOGICAL CONGRESS.

THE annual congress of the Ophthalmological Society of the United Kingdom will be held in London at the house of the Royal Society of Medicine during the last week of April. The proceedings will be opened on Thursday, April 29th, when the president, Mr. J. B. Story, F.R.C.S.I., will deliver an address. A series of papers will afterwards be read, and in the afternoon there will be a clinical meeting at the Royal London Ophthalmic Hospital, when cases and specimens will be shown; afterwards Mr. Percy Flemming will give an address on "The neighbourhood of Moorfields in former days," illustrated by lantern slides of maps of old London. This will be followed by a discussion of cases, and in the evening the members will dine at Oddenino's Restaurant. On the morning of Friday, April 30th a discussion on diabetes in relation to diseases of the eye will be opened by Sir Archibald Garrod and Mr. R. Foster Moore. At the business meeting on the afternoon of that day two proposals of the council will be discussed: one is that the annual subscription should be raised to £1 11s. 6d., and the other that subscriptions and donations should be invited to a special reserve fund for publication, so as to obviate the necessity of asking members who read papers before the society to contribute towards the cost of illustrations. In the evening a series of papers will be read. On Saturday morning a visit will be paid to the special hospital of the Metropolitan Asylums Board for cases of ophthalmia neonatorum, and there will be a discussion on the prevention and treatment of that disease, to be opened by Dr. Gibbon FitzGibbon, Master of the Rotunda Hospital, Dublin, and Mr. M. S. Mayou. The Council of British Ophthalmologists will hold a meeting, which all British ophthalmologists are invited to attend, at the house of the Royal Society of Medicine on Friday, April 30th, at 4 p.m., when a report of the council on the work done during the last two years will be submitted.

SIR WILLIAM ARTHUR ROBINSON, K.C.B., C.B.E., has been appointed to be First Secretary of the Ministry of Health, in succession to the late Sir Robert Morant. Sir William Robinson, who was born in Westmorland in 1874, was educated at Appleby School and Queen's College, Oxford, and took a double first in classics. He entered the Civil Service in 1897, was the secretary of the Dominions Royal Commission, 1911–12, and assistant secretary, Office of Works, 1912–18; he has been permanent secretary to the Air Council since 1918.

A CONJOINT meeting of the Obstetric and Gynaecological Section of the Royal Society of Medicine and the North of England and Midland Obstetrical and Gynaecological Societies will be held in London at the Royal Society's house, 1, Wimpole Street, on Thursday, May 6th. The discussion at the morning session (10.30) on the treatment of ante-partum haemorrhage will be opened by Dr. Hastings Tweedy, and at the afternoon session (2.30) Dr. Eardley Holland will read a paper on rupture of the Caesarean section scar in subsequent pregnancy and labour. A dinner will be held at the Great Central Hotel; Mr. J. D. Malcolm, President of the Section, will take the chair at 7.30.

Medical Notes in Parliament.

The Budget.

THE Budget figures have become so colossal that they are difficult to follow. It was generally agreed, however, that Mr. Chamberlain's exposition on April 19th was exceedingly well prepared, and as lucid as it could possibly be in the circumstances. This clarity was necessarily achieved by much elimination of details, and only the main outlines can be traced here. Broadly there were three statements: the first concerned the financial year ended on March 31st, and on this the accounts show a realized deficit of £326,000,000; secondly, this was followed by a statement of what the position would be at the end of the current year—that is, on March 31st, 1921—on the basis of estimated expenditure and of revenue on the basis of existing taxation; this would afford a balance of £164,198,000 for debt reduction, due mainly to reduction in the service expenditures. The third statement set out the effect of the proposed new taxation. The changes, it was estimated, would produce in full £193,230,000, or, excluding the £9,500,000 to be drawn from extra Post Office charges, £189,000,000, derived as follows: From direct taxation, £125,000,000; from indirect taxation, £64,000,000. The net additional revenue from these resources for the current year is estimated to be £76,650,000, making a total revenue for the current year of £1,418,300,000. The grand totals for the current year were estimated as under:

Revenue	£1,418,300,000
Expenditure	£1,184,012,000
Balance for reduction of National Debt	£234,288,000

The particular interest of the speech was, of course, in the narration of the methods by which it was intended to raise the extra money. A fuller explanation of the income tax changes will be found elsewhere. They follow the recommendations of the Royal Commission, and the Treasury gains under the whole scheme of alterations mainly from the fact that the supertax limit is reduced from £2,500 to £2,000 and the rate is advanced. Mr. Chamberlain follows the scale put forward by Lord Colwyn's Committee, and goes beyond it as regards incomes of over £30,000 a year, adding 6d. to the maximum of 6s. set forth in Lord Colwyn's scheme. Mr. Chamberlain did not, as was expected, remove the excess profits tax and substitute a tax on limited liability companies on their gross profits. Instead he announced that the excess profits tax would be retained and increased from 40 per cent. to 60 per cent., and that in addition there would be a company tax technically called a corporation tax of 1s. in the £, but not deductable until the excess profits tax had been reckoned in the accounts; in no case is this duty to exceed the equivalent of 2s. in the £ on net profits after payment of interest and fixed dividends. The tax will not apply to the first £500 of profits. Mr. Chamberlain gave the impression that he is still hopeful of a practical recommendation for a war profits levy, in which case he will introduce a supplementary budget, and obviously the excess profits tax would in that case have to be revised. Mr. Chamberlain's argument is that the excess profits duty is necessary in existing circumstances as an equitable balance to the supertax imposed on private traders and professional men.

Over and above these new serious burdens there is the feeling that the Budget inflicts numerous vexatious pinpricks on trade, and is liable especially to hurt the small business men who are trying to make good. The fact that the Post Office is no longer a profit-making concern, but a subsidized undertaking, has to be recognized, but the view is strongly held that its activity on the largest possible scale is a vital necessity to business enterprise. With the advance in the charge for inland letters from 1½ to 2d., for telegrams from 9d. to 1s., and ultimately for postcards from 1d. to 1½d., a blow has been struck at the hope of averaging cost beneficially by a larger output. The extra halfpenny for newspapers comes also at a most inopportune time, when the cost of paper has gone up 500 per cent. and establishment expenses have more than doubled.

The proposals with regard to motor taxes are fully dealt with elsewhere in this issue. The proposal to get an extra six million from the stamp duties has caused a good deal of perturbation, but Mr. Chamberlain's motive is to lessen company transactions which tend to divert money from Treasury securities into speculative ventures.

The increase in the excise on beer of about 50 per cent. (calculated to mean about a penny a pint extra) will not be popular. The increase in the duty on whiskey is about 2s. 6d. a bottle and the retail price is to be 12s. 6d.; of this amount nearly 8s. 6d. is represented by duty. The excise on light wines is raised from 1s. 3d. to 2s. 6d., and on heavy wines, such as port, from 3s. to 6s. The duty on sparkling wines imported in bottle is also doubled, and a 50 per cent. *ad valorem* duty added. Mr. Chamberlain, however, stated that the total duty payable on champagne will be not more than about 6s. a bottle. The yield from the *ad valorem* duty on sparkling wines is estimated to amount to £1,800,000 in the current year, and £1,900,000 in full year. The proposals in the Budget received on the whole a favourable reception from the House, as it is recognized

that the Chancellor of the Exchequer has been reasonably impartial.

In the course of the debate in Committee, on April 20th, Sir John Butcher said that the abolition of the abatement granted to doctors and veterinary surgeons in respect of motor car duty would be a hardship to men who had to do a great deal of travelling in the course of their professional work. He hoped that the Chancellor of the Exchequer would reconsider the matter. Mr. Chamberlain said he would convey what had been said to the Minister of Transport, who was dealing with that part of the proposals.

Municipal General Hospitals.—Mr. Lyle asked, on April 14th, with regard to the approval given by the Minister of Health to the establishment of a municipal hospital at Bradford, for what special reason, and on what conditions it was given, and whether consent would be extended to other local authorities putting forward similar proposals; whether it agreed with his policy as enunciated on February 26th, 1919, in the House and elsewhere at other times; whether he was prepared to make a statement as to his policy in regard to voluntary hospitals; and whether, before sanctioning further hospitals supported out of public funds, he would consider the position of voluntary hospitals which had for years done invaluable public work, which were now hard pressed for funds to continue their efforts, and which were bound to be most prejudicially affected by competition on the part of organizations that would never experience stress in respect of either upkeep, maintenance, or administration. Dr. Addison replied: I have sanctioned a scheme supported by all parties on the Bradford Council for the establishment of a municipal hospital which appeared to me the only practicable method of providing institutional accommodation necessary to meet the needs of the city. I see nothing in this decision inconsistent with the statement to which the hon. member refers. As regards the last part of the question I fully appreciate the value of the work done by the voluntary hospitals, and I am aware of the difficulties under which they are now labouring, but I am not yet in a position to make any definite statement. Mr. Lyle inquired whether this meant that every other borough and town would be enabled to set up hospitals if it applied in the same way. Dr. Addison said that pending further legislation which was now being prepared, he had to consider cases on their merits as they arose. This was the only way of meeting the necessities of the case.

Medical Aspects of the Divorce Law.—In the debate raised in the House of Commons, on April 14th, on Mr. Rendall's motion that legislative effect should be given without delay to the recommendations in the majority report of the Royal Commission on Divorce, Lieut.-Colonel Raw dealt with three recommendations of the majority report—namely, those in reference to incurable insanity, habitual drunkenness, and the position of one who was the wife or husband of a person under a commuted death sentence. There were in the United Kingdom 140,000 persons certified as insane under the Lunacy Acts, and of that number 50,000 were suffering from incurable dementia, which should be considered as a ground for divorce. Between 30,000 and 40,000 of these people were married, and in a very large number of instances the husband or wife might not know each other; a great many of them did not realize that they were married at all. It was suggested in the majority report that after five years of detention a person suffering from this form of insanity should be examined at the request of wife or husband by a body of medical experts who would then be satisfied whether or not the case was curable. If they were satisfied that it was incurable, that might be a ground for divorce. These cases were particularly hard amongst the poor. He did not suggest that any other form of physical or mental disease should be a ground; but sufferers from this disease might live for forty or fifty years before death came. He hoped that the day would come when marriage would be prohibited to those suffering from epilepsy and from other forms of mental disease. With regard to habitual drunkenness it was proposed that after a separation order had been in force for three years, if the drunkenness continued and there was no evidence of any improvement, the husband or wife might petition for divorce. It was said on very high authority by those who had great experience of cases of this kind that from 90 to 95 per cent. of habitual drunkards died drunkards. Long experience had shown that if habitual drunkenness continued for three, four, or five years without evidence of improvement, there was no possibility or hope of cure, and it should be a ground for petition for divorce. On the third point, the position of the wife or husband of one who had been sentenced to death and reprieved, he said that there was nothing more distressing than that an innocent woman had to remain the wife of a convict for twenty or twenty-five years without any possible means of improvement. Lady Astor, while sympathizing with the position of those referred to by Lieut.-Colonel Raw, doubted whether relaxation in the divorce laws would help the great bulk of men and women in the country, and therefore voted against the motion. The Government left the House to express its opinion by vote as it thought fit, and on the division the motion was rejected by 134 votes to 91.

Treatment Allowances to Pensioners.—In reply to a question by Colonel Ashley, on April 14th, Major Tryon said that treatment allowances under Article 6 of the Royal Warrant set out in the revised Circular 204 were confined to cases in which the Ministry had certified that a man should undergo a course of treatment, and was in consequence rendered unable to support himself. They were not given as compensation for incapacity, whether total or partial, resulting from disablement. The provision of such compensation was the function of the disablement pension. If the principle of average assessment were questioned, it should be remembered that the only alternative was repeated reboarding at short intervals—a process which would be costly to the State and intolerable to disabled men. In reply to Lieut.-Colonel Guinness, on April 15th, Mr. Macpherson said that the administration of Article 4 of the Royal Warrant, under which a pension could be reduced for refusal to accept treatment, or for such misconduct as was deemed to constitute refusal, was in the hands of the regional Commissioners of Medical Services of the Ministry, to whom recommendations were made by the Local War Pensions Committees. The instructions given to the committees in the handbook and to the Commissioners of Medical Services were generally found to be satisfactory, and he did not consider that they needed to be amended. He was aware that the local administration of pensions in Ireland was beset with difficulties which were not experienced in other parts of the United Kingdom, but he was not aware that these difficulties related in any disproportionate degree to the men leaving an institution or being discharged for breach of discipline.

Medical Assessors.—Major Molson asked, on April 19th, whether, as the medical men employed as assessors on sessional rates were continuously employed for the same hours as the Medical Commissioners, the Minister of Pensions could see his way to pay them as equitably and allow them leave with pay and sick leave with pay. Major Tryon (Parliamentary Secretary to the Ministry of Pensions) replied it was not considered that medical assessors employed at sessional rates were inequitably paid. Their conditions of service were different from those of whole-time Medical Commissioners or Deputy Commissioners. The question of leave with pay could not arise in the case of men who were engaged on a sessional and not a salaried basis.

Medical Staff of the Ministry of Pensions.—Mr. Robert Young asked the Minister of Pensions, on April 19th, the number of naval and military medical officers of the regular services employed by the Ministry who were in receipt of pensions, and how many received pensions over £500 a year. Major Tryon replied that there were twelve regular naval or military men employed on a salaried basis in the Ministry in various parts of the country who were in receipt of pension in respect of naval or military service. Inquiry would be made as to the amount in each case.

Medical Examination for Government Employment.—Mr. Crooks asked, on April 19th, whether, in view of the physical deterioration consequent on the experience of the war, instructions would be given for discontinuance of the practice of medically examining the applicants for employment in the various Government departments. Mr. Baldwin (Financial Secretary to the Treasury) said that the Order in Council of March 22nd, 1918, adopted the recommendations of Viscount Gladstone's Committee (Cmd. 34) in regard to the conditions under which Civil Service certificates for permanent appointments should be issued to candidates whose health had been impaired by war service, and gave power to relax to a very great extent the ordinary physical standard for certification. The power of relaxation had been largely used, and he thought it would be generally agreed that these concessions went as far as could reasonably be expected.

The Provision of Artificial Limbs.—In reply to Mr. Alfred Davies, Major Tryon said that the number of pensioners in the North-Western Region with amputations of a leg and arm respectively was 3,550 and 1,500. All these pensioners had been fitted with artificial limbs. In addition there were about 140 serving soldiers who were not yet ready to be so fitted. The cost of maintaining the limbs in repair, both prior to the supply of the second artificial limb and after was borne by the Ministry of Pensions. The issue of second limbs had been proceeding steadily since last October.

Milk Adulteration.—In reply to Lieut.-Colonel Pinkham, Commander Eyres-Monsell, for the Minister of Agriculture, said that the warranty defence provisions of the Food and Drugs Act in the case of milk was amended by the Milk and Dairies (Consolidation) Act of 1915, but the operation of this Act was suspended during the war, and it was proposed to introduce legislation to amend it in certain particulars before bringing it into operation.

The Health of the People.—On April 14th Mr. Clough asked the Minister of Health a question on the report on the physical examination of men of military age by National Service medical boards. Dr. Addison replied that the report was only part of a mass of evidence indicative of the need for a reorganization and extension of public health services and for better housing, and it was impossible within the limits of a reply to a parliamentary question to set out all the steps to this end which had been taken or were in contemplation.

The Administration of Anaesthetics.—Mr. Gilbert inquired, on April 14th, whether, in view of the number of inquests held in London on persons who had died under anaesthetics, the Minister of Health would ask the Medical Research Council to inquire into the question of anaesthetics and their administration; and whether, if this could not be done, he would have the recommendations of the Home Office Departmental Committee of 1910 on the same subject put into practice. Dr. Addison replied that, having regard to the scientific investigations that had been made in comparatively recent years, he was not at present convinced that there was need for a further investigation of the character suggested, but he would give the matter his careful consideration.

Scotland.

GENERAL NURSING COUNCIL FOR SCOTLAND.

THE constitution of the General Nursing Council for Scotland, established by the Nurses' Registration (Scotland) Act, 1919, has now been completed. The Privy Council has appointed Captain Charles B. Balfour, C.B., Lord Lieutenant of Berwickshire, and the Scottish Education Department Miss Norah Milnes, B.Sc., Director of the School of Social Study in the University of Edinburgh. The Scottish Board of Health has appointed Dr. A. K. Chalmers, M.O.H. Glasgow; Dr. Katherine Clark, assistant medical officer, Edinburgh Education Authority; Dr. H. E. Fraser, Medical Superintendent, Royal Infirmary, Dundee; Colonel D. J. Mackintosh, C.B., M.V.O., M.B., Superintendent to the Western Infirmary, Glasgow; and nine nurses, including the lady superintendents of the Royal Infirmary, and the Royal Hospital for Sick Children, Edinburgh, and of the Royal Infirmary, Glasgow.

SMALL-POX IN GLASGOW.

Though the number of cases of small-pox in Glasgow is not large the prevalence has not ended; 6 fresh cases recently reported raise the total number in Glasgow since the outbreak began to 28, and there have been 2 cases outside the city boundary. One of the cases most recently admitted is an unvaccinated child. In a recent report Dr. A. K. Chalmers, M.O.H. for Glasgow, states that the cases have fallen into groups between which no connexion has been discovered. This fact, together with the occurrence of certain detached cases, suggests that the infection in some instances may have been derived from unrecognized cases among the population. In one group of 7 cases 2 were discovered before the first was recognized. The infection is believed to have been derived from a ship on which small-pox was known to have occurred; it reached the Thames on January 24th, and the stewardess, who was not herself known to have suffered from small-pox, reached Glasgow on January 25th; her parents sickened, the one eighteen days after the daughter's arrival, and the second fourteen days later. The first case of another group was a miner, who also carried on business as a fruit hawker, and went about his work until the eruption appeared on February 28th; his wife and two children, who had been removed to the reception house for observation, were transferred to hospital on March 16th and 17th respectively. In another small group the source of infection could not be traced. Two cases at Govan were sisters of a man who worked as a carpenter on a vessel which had arrived in London early in March from Alexandria; small pox is prevalent there, and several cases occurred on the voyage. The carpenter, as also another man, in whom, before the diagnosis of small-pox was made, malignant scarlet fever was suspected, died. Dr. Chalmers considers it established that unrecognized cases of small-pox are occurring among the population, most likely in mild forms, and thinks it probable that the patients are continuing their daily avocations. He states that since the passing of the Vaccination Act of 1917 the proportion of infants successfully vaccinated in Glasgow has continuously decreased, until at the present time probably no more than half the number born are protected, in place of about 84 per cent. before the passing of the Act. Little difficulty, he states, is being found in inducing those in whose neighbourhood cases are occurring to submit to vaccination. It is proposed to open the tuberculosis dispensaries in the evenings for the purposes of vaccination.

England and Wales.

TRAINING FOR BLIND, DEAF, AND CRIPPLED STUDENTS.

SCHOOLS for the blind have been provided and maintained by local education authorities since the passing of the Education Act of 1893, and the voluntary associations for giving employment to the blind now receive grants from public funds, in accordance with the regulations made in 1919 by the Ministry of Health. In draft statutory rules and orders,[1] issued under Section 44 of the Education Act, 1918, the Board of Education now makes provision for the linking up of these first and last stages in the training of the blind, and the conditions are set forth on which are dependent the payments of grants to training institutions, whether provided by local authorities or by voluntary agencies. As a rule, the pupils will be those who, at the age of 16, have left the special elementary schools, but others may be admitted, subject to the Board's approval. Care is to be taken that besides acquiring manipulative skill in his branch of training, the student shall receive such instruction in the commercial aspects of the trade (especially the source and cost of materials and the business of buying and selling) as will qualify him later on to acquire and conduct a business of his own. Provisions of similar nature are to be made for the deaf and crippled.

MEDICAL DINNER AT HARROGATE.

The first post-war annual dinner of the Harrogate Medical Society took place at the Prospect Hotel on April 15th, and was attended by some seventy medical men of Harrogate and district. Dr. W. Bertram Watson, President of the society, occupied the chair. The guests included Sir Berkeley Moynihan of Leeds, Dr. Bedford Pierce, President of the Medico-Psychological Association, Dr. W. H. Willcox, physician to St. Mary's Hospital, London, and the Mayor of Harrogate (Alderman J. Shepherd). After the loyal toasts, the Mayor, in reply to the toast of the Corporation, proposed by Dr. Solly, affirmed the willingness of the corporation to carry out the improvements necessary for the advancement of the town. Sir Berkeley Moynihan, in proposing the health of the Society, referred to the proposed institute for investigation, somewhat on the lines of Duff House, where patients exhibiting early errors of metabolism would find at their disposal the best pathologist, radiographer, and biochemist they could get. He hoped the scheme would shortly materialize, as it was a long-felt want, for team work was essential to-day. Harrogate was extraordinarily fortunate in the opportunities for research. The President, in reply, said that the Society now numbered eighty-six members. The keynote of medical work must be increased efficiency; the founding of the new institute was a great step forward. The toast of the Visitors, proposed by Mr. Frankling, was responded to by Dr. Bedford Pierce and Dr. Willcox; the latter, in the course of his remarks, said he would look forward to seeing the Royal Bath Hospital with its 160 beds fully equipped as a model for scientific research for the benefit of each patient. In the course of the evening the Gordon Black Golf Cup was presented to Dr. H. P. Thompson by the donor. The proceedings terminated with a vote of thanks to the President, proposed by Dr. David Brown.

NORTH OF ENGLAND EDINBURGH UNIVERSITY CLUB.

The annual dinner of the North of England Edinburgh University Graduates' Club, which had been in abeyance since 1914, was held on April 13th at the Central Station Hotel, Newcastle. The President of the Club, Professor T. Eustace Hill, M.O.H. for Durham, was in the chair, and the guest of the evening was Dr. Claude B. Ker, Medical Superintendent of the City Hospital, Edinburgh. The toast of Alma Mater, proposed by the President with musical honours, was responded to by Dr. C. B. Ker in a racy speech full of reminiscences of past and present teachers in the Edinburgh School. Later in the evening he delighted the gathering with a recitation of the "Hunky Kid" in his own inimitable style. The toast of the sister universities was proposed by Mr. Robert Pybus, M.A., and responded to by Professor W. E. Hume. During the course of the evening songs were contributed by Mr. J. Duncanson and Mr. T. Edwards. The dinner was very successful and was much enjoyed.

[1] Cmd. 653. Price 1d.

THE report of the Fuel Research Board of the Department of Scientific and Industrial Research for the years 1918 and 1919 has been placed on sale and can be obtained through any bookseller, price 1s. 6d., or direct by post from H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2, price 1s. 8½d. Among the subjects dealt with are air pollution, domestic heating, and alcohol as fuel.

Correspondence.

TUBERCULOSIS AS AFFECTED BY THE WAR.

SIR,—Are we not rather tending to emphasize unduly the effect of the war on the incidence of tuberculosis in this country? Press allusions are frequent to "alarming results" in this direction. In the JOURNAL of last week there are two references of the kind.

What are the facts? A certain increase in mortality from tuberculosis has been recorded for England and Wales during the period. The increase is not equal in distribution or universal. In some parts of the country the contrary is the case—there has been a decrease.

In Scotland the mortality "from all forms of tuberculosis" and "from pulmonary tuberculosis" has fallen notably since the outbreak of the war up to the end of 1919. The Registrar-General's figures show:

Death Rates per 100,000 of the Population.

	From All Forms.	From Pulmonary Tuberculosis.
1913 ...	... 170 ...	 108
1919 ...	... 129 ...	 88

It is particularly to be noted that during 1919 there has been a phenomenal drop in both columns—namely, from 158 (1918) to 129 per 100,000 in the one case and from 107 (1918) to 88 per 100,000 in the other. A similar remarkable drop during the past year is recorded from New York State.

In the face of such evidence the alarmist attitude seems hardly justifiable or helpful.—I am, etc.,

Edinburgh, April 18th. R. W. PHILIP.

THE TREATMENT OF CANCER OF THE UTERUS.

SIR,—Dr. Herbert Spencer's humour lacks neither robustness nor avoirdupois. But it is inopportune.

In England and Wales alone 4,000 women a year die of cancer of the uterus. What are we going to do about it? A leader writer in the principal organ of medical opinion in this country, despairing of what he imagines to be the results of radical operative treatment, bids us pause and contemplate three fortunate results that followed a sort of operation (which, by inference, Dr. Spencer in his paper condemned), and asks us to listen to the note of confident hope from certain foreign radium "merchants." I cannot understand the psychology of any one who can affect gladness at the pronouncement.

A considerable number of observations have been made in this country and abroad on the frequency with which the parametrial tissues are invaded in operable cases of cancer of the cervix. In from 50 to 70 per cent. these tissues are found to be involved, whilst the pelvic glands show cancerous deposits in at least one-third of the cases. Further, in an appreciable number of cases the pelvic glands are affected where the parametrial involvement has escaped detection. The figures relating to the parametrium are, beyond doubt, understatements, for the obvious reasons that it is impossible for anybody to examine microscopically the whole of the parametrial tissues or to be sure of recognizing isolated cancer cells. No man can palpate a solitary cell in a lymphatic vessel, and a single cancer cell left behind may be responsible for the recurrence. In fact, it is doubtful if any gynaecologist could recognize by palpation even a million such cells distributed through the parametrium. Such being the case, we can appreciate the absurdity of the claim to be able to select for operation cases of cancer of the cervix at such an early stage that lymphatic dissemination has not yet occurred. If, then, the surgeon does a kind of operation that cannot possibly encompass these danger zones and the patient remains free from recurrence, what is such a "proud result" to be called? "Luck" is my name for it. Perhaps Dr. Spencer can supply a more fastidious designation?

But, some may say, granting the pathological conditions are such as you describe (and none can seriously dispute them), what about the mortality of the radical operation? The more restricted the operation the lower is the operative mortality but the higher the recurrence mortality. Which would you choose if you were the patient—to have a 2 to 3 chance of absolute cure and run the risk of not surviving the extended operation, or to survive the restricted operation and have the odds of at least 30 to 1 against the possibility of cure, to live through weeks of anguished waiting for the sure but laggard footsteps of remorseless death? The answer is not doubtful.

The successful treatment of cancer in general demands a knowledge of the broad facts of surgical pathology and the most exacting surgical technique. The better the latter, the lower the operative mortality.—I am, etc.,

Pathological Laboratory, The Cancer Hospital, S.W., April 19th. ARCHIBALD LEITCH.

DENTAL CARIES AND ORAL OSMOSIS.

SIR,—You have done me the honour of criticizing my theory, and I am very pleased to see my name in your famous journal.

That in a conservative country like England a new theory must be beaten is evident. Why? Of course, because it is new. But the matter is a little different in this case. A new theory of the population of Jupiter or the currents of the Arctic Sea can be crushed or favourably taken up, and the world moves on without any perceptible disturbances. But in this case, as said, the matter is somewhat different. Every year that the dental and medical world embraces the carbohydrate theory means that millions of British children lose many millions of teeth with its social and individual consequences.

For, you must confess, the hypothetical knowledge of the origin of dental caries being caused by lodging fermented carbohydrates has in no direction helped us to stop the increasing wave of decay.

Certainly you will also agree with me that it is easier to crush a theory than to smoke a cigarette, and you will also agree that the usual way of doing this is to carefully avoid or extract the strong points and concentrate upon any weak or subordinate facts.

I adduce a series of proofs showing the untenability of Miller's theory. As I have said in the critique of the chapter in question, some of these proofs are weaker, others are stronger. You skip all the irrefragable ones and take up only the weakest, citing that I "triumphantly point to the cessation of the carious process after burial as a proof of the innocence of the bacteria, ignoring the lower temperature and absence of food supply." But how is this explained in my book?

It is a singular fact that whereas the body, buried in the earth, will quickly be completely annihilated, the teeth, on the contrary, offer for many thousand years a resistance against decomposition. Among these teeth some may also be carious. Death has stopped instead of hastening the decomposition of the teeth, whereas, in conformity with the hypothetical chemico-parasitic theory, we should have expected the contrary, independently of the question if parasites or saprophytes are the cause of the annihilation. The destruction of the teeth seems, consequently, to be dependent upon a natural power which is irrespective of the common chemical nivelation process of animal life.

As you see, you have quite misunderstood my meaning. In this connexion you further accuse me of turning "a blind eye to awkward facts," and refer this to bacteriology. I do not agree with you that medical science has a correct idea of the bacteriological principles and the relationship between bacteria and disease.

To a medical man bacteria and disease are, as a rule, synonymous. And to him bacteria are the origin of a disease. But a scientist in biology has a somewhat different opinion. To him the matter presents itself as follows: We have inside and outside the body millions of micro-organisms, perhaps twenty to thirty of which are injurious, and this under quite special circumstances only. These circumstances just involve the rather or partially unknown factor which makes it possible for microbes to enter the body, where the micro-organisms are thus the *secondary* factor. In my theory you get detailed proofs of what it is in teeth that forms the base for the micro-organical invasion, which also there is a secondary factor. I never said that caries is independent of bacteria.

You write: "We would, however, prefer to adopt the generally accepted opinion that it is only in later stages of decay that a discoloured tract extends to the pulp." You thus "prefer to adopt" my discovery proven by plenty of sections and easily controlled by everybody who wishes to find the truth, as a fancy, and why? Because in this easy way you will be able to disregard disagreeable facts.

My claim as to symmetrical caries being inexplicable under the carbohydrate theory you simply turn to the

favour of this latter theory, saying that the symmetrically appearing caries gets its natural explanation from "symmetrically" lodging food. If you will kindly re-read the chapter in discussion you will certainly find that the cases I relate absolutely exclude any possibility of ascribing them to "lodgement of germs and carbohydrates." You quite misunderstand my figure of caries spread along the interglobular layer. I have—well to observe—given this plate of caries without the plasmoid canal. A broad carious attack must, however, have a correspondingly broad plasmoid canal, which is invariably the case. I quite understand your joy in being able to invent, instead of the disagreeable name "osmosis," such a happy sentence as "merely an expression of the normal life-activity of the dentine." But my claim that osmosis is the principal factor of caries is the result of careful experiments.

Crystalloid sugar you cannot reckon to carbohydrates, and its power, if any, of forming acids is minimum, and yet you must agree that sugar is the principal caries devastator in human teeth. How will you explain this?

Finally, I once more repeat that the careful study and acceptation of my theory will be of benefit by saving millions of teeth to the British nation.—I am, etc.,

Malmö. RAGNAR ECKERMANN, Dr.Sc., L.D.S.Malmö.

*** Our reviewer writes that he must abide by the opinion of Mr. Eckermann's theory expressed in the review and that he has looked for but failed to find the caries canals, on the presence of which so large a part of Mr. Eckermann's theory depends.

CARCINOMA OF THE THYROID.

SIR,—Malignancy of the thyroid gland, whatever the type, is rare. Mr. A. J. Blaxland's case of adeno-carcinoma of the thyroid gland (March 27th, p. 454) is interesting, both from the point of view of the patient's age and the early recognition and so far successful eradication of the growth.

The common age of appearance of these tumours is about forty years, and the appearance of a hard swelling in the thyroid gland of a patient forty years and upwards which gradually increases in size should always arouse a suspicion of malignancy.

Unfortunately it has never been my experience to come across a case of adeno-carcinoma of the thyroid gland in which operation could be said definitely to have effected a cure. The early involvement of the trachea and surrounding structures in this situation as the growth becomes extracapsular, renders this type of tumour perhaps the most difficult of any to eradicate. Indeed the earliest symptom may be cough and a blood-stained expectoration caused by ulceration of the growth into the trachea.

A very early recognition before the growth has become extracapsular is the clue to successful eradication, and on the first the prognosis will depend. Mr. Blaxland's Case I, so far, well illustrates this point.

Some years ago I saw two cases of adeno-carcinoma of the thyroid gland. The patients were in a Poor Law institution, and some weeks previously what proved to be unsuccessful attempts had been made to remove the growths. Recurrence had taken place in the operation wounds of both and advanced malignant manifestations were present, in that nerves were involved causing pain of a most intolerable kind, the wounds were fungating and foul, dyspnoea was a conspicuous symptom and dysphagia was present in one of them. The facies, portraying fear of suffocation, coupled with the physical pain these two poor creatures endured, formed a picture of human suffering never to be forgotten. One died from septic pneumonia as a result of ulceration of the growth into the trachea, whereas a brisk secondary haemorrhage mercifully and rapidly ended the other's suffering.

Glandular involvement in these cases I have found to be a later manifestation, and in this respect differs from the papilliferous carcinomas. Its occurrence is of very bad omen.—I am, etc.,

Bradford, March 29th. BASIL HUGHES.

AORTITIS AND AORTIC REGURGITATION.

SIR,—The record of a case published in the issue of your contemporary the *Lancet* of April 10th tempts me to comment upon the paper by Dr. MacIlwaine dealing with the connexion of syphilitic aortitis with aortic regurgitation (BRITISH MEDICAL JOURNAL, March 27th p. 428).

The case recorded by Dr. W. Gordon in the *Lancet* is one in which a case of aortic regurgitation of rheumatic origin lasted for thirty years. Although this is exceptional even for a rheumatic case, it illustrates the less serious nature of aortic regurgitation of rheumatic origin compared with that of aortic regurgitation following aortitis. One important detail of the morbid anatomy of aortic regurgitation following aortitis has possibly not been sufficiently noted by Dr. MacIlwaine. This is the disease of the cardiac muscle which follows interference with the circulation through the coronary arteries, the orifices of which are almost invariably seriously obstructed by the disease of the aorta. It is this disease of the cardiac muscle which entails the risk of sudden death, and also, it may be mentioned, gives rise to the pain on the presence of which Dr. MacIlwaine lays stress.

It should be stated, perhaps, that in cases of aortic regurgitation of rheumatic origin the cardiac muscle often shows considerable disease—more, it seems to me, than can be accounted for by previous rheumatic myocarditis. While this is so, it is in the cases of aortic valvular disease associated with syphilitic aortitis that disease of the cardiac muscle is of predominant importance.—I am, etc.,

Norwich, April 11th. THEODORE FISHER.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—With your indulgence I would remind Dr. Baskett that during the war a considerable number of beds in our civil hospitals were reserved for sick and wounded soldiers, and would explain to a large extent the unwonted run on Poor Law beds, and I would also remind him that times of stress are not entirely confined to the shiftless.—I am, etc.,

H. W. FREER, M.R.C.S.Eng.,
Colwyn Bay, April 14th. L.R.C.P.Lond.

WAR HONOURS.

SIR,—I believe every third man called up for military service will receive a pension or some equivalent form of compensation. Then there are those who have had bestowed upon them medals or letters of distinction after their names. Again, of the civil honours already conferred the daily papers remind us how liberally these have been distributed. The long chain of organization in the execution of this great war needed all the acumen, intelligence, skill, and ingenuity in piecing its links together. They gave way repeatedly, but were fearlessly adjusted. And as each broken link was renewed the strain of the pull seemed strengthened. We learnt the power of its resistance when the final effort came. It was not one, two, or more links which gave this vim to the organization of the chain, but it was the one long piece of machinery—British grit. And thus the enormous difficulty of the Government in bestowing their war honours. Everyone, then, appears to be entitled to a reward, monetary or other, and, if in one case, so in hundreds of other professional men—are they not worthy of war honours?

In serving at the home front, for I was beyond military age, I systematically released my professional brethren in a large city for the period of the war. But what is doubly interesting to me, as an old member of the British Medical Association, I was able to help support a professional front. And in reviewing the cement of our professional work, I find that the "pointing" shows no cracks. Professional rivalries, disputes, jealousies, and whispered confidences have linked themselves together into a solid unbroken chain. I have received my war honour at a professional dinner in this city in which members rose remarking, "not only has my practice been kept together, nay it has been improved." Again, the chief medical officer writes me: "What you have done in the borough during the last four or five years has won you the esteem of the profession."—I am, etc.,

April 17th. ANOTHER WHO WAS OVER AGE.

THE Civil Governor of Madrid has made vaccination against small-pox and enteric fever compulsory for all the inhabitants.

INTERNATIONAL HEALTH CONFERENCE.

THE delegates attending the International Health Conference held at the Ministry of Health last week were the guests of the Government on April 15th at a luncheon given at the Carlton Hotel, London. The Minister of Health, Dr. Addison, presided.

The Conference was convened by Dr. Addison at the request of the Council of the League of Nations. Its first purpose was to consider the constitution of an International Health Office under the League, an idea roughly parallel to that of an International Labour Office under the League. Although the Covenant of the League did not provide for the establishment of an International Health Office in quite the same way that it provided for the establishment of an International Labour Office, nevertheless the Covenant clearly contemplates such an office, and it was in the knowledge that it would meet with sympathetic support from other nations of the League that Dr. Addison took the initiative and convened a preliminary informal Conference in July, 1919, which has been followed by the formal Conference last week.

A second purpose of the Conference was to discuss and advise as to measures to be taken in connexion with the typhus outbreak in Poland. Poland lies between the West of Europe and the typhus epidemic which is now raging in Russia. The country is without sufficient means to establish any satisfactory barrier against the spreading westwards of that disease. Not only is there difficulty owing to the indeterminate state at present of Poland's eastern boundaries, but there are the difficulties also arising from lack of medical personnel, sanitary stores, and money. The Conference discussed how best these difficulties might be met in the interests not only of Poland but of all Europe alike. The chairman of the Conference was Viscount Astor. The delegate representing Great Britain was Dr. G. S. Buchanan, C.B., with Dr. Steegmann as technical adviser. Sir George Newman, K.C.B., attended when his other engagements permitted, but the British vote was given by Dr. Buchanan.

The Services.

R.A.M.C. FUND AND OFFICERS' BENEVOLENT SOCIETY.

THE annual general meeting of the Royal Army Medical Corps Fund (Regular Army) will be held in the Library of the Royal Army Medical College, Grosvenor Road, S.W., at 2.30 p.m. on Monday, June 14th. The Director-General will preside. It is hoped that all subscribers who can spare the time will be present and will freely express their views on any point connected with the fund.

The annual general meeting of the Royal Army Medical Corps Benevolent Society (Regular Army) will take place immediately afterwards.

Any officers desiring information regarding these funds are requested to communicate with the Secretary, Lieut.-Colonel E. M. Wilson (76, Claverton Street, S.W.1, Tel. Victoria 2722), beforehand, so that there may be no delay in dealing with any questions asked.

R.A.M.C. CENTRAL MESS FUND.

THE annual general meeting of subscribers to the Royal Army Medical Corps Central Mess Fund will be held in the Library of the Royal Army Medical College on June 14th, following immediately that of the Royal Army Medical Corps Officers' Benevolent Society. Officers desiring information about this fund are asked to communicate with the Honorary Secretary beforehand, so that there may be no delay in dealing with any questions which may be asked. Notice of any definite proposal which it may be desired to bring forward should be sent to the Honorary Secretary, Captain J. T. Clapham (3, Homefield Road, Wimbledon, S.W.; Tel. Wimbledon 750), in order that it may appear on the agenda paper.

The annual corps dinner will take place the same evening at the Wharncliffe Rooms, Great Central Hotel, at 7.30 p.m. A separate notice will be issued.

UNITED SERVICES MEDICAL SOCIETY.

THERE will be a meeting of the United Services Medical Society in the Library of the Royal Army Medical College, Grosvenor Road, S.W., at 3.30 p.m. on May 28th, 1920, to discuss the proposed amalgamation of the Society with the War Section of the Royal Society of Medicine.

A PENSIONS HANDBOOK.

THE *Local War Pensions Committees' Handbook*, which consolidates the circulars and instructions issued by the Ministry of Pensions, other than those concerning the functions of the Special Grants Committee, has now been placed on sale (price 2s.) by H.M. Stationery Office. It is arranged in five parts, corresponding with the main divisions of the work of the Local Committees; it replaces the Instructions for the Assessment of Alternative Pensions, 1917, Instructions and Notes on the Treatment and Training of Disabled Men, 1917, Instructions on the Treatment of Disabled Men, 1918, and Ministry of Pensions Circulars issued prior to January 1st, 1920. Among the Appendices is the complete text of the Royal Warrant of December 6th, 1919, under which soldiers' pensions are awarded. This handbook should be of value to Local Committees and medical officers, and facilitate the working of Pensions administration.

Universities and Colleges.

UNIVERSITY OF GLASGOW.

THE History of Medicine Prize, value about £50, will be awarded for the best essay on some subject in the history of the science or practice of medicine, other than a subject of recent development in some limited branch thereof. Candidates must be graduates of the university. A work on the history of medicine, published by a candidate within the years 1919, 1920, and 1921, will be admissible.

Faulds Fellowships.

Regulations for the Faulds Fellowships instituted under the will of Mr. W. B. Faulds, writer, in Glasgow in the faculties of Arts, Medicine, Divinity, and Law respectively have been approved. A fellowship will be awarded by the Senatus, on the recommendation of the Faculty concerned. In considering the applications of candidates the Faculty will take into account the candidate's general academic record, the evidence of his capacity for advanced study inquiry or research, and the results of any independent work, published or unpublished, which he may have undertaken. The Faculty may, if it thinks fit, arrange for such trial and oral or practical examination as it may deem necessary to distinguish between candidates of apparently equal merit. Each Fellow must devote himself to a branch of advanced study, inquiry, or research recommended by the Faculty, which may appoint one of its number or a lecturer of the university to be responsible for the general direction of the Fellow's work and to make an annual report on its progress. A Fellow may be required to deliver lectures or otherwise assist in the public teaching of the Faculty in a subject connected with his special work, but may be authorized to carry on his work, during one year, elsewhere than at the University of Glasgow. No Fellow must engage in professional work or practice or any other occupation during his tenure of office, save with the express permission of the Senatus, which shall not be granted unless found expedient in the interest of his work as Fellow. Candidates for the fellowship in medicine must be men who have within the three academical years immediately preceding the award completed the medical curriculum by passing the final professional examination required for graduation and taken the degrees of M.B., Ch.B.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY council was held on April 8th, when Sir George Makins, president, was in the chair.

Election to the Fellowship of Members of Twenty Years' Standing.—The following were elected: Henry Alexis Thomson, C.M.G., Professor of Surgery in the University of Edinburgh; Wilfred Thomason Grenfell, C.M.G., Superintendent of the Labrador Medical Mission of the Royal National Mission to Deep Sea Fishermen.

Donations.—The thanks of the Council were given to Sir C. Kirkman Finlay for presenting, through Mr. J. G. Turner, F.R.C.S., the skulls of twenty Burmese and four Chinese, who were executed in gaols in Burmah. Thanks were given also to Sir Rickman Godlee for presenting the original drawings which he made for his *Atlas of Human Anatomy*, 1880; and the calvaria of the patient he trephined in 1884 for the removal of a cortical tumour—the first operation of its kind.

The late Mr. George Arthur Wright.—A vote of condolence was passed on the death of Mr. George Arthur Wright, who died March 23rd at the age of 68, and who was a past member of the Council.

Three vacancies on the Council of the Royal College of Surgeons of England will be filled on Thursday, July 1st. The retiring members are Sir Anthony Bowlby, Mr. W. Harrison Cripps, and Sir D'Arcy Power. Mr. Cripps is not seeking re-election, the other two retiring members are coming forward again.

The constitution of the Council at present is as follows:

President. — Sir George Henry Makins, G.C.M.G., C.B., (1) 1903, (2) 1911, P. 1917.

Vice-Presidents.—Sir Anthony Alfred Bowlby, K.C.B., K.C.M.G., K.C.V.O., C. (1) 1904, (2) 1912; Sir John Bland-Sutton, C. (1) 1910 (2) 1918.

Other Members of Council.—William Harrison Cripps, C. (1) 1905 (substitute till 1908), (2) 1909, (3) 1917 (substitute till 1920); Sir Charters James Symonds, K.B.E., C.B., C. (1) 1907, (2) 1915; Mr. William Frederick Haslam (Birmingham), C. (1) 1908, (2) 1916; Sir Charles Alfred Ballance, K.C.M.G., C.B., M.V.O., C. (1) 1910, (2) 1914; Sir D'Arcy Power, K.B.E., C. 1912; Sir Berkeley G. A. Moynihan, K.C.M.G., C.B. (Leeds), C. (1) 1912 (substitute till 1919), (2) 1919; Mr. James Ernest Lane, C. 1913; Mr. Holburt Jacob Waring, C. 1913; Sir William Thorburn, K.B.E., C.B., C.M.G. (Manchester), C. 1914; Mr. William McAdam Eccles, C. 1914; Mr. Charles Ryall, C.B.E., C. (1) 19 4 (substitute), (2) 1915); Mr. Walter George Spencer, O.B.E., C. (1) 1915 (substitute), (2) 1918; Mr. Frédéric François Burghard, C.B., C. 1915 (substitute till 1921); Sir Herbert Furnivall Waterhouse, C. 1915; Mr. Thomas Horrocks Openshaw, C.B., C.M.G., C. 1916; Mr. Raymond Johnson, O.B.E., C. 1916; Mr. Vincent Warren Low, C.B., C. (1) 1916 (substitute), (2) 1917; Mr. James Sherren, C.B.E., (1) 1917; Sir John Lynn-Thomas, K.B.E., C.B., C.M.G. (Cardiff), C. 1918 (substitute till 1925); Mr. Ernest William Hey Groves (Bristol), 1918; Sir Cuthbert Sidney Wallace, K.C.M.G., C.B., 1919.

The medical schools are represented as follows:

London:	
St. Bartholomew's	5*
Charing Cross	1
Guy's	1
King's College	1
London	2
Middlesex	1
St. Mary's	2
St. Thomas's	3
University College	1
Westminster	1
Special London Hospital	1
Total London	19
Provincial:	
Birmingham	1
Bristol	1
Cardiff	1
Leeds	1
Manchester	1
Total Provincial	5
Total Council	24

* Out of the five, two offer themselves for re-election this year and one retires.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

Representative on General Medical Council.

AT the monthly meeting of the Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow, on April 12th, Dr. James Alexander Adams, Senior Surgeon to the Glasgow Royal Infirmary, was elected the Representative of the Faculty to the General Medical Council for the period of five years. Dr. Adams succeeds Dr. D. N. Knox, who has resigned on the ground of ill health. Dr. Knox held the office for twelve years.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FINAL EXAMINATION.—*Medicine:* D. C. Scotland, T. Poole, J. Stevenson, T. A. du Toit, J. S. Durward. *Surgery:* J. MacGlashan, J. S. Durward, J. H. Bain. *Midwifery:* W. S. Patrick, D. C. Scotland, A. Cuthbertson, T. Poole, W. W. Glucksman, H. W. Whytook, J. MacGlashan, W. G. Carew, A. J. Vakil. *Medical Jurisprudence:* J. G. Collee, R. E. Hopton, J. Hagard, Alexandra M. Limont, R. G. Clouston, Pauline Figdor, Gracie O. D. Evans, A. W. Smith.

The following candidates, having passed the Final Examination, have been admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. and S.G.

A. C. Lornie, H. Barlow, R. C. Dow, W. Grant, R. Smith, G. S. Barnett, O. Fitzpatrick, G. H. S. Lindsay, H. Cohen, F. P. McN. Clarke, G. M. Kerry, A. S. Paranjpe, E. Isserow, J. F. E. Burns.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE President, Vice-President, and Council have elected Professor G. Elliot Smith, M.A., M.D., F.R.C.P., F.R.S., to the Mary Louisa Prentice Montgomery Lectureship in Ophthalmology. The subject of his first lecture will be "The influence of stereoscopic vision on the evolution of man." The lecture will be given in October, 1920.

Obituary.

JOHN BATTY TUKE, M.D., F.R.C.P.EDIN.,

New Saughton Hall, Midlothian.

DR. JOHN BATTY TUKE, who only survived his distinguished father, Sir John, by some seven years, died in a nursing home in London on April 11th. It was known that he was suffering from a serious disease, but the end came unexpectedly early. He was born in 1860, and after passing through the Edinburgh Academy graduated M.B., C.M.Edin. in 1881, and took the degree of M.D. in 1890; he was elected a Fellow of the Royal College of Physicians of Edinburgh in 1889. He first acted as assistant medical officer to the Royal Lunatic Asylum at Montrose, and then as resident clinical assistant to the West Riding Asylum, Wakefield. Thereafter he was associated with his father in the management of the asylum near Edinburgh, first at Saughton Hall (now converted into the beautiful Gorgie Public Gardens), and then at New Saughton Hall, near Polton, Midlothian; latterly he was superintendent in the last-named institution, and had consulting rooms in Edinburgh. He published articles dealing with mental disease, notably a paper on "Recovery after seventeen years' continuous residence in an asylum," and another on "Divorce and insanity," both in 1913. Dr. Batty Tuke was an unassuming man, doing his day's duty silently and well, and he leaves many friends in the profession who will miss him much.

EDWIN ALLAN MALING, M.R.C.S.,

Darlington.

ON April 12th there passed peacefully away, at the ripe age of 81, at Blackwell Hall, Darlington, Mr. E. A. Maling. It is given to few men to lead such a busy, happy, and successful life as his. He was the representative of a well known Sunderland family; his father, Mr. E. Haygarth Maling, was surgeon to the Royal Infirmary, and the founder of the Durham County and Sunderland Eye Infirmary. Mr. E. A. Maling was educated in the Grange School, Sunderland, and King's College Hospital, London. He was the house-surgeon of the Royal Infirmary, Sunderland, for five years from 1860. In those days infectious diseases were received in the general wards, and for some months he attended, practically single-handed, many cases of small-pox and typhus fever during severe epidemics in the town. On leaving the infirmary Mr. E. A. Maling was a partner for ten years of Mr. George Welford, the first surgeon in the North of England to perform ovariotomy successfully. Later he was appointed an assistant surgeon and then full surgeon to the infirmary, a post which he resigned in 1892 in order to make way for his then partner, Mr. John Whitehouse, F.R.C.S., who unfortunately died in November, 1893. From 1892 Mr. E. A. Maling held the post of honorary consulting surgeon. During his surgeoncy Mr. Maling's biggest operation was the amputation of the entire upper extremity of a man for sarcoma of the scapula, which was an operative success. From 1894 to 1903 his partner was Mr. William Robinson, F.R.C.S., the present senior surgeon to the Royal Infirmary.

For forty years Mr. Maling was one of the best known medical men of the town and district; his brisk step, his courteous manners, genial disposition, cheery voice, even temper, and constant readiness for work made him one of the busiest practitioners of the North of England in his day, and although he retired from practice in December, 1903, and went to live in the country, hundreds of his old patients look upon his decease as the loss of a constant friend. Though reserved in speech, Mr. Maling was an excellent judge of character, and his great experience and sound judgement made him a rapid diagnostician. For forty years Mr. Maling was a J.P. for the County of Durham, and for many years past he was chairman of the Sunderland County Bench. He was a keen fisherman.

Mr. Maling married a daughter of the late Mr. James Hartley, for some time M.P. for the borough of Sunderland, who survives him. There are also three sons and three daughters left to mourn his loss. His youngest son, George A. Maling, B.M.Oxon., gained the V.C. early in the war whilst in the R.A.M.C. Mr. Maling read his BRITISH MEDICAL JOURNAL to the last.

DR. GUTHRIE NEVILLE CALEY, of Ealing, who died a short time ago, after an operation, was 58 years of age. He was educated at Durham University and St. Mary's Hospital, took the M.R.C.S. and L.R.C.P.Lond. in 1885, and graduated at Durham M.B. with honours, and M.S. in 1886, and M.D. in 1888. After serving as house-physician, house-surgeon, and ophthalmic clinical assistant at St. Mary's, he went into private practice, and settled some one-and-twenty years ago at Ealing, where he gradually built up a large practice, till at the time of his death he was generally regarded as the leading medical man in the town, and had a large consulting practice. During the war he was consulting medical officer to the Ealing auxiliary military hospital. He was greatly overworked in the later years of the war, when most of his juniors were absent on military service.

Medico-Legal.

AN ABORTIONIST SENTENCED.

THE trial was held last week at the Central Criminal Court, before Mr. Justice Shearman, of Devi Dayal Sasun, L.R.C.P. and S.Edin., L.R.F.P.S.Glasg., of Brady Street, Bethnal Green, for the murder of a young single woman. Sir Richard Muir for the prosecution said that the accused was a panel doctor with 3,600 patients, and was well known in the East-end of London. The allegation was that the woman died as the result of an illegal operation performed by the prisoner for a fee of £10. The prosecution submitted that her body was carried downstairs from his surgery by Dr. Sasun and deposited under an archway. The prisoner himself went up to some policemen in the early hours of the morning and told them "there is a woman lying drunk under the archway," and he accompanied them to the archway. Prisoner's object, said counsel, in calling the attention of the police to the body would perhaps be plain when the jury heard that Dr. Sasun, being the first person to discover the woman, would have been called by the coroner to give evidence and to make a *post-mortem* examination; there could be no safer way for him to get rid of the body and of any suspicion that might attach to himself. Dr. Spilsbury gave evidence that, in his opinion, death was due to shock following an illegal operation. Such occurrences were very rare, but during his long practice he had known of five instances. The prisoner, in the witness box, gave his version of the woman's visit to him and of the finding of the body. Mr. Curtis Bennett, K.C., for the defence, called Dr. Russell Andrews, Dr. Comyns Berkeley, and Dr. Fairbairn, who gave evidence voluntarily; they disagreed with the evidence for the prosecution that death occurred from shock in the circumstances stated. Dr. Fairbairn said that death from shock under such conditions was so rare that it was without his knowledge. The jury acquitted the prisoner of the charge of murder, but found him guilty of manslaughter. Sir Robert Muir said there was another indictment on the file charging Sasun with performing illegal operations on three separate women on different dates, but the judge did not think it necessary to proceed with that charge. A detective inspector stated that he found in the prisoner's safe a large number of documents signed by women, that he took statements from 116 of the women whose names and addresses were on the documents, and that as a result of his inquiries it appeared that abortion had been performed or attempted on all these women. In reply to the judge, he expressed the opinion that prisoner had been carrying on such practices for about fifteen years. In passing sentence of ten years' penal servitude, Mr. Justice Shearman said it was clear to him that Sasun had been a professional abortionist. He had perhaps been a little unlucky in this case because death had resulted, and they did not know whether death had resulted before or not. It was a very bad case.

Medical News.

THE Memorial Brass and Bed to thirty old students of Sir Patrick Dun's Hospital, Dublin, who fell or died on active service, subscribed for by their comrades who also served in the war, are now nearly ready. A circular was sent to 415 old Dun's men who were on active service concerning this memorial, but it may not have reached some. Any who may wish to subscribe will please accept this notice, and communicate at once with the honorary secretary at the hospital.

A POST-GRADUATE course on spa treatment will be held in Bath during June; it has been arranged in conjunction with the Fellowship of Medicine and Post-Graduate Medical Association. It will comprise clinical lectures, demonstrations, and visits to hospital wards during the early part of each day and a lecture each afternoon. The course will open on Monday, June 7th, when an introductory lecture will be given by Dr. Cave, and there will afterwards be a reception at the Royal Mineral Water Hospital. The course will conclude on Saturday, June 19th. An exhibition of *x*-ray photographs, microscopic and pathological specimens, and bacteriological cultures will be open on each day during the course. Further particulars can be obtained from the secretary, Dr. R. G. Gordon, 6, Queen Square, Bath.

A REUNION dinner of those who served with the 1st London (City of London) General Hospital, including its sections and auxiliaries, will be held in the Wharncliffe Rooms, Hotel Great Central, Marylebone Road, N.W.1, on Wednesday, May 12th, at 7.30 p.m. Tickets, price £1 1s., can be obtained before May 7th from the honorary secretary, Lieut.-Colonel W. McAdam Eccles, 124, Harley Street, W.1. Evening or service dress will be worn.

A POST-GRADUATE course of instruction, for qualified medical women, in the treatment of venereal diseases has been arranged jointly by the London (Royal Free Hospital) School of Medicine for Women, the Royal Free Hospital, the Elizabeth Garrett Anderson Hospital, and the London Lock Hospital. The fee for the course, which commences on May 17th at 5 p.m., and concludes on Saturday, May 29th, is 5 guineas. The course will be repeated during the second fortnight of September, beginning Monday, September 13th. Applications should be addressed to the Warden and Secretary, London School of Medicine for Women, Hunter Street, Brunswick Square, W.C.1.

A COURSE of forty lectures on tuberculosis has been arranged at the Medical School, Royal Chest Hospital, City Road, E.C.1, commencing on Monday, May 3rd, and terminating on Friday, June 25th. The fee for the course is 5 guineas.

A 23rd Divisional medical dinner will be held at Oddenino's, Regent Street, London, W., on June 5th, 1920, at 7.15. All ex-medical officers of the above division who wish to attend are requested to send their names (with remittance of 15s. for dinner, exclusive of wine) to Major W. J. Pearson, New University Club, St. James's Street, London, W. Names should be submitted by May 20th.

THE proposal to convert the Medical Sickness, Annuity, and Life Assurance Friendly Society into a company limited by guarantee under the Companies Acts was confirmed at a second extraordinary general meeting held at 11, Chandos Street, W., on April 16th. The reasons for the change were explained in the report of the first extraordinary general meeting published in our issue of April 3rd, p. 475.

INFLUENZA was made notifiable in Vienna at the end of last January.

DURING December, 1919, 1,093 fatal cases of plague occurred in Java.

PROFESSOR ENRICO MORELLI, founder and editor of *Il Policlinico*, died on February 13th.

THE Académie de Médecine has recently elected M. Guillain to be a member, and MM. Truc of Montpellier, Imbert of Marseilles, Moure of Bordeaux, Weill of Lyons, Dévé of Rouen, Girard of Toulon, Mirallié of Nantes, and Crespin of Algiers, to be corresponding members.

THE net amount received in the year ending March, 1919, by the excise authorities for patent medicine labels in Great Britain only, after deducting drawbacks, rebates, repayments, and allowances was £1,035,694. The annual return has not been published during the last few years, but for the year ending March 3rd, 1914, it was £360,377.

DR. CHARLES EDWARDS has been appointed to the Commission of Peace for the Borough of Bridport.

DR. JOHN MACLEAN CARVELL has been appointed M.B.E. for ambulance training and organization, London District, Order of St. John.

SIR JAMES BARR, C.B.E., LL.D., M.D., has been appointed a Knight of Grace in the Order of the Hospital of St. John of Jerusalem in England.

DR. GEORGE E. SCHOLEFIELD, M.B.E., M.O.H. West Lancashire Rural District Council, has been appointed an honorary Associate of the Order of St. John of Jerusalem in England in recognition of services rendered to the St. John Ambulance Association during the past forty years.

PRUSSIA and Baden have decided to create a doctorate of dentistry (*doctor med. dentariae*), with an academic education, eight terms' study, and the licence in dentistry as necessary qualifications.

THE Duty and Discipline Movement has, since it was founded by the Earl of Meath in 1911, collected much useful information concerning the upbringing of children and the formation of character. The Executive Committee are now putting their theories into practice in a manner which should prove of great benefit to parents. Their scheme, called the Parents' Advisory Bureau, is likely also to prove of value to the medical profession, particularly those members who specialize in child psychology. Briefly, the system is as follows: A parent unable to control a child is invited to come to the bureau for advice. A visit is then paid to the home, or perhaps the parent is asked to bring the child to see one of the officers of the movement. By sympathetic questioning, the cause of the conduct complained of can generally be found, but this questioning requires a certain amount of skill and tact which are not found in everyone. Care has been taken that the advice given shall be sound and wholesome. Such case receives personal attention by Mr. C. J. Mead-Allen, the director of the movement, Mr. C. Montgomerie, the secretary, or Dr. Hamilton-Pearson, of 72, Wimpole Street. Practitioners who meet with cases which present interesting features, or which are likely to

add to the store of knowledge in dealing with children, are invited to communicate with the movement, 117, Victoria Street, London, S.W.1, with a view to co-operation.

THE Italian Society of Paediatrics will meet at Trieste from September 23rd to 26th, when the following subjects will be discussed: (1) Vaccine treatment of children's diseases, introduced by Professor Di Cristina of Palermo and Professor Caronia of Naples; (2) infant welfare, introduced by Professor Allaria of Turin and Professor Modigliani of Rome. Communications should be addressed to the Secretary, Professor E. Modigliani, Via Palermo 28, Rome.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediscera, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

X asks for suggestions as to the treatment of chyluria in a man who has never resided out of the British Isles, and otherwise is in good health.

ESTABLISHMENT LICENCES.

W. asks whether a medical practitioner is liable to a tax for a driver of a car used for professional purposes.

*** The point is by no means free from difficulty. A "male servant" is defined to include a motor-car driver, and no exemption is given because the driver is employed for professional purposes. Prima facie our correspondent would be liable, but it can hardly be supposed that licences are required in the case of all motor-car drivers—for example, 'bus drivers, or the drivers of tradesmen's delivery vans; in such cases they would probably be regarded as trade employees rather than as male servants. A medical practitioner's driver often acts in both capacities, and in such cases we think that the licence would have to be taken out. Whether it could be insisted on in the case of a driver who did no non-professional driving or any other work may be open to doubt.

ARTIFICIAL APPLIANCE FOR AMPUTATION BELOW THE ANKLE.

A CORRESPONDENT in a remote part of the world asked recently for hints as to how to direct an artificial stump to be made in the case of a supramalleolar amputation; the apparatus would have to be constructed not by an expert, but in the shop of a ship-repairing company.

*** We are indebted to Mr. Muirhead Little, F.R.C.S., for the following reply to this question: A great deal depends upon the nature of the stump. If it has a Syme flap and is suitable for end-bearing, the problem is much simplified. In any case a plaster-of-Paris cast of the stump from the knee-joint down to and including the end should be taken. This should be covered with a thin stocking, and then a blocked leather (sole leather) socket made to fit it closely, taking as much bearing as possible under the head of the tibia. The leather should be well soaked in cold water, applied to the cast wet, and held with a bandage while it dries on the cast. A steel plate about 15 mm. wide and 3 or 4 mm. thick, and long enough to project at least 2 in. below the bottom of the leather socket and to reach nearly to the top of it, should be fixed with copper rivets to each side of the socket. The lower ends of these steels must be fixed with screws on to a hard wood block, of sufficient thickness to equalize the length of the limbs, below the end of the socket. A piece of sole leather or a rubber heel should be fixed to the lower surface of this block. Before applying the leather to the cast to form the socket, a piece of felt at least half an inch thick should be put inside the stocking at the end of the cast, so as to allow a space between the end of the stump and the bottom of the socket. If the stump can bear end-pressure this space is filled by a pad in the finished appliance. If not, it is left empty. If enough support is not obtained by the appliance here described, the side steels must be carried up to form knee joints, and thigh corset and steels added.

LETTERS, NOTES, ETC.

T.F. AND S.R.

"OPTIMIST" writes: The advice concerning the Territorial Force and Special Reserve given by your correspondent "Quoth the Raven" (March 20th, p. 417) is so thoroughly sound that no medical man can seriously dispute it; but how can his first recommendation—"If you are in either, get out as soon as you can"—be carried into effect? As far as I know suicide is the only method.

JAMAICA AS A HOLIDAY RESORT.

DR. H. G. WHARRY (London, W.1), writing as a recent visitor to Jamaica, strongly advises any medical man who contemplates going there or sending a patient, to make careful inquiries beforehand. By the direct route, which he thinks should be avoided, the voyage, generally unpleasant in winter, may, he says, take from fourteen to twenty-three days, and on arrival at Kingston there may be great difficulty in finding rooms, even though a promise may have been made to reserve them. In other places on the island the same congestion, he says, exists. The prices in Jamaica, he found, were not low, and his view is that a visitor must make up his mind to rough it and pay heavily for the privilege.

LIGHT WINES AND HEAVY PRICES.

PEOPLE with long memories can recall how Mr. Gladstone in one of his budget speeches sang the praises of light French wines, and, to encourage the British to consume more of what he considered a wholesome as well as a palatable beverage, reduced the duty. His recommendation, if not the reduction of the duty, undoubtedly encouraged the importation of light wines, and for a time "Gladstone claret" was a common name for light red French wine. Ever since the duty has been 1s. 3d. or less per gallon—on the average, say, twopence a bottle. Mr. Chamberlain has now doubled it, yet still it is only about fourpence a bottle; but the price of "Gladstone claret" was about 1s. 6d. a bottle, or less, and very ordinary Bordeaux wine now costs 4s. or 5s. a bottle at the wine merchant's. The cause of the greater part of this increase is to be found in the very great increase in the price at Bordeaux. It is now three or four times as much as it was a few years ago. The explanation given by the Bordeaux merchants is that the supply has been diminished by neglect of the vineyards during the war, and also, it is asserted, by the large purchases made for the French army. Some newspapers have interpreted the increase in the excise duty in the Budget as ungracious treatment of our allies, but in this connexion it is only fair to remember that the increase due to the duty is only 5 or 6 per cent. of the total increase in the price to the consumer here.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 34, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 35, 38, and 37.

THE following vacant appointments of certifying factory surgeons are announced: Blarney (Cork), Kingston-on-Thames (Surrey), Menai Bridge (Anglesey), North Berwick (Haddington).

A SECOND medical referee under the Workmen's Compensation Act, 1906, for the Marylebone and West London (Brompton) County Courts (Circuit No. 43) is to be appointed. Applications to the Private Secretary, Home Office, by May 5th.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Lecture
ON
BRONCHIECTASIS.

DELIVERED AT THE HOSPITAL FOR CONSUMPTION, BROMPTON, NOVEMBER 19TH, 1919.

BY

A. J. JEX-BLAKE, M.A., M.D.Oxon., F.R.C.P.,

PHYSICIAN TO ST. GEORGE'S HOSPITAL; ASSISTANT PHYSICIAN, HOSPITAL FOR CONSUMPTION, BROMPTON.

BRONCHIECTASIS, or dilatation of the bronchi, both large and small, is a condition quite commonly met with among the in-patients and the out-patients at this hospital. Except perhaps in a few rare congenital cases, it is not a primary disease of the lungs, but is always secondary to some preceding disorder, such as pulmonary tuberculosis, bronchitis, pneumonia, or bronchial obstruction, and as a rule it is a chronic complaint. I make particular mention of the fact that in bronchiectasis both the large and the small bronchi are dilated, because there is a condition known as bronchiolectasis, or dilatation of the bronchioles, in which only the smaller bronchi are involved, the larger not being dilated. Bronchiolectasis is, generally speaking, an acute condition met with in fatal cases of bronchopneumonia, particularly in children; a good many instances of bronchiolectasis have been recorded in fatal cases of influenzal bronchopneumonia during the epidemics of influenza in this and other countries during the last few years. It is a condition secondary to the bronchopneumonia in which it occurs, and does not alter the clinical picture of the primary disease in any way. It is, however, evidence of the severity of the infection in the bronchioles in which it is seen.

For the purposes of this lecture I have made a study of the clinical notes and *post-mortem* records of over 100 cases of bronchiectasis treated at this hospital and at St. George's Hospital, excluding all instances in which the condition was due to chronic pulmonary tuberculosis. My remarks will be based mainly on the analysis of these records, and I wish to thank my colleagues at those institutions for permission to make use of them.

FREQUENCY.

During the last twenty years some 29,700 patients have been admitted to the Brompton Hospital, 567 of them with the clinical diagnosis bronchiectasis, or 1.9 per cent. But these figures do not by any means give a true picture of the frequency with which it occurs. Bronchiectasis is always secondary to some other pulmonary disease; and in the milder degrees is so overshadowed by the more obvious and important primary disorder as to escape comment. For example, a mild degree of bronchiectasis occurs in practically every case of fibroid phthisis, or chronic pulmonary tuberculosis of the fibrotic type, that comes up for examination in the *post-mortem* room. The physician will no doubt suspect bronchiectasis in such patients while they are in the wards, although he may find it very hard to decide in any given instance whether he has to do with bronchiectatic cavities or the common tuberculous excavation of lung tissue, because the physical signs of the two conditions are similar, and indeed the two conditions often occur together. In such cases the primary disease is so much the more important that the secondary bronchiectasis is apt to be disregarded. In fact, it is probable that, pathologically speaking, some degree of bronchiectasis is present in quite 5 per cent. of the patients admitted to the Brompton Hospital.

Sex and Age.—Bronchiectasis is commoner in men than in women; of the 567 cases mentioned above 332 (or 59 per cent.) were males, 235 females. Among 112 cases examined after death, 90 (or 80 per cent.) were males, 22 females; the ages of these patients were as follows:

Under 10	5	31–40	27
10–20	19	41–60	34
21–30	19	Over 60	8

The youngest patient was twelve months old, the oldest 72 years. In no case was the bronchiectasis thought to have been congenital.

PATHOLOGICAL ANATOMY.

The pathological anatomy of bronchiectasis is well described in the ordinary textbooks; it suffices to say here that there may be either a diffuse more or less uniform cylindrical widening of the tubes or else irregular and saccular dilatation. The distinction is quite unimportant clinically, and as a rule both conditions are present together, with more or less collapse and fibrosis of the intervening lung tissue. Special attention may be drawn to the apparently invariable presence of dense pleural adhesions over any lobes or areas of lung affected with bronchiectasis. In a few instances these adhesions precede the widening of the tubes, and are the chief cause of it, but in the majority of the cases now under consideration they are the result and not the cause of the bronchiectasis, and are due to the outward spread of infection from the bronchi. In all cases the dilated bronchi contain much septic secretion, usually offensive and highly tryptic.

As regards the distribution of bronchiectasis in the lungs, the disease was bilateral in 47 cases and unilateral in 61 out of 108; the right lung was affected in 29 and the left in 32 of the 61. All five lobes of the two lungs were bronchiectatic in 18 of the patients, but there is a tendency for the lower lobes to be more affected than the upper, and in 34 patients with only a single lobe involved the bronchiectasis was in an upper lobe in 8 (right 2, left 6), in a lower lobe in 26 (right 11, left 15). The number of instances in which the different lobes of the lungs were involved in the 108 cases is shown in the following table:

Right upper lobe	50
Right middle lobe	51
Right lower lobe	61
Left upper lobe	49
Left lower lobe	73

Aspiration of the highly septic bronchiectatic sputum into previously uninfected parts of the lung may occur at any time, producing a local aspiration pneumonia or bronchopneumonia. If small in extent, this process may lead to gangrene and excavation of the lung; more or less extensive pulmonary cavities communicating with dilated bronchi were present in five cases. The diagnosis between bronchiectatic and pulmonary cavities is often impossible to the naked eye, though the walls of the latter are usually the more ragged and irregular. Microscopically, however, bronchial unstriped muscle or cartilage will be found in the walls of bronchiectatic cavities. But, if such an aspiration pneumonia is extensive, it is likely to be a terminal event, bringing about the death of the patient by asphyxia or exhaustion before the stage of pulmonary gangrene has been reached or cavities formed. Multiple pulmonary abscesses occurred in three cases.

As would be expected in a chronic septic condition like bronchiectasis, amyloid disease is not rare in it, and was recorded in six out of 103 *post-mortem* examinations. Bronchial calculi were present in the dilated tubes in one case of long standing.

The bronchial secretion in bronchiectasis is copious, purulent, and often possesses strong powers of tryptic digestion. This no doubt explains its highly solvent action on the bronchial walls, which commonly lose their lining of ciliated epithelium and much of the involuntary muscle and the cartilage in their walls in the process of dilating.

Bronchiectasis being always secondary to some other pulmonary disease, the following table shows the primary disorder from which it resulted in 105 fatal cases so far as could be judged from the histories recorded and *post-mortem* examinations:

Prime Cause of Bronchiectasis in 105 Fatal Cases.

Chronic bronchitis	41
Pleurisy or pneumonia	27
Bronchial obstruction by—	
New growth	27
Foreign body	6
Aortic aneurysm	3
Syphilitic stenosis	1

Apart from the fact that all the common cases due to fibrotic pulmonary tuberculosis are excluded from this list, it should be pointed out that these are figures from the *post-mortem* room, and do not represent the relative frequency of the causes of bronchiectasis among the living. Thus, speaking generally, the various forms of bronchial obstruction do not account for anything like one-third of the cases of bronchiectasis met with in the wards; but they lead to a progressive and rapidly fatal type of bronchiectasis, and are associated with other features of great clinical interest, and so occupy a disproportionately large share of the *post-mortem* statistics. The cases in which either pleurisy or pneumonia gave

rise to bronchiectasis have been grouped together, because it is often impossible to ascertain from a patient who had one or other of these diseases many years previously which it was.

With regard to the 27 cases of new growth in the lung compressing or directly obstructing bronchi, it is often impossible to say exactly where such neoplasms originate, owing to the extensive spread of the growth by the time death takes place. The following table can therefore be given only approximately correct:

Nature of New Growths causing Bronchial Obstruction and Bronchiectasis in 27 Fatal Cases.

Primary:	
Mediastinal sarcoma or lymphosarcoma	9
Sarcoma of the root of the lung	8
Carcinoma of the bronchus	5
Endothelioma of pulmonary alveolus	1
Direct spread of—	
Oesophageal carcinoma	1
Scapular perithelioma	1
Secondary:	
From carcinoma of the oesophagus	1
From carcinoma of the duodenum	1

The left lung was affected in 15 cases, the right in 10, and both lungs only in the two instances of secondary invasion. The upper lobes showed bronchiectasis in 3, the lower in 10, and both in 12 of the unilateral cases. In only a few of these 27 cases was the bronchiectasis either a prominent clinical feature or well developed from the pathological point of view by the time the patient came to die. The chief signs and symptoms were mostly those of intrathoracic new growth exciting pressure on adjoining structures, or cachexia. In many the presence of bronchiectasis was hardly suspected *ante mortem*.

PATHOGENESIS.

The pathological anatomy of these 105 cases of bronchiectasis having been outlined, it is now possible to consider the pathogenesis of the condition. In all cases two main factors are at work in the production of bronchial dilatation:

I. Softening and disorganization of the bronchial wall by virulent bacterial infection, acute or chronic.
II. Dilatation of the weakened bronchi by—
  (*a*) Pressure from within (retained secretion, frequent cough, with its high intrabronchial air pressure).
  (*b*) Traction from without (forced inspiration, pleural adhesions, pulmonary collapse and fibrosis).

The way in which these various factors work can best be shown by considering pathogenetically different examples of bronchiectasis.

1. In *chronic bronchitis and emphysema* the patient normally lives for many decades without the supervention of bronchiectasis. Should his lungs, however, become infected by some unusually virulent strain of bacteria, a more acute and destructive inflammation of the bronchi sets in. The sputum increases and becomes more purulent and finally offensive, tending to accumulate and stagnate in the more dependent parts of the lungs. Such a patient is likely to get a symmetrical bronchiectasis, at first of the lower lobes only but later throughout the lungs, the inflamed and softened bronchial walls yielding under the combined strains of retention of secretion, repeated prolonged bouts of coughing, and violent inspiratory efforts.

2. In *pleurisy* the *primum movens* of bronchiectasis is the formation of dense pleural adhesions. Thus fixed the lung is unable to expand, and hence cannot be adequately ventilated by respiration, so that the bronchial secretions cannot be coughed up, but tend to accumulate in the tubes and weaken their walls. The adjacent pulmonary alveoli collapse for want of air, and ultimately the affected part of the lung becomes fibrosed by the slow outward spread of infection from the bronchi. The same condition is reached in one step by *slowly resolving pneumonia*. In both cases the newly formed fibrous tissue in the lung contracts, with the result that the softened bronchial tubes are dilated by traction from without. Bronchopneumonia is often bilateral, and so may give rise directly to bilateral bronchiectasis. Pleurisy (with or without effusion) and lobar pneumonia are usually unilateral, and so are likely to give rise to bronchiectasis on one side only. But in such cases the virulently infected bronchiectatic secretion may be spread, by coughing, into the sound lung, with the production of bilateral bronchiectasis later.

3. In *bronchial obstruction* by the pressure of new growths or aneurysms from without, or by the growth of, say, a carcinoma originating in the bronchial wall and obstructing its lumen, the first impulse toward bronchiectasis comes from stagnation of the infected bronchial secretion behind the obstruction. Such secretion is often not sterile; the infection spreads outwards through the corresponding lung tissue, which becomes collapsed for want of proper ventilation, till finally pleurisy and pleural adhesions are set up. The collapsed lung tissue passes into a state of chronic interstitial pneumonia with the formation of fibrous tissue; this inflammatory tissue contracts, and as it does so increases the dilatation of the septic and softened bronchi. It is in this way that the "aneurysmal phthisis" of the older pathological textbooks, or conversion of one or more lobes of a lung (usually the left) into a matted collection of bronchiectatic cavities, takes place when an aortic aneurysm compresses and obstructs a bronchus. In the three such cases tabulated above the bronchiectasis was confined to the left lower lobe in each; the left upper lobe escaping no doubt because the expectoration of its bronchial secretion was aided adequately by gravity.

It must be mentioned that bronchiectasis is not by any means always seen in cases of bronchial obstruction by new growth or aneurysm. If the bronchi distal to the obstruction are sterile they do not become the seat of bronchitis followed by bronchiectasis and chronic pneumonia; instead, the lung merely collapses.

4. In the case of *foreign bodies in the bronchi*, in addition to the resulting bronchial obstruction, which produces the effects described just above, must be considered the fact that the foreign body is invariably charged with bacteria of all sorts, and is, indeed, highly septic. Thus in one of the cases included in the statistics the sputum was fetid on the second day, and the pulmonary infection ran a rapid course, proving fatal in four months. In such instances bronchiectasis, usually a very chronic process, may truly be described as acute in its onset and course.

There is one point in the pathogenesis of bronchiectasis that affords matter for dispute, and that is whether it is the abnormal raising of the intrabronchial air pressure during coughing and forced expiration, or the abnormal lowering of this pressure during violent inspiratory efforts, if either, that most tends to dilate the weakened bronchial tubes in bronchiectasis. This is a hard matter to decide: a question for physicists. Again, how far may the slight but steady outward pull of the elastic tissue in the lungs be considered responsible for bronchiectasis when the two layers of the pleura are united by adhesions?

SYMPTOMS AND SIGNS.

Bronchiectasis, as we have seen, always occurs as a complication of some other disease of the lungs. The patient is already unwell, and in its early stages bronchiectasis will only add to his troubles the spitting up of increased quantities of sputum which is at times, or in parts, offensive in smell and unpleasant in taste. When the bronchiectasis is well established the patient is often cachectic, with irregular fever, sweating, and all the signs of prolonged septic absorption. He has violent bouts of coughing, particularly on change of position, and may bring up as much as 10 oz. of sputum at a single effort. The sputum is highly offensive—its smell is often compared with justice to that of Limburger cheese—and copious, as a rule, particularly in cases where the bronchial dilatation follows on chronic bronchitis, pleurisy, or pneumonia; here it averages perhaps a pint in the twenty-four hours, and reached 71 oz. in one of the patients in this series. Placed in a tall glass such sputum settles into three layers, as is well known to you. The offensive odour of bronchiectatic sputum appears to be due to the setting free of butyric, caproic, and other volatile acids of the paraffin series from the fatty substances in the purulent sputum by the bacteria of putrefaction it commonly contains.

Haemoptysis is of common occurrence in bronchiectasis, and is often copious. As in pulmonary tuberculosis, it may be an early and frequently repeated sign throughout the course of the disease. It was the immediate cause of death in 5 of the 105 patients tabulated above; in one, however, being due to the rupture of an aortic aneurysm into the left bronchus it was compressing. It had occurred in over 90 per cent. of the patients, and may be taken as proof of bronchial ulceration.

Except for its variety and richness, I believe there is nothing characteristic about the bacterial flora in bronchiectatic sputum, unless it be the frequent presence of influenza bacilli. The offensive sputum contains in addition pus cells, crystals of fatty acids, small yellowish masses known as Dittrich's plugs, and in cases where the dilated bronchi have given way with the formation of pulmonary cavities, alveolar elastic tissue also.

The pulmonary physical signs in the early stages are likely to be those of chronic bronchitis in the symmetrical cases; in the unsymmetrical pulmonary tuberculosis is well imitated. When the bronchiectasis is well developed and the sputum copious, the physical signs vary widely with the amount of sputum present in the dilated tubes at the moment of examination. If the tubes are full the vocal fremitus is lessened, resonance on percussion is much diminished, and on auscultation the breath sounds—which are bronchial, tubular, or even amphoric—will be distant and accompanied by comparatively few adventitious sounds. But if the tubes have been emptied by recent cough and expectoration the physical signs will be very different, because the dilated bronchi are now full of air and in free communication with the trachea. The percussion note over the bronchiectatic lung will be more resonant, the vocal fremitus will be increased and much more than the normal, and on auscultation the loud breath sounds and the extraordinary variety of metallic moist sounds suggest the diagnosis of pulmonary consolidation and excavation. Here again pulmonary tuberculosis may be well imitated; I have met with two cases of obstruction of the bronchus to the left upper lobe by new growth, and in each there proved to be extensive bronchiectasis confined to that lobe, but the physical signs were precisely those of tuberculous infiltration and excavation, though tubercle bacilli could not be found in the sputum.

Some degree of clubbing of the finger-tips was recorded in 70 out of 103 of the cases of bronchiectasis, and may well have been present in more. Clubbing of the toes was present in a few of the patients, and clubbing of the end of the nose also was recorded in two instances. In two cases the clubbing of the fingers was associated with Marie's chronic pulmonary hypertrophic osteo-arthropathy.

Complications.

The most interesting of the complications of bronchiectasis is intracranial abscess, 15 instances of which occurred in 108 fatal cases of the disease. The abscesses were cerebral in 9 instances, cerebellar in 3, both in 2, and in one case meningitis and ependymitis were present, but no intracranial abscess was located. The abscess was single in 9 patients, multiple in 6, and in one instance from 20 to 30 abscesses were present throughout the brain. In addition two cases of secondary intracranial new growth were recorded in this series: one patient had a primary new growth at the root of the left lung, with secondary deposits in the pancreas and brain; the other a primary endothelioma of a pulmonary alveolus compressing the left bronchus, with secondary growth in the brain.

Apart from these intracranial complications, the common complications of bronchiectasis are inhalation or aspiration bronchopneumonia, empyema, gangrene and abscess of the lung, and old or recent pulmonary tuberculosis.

Empyema apparently secondary to the bronchiectasis occurred in 17 of the 108 cases, and its occurrence may be regarded as due to the spread of a more than usually virulent bacterial infection from a dilated bronchus to the pleura; in the other 91 patients the organisms reaching the pleura set up no more than an adherent pleurisy. The empyema discharged itself through a dilated bronchus in 4 cases; pyopneumothorax was present in 3, in 2 the empyema was interlobar, in 1 apical, and in 2 was operated on and drained by the surgeon. In 2 other cases that came up for operation pulmonary abscess, not empyema, was found and drained. Extensive gangrene of the lung was noted in 5 instances, multiple small pulmonary abscesses in 3. Old pulmonary tuberculosis independent of the bronchiectasis was present in 5 cases; recent miliary or caseating tuberculosis was seen in 5 also. Acute pleuropericarditis—an unusual complication—was present in the case of a girl of 15, who had a primary periosteal sarcoma of the femur with secondary deposits in both lungs; the left bronchus was completely obstructed, and the left lung converted into a honeycombed mass of bronchiectatic and bronchiolectatic cavities.

Course and Duration.

The course and duration of bronchiectasis are very variable, depending as they do upon the severity of the bacterial infection present in the dilated tubes. This in turn depends upon the pathogenesis of the condition to a large extent, as will be seen on consideration of the following figures:

Duration of Cough in 105 Cases of Bronchiectasis.

Prime Cause of Bronchiectasis.	No. of Cases.	Duration in Months.		
		Average.	Maximum.	Minimum.
Bronchitis	40	110	600	4
Pleurisy and pneumonia	30	39	144	2
New growth...	24	9	24	2
Foreign body	8	23	60	4
Aortic aneurysm	3	15	24	7

These figures can only be offered with the reservation that they are but very approximately correct. It is not possible to say at what moment bronchitis ends and bronchiectasis begins in any series of cases, which is what the above table attempts to do. There is no clinical criterion to mark the onset of bronchial dilatation. Still, the figures in the column showing the average duration of cough in the cases may fairly be taken as indicating that bronchiectasis secondary to bronchitis or to pleurisy or pneumonia is likely to last for several years; whereas the duration of that due to bronchial obstruction is more likely to be a matter of months.

The causes of death common in bronchiectasis are set out below. This table, too, must be offered with reservations. Thus, the term "exhaustion" might from certain points of view be replaced by "chronic septic absorption," with a low or falling terminal temperature.

The Cause of Death in 110 Cases of Bronchiectasis.

Bronchopneumonia	34
Exhaustion	34
Exhaustion and asphyxia	8
Intracranial abscess	15
Intracranial new growth	2
Haemoptysis	5
Heart failure	3
Intercurrent disease	3
Post-operative collapse	3
Septic diarrhoea	1
Lobar pneumonia	1
Influenzal bronchopneumonia	1

The deaths from exhaustion and asphyxia were all in cases of bronchial obstruction. The intercurrent diseases were uraemia, haematemesis from gastric ulcer, and oxalic acid poisoning.

Diagnosis.

The diagnosis of bronchiectasis is easy enough in a typical case of long standing, with its copious offensive sputum, occasional haemoptysis, its fever and wasting, and the signs of excavation and fibrosis at the base of one or both lungs. But in its early stages there may be nothing to distinguish such a bronchiectasis from chronic bronchitis. Again, when the disease occurs at the apex of a lung, the physical signs may be precisely those of the common apical tuberculosis, the only *ante-mortem* distinction being the absence of tubercle bacilli in the case of bronchiectasis; and even then it must be remembered that an acute pulmonary tuberculosis is not rare as a complication of bronchiectasis. And wherever the bronchiectasis is located in the lung, the physical signs may be just those of tuberculous consolidation, fibrosis, and excavation.

The diagnosis may be very difficult in cases of bronchial obstruction by aneurysm or new growth. It must be remembered that in some such patients the lung merely collapses, and the bronchi, probably for want of infection with sufficiently virulent bacteria, do not develop bronchiectasis at all. In others the bronchiectasis may develop, but little or no sputum (and that inoffensive) may be able to make its way past the obstruction. In all these difficult cases good *x*-ray pictures of the lungs are of great help in diagnosis, the thickened and dilated bronchi being distinguishable as opaque strands converging towards the hilus of the lung.

To illustrate the difficulty of diagnosing acute bronchiectasis such as may follow the inhalation of a foreign body,

I have the permission of a colleague to quote the following case, which I saw while it was under his care at another hospital in 1906:

July 12th. A. E. S., aged 21 months, inhaled a pea into the left bronchus; had a very violent bout of coughing, turned black in the face.

July 19th. Admitted to dispensary; diagnosis of pneumonia made; later, dry paracentesis.

July 28th. Sent on to hospital; diagnosis, (?) empyema.

August 5th. History of inhalation of pea picked up from the floor obtained for the first time from the parents. Skiagram shows opacity of left lung, displacement of the heart to the left.

August 6th. Low tracheotomy, exploration of left bronchus, no obstruction or foreign body found.

August 28th. Paracentesis of left chest, half a drachm of blood-stained serum removed. Impaired note, weak breath sounds, occasional râle over the whole of the left lung; (?) pulmonary tuberculosis.

September 19th. Paracentesis, a little pus withdrawn.

September 20th. Operation, piece of sixth left rib removed; half an ounce of pus drained from a ragged cavity, no empyema found. Tube.

October 2nd. Death from wasting and exhaustion; irregular hectic fever since July 19th, occasional bouts of cough ending in vomiting. The left lung was found to be densely adherent, enlarged, airless, and on section composed of a honeycombed series of small bronchiectatic cavities filled with thick inoffensive green pus, with collapsed lung tissue in between. No bronchial obstruction or ulceration found. Corresponding to empyema operation, a small ragged cavity, into which pus could be squeezed from the adjoining lung.

I imagine that the interpretation of this case would be that the child inhaled a dirty and insalivated pea into its left bronchus on July 12th and developed an acute septic bronchitis on the left side, passing rapidly on to bronchiectasis. The pea must have been got rid of before August 6th.

TREATMENT.

In all cases inversion of the patient, or letting him cough with his head and chest hanging downwards so as to facilitate the emptying of his bronchiectatic cavities, is a serviceable practice, best carried out on waking. For the rest the treatment of bronchiectasis may be either medical or surgical. The *medical treatment* aims at combating the infection in the bronchial tubes by antiseptics, the most widely used of which is creosote. The creosote may be administered in three ways: (1) By the mouth in capsule form; absorbed from the alimentary tract, some of the creosote is excreted into the lungs, and may there act as an antiseptic. I have never seen much good result from this mode of treatment, and it has the disadvantage of tending to upset the stomach. (2) By intratracheal injection; creosote, thymol, menthol, or some other organic antiseptic, dissolved in five or ten parts of olive oil, is injected into the trachea through the curved nozzle of a syringe, below the vocal cords, after cocainization of the pharynx and larynx. A few drachms of the oily antiseptic can be introduced thus daily, in the hope that some of it will gravitate into the dilated tubes and help to sterilize them and their contents. In the few cases in which I have seen it tried this treatment has not proved strikingly successful. (3) By inhalation; up to a point this method gives admirable results, of a palliative order. The creosote, mixed perhaps in equal parts with eucalyptus oil and oleum pini silvestris, may be given on a Burney Yeo inhaler, worn for many hours a day. A more effective method of administration is to have a small closed chamber in which creosote can be volatilized by heat; the patient, his eyes protected from the pungent vapour by goggles, inhales the white clouds of creosote fumes deep into his lungs. The fumes bring on violent coughing which empties the dilated tubes, and no doubt also exert a beneficial antiseptic action on their infected and inflamed walls. A creosote vapour bath can be given daily, at first for five minutes only, but after practice for fifteen or twenty minutes; care should be taken to see that the fumes are not too strong, and that the creosote is not carbonized by overheating the dish from which it is evaporated in the creosote chamber. The benefits to be expected from this treatment are a great reduction in the quantity of the sputum, which often falls from 20 to 30 ounces a day to 2 or 3; loss of its offensive odour; diminution in the patient's fever; and much improvement in his appetite and general condition. But in the great majority of cases it is palliative only, and relapse is likely to follow its discontinuance. It would be interesting to know the result of the treatment of bronchiectasis by the inhalation of a 2 per cent. solution of, say, Dakin's chloramine-T sprayed into the air by a steam atomizer—a treatment that proved successful a few years ago in the sterilization of the nasopharynx of carriers of the meningococcus.

The *surgical treatment* of bronchiectasis consists in the operative removal of many inches each from a large number of ribs over the bronchiectatic lung, in order that it may be made to fall in completely and obliterate the bronchiectatic cavities by fibrosis and collapse. The operation is obviously very severe, and it has been practised on the Continent, and particularly in Scandinavia, much more frequently than in this country, and usually under local—not general—anaesthesia. It is applicable only to unilateral cases of bronchiectasis, preferably those in which the lower lobe of the lung is involved, and to those not due to bronchial obstruction by new growth or aneurysm. I have hitherto had occasion to recommend it in two cases only, in 1917; in one the result was unfortunate, in the other excellent; the patient has been able to return to work for the last six months, and the sputum has been reduced to half an ounce of inoffensive muco-pus brought up on rising. Three successive partial removals of ribs were performed in this instance, and extensive collapse of the affected lung has been effected.

THE EPIDEMIOLOGY OF PHTHISIS.

BY

WILLIAM GORDON, M.D., F.R.C.P.,

PHYSICIAN TO THE DEVON AND EXETER HOSPITAL.

I HAVE read with great interest Dr. Brownlee's recent papers on "The epidemiology of phthisis in Great Britain and Ireland,"[1] and, as they bear upon some of my own work on the climatology of phthisis, I should like to say something about them.

PART I.—PHTHISIS DEATH RATES AT DIFFERENT AGES.

First of all I would congratulate Dr. Brownlee on having introduced into the investigation of phthisis-prevalence a new method of comparing death rates at successive age periods—a method likely to yield very interesting and valuable information.

PHTHISIS NOT A SINGLE DISEASE.

Dr. Brownlee concludes, from a study of the age curves of male mortalities, that phthisis can no longer be regarded as a single disease, but that two or perhaps three types are to be recognized, "distinguished by the characters of their incidence at different ages"; death most commonly occurring in one type between 20 and 25, in another type between 45 and 50, and perhaps in a third type between 55 and 65.

Obviously this is a proposition which can only be accepted on the most convincing evidence, for the conception of *age selective* types is quite a different thing from the conception of such types as are met with in the diseases to which reference is made in his paper—namely, enteric, bacillary dysentery, tetanus, pneumonia, and cerebro-spinal fever—types which do not select different ages for their attack. Moreover, since we shall find that the male curves differ from the female curves for the same districts, in such a way that the further assumption is needed that his types of phthisis are not merely age selective, but to some extent *sex selective* as well, the difference between them and the types of those other diseases becomes still more pronounced.

Also it must be remembered that neither clinicians nor bacteriologists have any knowledge of the existence of separate types of "human" tubercle bacilli.

Now nothing has impressed itself so strongly on my mind, in the course of my work on phthisis environment, as the conviction that, if the subject is to be raised out of the chaos of mere surmise in which it has always been involved, and if it is to be placed on a solid scientific basis, a principle, which I have called "the principle of the approximate isolation of influences," must be recognized and applied.[2] By such "approximate isolation" I mean the enumeration of all possible appreciable conflicting influences and their successive elimination from the problem so far as that is possible. I need not illustrate the various ways

in which such eliminations can be carried out, as abundant illustrations exist in my publications. That the idea is feasible and effective has been amply demonstrated.

Of the many influences known to affect the prevalence of phthisis, one of the most powerful is the influence of occupation; and occupation is generally far more diverse, and therefore far more disturbing, among males than among females. To eliminate it as far as possible, only female death-rates should be primarily considered. In my work I have been most careful, wherever possible, to deal with female death-rates only, and I have no sort of doubt of the advantage of so doing.

I would suggest therefore considering the corresponding age curves for female phthisis death-rates in the areas which Dr. Brownlee has chosen for his diagrams.

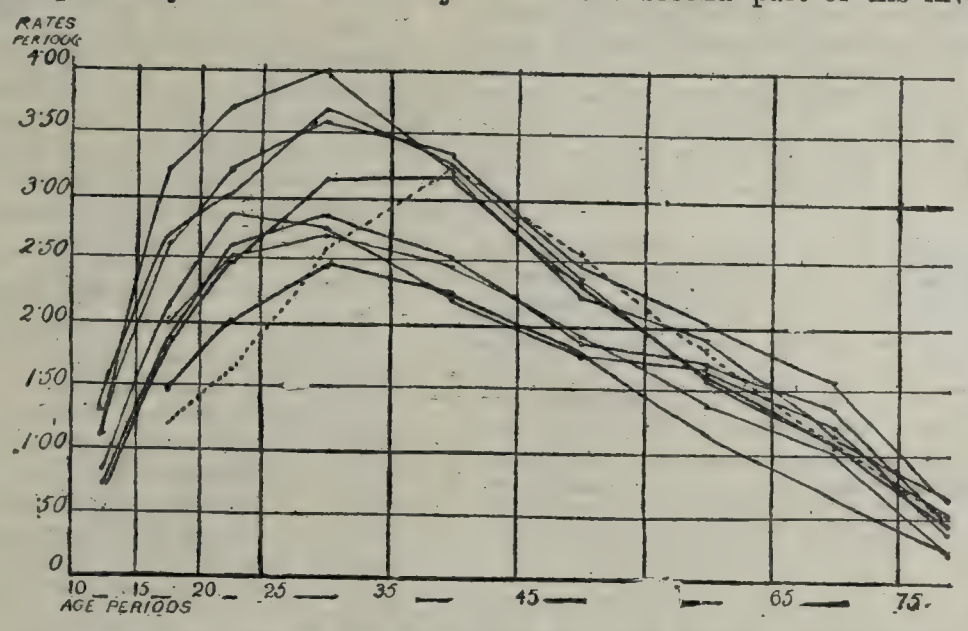


FIG. 1.—Female phthisis death-rates, 1881–90. The curves, in order from above downwards, as they cut the 25 to 35 co-ordinate line, are those of North Wales, Northumberland, South Wales, Lancashire, Devon, Cornwall, Norfolk, London (dotted), Stafford.

Fig. 1 shows the result of comparing the female age curves of all the English areas for the decade 1881–90, and Fig. 2 shows the same for the Scottish areas and Ireland for 1881 to 1900; the latter gives the curves supplied by Dr. Brownlee himself in his Diagrams 14 to 17 and 19, curves in the former have been calculated for the first decade of the same period.

From a study of these curves I do not think one would be justified in deducing the existence of two or three types of "human" tuberculosis. The top of the curve, in nearly every area, lies between the ages of 25 and 35. Only Ireland and Cornwall have curves culminating five years earlier; only London has one culminating between 35 and 45; Lancashire and Midlothian show a level summit from 25 to 45. Surely, if two or three types of phthisis existed, they would manifest themselves in the female curves more plainly than this.

From all the foregoing considerations I cannot but conclude that some conflicting influence or influences have modified the male curves and given rise to mistake. I believe that this is the case, and, from former experience, suspect that the influences of occupation and density of population are the delinquents.

For if we re-examine the male curves given by Dr. Brownlee we find that those which culminate in early adult life—Shetland, Caithness to Argyll, Norfolk, Devon, North Wales, South Wales—belong to areas to which outdoor occupations in open country are predominant, whereas the curves which culminate at middle life—Stafford, Lancashire, London, Midlothian including Edinburgh—belong to areas in which indoor occupations in towns are predominant; also it will be observed in the diagrams of the male curves, in areas where, as time has gone on, industrial life in towns has grown at the expense of outdoor life in the country—Staffordshire, Lancashire, England and Wales generally—the summits of the curves have tended to sweep in successive decades towards higher ages.

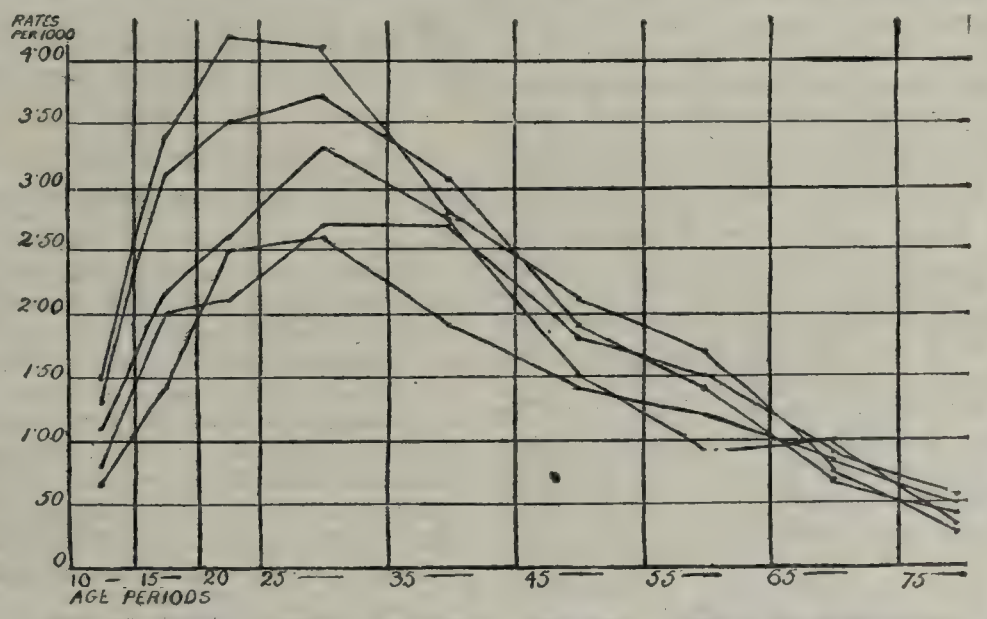


FIG. 2.—Female phthisis death-rates, 1881–1900. (From Dr. Buchanan's Diagrams 14–17 and 19.) The curves, in order from above downwards, as they cut the 25 to 35 co-ordinate line, are those of Ireland, Lanark, etc., Shetland, Midlothian, etc., Caithness, etc.

Therefore I strongly incline to the view that the differences in the male curves are due, not to differences in the organism of phthisis but to differences of occupation and of density of population affecting the predisposition of the male inhabitants to invasion by the disease.

PART II.—DECLINE IN PHTHISIS MORTALITY DUE TO THE INHERENT BIOLOGICAL PROPERTIES OF THE DISEASE.

In the second part of his investigation Dr. Brownlee attributes the undoubted decline in phthisis prevalence in England during the last seventy years (and perhaps before that) not to any change, sanitary or other, in its environment, but to "the ebb of a long epidemic wave" due to "the inherent biological properties of the disease."

I am afraid, on the evidence, which he submits to us with admirable candour, we cannot accept so sweeping a conclusion. It might be as he says, but such figures cannot prove it. He has, however, in Part III, himself demolished the idea. For his evidence was obtained from the Mortality Bills of London, and yet here he has supplied us with a very valuable proof that the decline of phthisis death-rate in London is due chiefly, if not solely, to improved hygiene. "Phthisis," he writes, "has not decreased in London during the epoch for which accurate knowledge is available, except so far as the general improvement in hygiene would explain."[3]

PART III.—STRONG PREVALENT RAINY WINDS AND PHTHISIS.

In one section of Part III Dr. Brownlee has ably re-investigated my work in Devonshire on rain-bearing winds and phthisis, using different periods to mine, and has added to the value of my proof by the manner of his confirmation. I am very grateful to him for doing what for many a day I vainly hoped someone would do—fairly take in hand the proof or disproof of my contention. His courteous reference to my work I cordially appreciate.

His confirmation of this work is clearly of very far-reaching importance; for the influence on phthisis of strong prevalent rain-bearing winds is a very powerful influence and needless to say, if it is admitted to be exercised in Devonshire, it must be also admitted to be exercised elsewhere, wherever those winds are met with. So important do I consider this influence, and so lamentable the results, scientific and practical, which have flowed from ignorance of it, that I make no apology for very briefly summarizing here the mass of evidence now accumulated on the matter.

1. *Evidence from Many Parts of the World.*[4]—All over the world, wherever sufficiently reliable information was available, I collected data for examining into the relations of wind and phthisis. This work was done less in search

of confirmation than in *seeking for exceptions* whose existence would point to some fallacy in my proof. No such exceptions were found, but much valuable and interesting confirmation was forthcoming.

2. *Effect of these Winds on Phthisis Patients.*[5]—Cases of phthisis in Devonshire exposed to these winds have been shown to run a shorter course than cases sheltered from them. Unpublished clinical evidence also has accumulated pointing strongly in the same direction. I have also tried to compare the statistics from variously placed sanatoriums; this proved impossible, but it was significant that some exceptionally exposed sanatoriums kept no records of results! There seems to me no doubt that some at least of the disappointment generally expressed with the results of sanatorium treatment in this country is due to the ill-chosen sites of some of our sanatoriums.

Perhaps now that an able independent investigator has confirmed my conclusions, a little pains may be taken to place the new sanatoriums for our phthisical sailors and soldiers in situations where failure shall be less of a foregone conclusion!

3. *Effect of these Winds on Bovine Tuberculosis.*—Bovine tuberculosis is much commoner in areas exposed to strong rain-bearing winds than in areas sheltered from them.[6] Professor Delépine's valuable paper[7] on tuberculosis in the farms supplying Manchester with milk gave me a unique opportunity of investigating this important point. This fact surely calls for some attention.

4. *Altitude and Phthisis.*[8]—When the influence of rain-bearing winds had been taken into account and, as far as possible, eliminated by considering only localities sheltered from them, the contradictions, which had rendered a satisfactory conclusion on the relations of altitude and phthisis prevalence impossible, disappeared, and the important generalization was reached that altitude, *per se*, has no influence on phthisis prevalence. The fact is that, as altitude increases, exposed situations increase so much in bleakness that the population is more and more forced into shelter; consequently, as altitude increases the proportion of the population living in shelter increases and the prevalence of phthisis falls. This conclusion does not affect my belief in the beneficial effect of high altitudes in shelter on phthisis patients.

5. *Subsoil and Phthisis.*—Dr. Brownlee must have given my paper[9] on this subject a very hasty glance, or he would have recognized that not only did it deal with a much more extensive field than Buchanan's—all England as against three counties—but that it was much more elaborate and safeguarded from error; also (most important of all) that instead of leaving the question one of mere surmise, mine left it practically proved that certain geological formations are definitely associated with higher phthisis death rates than others. I say "practically" proved because, until larger populations in pronounced shelter from rain-bearing winds have been dealt with, I shall not consider the investigation complete. Dr. Brownlee's results in Norfolk, Suffolk, and Essex are very suggestive, but, in view of the varying exposures of his districts, must be regarded as inconclusive.

6. *Occupation and Phthisis.*—I wrote in 1913[10]: "The evil eminence of the tin-miner may not be entirely occupational; he lives for the most part in a district swept by strong rainy winds. Also the Midland coal-miner, who suffers less from phthisis than coal-miners in other parts of England, may not owe his good fortune altogether to the conditions of his work, but partly also to the slighter exposure of his district to rain-bearing winds."

7. *Density of Population and Phthisis.*[11]—I have shown that in certain rainy wind-swept regions the self-protection of a town from winds may more than compensate for its comparative crowding.

PHTHISIS IN WALES.

Dr. Brownlee's section on this subject is instructive and interesting. But I fear he will find the problem of subsoil in Wales as disappointing as he found his Welsh study of rainy winds. I have tried it myself, for I observed how heavy were the death rates on some of the Welsh formations. Rainy winds, race, modes of life and occupation, seem perversely arranged so as to confuse the problem and almost to defy elimination. It will be observed that Dr. Brownlee's map of the districts is almost as suggestive of the effect of rain-bearing wind as of subsoil, when it is remembered that in the east and south-east of Wales the mountains afford much shelter, and that, in the south-east, occupation must modify the figures, the phthisis death rate of coal-miners generally tending to be low. My table of the phthisis death rates in the Welsh registration districts, 1881–90,[11] indicates at least some effect produced by rain-bearing winds.

A MISAPPREHENSION.

Before concluding, I should like to clear up a misapprehension. Dr. Brownlee has referred to me as a "follower in Haviland's footsteps." So far from being a follower of Haviland, I was fortunately quite unaware of his work until I had found the fact on which I lay such stress. Haviland's statements were quite different from mine, and, had I been familiar with them, it is not unlikely that I should have missed my point, as he did.

SUMMARY.

1. Dr. Brownlee has introduced a new method of investigating phthisis death rates at successive age periods which promises to be valuable.

2. He has not proved his first proposition regarding the existence of two or three types of human tubercle.

3. He has himself disproved his second proposition, dealing with the cause of the decline of phthisis.

4. His confirmation of my conclusions in Devonshire in respect of the influence of strong prevalent rain-bearing winds on the prevalence of phthisis, once more emphasizes the necessity for recognizing this influence.

5. Incidentally his papers illustrate the need for applying, in climatological research, what I have called "the principle of approximate isolation of influences."

REFERENCES.

[1] *An Investigation into the Epidemiology of Phthisis in Great Britain and Ireland*, Parts 1 and 2, 1918; Part 3, 1920, Medical Research Committee. [2] *The Influence of Strong Prevalent Rain-bearing Winds on the Prevalence of Phthisis*, London, Lewis, 1910, p. 11. [3] Part 3, p. 36. [4] *The Influence of Strong Prevalent Rain-bearing Winds on the Prevalence of Phthisis*, Chapter VI. [5] BRITISH MEDICAL JOURNAL, February 10th and April 6th, 1912. [6] BRITISH MEDICAL JOURNAL, March 4th, 1911. [7] *Proc. Roy. Soc. Med.*, vol. 3, No. 7, May, 1910, Epidem. Sect. [8] *The Place of Climatology in Medicine*, London, Lewis, 1913, Lecture 2. [9] *Proc. Roy. Soc. Med.*, 1915, vol. 9, Balneolog. and Climatolog. Sect., pp. 1 to 20. [10] *Practitioner*, January, 1913, p. 7. [11] *The Influence of Strong Prevalent Rain-bearing Winds on the Prevalence of Phthisis*, p. 81.

FURTHER WORK ON ANTIMONY INTRAVENOUSLY IN FILARIASIS.

BY

LIEUT.-COLONEL SIR LEONARD ROGERS, KT., C.I.E., M.D., F.R.C.P., F.R.S., I.M.S.

LAST year I published a preliminary report on short trials of sodium antimonyl tartrate solutions injected intravenously in filariasis, and showed that the drug had some action in reducing the number of embryo filaria in the evening peripheral blood and in lessening their motility, but I had not been able to follow up the cases long enough to ascertain if the effect was permanent or not, although I had arranged to do so. Thanks to the kindness of Lieut.-Colonel Thornley, I.M.S., Civil Surgeon of Cuttack, I have now been able to follow up a series of eight cases in the central jail of that filarial infected station, with the results recorded in this communication.

Method of Investigation.

Thick blood films of 100 prisoners under sentences of three months and over were sent to me for examination, while 50 more were taken during a visit to Cuttack; all were taken at 9 p.m., which is quite late enough for Indian patients. In 18 per cent. of these healthy men filaria embryos were found, and eight, who showed from 17 to 126 embryo filaria in 20 cubic millimetres of blood and a total of 732 in the eight slides, were selected for treatment. Five controls were also taken with from 22 to 117 filaria in a slide and a total of 168. The blood slides were taken every evening at 9 p.m. at first and later at longer intervals, but always at the same hour, and the injections of a 2 per cent. solution of sodium antimonyl tartrate were given in the mornings. I am greatly indebted to Subassistant Surgeon Kailas Chandra Rao, demonstrator

TABLE I.—*Doses and Amount of the Drug given in Successful and Unsuccessful Cases respectively, and Embryos Before and After.*

Successful Cases.						Unsuccessful Cases.					
No. of Case.	Doses.	Grams.	Embryo Filaria.			No. of Case.	Doses.	Grams.	Embryo Filaria.		
			Before.	After.*					Before.	After.*	
				No.	Per Cent.					No.	Per Cent.
17	21	1.99	12	0.25	2.1	47	21	1 99	121	83	68.6
71	11	0.79	98	6.25	6.4	62	11	0.79	83	99	112.5
72	19	1.79	126	16.75	13.3	65	19	1 55	77	54	70 0
106	21	1 97	99	1.5	1.5	125	21	1.99	111	35	31 5

* Average of last four weekly counts.

of pathology in the Orissa Medical School, for his careful work in taking the slides and giving the injections. All the counts were made by me.

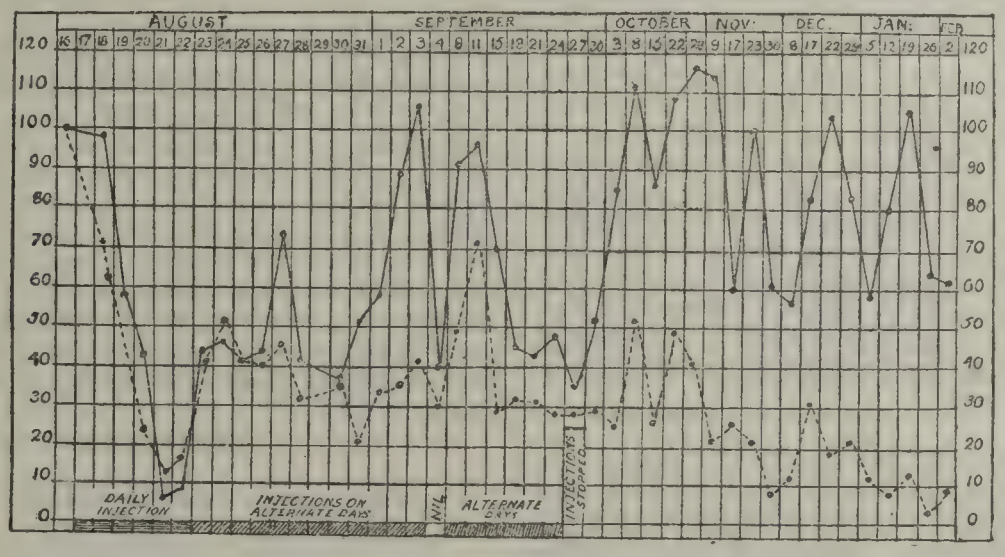
Doses, Duration of Treatment, and the Effects Produced.

During the first six days the doses were respectively 3, 4, 4.5, 5, 5, and 5 c.cm. of the 2 per cent. solution, after which, as toxic symptoms appeared, the latter dose was given every other day as far as possible up to six weeks from the commencement of the treatment. On one occasion all the injections were stopped for three days on account of toxic symptoms in the form of nausea or sickness, while the same trouble or difficulties due to inflammation of the injected veins reduced the doses in several of the cases, so that the number of doses and the total amount of the drug in grams were as shown in Table I, in which the cases are classed as those who eventually showed very great reduction in the number of the filaria embryos, indicating success of the treatment, and those in which a rapid return to about the original numbers took place as soon as the injections were stopped, showing failure to kill the adult worms.

It so happens that the number of doses given was the same in each group and the total amounts of the drug also almost identical, although the amounts varied considerably in individual cases, showing that it is not yet possible to lay down the amount of treatment required in any given case.

Results of the Treatment.

The results are best brought out by the accompanying chart, showing the percentages of embryos as compared with the original numbers before the treatment was commenced, found at each count, which were made daily for eighteen days, then every third day up to twelve days after the injections were stopped, and finally weekly for the succeeding four months up to the date of discharge from the jail of some of the patients. Separate curves are given of the combined figures of the four successful (broken lines) and of the four unsuccessful cases (continued line) so as to bring out important points of difference between the two, which became apparent on studying the figures obtained during some weeks after the injections were stopped. The two curves closely coincide throughout the course of the injections, although that of the eventually unsuccessful cases showed greater fluctuations and tendency to occasional rises in the number of the embryos than that of the successful ones. Both showed an extremely rapid and great fall in the numbers during the first six days of daily injections to reach a minimum of 13 and 6 per cent. of the original numbers on the fifth day; both showed a considerable rise when the injections were given only on alternate days, while both showed a steady low rate of 30 to 40 per cent. of the original numbers during the last twelve days of the injections. On cessation of the treatment a striking contrast between the two curves for the first time showed itself, for, whereas in the four unsuccessful cases the number of embryos showed an immediate rapid rise, carrying them up to the original count within nine days, in the successful ones there was no rise during the first six days after the drug was stopped, and subsequently only small fluctuations—such as also occurred to an even greater extent in the control cases—accompanied by a steady general decline in the curve to from 13 to 3 per cent. of the original numbers during the last four weeks. In these four cases I think there can be little doubt that the adult female worms had been killed by the antimony salt—a conclusion which I believe is confirmed by an interesting observation I made in the unsuccessful cases—namely, that the rapid increase in the embryos immediately after the injections were stopped was accompanied by the appearance in the slides of very numerous long, thin, and presumably young forms, indicating that the adult females were once more producing a numerous progeny; no such change was noticed in the successful cases. The immediate great rise in the number of embryos in the failures on stopping the injections is also of practical importance, as regular counts on the plan I adopted will enable a judgement to be formed in any individual case as to the duration of treatment required, any rapid increase in the embryos of too sustained a nature to be attributed to periodic variations being an indication for further treatment; the appearance of a number of long, thin forms would point in the same direction.



Variations in the Counts in Control Cases.

During the first seven weeks, and occasionally later, counts were also made by me in the five control cases, and a curve has been worked out showing the variations from the average count. It will suffice to say that, owing to great fluctuations in the one case with a large number of embryo filaria, the percentages varied between 45 and 160 per cent., and showed rapid variations without any very regular periodicity, thus indicating that prolonged and repeated counts are necessary to establish the effect of any given treatment. The control curve showed no such immediate rapid fall as occurred at first in all the treated cases, or any such continued low counts as in the successful cases after cessation of the injections, indicating that the latter were due to the antimony injections.

Periodicity in the Daily Numbers of Filarial Embryos at the same Hour of the Evening.

The periodical variations in the number of embryo filaria in the peripheral blood at different hours of the day and night is well known, but as far as I am aware less attention has been paid to the variations at the same hour from day to day, such as are well illustrated in the latter part of the upper curve of the four cases in which the antimony treatment failed permanently to reduce their numbers. During the four months from October to January there was a regular rise in the numbers at about new moon, and a fall at full moon, which is very suggestive in view of the popular opinion that filarial fever is influenced by the phases of the moon. To examine this hypothesis further I have plotted out the curves of each of the four cases separately, and found that in two months three of the four curves followed this rule, but in the other two months only two of them did so, which indicates that the coincidence in the combined curve is probably accidental. Moreover, the daily counts in the control cases showed great fluctuations occurring at shorter intervals and less regularly. These daily variations are deserving of more detailed study, as they may well furnish a clue to the periodicity of filarial fever, which has always puzzled me, but which may possibly be explained, if the fluctuations referred to are produced by a periodical discharge into the circulation of a large number of newly-born embryo filaria, as, indeed, has been suggested by Bahr. As long as the lymphatic channels are free this need not cause any material inconvenience to the host, but when the lymphatics become blocked by inflammatory changes, then such a brood of young embryos may well cause some further blocking of the lymphatic channels with the excitation of inflammatory changes in the already damaged tissues, without invoking the aid of Manson's hypothesis of the abortion of immature ova. Secondary infections, with staphylococci and streptococci, doubtless also often play an important part in the febrile process, as I (unpublished records), as well as others, have cultivated these organisms from the inflamed superficial tissues of the legs in cases of elephantiasis and obtained considerable amelioration of the febrile attacks by auto-vaccines. On the other hand, cultures during these attacks have often failed, while the frequently very regular periodicity in filarial fever attacks could be more easily explained by the above hypothesis, which may serve a useful purpose if it stimulates further research into the variations of the filarial embryos in the blood from day to day on similar lines to those adopted in my present research, which circumstances will not allow of my continuing at present.

Further Investigations at Puri by Dr. P. N. Das.

In my first paper I mentioned that Dr. P. N. Das was continuing the investigation I commenced at Puri with his help, and he has kindly sent me reports of his progress. As he recently read a paper on the subject at the Indian Science Congress at Nagpur, which will eventually appear in the *Indian Journal of Medical Research*, it will suffice here to say that in five out of eight cases the embryo filaria had completely disappeared from the peripheral blood after from twelve to thirty-seven intravenous injections of sodium antimonyl tartrate, and had remained absent for from a few days up to one month and a half, while in the remaining three cases the parasites had become greatly reduced. Moreover, in two additional patients, who were suffering from weekly attacks of filarial fever, the attacks had ceased under the treatment, and in one case had remained absent up to three and a half months. These are most promising results.

Recent Cases Treated by the Writer.

The following brief notes of cases recently treated by me may also be of interest, although I cannot follow them up very long, as I am about to proceed on leave.

CASE I.—*Early Elephantiasis.*

A European lady consulted me for recently developed swelling of the forearms just above the wrists and of the feet highly suggestive of commencing elephantiasis. The evening blood showed 50 embryo filaria in 20 c.mm., so I gave thirteen injections of sodium antimonyl tartrate, mostly in 4 c.cm. doses, into a small wrist vein, which was the only one available. At the end of this course the swelling had gone down by nearly an inch, only two filaria could be found in 20 c.mm. of blood, and she had lost the slight periodical febrile attacks she formerly suffered from.

CASE II.—*Filarial Orchitis.*

A European patient was admitted to the General Hospital for orchitis; numerous filaria were found in his night blood. Major Green Armitage, I.M.S., very kindly treated him with sodium antimonyl tartrate, and sent me blood films of measured quantities taken at 10 p.m. Counts on five consecutive evenings prior to treatment varied between 44 and 96, and averaged 64. They were also made on alternate evenings while the injections were being given daily, working up to 4 c.cm. of the 2 per cent. solution. During the first ten days of the treatment the filaria varied between 21 (the first day) and 5, and averaged 9, while the next three counts gave 4 on one day and none on the other two days. Another count after only one injection had been given in four days also showed only one embryo in two slides, so as the decrease of the drug has not been followed by any definite increase in the filarial embryos the result is promising.

CASE III.—*Chyluria.*

I am indebted to my colleague, Lieut.-Colonel D. McCay, I.M.S., for an opportunity of treating this Indian patient in the Medical College Hospital. The average of four counts before treatment showed 86 embryo filaria in 20 c.mm. evening blood. The man then received nine injections of a 1 in 500 solution of colloid antimony sulphide, varying from 2 to 6 c.cm., such as I have previously found to be more effective in kala-azar than sodium antimonyl tartrate, while it is very much less toxic for man. This solution, however, failed to reduce the filarial embryos, which averaged 93 on the evenings of the injections. As the solution employed contains only approximately one-fifth the amount of antimony in the sodium tartrate this is not altogether surprising, as such a worm as the adult *Filaria sanguinis hominis* is likely to be more resistant than a minute protozoal parasite to the prolonged action of a colloid preparation, which is retained in the blood longer than a soluble salt.

Dr. P. N. Das has just reported to me four cases in which 5 to 6 injections up to 5 c.cm. doses of the colloid preparation also failed to reduce the filarial embryos, so it is evidently not very active against them, although longer trials might possibly yield better results.

CONCLUSION.

The results above recorded appear to indicate that intravenous injections of soluble antimony salts have a definite effect in greatly reducing or causing the disappearance of the filarial embryos from the peripheral blood, presumably as a result of the destruction of the adult filaria, as the effect may last in some cases in an increasing degree for several months after cessation of the treatment. Moreover, clinically favourable results have been obtained in a few cases of filarial fever and elephantiasis. A rather long course of intravenous injections of a highly toxic drug is, however, required to produce this effect, so the new method of treatment requires care in its use, and much further experience will be necessary before its precise value can be decided.

CYCLOPLEGIA IN ROUTINE REFRACTION WORK.*

BY N. BISHOP HARMAN, M.A., M.B.CANTAB., F.R.C.S.ENG.,

OPHTHALMIC SURGEON TO THE WEST LONDON HOSPITAL AND THE BELGRAVE HOSPITAL FOR CHILDREN.

ONE of your number recently put a question to me which may very well form the subject of our consideration to-day. He asked: "What is the best means of obtaining cycloplegia for routine refraction work in children?" That is a very pertinent question. There is a vast amount of refraction work being done for children. A cycloplegic is necessary for satisfactory work. We must be satisfied of the efficiency and safety of the drug used, and that the manner of its usage gives the least inconvenience to the child, its parents, the school teachers, and to your own department where the eye work is done. It is scarcely necessary to defend the statement that cycloplegia is necessary for satisfactory work in children. It is true that, given unlimited time, much skill in handling children and in the use of the mirror, it is often possible to make a good retinoscopy without a cycloplegic; but the most experienced will agree that, even under the best conditions, the results so obtained are open to doubt. When, however, we have to deal with a dozen or more children at the out-patient department of a hospital or a school clinic, it is manifest that without a cycloplegic the work could not be done at all.

* A lecture delivered at the West London Post-Graduate College.

The choice of drugs is happily limited. Homatropine and atropine are the only effective claimants for attention. Hyoscyamus was extensively tried a few years ago, but some rather startling experiences of its toxic effects damped the enthusiasm of its most ardent advocates. I would counsel you to leave this drug severely alone for diagnostic purposes. Homatropine and atropine have each strong points in their favour and it will be well to weigh these.

Homatropine.

Homatropine is a most valuable drug. It is quick in action. Its effects pass off speedily and they can be neutralized at will. I have never known it produce toxic symptoms when administered in the way set out here. Its disadvantages are its high cost and the care necessary to get efficient results. We may use it in a watery solution of the salt, the oily solution of the pure alkaloid, or in one of the minute solid discs or tablets prepared by well known firms. The cost of the drug should rule out the use of the watery solution, at any rate in hospital practice. There is a story that a well known manufacturer of mustard said that he made his fortune out of the mustard that folk left on their plates. Priceless quantities of homatropine have run down the cheeks of patients and watered the floors of out-patient departments. Further, to secure full effects, two to four instillations are required, spread out over an hour. These disadvantages can be overcome by thickening the watery solution. I did this during the war when the pure alkaloid necessary for the preparation of the oily solution was scarce. To the watery solution of the salt small lumps of gum arabic were added and allowed to dissolve until the solution was so viscid that it could be lifted in drops with a narrow probe. If this gummy solution be used it must be made antiseptic, otherwise moulds speedily grow in it. I have found the addition of menthol gr. 2, ol. gaultheria minims 2, and tincture of iodine minims 2 to the pint of water makes a most efficient preservative both for this gummy solution and also for watery solutions of cocaine.

The oily solution of the pure alkaloids of homatropine and cocaine, 2 per cent. of each dissolved in castor oil, forms, in my experience, the most convenient and efficient quick-acting cycloplegic. It needs very careful preparation. The mixture must be warmed gently over a water bath for some six hours to secure solution. Too high a temperature will cause some of the homatropine to be reconverted into atropine, so that the brevity of the effect of the homatropine is lost. The advantages of the oil lie in the small quantity needed and the single instillation. One drop, no larger than the head of a wax vesta, will secure complete cycloplegia of the eyes of a child within one hour, provided it be properly used.

Some years ago, in furtherance of a piece of research work, I worked out the refraction of all the children in a large higher grade school; 1,100 children between the ages of 4 and 14 years were examined. The method adopted was as follows:

Three rooms were chosen leading from one to the other. The group of children to be examined were collected in one with a teacher; one by one they came into the middle room where their eyes were anointed; then each passed into the third room where it was put into a seat and told to put its arms on the desk, its head on its arms, and go to sleep. There they remained for a full hour, when they were told to sit up and look about until wanted for examination. After the examination the effect of the drug was neutralized by the instillation of a minute droplet of eserine 1 per cent. in castor oil, so that the pupils of the eyes were closed down before the children left school. The examination was made with the consent of the parents, many of whom were present at the time. Certain euphemisms helped a successful working. The first instillation was described as "smoothing the eyes with oil," the second as "washing out the oil." That satisfied parental desire to know what was being done. At the first instillation the child was told that it would "tickle"; that made the smart of the oil (rather like soap getting into the eyes) seem a joke. If the smart proved too much for some child so that it cried the fact that no other children were present prevented the disturbance affecting the rest of the children.

The actual instillation of the oil needs skill. The oil should be lifted on a short probe no thicker than a wax vesta. Large glass rods lift too much and make a mess. The child should be told to look at the surgeon's eyes. The surgeon with thumb and forefinger of left hand pulls down simultaneously both lower eyelids so as to expose the conjunctiva, then quickly first one then the other lid is touched with the same oil drop before the child has time to blink. If a blink intervenes between the two anointings the smart will cause the child to screw up its lids, so that the second anointing may be impossible or a failure. Once the oil is on the conjunctiva it spreads over the whole area; it cannot be rubbed out or washed out by tears. It is absorbed over a large area simultaneously and is consequently most effective. The hour of quiescence of the child prevents the muscles striving against the action of the drug. I adopted this practice after noting how quickly deaf children reacted who, after anointing, were kept in a darkened room; with a total absence of stimuli most of the children fell asleep, and cycloplegia was obtained exceptionally quickly. A last point remains to be noted. The children are told to open the eyes and look about shortly before the time of the examination. This is to secure by blinking that the remains of the oil shall be swept away and the cornea left clean and bright.

If some of the eyes be examined by the plane mirror reflex before the completion of the cycloplegia, a curious phenomenon may be noted. The reflex seen in the full round pupil may be divided into two zones separated from each other by a bright circular line, just as though the nucleus of the lens had a different refractive index to the outer layers of the lens. I take it that this is an indication of the gradual relaxation of the lens fibres as the influence of the ciliary muscle is withdrawn, for I noted the phenomenon most often where the error of refraction was a considerable degree of hypermetropia. If at the end of the hour a child's reflex should show this ring mark, the child should be put back to wait a while longer.

With such a procedure as the foregoing, the oily homatropine and cocaine solution can be most efficient and safe in routine refraction work. But it will be evident its use requires time, patience, and spacious premises. A crowded out-patient department does not furnish these conditions, the risk of one child of uncertain temper upsetting the rest of the children by an outburst of crying is great, so that for routine hospital work I prefer atropine for home use.

A word must be said on the solid preparation of homatropine. The minute tablets or discs are most convenient for travelling purposes; they are clean, dry, small in bulk, and efficient. But they are niggly little things, and for that one reason I do not find them so satisfactory for routine use as solutions.

Atropine.

Atropine requires several hours to attain its full action. Once its action is established it is a week before it passes off, and it cannot be neutralized by eserine. Its slowness of action makes its instillation at the same session as the main examination impossible; so that after the child is seen at the first session, atropine must be ordered for home use until the time of the next examination. The loss of accommodation for a week to ten days is unpleasant to children of older years, and their work in the school is practically stopped for the time. These are the real drawbacks of its use; but they are small when balanced by the convenience which its use presents in the heavy routine work of an eye department.

Atropine may be prepared in four forms—(1) watery solution, (2) oily solution, (3) tablets, (4) ointment. The watery solution I rule out because of its extravagance, so much of a watery solution is wasted. Further, bottles and droppers are required and these are costly. The oily solution is also ruled out, for the more costly alkaloid is needed and also bottles. The tablets should, in my judgement, be ruled out also, for the average patient of the hospital class is not up to the task of placing these minute discs within the eyelid. The tiny disc has to be shaken out of a glass tube, picked up with a brush or rod damped to make it adhesive, then the disc has to be transferred to the eyelid. Parents will damp brush or rod by putting it to their lips, an unwholesome procedure. Discs get lost. There is a risk that small children may think they are sweets. And, finally, there is the risk that parents may use pointed instruments to insert the discs and possibly damage the eye of the child by a sudden jerk of the hand or of the child's head.

The use of the ointment avoids these difficulties, and presents certain advantages. It can be kept in bulk in the dispensary, put up in small cardboard boxes ready labelled with a red "poison" label in the quiet times of the dispensary officers, and served out rapidly when the rush comes. I had the curiosity recently to examine the supply issued by the Belgrave Hospital Dispensary. The boxes contained sufficient for use thrice daily for one week. Several specimens were weighed up, and it was found that the average quantity weighed nine grains, the extremes were 7 and 10 grains. The dispenser therefore showed

good judgement in picking up the required quantity with the knife-point.

At the Belgrave Hospital printed directions for the use of the ointment are given to each parent by the surgeon in charge. They read as follows:

BELGRAVE HOSPITAL FOR CHILDREN.
Eye Department.

Put a small piece of the ointment (the size of a match head) inside the lower lid of EACH eye three times every day, after breakfast, dinner, and tea, until you come next time. Use a wax match with the head cut off to put in the ointment.

The eyes will open wide, and the child will not be able to read, but may go to school. The ointment will be stopped when the doctor has examined the eyes and ordered the glasses.

Do not forget to use the ointment, or your visit will be wasted. Be careful with it, for it is very costly. Do not let any one else use it.

From an experience of many years I find these directions are readily understood and carried out by the parents. They have a further advantage, in that the simple explanation of the reasons for the use of the ointment, its effects, and their duration forestall objections from querulous parents.

On the second visit a nurse looks at each child, and should she find one in which the effects look incomplete, she at once puts a drop of the oily homatropine into the eye; the child is put to the end of the row, and is ready for examination when its turn comes.

There are some children for whom this routine practice is unsatisfactory. Children with chronic blepharitis or eyes scarred from relapsing phlyctenular ulcers often react badly to atropine. These are directed to attend very early at the next session, when the nurse prepares them for examination by instilling the oily homatropine.

Adults.

It may be convenient to end this lecture by making a few observations on the use of these drugs for adults. For the examination of young adults, let us say for those over school age up to 30 years, a cycloplegic is often necessary. It should be a rule never to use atropine for these for purely diagnostic purposes. The discomfort and loss of effective work occasioned by the suppression of accommodation and pupil reaction for a week or more is serious, and should be avoided. Consider the circumstances of a clerk, of a seamstress, or of any other skilled worker whose near vision is put out of action in this fashion, or of a driver whose eyes are dazzled by the blaze of light entering his widely opened pupils. In all but the rarest cases the oily homatropine and cocaine solution will do the necessary work then and there, and its effects can be neutralized speedily by a final instillation of the oily eserine. Cases of suspected spasm of the accommodation are few and far between; in these atropine is needed, and should be ordered for home use with due explanation.

In adults over 30 years of age atropine is never needed for diagnostic purposes. It is not only a serious inconvenience to the patient by reason of the dazzling and disturbance of near vision, but there is a serious risk of glaucoma in susceptible subjects. For these reasons, where a mydriatic is needed for effective examination—and you will note that I here use the term "mydriatic" and not "cycloplegic"—the mydriatic should be homatropine. As little as is possible should be used, and that little should be neutralized by eserine before the patient is allowed to leave the consulting room.

THE TREATMENT OF MALARIA.

BY

W. S. DAWSON, M.A., M.B.,

HOUSE-PHYSICIAN, ST. THOMAS'S HOSPITAL; LATE 15TH STATIONARY HOSPITAL, EAST AFRICAN EXPEDITIONARY FORCE.

THE methods advocated for the treatment of malaria are innumerable. After experience of many hundreds of cases of malaria amongst Europeans in the campaign in East Africa, and after suffering severely myself from repeated attacks, I came to certain definite conclusions as to the treatment of this disease.

1. Routine "stock" treatment often fails, and is justifiable only when the medical staff is insufficient to deal with the number of patients. Every case has its peculiarities.

2. Antimony plays no part in the treatment. Arsenic is most useful in the convalescent stage, especially in cachectic cases, and after the acute stage of blackwater fever, when one or two intramuscular injections of "914" have often seemed to be beneficial.

3. After a preliminary dose of calomel or blue pill, quinine, preferably the hydrochloride, should be given as early as possible in an attack of malaria. *Bis dat qui cito dat.* Ten grains in a small quantity of water should be given every three hours to a maximum of 45 grains. The aim should be to produce tinnitus aurium, and the dose regulated accordingly. The heroic dose (20 or 30 grains) is not more effectual than the smaller, and is far more liable to incite vomiting. I doubt whether, by the mouth, one can absorb more than 10 grains of quinine during the course of two or three hours. At the same time the patient should drink freely of water, lemonade, etc. But all food, even milk, should be withheld during the acute stage, and even for several hours after defervescence.

4. In most cases this form of treatment will suffice. Vomiting is the commonest and most troublesome complication. A dose of quinine, if rejected, should be repeated—two or three times, if necessary. A little firmness is often necessary, especially with a patient who has made up his mind that he cannot retain quinine. A large tender spleen, which often incites vomiting, is less felt after the application of a plaster and by lying on the left side.

5. The chronic cases present the greatest difficulty. We rely too much on drugs and pay too little attention to the stimulation of the patient's natural powers of resistance. The advocates of various forms of treatment in claiming their successes forget the *vis medicatrix naturae*. Even quinine fails when a patient is kept in a relaxing, unhealthy climate; while in healthier surroundings relapsing cases tend to get better, even without the use of drugs. I do not believe in the long-continued administration of quinine, even in small doses, whether as a curative or as a prophylactic measure. I suspect that the *plasmodium* becomes resistant to quinine in course of time; or perhaps the drug, owing to its irritant action, becomes less easily absorbed in the intestinal tract.

In chronic cases the relapses should be treated intensively and early. To give quinine between the attacks is to bombard the enemy's line when he is safe in his dug-outs. Rather the aim should be to catch him when he makes his raids.

6. Only in cases of uncontrollable vomiting, in cerebral and in a few other complications will it be necessary to administer quinine otherwise than by the mouth. In my opinion, subcutaneous and intramuscular injections are always contraindicated. High rectal and intravenous injections, slowly given, rarely fail to influence an attack in the acute stages. The most useful proof that we have of the absorption of quinine is the production of tinnitus aurium and slight deafness. Only after big doses and a long interval (a day or so) did we obtain this effect after subcutaneous and intramuscular injections. There is no evidence that quinine is absorbed sufficiently quickly from the muscles and subcutaneous tissues to be of any use in an attack of malaria, and the other disadvantages are obvious.

7. A great physician said that a man who could not control malaria with quinine should give up the practice of medicine. Drugs must be given with the head as well as with the hand. The ideal of a *therapia magna sterilisans* has so far proved illusory. Quinine is as much a specific in malaria as is arsenic in syphilis, but in both cases there is a time to give and a time to refrain from giving.

8. Blood films should be taken not once but several times during the course of an attack, and treatment judged and regulated accordingly.

Attention to these details will, I think, be rewarded by greater success in the use of quinine by the mouth than seems to be the experience of many medical officers, and more complicated methods of treatment will more rarely be necessary.

The following extract from Buchan's *Prevention and Cure of Diseases* (London, 1774) is of interest:

> After proper evacuations, the patient may safely use the Peruvian bark. Two ounces of the best jesuit's bark, finely powdered, may be divided into twenty-four doses. In an ague which returns each day one of the above doses may be taken every two hours . . . in a tertian, or third-day ague, it will be sufficient to take a dose every third hour.

There is much other sound advice, and the last words of the chapter on agues are "the only method to obtain a

safe and lasting cure is gradually to assist Nature in removing the cause of the disease." This is an axiom too often overlooked.

A CASE OF TUBERCULOUS MENINGITIS WITH COMPLETE RECOVERY.

BY

HUGH BARBER, M.D.LOND.,

HONORARY PHYSICIAN, DERBYSHIRE ROYAL INFIRMARY.

ALTHOUGH tuberculous meningitis is almost always fatal, most physicians with a wide experience have seen one or two cases which have suggested that recovery is possible. Most of these have been in children, with perhaps only partial subsequent recovery; and only in few cases has the diagnosis been proved bacteriologically.

These notes record the case of an adult, proved bacteriologically to have tuberculous meningitis, who has made a complete recovery. Had one supposed that the patient could get well, fuller clinical and pathological investigations would have been undertaken; but, although only one examination of the cerebro-spinal fluid was made, it is possibly more reliable in that there was no knowledge in the laboratory of the patient's antecedent tuberculous infection.

Clinically the case was never doubtful; the first lumbar puncture was performed in the fourth week of the illness, to relieve symptoms of intracranial pressure; the benefit was considerable, as was also the case after the second and third punctures; and although the fourth puncture, made in the eighth week, did not seem to do any good, and the case was regarded as hopeless, I certainly think that but for the earlier lumbar punctures the patient would have died from increased intracranial pressure.

A woman, aged 37 years, admitted on June 11th, 1919, was discharged quite well on December 14th, 1919.

Past History.—Twelve years ago she was treated by Sir Richard Luce, who removed a tuberculous kidney; has been quite well since.

Present illness began one week before admission; pains in limbs followed by intense headache; when seen in consultation with Dr. G. D. Moon two days before admission she was very irritable and rather excited; neck stiff, severe headache.

On Admission: Temperature 100°, pulse 88, respirations 24; drowsy, but at times very restless; head rather retracted, neck and legs stiff, Kernig's sign present, reflexes normal; no strabismus; lungs and heart normal; urine normal.

Diagnosis—in view of the symptoms and history—was never in doubt. Lumbar puncture was not performed until July 1st; the fluid was under pressure, appeared clear, and contained a few lymphocytes; tubercle bacilli were found.

Course.—For thirteen weeks the temperature was of an irregular intermittent or remittent type, usually reaching 102° or 103° in the evening; the pulse was irregular, but usually below 100, until the ninth or tenth week, by which time there was an extreme degree of prostration; the general condition varied between coma and delirium, with signs of distress and headache. In the twelfth and thirteenth weeks the temperature was not so high, and from the fourteenth onwards it was normal or subnormal, and she made a slow but steady convalescence. She was taking full diet in the nineteenth week. On her discharge in the twenty-eighth week, after having gained 18 lb. in eight weeks, she was perfectly well in every way. Her mental condition was normal, and there was no loss of memory, nor headache; the eyes were quite normal and the limbs were strong, with no rigidity nor increase of reflexes. Three months after discharge she returned to her household duties, looking and feeling quite well.

Lumbar puncture was not performed until the fourth week from the onset; it seemed to relieve the symptoms of intracranial pressure, and was repeated in the fifth, sixth, and eighth weeks (four times in all), but there was little relief if any after the last time, and the case was regarded as hopeless. On one day in each of the tenth, eleventh, and twelfth weeks morphine was administered to relieve noisy delirium.

Specific therapy in tuberculosis is not very satisfactory at present, but most infected persons have good natural powers of recovery. Possibly repeated lumbar puncture is worthy of routine trial in cases of tuberculous meningitis; by the opportune relief of intracranial pressure an odd case or two may "get its chance."

G. BOUCHÉ (*Le Scalpel*, March 6th, 1920) records two typical cases of lethargic encephalitis which occurred at Anderlecht and Lens (Hainault) respectively. Two other cases had recently been recorded to the Medico-Chirurgical Society of Brabant and others had been observed in the neighbourhood of Bruges.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NOTES OF TWO CASES OF HORSESHOE KIDNEY.

THE following two cases of horseshoe kidney were both discovered in the course of operations for renal calculi. In neither of them did the symptoms nor the examination of the patients give any indication of the presence of the abnormality. The condition itself, of course, does not usually give rise to any definite symptoms, and it is the exception for it to be diagnosed previous to operation or until a *post-mortem* examination is made, although in recent years a certain number of the more marked cases with abnormality of the pelvis or ureter have been diagnosed by the use of the cystoscope and pyelography. The frequency of its occurrence has been variously estimated: Morris,[1] from *post-mortem* examinations, places it at 1 in 1,000, but Thompson[2] puts it as high as 1 in 300. There is, however, a marked tendency for these kidneys to be the seat of pathological changes, so that the possibility of encountering it at operations on the kidney is probably higher than these statistics would indicate.

CASE I.

A woman, aged 33, gave a history of attacks of pain in the left lumbar region for two years. They came on suddenly, sometimes with vomiting and with pain radiating towards the groin. No definite tumour could be felt in the left renal area, but there was tenderness and some rigidity of the muscles. The urine contained a small amount of pus. An *x*-ray photograph showed the shadow of a large calculus in the left kidney.

Cystoscopic Examination.—The bladder was healthy and the ureters normally situated. The right ureter was normal, and urine could be seen coming from it; the left was somewhat swollen and congested, and no urine was seen coming, although it was seen to contract. Indigo carmine was injected into the buttock, and was seen coming freely from the right ureter in twenty minutes, but none came from the left even at the end of forty minutes. Catheterization of the ureters confirmed this, normal urine being obtained from the right and nothing from the left.

Operation.—The left kidney was exposed by a lumbar incision. It was found lying rather lower than usual. There was a large stone in the pelvis, and marked atrophy of the kidney substance. The lower pole could not be brought up, and on further investigation it was found to be attached by a thick band of tissue to the lower pole of the right kidney. The right kidney lay partially across the middle line and its lower pole, which appeared normal in shape, could be distinctly seen. The connecting tissue was divided, and the left kidney removed. The patient made an uneventful recovery.

Specimen.—The kidney consisted of thinned and atrophied renal tissue round the pelvis, which was contracted on a stone the size of a bantam's egg. The connecting isthmus was composed of fibrous tissue.

CASE II.

A man, aged 29, gave a history of attacks of severe pain in the left renal region for about a year. The attacks were occasionally followed by slight haematuria. In the intervals he was perfectly well. Nothing abnormal was detected in the renal region. The urine was normal. An *x*-ray photograph showed a small shadow in the left renal area.

Cystoscopic Examination.—The bladder was healthy, and both ureters were normal and in the usual position. Indigo carmine was injected, and appeared freely at both ureters in twenty minutes.

Operation.—The kidney was exposed by a lumbar incision. It could only be partially raised up with some difficulty. The pelvis was small, and was situated on the anterior aspect, and behind it there was a mass of kidney substance about 2 in. broad extending across to the right side in front of the great vessels. The renal vessels entered the kidney from above and in front of this tissue. A small stone was found in the pelvis, and was removed by nephrolithotomy. When seen a year later the patient was perfectly well and had no pain or discomfort.

These two cases illustrate two of the varieties of horseshoe kidney: the first, where the lower poles are united either by fibrous tissue or by actual renal tissue, is probably the commoner; the second is not so common, as here the connecting renal tissue passed from the posterior part of the left kidney, and both poles were distinct and unattached. The fact that this second case was well and able to do manual work a year later is of interest in view

[1] Morris: *Surgical Diseases of the Kidney and Ureter.*
[2] Thompson: *Annals of Surgery*, September, 1911.

of Rovsing's[3] description of symptoms of discomfort and inability to do heavy work from the presence of the renal isthmus in the middle line.

J. MILL RENTON, M.B., Ch.B., F.R.C.S.E.,
Assistant Surgeon, Western Infirmary, Glasgow; Surgeon to Out-patients, Royal Hospital for Sick Children; Surgeon, Elder Hospital, Govan.

FOREIGN BODY IN THE LEFT BRONCHUS.

ON June 17th, 1919, I was asked to see a girl, aged 11, in the Oldham Royal Infirmary. The story was that on June 14th, while playing with a toy air balloon, she laughed, the balloon disappeared into her mouth, and she became cyanosed and could not speak. She rushed into the street, attracted the attention of a man there and, by pointing to her mouth, indicated what was wrong. He inserted his finger into the child's mouth and "pushed something down her throat." She was then able to breathe with comfort and to speak.

When I saw her, three days after, she looked like a patient suffering from pneumonia, very different from the picture of laryngeal or tracheal obstruction. The cheeks were flushed, the temperature 101°, respirations 46, pulse 104. She had slight cough, with a little muco-purulent expectoration. The whole of the left lung was dull to percussion; the breath sounds were markedly diminished over the whole of the left side of the chest, and resonance was slightly increased.

From the story and the physical signs I concluded that the object, described to me as consisting of a wooden mouthpiece, with elastic balloon attached, was in the upper part of the left bronchus. No skiagram was taken, as I considered the chances of seeing any shadow small, and I did not wish to move the patient any more than could be helped, on account of the risk of moving the object into the trachea or larynx.

The patient was anaesthetized with chloroform. A Brüning's tube passed through the glottis showed the mouthpiece of the balloon about three-quarters of an inch below the bifurcation of the trachea, in the left bronchus, with the balloon folded between the mouthpiece and the spur of the bifurcation. The mouthpiece seemed pretty well fixed. Cocaine and adrenalin were applied to the spur and to the left bronchus above the object, which was gently freed with Brüning's spoon forceps, and then removed at the end of the tube with Paterson's forceps. The whole operation was comparatively simple, as it was easy to see and seize the object. The patient was perfectly well and the lung appeared quite clear in four days.

The wooden mouthpiece was $1\frac{1}{4}$ inches long, $\frac{3}{16}$ of an inch in diameter, and slightly expanded at either end. The fabric was more than twice the length of the mouthpiece, but being very thin occupied little space.

W. R. CAMMOCK, F.R.C.S.Ed.,
Surgeon, Ear, Nose and Throat Department, Oldham Royal Infirmary.

THE INCISION IN CAESAREAN SECTION.

IN connexion with the discussion on the incision for Caesarean section (BRITISH MEDICAL JOURNAL, November 15th, 1919, p. 633) the following facts may be of interest:

Since August, 1908, there have been ninety-two such operations at the S.P.G. Mission hospitals at Delhi and Karnal, Punjab; I performed twenty-two. Eight women were delivered by this method for the second time. In three cases I was the operator, and in two others I assisted. The line of incision adopted by me and most of the other surgeons has been the longitudinal in the upper part of the uterus, and the stitches (of silk or catgut) have been through the depth of the uterine wall not including the mucous membrane, with a second row of superficial stitches.

It was interesting to note that of the five "second Caesareans" within my experience only one had any signs of a scar in the uterus; the first operation on this patient had been performed eight years earlier in Quetta, and the scar was situated in the lower uterine segment. A few adhesions and the abdominal scar were the only indications of any previous operation in the others.

In contrast to what is usually taught in the British Isles, we have found that although almost all these cases have been in labour for three or four days, and have been examined by untrained native midwives before admission to hospital, we have had no cause to regret leaving the uterus *in situ*. The patients who have died have been few in comparison with the number who seemed so hopeless on admission that it was inadvisable to add to the shock by hysterectomy.

S.P.G. Mission, Delhi. MINNIE W. BAZELY, M.D.

[3] Rovsing: *Zeitschr. f. Urol.*, 1911, vol. v, No. 8.

Reports of Societies.

RUPTURE OF VAGINA.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine held on April 8th, with the President, Mr. J. D. MALCOLM, in the chair, Dr. A. C. PALMER read a short communication on two cases of rupture of the vagina during labour, admitted to the obstetric department of the London Hospital.

Case 1.—An 8-para, aged 35, was brought by her doctor, who stated that the case was one of prolonged second stage with the head delayed in the pelvis. He had extracted a child, stillborn, weighing between 13 and 14 lb., after a hard pull with forceps. The perineum was torn. The placenta did not follow, and since the patient continued bleeding he decided to remove it. Following the umbilical cord, his hand passed into the abdominal cavity, where he found and removed the placenta. The case was then brought to hospital. Pulse 120, temperature 98° F., abdomen very tender. The uterus was found almost completely separated from the vagina, except for a narrow bridge in the region of the left uterine artery, and a small portion of the anterior wall of the cervix close to the bladder. There was much free blood in the peritoneal cavity. The uterus was removed as rapidly as possible, and the patient made a good recovery. Dr. Palmer believed that the difficulty was due to relative pelvic contraction owing to the very large size of the child.

Case 2.—A multipara was brought to hospital in a state of collapse (pulse 120, temperature 96.5° F.) by a midwife, having been in labour twenty-four hours. There had been good pains for fifteen hours, and since then the pains were described as tempestuous and different in character from the preceding ones. No manipulation and only one vaginal examination had been made. On the right of the fetus was a hard tumour about the size of a fetal head, and thought by the resident accoucheur to be possibly a fibroid. A moderate pull with forceps being unsuccessful, the child was delivered after perforation and crushing of the head by Mr. V. J. F. Lack, the resident accoucheur, who then noticed that the tumour was the contracted uterus, and that the child had been lying in the abdominal cavity, whence the placenta was removed manually. At an exploratory laparotomy Dr. Palmer found a large T-shaped tear in the posterior vaginal wall, beginning at the cervico-vaginal junction and extending almost down to the vulva, and much free blood in the peritoneal cavity. The uterus was rapidly removed. The patient was now convalescent. Four easy labours had occurred in spite of well-marked general contraction of the pelvis; the fifth had required forceps; the sixth was the case described.

In each case the object of the hysterectomy was the control of haemorrhage and the removal of damaged and devitalized tissue as a prophylactic against puerperal sepsis.

Mr. EARDLEY HOLLAND said that rupture of the vagina in association with rupture of the lower uterine segment was much more common than was generally believed. It was not sufficiently realized how very greatly the vagina was stretched and drawn up by the uterus during obstructed labour. As an example of this he gave an epidiascopic demonstration of sections through the lower uterine segment from the case of a patient who had died undelivered during obstructed labour. In this case the retraction ring lay at a level of 11.5 cm. above the symphysis pubis, and below the ring the fetal head was enclosed by what was at first thought to be an enormously distended and elongated lower uterine segment. The sections showed, however, that only the upper 4.5 cm. consisted of the extended cervix, all below that consisted of the elongated and stretched vagina. The sections further demonstrated that in this case the lower uterine segment consisted of cervix only; if rupture had occurred, it would almost certainly have been in the vagina.

Dr. HERBERT SPENCER said that it was sometimes difficult to see the line of demarcation between the cervix and vagina in the second stage of labour, but he thought it was

absurd to speak of the vagina as taking part in the formation of the lower segment of the uterus.

Blood Transfusion before Operation.

Dr. HERBERT WILLIAMSON read a note on the value of blood transfusion before operation in severe secondary anaemia.

A patient, aged 45, was admitted to St. Bartholomew's Hospital on May 11th, 1919. She was extremely anaemic and breathless; pulse 130 and of poor volume, temperature 101°. There was incontinence of urine and faeces, frequent vomiting, and the urine contained albumin. The blood count was 1,670,000 red cells and 52,000 white cells per c.mm., haemoglobin 22.5, and colour index 0.7. There was a history of continuous and profuse vaginal bleeding for a month prior to her admission. On examination, a large hard tumour could be felt reaching from the pelvis to the costal margin. After admission the patient gradually became more ill; the temperature rose to 102° to 104°, vomiting was frequent, and incontinence of urine and faeces persisted. On the 17th the red blood cells had fallen to 845,000 and the white had risen to 65,000 per c.mm. On this day the patient was transfused with 600 c.cm. of blood derived from a donor belonging to Group IV. Three days later the temperature was normal, vomiting had ceased, the patient had regained control over the rectum and bladder, the red blood cells had risen to 3,400,000 and the white had fallen to 29,000 per c.mm. On June 5th Dr. Williamson operated and removed the uterus, enlarged by the presence of multiple fibroids, together with a cyst adenoma of the ovary. The patient made an uninterrupted recovery and left the hospital well at the end of three weeks. On the day of discharge the red cells numbered 4,250,000 and the white 10,400.

Dr. MALCOLM DONALDSON said that the astonishing results obtained on the wounded during the war had advanced this line of treatment enormously. At the same time he feared that the method could not be used in emergencies until some reliable way of storing blood without interfering with its action had been devised.

The PRESIDENT stated that the subject was of the utmost practical importance. When successful, the effects of the transfusion of blood in suitable cases were almost miraculous. He asked for details of the method employed.

In reply, Dr. WILLIAMSON said that the method of transfusion adopted was that described as the "citrated method," and the apparatus employed was that devised by the late Dr. Stansfeld. In answer to Dr. AMAND ROUTH, he said that whenever possible he preferred to use blood, but if this was not available he would use the 6 per cent. gum arabic solution as recommended by Bayliss.

High Ammonia Coefficient.

Lady BARRETT read a short communication on high ammonia coefficient.

A munition worker, aged 22, married, was admitted to the maternity block of the Royal Free Hospital when nearly three months pregnant, having been vomiting frequently for six weeks in spite of treatment. Her urine was greatly diminished —7 oz. in twenty-four hours—contained slight traces of albumin and diacetic acid, and the ammonia coefficient two days after admission was 38, rising within a few days to 78. The vomiting was controlled by abolishing all mouth feeding for a few days and the administration of glucose salines per rectum; ordinary food was gradually resumed, albumin water, oranges, and tea being first retained. The excretion of nitrogen as ammonia gradually declined after a few recurrent rises with renewed vomiting, and was 19 per cent. of the total nitrogen when the patient left hospital. The pulse remained at 80 to 84 throughout, and the temperature was normal. Diacetic acid and albumin appeared from time to time, but were not constant. It was not found necessary to induce labour, and the patient was delivered of a normal child on February 15th, 1919, her nitrogen excretion at that time being normal.

The case seemed to indicate that a consideration of the general condition, especially the pulse, the quantity of urine passed, and the presence or disappearance of diacetic acid in the urine, was of more importance than a high ammonia coefficient in deciding the necessity for induction of labour.

Dr. MACKENZIE WALLIS raised as an important point the question as to the method used in the determination of the ammonia in the urine, as he thought it possible that the amino acids might be included in this result. In pregnancy toxaemia the diastase was always markedly increased, and there did not seem to be any relation between the high ammonia coefficient in this case and the presence of aceto-acetic acid in the urine. He gave particulars of a case of persistent vomiting, in the wards of St. Bartholomew's Hospital, which he was investigating. He had come to the conclusion that the ammonia coefficient was of no value either for prognostic or operative purposes, and that it did not bear any definite relation to the severity of the toxaemia.

Dr. T. W. EDEN gave details of a similar case he had had under observation, and said that he thought the excessive vomiting might have been a factor in the high ammonia excretion.

Dr. LAPTHORN SMITH mentioned the success that he had obtained by treating vomiting of pregnancy with sodium bicarbonate.

In reply, Lady BARRETT stated that during the patient's first illness no difference was made between the amino acids and ammonia, but that later investigations in February, 1919, showed that the average difference between the amino acids and ammonia was approximately 2 per cent. Diacetic acid was present only in traces. She agreed that the excessive vomiting might have been a factor in the high ammonia excretion. She had tried sodium bicarbonate in salines in toxaemic cases without any appreciable difference in the results from salines without carbonate.

ANTE-NATAL AND POST-NATAL SYPHILIS.

A MEETING of the Hunterian Society was held on April 14th at the Venereal Diseases Centre for Pregnant Women, 18, Thavies Inn, Holborn Circus, E.C., by invitation of Mr. JOHN ADAMS, F.R.C.S., who demonstrated cases treated at the Centre and the methods used in treatment of syphilitic mothers and their babies. A large number of Fellows were present, and the cases described and demonstrations given were followed with keen interest. As recorded in this JOURNAL, the Centre was established in 1917, and the results set out gave a good idea of the type of work done there and the great advances made in treatment, particularly of syphilitic babies.

1917–18:

Total number of syphilitic mothers treated at the Centre	28
Babies of these mothers born with a positive Wassermann reaction	17
Babies born with a negative Wassermann reaction	6
Stillborn babies	5

Of those with a positive Wassermann reaction at birth 3 died—one aged 6 hours, one aged 14 days, one aged 36 days.

1918–19:

Total number of syphilitic mothers treated at the Centre	30
Babies with a positive Wassermann reaction	8
Babies with a negative Wassermann reaction	21
Stillborn baby	1

Of those with a positive Wassermann reaction one died aged 2 months.

Nine cases of this series were shown at the meeting, as also the babies ranging in age up to 2½ years. The results of the treatment were obvious from the appearance of the mothers and their babies. The statement was made that every child born during the past year and actively treated at the Centre was free from any syphilitic manifestations. As a result of his experience, Mr. John Adams concluded that treatment of the pregnant woman could be carried out up to the day of confinement with safety and success, and a mother so treated might be delivered of a child whose blood gave a negative blood test. Such a child might thrive and continue to give a negative Wassermann test. Treatment of syphilitic infants began immediately after birth. The combined intramuscular injection of galyl in glucose and of grey oil succeeded in producing a negative Wassermann reaction with greater rapidity and more certainty than if galyl alone were used. Children so treated appeared to become quite healthy, put on weight, and their blood, which previously gave positive reactions, became negative and remained so. The mode of administration of the galyl solution to babies was demonstrated, and the importance of intramuscular injections of a solution of galyl in glucose solution emphasized.

A dose of 1.5 cg. of galyl is injected into one buttock on the first day of birth, and repeated after one week. From this time onwards gradually increasing doses are given up to 5 cg. at fortnightly intervals. This treatment after the first week is combined with intramuscular injections of mercury, beginning with ¼ grain, then ⅛ grain, and ultimately ½ grain. In addition hydrargyri cum creta is given orally. The mercury is given in

the form of grey oil, 20 per cent. strength for the babies and 40 per cent. for the mothers. A special syringe is employed, with 15 divisions each of $\frac{1}{10}$ c.cm. capacity, and so arranged that one division in the syringe corresponds to 1 cg. of mercury, when the 40 per cent. grey oil is used. The intramuscular injections are given into each buttock every fortnight to the babies, and weekly to the mothers.

A rapid and easy method of collecting blood for the Wassermann test from the heel of an infant was also demonstrated. The whole foot of the infant is immersed in hot water, carefully dried, and the foot gripped with the left hand. By means of a sharp needle three stabs are made close together in the base of the heel. By means of gentle squeezing the blood can be "milked" out of the heel and a sufficient quantity of blood removed with ease and rapidity.

As a general rule, with this combined treatment, the Wassermann test is negative before or about the seventy-eighth day. Where the Wassermann test is found to be definitely positive at any future time or after the 176th day of treatment by intramuscular injections of galyl glucose solution and grey oil, then it is necessary to start the treatment again.

The President of the Hunterian Society (Dr. LANGDON BROWN) voiced the opinion of the meeting in thanking Mr. John Adams for his excellent demonstrations. The Society last year conferred its Hunterian medal upon Mr. John Adams for this pioneer work on ante-natal and post-natal syphilis. The medal is awarded annually for the best individual effort of a general practitioner resident in Great Britain and Ireland in advancing the science and art of medicine.

TUBAL STERILITY.

AT the meeting, held on February 20th, of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, the President, Dr. HASTINGS TWEEDY, showed his instruments for passing catgut through the tube. He said that a fine stiff needle with a blunt point should be used; it should pass first through the ovary, where the catgut should be knotted, then through the tube, and lastly through the mucous membrane. Mucous membrane should be sewn to mucous membrane. In every case of sterility the tubes, even though apparently normal, should be tested for permeability by the air test. The impervious part should be cut away. It had been suggested that the short tube would prevent pregnancy, but he had seen pregnancies in women whose tubes were certainly not more than $1\frac{1}{2}$ in. long.

Dr. SOLOMONS said the paper dealt not so much with tubal sterility as with sterility in women with long tubes. He would feel very diffident about resecting tubes just because they were long. He blew them up with air when there was a kink and resected them, not on account of their length, but because of disease. In excision for length did Dr. Tweedy have the excised part examined microscopically? In view of the difference in bore of the parts to be brought into apposition, that of the smaller one being only $\frac{1}{25}$ in., the removal of the uterine ends of both tubes in these cases was a very big undertaking. The instruments, he thought, would prove very useful. When resecting a tube he did not use forceps, but had special needles, the ends of the tubes being held one by him and one by an assistant, in an end-to-end anastomosis; but Dr. Tweedy was dealing with resection of the uterine ends of the tubes. This question of sterility embraced all the pathological conditions in the tube. Since October, 1919, when he read the opening address in the Biological Society, he had seen many cases to prove that the tubes were usually at fault—many without gross lesions. It was difficult to know what to do in these cases. If the abdominal end was diseased, a new ostium should be made and the fimbriated ends removed; if the middle part, he performed an end-to-end anastomosis, using a long straight needle, and resecting the tube when catgut had been passed through the lumen. In cases of disease of the uterine end the prognosis was very bad, especially if the condition was bilateral. He wished to know through what part of the ovary the catgut passed before going through the tube, and if this step were necessary. He thought any ova in the neighbourhood should find their way into the tube without help.

Dr. SHEILL said that the first thing to prove was that a woman was really sterile, or successes might be claimed which were not earned. He was not sure that dilatation of the tubes with air was a sufficient test of the condition of the tubes. The only proof of sterility was a microscopic examination of the parts removed. With regard to the passage of the needle, if a false passage were made at the uterine end it was possible that the epithelium would follow this, especially if chromicized gut were used instead of ordinary six-day catgut.

The MASTER OF THE ROTUNDA said that the getting into apposition of the wide and narrow parts of the tube was the great difficulty.

Dr. TWEEDY, replying, said he hoped that by next year the technique of the operation would be greatly improved. Dr. Solomons had referred to the long tube. The speaker said not that a long tube should be resected, but that a long tube which was obstructed, as most long ones were, should be resected. He had observed the greatest difference in the calibre of tubes in different individuals. As regarded the microscope test, serial sections would have to be taken of the $1\frac{1}{4}$ in. of tube removed; the obstruction might only be $\frac{1}{100}$ of a millimetre. He thought the method employed by Dr. Solomons would lead to tubal pregnancy, as it had done in one case already, and also in one of his own cases when this method was employed.

He related this case, in which he resected one tube for concretions, the other being almost normal; this patient had a fixed retroversion. An end-to-end anastomosis was done, and she returned to Steevens's Hospital still sterile. The abdomen was opened; the anastomosis was found to have given way and the lumen had become closed. The tube was again resected, and the woman appeared at the Rotunda Hospital with a tubal pregnancy on the side of the resected tube. It was possible to pass a big sound through the fimbriated extremity to the uterus, and the probe could pass over the ovum into the uterus.

The other tube would not let anything through, therefore the technique was at fault. A continuity of epithelium was absolutely necessary. He used to agree with Dr. Solomons that tubal pregnancy was due to inflammation, but now believed that the lack of epithelial continuity was responsible. Blair Bell had a case of pregnancy after stitching the fimbriated extremity to the cornu of the uterus.

CLASS FERTILITY IN ENGLAND AND WALES.

AT a meeting of the Royal Statistical Society on April 20th, with Sir BERNARD MALLET, K.C.B., in the chair, Dr. T. H. C. STEVENSON, C.B.E., read a paper on the fertility of various social classes in England and Wales from the middle of the nineteenth century to 1911, based upon the information obtained in the last census as to the duration of marriages and the number of children born and surviving. Dr. Stevenson stated that in considering the differences in fertility between various sections of the population it was necessary to bear in mind the differences in their recorded child mortality. Taking the population as a whole, large families implied high, and small families low, child mortality; it was possible, therefore, that the small families of the middle classes were in part due to the low mortality of their children, as well as the latter to the smallness of their families. In a typical case—wives married at 20 to 25 whose marriages had lasted fifteen to twenty years—child mortality rose from 102 per 1,000 born in one-child families to 339 in twelve-child families, and 407 in those of over twelve children. This was due to the rapidity of births implied as well as to their number. At the same time high fertility did not necessarily involve high mortality. Agricultural labourers were 37 per cent. more fertile than textile workers, but the mortality of their children was 35 per cent. less. In measuring the fertility of the various social grades allowance must be made for the difference in the average size of families and the age at which it was customary to marry in the given class. Dr. Stevenson described the method of standardization which had been used for making this allowance, and the way in which the class division had been made for the purposes of this inquiry. It was, of course, necessary to infer the social status of families from such facts as the census offers, and those relating to occupation were found in the end to provide the most satisfactory basis.

The classification is into eight social groups. Of these, Classes I to V are in descending order of the social scale, Class I including the upper and middle classes and Class V unskilled labour, while Classes VI, VII, VIII consist of textile workers, miners, and agricultural labourers. The results obtained not only confirm previously published statistics in showing that fertility increases downwards throughout the

social scale, but they also suggest that this difference is of comparatively recent origin—in other words, that the defective fertility of the classes which are presumably the most successful and efficient, is a new fact, the consequences of which are not yet apparent and will have to be faced. Comparatively little class variation in fertility is observable in marriages contracted before 1861. Marriages of more recent date have been subject to the influences, whatever they may be, which have led to the fall in the birth rate from 1877 onwards. Their fertility has rapidly declined, and at the same time the class variation has greatly increased, which suggests that artificial restraint of fertility is the main cause of its decline. This is confirmed by several other facts. The decline began in the higher social strata and spread gradually downwards; occupied mothers show a very low fertility; and infertility increases in the higher classes with increase of marriage duration up to twenty-five years. It is to be noted that the comparatively low mortality in these, the less fertile classes, goes very little way towards compensating for their low fertility and that the classes which are least fertile are also those which marry late in life. The lowest fertility rates of all are those of the professional classes; persons describing themselves as of "private means" also show a very low rate. These are all included in Class I, the smallest of the five graded classes, but by far the most heterogeneous socially.

In two interesting tables Dr. Stevenson showed the detailed rates of fertility and child mortality for a few of the constituent occupations of Class I. The lowest fertility quoted was that of naval officers, and the highest rates were those of clerks and of commercial travellers. Outside Class I, textile workers came far down in the scale, and Dr. Stevenson considered that this might be due to the extent to which the wives worked in the mills. He concluded his paper with some figures relating to the effect of female occupation upon married fertility, which showed that the fertility of occupied wives was, almost without exception, considerably lower than that of all wives whose husbands had the occupation in question. The fertility of male teachers, for instance, was 70 per cent. of the average for all classes, but that of female teachers was only 52 per cent.

SURGERY AT THE ENDELL STREET HOSPITAL.

AT a meeting of the London Association of the Medical Women's Federation held at 11, Chandos Street, W., on April 20th, with Dr. HELEN BOYLE in the chair, Dr. GARRETT ANDERSON, C.B.E., formerly chief surgeon to the Military Hospital, Endell Street, gave an account of the work at that hospital from 1915 to 1919, illustrating her remarks with lantern slides. She said that the surgical work fell into three groups: In 1915 to 1916 large numbers of head wounds were received, and fractured skulls, with every kind of complication, were treated; in 1916 and 1917, compound fractures of thigh were received; in 1918, a fine series of penetrating wounds of joints, especially the knee-joint, were admitted. She emphasized the valuable results obtained by the use of bipp, which was first tried in 1916. It was used afterwards for a very large number of cases of compound fracture, and always with the best results. It replaced other disinfectants. It minimized the ward work enormously, as cases which previously had been dressed twice or thrice daily were left undisturbed with bipp for a week or more. It improved the prognosis of cases in a striking way and shortened the time of treatment in hospital. Over 26,000 men passed through the hospital and 7,000 operations were performed; 300 beds were set aside for orthopaedic cases. The speaker discussed the advance in the treatment of fractured thighs and wounds complicating joints. By disciples of Sir Robert Jones—notably, Major Sinclair, R.A.M.C., and Major Everidge, R.A.M.C.—the treatment of these cases had been revolutionized. In 1914 a case of compound fracture of the femur was a source of infinite anxiety to the surgeon. The recollection of these cases in the first year of the war suggested great suffering on the part of the patient: dressings at frequent intervals, drainage tubes, constant operations for the removal of sequestra, and, at the end of months of misery, a weak leg, considerably shortened, possibly with a stiff knee. A very different picture arose from the modern treatment, with bipp applied to the wound, after thorough preliminary investigation and cleaning, suspension on a net bed or a Balkan frame, a well fitted Thomas splint, and early movements of the knee. The evolution of technique for dealing with penetrating wounds of joints was equally striking. In 1918 it was not uncommon to regain a full or almost full range of joint mobility.

A CLINICAL meeting of the Psycho-Neurological Society was held at Lancaster Gate, W., on April 22nd, with Dr. H. E. DAVISON in the chair. The following cases were demonstrated:—Dr. C. WORSTER-DROUGHT: (1) Case of concussion of the spinal cord in the cervical region with Brown-Séquard syndrome and injury to the sixth and seventh left cervical nerve roots. (2) Case of fracture-dislocation of the spine in the lower dorsal region, with partial Brown-Séquard syndrome. (3) Case of proximal myopathy (Landouzy-Dejerine type). (4) Case of aphasia, agraphia, and alexia, with right homonymous hemianopia, in a man aged 30. (5) Case of early tabes dorsalis, with double intention tremor. Dr. DANVERS-ATKINSON: Case of myotonia congenita. Dr. P. BOUSFIELD: Case of motor aphasia and agraphia, due to cerebral haemorrhage, in a young man.

Reviews.

TWO TYPES OF SMALL-POX.

THE reappearance in this country of fatal small-pox and the outbreaks of "alastrim" which attracted attention in East Anglia give special interest to the hypothesis developed by Dr. JOHN MCVAIL in his Milroy lectures of 1919, reported in our columns at the time. He has now published them in a volume[1] which many will desire to keep on their shelves, for Dr. McVail raised a general question of great significance. He pointed out that in the pre-statistical period the fatality of small-pox varied greatly in different epidemics, and quoted statistics showing that between 1870 and 1895 the fatality declined; the London rate in 1893–94 was less than half that of 1870–72. This decline continued in the provinces, and was noted in the prevalences of the years 1902–5; but in London the fatality rate (Metropolitan Asylums Board hospitals) was much higher in the epidemic of 1901–2 than it had been ten years earlier. In seeking for an explanation of the difference in severity of the types prevalent almost contemporaneously in London and the provinces Dr. McVail utilized the valuable statistics published by the Local Government Board (Dr. Bruce Low) proving the high malignancy of the form of small-pox, which seems to have invaded France in 1900–3 from North Africa, and the evidence of Sir Shirley Murphy that the disease was introduced into London from Paris. On the other hand, the mildness of small-pox in America, and its undoubted introduction into Nottingham from Salt Lake City, to which Dr. Boobbyer called attention in this JOURNAL in 1901, afford an explanation of the provincial experience. Dr. McVail adduces other evidence to the same effect, such as that of the late Dr. Franklin Parsons, who described two outbreaks in one town—an outbreak of a mild type traceable to America and an outbreak of a severe type which came from Paris by way of London.

That we are dealing with types of the same disease, not with a distinction analogous to that between typhoid and paratyphoid, is shown by the fact that vaccination confers protection equally against the mild and severe forms.

Dr. McVail left open the question as to the factors causing the difference. Variations of virulence in zymotics, uncomplicated by the artificial immunization of a community, are well known; the most familiar example is that of scarlet fever. In this latter case the decline of fatality has been general, and might therefore be deemed a secular phenomenon. The instance of small-pox is of special interest because of the coexistence of the types. Are we to explain the greater severity of the African form in terms of local conditions operating upon the human population, or is it a resultant of something directly modifying the *materies morbi*? This is a subject which, as Dr. McVail remarks, needs special research. It would be rash to hazard any opinion, but, if the cause of

[1] *Half a Century of Small-pox and Vaccination.* By John C. McVail, M.D., LL.D. Edinburgh: E. and S. Livingstone. 1919. (Demy 8vo, pp. viii+86. 5s. 6d. net.)

differentiation is a lowered state of bodily resistance, then the appalling conditions now prevailing in large tracts of Europe give grounds for the apprehension that it is not typhus only that will have to be reckoned with in the near future.

RENAL SECRETION AND NEPHRITIS.

THE secretory activity of the kidneys has long been a matter of great interest to physiologists, the more so because the renal secreting cell and its working have often served as the field where philosophical mechanists and vitalists have met in battle. A fairly recent work (see BRITISH MEDICAL JOURNAL, 1917, ii, 620), by Professor Cushny, dealing with the secretion of urine, sets out the view that the renal cells in part enjoy the power of active rather than passive secretory activity. A similar conclusion must be reached after perusal of Professor AMBARD'S treatise on the normal and pathological physiology of the kidneys,[2] although no definite statement on the subject seems to be made in its pages.

In the first half of the book he deals with the physiology of the kidney; the renal elimination of substances, he maintains, may take place in three distinct ways—by "effraction" (a pathological process, as when blood escapes into the renal tubules), by diffusion, and by secretion. Elimination by renal diffusion has been observed and measured in the case of methyl, ethyl, and propyl alcohols, acetone, ethyl acetate, and perhaps chloroform; in other words, these substances escape from the circulating blood into the urine by the mere physical process of diffusion, for their concentration in the two fluids at any given moment is always found to be the same. Elimination by renal secretion implies the collection of some substance from the blood and its concentration in the urine, and is the way in which the kidney most commonly works. Emphasis is laid on the fact that it is able to concentrate all such substances to one and the same isotonic level of concentration, and that this concentration can be shown experimentally to have a maximum value for each which is independent of the presence of other substances that are being excreted in the urine—a relation comparable to Dalton's law of partial pressures in gaseous mixtures. Some of these substances—the chlorine ion and certain salts, glucose, glycerin, and water, for example—are described as "substances with a threshold"; others, like urea, ammonia, iodides, sulphates, methylene blue, and phenol sulphonephthalein, are "substances without a threshold," for their excretion takes place whatever their concentration in the blood stream may be, and is not postponed until this concentration has reached a certain limiting value or "threshold." Compounds with a "threshold" are in general useful to the organism; those without it are of no value to the living cells. Such "thresholds" have very different values for different substances, and have levels variable under changed conditions for any one substance.

The second half of the volume deals with the physiology of the kidneys in different forms of nephritis, and will be found of particular interest to physicians, though less interesting, or even discouraging, to the pathologist. Professor Ambard rejects all histological or pathological classifications of the various types of nephritis as unsatisfactory, offering in their place a classification based on the functional efficiency of the diseased kidneys. Widal speaks of "nephritis with excess of chlorides in the blood," or "with excess of nitrogen in the blood" (azotaemia), or "with hypertension," combining these characteristics if need be. Professor Ambard considers only "nephritis with oedema" and "nephritis with azotaemia." As in the first half of the book, his method is mainly concerned with experimental investigation, and he gives many pages of experimental results and calculations exhibiting different phases of renal activity in patients with nephritis. In nephritis with oedema he finds that substances without a threshold are eliminated with normal constants, but slowly; while in the case of those with a threshold the value of the threshold is raised. With nephritis of azotaemic type the action of the kidneys is highly unsatisfactory, though the thresholds are not raised, but are actually lowered. In mixed nephritis, or nephritis with both oedema and azotaemia, there appears to be a special failure to excrete water. Full directions for the experimental recognition of these three types of nephritis are given, and chapters are devoted to their symptomatology and prognosis. The value and limitations of the lacto-vegetarian diet in nephritis are discussed, and a somewhat half-hearted approval is given to the practical methylene blue test of renal activity.

The book is clearly written and well documented, and affords the careful reader much food for physiological and clinical reflection. It is of particular interest to notice that Professor Ambard writes from Strasbourg University, which was reopened to French students under French direction once again in January, 1919.

[2] *Physiologie normale et pathologique des reins.* Par L. Ambard, Ancien Chef du Laboratoire de Chimie, de la Clinique des Maladies des voies urinaires à l'Hôpital Necker, Professeur à la Faculté de Strasbourg. Deuxième édition. Paris: Masson et Cie. 1920. (Roy. 8vo, pp. 268: 43 figures. Fr. 18 net.)

DIFFICULT LABOUR.

FOR any one other than its original author to revise an admitted medical classic such as *Herman's Difficult Labour*[3] may appear to some to savour of an attempt "to gild refined gold, to paint the lily." And in the case of a writer whose work bears so strongly the stamp of individuality, both in its substance and in its method of presentment, the difficulties of the reviser must have been extreme. But if a classic, Herman's work is a modern classic, and it is also a very practical working handbook, so that, far from committing a sacrilege, Mr. CARLTON OLDFIELD and the publishers have done the profession a distinct service in bringing the book up to date. It would have been regrettable if by the neglect of modern advances in obstetric treatment the advice of this friend in need to many a practitioner had been allowed to become of less value.

Mr. Oldfield has very wisely abstained as far as possible from making textual alterations, and such as he has made consist for the most part of the deletion of matter which has become obsolete, and the addition of new. The latter deals mainly with treatment, and in particular with the widening indications for Caesarean section in contracted pelvis and in ante-partum haemorrhage. Several excellent figures have been added also. Distinctly modern notes are struck in the description of the treatment of rupture of the uterus, in which the use of Carrel's tubes is advocated, and in the reference to such a transient cause of accidental haemorrhage—or so one would hope—as T.N.T. poisoning. But these are merely minor criticisms.

The substance of the book is so well known as to need no discussion here. Suffice it that the work of revision seems to have been both skilfully and delicately done. The temptation to add too much recent matter, some of which has perhaps not yet fully emerged from the zone of controversy, must have been hard to resist, but Mr. Oldfield has kept ever clearly before him the special nature of the material upon which he was working, and has performed his task with praiseworthy conservatism and discretion.

A TEXTBOOK OF OPHTHALMIC OPERATIONS.

THIRTEEN years have passed since the issue of the first edition of GRIMSDALE and BREWERTON'S *Textbook of Ophthalmic Operations*.[4] During this time the operative treatment of glaucoma has undergone important modifications, and for this reason, if for no other, we welcome the appearance of the second edition, which contains about 100 more pages than its predecessor; the use of a slightly thinner paper has prevented any material increase in its bulk.

New chapters have been added on diseases of the conjunctiva and on intraocular and intraorbital foreign bodies, while the chapter on glaucoma has been rewritten; the general plan of the work, however, remains the same, the authors' object being to give the reader an outline of the operations which can be performed for any particular condition, so that he may make his own choice and adapt them to his own needs.

Although the chapter on the conjunctiva is new, its

[3] *Herman's Difficult Labour.* Revised and enlarged by Carlton Oldfield, M.D.Lond., F.R.C.S.Eng. London: Cassell and Co., Ltd. 1920. (Cr. 8vo. pp. xii + 573; 198 figures. 16s. net.)

[4] *A Textbook of Ophthalmic Operations.* By Harold B. Grimsdale, M.B., F.R.C.S., and E. Brewerton, F.R.C.S. Second edition. London: Baillière, Tindall, and Cox. 1920. (Demy 8vo, pp. viii + 438; 129 figures. 18s. net.)

contents were for the most part contained in the first edition, arranged under the section on the lids; the new arrangement is certainly an improvement.

This work, the only one of its kind on this special subject in our language, is a most valuable one, and reflects the greatest credit on its authors. No ophthalmic surgeon in this country can, we are confident, afford to be without it. The illustrations are largely diagrammatic, the authors holding that a good diagram is preferable to photographic representation of an ophthalmic operation, an opinion which will be shared by most ophthalmic surgeons. A word of praise is due for the very complete index.

HOUSE-FLIES.

THE latest number of the Economic Series of pamphlets published by the Natural History Museum is entitled *The House-fly: its Life-History and Practical Measures for its Suppression*.[5] Like the previous pamphlet of the same series on *The House-fly as a Danger to Health*, it is from the pen of Major E. E. AUSTEN, D.S.O., Assistant in the Department of Entomology. The objects of both publications are much the same; but Major Austen here draws on his experience on three fronts during the late war, and takes into consideration the requirements of the army as well as of the civil population. He gives a clear account of the distinctive characteristics of the house-fly and of certain other flies often mistaken for it, and then narrates the life-history of the house-fly. The question, What becomes of the house-fly in winter in the British Isles and North America? still remains unanswered, for the French naturalist's announcement at the end of last year that he had discovered house fly larvae in live snails in winter has not yet been confirmed in England.

In the section on house-flies and disease Major Austen sets out lucidly the reasons for regarding these insects as a serious menace to health. "There can be no doubt whatever," he adds, "that it is by far the most important of British insects from the standpoint of public hygiene. . . . It is therefore the bounden duty of everyone, by the employment of all possible means, to assist in protecting the community from the perils inseparable from the presence of these living vehicles of infection." Regarding preventive measures and remedies, he lays down two rules of universal application:

1. It is far better to prevent house-flies from breeding than to permit them to breed unchecked, and then endeavour to kill the resultant broods after they have invaded houses or other habitations.
2. No system of sanitary control can be regarded as efficient which allows house-flies to have access to material containing, or possibly containing, the germs of disease.

Before giving an outline of the most practical methods of checking the breeding of house-flies in horse-manure, household or kitchen refuse, and human faeces, he states emphatically that chloride of lime is utterly useless in any material whatever. The pamphlet closes with a short account of the best methods of dealing with flies which develop in spite of all precautions, or which negligence or ignorance have allowed to come into being. Of these methods preference appears to be given to formalin, and it seems worth while to note the author's statement that in the hygiene department of the Royal Army Medical College, Millbank, it was found that a solution of formalin in water soon becomes acid and consequently unattractive to flies. The best way of using formalin is stated to be to mix two teaspoonfuls of commercial formalin (40 per cent.), two heaped tablespoonfuls of sugar, and lime-water to make a pint. This mixture can either be exposed in soup plates having in the centre of each a cube of bread on which the insects may settle, or on pads of lint or cotton-wool in shallow trays, or it may be placed in closed tins with perforated lids through which are passed wicks having their lower end dipping into the fluid. It is stated that the formalin generally works best in the early morning, when, in kitchens, dining-rooms and offices, it is possible to ensure that no other source of refreshment is accesible to the flies.

[5] *The House-fly: its Life-History and Practical Measures for its Suppression.* By Major E. E. Austen, D.S.O. British Museum (Natural History) Economic Series, No. 1A. Sold at the British Museum, and by B. Quaritch, Ltd., and Dulau and Co., Ltd. (Demy 8vo, pp. 52; 11 figures. 1s. 6d. net.)

The illustrative plates and figures in the text are clear and helpful, and Major Austen and the trustees of the British Museum deserve the thanks of the community for producing this useful little work in time for its lessons to be applied during the coming summer.

NOTES ON BOOKS.

Legal Chemistry and Scientific Criminal Investigation,[6] by Mr. LUCAS of Cairo, is a book dealing with work in Egypt and the East, and consists of notes on all sorts of questions arising in the course of criminal investigations in which a knowledge of chemistry may prove of service in the tracking of crime and the administration of justice. The chemical expert must have a detailed and various knowledge of materials of every kind—alcoholic beverages, antiquities, blood stains, building materials, bullets, clothing, counterfeit coin, crops, documents, dust and dirt, and so on through the alphabet. A great deal of useful information and detailed advice will be found on the chemical, medical, and legal bearings of all these matters. The book should be of great service to coroners, medical experts, and chemists who deal with the detection of crime, particularly if their work lies in the East.

In the volume *Child Welfare*,[7] in which Dr. SIM WALLACE has collected a number of essays most of which have been previously published in medical or dental journals, he claims to set forth the modern views with regard to oral hygiene. In the first chapter, on prophylaxis at different ages, he emphasizes the following points: (1) Mouth breathing must not be induced by allowing the infant to breathe unduly cold and damp air. On this account the practice of allowing the infant to sleep in an unwarmed room with the windows open is strongly condemned. (2) Gnawing must not be prevented by withholding suitable articles, or, later, foods which may be gnawed and sucked. (3) Cleanliness of the food must be secured, otherwise unhygienic states of the mouth and alimentary canal are likely to be produced and the nutrition of the infant interfered with. In a chapter on the principles of dietetics he insists on the importance of the meals being of such a nature that they will leave the mouth physiologically clean. Such forms of food as jam rolls, bread and marmalade, are to be condemned as the last course of a meal, their effect being the opposite of fruit, which leaves the mouth in a hygienic state. In discussing the duty of the State towards the child, it is urged that oral hygiene should be regarded as a vital part of the curriculum for a diploma in public health or state medicine. Dr. Sim Wallace's book, if at times too diffuse and polemical, may nevertheless be recommended to those who are interested in child welfare and dietetics.

When lecturing on sanitation in Macedonia during the war to the officers of his battalion, Captain P. WOOD was struck by the importance of *Moses, the Founder of Preventive Medicine*,[8] which is the title of a well written little volume published by the Society for Promoting Christian Knowledge. He finds that scattered through the Mosaic code there are many fragments which, when gathered together, form a fairly complete system of preventive medicine, which was lost sight of for thousands of years and has suffered the fate of anachronisms by not being understood. In an introductory chapter the training of Moses is described; the ten plagues of Egypt are then shown to provide useful lessons on defective sanitation and an introduction to the succeeding chapters on hygienic legislation, the control of infectious diseases, and diet. In connexion with the credit ascribed to Moses, the more modern views as to authorship of the Pentateuch, or the first five books of the Old Testament, traditionally considered to be written by Moses, should be borne in mind; for though Moses gave certain laws to the Israelites, it is highly uncritical to regard him as responsible for all the laws; it has been shown that some of them cannot be earlier than 440 B.C., or about 800 years after Moses.

[6] *Legal Chemistry and Scientific Criminal Investigation.* By A. Lucas, F.I.C., Director Government Analytical Laboratory and Assay Office, Cairo, etc. London: Edward Arnold. 1920. (Demy 8vo, pp. viii + 181. 10s. 6d. net.)

[7] *Child Welfare and the Teachings of Certain Dentists, School Medical Officers, Medical Officers of Health, and other Medical Men.* By J. Sim Wallace, D.Sc., M.D., L.D.S. London: Baillière, Tindall, and Cox. 1919. (Demy 8vo, pp. x+102. 5s. net.)

[8] *Moses, the Founder of Preventive Medicine.* By Percival Wood, M.R.C.S., L.R.C.P., Captain R.A.M.C. London: Society for Promoting Christian Knowledge. 1920. (Cr. 8vo, pp. xi + 116. 4s. net.)

UNIVERSITY GRANTS.

THE total estimate for parliamentary grants in aid of the expenses of universities, colleges, medical schools, etc., in the United Kingdom for the year 1920–21 is £1,000,000, an amount which includes unallocated grants amounting to £210,500; the amount unallocated compares with £531,500 unallocated in 1919–20.

The following are the amounts of the grants made; the first column shows the amounts, if any, last year and the second column the amounts this year:

ENGLAND.	1919–20. £	1920–21. £
Universities.		
Birmingham	2,000	35,000
Bristol	2,000	17,000
Durham	2,000	2,000
Leeds	2,000	33 000
Liverpool	2,000	40,000
London	8,000	8,000
Manchester	2,000	40,000
Sheffield	2,000	21,000
Medical Schools.		
Charing Cross Hospital		1,000
King's College Hospital		700
London Hospital		6,000
Middlesex Hospital		2,000
Royal Dental Hospital School of Dental Surgery		1,000
London (Royal Free Hospital) School of Medicine for Women		4,000
St. Bartholomew's Hospital		5,000
St. George's Hospital		700
St. Mary's Hospital		1,900
St. Thomas's Hospital		4,500
London School of Tropical Medicine		1,100
University College Hospital Medical School		4,000
Westminster Hospital Medical School		300
Cambridge University, Medical Department		8,500
Durham College of Medicine		3,800
Colleges.		
Durham, Armstrong College		22,000
Bedford College		13,000
East London College		11,000
Imperial College of Science and Technology	32,000	52,000
London, University College		39,000
Nottingham, University College		11,000
Reading, University College		12,000
Southampton, University College		5,000

WALES.	1919–20. £	1920–21. £
University of Wales	6,500	6,500
Aberystwith, University College	9,125	14,000
Bangor, University College	9,125	14,000
Cardiff, University College	11,750	18,000
SCOTLAND.		
Edinburgh University	27,620	53,000
Glasgow University	24,680	48,000
Glasgow Royal Technical College		3,000
Aberdeen University	17,400	32,000
St. Andrews University, including Dundee University College	14,300	29,000
IRELAND.		
Belfast, Queen's University	18,000	26,000
Dublin, National University of Ireland	1,000	2,000
Dublin, University College	32,000	42,000
Cork, University College	20,000	26,000
Galway, University College	14,000	17,000

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee, held on April 13th, 27 cases were considered and £374 9s. voted to 24 of the applicants. The following is a summary of some of the cases relieved:

Widow, aged 34, of M.B.Edin. who died in December, 1919. Her only income is £30 from investments, and she has a child aged 4 months, which at present she cannot leave to earn her own living. Pays £2 2s. a week for board and lodging. Voted £18 in two instalments.

Widow, aged 38, of M.R.C.S.Eng. who died in February, 1920. Was left with four children, aged 4 to 1 year, and has no income whatever. At present the guardians are allowing her to live in the resident medical officer's house, where she lived previously. Voted £18 in two instalments.

Daughter, aged 60, of M.R.C.S.Eng. who died in 1873. She has no income, and lives with her sister, who lets rooms. Suffers from chronic rheumatism. Relieved thirty-five times, £290. Voted £18 in twelve instalments.

Daughter, aged 58, of M.R.C.S.Eng. who died in 1892. Was left totally unprovided for, and her only income is £21 from another charity. Pays 7s. 6d. a week rent. Is in ill health and cannot manage owing to the high cost of living. Relieved nine times, £117. Voted £18 in twelve instalments.

Widow, aged 58, of M.R.C.S.Eng. who died in 1914. Was left entirely without means, with one daughter, now aged 26, who is a children's nurse. Applicant has been earning £30 a year as a housekeeper, but is now ill and out of employment. Relieved seven times, £64. Voted £18 in twelve instalments.

M.R.C.S.Eng., aged 83, widower, whose only income is a pension of £100. Suffers from ill health. Has one daughter, who looks after him. Rent and rates £39, part of which is paid by friends. Relieved once, £25. Voted £26 in twelve instalments.

Daughter, aged 52, of M.R.C.S.Eng. who died in 1873. Has taken charge of a mental case for fourteen years, for which she receives £1 a week. Rent and rates £16 a year. The high cost of living makes it impossible for her to manage. Relieved eight times, £93. Voted £18 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W. 1.

The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles for the benefit of the widows and children who, in happier times, would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

MEDICAL EXAMINATION OF CIVILIAN AVIATORS.

THE Department of Civil Aviation of the Air Ministry has issued a pamphlet on the medical examination of airmen,* prepared by Lieut.-Colonel C. B. Heald, C.B.E., medical adviser to the department. It is described as an explanation of the methods and standards now in use in England for the examination of applicants for licences as civilian aviators.

The international medical requirements for air navigation, as laid down by the Convention relating to International Air Navigation, 1919, are indicated. The standard of fitness is prescribed by the Convention in general terms; one clause states that "Each contracting State shall for the present fix its own method of examination until the detail of tests and the minimum standard of requirements have been finally settled by the authorized medical representatives of the International Commission for Air Navigation." Re-examination is required at least every six months and after sickness or accident.

In the introduction to the pamphlet it is stated that the accurate estimation of physical and mental efficiency as regards flying is in its infancy, and that while the pamphlet is intended to serve as a general guide, the final word must be left to medical judgement and common sense.

In describing the methods of examination concise guidance is given as to the important matters of family and personal history, and the particular diseases and injuries to which special attention should be paid are set out. The notes on the rest of the examination are classified under "General Medical," "General Surgical," with special sections on the investigation of the condition of eyes, ears, nose, and the throat. A specimen form for recording the results of the examination is given, and a list of the apparatus required is illustrated by photographs and drawings. Finally, there is a list of references to British, American, French, and Italian publications.

The arrangement of the pamphlet is excellent, and, while the amount of information given might easily fill a book three or four times as large, the subject matter has, on the whole, been expressed so clearly and concisely that examining medical officers should find the explanations quite sufficient for practical guidance.

The general impression conveyed is that the examination of the civil aviator is divided into two parts—one a careful general surgical and medical "overhaul," and the other the application of special flying tests. Great stress is laid on the point that these special tests are merely

**The Medical Examination of Civilian Pilots, Navigators, and Engineers.* H.M. Stationery Office. Through any bookseller, price 6d.

adjuncts to the general clinical and temperamental examinations. This attitude is much to be commended in view of the short time many of these special tests have been in use and the consequent lack of experience of their true value. At the same time, in a summary of the general examination, it is stated that the special tests have been so consistently satisfactory that high minimum responses can be safely demanded. A short table is given of minimum standards for some of the special tests. Among these is a test for "expiratory force," as shown by readings on a U tube manometer, and it is stated that when the expiratory force is under 80 mm. of Hg "it suggests that the subject will probably be incapable of sustained effort in routine aërial work." It is difficult to imagine exactly what this test is intended to represent. An expiratory force of 80 mm. Hg is extremely low and the subject would probably be rejected on more obvious grounds.

It is interesting to note that the methods of body measurements advocated by Professor Dreyer have been adopted. They are likely to prove of great value, not only as representing the actual state of fitness of the subject at the moment, but as providing coefficients, deviation from which at subsequent examinations will at once draw attention to improved or impaired condition.

During the war it was recognized in this country that experience and ability in various forms of sport were valuable to the flying man. With reference to special mental tests such as reaction-time tests, to which the Italians and others have paid special attention, the following sentence is deserving of quotation: "The British have not adopted these special tests to any large extent, because they have felt that a history of aptitude at various sports-requiring eye is of equal value, as compared with a somewhat elaborate experiment carried out on a special occasion under circumstances frequently trying to the applicant." This attitude is extremely wise in that it encourages a careful weighing up of the aviator's temperament, and recognizes the value of his previous training and education. Psychological tests as applied to the aviator are so much in their infancy that at present they should be left rather to the laboratory than to the examining medical officer. There is little doubt, however, that electrically recorded psychological tests will before long be included in the examination of the civil aviator.

For practical purposes this medical examination is long and elaborate, yet the data to be acquired by such an examination will be of the greatest value from the research point of view.

The Civil Aviation Branch of the Air Ministry is to be congratulated on a medical service which can produce so excellent a guide to the medical examination of civilian aviators; it may well serve as a model when the international tests are decided on by the medical representatives of the International Commission for Air Navigation.

THE BUDGET.

MR. AUSTEN CHAMBERLAIN, in his Budget speech, pointed out that in general the position with regard to the past year's accounts was substantially better than had been suggested in his forecast last October. For instance, customs and excise gave an increase of £7,000,000 over what was then anticipated, and he drew the conclusion that, in the case of tea and tobacco at least, "it reflected an increased consumption and therefore an increased spending power in the mass of our people"—a conclusion not without interest in these days of rising wages. Incidentally he also attributed the increased yield of the tobacco duties in part to "the growth of the habit of smoking among women." The figures for the total debt were sufficiently alarming; the total dead-weight debt he put at £7,835,000,000, the floating debt being £1,312,205,000; the latter had been reduced by £100,000,000 during 1919–20, though the month of April was disappointing in that connexion. The Chancellor announced that the Government had decided that in future there should be no more borrowings to balance revenue and expenditure, but as further capital would still be required for local and national purposes the issue of Savings Certificates would be continued, and it was hoped that this would foster a spirit of thrift. The existing taxes apart from the new proposals were estimated to produce a revenue of £1,341,650,000, against an expenditure of £1,177,452,000, and would leave £164,000,000 for the reduction of debt; but the Government did not consider that sufficient, and he proposed further taxation, the result of which would be to produce a surplus of £234,198,000 for that purpose.

Mr. Austen Chamberlain stated that the amount of the anticipated surplus was such that its maintenance for twenty years would pay off the whole war debt, but added later that he did not contemplate that the country would continue to make the abnormal sacrifices that such a course would necessitate.

The proposals taken in detail provide for the following new or additional duties, in addition to the changes in motor taxation which were fully stated in our last issue:

The *Land Values Duties* are to be repealed, but the existing staff will apparently be retained for other purposes, such as for rating or death duty valuations.

Spirits and Beer and Wines.—On spirits the duties are increased from 50s. to 72s. 6d. the proof gallon and on beer from 70s. to 100s. the standard barrel respectively, the retail prices to be fixed by the Food Controller in such a way as to divide the burden between the manufacturer and the retailer. The duty on wines generally is doubled, being raised for light wines from 1s. 3d. to 2s. 6d. a gallon, subject to a rebate of 40 per cent. from countries entitled to preferential rate. The duty on stronger wines will be raised from 3s. to 6s., with 6d. extra for every degree beyond 42°, but this is subject to a rebate of one-third for wines from countries entitled to preferential treatment. There is an additional duty on still wine imported in bottle of 2s. in place of 1s., and on sparkling wine of 5s. in place of 2s. 6d., *plus* 50 per cent. *ad valorem*, but these charges are subject to rebates as in the case of wine in cask.

Cigars came in for special treatment, and are to bear an additional duty—50 per cent. *ad valorem*.

Stamp Duties.—It is proposed to double the "receipts" duty and to increase the stamp duties on transfers of stocks and on the registration of new limited companies.

Post Office Charges.—Mr. Chamberlain stated that the net surplus revenue from the Post Office of £6,500,000 before the war had been converted into a deficit of £11,000,000. He proposed increased charges estimated to produce £6,500,000 this year; he stated further that proposals for the increase of telephone rates would be laid before a Select Committee, and took power to increase the rates for inland postcards (to 1½d.) and for printed papers proportionately, as soon as the international rate can be raised, the date depending upon the decision of the International Congress which is to meet in Madrid in the autumn.

Inland letter rates are to be raised to 2d. for every 3 oz., with ½d. for every additional ounce. The charge for letters to British possessions and the United States of America will be raised to 2d. for 1 oz., with 1d. for every additional ounce. The inland charge for a copy of a registered newspaper not exceeding 6 oz. in weight is ½d., it is to be raised to 1d., with, as now, ½d. for every additional 6 oz. Inland parcel rates will be raised from 6d. for 3 lb. to 9d. for 2 lb., with similar increases for heavier weights. Inland telegrams are to be increased from 9d. for twelve words, with ½d. for every additional word, to 1s. for twelve words, with 1d. for every additional word. Telegrams handed in on Sunday will be subject to an additional charge of 6d., and porterage is raised from 3d. to 6d. a mile from the limit of free delivery. The charges on inland money orders and postal orders are also to be increased. Before the increases come into effect due notice will be given.

Income Tax.—The administrative questions dealt with in the Report of the Royal Commission on Income Tax are postponed for consideration later in the year, while the changes suggested in the method of graduating the tax are to be put in operation. These changes were dealt with in an article in our issue of March 27th (p. 441), and it is sufficient to say here that the earned income is reduced by 10 per cent. and the various allowances are for wife, £100, formerly £50; children, £40 and £30, in lieu of the existing £40 and £25; dependent relatives and housekeeper are deducted from the total to arrive at the "assessable" income, of which £225 is chargeable at one-half and the balance at the full standard rate of 6s. Supertax is to begin at the £2,000 limit, instead of at £2,500, and the rates are increased. Broadly, the effect will be to relieve the middle class and the taxpayer with family responsibilities. It will be realized that this very complete change in the method of steepening the effective rate of tax as the total income rises will ultimately simplify the individual taxpayer's assessments, though the transition from one method to another will inevitably cause some confusion. The three years' average basis of assessment of profits is to be retained for the present.

The *Excess Profits Duty*, which had in many quarters been regarded as marked out for extinction, is to be raised to 60 per cent. as from January 1st, 1920, with the proviso that the additional 20 per cent. may be foregone if a war levy on capital is raised.

The *Corporation Tax* is a new feature of our fiscal system, and is probably destined to supersede in due course the excess profits duty. It is to take the form of a special tax on the trade profits of limited liability companies, levied at 1s. in the £ on the company's profits, after deduction is made for any excess profits duty that may be payable. In a full year, and when unrestricted by the simultaneous operation of excess profits duty, this tax is estimated to produce £50,000,000.

British Medical Journal.

SATURDAY, MAY 1ST, 1920.

THE BUDGET.

WE described the Budget of last year as a transition Budget; the present Budget is the first step in the direction of debt reduction. Last week we dealt with some of the points which most directly concern the medical profession, but it appears desirable to take a general view in order to get the various matters into proper proportion.

With regard to debt reduction it was hoped by many financial experts that the Chancellor would cease to regard the sale of stocks of munitions and similar war purchases as ordinary Exchequer receipts, and would earmark them in future for the repayment of loans with which such stocks were bought. Mr. Chamberlain justified his failure to fulfil these expectations by showing a surplus on the estimated revenue for the forthcoming year, which is to be used for payment of debt; he spoke of it as a matter of book-keeping, but the net result is that whereas the sales are expected this year to yield 202 millions, the present estimate for the redemption of debt is 234 millions.

The Chancellor's attitude on the question of the excess profits duty came as a complete surprise. The general expectation was that that duty—which was reduced under the previous Budget from 80 per cent. to 40 per cent. as from January 1st, 1919—would be completely discarded and in its place some other tax would be introduced to make good the resulting revenue deficiency in part, if not entirely. In this connexion a new tax on the business profits of limited liability companies had been thought probable, and the surmise proved correct; what was not expected, however, was that this new tax is to run concurrently with the excess profits duty; and, to the further confusion of "intelligent anticipations," that duty is not only to be maintained, but even to be increased to 60 per cent. as from January 1st, 1920, though the Chancellor did hold out some hope that the additional 20 per cent. might be foregone if a workable scheme for a capital levy on war fortunes could be evolved in time for it to be put into operation this year.

It is due to the Chancellor to say that the Budget has clearly been framed without fear either of his friends or his opponents; the outstanding need of the moment is the repayment of debt, and the proposals which have been laid before Parliament are conceived with the courage and perception of financial conditions which are essential if that need is to be met. Memories are short and commercial prosperity is periodic; the recognition of these facts has evidently braced the Chancellor, and indeed the House of Commons as a whole, to face the financial demands of the moment boldly and successfully. The magnitude of these demands are as striking as their urgency. The Budgets of to-day reach figures undreamt of by our forefathers, and we believe that the Government has correctly located the only source from which the Exchequer can draw the income necessary to put the national accounts on a better footing. Mr. Chamberlain frankly admitted that he fell into the general error in supposing that the signing of the Armistice and the consequent suspension or cessation of munition work would usher in a not inconsiderable period of industrial and commercial difficulty before the transition to peace-time activity could be achieved; "the excess profits assessed during the year," however, "showed an upward trend," proving that the dislocation of industry was much less than had been feared. With income tax at its present levels, we have no hesitation in saying that there is only one quarter in which the Chancellor can have any hope of finding the capacity to bear the additional taxation necessary for the repayment of debt, and that is in the world of business, and more particularly in the world of "big business." That the Chancellor appreciates the truth of that reading of the position is evidenced by the maintenance or increase of the excess profits duty, coupled, as it now is, with the special tax on the business profits of limited liability companies—the Corporation Tax, as it is to be called. Whether any scheme for the special taxation of war fortunes will ever achieve fruition is open to very grave doubt, but in the meantime it is a matter for congratulation that the big burden is being placed on the broad shoulder.

There is one feature of the income tax proposals as to which we entertain a good deal of doubt, and that is as to whether the proposed rebate of 10 per cent. in favour of earned incomes is sufficient. On the 1919–20 scale the taxpayer whose total income did not exceed £1,000 received a rebate of 20 per cent., and if it did not exceed £1,500 then 17½ per cent., and so on. What is really wanted is a system under which a taxpayer's own savings should be differentiated from inherited funds; if that is impossible we are thrown back on a discrimination between earned or precarious as against unearned or investment incomes, inasmuch as the former class of income implies the duty of saving to a greater extent than the latter. It must be freely admitted that in this, as in many other fiscal questions, the interaction of other taxes must not be overlooked; the source of investment incomes ultimately bears a death duty taxation from which earnings are free, and an increase in death duties logically implies a lowering of the advantage given to them in the matter of the income tax. But that notwithstanding, it is only to be supposed that many "earners" will feel some sense of grievance in seeing their differential advantage reduced from 20 per cent. or 17½ per cent. to 10 per cent.

Another additional charge levied in the form of increased duties on the transfer of stocks and shares will affect many medical men, more particularly, perhaps, those who are making provision for their dependants by accumulating and investing such savings as may be possible under present conditions of expenditure. The duties, even on their revised basis, would be small as compared with the amount of capital invested, so that their deterrent effect would probably not be great in the case of genuine investment, but might come into operation where shares are bought and sold with any degree of frequency. It is to be hoped that the Chancellor is not relying too much on this aspect of the matter to justify the increased levy. The existing taxes are already sufficient to discourage saving in many cases, and any further deterrent, however slight, may operate in such circumstances with surprising results.

We referred last week to the new motor-car taxation to be put into force at the beginning of 1921, and pointed out that in this matter the medical profession is being harshly treated. The profession need feel no false modesty in pressing its claim to fair treatment, for its patriotism is indubitable and the weight of

taxation is such that no addition to its due proportion can be carried without great hardship. It is proposed to put the new motor tax into operation as from January 1st, 1921. The proposals differentiate between different kinds of vehicles, the classifications being framed so as to give preferential treatment on the basis of units of weight to, *inter alia*, "vehicles used for the conveyance of goods," and the White Paper states "the abatement of duty granted in the case of motor cars used by medical practitioners or veterinary surgeons will cease." The legislature has repeatedly admitted that such cars are in a different position from cars used for pleasure, and we find it hard to believe that it will now reverse that view. We submit that, if the intention is that the tax should ultimately be borne by the practitioner, it is unfair; and if it is to be borne by his patient, through the operation of increased fees, it is clumsy; and, further, that any fiscal impediment to the purchase of the speediest means of locomotion is in the case of a medical practitioner impolitic on public grounds. We suggest very strongly that equity demands the grant of some substantial rebate from the proposed tax on the lines of that granted in the tax which it is to supersede. The steps already taken by the British Medical Association were stated last week (p. 576), and the Association's further action is recorded in a Current Note in the SUPPLEMENT this week.

An aspect of the national finances that is rightly receiving attention is the cause of the national expenditure, as well as the methods by which it is to be met. It must be admitted that in this connexion the Chancellor's position is extremely difficult. When the sums to be raised by taxation were smaller, and taxation was less intricate and burdensome, he might reasonably be expected to act as a watchdog to prevent the intrusion of extravagance; to-day the dual rôle is perhaps more than any one man can fill, for economy in expenditure can be effected only by close and almost daily criticism of the proposals, not only of members in the House of Commons, but also of the State departments, and even then that criticism must be backed by detailed knowledge and a power of veto that no single individual would desire to possess or be able to exercise properly. A committee system in the all-important field of finance is not congenial to the British genius, but we seem to be approaching a point at which that will have to be tried if the present system fails to retain public confidence in its power to achieve a proper standard of economy in administration.

THE DECLINING BIRTH RATE.

WE publish elsewhere a summary of the paper read to the Royal Statistical Society on April 20th by Dr. T. H. C. Stevenson, Superintendent of Statistics in the General Register Office. The most striking result brought out by the tabulation of the census returns is the decline of fertility in the middle and upper classes. In Dr. Stevenson's words: "We were already well aware that the more successful and prosperous classes were behindhand in their contribution to the upkeep of the nation; but it was possible to suppose that this might long have been the case, and that, therefore, experience had proved it to be compatible with such prosperity and advancement as had been achieved. Now, however, this comforting view is no longer tenable. In the deficient fertility of the classes which, having achieved most success in life, are presumably best endowed with the qualifications for its achievement, we see that we have to face a new and formidable fact—how formidable is a question which must be left for the consideration of authorities on eugenics."

It is not unnatural that Dr. Stevenson, the custodian of our national statistics, should deem a proposition unproven until it has been put to the test of census machinery. For ourselves, we should prefer to speak of his results as a verification of what Professor Karl Pearson and his pupils, particularly Dr. David Heron, had rendered highly probable more than ten years ago. Much as we are indebted to official vital statisticians in connexion with this subject, our debt to the late Sir Francis Galton and to his most brilliant disciple, Professor Karl Pearson, is far greater. To Professor Pearson we owe both the best means of making statistical discoveries, and discoveries themselves which the fuller records of the national census confirm. Most can raise the flower now for all have got the seed; the smart of wounds received in ephemeral controversies—and medical men have not come within range of the biometric artillery without some injury—ought not to diminish our gratitude to the Galton Professor of National Eugenics, or to prevent us from congratulating him on the official adhesion to his main doctrine which such words as those of Dr. Stevenson convey.

Are we to infer from these results that, unless the middle and upper classes can be induced to make a larger proportional contribution to the rising generation, national decay is certain? Upon this there is room for difference of opinion. We should suppose that, if prosperity depends upon fulfilment of the proviso, the future is gloomy. Financial encouragements of parenthood amongst the middle and upper classes so large as to be calculated to have a sensible influence are not very likely to find favour in any form of state now existing. Most of the detailed proposals we have seen bear a strong family resemblance to the advice tendered annually to the Chancellor of the Exchequer in the matter of taxing cats; again, historians tell us that the *Jus trium liberorum* never had the desired effect. On the other hand, while it does seem probable that the absolute fecundity of the very poor and miserable can and will be reduced, there are likely to remain vast numbers of persons who will not place even the restraint upon their sexual impulses which the use of contraceptives involves.

Perhaps a gleam of hope is afforded by the consideration that social selection is not infallible, and that the fittest may not be the best. The obvious argument is that nearly all persons struggle to pass out of the social group in which they are born, that those who succeed are the best members of their class, usually also the least fertile, and that on attaining promotion their fertility is still further reduced. It is, however, possible that there is a flaw in the reasoning. It may be that those who are socially and economically failures, inasmuch as they do not secure class promotion, may be, intellectually and morally, better citizens than the successes. Within the circle of middle and upper class occupations there is not a perfect correlation between the social or economic prestige of a profession and the average intellectual endowments of its members. Perhaps the qualities which lead to effective greatness in the world are much more specialized than has been assumed, and comfort may be drawn from *The Admirable Crichton* of Sir J. M. Barrie.

It is at least certain that, during the war, capacity for social service was discovered in unexpected quarters. But even if this be admitted, it only amounts to saying that disaster is not so imminent as

an extreme pessimist would suppose. If any criterion of success—the imperfect one of worldly prosperity, which we now employ, or some better one yet to be devised—is in practice always correlated with relative sterility, ultimate national decadence would seem to be assured.

SECTIONS AT THE CAMBRIDGE MEETING.

ARRANGEMENTS have now been made for the discussions and demonstrations in the Section of Venereal Diseases at the annual meeting of the British Medical Association at Cambridge this summer. This Section will meet on Thursday, July 1st, under the presidency of Mr. E. B. Turner, F.R.C.S. The three morning hours will be confined to the subject of venereal diseases in women and children, and discussion will be based on two papers: (1) The treatment of venereal disease in women, by Dr. Morna Rawlins, surgeon for venereal diseases to the New Hospital for Women and gynaecologist to the Female Lock Hospital; (2) Venereal diseases in children, by Dr. Leonard Findlay, physician to the Hospital for Sick Children, Glasgow, and lecturer on diseases of infancy and childhood in the University of Glasgow. In the afternoon there will be a clinical demonstration at the Venereal Diseases Clinic, Addenbrooke's Hospital, and a laboratory demonstration, under the direction of Professor Bernard, in the medical schools. It is hoped to show models of a standard type of clinic, made from an army hut according to the design of Colonel L. W. Harrison. The honorary secretaries of the Section are Dr. W. H. Harvey and Dr. Otto May. The Section of Obstetrics and Gynaecology will meet on Wednesday, June 30th, when the main topic for discussion will be puerperal sepsis. Mr. Victor Bonney (London) will contribute the opening paper on the prevention and treatment of puerperal sepsis. Mr. H. Beckwith Whitehouse (Birmingham) will deal with the surgical treatment of the uterus in puerperal sepsis; Dr. A. E. Gow (London) with intravenous protein therapy in the treatment of puerperal septicaemia; and Dr. Leith Murray (Liverpool) with the use of serums and vaccines in puerperal sepsis. It is proposed to hold a joint session with the Electro-Therapeutics Section to discuss the treatment of fibroids by *x* rays. During the meeting Dr. R. Mackenzie Wallace will give a demonstration of the diastase reaction. The president of the Section is Dr. Herbert Williamson, and the secretaries are Dr. Malcolm Donaldson and Dr. W. R. Grove. Particulars regarding accommodation for visitors at Cambridge, and other matters, are printed in an inset to the SUPPLEMENT this week.

GOVERNMENT POLICY AS TO MUNICIPAL GENERAL HOSPITALS.

OUR lobby correspondent writes that while Dr. Addison is unlikely to go further in statement of policy as to the establishment of municipal hospitals than he did in answer to a question by Mr. Lyle, reported in the BRITISH MEDICAL JOURNAL of April 24th, p. 583, it is understood that he intends to act fully up to what he then said. He intimated that he had given his sanction to the establishment of a municipal hospital at Bradford because it seemed to him the only practicable method of providing the institutional accommodation needed by the city, and that pending further legislation, which was now being prepared, he would consider cases on their merits as they arose. It was open to Dr. Addison to have said that for the time being he would more or less limit his sanction to the cases of localities where fresh population had accumulated and was without institutional service except at a considerable distance. Clearly, however, having made the Bradford precedent, he is prepared to consider appeals where existing accommodation in large towns is not equal to the urgent demands of the population as a whole, and he may be willing, in such applications, to sanction the setting up of municipal hospitals, possibly to serve in a secondary capacity—that is, to relieve the voluntary hospitals of cases of minor importance which do not require their high equipment. Indeed the Medical Consultative Council is said to favour such a course, but it does not appear that sufficient information is available for this to be done on a large scale, nor does Dr. Addison wish to anticipate legislation which should be of a comprehensive character.

MAGIC AND MEDICINE.

AN address given three months ago to the British Academy is a good illustration of the application of scientific principles to historical research in medicine, of which Dr. Charles Singer of Oxford is so enthusiastic an expenent. By dint of much industry and the use of many modern mechanical devices he collects his facts, and then applies the comparative method. The subject of his address was early English magic and medicine,[1] and he explains how magical and medical practice of early England has come down, though in a fragmentary state, by two channels—manuscripts and folklore—but he relies mainly on the former. Native magic and medicine was at an early date affected by imported elements of classical, ecclesiastical, or Salernitan origin, but its four characteristic elements were the doctrines of specific venoms, of the magical quality of the number nine, of the worm as the cause of disease (in which we may see the appearance of the widely prevalent belief in the dragon), and lastly the doctrine of the elf-shot, which embodied the belief that a large amount of disease was due not to occupation by, but to the malevolent action of supernatural beings—elves, smiths, or witches—who fired shafts at the sufferer. When English magic and medicine was first influenced from the Mediterranean it was by the debased Greek or Byzantine system, a combination of at least four more or less discordant elements. First, the purely scientific medicine which took its rise from the Ionian philosophers of the seventh century B.C., and was already far advanced by the time of Hippocrates in the fifth century B.C. Secondly, the demoniac medicine inherited from Babylonia and Assyria and based on the theory that disease was due to the entry of a demon into the patient's body, and therefore to be cured by exorcism. Since it was to be assumed that what was bad for the demon must be good for the patient there arose the idea, not yet dead, that nauseous drugs were of particular value; they were intended to disgust the demon and weary him of his habitation in the patient's body. The third element was magic, founded on a primitive unorganized belief as to the relation of cause and effect; the fourth element was common sense or empirical knowledge. Nordic medicine does not seem to have suffered from the demoniac idea; Anglo-Saxon magical processes were designed to remove the *materies morbi* projected into the body of the patient by supernatural beings; they were formulae for the extraction of the elf-shot. In the later part of his address Dr. Singer dealt with the lessons to be learnt from a careful study of manuscript herbals. The earliest showed Mediterranean influences, the figures being, in part at least, copied, for some of them can be identified as Mediterranean species unknown in this country. But the object of a herbal was mainly utilitarian, since it was designed to enable the herb gatherer to recognize the plant; consequently conventions were thrown off, and a herbal prepared at St. Albans about 1120 contains good drawings of native plants made from actual living models. Later the correct English style was swamped by Norman influences, and the true drawings were replaced by gorgeous, elaborate, and beautifully painted plant designs, excellent as decorations, but bearing little resemblance to nature. The

[1] It has been reprinted in a pamphlet, price 4s. net, by the Oxford University Press.

pamphlet is interesting in itself, but of more interest for the scientific method it illustrates. Dr. Singer, we believe, has the ambition to write a history of science, and we may note that at 5.30 p.m. on May 12th he is to give a lecture on Greek Science and Modern Science, a Comparison and a Contrast, at University College, London.

TRIFLING WITH SYPHILIS.

WE have received a pamphlet, "Venereal diseases and their treatment: how not to do it," published by the National Association of Medical Herbalists of Great Britain, Limited. It appears that this association was founded in 1864 and incorporated in 1895. One of its objects is "the diffusion of a knowledge of the therapeutic properties of plants." We shall not quarrel with it over that. We are all of us herbalists; we all make use of the therapeutic properties of plants. The only question is, What is the value of herbs for the treatment of the venereal diseases? We are all for "non-poisonous drugs" if only they will act. We can feel ourselves in touch with Friar Laurence moralizing over his herbs:

> Many for many virtues excellent,
> None but for some, and yet all different.

Our only desire is to do the right thing for our patients. How would Friar Laurence have treated syphilis? What, for example, is the value—the real, ascertained, measured, proven value—of sarsaparilla? A medical herbalist was among the witnesses before the Royal Commission on Venereal Diseases, 1913: his evidence had a touch of Friar Laurence's vague hopefulness, but none of his poetry. The pamphlet is anonymous. It appeals, with some cleverness, to the distrust and the dislike of "orthodox medicine," which are to be found, here and there, among all classes of the community. Some of us are hardly conscious of the existence of this antipathy against our profession; or are content, offhand, to reckon those who are possessed of it as cranks, or as "anti's." But there it is: and this pamphlet is a good instance of it. The writer of it begins, as we should expect, with a reference to some old errors which were "orthodox" enough, more's the pity, once upon a time: John Hunter's mistaken experiment on himself in 1767; Ricord's false notion of gonorrhoea as a non-specific infection—Ricord was a man with a rather nasty mind—and the excessive use of mercury to salivation, and so forth. It seems that any old stick will do to beat us with. Next, the writer comes to the Royal Commission of 1913, with its approval of "the mineral poison treatment" and of "the essential quackery of orthodox claims." *Essential* is good. He thinks that he has discovered the Society for the Prevention of Venereal Disease in a violation of Section 2 of the Venereal Diseases Act, which forbids advertisements of drugs to be used externally or internally as medicines for the prevention, cure, or relief of venereal disease; but, apart from any question as to the interpretation of the words of the section, he has forgotten the proviso which permits advertisement, notification or announcement, or recommendation, published by any public authority or with the sanction of the Local Government Board in England and Wales, Scotland, or Ireland. Finally, he comes to "the modern orthodox treatment of syphilis." He has put together, in the usual paste-and-scissors way, certain statements against salvarsan and the like drugs. As we all know, they are not drugs to play with; but neither is syphilis a disease to play with. He gives a strange twist to an offhand remark by one of the witnesses before the Royal Commission that the venereal diseases are "primarily filth diseases." For he uses it as an argument that "a hygienic treatment of syphilis and gonorrhoea, supplemented by non-poisonous herbal medication, may well be superior to all other forms of treatment." By hygiene he means attention to the general health; but that is part of the "orthodox" treatment. He says that if he published the praises of his herbs he might be prosecuted under the Venereal Diseases Act. Is there no escape from this lame and impotent conclusion? Surely he could find one if he would try hard enough.

UNIVERSITY OF LEEDS.

THE University of Leeds is about to follow the example of the Universities of Liverpool and Manchester by making an appeal for large funds for extensions in various departments. The vice-chancellor, Sir Michael Sadler, at a meeting of the University Court last week, said that the sum of £500,000 was needed in order to enable the university to provide the education and training required by a rapidly increasing number of students, and make it possible for it to take its proper share in research and the advancement of learning. At present the university is unable to admit the large number of students qualified to take advantage of it who are seeking admission. The great majority of the applicants come from Yorkshire schools. The university needs new laboratories for teaching and research in pure and allied science, especially in chemistry, physics, engineering, leather industries, textiles, dyeing, fuel, and mining. The pro-chancellor, Mr. A. G. Lupton, said that help received from local authorities had enabled the university to become the foremost educational institution in that part of the country, and he believed that Leeds would become the greatest university in the country for applied science. Employers and manufacturers, he said, no longer hesitate to employ university trained men, and the great number of students the university now had to deal with was in a large measure the result of the commercial demand for men who had undergone a real scientific training. He added that when he was elected to the Council there were 368 regular students and 602 occasional students, a total of 970, and the fees paid by them amounted to £2,463. In 1904, when the university charter was granted, there were 1,278 students, and the fees they paid amounted to £10,319. In 1919 there were 1,750 students, and the fees received exceeded £22,000. Sir Michael Sadler said that large developments and extensions to the School of Medicine and to the School of Dentistry were needed. Another urgent requirement was a new building for the university library. The demand from all over Yorkshire for college life in association with the university was one of the most striking changes in recent university life at Leeds; the new estate at Weetwood afforded an admirable site for new halls for residents. The university needed also a new large institute as a centre of the students' corporate life and a new gymnasium, which was a necessary part of the physical education given in the university. It was right that those who could afford to pay for university education should contribute towards its cost, and great sacrifices were made by the very large majority of students and their parents, but no higher education in the world was self-supporting. It had to be remembered that above the individual interest and individual gain were the national interest and collective gain. At the same meeting the resignation of Mr. Lupton, the pro-chancellor, was received with much regret, and a resolution recording his great services to the university was unanimously adopted.

ADDITIONS TO THE FRENCH PHARMACOPOEIA.

THE last edition of the French pharmacopoeia, *Codex Medicamentarius Gallicus*, was issued in 1908. The previous edition had appeared in 1884, but a supplement was issued in 1895. A supplement to the *Codex* of 1908 has now been issued. A commission to prepare it was established in April, 1910, and it had nearly completed its task in August, 1914, when its labours were interrupted by the war. The commission was reappointed in 1918, and the supplement came into force on April 1st, 1920. Only four new drugs are added; these are *diéthylmalonylurée*, which appears in the *British Pharmacopoeia* under the name barbitonum (diethyl-barbituric acid), commonly

called veronal; *chlorhydrate de diméthylamino-diméthyl-éthyl-benzoyl carbinol*, or amylocaine hydrochloride, introduced as a local anaesthetic under the name stovaine; *hexaméthylène-tétramine*, which is in the *British Pharmacopoeia* under the name hexamine; the value of this drug was first ascertained in France in 1892, when it was given the name formine; it was afterwards exploited by German manufacturers under the name urotropine; *chlorhydrate de para-aminobenzoyldiéthylaminoéthanol*, which appears in the *British Pharmacopoeia* under the name novocain. The other alterations in the supplement are of minor importance; for instance, piperazin, which was inserted in the last edition under the belief that it was of value in the treatment of gout, was found inconvenient to dispense owing to the readiness with which it absorbed water and carbonic acid; it is replaced by its hydrate, which contains 44 per cent. of water. A new formula is given for a tincture of iodine which is a little weaker than the strong tincture of iodine of the *British Pharmacopoeia*. A liquid extract of red cinchona bark has been introduced containing 3.5 per cent. of total alkaloids, as compared with 5 per cent. in the liquid extract of cinchona of the *British Pharmacopoeia*. A solution of silver nitrate has been inserted for use as a preventive of ophthalmia neonatorum. The most interesting additions made in the supplement, however, are two serums—antidysenteric and antimeningococcus. The former is directed to be the serum of horses immunized by the injection of cultures of the bacillus of Shiga. The test for it is—"one cubic centimetre of dysenteric toxin mixed with one cubic centimetre of the serum must be innocuous when administered by subcutaneous injection to a rabbit; half a cubic centimetre of the serum injected into a rabbit weighing two kilograms must preserve it against the injection of three to four cubic centimetres of a culture of dysenteric bacilli." The antimeningococcus serum is to be obtained from horses immunized by injections of meningococci. Dr. B. Lyonnet of Lyons[1] finds fault with the supplement on the ground of its omissions, particularly of a large number of drugs which are contained in the pharmaceutical formulary for military hospitals, and especially because no organic arsenic preparation for the treatment of syphilis has been inserted. The interval between the last edition and its predecessor was twenty-four years, and Dr. Lyonnet expresses the hope that the new commission, which consists of twenty-four persons, will accomplish its task more speedily, and in this connexion quotes the advice of M. Clemenceau in his speech at Strasbourg on November 4th last: "Do not let us be afraid of overworking ourselves."

TYPHUS IN POLAND.

AN interesting account of the prevalence of typhus in Poland during the years 1916 to 1919 was given to the Section of Epidemiology and State Medicine of the Royal Society of Medicine by its president, Dr. E. W. Goodall, at a meeting on April 23rd. He had studied conditions in Warsaw and in a manufacturing town, Zawiercia, about 170 miles from Warsaw. The prevalence of the disease was considerable; between 1915 and March, 1919, probably not less than 400,000 cases had occurred in the whole country. The general fatality was low—from 7 to 10 per cent., increasing rapidly with age. The epidemic curve showed a winter maximum, but numerous cases continued to occur during the summer. The form of the curve in the two towns studied did not seem much modified by such administrative measures as were found practicable. The chief causes of the prevalence were constant warfare, influx of prisoners, and lack of soap, clothing, transport, fuel, and food. During the war the Germans made vigorous efforts to keep down typhus, compelling de-lousing at the point of the bayonet. After the armistice, not only did economic conditions fail to improve, but there was more circulation of the civilian inhabitants, and thousands of Russian prisoners passed through eastwards. The general conditions at the end of 1918 were extremely bad. Housing was very unsatisfactory, and there were large numbers of old wooden huts which could not be cleansed short of burning them down. The Polish authorities attempted to maintain a sanitary cordon on the south-east frontier, but both staff and material were lacking. The paper was discussed by Dr. G. S. Buchanan, C.B., who was in the chair, Colonel Hunter, Major General Sir William Macpherson, Dr. Hamer, and Major Byam.

[1] *Lyon Médical*, April 10th, 1920.

THE OSLER MEMORIAL VOLUMES.

THE contributions to medical and biological research made by his friends and pupils as a tribute to Sir William Osler on his 70th birthday last July, have now reached this country. They form two volumes, well printed and well illustrated, which are now being distributed to the subscribers. The contributors number nearly 150, and are drawn from both sides of the Atlantic. In the arrangement of their articles a rough classification into four groups may be noted—the first mainly historical, the third mainly biographical, the second and fourth clinical and biological. The first paper in the volumes, appropriately enough, is an account by Dr. T. D. Acland, of the Oxford University Museum, illustrated by a picture of it and by portraits of Ruskin, Sir Henry Acland and Sir John Burdon-Sanderson; Dr. Arnold Chaplin has added a short essay on the Oxford Medical School in the eighteenth century; Sir Archibald Garrod, Sir William Osler's successor, has an essay on the laboratory and the ward, and Sir Auckland Geddes another on social reconstruction and the medical profession. Professor Arthur Keith writes a characteristic essay, a mixture of history, gossip, and science, on the cradle of the Hunterian school. Later Dr. Walsh contributes an impression of the influence of English medicine upon American medicine in its formative period, which, as distinguished from Scottish medicine, was, he says, most marked in the later part of the eighteenth and the first three decades of the nineteenth century, and came largely from the great London surgeons, Percival Pott and John Hunter, and their successors, especially Abernethy and Astley Cooper. Of the clinical papers we cannot profess to give any account, only noting that Professor Lewellys Barker, who succeeded Osler at Johns Hopkins, writes on the diagnosis of general and regional athero-sclerotic processes; Dr. Koplik on the intimate relation of chorea, rheumatism, and cardiac diseases; Dr. Councilman on the heart and kidneys of old people, and Dr. Simon Flexner on the epidemiology of poliomyelitis. Sir Clifford Allbutt has contributed an historical paper on the innate heat; and the short address he gave at the meeting held on July 11th, 1920, to celebrate Osler's birthday on the following day, serves as a preface to the volumes.

THE Society of Apothecaries has subscribed £10 10s. to the Keats Memorial House Fund. The poet Keats was one of the earliest licentiates of the society; he was examined by the celebrated Dr. Brande, and qualified in 1816.

THE complimentary dinner to Sir G. H. Makins, G.C.M.G., P.R.C.S., will be held on Monday, May 10th, at the Wharncliffe Rooms, Hotel Great Central, at 7.30 p.m. for 7.45. Sir Cuthbert Wallace will take the chair. Any of Sir George Makins's friends who would like to be present are asked (if they have not already done so) to notify Mr. C. Max Page, 134, Harley Street, W.1, in order that seating arrangements may be made. Payment for the dinner (one guinea, not including wine) will be made at the Wharncliffe Rooms. No tickets will be issued.

Medical Notes in Parliament.

National Insurance Bill.

Measure through Committee.

THE National Health Insurance Amending Bill was passed through Grand Committee of the House of Commons on April 27th.

Mr. Godfrey Locker-Lampson moved an amendment that local authorities providing treatment for sufferers from tuberculosis should co-opt persons with experience of the working of tuberculosis treatment. Dr. Addison said that the reason for taking sanatorium benefit out of the National Insurance Bill was that health services were in contemplation which would deal with tuberculosis. A certain amount of work had already been done at the tuberculosis dispensaries by local authorities. The county councils had, with a few exceptions, provided sanatoriums, and the Insurance Committees had made arrangements for the reception of their cases. It had been however found, partly as a result of the war, that a great many patients after they returned to their work relapsed and died from the disease. Last year the Treasury made grants to enable the local authorities to provide training as an adjunct to sanatorium treatment; it would be possible to secure training in alternative occupations, and this would have enormously beneficial effects. There must be one authority competent to deal with the whole question. He promised there should be an opportunity of co-opting on the new authorities members of Insurance Committees who had special experience of tuberculosis. The amendment was withdrawn.

An amendment to Part II of the Fourth Schedule of the Act of 1911 was made to alter the wage limit from £150 to £250, up to which voluntary contributors might come in for medical benefits.

Major Farquharson moved to insert after Clause 8 of the bill a new clause to provide that any medical practitioner who felt aggrieved by a decision of the Minister of Health, or of any special body through which the powers of the Minister were exercised, to remove his name from the list of medical practitioners (or a panel), might appeal against the decision to the High Court. Major Farquharson, in a vigorous speech, said this was a very serious matter. A medical man should not be liable to be put by a departmental or interdepartmental judicial process in such a position as was indicated. With every respect for the department and the departmental officials, he felt that a practitioner who was struck off might have a grievance. The right of appeal was one which did not arise out of contract law, but out of common law, and it was the constitutional right of aggrieved persons that they should be able to appeal to a higher authority. Dr. Addison, in refusing to accept the proposal, said that when after due inquiry by fellow practitioners a medical man on a panel was found not to be rendering such services as he ought to render in view of the obligations he had entered into, then his services could be dispensed with. The same rule might be applied to any other officers engaged on any other duty. It was quite impossible that in every circumstance of that kind in the administration of a great organization there should be power of appeal to the courts as to whether or not that man was doing his duty.

Dr. Farquharson said he should press for a division, but the amendment was negatived without one.

Revision of the Dentists Act.—Dr. Addison, in answer to Mr. Raffan, regretted that he could not say when legislation would be introduced to carry out the recommendations of the Departmental Committee on the Dentists Act, 1878, but he thought very probably he could make a statement on the subject before Whitsuntide.

Blinded Soldiers.—On an inquiry by Mr. Foreman, on April 22nd, Major Tryon said that approximately 1,300 soldiers discharged for total blindness had been pensioned under the Royal Warrant, and 110 had been refused pensions. The latter were men whose blindness arose from causes not connected with military service or due to their own serious negligence or misconduct. All men discharged for blindness were sent to St. Dunstan's (or in Scotland to Newington House, Edinburgh), where they were trained to new occupations. The disablement pension for total blindness carried from 40s. to 60s. according to rank, with a constant attendant allowance of 10s. to 20s. a week, a wife's allowance of 10s. a week, and an additional allowance for children. Any men sent to St. Dunstan's were provided for.

Pensions for the Blind.—On April 26th Dr. Addison introduced a bill in regard to the treatment of the blind, and it was read a first time. No particulars were given, but the chief feature is understood to be to bring all blind persons who cannot earn their living at the age of 50 within the privileges that belong to old age pensioners normally at the age of 70.

Surgeon Rear Admirals.—Sir Watson Cheyne asked, on April 21st, whether, in the April Navy List, only four officers were shown under the heading of Surgeon Rear Admiral; whether no surgeon captains had been promoted to fill the two vacancies created by a retirement in February last, and the addition of one surgeon rear admiral to the list, as announced in March; and whether there was any reason why surgeon captains should not be promoted at once on the occurrence of vacancies in the same way as captains in the executive branch were promoted to fill vacancies in the rear admirals list. Sir James Craig replied that the question of promoting officers to fill the vacancies on the surgeon rear admirals list was now under the consideration of the Board of Admiralty, and it was hoped to announce the promotions at an early date. With regard to the second part of the question, the reason was that promotion to the rank of surgeon rear admiral was by selection, whereas promotion to rear admiral was normally made by seniority.

Medical Examinations in Elementary Schools.—In reply to Mr. Doyle, on April 21st, the Minister of Health said that it was not necessary nor practicable to ask education authorities to arrange for the weekly attendance of school doctors at each school. Out of 318 local education authorities in England and Wales, school nurses were performing some of the functions to which reference was made in 310. In reply to Mr. Billing, Dr. Addison said that he believed tooth cleaning drill for small children was already in operation. In reply to Mr. Dan Irving, he said that there were not enough doctors and nurses in the country to review every child every day. The school teachers, who were well trained and instructed in the matter, reviewed the children every day.

The Cost of Public Vaccination.—In reply to Mr. Waterson, on April 22nd, Dr. Addison said that the approximate cost of public vaccination in England and Wales was £168,000 in the financial year 1912–13 and £112,000 in the financial year 1918–19. He had no separate information as to the cost of vaccination officers.

Treatment Allowances to ex-Service Men.—In reply to Mr. Irving, on April 21st, Major Tryon (Ministry of Pensions) said that Circular 204 of February 6th did not involve any modification of the rights of disabled men. The primary function of the Deputy Commissioner of Medical Service under the circular was to procure for the men the form of treatment most suitable. Many men had in the past been recommended for home treatment who would have been better treated in one or other of the special institutions of the Ministry, a matter on which medical referees were of necessity not so well informed as the medical officers of the department. It was also the function of the Deputy Commissioner to assist in the protection of public funds by insuring that treatment allowances were confined to those cases for which they were intended by Article 6 of the Royal Warrant. The suggestion to revert to the earlier arrangement could not be entertained.

Bread.—Lieut.-Colonel Raw asked, on April 21st, whether under the present system of flour milling the germ and certain other constituents of wheat necessary to provide the most nutritious form of bread were removed from the flour. Dr. Addison said he understood that the percentage of extraction required by regulation was a minimum. There was nothing to prevent the making of bread from flour containing a higher percentage of the wheat if the demand existed.

Service in Northern Nigeria.—Earl Winterton asked a question, on April 21st, as to the regular tour of service for civil servants in Northern Nigeria. Lieut.-Colonel Amery said that probably the reference was to the eighteen months' tour for political and police officers only, which was introduced in Northern Nigeria in 1903 and abandoned in 1907. Health conditions in West Africa had greatly improved since then, and a committee, which included the recently retired director of the Medical and Sanitary Service of Nigeria, had unanimously recommended that the normal length of tour should be lengthened, and that the rule should be made more elastic so as to enable the length of tour to be varied according to circumstances. The report of the committee was being referred to the West African Governments. In reply to a subsequent question, he said that the number of European officers in the Nigerian service was 1,657 and in the Gold Coast service 673. The European medical officers were: In Nigeria, establishment 128, strength 91; in the Gold Coast, establishment 67, strength 48.

Answers in Brief.

The distress caused to many householders living on main thoroughfares by the noise of heavy vehicles at night has been included in the terms of reference to the Departmental Committee on the Taxation and Regulation of Road Vehicles, to which also the matter of the registration of motor vehicles has been referred.

Mr. Chamberlain can hold out no hope that the duties on table waters will be reduced, notwithstanding the allegation that the tax is greater in proportion than that on spirits or beer.

Major Tryon denies that there is any avoidable delay in settling the claims of officers' widows to alternative pensions, having regard to the difficulties in the verification of pre-war earnings.

England and Wales.

WELSH NATIONAL MEDICAL SCHOOL.

AT the inaugural meeting of the scientific section of the Cardiff Medical Students' Club last week, Sir Robert Jones gave an address on the future of the Welsh National Medical School. The school had, he said, been in existence for over a quarter of a century, but had remained in the chrysalis state. The Welsh student could obtain in Wales instruction in the preliminary sciences, and in Cardiff training in anatomy and physiology, but after that he had to become a wanderer. There was no reason, he said, why this should continue. The Welsh National Medical School would only be born when it was self-dependent and could train its own students for the final medical degrees. To produce great surgeons and great physicians in adequate numbers they must be afforded opportunities to teach, for the most promising got into routine and humdrum ways unless they were kept up to the mark by students; nothing educated a teacher more than to be asked reasons for his acts. The understanding which grew up between teacher and student in a complete medical school was a valuable asset, creating an affection for the Alma Mater, keeping the old student in contact with the new, and fostering a desire for post-graduate courses. Teaching posts in the Welsh National Medical School ought to be made so attractive that the best men from all parts of the world would feel honoured by an invitation to join it.

The clinical opportunities afforded by Cardiff might be made unrivalled. At his first visit to the King Edward VII Hospital in 1900 he found it to be one of the most perfect hospitals, well equipped, well ventilated, and not overcrowded. Unfortunately, with the growth of the city of Cardiff and of the population within its sphere, an attempt was made to meet the demand for beds by putting up additional buildings on the site, thus using up the lungs of the hospital. Apart from that, the number of beds provided (400) was hopelessly inadequate; 1,500 beds with opportunities for extension were needed from the point of view both of the public and of the National Medical School. He had recently been asked to make a report on the provision for orthopaedics at the King Edward VII Hospital, and he had laid it down as a fundamental principle and condition that no in-patient hospital for children should be tolerated in the centre of the city. The present hospital should provide only in-patient clinics and a few beds for urgent cases; these urgent cases should, as soon as possible, be transferred to the country beds. Experience had taught him the injustice of segregating sick and crippled children in city hospital wards. He praised the hospital established by Sir John Lynn-Thomas for the Welsh National Memorial at Glanely, a few miles from Cardiff. In such a hospital it was impossible to close a ward, and through sunshine and storm one side was always open. A visit to the children in such hospitals was an inspiration; moreover, infectious diseases, which were the bane of children's hospital wards, never spread, nor did the children catch cold or develop pneumonia.

Cardiff, Sir Robert Jones continued, had a great opportunity to start the clinical side of its hospital and medical school on modern lines. There should be provided 1,500 beds in the country within easy reach of the centre of the city, and to the new site the in-patient activities of the complete staff of the hospital should be transferred. Of the total number of beds, at least 150 would be required for orthopaedic cases in adults and children. With a sufficient number of beds it would no longer be necessary to send patients home half cured to make room for urgent cases.

Another point Sir Robert Jones made was the importance of giving responsibility to the junior members of the staff—a lesson learnt during the war, when the advances came from the younger men, who were the backbone of the medical services. An assistant surgeon should have beds placed at his disposal early before his mental activities waned; only so could that originality of outlook so necessary for his full development be attained. Cardiff possessed other institutions—the Glanely Hospital for Surgical Tuberculosis to which reference had already been made, the Royal Hamadryad Seamen's Hospital, the Prince of Wales's Hospital for the Limbless (established through the efforts of Sir John Lynn-Thomas), a sanatorium for infectious diseases, and one of the finest mental hospitals in the world, under a distinguished expert, Dr. Goodall. The M.D. and M.Ch. degrees of the Welsh University should be of a standard which would fit a man to fill the highest posts. In conclusion, Sir Robert Jones spoke of the pleasure with which he had learned that the education of Cardiff students in orthopaedics was not neglected; most of his life had been spent in the study and practice of that branch of surgery, and he expressed the opinion that if orthopaedics were adequately and efficiently taught the so-called bonesetters who visited every town would find their vocation gone.

A vote of thanks to Sir Robert Jones, moved by the Principal of the University College, Cardiff, and seconded by Professor Hepburn, was supported by the Lord Mayor of Cardiff, who said that the city was vitally interested in the medical school, and desired it to be equipped in the best manner; to achieve that end there was ample room for private generosity.

GENERAL NURSING COUNCIL.

The Ministry of Health announces that the following have been appointed to form the first General Nursing Council under the Nurses' Registration Act of 1919. The duty of the Council is to form and keep a register of nurses in accordance with the provisions of the Act.

Appointed by the Privy Council.—Lady Hobhouse, Mr. J. C. Priestley, K.C.

Appointed by the Board of Education.—Hon. Mrs. Eustace Hills, Miss Batty Tuke, Bedford College.

Appointed by the Minister of Health.—The Rev. G. B. Cronshaw, Radcliffe Infirmary, Oxford; Dr. E. W. Goodall, Professor A. Bostock Hill, M.D., Dr. Bedford Pierce, Sir T. Jenner Verrall, LL.D.

Nurses Appointed by the Minister of Health.—Miss A. Cattell, private practice; Mr. T. Christian, Nurse Banstead Lunatic Asylum; Miss A. Coulton, Matron Shadwell Children's Hospital; Miss R. Cox-Davies, R.R.C., Matron Royal Free Hospital; Miss A. Dowbiggin, C.B.E., R.R.C., Matron Edmonton Poor Law Infirmary; Mrs. E. G. B. Fenwick, formerly Matron St. Bartholomew's Hospital; Miss A. Lloyd-Still, C.B.E., R.R.C., Matron St. Thomas's Hospital; Miss M. MacCullum, Professional Union of Trained Nurses; Miss I. Macdonald, Royal British Nursing Association; Miss A. M. Peterkin, General Superintendent Queen Victoria Jubilee Nurses; Miss E. Smith, Welsh Superintendent Queen Victoria's Jubilee Institute for Nurses; Miss M. E. Sparshott, C.B.E., R.R.C., Matron Royal Infirmary, Manchester; Miss E. C. Swiss, Health Visitor for Willesden; Miss S. E. Villiers, Matron Stockwell Fever Hospital; Miss C. Worsley, Matron Liverpool Children's Hospital; Miss C. S. Yapp, Matron, Ashton-under-Lyne Poor Law Infirmary.

Mr. Priestley has been appointed to be the Chairman of the Council.

CONSULTING SURGEON AND HOUSE-SURGEON.

In relating recently how Mr. E. J. Domville, O.B.E., consulting surgeon to the Royal Devon and Exeter Hospital, had acted as house-surgeon in that hospital during the war, we ventured a doubt whether anyone else had had a similar experience. We now learn that Mr. J. T. Williams, honorary consulting surgeon to the North Lonsdale Hospital, Barrow-in-Furness, is in exactly parallel case. After being honorary surgeon to the hospital from 1873 he retired in May, 1914, but in the autumn of that year, as the authorities were unable to obtain house surgeons, he took up that work, which he has carried on down to the present time.

CENTRAL MIDWIVES BOARD.

At a penal meeting of the Central Midwives Board for England and Wales, held on April 21st, Sir Francis Champneys presiding, five midwives were struck off the roll and two were put on probation. One of the midwives who was in attendance on a puerperal patient, and who, notwithstanding, visited other lying-in women, stated in her defence that the doctor who was called in to her infectious case, gave her permission to finish three cases she was visiting, after which she was to abstain from practice for a month. The board decided to forward this statement to the local supervising authority for inquiry, and to call attention to its bearing on the jurisdiction of the board. The ordinary monthly meeting was held on April 22nd, when Sir Francis Champneys, who has held the post now for eighteen years, was unanimously re-elected

chairman. The Finance and Penal Cases Committees were re-elected. It was reported that the Minister of Health had approved, for the purpose of the apportionment of contributions from local supervising authorities, the balance of £3,395 7s. 10d., shown against the board in the finance statement for the year 1919. The list, as submitted by the secretary, of institutions, homes, and midwives at which and under whom pupil midwives may be trained, was approved until March 31st next.

Scotland.

EXTENSIONS AT THE UNIVERSITY OF EDINBURGH.

THE KING has promised to lay the foundation stone of the new chemical laboratory of the University of Edinburgh in July next. The laboratory will be the first building on the University's 150 acres at Craigmillar, into possession of which it came last November. The King is expected to arrive at Holyrood on July 3rd and to stay there until July 10th. New laboratories for the histological department have been provided by adding another story to the Forestry building in George Square; the work was only begun last December, but the new laboratories will be ready to receive 150 students this week. Under the direction of Sir Edward Sharpey Schafer three large laboratories, with a professor's room, assistants' and preparing rooms, have been equipped. The rooms are well lighted, ventilated, and heated. It is intended to have two classes a day, so that it will be possible to pass 300 students through the course. The University Grants Committee will visit the University of Edinburgh on May 13th and 14th.

GREATER EDINBURGH.

How closely modern medicine and civic matters are interlocked is being clearly demonstrated in the inquiry which has been going on before the Select Committee of the House of Lords in connexion with the Edinburgh Boundaries Extension and Tramways Bill. Some years ago such questions as rates and trade and convenience would have been the all-important deciding factors; now health administration, the checking of the spread of infection, housing as part of hygiene, mother and child welfare schemes, the provision of maternity accommodation and of small-pox hospitals, are all playing a considerable part in the evidence which is being presented more especially in relation to the proposed inclusion of Leith within Greater Edinburgh. "None of us liveth to himself" is true not only of the individual man but also of the individual city, especially when it touches so closely as to be indistinguishable (when seen by aeroplane) from its neighbour city. Other plans instead of absorption may be devised and carried out, but there seems no doubt that for the health and well-being of two contiguous towns something of the nature of common action and joint control is to be sought for.

SMALL-POX IN GLASGOW.

Down to April 24th the outbreak of small-pox, which began early in March, had led to the recognition of twenty-eight cases, of which four proved fatal. Two other deaths were due, it is believed, to unrecognized forms of the disease. The majority of the patients are children. This is to be attributed to the fact, noted last week, that the proportion of infants successfully vaccinated in Glasgow has declined continuously since the Vaccination Act of 1907, so that at the present time not more than half the number born are protected. Of the twenty-five cases of small-pox in hospital, nine are children under 15 years of age who had not been vaccinated, in another case there was no record or evidence of vaccination, and nine had been vaccinated in infancy but were now, with one exception, over 15 years of age.

INSPECTOR OF ANATOMY.

The Secretary for Scotland has appointed Dr. Norman Walker to be Inspector of Anatomy, a post he has held temporarily during the last two years. During Dr. Walker's absence in America his place will be taken by Dr. F. W. N. Haultain.

Ireland.

OBJECTIONS TO PROPOSED SITE FOR BELFAST TUBERCULOSIS SANATORIUM.

DR. N. C. PATRICK, Local Government Board inspector, opened an inquiry in Belfast on April 21st in regard to the application of the County Council of Down for sanction to a loan of £27,000 for the purpose of providing a sanatorium for tuberculosis.

Craigavon is the residence of Sir James Craig, Bt., and was lent by him to the Ulster Volunteer Force Hospital Board, which organized a hospital for pensioners suffering from neurasthenia and allied conditions, built an annexe containing seventy-four beds, and provided workshops for carpentry, mechanics, bootmaking, tailoring, and other trades, and also training in outdoor work. The garden was taken over, but has not yet been used by the patients. The Down County Council was on the look-out before the war for a tuberculosis sanatorium. The project fell into abeyance, but the Council has now made an offer of £26,000 for the place as it stands. Strong opposition has arisen from various quarters, among the opponents being the trustees of the Ker estate, the ratepayers of the district, the Castlereagh Rural District Council, the Bangor Urban District Council, and the Belfast Corporation.

Counsel, in stating the case for the Down County Council, said that efforts made in 1913 for the acquisition of several sites had all fallen through for varying reasons. In December, 1919, a letter from the Local Government Board called for increased facilities in the institutional treatment of consumption. The reports of the officers of the Down County Council stated that Craigavon would be suitable, and as it was estimated that a sum of £66,000 would be required to erect similar buildings, the Down County Council had made the present offer.

Evidence was given on the financial and general aspect by various witnesses. Dr. J. R. Gillespie, chief tuberculosis officer for co. Down, said that Craigavon was a suitable site, and that its proximity to Belfast would be helpful; both water and sewerage were satisfactory, and the place was sheltered by trees from the north. He considered that the effluvia from the lough had much abated in latter years, and thought there was no fear of infection spreading to the homes of the petitioners.

Dr. W. J. Wilson, lecturer in public health, Queen's University, Belfast, said he had known the district for fifteen years, and had recently made a special inspection of Craigavon. He considered patients could be admirably treated there, and that none of the objections brought forward were very serious. There would be no danger to the boys attending Campbell College in the vicinity, and the nearest resident to Craigavon was about a fifth of a mile away. He admitted that the patients could travel to Belfast in the tramcars and visit the cinemas, and he could understand the objections of the citizens to patients in an advanced stage coming into the city, but that was a matter of internal arrangement and control.

Dr. Charles J. Alexander, medical superintendent of the Forster Green Hospital for Consumption, Belfast, also gave evidence as to the suitability of Craigavon as a sanatorium. Building developments had taken place round the Forster Green Hospital and the land around used for grazing cattle, yet no complaints had ever been received as to infection arising therefrom.

Counsel, in stating the case for the petitioners, said that the county had a population of roughly 200,000, the larger part residing in the southern area. A sum of £17,000 had been expended on Craigavon for the benefit of the neurasthenic soldiers and was to be applied for that purpose until the hospital became unnecessary; it was now full and was still urgently needed; if the County Council once acquired this property it would be bound to continue the project, no matter what the cost—or the unsuitability of the place.

Mr. T. S. Kirk, surgeon to the Royal Victoria Hospital, Belfast, and surgeon in charge of the Throne Children's Hospital, said that Craigavon was not an ideal site, because cases of tuberculosis did badly in Belfast; he thought the cause of this was climatic and due to the conditions of the Lagan Valley; any situation in this valley was unsuitable. The fact that the site was adjacent to a large manufacturing town made it still more unsuitable.

Dr. Benjamin H. Steede, medical superintendent of the Rostrevor Sanatorium, stated that he had four chief objections to the present site: it was too low, too near Belfast Lough, too near the city, and had no proper natural shelter. The principal thing was to get dry, pure, bracing air; the liability of Craigavon to fog was increased by its low level; he thought it would be exceedingly difficult to prevent patients going into the town.

Professor J. A. Lindsay, F.R.C.P., of Queen's University, said that he had formed the opinion that Craigavon was highly unsuitable for a sanatorium, both as regards its site and buildings. It was too near the city, and he could not recall an instance of placing a modern sanatorium so near a large town. Belfast was highly infected by tuberculosis mainly because it lay low, on a damp soil, and the atmosphere was

contaminated by various industries. The tuberculosis rate varied from 2.2 to 2.5 per 1,000, which was much higher than in the large towns of England. Belfast had also a high rate of mortality for diseases of the lungs in general, and he was at a loss to know why tuberculous cases should be brought into a highly infected area. The buildings had a wrong aspect, facing W.N.W., and lay from east to north-east of the city, so that the prevailing south-west winds carried pollution and dust towards Craigavon. The fact that there was at present a great deal of hostile criticism of sanatoriums and their value made it all the more desirable that any sanatorium established should not be open to any serious objection. Regulated exercise was a part of the treatment, but Craigavon was close to the tram lines. It was an advantage that the house had thirty-five acres of land and was self-contained, and that the soil was light and sandy; but Professor Lindsay said that in the vicinity the soil was heavy and clayey.

Numerous residents gave evidence of the prevalence of fogs and in the summer of obnoxious smells from the lough. Dr. Charles O'Neill, on behalf of the Castlereagh Council, Dr. Mitchell, M.O.H. Bangor, and Dr. Baillie, M.O.H. Belfast, gave evidence against the project.

Ulster Medical Society.

The president, Mr. Andrew Fullerton, C.B., C.M.G., F.R.C.S.I., and Mrs. Fullerton, held a reception at the Ulster Medical Institute on April 22nd, which was attended by members of the society and their wives to the number of about 200. The hospitality of the president and Mrs. Fullerton and the excellent music, both vocal and instrumental, were highly appreciated.

India.

Maternity and Child Welfare Exhibition at Delhi.

For a week during last February an exhibition was held at Delhi for the purpose of demonstrating by means of models, pictures, lantern and film representation, lectures, discussions, talks, pamphlets, posters, etc., the influences, good and bad, conditioning health generally, and especially the health and welfare of mothers and children. It was the first time such an exhibition had been held in India, and the suggestion came from the Association of Medical Women in India. The exhibition was organized by an influential general committee and a number of subcommittees for special purposes. It was divided into seven main sections dealing with pre-maternity, maternity, infant welfare, childhood, first aid, home nursing and domestic hygiene, and sanitation. The exhibits in these sections are well represented in a series of excellent photographs which have been sent to us. The proceedings in each section appear to have been highly interesting and complete. It is hoped that similar exhibitions will be held in other large Indian cities. That in Delhi was opened by Lady Chelmsford, wife of the Viceroy. In a very sympathetic speech she announced that a league was about to be created under her name and patronage for the purpose of providing increased accommodation throughout India for lying-in women in hospitals or maternity homes; to promote the better education of *dais*; to establish centres for the loan or gift of necessary articles for women who cannot attend hospitals during the time of their confinement, and to multiply the number of maternity and infant welfare centres and schools for mothers; to raise an endowment to prevent privation among women at the time of childbirth; and, finally, to educate and qualify health visitors and to assist in paying their stipends. The attendance at the exhibition was large, and included Indian noblemen and their families, medical men and women, nurses, and a crowd of Indians of both sexes, for whom reduced railway fares, a camp, refreshments, and amusements were provided. The good resulting from this and other similar enterprises cannot be otherwise than substantial and widespread. Apart from the special objects of the show, it must also make for general enlightenment and the improvement of public health.

The Leper Problem.

Forty-six missionaries including six medical men, took part in a conference, summoned by the Mission to Lepers, in Calcutta in February. Sir Leonard Rogers, I.M.S., and Colonel F. H. G. Hutchinson, I.M.S., attended as delegates of the Indian Government, and the Hon. Sir Henry Wheeler welcomed the members on behalf of the Government of Bengal. The conference recognized that leprosy is a slowly contagious disease, in which the nasal discharge is frequently infectious before the stage of ulceration has been reached; that, although it is not hereditary, children are peculiarly susceptible of infection; and that segregation is the most effective measure for reducing the prevalence of the disease. It was recommended that voluntary segregation should be encouraged, except in the case of pauper lepers, in respect of whom compulsory powers should be obtained and settlements established.

The conference recommended that facilities should be provided for the training of medical assistants in the diagnosis and treatment of leprosy, and that grants for research should be sought. In view of the considerable degree of fecundity of lepers, especially of females, the separation of the sexes—when possible—was advised; where this was not practicable, married lepers should only be allowed to live together on the understanding that any children born to them should be taken away at the earliest possible age. It was also recommended that the definition of a leper in the Indian Leprosy Act of 1918 should be so altered by the omission of the words "in whom the process of ulceration has commenced" as to read: "any person suffering from any variety of leprosy." A bill which has since been introduced in the Imperial Legislative Council to amend the Act of 1918 follows very closely the recommendations of the Calcutta conference.

Indigenous Medicine.

At a recent meeting of the Imperial Legislative Council at Delhi Mr. Jaffer proposed that a sum of five lakhs should be granted to the Ayurvedic and Yunani Tibbi College at Delhi for building and equipment. The proposal was supported by a number of Indian members. Sir William Vincent, replying for the Government, said that it was anxious to co-operate, and he would gladly receive a deputation and do his best to get financial aid from the Finance Minister. The Viceroy, he believed, would open the building later on. The motion was withdrawn after the mover had thanked Sir William Vincent. Recently the Government of Bihar and Orissa, in answer to a request for recognition of an Ayurvedic dispensary, said that the policy of the Government had been to recognize only such dispensaries as were in the charge of medical practitioners trained in Government schools of medicine and under the control and supervision of civil surgeons and of the inspector-general of civil hospitals. Recognition of an Ayurvedic dispensary was, therefore, barred by the rules for the management of Government hospitals and dispensaries.

Influenza.

A report issued by the Sanitary Commissioner with the Government of India, issued on March 23rd, stated that influenza was prevalent in the Bombay Presidency and had been the cause of 940 deaths during the previous two weeks. In the United Provinces the disease had prevailed in a mild form during the last fortnight of February, and in the Madras Presidency the incidence was small. In Bengal deaths from the disease were recorded in twenty-two municipalities. In the city of Calcutta it appeared to be declining. A severe outbreak occurred near the Naini Tal district, and the disease was reported to be present among the coolies in the Simla catchment area. The epidemic was present in Darjeeling; the mortality was increasing in the gardens.

Small-pox in Calcutta.

An epidemic of small-pox now prevailing in Calcutta has swelled the total mortality rate to 59.3 per 1,000 as against 51.1, the highest figure recorded during the corresponding period of the previous five years. During the week ending January 31st last, after a brief lull, there was a general increase of the disease all over the city, the deaths from the disease numbered 227 as compared with 169 in the previous week.

China.

PROPOSED NEW BRANCH OF THE ASSOCIATION.

AT a meeting of British doctors recently held in Peking, it was decided that, owing to the considerable developments which had recently taken place in the practice of western medicine in China, the time was ripe for the formation of a new Branch of the British Medical Association, larger than the existing Hong Kong and China Branch which was established thirty years ago. The honorary secretary, Dr. Oswald Marriott, was requested to make preliminary arrangements.

JOINT CONFERENCE OF ENGLISH AND CHINESE DOCTORS.

The biennial joint conference of the China Medical Missionary Society and the National Medical Association —a body of foreign-trained Chinese medical men—was held at Peking in February. One hundred and seventy members of the former body attended, Mr. C. J. Davenport, F.R.C.S., of Shanghai, being in the chair; 65 members of the latter society took part, under the presidency of Dr. Wu Lien Têh, who stated that his fellow members desired at all times to work in co-operation with their English colleagues.

In a historical paper Dr. E. T. Hsieh reviewed the conditions of anatomical investigation and knowledge from the Huang-ti period (2697 B.C.), and pointed out that the accurate study of human dissections not having been possible, little or no advance had been made since the Ming dynasty (1644). Dr. S. P. Chen reported that the Chinese Government now recognized that students should have opportunities for dissection; they were willing to authorize the use of unclaimed bodies, but were to some extent hampered by popular feeling, which was still far from favourable. Other speakers referred to recent changes in attitude of the Chinese Government towards medicine and surgery, which were formerly regarded with suspicion and animosity; the founding of the China Medical Board (the Rockefeller Endowment), Hong Kong University, and the Chinanfu and other medical colleges had led medical activities to be tolerated and even encouraged, and very large numbers of Chinese students were now entering the profession.

In the section of surgery Dr. Oscar Thomson reported a series of 3,000 operations for vesical calculus, and Dr. J. A. B. Branch recorded favourable results from the treatment of empyema by lavage with Dakin's solution. Dr. H. J. Howard discussed the origin and physiology of the vitreous humour. Professor M. Inouye of Tokyo, in a paper based on dissection as well as on experimental and clinical findings, put forward the view that the muscles of the soft palate were innervated, not from the pharyngeal plexus, but from the second division of the trigeminal, by way of the palatine nerves. Drs. J. W. Chun and L. T. Wu described the management of the last cholera outbreak at Harbin, and reported that by the use of Rogers's hypertonic saline infusions the mortality in a series of 2,000 cases had been reduced to 14 per cent.; Dr. Brafladt advocated the exhibition of kaolin (aluminium silicate), infusions being reserved for the most severe cases. Dr. W. W. Cadbury discussed the treatment of leprosy, and Dr. P. T. Watson advised widespread prophylactic vaccination against plague.

A general review of public health problems in China was given by Dr. S. Woo, and papers were read by Dr. Van Buskirk on the diet of Koreans, and by Dr. S. D. Wilson on that of the Chinese. Dr. Wu Lien Têh, in an address on the latest phase of the narcotic problem, pointed out that the Chinese imports of morphine had increased fivefold between 1911 and 1919; the conference passed a resolution urging that immediate action should be taken to secure better control of the production of opium, and the limitation of the manufacture of morphine and other derivatives to a quantity not exceeding that necessary for legitimate medical purposes.

THE medical profession of New York have contributed 10,000 dollars to supply food to medical practitioners in Vienna. Dr. Linsly R. Williams has left Paris for Vienna to arrange for its distribution.

Correspondence.

DIAGNOSIS AND TREATMENT.

SIR,—The two addresses appearing in the JOURNAL of April 24th, one by Dr. A. F. Hurst on the "Pathology, Diagnosis, and Treatment of Gastric and Duodenal Ulcer," and the other by Dr. Edmund I. Spriggs on "Surprises in Diagnosis," must make us all think how inadequate are our present opportunities and means of treating the diseases referred to in these two papers.

It seems to me that for the vast bulk of our patients, whether hospital or private, it is impossible to carry out any thorough examination or treatment as recommended by these authors.

Of course, the few rich can have this advantage, also the hospital poor, where special men and departments exist. How many hospitals in England, apart from the large towns, contain the complete *x*-ray apparatus, bacteriological and chemical apparatus, etc., with trained men? Comparatively few.

It is almost useless to recommend these detailed and almost impossible methods until the laboratories and the men able to carry out these examinations are forthcoming. It is this great difficulty of making a full diagnosis and carrying out a complete treatment which needs most careful thought.

The panel system as regards the "whole" treatment of the patient has failed, for all special treatment, if it is carried out, has to be carried out elsewhere.

What we require is some great scheme for the treatment of the whole body, adaptable to every town. To decide how this is to be done will require great vision and statesmanship; whether it is possible without State help is doubtful.

What I fear is this, that a plan may be started and forced upon us—this has happened once before—before the scheme has been thoroughly digested and approved by the men who know most about the subject.—I am, etc.,

Folkestone, April 26th. W. J. TYSON, M.D., F.R.C.P.

TUBERCULOSIS SANATORIUMS.

SIR,—In connexion with the discussion on the decrease in the decline of the consumption death rate, may I point out, first, that a mild form of tuberculous infection is almost universal in the early life of town populations, and secondly, that malignant cases appear to give rise to similar cases?

In sanatoriums a very malignant form is always present in the wards, and those who are admitted with a mild form probably contract there a severer form and convey it to their family. Before the sanatorium regulations came into being I was strongly impressed by one or two cases which seemed to show that there might be a tendency for persons with chronic or mild consumption to receive a more virulent form whilst in a sanatorium, and after a temporary improvement to burst out in rapid consumption, although previously likely to last for years.

The same sort of process may be observed in scarlet fever hospitals, where mild cases appear to contract a severer form after admission, and, after discharge, sometimes convey a severer form to their families. During the small-pox epidemic at the end of the South African war it was observed in quite a number of districts that after the local infectious disease hospitals had been closed there was an actual decrease in the number of notified cases of scarlet fever.

Again, I have had cases of infantile paralysis that have developed severe tuberculosis after a short stay in a convalescent hospital.

The prevalence of influenza is another cause. Lately I have had under my care two elderly men, both with large numbers of tubercle bacilli in their sputum. One of these had a severe influenzal pneumonic attack a year ago, from which he dated his illness. Both of these old men had numerous attacks of haemoptysis when young, thirty to forty years ago.—I am, etc.,

Wallasey, April 21th. F. WM. INMAN, M.B.

SIR,—As some confirmation of Dr. Williamson's statement in his letter (April 17th, 1920) on this subject, that a certain proportion of the cured cases from tuberculosis sanatoriums are cases in which a wrong diagnosis has been

made, it may be worth recording that I have cured cases confidently diagnosed as pulmonary tuberculosis by extracting septic teeth. Further, where the disease is truly tuberculous, septic teeth must be a powerful cause of secondary infection, and I have seen enough of sanatorium treatment to have formed the opinion that free extraction of septic teeth is a great benefit to consumptives. I suspect that thorough dental treatment on these lines would eliminate a large proportion of mistaken diagnoses and give the truly tuberculous settlers a much better chance.—I am, etc.,

London, W.1, April 20th. J. G. TURNER, F.R.C.S., L.D.S.

SAND-FLY FEVER IN MESOPOTAMIA.

SIR,—In the interesting paper by Dr. Willcox on heat hyperpyrexia, published in your issue of March 20th, 1920, he states: "In the great incidence of heat-stroke in July and August, 1917, sand-fly fever was entirely absent." I cannot understand this statement, for during this period a great epidemic of the disease was raging at Basra.

I am convinced from my own observations that some of the milder cases of hyperpyrexia, diagnosed "effects of heat B," were sand-fly fever, for during normal summer weather in Mesopotamia it was not very uncommon to find patients with temperatures of 105° F. and higher in sand-fly fever. I was in Baghdad when the heat wave commenced and there sand-flies caused me little inconvenience, but on returning to Basra a few days later I found the torment from these pests was so unbearable that few of us could sleep.

Sand-fly fever may have been absent at Baghdad, but it was certainly raging at Basra throughout the summer of 1917, including the heat-wave period. I quite agree with Dr. K. G. Hearne's theory (BRITISH MEDICAL JOURNAL, April 26th, 1919), endorsed by Dr. Willcox (BRITISH MEDICAL JOURNAL, March 20th, 1920), that sand-fly fever was entirely out of the question in the majority of cases which he describes as "hyperpyrexial heat-stroke."—I am, etc.,

Bridlington, April 20th. C. R. TAYLOR.

THE EARLY DIAGNOSIS OF SYPHILIS.

SIR,—The diagnosis of syphilis depends on the laboratory report, the clinical aspect of the case, and the period of incubation. In any case of untreated venereal sore the procedure I adopt is as follows: (1) The incubation period is noted, and a careful examination of the patient is made; (2) a warm saline dressing is applied to the sore, and no other dressing is used, unless, of course, the sore should be phagadaenic. Several dark-ground examinations are made, an interval of a few hours elapsing between each examination; if no *Sp. pallida* is found, an inguinal lymphatic gland (if present) is punctured, and some fluid removed and examined by dark-ground illumination (following Mr. C. W. Mills's procedure). Should no *Sp. pallida* be found, an injection of 0.45 gram of novarsenobenzol is given intravenously, and in seven days' time a blood test is made; if this is negative another test is done seven days after the first; if the result is again negative, the patient is told to have another injection of 0.45 gram novarsenobenzol in two weeks, and a blood test a week after the injection. A careful clinical examination is made at the time of each test.

In this way a diagnosis of syphilis is either eliminated or proved, and there is little time lost in treatment. To treat every sore as syphilitic is hardly in accordance with modern teaching. We have advanced tremendously in our methods of diagnosis of syphilis, but to condemn every man with a venereal sore to several years' treatment for syphilis is surely going backwards. The time lost in making a diagnosis is compensated by the loss of anxiety to the patient. I have seen several patients lately in whom no laboratory tests have been made, but have yet been started on a course of injections for syphilis. Three or four injections mask the clinical symptoms and upset the Wassermann reaction, and a definite diagnosis is difficult to make. In my last hundred cases I have had twelve undoubted cases of simple chancroid.—I am, etc.,

REGINALD JOHNSON, M.D.,
M.O. i/c V.D. Wards, Bermondsey Military Hospital,
April 5th. Ladywell, S.E.

SIR,—In commenting on Dr. Bryan's letter published in your issue of March 20th Mr. Marshall and Major Ffrench give their opinion in support of Dr. E. Harrison that "chancroid is a rare condition, and nearly always has syphilis at the back of it." I think this statement should be qualified by adding: "in this country at the present time."

In France there has recently been quite an epidemic of simple chancre, and it would be easy to see as many as fifty or more any day of the week at St. Louis. I need hardly add that the French physicians insist on keeping these patients under observation, and that, while many cases turn out to be mixed, a large number remain simple throughout.

The advice given that "all cases of apparent chancroid should be treated at once for syphilis" will hardly meet with universal acceptance.—I am, etc.,

London, W., April 5th. M. G. HANNAY, F.R.C.P.E.

SIR,—Might I suggest that, while appreciating the interest of Drs. C. F. Marshall and E. G. Ffrench in my criticism of Dr. E. Harrison's previous letter, I think that a more careful perusal of my letter would have prevented them from making the entirely erroneous assumption that I am only prepared to accept a diagnosis of syphilis when *Sp. pallida* is shown by dark-ground illumination? They would then see that I merely wish to emphasize the risk of condemning a person suffering only from chancroid to a diagnosis of syphilis, with the prolonged course of treatment involved, on the strength of a faulty microscopic diagnosis.

As to the alleged rarity of chancroids pure and simple, Drs. Marshall and Ffrench's own figures seem to me to support my contention, as I consider that even 1 in 10 is a very considerable number. My own cases at the Middlesbrough clinic during the last year give a proportion of 1 in 4. These cases have been under observation not less than three months; the number (12) is, of course, one much too small on which to generalize, but the results confirm the impression I formed while serving in a military venereal hospital, which treated 4,000 to 5,000 venereal cases annually.

Referring to the remarks of Drs. Marshall and Ffrench as to "the false teaching which places laboratory diagnosis before clinical experience," might I quote the following extract from the report of the Medical Research Committee, 1918:

> That too much emphasis cannot be laid upon the importance of the detection of the spironema as affording the earliest means of diagnosis of syphilis, and this at a period when, clinically, it is not possible to arrive otherwise at a definite decision, and undoubtedly the ideal method of demonstrating the *Sp. pallida* is by the dark-ground condenser.

Allusion is made also to the disadvantages of staining methods, namely:

> Lack of affinity the *Sp. pallida* has for most staining reagents, the distortion caused by drying, and the absence of the characteristic movements.

From the report of Dr. E. Harrison in the BRITISH MEDICAL JOURNAL I am unable to decide which microscopical method he adopts; perhaps he will kindly enlighten us.—I am, etc.,

Middlesbrough, April 5th. A. BRYANS.

CIRCUMCISION—A BARBAROUS AND UNNECESSARY MUTILATION.

SIR,—While I agree with Mr. G. S. Thompson, in his communication of March 27th, that circumcision is often performed unnecessarily, it is an error to lay the blame entirely on the Jews for this practice. This piece of religious ritual originated with the Heliolithic culture which arose in the Nile valley thousands of years before the Jews became a nation, spread at first all over the East by trade routes, and after 800 B.C. was carried by the daring Phoenician mariners to all parts of the world, including Great Britain, the Pacific Islands, and even the American littoral.

Professor Elliot Smith has conclusively proved that this worship of the sun and the serpent was thus disseminated, together with the practices such as circumcision, mummification of the dead, massage, and piercing of the ears, to mention but a few.

I have no doubt that the Jewish ritual has influenced this country to a certain extent, and it might be wiser if we employed the method as practised by them, which is unattended by any danger from an anaesthetic.

Circumcision was performed in the neolithic age by the Egyptians, but probably became popular in Palestine after the Exodus, and perhaps received an additional stimulus after the Assyrian and Babylonian captivities, both of which regions were pervaded by the Heliolithic culture from the Nile; it would obviously appeal to the inhabitants of Palestine who were intensely phallic in their ideas. In Egypt the actual operation disappeared about the pyramid age (2600 B.C.), but persisted in adjacent localities from which the Phoenicians recruited their sailors, and so spread this custom.

The use of the chipped flint method is referred to in Exodus iv. 25, where Jahveh attempts to murder Moses, so the latter's wife "took a sharp flint and cut off the foreskin of her son" as a blood sacrifice to pacify the tribal deity.

Whatever opinion one may hold about the advisability of keeping women in bed after childbirth, the male members of our community should certainly thank the Jews for not adopting that other Heliolithic custom, the "couvade," which still exists in parts of China, where the husband is kept in bed to receive the congratulations of his friends, and attended by his wife.—I am, etc.,

Bexhill-on-Sea, April 2nd. G. LOWELL WEBB, M.D.

SIR,—It may interest some members to know that, like Mr. G. S. Thompson, F.R.C.S., I have not done a circumcision for upwards of twenty-five years. I separate the adhesions with a probe and partially dilate with Lister's sinus forceps; the dilatation is completed in three sittings twenty-four to forty-eight hours apart, each time withdrawing the prepuce repeatedly until it can easily be drawn forward, as I find sometimes that the constriction caused by the orifice is tight enough to cause swelling of the glans after the first dilatation. I have many times done this from 10 days up to 10 or 12 years; in one a man of about 28 (married, but no children), who could not spare time for operation, was successfully treated though the aperture was smaller than the meatus. He continued the stretching for three weeks with ivorine "glove stretchers," and became a father less than twelve months after. The foreskin also gradually withered, leaving part of the glans exposed.

I have often found in babies that as the organ grows out of proportion to the prepuce the glans is nearly completely exposed in a few years. There is next to no pain and generally no blood.—I am, etc.,

South Ealing, March 29th. HARDING H. TOMKINS, M.R.C.S.

ENCEPHALITIS LETHARGICA.

SIR,—May I venture to suggest that, although it may not fall within the province of the epidemiologists to demonstrate by laboratory methods a common virus for influenza and the forms of epidemic encephalomyelitis, nevertheless the proof of a certain degree of association over long periods of time between two recurrent sets of phenomena goes some way to establishing the propriety of assuming a common cause for them. Such an association, one is glad to observe, is now admitted to have been proved for influenza and encephalomyelitis.[1] But the remarkable paper by G. Re, in *La Riforma Medica* (October 4th, 1919), and the series of articles that have appeared in the same periodical since the beginning of this year, form a body of collective clinical and pathological opinion which supports in no small degree the views put forward first by Dr. Hamer and then by myself at the meeting of the Royal Society of Medicine in October, 1918, and later reinforced by the historical evidence[2] to which you have been good enough to allude in your editorial article this week. It was, however, Boström who, in 1757, plaintively observed, concerning the peculiar influenza at Upsala, "*Hic morbus non est novus*": Polydore Vergil, according to Cervantes, merely failed to tell us who was the first in the world to be troubled by a catarrh, while Brorström, who is, I believe, a descendant of the first named, in 1910 pretty clearly proved, in his *Akute Kinderlähmung und Influenza*, in respect of poliomyelitis, what some of us now believe in respect of the expanded Heine-Medin conception, or "epidemic encephalomyelitis." I am, etc.,

London, W.1, April 23rd. F. G. CROOKSHANK.

[1] BRITISH MEDICAL JOURNAL, April 24th, 1920, p. 579.
[2] *Proc. Roy. Soc. Med.*, vol. xii (Section of History of Medicine); and *Medical Press and Circular*, November 19th, 26th, and December 10th, 1919.

Obituary.

THE LATE PROFESSOR ALEXANDER FERGUSON.

THE death of Dr. Alexander Ferguson, professor of Pathology in the School of Medicine, Cairo, was recorded in our issue of March 20th, p. 422. We have since received the following personal appreciations:

Professor ROBERT MUIR, of Glasgow, writes:

When I was first associated with Professor Ferguson, in 1899, he was already an experienced pathologist. He had had an excellent training under the late Professor Coats, and this, combined with his natural aptitude for and enthusiasm in the work, had resulted in a wide and varied knowledge of his subject. He was also an accomplished bacteriologist, and for several years conducted the advanced course in bacteriology. Routine reporting on pathological material formed an important part of his duties at the Western Infirmary, and in this department I have known few men whose opinion I considered of so much weight. For he possessed, along with the scientific knowledge, that rare quality of balanced judgement, closely allied to clinical instinct, which enabled him to view in due proportion all the points of a case, and made his opinion much valued by physicians and surgeons. To the students of medicine in Glasgow University Ferguson was for several years a well known and attractive teacher. Possessed by a wide grasp of his subject and of its practical bearings, and gifted with a faculty of interesting exposition, he had a stimulating influence on his students, whilst his sympathetic regard for their welfare won their confidence and interest to an ever-increasing extent; and I have received abundant testimony that his teaching in Cairo was attended by an even greater success.

Dr. Ferguson was essentially a student and investigator, and it is quite in keeping with his character that, in proportion to the amount of research which he did, the number of his publications is not large. When in Glasgow he published various papers and notes on a number of subjects—for example, intestinal sand, congenital heart lesions, immunity, etc.—but his chief work was concerned with the pathology of small-pox, to which he devoted much labour over a long period. His chief results, dealing with the blood changes and tissue lesions, were incorporated in a thesis for which he received the degree of M.D. in 1905, and was awarded a gold medal. The part dealing with the blood (which was the first detailed account in this country), and that dealing with the skin, appeared in the *Journal of Pathology* in 1903-4, and added to his reputation as an accomplished pathologist. Although busy with teaching and hospital work at Cairo he was constantly carrying on investigation, and I always looked forward to the opportunity of discussing the subjects concerned, and learning his views. Reference to his investigations there has been made by another writer. I may merely mention his important papers on splenomegaly, on "parasitic granuloma," and on bilharziosis. All these are of an authoritative order, and constitute real additions to our knowledge. In them, as in all his work, we find the qualities of careful and accurate observation, and fine judgement and criticism, whilst his writing possessed marked literary charm. His removal by death when at the zenith of his powers, means a great misfortune to the cause of medical education and pathological science in Egypt. Few are privileged to win the affection and esteem of their fellows to such a degree as Ferguson did. He was a man of straightforward simplicity of character and of unusual charm; modest, gentle, and courteous, he was at the same time immovable in resolve when he considered a question of right involved, and while he applied severe standards to his own conduct, he was always indulgent where the failings of others were concerned. He had a keen interest in, and great enjoyment of life in its many aspects, a rich fund of anecdote, and a marked trait of quaint humour; all these enhanced

the pleasure of intercourse with him. But above all, it was the character of his life and his bigness of heart which endeared him to his compeers. His memory will always be cherished by those who had the advantage of his friendship.

Professor W. H. WILSON, of Cairo, writes:

The unlooked-for death of Alexander Ferguson at the comparatively early age of 49 is a loss to the Cairo School of Medicine which it will be difficult to repair; it takes place at a time of reconstruction and evolution when a man of his knowledge, geniality, and experience could ill be spared.

During the past nine months, when the measures for the reorganization of the school have been under discussion and illness made his attendance at the meetings of the School Council impossible, we have constantly felt how much might have been gained from his insight and strong common sense. By his friends and colleagues his loss is doubly deplored; none could fail to be attracted by the modesty, kindliness, and humour which characterized his personality, or fail to admire the technical ability and wide knowledge of morbid anatomy, the subject in which he was really eminent, which he acquired in his close association with Coats and Muir, with both of whom he formerly worked for some years as assistant. In 1906 W. St.C. Symmers left Cairo for Belfast, and Ferguson was selected from a considerable number of candidates for the Professorship of Pathology at the School of Medicine, Kasr-el-Aini. The appointment was determined by the number and varied nature of Ferguson's published papers and the brilliant testimonials to his capacity as a teacher which he received from those who knew him. In addition to his teaching work he acted as pathologist to the hospital. He was constantly engaged in research, but the large amount of routine work attached to his post, combined with ill health, which his colleagues could not fail to notice but which he himself persistently refused to acknowledge or give way to, accounts for the fact that little of his work was published between the years 1907 and 1915, when his military duties gave him no further chance of scientific work.

Three papers may be referred to illustrating the type of scientific work to which he gave his time: "An account of a form of splenomegaly with hepatic cirrhosis endemic in Egypt," in collaboration with H. B. Day, M.D.Lond., *Annals of Tropical Medicine and Parasitology*, vol. iii, No. 3, November, 1909; "Parasitic granuloma," in collaboration with Owen Richards, F.R.C.S., M.Ch.Oxon., Ibid., vol. iv, No. 2, July, 1910; "Lesions of bilharzial disease," *Glasgow Medical Journal*, January, 1913.

Ferguson recorded in the second of the above papers the discovery of the *Leishmania tropica* in the peculiar circumscribed epidermic papillomata of the disease, an observation of some significance in relation to the condition described in the first paper and the possible occurrence of kala-azar in this country. The third of these papers is a very brief and partial account of the mass of investigation Ferguson carried out on this disease.

It was to the subject of bilharziosis that he devoted most of the time he could spare for research. The unique collection of specimens prepared by him from the rich *post-mortem* material now in the pathological museum of the school is evidence of the interest he took in a disease in regard to the morbid anatomy of which he was the recognized authority. It is a matter of profound regret that much of his work must remain unrecorded; fortunately he was able to contribute the pathological section of the chapter on bilharziosis in Byam's *System of Tropical Medicine* (in the press).

Many of Ferguson's observations may also be found in F. C. Madden's *Surgical Diseases of Egypt*. His opinion, which I cannot find recorded, but which I recollect his expressing in a paper read before the Cairo Scientific Society some years ago, that the travelling of the ova through the tissues to the mucous surfaces was due to the excretion by the myracidium of a digestive enzyme, which softened the tissues in the path of the ovum, is of considerable interest and is perhaps supported by the eosinophil character of the surrounding leucocyte invasion.

Probably the most difficult task he carried out was the compilation of the admirable descriptive catalogue of the pathological collection attached to his department.

In the autumn of 1915 Ferguson received a commission with the rank of major in the R.A.M.C. This rank he retained, although for the greater part of the time carrying out the duties of a consultant, until the end of his service in 1919. The first duty he took over was that of Director of the Central Laboratory for the Alexandria District at No. 21 General Hospital. His success in co-ordinating the work of the various laboratories in that district led to his being given the task of directing the work of the bacteriological and other laboratories attached to all hospital units with the Egyptian Expeditionary Force. This took him to Kantara and eventually to Palestine and Syria; there is little doubt that the hardships and exposure to which he was inevitably subjected aggravated a latent weakness of the lungs and was responsible for the condition which eventually carried him off. In November, 1918, he was appointed to direct the Pathological Section of the Commission to inquire into the incidence of Pellagra among the Turkish prisoners of war in Egypt. The work of this Commission was crowded into a short two months, and the share of it which fell to Ferguson was far too strenuous for his failing health. For his services he received the Order of the O.B.E.

Late in May of 1919 he went on leave to England. The state of his health, overfatigued by the voyage home, gave great anxiety to his friends on his arrival in Scotland. During the next six months considerable improvement took place, and in December he thought himself fit to return to his duties at the Medical School in Cairo. A chill taken on board ship during the journey gravely aggravated his condition, and he arrived in Cairo suffering from severe bronchial trouble. After two months' illness he passed away quite suddenly while reading in bed at 8 p.m. on February 22nd, the cause of death being heart failure. No one could wish for a more peaceful end.

He leaves a widow and two sons of 6 and 7 years of age, at present at school at Dollar, N.B. His family have the sympathy of all his friends. The funeral, which took place next day, was attended by a great part of the British colony in Cairo and many of his old students.

The Services.

DEATHS IN THE SERVICES.

MAJOR NORMAN SEPTIMUS WELLS, I.M.S., died in the Middlesex Hospital on April 20th, aged 43. He was born on December 22nd, 1876, educated at Edinburgh, where he graduated M.B. and B.Ch. in 1900, and entered the I.M.S. on January 29th, 1901, attaining the rank of major on July 29th, 1912. Before the war he was in civil employ in the United Provinces, but rejoined the army for military duty, and served throughout the war, being mentioned in dispatches in the *London Gazette* of July 13th, 1916, and receiving the O.B.E. on June 3rd, 1919.

Universities and Colleges.

UNIVERSITY OF GLASGOW.

AT the graduation ceremony on April 20th the following degrees were conferred:

M.D.—*Daisy A. M. Clark (Mrs. Gale).
D.Sc.—Dr. John W. McNee. Dr. John B. Orr.
M.B., CH.B.—†J. W. S. Blacklock, *A. D. Brown, *P. A. Mackay, *R. G. Howat, A. M. Beaton, A. K. Begg, R. R. S. Bowker, Annie B. Cameron, J. P. Chisholm, G. M. Cooper, W. N. Duguid, R. Fletcher, T. Fletcher, R. A. Forsyth, T. D. Hunter, G. Jamieson, Chung U. Lee, B. Levine, A. M'C. Macintosh, W. M'Kendrick, J. M'K Maxton, J. S. Meighan, Marjorie Mitchell, T. F. Noble, P. C. Rankin, R. S. Reid, J. Sachs, Marguerite L. Sclanders, Cecilia Siskin, T. S. Stirling, A. Strang, H. A. Summers, J. L. Turpie, J. D. Williamson.

* With commendation. † With honours.

The Bellahouston Gold Medal for eminent merit in thesis for M.D. has been awarded to Dr. Harry S. Hutchison, and Dr. R. T. Leiper has been awarded the Straits Settlements Gold Medal in tropical medicine.

The Asher Asher Gold Medal in laryngology and rhinology has been conferred upon Mr. James N. Tennent.

IN the notice of the annual report of the Medical Department of the Local Government Board for 1918–1919, published on January 31st, 1920, p. 164, attention was directed to the disquieting remarks made by Dr. A. W. J. Macfadden, C.B., in the section dealing with the work of inspectors of food. This part of the report is now published separately by H.M. Stationery Office, and can be obtained, price 3d., through any bookseller. In it the insanitary condition of many private slaughterhouses is described, the inadequacy of existing arrangements for their inspection pointed out, and important recommendations for their improvement made.

DR. THOMAS LEWIS has in the press with Messrs. Shaw and Sons a volume on *The Mechanism and Graphic Registration of the Heart Beat*. It is an enlarged and revised edition of his earlier volume entitled *The Mechanism of the Heart Beat*.

Medical News.

ON the evening of presentation day at the University of London (Wednesday, May 19th) a graduation dinner will be held at the Guildhall; it will be attended by the Lord Mayor and Sheriffs in state, and the President of the Board of Education intends to be present. The graduation ceremony will take place in the afternoon at the Albert Hall. This is, we believe, the first occasion on which a graduation dinner has been held.

SIR JAMES CRICHTON-BROWNE, M.D., F.R.S., will deliver the first Maudsley memorial lecture before the Medico-Psychological Association of Great Britain and Ireland. The lecture will be given on May 20th at 3.30 p.m. at the house of the Royal Society of Medicine, 1, Wimpole Street, W.

ON Wednesday next, May 5th, at 5 p.m., Dr. W. Blair Bell, gynaecological surgeon to the Royal Infirmary, Liverpool, will deliver a lecture on the surgical treatment of prolapse of the uterus and vagina at the house of the Royal Society of Medicine, 1, Wimpole Street, W.1. All members of the profession are invited to attend.

A MEETING of the Medico-Legal Society will be held to-day (Friday, April 30th) at 8.30 p.m., at 11, Chandos Street, W.1, when a paper will be read by Dr. Mackenzie Wallis, lecturer in chemical pathology, St. Bartholomew's Hospital, on the purity of ether and chloroform in its relation to anaesthesia. Dr. Bernard H. Spilsbury will exhibit specimens.

IT is proposed to commemorate the opening of the 48th General Hospital, Salonica, by a dinner in London on June 24th. Officers who have been connected with the unit and wish to take part are requested to communicate with Mr. B. Holroyd Slater, F.R.C.S., St. Luke's Hospital, Bradford.

A THIRD post-graduate course of instruction in the diagnosis and treatment of venereal disease is being arranged by Mr. K. M. Walker at St. Bartholomew's Hospital Clinic, Golden Lane, E.C., established by the Corporation of London. The course will be held on Thursday afternoons, at 5.30 p.m., commencing May 13th. In addition to work in the out-patient department the beds attached to the clinic are available for the reception and study of suitable cases. There are still a certain number of vacancies. Any medical practitioner wishing to attend is invited to send his name to the Secretary, National Council for Combating Venereal Diseases, 81, Avenue Chambers, Vernon Place, Southampton Row, W.C.1. (Telephone: Museum 2432.)

THE Lord Mayor will preside at a meeting to be held at the Mansion House on May 11th at 3 p.m. for the purpose of bringing before the Lord Mayors and Mayors of the country the objects and scope of the People's League of Health.

RULES (No. 560, price 1d.) have been published by the Minister of Health for the procedure to be adopted when a local authority has refused permission to demolish a house, and the owner wishes to appeal to the tribunal established under Section 5 (2) of the Housing (Additional Powers) Act, 1919.

IT is proposed to hold a reunion dinner for officers who were attached to No. 2 British General Hospital, Mesopotamia. Officers are requested to communicate without delay with Dr. Urban Marks, 1, Trinity Place, Swansea.

SIR ARTHUR NEWSHOLME, who has returned from America, has in the press a volume of American addresses on Public Health and Insurance, which will be published by the Johns Hopkins University Press.

AT a special general meeting of the Röntgen Society to be held at 11, Chandos Street, W.1, on May 4th, at 8.15 p.m., a proposal will be submitted to raise the annual subscription of ordinary members from £1 1s. to £2 2s.

WE learn from the *Journal of the American Medical Association* that under the new internal revenue regulation relating to the supply of alcoholic liquor to doctors in the United States, it is necessary for those who desire to purchase or prescribe such liquors for their patients to procure a permit. The permit allows the prescription of liquor for medicinal purposes only. A doctor is also allowed to purchase not more than six quarts of alcoholic liquor during any calendar year for professional purposes only.

MR. H. E. POWELL, for some years sublibrarian, has been appointed librarian to the Royal Society of Medicine, in succession to Mr. C. R. Hewitt, who, as was recently announced, has been appointed librarian to the League of Red Cross Societies. Mr. Powell first joined the staff of the library as a pupil about eighteen years ago, and has earned his promotion by making himself thoroughly acquainted with the contents and purpose of the library and placing his knowledge at the disposal of readers.

DR. RUSSELL WELLS, Vice-Chancellor of London University, presided over the medical missions meeting held on April 21st in connexion with the 219th anniversary of the Society for the Propagation of the Gospel. He deprecated the idea that medical missions meant the dispensing of so much medical skill on the understanding that the recipients listened to so much teaching. It was the duty of Christians to distribute the great gifts which had come to them, not for the purpose of securing direct conversion, but as the natural overflow of a grateful heart; those who received the benefit of medical missions would regard a religion that prompted such altruism as something worth inquiring into. If asked to choose between a medical missionary one who had an indifferent knowledge of medicine but had the gift of preaching, or one who knew medicine well but had no such preaching gift, he would unhesitatingly prefer the latter. It was stated at the meeting that more medical men were badly needed in the fields covered by the operations of the society, especially at Singapore and Malacca. Medical men attached to the society are taking part in medical education at Peking and Tsi Nan Fu. The income of the medical missions department of the society last year was £15,178.

A LETTER, signed by Lord Willoughby de Broke, Sir Bryan Donkin, Sir W. Arbuthnot Lane, Sir James Crichton-Browne, and Dr. H. Wansey Bayly, has been addressed by the Society for the Prevention of Venereal Disease to county councils, county boroughs and municipal boroughs, and to medical officers of health throughout Great Britain. In this communication allusion is made to the serious effect of venereal disease on the national health and to the misery and suffering of which it is the cause; at the same time it is declared that "the clearest and most definite evidence exists to show that venereal diseases can be readily prevented by the adoption of immediate disinfection after exposure to infection." The society states that its members favour all measures which, by promoting a higher standard of morality, tend to prevent the spread of venereal infections, but realize that there will always remain a large class who will continue to practise promiscuous intercourse. The policy of the society is stated to be purely educative; the authorities are not asked to provide "packets" or anything of that kind, but to issue advice in the same way as about tuberculosis and influenza, pointing out how persons should protect themselves against venereal disease.

IN consequence of the general increase in masters' salaries and in the cost of living, as well as in order to provide alterations in masters' superannuation grants on the lines of the Superannuation Act of 1918, the Council of Epsom College have been compelled to increase the school fees as from September next for all boys, whether entering the school for the first time or at present there. The fees have been increased for the sons of medical men from 70 guineas to 100 guineas; for lay boys from 80 guineas to 120 guineas, and for day boys from 25 guineas to £40. The Council felt that it had no alternative but to make these increases, as the loss on the working of the school for the past year amounted to £3,779 15s. 10d. The charitable contributions in aid of the foundation cannot of course be expended in defraying any of the expenses of the school beyond paying for the education of foundationers.

THE legislature of South Carolina has passed a bill framed by the State Medical Society requiring all "chiropractors, osteopaths, and other healers" to submit to examination before the State board of medical examiners.

THE Surgeon-General of the United States Army has asked for a grant for the publication of the medical and surgical history of the war. Much of the material for this history, *The Journal of the American Medical Association* states, is already collected and its publication depends on the action of Congress. The first portion of an unofficial history of the Canadian Army Medical Corps appeared at the end of 1918, and the German history, in nine volumes, is promised this year. Our contemporary emphasizes the importance of prompt publication of records which have so great scientific and historical value, and trusts that there will be no repetition of the twenty years' delay which followed the War of the Rebellion. Considerable progress has already been made with the British official medical history of the war, of which Major-General Sir W. G. Macpherson is Editor-in-Chief: the offices are at Stanhope House, Kean Street, Kingsway.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediscera, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

INCOME TAX.

P. Q. R. has hitherto deducted two-thirds of the rent of his house from his gross receipts for the purpose of his income tax return. What will he be able to deduct if he buys the house?

*** Two-thirds of the amount on which he pays income tax *plus* two-thirds of general expenditure on repairs, redecorations, etc. The fact that he may be forced to purchase the house for a larger sum than might be considered reasonable in less abnormal circumstances does not affect the question, but the realization of investments for that purpose of course will reduce his private income and *pro tanto* the tax payable thereon.

O. R. J. L. inquires as to the possibility of claiming repayment in respect of the right of being charged at the "service" rate of tax.

*** From the figures supplied it would seem that the two sums £19 0s. 3d. *plus* £2 2s. 4d., or £21 2s. 7d., together make up the correct liability for the financial year ending April 5th, 1919. Assuming that the £13 5s. 6d. represents the tax paid for the period from September 12th, 1917, to April 5th, 1918, and that our correspondent had no other source of income during the *year* ending at the latter date, she would apparently be entitled to repayment of rather more than £10. The claim can be put forward on Form No. 40, to be obtained from the office of the local inspector of taxes. We may perhaps add that in allocating the various payments of tax, O. R. J. L. has been misled by the due "date of payment"; all income tax assessments are made in respect of financial years ending on April 5th.

ANAESTHESIA IN EPILEPTICS.

DR. G. W. HASSALL (Assistant Anaesthetist to the General Hospital, Birmingham) writes: A few years ago I had a case in which epilepsy made itself manifest during anaesthesia. The operation was for acute appendicitis with complications in a girl about 7 years old and lasted about half-an-hour. The child was in deep chloroform anaesthesia and the peritoneum had just been opened when clonic spasms occurred chiefly in the muscles of the extremities. They lasted a few seconds. The breathing was embarrassed and some duskiness resulted, but the operator was able to proceed. When the appendix was found another attack occurred. I then changed to open ether, but before ether anaesthesia was fully established there was another attack. After this the child was kept deeply under ether and everything went smoothly. The child had a history of epilepsy. I have had a few other epileptics through my hands, but in them nothing peculiar happened although ether was given part of the time.

LETTERS, NOTES, ETC.

A WARNING.

SIR ALFRED KEOGH, G.C.B. (Rector Imperial College of Science, South Kensington) writes: It has come to my knowledge that at various times and places a person falsely representing herself to be a near relation of mine, has imposed upon members of the medical profession and others. I shall be glad if you will allow me to call the attention of the profession to this imposition, and I shall be obliged if reference be made to me in future attempts.

BLIND MASSEURS.

SIR ARTHUR PEARSON, Bt., G.B.E., Chairman, Blinded Soldiers' and Sailors' Care Committee, writes: Will you allow me to draw the attention of your readers to the fact that at the recent examinations of the Incorporated Society of Trained Masseurs, which are known throughout the world for their completeness, Cpl. Herbert Vickers, a blinded soldier of St. Dunstan's, passed first in all subjects. That this was no mean accomplishment may be judged by the fact that there were nearly three hundred entrants for this examination. Of these less than fifty per cent. passed, while of the sixteen St. Dunstan's entrants, of whom Cpl. Vickers was one, fifteen passed, nine being amongst the first twenty-six on the Pass List, and the one failure was accounted for by the fact that the unsuccessful candidate had for some weeks before the examination suffered severely from neuralgia, which had almost entirely robbed him of sleep.

T.F. AND S.R.

EX-T.F. MAJOR writes: "Optimist" (April 24th, p. 590) appears in doubt as to how he can "get out" of the T.F. or S.R. I have recently left the T.F. by writing to the Secretary, War Office, asking that I be permitted to resign my commission. The reply was: ". . . I am to add that resignations can now be accepted, and a notification resigning your commission will appear in the *London Gazette* at an early date." I write this in case the information should be of use to any of your correspondents. I may add that after serving as Volunteer or Territorial from 1907 until now I am so thoroughly disgusted with the inconsiderate treatment meted out to me by the authorities that I shall make no attempt to assist in the reconstruction of the T.F. It appears to me high time that medical and other professional men should make it abundantly clear to the authorities that reasonable treatment must be guaranteed before busy men will give their spare time to covering up the deficiencies of our system of national defence.

SUDDEN DEATH AT ATTEMPTED ABORTION.

DR. A. C. GEMMELL (Brighton) writes: In a recent criminal trial the question was raised whether attempted abortion could cause sudden death. I came across to-day in an old volume of the BRITISH MEDICAL JOURNAL a reference to this subject. It occurs in the Epitome of Current Medical Literature, BRITISH MEDICAL JOURNAL, June 14th, 1913, p. 94. From this it would appear that such sudden deaths do occur.

ANTISCORBUTIC LEMON JUICE TABLETS.

THE work at the Lister Institute having shown the futility of the issue of ordinary lime juice as previously supplied to the navy as an antiscorbutic, Surgeon Captain P. W. Bassett-Smith, C.B., C.M.G., carried out experiments at the Royal Naval Medical School, Greenwich, in order to devise a method of preserving lime juice in a convenient and active form. In the method of preparation eventually devised heat is not used, and an efficient portable and palatable compound, rich in antiscorbutic vitamine, is obtained; when tested on guinea-pigs it was found to retain its potency at ordinary temperatures. The method used is as follows: "The juice is roughly filtered through muslin, and then through filter-paper under reduced pressure. The filtered juice is evaporated *in vacuo* over sulphuric acid at ordinary temperature (15° C.). The residue of non-crystallizable syrup is worked up into as stiff a paste as possible with a mixture of anhydrous lactose 97 per cent., and gum tragacanth 3 per cent. The paste is cut into sections, each containing the juice of half a lemon. These are rolled, faced with the mixture, and pressed to assume the lozenge form."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 39, 40, 44, 45, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 41, 42, and 43.

THE following appointments of certifying factory surgeons are vacant: Tarbert (Argyll), Yatton (Somerset).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE TREATMENT OF ECLAMPSIA BY TRANSFUSION OF BLOOD.

BY

W. BLAIR BELL, B.S., M.D.LOND.,

GYNAECOLOGICAL SURGEON TO THE ROYAL INFIRMARY AND LECTURER ON CLINICAL GYNAECOLOGY IN THE UNIVERSITY OF LIVERPOOL.

ECLAMPSIA is a very grave condition, both to the mother and child. According to statistics, the maternal death rate varies from 20 to 30 per cent., and in regard to the child the mortality is between 35 to 50 per cent. Yet, in spite of many investigations, we seem to have discovered no specific method of treating the condition once convulsions have occurred. We are not even sure that much can be done in the way of prophylaxis, for we do not know how many of the cases of toxic albuminuria of pregnancy that are carefully treated would have terminated in the eclamptic state.

I shall not discuss the methods of treatment usually adopted. I wish to consider only the question of blood transfusion in eclampsia.

Attention has lately been directed in a leading article in the BRITISH MEDICAL JOURNAL [1] to certain recent immunological investigations. In 1911 Dold [2] showed that saline extracts of many viscera contain a toxin, lethal to animals, which is completely neutralized by normal blood serum. To this toxin he gave the name "*Organgift*." The nature of the substance has, however, not yet been determined, although many investigations have been made. Obata,[3] following the work of Dold and others, has recently made an important contribution to the subject from an obstetrical point of view. This investigator has found that, when an extract of fresh human placenta is injected into mice, symptoms resembling those of eclampsia are produced, and that there is no difference between the toxicity of the extract of placenta from a normal case and that of the extract of placenta from a case of eclampsia. Further, Obata observed that fresh serum from the blood either of a normal person or of an eclamptic patient produces similar symptoms in mice, but no increase in toxicity was noted in regard to the serum of eclamptic patients. When, however, the extract of placenta was mixed with serum from a normal person—and it was found that sex and pregnancy did not affect the issue—the toxins of the placental extract and also apparently of the serum were neutralized; but, on the other hand, the serum from the blood of an eclamptic patient failed to neutralize the toxin of the placenta.

It appears, therefore, that there is some substance in normal blood that neutralizes the toxin of the placenta, and it seems curious that this is present in the blood of males as well as females, until we remember that the fetus is the product of the male no less than of the female.

On thinking over these facts when faced recently with a serious case of eclampsia, I determined to try the effect of blood transfusion, in the hope of introducing an antitoxin into the maternal blood stream. The result was so satisfactory that I have ventured to bring forward the case, although a single one, especially as the treatment of it was based on experimental findings. I would have preferred to wait, but as it may be some time before I have a further opportunity of testing it, and as no harm can result from the treatment properly carried out, I think it only right that the method should have a proper trial at the hands of others, in order that we may know whether blood transfusion may be regarded as a reliable method of treatment.

Abstract of Notes of the Case.

Mrs. E. T., aged 24, a primigravida, in the ninth month of gestation, consulted Dr. D. R. Evans on April 15th, complaining of recurring pains in the back, and pain on micturition. Dr. Evans examined her urine and, finding a large amount of albumin, sent her home to bed. He saw her the following evening, when he found that labour pains had commenced at 5 p.m., and that she had had a "fit." He then administered hypodermically morphine gr. ¼. Other "fits" followed at hourly intervals.

She was admitted to the Liverpool Royal Infirmary at 9 p.m., and was then conscious and rational. A catheter was passed, but no urine was obtained. The eyelids were slightly oedematous. Another convulsion soon occurred, and following this she remained oblivious of her surroundings. I saw her at 10.30 p.m. She was struggling during labour pains, but, otherwise, was indifferent to what was going on. Owing to her restlessness a proper abdominal examination was impossible, but *per vaginam* a fetal head could be felt lying low in the pelvis. I hoped, therefore, that the child would soon be expelled. Another severe convulsion occurred at 11.30 p.m. After this she remained semicomatose. She was then placed under light ether anaesthesia and removed to the theatre, where I delivered with forceps, and without difficulty, twins—a boy and a girl, weighing respectively 5½ and 4¾ lb. The cords were pulsating feebly when the infants, in a state of "white asphyxia," were born; but it was impossible to stimulate respiration. The patient remained semicomatose and restless all night. At 5.30 a.m. another convulsion occurred, followed by a very severe one at 6 a.m. The patient remained cyanosed; 20 c.cm. of urine loaded with albumin was obtained by catheter.

The house-surgeon now opened a vein in the arm, but was unable to bleed the patient, as directed, while saline infusion was being introduced. A quantity of saline solution was, however, run into the vein. I received a message at 8 a.m. to say that the patient appeared to be dying, and that she was more deeply comatose. I saw her as soon as possible (10.30 a.m.), and found her lying quite still, almost completely comatose; her face was of a yellow colour, and her pulse was very soft and feeble. I determined then to try the effect of blood transfusion, and was fortunate enough to obtain the assistance of my colleagues Mr. R. E. Kelly and Dr. Wallace Jones, who have had much experience in this procedure. The husband, a robust-looking young man, willingly consented to be the donor. His blood was found to be in Group IV, so 500 c.cm. were withdrawn into citrate solution from his median basilic vein. Approximately the whole of this was transfused into the median cephalic vein of the patient.

At 1.30 p.m. the patient looked better—the colour had almost immediately been improved by the transfusion; 60 c.cm. of urine, withdrawn by catheter, were found to contain acetone, and albumin to the extent of 12 per cent. The following estimate of the ammonia coefficient was made by Professor Ramsden:

Ammonia nitrogen	0.05	per cent.
Urea	0.48	"
Total nitrogen	0.23	"
Ammonia N / Total N ratio	22.0	"

A few hours later the patient was able to talk rationally; and when the house-surgeon made the evening round she discussed her condition, and said that she had no recollection of anything that had happened previously in regard to her confinement. In the sixteen hours subsequent to the blood transfusion 50 oz. of urine were secreted. A sample was then found by Professor Ramsden to contain "a small amount of albumin." Acetone was absent. The ammonia coefficient was estimated as follows:

Ammonia nitrogen	0.017	per cent.
Urea	0.75	"
Total nitrogen	0.35	"
Ammonia N / Total N ratio	4.8	"

In the next twenty-four hours 71 oz. of urine were secreted. Since then convalescence has been uninterrupted.

Should another case come under my care I shall perform blood transfusion immediately. It may be possible by so doing to save not only the life of the mother, but also that of the child. In such circumstances it would probably be necessary to repeat the transfusion at the end of parturition.

With regard to the method of transfusion employed in this case, citrated venous blood was used, and I noticed that some difficulty was experienced by the house-surgeon in shaking, and at the same time collecting, the blood from the vein, in the flask containing the citrate solution. I think that the blood might best be mixed with the citrate solution by allowing oxygen to bubble through the fluid; moreover, oxygenated blood would probably be better in all cases of transfusion than venous blood.

In conclusion, I wish again to emphasize the fact that this is only one case, and that no final judgement can be formed until many cases have been treated in the same way by competent observers and by those who have had some experience in blood transfusion and who are able to carry out the necessary procedures quickly and safely. It is unlikely that any treatment will ever be introduced which will ensure the recovery of every patient; but, if the present appalling maternal and fetal mortality can be reduced, something will have been accomplished. In those circumstances the preparation of a human antitoxic serum might be worth while in order to simplify treatment.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, 1920, i, 479. [2] Dold, H.: *Zeit. f. Immunol. u. Exper. Therap.*, 1911, x, 53. [3] Obata, I.: *Journ. Immunol.* 1919, iv, 111.

A Lecture
ON
PARTIAL PYLORIC OBSTRUCTION.

BEING AN ABSTRACT OF THE THIRD OF THE JAMES WATSON LECTURES ON "SOME CHRONIC GASTRIC DISORDERS." *

BY

A. ERNEST MAYLARD, B.S.LOND., F.R.F.P.S.GLASG., F.R.S.EDIN.,
CONSULTING SURGEON TO THE VICTORIA INFIRMARY, GLASGOW.

THE causes of pyloric obstruction may be primarily classified into anatomical and pathological; and the latter may be subclassified into (1) those dependent on inflammation and (2) those the result of new growths.

ANATOMICAL OBSTRUCTION.

Congenital Narrowness of the Pyloric Orifice.

This class has received but comparatively slight recognition, but I trust I may be able to show that it plays no inconsiderable part in the group of conditions that obstruct the gastric outlet.

At an early period of my work, when operating for obscure and intractable symptoms indicative of gastric derangements, I now and again encountered a condition of the pyloric orifice which I was at a loss to explain on any other ground than that the opening was too narrow to allow of a free and easy exit of the gastric contents; that this was the source of the chronic gastric disorder received confirmation from the fact that relief and cure followed on the operation of gastro-jejunostomy. After an experience of 7 cases I read a paper before the Clinical Society of London[1] entitled "Congenital narrowness of the pyloric orifice." Later, in another paper published in the BRITISH MEDICAL JOURNAL,[2] 12 other illustrative cases were given. Dr. William Russell[3] of Edinburgh also contributed an exhaustive article on the subject, published in the same number of the JOURNAL, strongly supporting the view that I had promulgated, that such an anatomical condition existed, and accounted for the symptoms met with in certain classes of cases.

Before describing the particular features peculiar to this form of obstruction, I ought perhaps to state what may be considered the normal condition of the orifice as met with by the surgeon on the operating table. Under complete anaesthesia the gastric parietes are more or less flaccid. Externally the pylorus can usually be recognized by the somewhat deeper colour it presents in contrast to the neighbouring parts, and by the convergence of vessels, mostly veins, at its lower margin. Only the faintest constriction is, as a rule, visible, the duodenum often passing so imperceptibly into the stomach that it is only by the tactile sensation afforded by the sphincter and the distribution of the vessels that the exact seat of the pylorus is determined. There is no constancy in the amount of induration (if I may so express it) which the pylorus presents, a fact which seems to suggest that although the patency of the canal may be quite normal, there may be considerable differences in the developmental condition of the sphincter—differences possibly dependent on the same physical causes which may naturally affect other parts of the body. I have little doubt that this variation, when not taken into due account, has led to the difficulty experienced by some in determining whether the greater thickness met with in one case as compared with another is or is not due to some excessive hypertrophic or inflammatory cause. I am, however, convinced that the variation is quite normal, and may exist within considerable limits. Regarding the calibre of the pyloric orifice, I have always found that while the index finger passes easily, it has conveyed to it the sense of a uniformly narrow, elastic ring, which feebly embraces and rolls over the finger as it is gently pushed on into the duodenum. I should consider 12 to 15 mm. the normal calibre during life and under relaxation. If a section of the pylorus is looked at—such, for instance, as is given in *Quain's Anatomy*—a sensation such as that just described is what might be reasonably expected. A uniform ring-like projection of mucous membrane is seen containing within its reduplicated folds bands of muscle fibre.

When, in my earlier cases, I first met with this abnormally narrowed condition of the canal, I was inclined to believe that, if not due to chronic spasm, it was the direct result of the stimulating and exciting influence evoked by the introduction of the finger into the pyloric orifice; that such an indigestible morsel as the index finger, so large, solid, and unfit to pass out of the stomach, was certainly likely to cause contraction of the pyloric sphincter whose chief function is to prevent all but the most efficiently peptonized food passing out of the stomach. However, I had on one occasion a very striking and informing illustration of what the parietes of the stomach and the pylorus are like under contraction. The stomach had been opened for inspection and partially withdrawn from the abdomen with the pylorus in view. The patient seemed somewhat suddenly to come out of the anaesthetic, when a violent contraction of the gastric parietes took place, causing a little of the clear fluid in the stomach to be forcibly spurted out. Immediately there followed contraction of the pylorus, which assumed the appearance of a rigid structure about 2 in. in length, and about the circumference of the ring finger. As the patient again came under the influence of the anaesthetic the parts relaxed; and it was under this relaxed state that I felt a narrow, uniform, ring-like constriction of the pyloric aperture incapable of admitting the apex of the index finger. It was the information gained in this particular case that led me first to doubt whether these narrowed orifices could be the result of a chronic spasmodic condition, and to suspect that they owed their existence to some abnormality in development rather than to any acquired cause.

As to the nature of this abnormality, I am inclined to regard it as due to an excess of reduplication of the pyloric fold, whereby the width of the valve is increased, but the calibre of the canal proportionately diminished; that it is, therefore, purely anatomical and congenital in origin. Such a definition entirely fits the facts revealed in the cases met with, for the obstruction was always perfectly uniform, and simply gave the impression that the orifice was abnormally small; the smaller it was the greater the resistance it offered to the introduction and passage of the finger. Further, it should be emphasized that the resistance was in no sense like that encountered as the result of cicatrization. That, as is well known, rarely gives way, except as the result of a certain amount of laceration of newly formed tissue; while, in the majority of these cases—the exception being those of a very high degree of narrowing—the ring gradually dilates, and uniformly stretches over the advancing finger.

If I have been right in the construction I have put forward regarding the nature and origin of this narrowing of the aperture, it is possible to conceive how we may have, solely as the result of development, any calibre of the pyloric orifice between that which we regard as normal and that which will admit only a small sized—say No. 6—ordinary urethral catheter.

I ought to say, before proceeding further, that, although ignorant of the fact when I first met with the condition just described, subsequent investigation has brought to my notice the description of this same appearance of the part by others. Landerer (quoted by Maier[4]) some years ago seems to have been the first to draw attention to this simple narrowing of the pylorus unaccompanied by any marked thickening or other changes connected with the part. Maier discusses this congenital abnormality; his cases, numbering twenty-one, were necropsies on patients who had died mostly from other causes than those in any way associated with the gastric condition. For some years, therefore, the possibility of chronic gastric disorders in the adult dependent on this particular kind of narrowing of the pyloric aperture has been recognized; but it is only comparatively recently, since the stomach has been explored by the surgeon, that the cause and its effects have come to be more exactly noted, and still further treated. The subject is briefly referred to by Mayo-Robson and Moynihan in their book,[5] where a very typical case illustrative of the condition is recorded.

If further support of the opinions expressed were needed I think it is to be found in the unmistakable evidence generally acknowledged to exist in some other parts of the

* Delivered before the Royal Faculty of Physicians and Surgeons of Glasgow, March, 1920.

body possessing somewhat similar functions. Thus, there are distinct variations in the calibre of the ileo-caecal orifice; and William Mayo[6] has reported cases he has operated upon in which an abnormal narrowing of the passage between the ileum and the caecum has been the cause of constipation. No evidences of disease of any kind were discoverable to account for the smallness of the valvular aperture; presumably, therefore, the condition had to be regarded as one due to defective development of the ileo-caecal valve. The uterine cervical canal affords yet another analogy, for the passage may be congenitally narrow and prove obstructive to the easy and unimpeded flow of the menses. It is not, perhaps, overstretching the comparison to indicate the great differences that exist in the size of the oral aperture, and in the width of the palpebral fissure, not that any undue smallness of either of these apertures is any impediment to the particular part each has to play in the human economy, only they serve to show, from the obvious natural existence of developmental variations, that any such defect at the pyloric aperture is a perfectly reasonable assumption.

Hypertrophic Stenosis of the Pyloric Orifice.

Occupying a somewhat dubious position in the matter of its cause or origin is hypertrophic stenosis of the pyloric aperture. Although a condition most frequently met with in early life, it is not entirely confined to this period, as cases are occasionally encountered in the adult; and I have myself met with two unmistakable illustrations. Maier[4] fully established its existence in later life in some of the cases he describes. Others, too, in this country, among whom may be specially mentioned Clinton Dent and E. Cautley,[7] have likewise confirmed the existence of this particular form of obstruction in the adult.

Pathological Obstruction.

1. *Chronic Ulceration.*

Of all the causes that give rise to obstruction none are so frequent as those which arise from chronic ulceration of the non-malignant type. The obstruction is partly due to cicatricial contraction, but more often it is the result of the inflammatory thickening associated with the active spread of the ulcer. So great sometimes is this hard, more or less oedematous mass, that it is mistaken for a malignant growth.

The variable phases of the pathological aspect of the subject all have their bearing on the multiple manifestations which the lesion may present. For, as will be pointed out, it is the capacity or incapacity of the stomach to overcome the obstruction with ease or with difficulty that leads to the many complexities in symptomatic manifestations which so frequently complicate the diagnosis of this particular class of cases.

2. *New Growths.*

The new growths which may cause obstruction are both malignant and innocent. The latter may be briefly dismissed with a few words. Occurring on the inner surface of the stomach close to the pylorus, they may block the aperture like a ball-valve. External pressure is another rare cause of obstruction, and may be due to a distended gall bladder or a mass of enlarged glands over the head of the pancreas. By far the commonest form of new growth is carcinoma. This may commence in the walls of the canal, or be the result of invasion from without.

Symptoms.

As regards the symptoms of pyloric obstruction, it will simplify matters very materially if we first consider what are likely to be the natural physiological and pathological sequences of any hindrance to the escape of the contents of the stomach into the duodenum. I do not intend to continue the discussion into a consideration of those advanced cases in which there is no difficulty in diagnosis—where, for instance, we have all the signs of a stomach that occupies a considerable portion of the abdomen, holds several pints of fluid, and retains so much of the food taken that the patient occasionally vomits a "basinful" or a "chamberpotful" of sour, incompletely digested, porridge-like material containing fragments of food taken several hours or days before. Fortunately we rarely see these advanced cases now. It is not, then, with the symptoms of this type of case that I propose to deal, but with those in which the stomach is still capable of overcoming the obstruction, though with variable degrees of success. For want of a better and more accurate term to apply to these cases they may be designated cases of partial pyloric obstruction. It is the variableness of the amount of obstruction that constitutes the difficulty so frequently encountered in diagnosis.

If we consider the possible physiological effects of obstruction at the gastric outlet—and by this it must be understood that not only the pylorus itself, but the parts of the canal both in front of and distal to it are included—it will be clear that the organ first to be affected will be the stomach itself. Whatever be the relative importance of the different functions of the stomach, it is certain that nothing can take the place of the motor function; and the contents of the stomach—however much they may be acted upon, whether sufficiently or not, by the gastric juice—must be propelled out of the viscus by the contraction of the muscle tunics. Thus, then, it may be reasonably assumed that the primary effect of obstruction will be to place increased work upon the muscle layers; and the amount of work which they are called upon to perform will be in direct proportion to the amount of obstruction that they have to overcome. It is more than likely that the increased pressure to which the contents of the stomach are subjected, in the greater effort of the organ to rid itself of its digested ingesta, may deleteriously affect the normal secretion of the gastric juice both quantitatively and qualitatively. But, however this may be (and possibly it is only a matter of moment in cases of considerable and prolonged obstruction), it is the effect upon the muscle tunics that determines the interesting symptomatic vagaries of the condition—the factor deserving of most attention.

Consider, for a moment, the parallel illustration of any voluntary muscle of the body which is called upon to undergo prolonged exertion. If the work to be done be of an intermittent type, the periods of rest and increased requirements lead to a compensatory development, which, up to a certain pitch, succeeds in accomplishing the ends required. If, however, there be no periods of rest interposed, weariness intervenes, and an entire failure of accomplishment ensues. Introduce another factor into the scheme—failure to supply the body with proper and sufficient nourishment—and muscle inertia will be rapidly experienced.

The stomach does for a time, and in direct proportion to the amount of obstruction it has to overcome, succeed in carrying out its normal functions. Its muscle tunics hypertrophy, and, in consequence, it is enabled to drive out its contents successfully; but, as time goes on, it becomes more and more susceptible to influences which may reach it either by way of the nervous system or the blood supply. Thus, causes of various kinds, which arise from nerve exhaustion or imperfect metabolism affecting the constitution as a whole, influence the struggling stomach in particular; muscle inertia then ensues, and instead of the viscus propelling its contents through the obstructed orifice, they remain, only in part it may be, pent up in the gastric cavity, awaiting the time when the muscle parietes shall have regained sufficient energy to effect total expulsion. The sequence of events, however, may not prove so simple as thus far they may appear. For when, for the reasons given, the stomach is unable to expel its contents, it may, though sheer weariness of effort, relax its endeavour and give way to passive dilatation. To what extent this may go, and how long it may last, will again depend on the nature and degree of obstruction, and the general physical state of the patient. Herein will be seen to enter the symptomatic vagaries of the disease; for there is no telling when the symptoms will subside, exactly why they should appear, and why they are of the nature manifested. And yet, taking these considerations collectively, they furnish the best clues to the nature of the complaint.

Let me now ask for a closer investigation into some of the symptoms which the above considerations naturally lead one to expect will at one time or another manifest themselves.

1. In the first place, there is usually nothing about the general appearance of the patients to suggest constitutional disease; in other words, the gastric symptoms appear to be solely dependent on the disturbances affecting the viscus itself; indeed, there is often an appearance

of health and robustness about them, and between their "attacks" they are quite well. In those cases where the patients are thin, it is not the thinness of constitutional disease, but simply an emaciation due to lack of sufficient nourishment.

2. The earlier history of the case will sometimes indicate that the initial symptoms suggested an active ulcerative attack; but often any such sudden onset is absent, and the symptoms begin and creep on quite insidiously. This is usually the course taken by that type of obstruction dependent on congenital narrowness of the pyloric orifice.

3. Exacerbation of the symptoms is engendered by anything that has an enfeebling effect upon the constitution. If from undue exertion, mentally or bodily, from worry or anxiety, the patient is reduced to a state below par, the same diminished sense of physical and physiological fitness is experienced by the stomach and renders it less capable of overcoming the obstruction.

4. It will nearly always be noted that while, at the outset, the attacks of dyspepsia are few and far between, they gradually increase in frequency; and as they become more frequent so they become more severe. This sequence of events is most suggestive, because it indicates two probabilities—one, an increasing narrowness of the pyloric aperture; the other, the increasing failure of the stomach to overcome the obstruction.

5. Physical examination is only of value as regards dilatation. And here it may be remarked that, as a symptom, no more importance should be attached to the absence than to the presence of dilatation; for while at one time the viscus may be able to overcome the obstruction, at another it may fail; but, notwithstanding its absence, the obstruction is there. Rather, therefore, should it be taken that its presence at one time and its absence at another is an indication of partial pyloric obstruction.

As a means to diagnosis the *x* rays and opaque meal aid us considerably; but, from all that has been said about the occasional power of the stomach to empty itself completely by overcoming the obstruction, it can be well understood how that sometimes an erroneous impression may be conveyed. If, however, the meal takes an unduly long time to pass out of the stomach, and the skiagram shows, in addition, some irregularity in the shape of the parts in the neighbourhood of the obstruction, the picture presented by the *x* rays will help to confirm the opinion which the symptoms have probably already suggested.

TREATMENT.

If surgery had done nothing more in the treatment of chronic gastric disorders than deal with this particular class of cases, it would have earned for itself a reputation beyond the power of words to express. I know of few patients whose existence may be more miserable, and who, when relief is afforded, become more happy.

The condition of partial pyloric obstruction can always be temporarily relieved by rest in its broadest sense and careful attention to diet; but, as the condition is dependent essentially on mechanical causes, it is only by mechanical measures that it can adequately be dealt with. With regard to operation, we have the choice of two primary procedures. One is to deal directly with the obstruction; the other, to leave the obstruction untouched and circumvent it by uniting the stomach to the bowel. As regards the first of these two procedures, much must depend upon the nature of the obstruction. If it be due to growth, removal if possible; if it be of an innocent nature and the part can be freely mobilized, gastro-duodenostomy by Finney's method would appear to be better than either the Heineke-Mikulicz operation of pyloroplasty or pylorodiosis.

As regards the second of the two procedures, short-circuiting by the "no-loop" operation of gastro-jejunostomy is the sole method employed. Of all the operations for obstruction none have been more frequently executed than this. In my own wards, for instance, the operation has been performed by myself and by my assistant colleagues, Mr. Grant Andrew and Mr. Farquhar Macrae—now surgeons to the institution—428 times up to the end of 1919. Perhaps the best testimony that can be borne to the permanent good effected by the operation is to be found in the fact that, to my knowledge, there lives at the present day a female patient, perfectly well and engaged in active work, whom I operated upon seventeen years ago; and another, a male, also quite well and driving a motor car, upon whom I operated nineteen years ago.

REFERENCES.

[1] The Clinical Society's *Transactions*, vol. xxxvii. 1904, p. 63; and the BRITISH MEDICAL JOURNAL, vol. i, 1904, p. 417. [2] BRITISH MEDICAL JOURNAL, vol. ii, 1908, p. 71. [3] Ibid., p. 68. [4] *Virchow's Archiv*, Band cii, p. 413. [5] Mayo-Robson and Moynihan: *Diseases of the Stomach*, p. 42. [6] *Annals of Surgery*, vol. xxxii. p. 364. [7] *Transactions* of the Royal Medical and Chirurgical Society, London, vol. lxxxvi.

A Lecture

ON

HEART AFFECTIONS IN RELATION TO THE LABOUR MARKET.

DELIVERED DURING THE POST-GRADUATE COURSE AT THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART.

BY

R. O. MOON, M.D., F.R.C.P.,

PHYSICIAN TO THE HOSPITAL.

DURING the war, and particularly in connexion with recruiting, doctors were continually having to estimate the all-round efficiency of a man as a fighting unit, quite apart from having to disqualify him for such obvious disabilities as flat-foot, hammer-toe, hernia, etc.

Into such an estimate the strength and general condition of the heart necessarily entered very largely, and indeed became one of the most important and difficult factors to appraise in deciding upon a man's category. Owing to the vast complexity of modern warfare, in which whole nations are, so to speak, in arms, there came to be numerous posts which could be filled by men who were very far from being A1 men.

In the fully organized army a constant process of sorting was always going on by which those with impaired efficiency were moved downwards into lower grades, while those whose efficiency had improved were moved upwards.

There is no reason why in civil life a similar effort, doubtless on a somewhat different system, should not be made for estimating the efficiency of a man in the labour market. The problem here is in one sense easier than in the army, in another sense more complex; for clearly a man might be A1 for his particular trade, but not A1 as an infantry soldier, on whom frequent calls for excessive exertion may be made at any hour of the day or night, so that many a man, though he might only be B1 or B2 from the army standpoint, might quite well be A1 in his own particular occupation, which did not call for such sudden and strenuous forms of exertion, though it could not in any sense be classed as "light work." To quote from American experience:

> Throughout the war it remained a strange paradox that the "irritable heart of soldiers," which is a functional neurosis, where the heart is known to be intrinsically normal, should give rise to such pronounced cardiac symptoms, whereas the cases of valvular heart disease were so completely free from symptoms; in the "soldier's heart" anything approaching a normal heart rate even during rest is very unusual. It was generally found that mild cases of valvular disease in the army examinations showed a cardiac response well within normal limits and were remarkably free from subjective sensations, thus offering a striking contrast to the "effort syndrome" in which such symptoms are usually pronounced.[1]

We want to consider this afternoon how far cardiac lesions, whether functional or organic, affect a man's chances of getting work in the labour market and to what extent they are actually prejudicial to him when he does get it.

The progress of modern medicine has stripped heart disease of many of its terrors simply by demonstrating that there are numerous organic affections of the heart which are compatible with a life of reasonable length and of a not too restricted activity. Still, for all that, one must realize that an organic disease of the heart is a handicap in the labour market, more especially as heart disease still connotes to the employer the idea of early and sudden death, as doubtless it did to the profession in the dim and distant past, for the ideas held by doctors in one generation become the *idées fixes* of the laity in the next.

Now it is, of course, quite obvious that patients suffering from a gross structural disease of the heart, such as mitral stenosis or aortic regurgitation, cannot safely be employed on really heavy work, though almost any doctor with much experience could produce an instance of someone who had done astonishingly heavy work in spite of one or other of these lesions. Patients with aortic disease are more likely to be unconscious of their cardiac ailment than are the subjects of mitral disease, in whom shortness of breath manifests itself sooner than in cases of aortic disease. But we must not be guided by exceptional cases, which make bad rules for medicine just as legal people say that "hard cases make bad law." On the other hand, to write down every cardiac case as fit for "light work only" is equally ill advised, at least if by light work we mean something mainly sedentary. The fact is that fairly hard work can be done by many people who suffer from heart disease, provided the hours are regular and the work more or less the same from day to day and hour to hour, while there is no undue sense of hurry in the doing of it. Anything in the nature of spurts, which may be almost an essential element in some occupations, though the work itself may not be so intrinsically heavy, should be strenuously avoided; thus, dockers are a good instance of an occupation which involves periodical rushes, with, it may be, unduly slack intervals, and that kind of thing is bad for almost any form of heart disease, and particularly for the older and casual workers.

A heart which has been badly damaged in early childhood must always be a source of anxiety, and in such cases we can seldom look forward to anything but quite sedentary work under the most favourable circumstances; the important thing is to decide early as to what sort of sedentary work the boy or girl should be trained for, carefully considering their individual proclivities. The heart, however, which is damaged by rheumatic fever after puberty in early adult life, if wisely handled at the outset, is often capable of a surprising amount of work, and it is these cases, especially of aortic disease, which are often able to carry on fairly hard work for a quite considerable length of time. In the case of mitral stenosis, on the other hand, decidedly less work can be expected from the heart, and it is well to remember the dictum of Huchard that in mitral stenosis we have a heart "*réglé pour un petit travail.*"

But it is quite a different matter when we come to the case of men who seem to develop heart disease in or about middle life as a result of strain or lues. Such cases are nearly always progressive, and their value in the labour market is much inferior to that of those whom we have just been considering, where the lesion is due to rheumatism.

In particular it is true that cases with a history of lues can seldom be relied upon for any seriously continuous hard work, and the special liability to sudden death in these cases should never be forgotten. Doubtless it is this kind of case which has frightened employers, and as, of course, so often when sudden death occurs, the verdict brought in is that of "heart disease," all forms of heart disease become tarred with the same brush and all seem equally likely in the eyes of the employer to give rise to sudden death, so that they not unnaturally look askance at all cases suffering from heart disease, no matter what the cause may be.

Putting aside the grosser structural lesions of the heart there are all kinds of minor cardiac affections which, for want of a better term, might be grouped under the heading of "weak heart." These cases may, in many instances, be the result of some infective process, such as influenza, malaria, or indeed any febrile condition, and are not unreasonably described as "poisoned hearts," but in addition to this there would seem to be some people who are born apparently with subnormal cardiac power; fortunately there is not, as a rule, so much difficulty about these cases as regards occupation, for they, at the outset of their career, have insensibly drifted into quasi-sedentary occupations more or less suited to them, having instinctively recognized an inaptitude for much physical exertion, and it was cases such as these which, at the beginning of the war—perhaps not unnaturally—were passed into the army as A1, and tended to swell later on the mighty host of D.A.H. patients to such formidable proportions. Many cases of this kind in which the nervous system plays a part are undoubtedly benefited by occupation, and also by exercise within reasonable limits. There are, of course, symptoms apparently associated with the heart which do not necessarily arise from it, though it may be difficult to disabuse a patient of the belief that a pain in the left side and perhaps some shortness of breath is a sure sign of heart disease.

In civil life the doctor, except when definitely employed by the State, an insurance company, or some similar body, has primarily to consider the interest of the individual, but in reality the wider interests of the State and the individual are not so much opposed as might at first sight appear. Clearly it is not to the interest of the State or an employer to let themselves discard an efficient workman because he happens to have some disease of the heart—all the employers and the State require is to be protected against exceptional risks; on the other hand, the individual is benefited by finding a suitable employment. "There are positions in industry, in fact, in every plant of reasonable size, that people of varying substandard conditions of health and body can fill with efficiency to the profit of their employers and themselves."[2]

The main thing to grasp, from the point of view of the labour market, is the importance of prognosis; with regard to this the ordinary stethoscope diagnosis does not help us much—we merely learn that there is or is not some structural disease of the heart; whereas what we want to know is the man's efficiency, and how far this structural disease should affect his chances of employment. No doubt a great study of the prognosis for heart cases has been made through insurance companies and much useful information has been acquired as to the expectation of life. But here it is purely a question of "How long the proposer is likely to live." We want to consider the more profound question: "In what way can he live with greatest benefit to himself and the community?" In what work can he most effectively engage or continue? Are there some trades which are more suitable for cases with heart disease than others? It would, of course, be easy to reply that cases with heart disease are best suited by clerical and sedentary work, and no doubt this covers a fair amount of the ground. But among the vast masses of the manual labourers there are many whose whole temperamental and psychic make-up, so to speak, is entirely unsuited for sedentary work. Then, again, a man may be working well but gets an attack of rheumatism which damages his heart: Is he to give up his work? If really exceptionally heavy, he clearly must do so, but when a man has been at some occupation for several years, much of it which to a tyro would be heavy and difficult has to him by long practice become comparatively easy. The whole aim of industrial or occupational medicine is to find the square hole for the square man, and as this is particularly difficult to do with regard to heart disease we want to consider rather closely the various trades which would be most suitable for any particular cardiac lesion. Obviously the first thing to be considered is the man's own natural aptitude and inclination for any particular occupation. As a general rule it might be said that all work which puts a good deal of strain on the lower extremities is less unfavourable to cardiac cases than that in which the strain falls mainly on the upper extremities. Most forms of aortic disease and undoubtedly those of the degenerative type, appear to be very unfavourably affected by any work which involves even a moderate strain upon the arms, such as carpentering; and this is particularly the case when there is any suspicion of angina. Thus I had recently under my care at the hospital a young man with an aortic lesion. He worked in a "card-glazing" factory and was given the easiest work to do which they had; it consisted in pulling with the left hand quite a light lever, which set in motion the roller beneath which the cards were passed, but this continued pulling with the left hand, though the resistance was quite moderate, proved too much for him. Then, again, I recently saw a man who had been invalided out of the army with aortic disease, whose occupation was "pile driving"; now this is not heavy work, as it is done by a machine and only requires superintending; however, such work may involve going up a ladder to the height of 40 ft., and when he had to do this he would become giddy and be in danger of falling, so that this kind of work had to be abandoned.

To take a few trades which are usually classed as light work, and which are in most cases suitable for those who have compensated valvular lesions:

1. *Tailoring.*—As a rule, we are apt to associate this occupation with bad ventilation, but of course there is no reason why the ventilation should be bad, and during the past few years all factories have been greatly improved in this respect; still, owing to the very sedentary nature of the work, men easily feel the cold and want windows shut, so, to that extent, the ventilation is not such an easy problem. The work itself is in general light enough, the only heavy part being the ironing; the iron generally used weighs from 14 to 20 lb., and may sometimes weigh even as much as 30 lb. No doubt there is a great deal of knack in the use of these irons, so that the weight may not seem much to a man accustomed to the trade.

2. *Boot repairing* is another occupation which is not unreasonably classed as "light work," but here again the ordinary boot repairing known as "botching," as opposed to finer boot repairing, involves standing upright at the bench for long hours at a stretch, which of course puts a strain upon the circulation, and I have on several occasions met with men having compensated aortic lesions who had to give up this work owing to the long hours of standing required, though they might have done intrinsically harder work which did not happen to involve so much standing.

3. *Boot-making* is also classed as a "light occupation," and so it is; but it will be found unsuitable for most forms of heart disease, as it involves much use of the arms both in the hammering and wide stitching which nearly always puts a strain upon the heart; the posture of boot-makers is also bad for all kinds of chest complaints.

4. *Basket-making.*—This might seem eminently suitable for those suffering with minor affections of the heart, but this will not always be the case, for there is a great variety in basket-making, which differs much in different localities, and the making of a large basket involves a wide extension of the arms, and so puts an undue strain upon the heart.

5. *Leather Work.*—Many kinds of light leather work are well adapted for most forms of heart disease, where the patient can get about easily, but for such occupations a man should be fairly handy and intelligent. Often a trade which seems quite light, and indeed is so in a general way, may incidentally involve quite heavy work. Thus, for instance, portmanteau sewing would seem quite suitable for many cardiac cases, but unfortunately it frequently involves having to lift heavy weights, so that one has been obliged to knock off a man from such work, though superficially it might seem entirely suitable.

6. *Scavenging.*—Then, again, one has met with scavengers for a borough council who could quite well do ordinary sweeping, but the extra exertion involved by "squeegeeing" when it has been specially wet unfits them for the job and they have it give it up.

Motor Driving.—The occupation of chauffeur is suitable for many varieties of cardiac lesion, provided there is an automatic starter, otherwise the cranking of the car may be a severe strain; and quite recently I had under my care at the hospital a man whose cardiac symptoms first dated from an occasion when he was cranking his car and he felt the strain to be excessive; in his case the lesion was myocarditis of luetic origin, and for such a man the occupation of chauffeur is quite unsuitable, as there is always in a case of this kind danger of sudden death.

As a general rule, dusty occupations, at least for mitral cases, should be avoided, as they induce coughs and catarrhs, so favouring bronchial congestion, to which patients with a mitral lesion are particularly disposed. Similarly, in advising upon any occupation it is important to consider whether it will expose the patient specially to vicissitudes of weather and sudden changes of temperature.

On careful inquiry it will often be discovered, particularly in towns, that it is not so much the work which is trying the patient as the fact that he lives at the top of some model dwellings, so that at the end of a long day's work he has to ascend an interminable flight of stairs; then, again, the main trouble may be the long journey to work, the catching of omnibus or train, and not the work itself.

With a certain amount of care and trouble in the adjustment of occupation much more work can be got out of quasi-derelict hearts, to the great advantage of the community and the not less benefit of the individual patient.

REFERENCES.
[1] *American Journal of the Medical Sciences*, December, 1919. [2] C. D. Selby, *Modern Medicine*, November, 1919.

CIVIL LESSONS OF THE WAR FOR THE TREATMENT OF FRACTURES OF THE SKULL.*

BY

C. M. KENNEDY, M.B.E., F.R.C.S.ENG.,

ASSISTANT SURGEON, SOUTH DEVON AND EAST CORNWALL HOSPITAL; LATE MAJOR R.A.M.C.(T.C.).

AT first sight it would not seem that gunshot wounds of the head could teach us any lessons of use in dealing with the ordinary fractures of the vault in civil life. Certain points in the treatment of fractures of the vault—none of them really new—have, however, been firmly established by experience in the war. On such of these as appear to be of use in civil practice I wish to touch.

The advantages of total excision of scalp wounds before dealing with underlying fractures were so firmly established during the war that this procedure is likely to become a routine instead of an occasional step in operations upon civil compound fractures.

Early in the war Sargent introduced perforated metal tubes for dealing with the appallingly septic results of leaving head wounds to be operated on at the base. These tubes will, I think, find a really useful place in the drainage of cerebral abscesses; for it is often difficult to keep a rubber tube in position in the brain. To overcome this difficulty I successfully used a tracheotomy tube to drain a cerebellar abscess in a boy in the East London Children's Hospital. Now I should under similar circumstances use a Sargent's tube.

But I think that the most important point which has been fully established in connexion with the treatment of fractures of the vault is the efficient treatment of wounds of the great blood sinuses. Wounds of the superior longitudinal sinus are not, I fancy, very common in civil practice, but any depressed fracture in or near the middle line of the vertex may be complicated by such a wound.

In the summer of 1910 I operated on a depressed fracture in the mid-line of the vertex. The fracture, which was caused by a falling brick, had caught the upper ends of both Rolandic areas, and both legs were paralysed below the knees. On raising the depressed fragment I encountered that copious stream of haemorrhage which a large rent in the sinus produces. I controlled the bleeding by packing gauze between the sinus wall and the skull, and then sutured the rent. The case recovered and I was very pleased with myself, and decided that I knew how to deal with wounds of the superior longitudinal sinus. There my knowledge of wounds of the sinus remained until the Somme fighting. Then, having lost one case of torn sinus which I had sutured, I contented myself with packing the next one with gauze and leaving in the packing—as a matter of fact, this case recovered. But it was the last I packed, because another surgeon asked: "Why didn't you 'postage stamp' it?"

Haemostasis.

I had been familiar with Horsley's use of muscle grafts for arresting haemorrhage from cerebral vessels, but I did not know that it had been applied to torn sinuses, though this had, I understand, been done for some years before the war by Cushing, who, I believe, always uses a muscle graft cut from the calf for his "postage stamp." Short of assistance, as one often was in the war, I (and I fancy many other surgeons) tried cutting grafts from the aponeurosis of the scalp flaps. The graft should be cut about the size of a postage stamp, and as soon as cut placed over the rent and pressed over it by a gloved finger. This is better than gauze, as the graft is apt to stick to the gauze and come away with it. In twenty to thirty seconds the graft is usually securely stuck and all the haemorrhage

*Read before the South-Western Branch of the British Medical Association, Torquay, April 7th, 1920.

has ceased. These fascial grafts are quite as good as muscle for wounds of the cranial surface of the sinus, which are the only ones likely to be met with in civil practice, and they have the advantage of being cut quickly and without leaving the field of operation. That these grafts stick extremely firmly I know from the examination of two fatal cases at *post mortem*.

If, however, the rent runs round the corner on to a cerebral surface of the sinus it is difficult to get fascial grafts to stick, and they usually require a reinforcing stitch which is not always easy to apply. In such cases a "plug" of muscle is the most satisfactory method of arresting haemorrhage, for the muscle graft with its power of causing rapid clotting holds more quickly. Where the sinus has been torn almost across, it is best to divide it completely and ligature it. This I have had to do twice (both times in the frontal region). One case I was able to watch for four weeks, and he showed no ill effects. The other was operated on in the Somme fighting, and was only watched for a few days before evacuation. He was apparently well then.

I think that all surgeons who did much head work in the war have abandoned plugging for wounds of the superior longitudinal sinus as uncertain and dangerous, owing to the risk of introducing sepsis later and because it entails too much haemorrhage before haemostasis is established. Moreover, bleeding is apt to start again when the gauze is removed. Another point which we learnt was to beware of all depressed fractures near the mid-line of the vertex, and to nibble away sufficient bone around the depression fully to expose the sinus before displacing any fragments likely to have penetrated it. It is no easy matter to stop bleeding from a sinus if the rent is not fully exposed. If bleeding has started before the sinus is fully exposed it is best to place a finger of the left hand on the bleeding point and nibble away bone until the dura is exposed all round that haemostatic finger before attempting to apply a graft.

In order to get at a rough idea of the frequency of this complication I have been through such statistics as I possess. They are the total number of gunshot wounds with fractures of the vault (whether the dura was penetrated or not) operated on in No. 12 Casualty Clearing Station between November, 1916, and November, 1917, and 47 cases operated on by myself in the Somme fighting. There were 614 gunshot wound fractures of the vault, with thirty wounds of the superior longitudinal sinus, or rather less than 5 per cent. superior longitudinal sinus injuries. Of these 30 cases 18 recovered and 12 died. Included in these figures are 11 cases personally operated on (7 recoveries and 4 deaths) out of 215 gunshot wound fractures of vault, or rather over 5 per cent. Probably the incidence of this complication in civil fractures is less than 5 per cent.; 2 per cent. to 3 per cent. would probably be nearer the truth. If this be so, I think that, apart from the opportunities given by the war, few surgeons can have had sufficient experience of wounds of the superior longitudinal sinus to become at home with them. That is why I have ventured to give the results of my experience in this field. I am convinced that any one who is prepared to tackle a depressed fracture should be familiar with the "postage-stamp" method of dealing with this emergency, for it is a complication which may easily cost the patient his life if the surgeon is not prompt and sure in his method of haemostasis. Armed with the knowledge of the "postage-stamp" method, the arrest of haemorrhage from a sinus is hardly ever a matter for anxiety.

Lumbar Puncture.

Lumbar puncture was amongst the procedures which aroused considerable interest during the war. As a means of diagnosis in gunshot wounds it is seldom if ever needed. Post-operative lumbar puncture was very useful for reducing cerebral hernia. It acts slowly, producing its maximum effect in about twenty-four hours. One drachm to three drachms was withdrawn according to the pressure, and the puncture was not done oftener than every forty-eight hours. Occasionally there was a marked recession in place of the hernia after one puncture, and for this reason puncture should not be employed until the hernia is at any rate moderately clean. Our treatment crystallized out to antiseptic lotions (usually Dakin's) till sepsis was well in hand; then lumbar puncture every second or third day till the hernia was reduced, and then a plastic operation to cover the raw surface. Covering the raw surface with Thiersch grafts is not satisfactory, as it leaves a very poor scar.

Headache with a tense wound is relieved by lumbar puncture. But headache with a lowered pressure is made worse by lumbar puncture. Also if too much fluid is removed headache is caused by lumbar puncture. We had no success in treatment of meningitis by lumbar puncture where streptocooci had been demonstrated in cerebro-spinal fluid.

Fits soon after operation occurred in about 5 to 10 per cent. of cases where the dura had been perforated. They were usually associated with high cerebro-spinal pressure and a bulging wound. When this was the case lumbar puncture usually relieved. These fits unless frequently recurring were (contrary to expectation) not of serious prognostic importance.

Anaesthetic.

The war proved without doubt that local anaesthesia can be satisfactorily used in even the most severe cases of fractured vault. It is very satisfactory in patients who are fully conscious. In those quite unconscious no anaesthetic is needed. The cases which show the restlessness of cerebral irritation need a general anaesthetic. Some surgeons used omnopon or morphine for this purpose and still considered that they were operating under local anaesthesia. I preferred to use open ether for such cases. Local anaesthesia (especially novocain and adrenalin) is very satisfactory, and might be used for most of such cases in civil practice. The adrenalin greatly diminishes the bleeding from the scalp flaps, and so saves a good deal of time and irritation.

Conclusions.

I would suggest that experience during the war has established:

1. The advantages of excision of scalp wounds.
2. The value of metal tubes for draining cerebral abscesses.
3. The ease with which sinus haemorrhage can be stopped by a "postage-stamp" graft.
4. That lumbar puncture is useful in certain complications of fractures of the skull.
5. The value of local anaesthetics in cranial surgery.

THE ETIOLOGY OF DIVERTICULITIS.

BY

C. H. WILLEY, M.D., D.Sc.Edin.,

CONSULTING SURGEON, SHEFFIELD CHILDREN'S HOSPITAL.

The very full description of diverticulitis given by Dr. Maxwell Telling in the *British Journal of Surgery* of January, 1917, called my attention at the time to what appeared to be a newly discovered disease, and the interesting discussion on the subject at a meeting of a subsection of the Royal Society of Medicine, and reported in the British Medical Journal of January 17th and 24th of this year, revived speculations as to the causes of this condition. The theories advanced on those occasions were largely based upon appearances found after death. I venture to think, however, that when we are able to collect the previous histories of a sufficient number of cases it will be found that the true causes will be more truly deduced from the living. Although the three cases which I have been able to observe ended in recovery, their clinical history and symptoms nevertheless have suggested some speculations upon the etiology of the disease. I think, in order to realize fully the causes and early stages, we have to consider the whole of the medical history before the appearance of the local lesions encountered at operation or in the *post-mortem* room; and in this history certain types of build and temperament appear to be strong predisposing elements.

In opening the discussion Dr. Telling assumed that the diverticulum is made first, congenitally or otherwise, and that, as is the case of the appendix, all inflammations are brought about by morbid septic activity developing in their

contents, and are secondary. But is it necessary to make this assumption? May there not be a primary infection of mucous follicles such as occurs in the skin in the case of an ordinary boil, or for that matter in an ischio-rectal abscess? In one of my cases ischio-rectal abscess did occur two years before diverticulitis. If such an event had occurred a little higher up the bowel and within the peritoneal cavity, should we not have had diverticulitis? In another of my cases diverticulitis occurred ten years after a severe Whitehead's operation for piles, but whether there was any association between the two I could not say.

The earliest theories regarding the sac formation seem to me to be rather too mechanical. For instance, the belief in gas pressure and constipation was started and is still handed on, although this point is not insisted upon by surgeons in regard to appendicitis; my three cases were associated with looseness of the bowels. The diagnosis in two of them was confirmed by operation by two distinguished surgeons. One of these was found to be suffering from an acute kink resulting from adhesions of the sigmoid to the parietal peritoneum, and the other from a fistulous communication between the sigmoid and bladder.

We are still somewhat uncertain as to the constitutional and local causes at work before the condition declares itself, and I feel sure it would be illuminating to note in all cases the particular type and build and temperament of the patients, as well as any temporary condition of mental worry or powerful emotional disturbance. I have no doubt of the very close connexion between depressing emotion and pathological conditions of the large intestine. We find this to be a constant contributor to the common colitis of this country, and I would suggest that this is the first stage in the creation of diverticulitis; a sensitive and impassioned temperament being the most powerful predisposing factor. In men of this build the effect of acute emotional worry tells at once in some way on the large intestine. The colitis of worry evidently results from diminished trophic innervation and tissue resistance, whilst at the same time the natural digestive ferments are faulty in quantity and quality. Food and the mucous lining become morbidly septic. The *B. coli* becomes more and more virulently active. Probably many follicles are infected, which may account for diverticuli being multiple.

So far, I believe, no one has suggested a comparison with ischio-rectal abscess. May not these abscesses and diverticulitis in their respective origins have much in common? After the fifty-seventh year of life the sigmoid would appear to be the more vulnerable locality of the two. Possibly many infected follicles of the mucous membrane undergo spontaneous cure by discharge into the bowel, whilst owing to distension and destruction of their lining the sacs thus produced may become what we have hitherto thought to be permanent or congenital diverticuli.

In my cases pain in the left lower quadrant of the abdomen led to some amount of tumour formation (fibrous hyperplasia), very apparent in the case with parietal adhesions and kinking, not so much so in the case in which the sigmoid adhered to the bladder and perforated into it. The latter case exhibited, in addition to the daily passage of flatus by the urethra, all the phenomena of intense *B. coli* toxaemia, showing in succession well marked rigors, fever, violent headaches lasting from two to four days, tinnitus and toxaemic vomiting; evidently the result of leakage of toxins and bacteria into the peritoneum. Two years before these events I saw this man suffering from an acute attack of colitis with diarrhoea, severe colic, and tenesmus.

DURING the year 1918 there were 19,018 cases of diphtheria in Australia, with 607 deaths, out of a population of about five millions.

A CONFERENCE of the "Nordiske Forening mod Tuberkulose" will be held on June 28th, 29th, and 30th, in Stockholm. The subjects to be discussed are (1) tuberculosis legislation in the Scandinavian countries; (2) work therapy in sanatoriums and the organization of colonies and settlements; (3) the special measures required in tuberculosis of the larynx; and (4) the surgical treatment of pulmonary tuberculosis, including treatment by artificial pneumothorax. Representatives from Finland and Iceland, as well as from the three Scandinavian countries, are expected to attend.

ETIOLOGICAL FACTORS IN ABORTION:
*A STUDY OF 100 CASES.**

BY

DANIEL DOUGAL, M.C., M.D.MANCHESTER,

GYNAECOLOGICAL SURGEON, MANCHESTER NORTHERN HOSPITAL; HONORARY ASSISTANT SURGEON, ST. MARY'S HOSPITALS, MANCHESTER;

AND

J. W. BRIDE, M.D., B.S.LOND.,

ASSISTANT GYNAECOLOGICAL SURGEON, MANCHESTER NORTHERN HOSPITAL; REGISTRAR, ST. MARY'S HOSPITALS, MANCHESTER.

INTRODUCTORY.

THE material on which this paper is based has been obtained from a clinical and pathological examination of a hundred unselected cases of abortion admitted to the maternity department of the St. Mary's Hospitals, Manchester. This is too small a number on which to base authoritative statistics, but the conclusions arrived at indicate the lines along which a more extensive investigation should be carried out.

A majority of the cases belonged to the class of incomplete abortion, and in these the whole ovum was not available for pathological examination.

Our thanks are due to Professor H. R. Dean of the pathological department, University of Manchester, who kindly arranged to carry out the work in connexion with the Wassermann reactions, and to members of the honorary medical staff of the St. Mary's Hospitals, Manchester, for allowing us to examine cases of abortion admitted under their care.

The following table shows the period of gestation at which abortion occurred:

TABLE I.—*Period of Gestation at which Abortion Occurred.*

	Per Cent.
4 weeks	0
6 (inc.) to 8 weeks...	3
8 (inc.) to 12 ,, ...	12
12 (inc.) to 16 ,, ...	40
16 (inc.) to 20 ,, ...	15
20 (inc.) to 24 ,, ...	12
Doubtful	18

The 18 cases in which the period of gestation was doubtful were all early abortions. The great majority therefore occurred during the first half of pregnancy and 40 per cent. between the third and fourth months.

Table II gives the number of previous full term labours and abortions.

TABLE II.—*Previous Full Term Labours and Abortions.*

	Full Term.					Premature.						
Pregnancies ...	0	1	2	3	4 and over	0	1	2	3	4	5	9
No. of cases ...	20	15	17	11	37	60	24	8	1	5	1	1

In 17 per cent. of the cases there was no previous pregnancy; 80 per cent. had previously had full-term children, 37 per cent. more than three; 40 per cent. gave a history of previous abortions, but in more than half of these abortion had only occurred once.

THE CAUSES OF ABORTION.

(*a*) *Clinical Investigation.*

To the question what produced the abortion, the patients replied as follows:

	Cases.
Strain	7
Falls	6
Kicked abdomen	1
Shock	2
Injury to foot	1
Instruments	1
Syringing	1
Lead pills	8
Sexual excess	1
Unknown	72

Excluding the above cases, the following abnormal

* From a paper read before the North of England Obstetrical and Gynaecological Society, March 19th, 1920.

conditions were found either during the clinical examination or at the time the uterine contents were evacuated.

	Cases.
Mitral stenosis	1
Chronic bronchitis	1
Phthisis	1
Severe anaemia	1
Influenza	3
Fibroids	2
Fibroids and placenta praevia	1
Placenta praevia	2
Foreign body in vagina	1
Retroversion or flexion uteri	5
Hydatid mole	1
Previous abdominal operations	3
Total	22

Twelve patients gave a positive Wassermann reaction. In six of these no other cause could be found to account for the abortion. A possible cause could therefore be ascertained clinically in 56 per cent. of the cases.

(b) Pathological Investigation.

In 54 specimens gross pathological changes were found as follows:

	Specimens.
Fetal circulation obstructed	2
Hydatid mole	1
Extensive placental infarction with associated arterial degeneration	6
Placenta oedematous	1
Haemorrhage into placenta (including three cases with red infarction, and three associated with accidental haemorrhage or placenta praevia)	9
Haemorrhage on fetal surface of placenta under amnion	2
Haemorrhage into decidua (including two cases of fibroid polyp, one placenta praevia, and eight blood moles)	33
Total	54

In the remaining 46 specimens various conditions were met with, but were either too limited in extent to be of decisive importance or the specimens examined were too incomplete for satisfactory results to be obtained.

ANALYSIS OF THE CASES GIVING A POSITIVE WASSERMANN REACTION.

In twelve patients the Wassermann reaction was positive.

(a) Clinical Observations.

Signs of active syphilis were present in one case—a patient with specific ulcers on her legs. One patient only was aware that she had syphilis. This was a single girl whose blood had been previously examined and shown a positive Wassermann reaction.

Of the twelve patients eleven had previous full-term children, and all were born alive except in one case, where three were stillborn. One patient had nine and one seven full-term living children. Six patients had had previous abortions but in only one case more than one.

Repeated abortions therefore are not necessarily associated with a positive Wassermann reaction. In fact, of seven patients in the complete series with four or more previous abortions not one gave a positive Wassermann reaction.

TABLE III.—*Details of Previous Full Term Labours and Abortions in Cases in which the Wassermann Reaction was Positive.*

	Full Term.				Premature.				
Pregnancies	1	2	3	4 and over	0	1	2	3	4
No. of cases	1	2	3	5	5	6	1	0	0

A patient with a positive Wassermann reaction need not necessarily abort but may go to full term. It is therefore fallacious to suppose that when abortion does occur it must be caused by the syphilitic virus. Such a woman is just as much exposed to the influence of other factors which produce abortion as one in whom the reaction is negative.

Obviously, however, secondary syphilis may lead to separation of the ovum in the same way as any other acute infection, and tertiary lesions, if affecting the fetus, placenta, or decidua, may have a similar result, or, at any rate, act as predisposing causes.

In the twelve cases under consideration the following alternative factors were present:

	Cases.
Falls and strains	2
Previous Caesarean section and adhesions between uterus and abdominal wall	1
Fibroid polyp in uterine cavity	1
Marked retroflexion of uterus	1
Previous operation for ectopic gestation	1
Obstruction of vessels in umbilical cord	1

The two cases attributed to accident may be objected to on the ground that the only evidence is the patient's own statement. Both were married women with families and appeared to be telling the truth. In one case abortion took place a week after a fall downstairs, in the other after lifting a heavy tin box.

An adherent uterus after Caesarean section and a fibroid polyp in the uterine cavity are just as likely to be the cause of abortion as syphilis.

The case with marked retroflexion of the uterus had no symptoms of incarceration, but the congestion caused by the faulty position might easily account for the engorged decidua and haemorrhage into the placenta observed on subsequent examination.

Ectopic pregnancy is very frequently associated with lesions due to pelvic infection, and these may lead to abortion. If post operative adhesions are also present abortion is more likely to occur.

Obstruction of the vessels in the umbilical cord undoubtedly led to fetal death in the case referred to, but this appeared to be due to an amniotic adhesion which in turn may have been produced by syphilitic disease. No obvious syphilitic lesions were to be found in the fetus or placenta, however.

(b) Pathological Observations.

No specimen presented the typical naked-eye appearances of syphilis. No osteo-chondritis of the long bones or miliary gummata of the liver were observed in the four cases in which the fetus was available for examination, nor could spirochaetes be found in the liver in these cases. The placentas showed no gross abnormalities other than infarction and blood infiltration. The microscopic appearances varied considerably, but no conditions were found which were not present in other cases in which the Wassermann reaction was negative. A careful search was made for spirochaetes but without success.

To sum up, 12 per cent. of cases gave a positive Wassermann reaction. In more than half of these other abnormal conditions were present which by themselves might produce abortion. In two cases (adherent Caesarean section scar and fibroid polyp) we feel justified in saying that syphilis was not the cause of the abortion. In two others (retroflexion of uterus and obstruction of vessels in umbilical cord) we think it extremely unlikely that syphilis was the deciding factor.

We therefore estimate at 10 per cent., and probably less, the cases in which syphilis leads to abortion.

CONCLUSIONS.

(*a*) The commonest period for abortion to occur is between the third and fourth months.

(*b*) Abortion is comparatively uncommon in primiparae, less than one-fifth belonging to this category. Most women who abort have borne previous full-term children, and in a majority of cases more than one. Frequent abortions in the same patient are uncommon, and when they do occur are not necessarily due to syphilis.

(*c*) As regards etiology, accidental or reflex causes are present in 18 per cent. of cases.

General disease of the mother, disease or displacement of her genital organs, and gross abnormalities of the fetus or placenta (other than those due to haemorrhage or infarction) are found in 25 per cent.

Syphilis, as represented by a positive Wassermann reaction, accounts for 12 per cent., but its influence as the actual cause of the abortion is probably much less, and nearer 8 per cent.

From the remaining 52 per cent. has to be deducted the figure for the self-induced group, which is probably not less than 20 per cent. In the present series 8 per cent.

admitted taking lead pills, and a number of these showed clinical evidence of lead poisoning. This leaves over 30 per cent. of cases with no cause assigned. Pathological investigation throws little additional light on the subject, as most of the morbid changes found do not produce the abortion, but occur during the operation of some other cause.

It would appear, however, that the mother is primarily at fault as the result of some diseased condition, whether it be of an organic nature, or merely an increased irritability of the centres presiding over the expulsive action of the uterus.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE MYOCLONIC TYPE OF EPIDEMIC ENCEPHALITIS.

AFTER reading with great interest Dr. Piero Boveri's article in the JOURNAL of April 24th, p. 570, I record the following case, which occurred recently in my own practice:

On February 9th I was called to see a man, aged 62, who had been suddenly stricken with severe spasmodic pains in the limbs, chest, and face. For two days the pains persisted, but had then gradually diminished in severity, giving place to sudden painful contractions of the extensors of the legs, the abdominal muscles, sternomastoids, pectorals, intercostals, and diaphragm (as evidenced by hiccough). Twitching occurred about every two seconds. The patient sweated profusely, and was slightly cyanosed. There was considerable muscular weakness and some ataxia. The superficial reflexes were in abeyance, Kernig's sign was absent, but the head was a little retracted. The deep reflexes were slightly exaggerated, but no ankle clonus was present, and the plantar response was flexor. There was no apparent disorder of sensation. The discs were slightly injected, but there was no optic neuritis. The only cranial nerve involved was the seventh, there being occasional twitches of the alae nasi and occipito-frontalis. At this stage, although there was no actual lethargy, there was a curious prolongation of the reaction time to aural stimuli—this I have observed, however, previously in patients on chloral and bromide, as was this patient—but it roused suspicion. The blood pressure was 170 mm.

In a day or two these symptoms abated *pari passu* with the advent of lethargy, passing into stupor; tremors of the right hand (only) now appeared, and the patient assumed the mask facies of paralysis agitans.

The cerebro-spinal fluid, which was quite clear and under slight pressure, was examined by Dr. Arthur Sladden, pathologist to Swansea Hospital, who reported a cell count of 5 to 6 per c.mm., a trace of albumin, and negative cultural results; the Wassermann reaction in the blood and cerebro-spinal fluid was negative.

The patient, after beginning to improve, died quite suddenly of what was evidently either (gross) cerebral haemorrhage or thrombosis. A *post-mortem* examination, even partial, was discountenanced by the relatives.

The temperature varied between 100° and 99°, and the pulse rate gradually increased from 80 to 120 and diminished again to 80. There was no history of influenza, but there was some coryza with a thin watery discharge throughout. Profuse sweating was a marked feature of the whole course of the disease. This case is of interest, firstly, in that it showed the chief seat of the morbid process to be in the thalamic region, with probable involvement of the red nucleus, and secondly, in that it bridges the gulf between the more usual clinical type of the disease and that type described by Dr. Boveri, exhibiting the lethargy of the former as a late manifestation and the myoclonic spasms of the latter. Of further interest, too, may be an undoubted case seen by me eight months ago, in which the disease was ushered in by right hemiplegia with aphasia; after running a typical course for three weeks it ended in such a measure of recovery that all that can now be said of the patient is that he is not quite so methodical an accountant as he formerly was.

In both these cases there was a history of considerable and prolonged mental strain.

Port Talbot, Glamorgan. E. W. M. HUBERT PHILLIPS, M.A., M.B., B.Ch.Oxon.

HAEMATOPORPHYRINURIA.

DR. WYATT-SMITH, in his article on the treatment of delirium tremens (BRITISH MEDICAL JOURNAL, December 6th, 1919, p. 743), says that he has never met any one who has seen a case of haematoporphyrinuria from the use of sulphonal. He and others may be interested in the following extract from my note book:

Miss A. B., aged 35, came under my care on October 22nd, 1901, suffering from a complication of ailments. Some six months before she had such constant vomiting, accompanied at one time by severe haematemesis, that the diagnosis of gastric ulcer was made, and at one time it was feared that there might be malignant trouble. There had been great loss of flesh and she suffered severely from neuralgia and insomnia, for which morphine, phenacetin, and sulphonal had been freely prescribed.

When first I saw her she had been carefully fed and had regained much of the weight she had lost, but the muscles were flabby and she was intensely weak. She had a heavy, drowsy appearance, with eyelids which seemed loth to lift; her speech was dragging; there were no superficial or deep reflexes. Sensation was normal. She complained of pain in the right renal region, where there was an enlarged tender movable kidney, and of intense pains in the legs. Constipation was very obstinate. The urine was of a dark brown-purple colour, almost like port wine, and gave in the spectrum the bands characteristic of haematoporphyrin. It contained no albumin, corpuscles, casts, or sugar. The specific gravity was 1020. The temperature was normal. I found that she was taking 30 gr. of sulphonal every night, and had done so without intermission since January, 1898, her English medical advisers having told her that it was safe to do so. For the four previous years she had taken sulphonal and phenacetin freely. She had also been in the habit of drinking a large amount of alcohol, though the exact amount I found it impossible to elicit.

I immediately stopped the sulphonal, giving bromides instead, and administering a tonic with strychnine. After this she slept well, and took her food satisfactorily, and seemed much better, though the urine still retained its abnormal colour.

After about ten days marked paresis of the lower limbs appeared, and soon increased to complete paralysis. The upper limbs followed suit. Later she had incontinence of urine and faeces, and still later all power of phonation was lost. There was no loss of sensation. Her mind became more and more clouded, and she died on November 6th, 1901. She took her food well to the last.

At the *post-mortem* examination all the tissues and organs were found very deeply stained with the same brown-purple colour. The kidneys were congested and the capsules slightly adherent. The liver was congested and enlarged. The spleen was quite disorganized, and so liquid that none could be saved for examination. The brain was normal, save for some adhesions of the arachnoid, which exhibited some cloudiness. Rigor mortis was not marked, though the examination was made six hours after death.

It is interesting to remark that in this case, as in other recorded cases, death was preceded by peripheral neuritis. The course of the symptoms is strongly suggestive of those accompanying Landry's acute ascending paralysis.

Wellington, New Zealand. G. E. ANSON, M.D.Cantab.

SCLEREMA NEONATORUM ASSOCIATED WITH PLACENTA PRAEVIA.

As the pathogeny of sclerema neonatorum is practically unknown, it may be worth while to record the following case: Mrs. N., 3-para, aged 34, was confined on December 17th, 1919. Labour was ushered in with a sharp haemorrhage at 5.30 a.m.; there was practically no pain, and the os barely admitted one finger. At 8.30 a.m. the os admitted two fingers, and there had been no more bleeding to speak of; I detached the placenta round the rim of the os as far as I could reach—the anterior edge of the placenta was just at the rim of the os at this stage—and gave pituitrin 1 c.cm. No further bleeding occurred. At 2.15 p.m. I ruptured the membranes and gave another injection of pituitrin; pains rapidly improved, and the child was born at 3.15 p.m. At birth the boy was blue and limp, and it was some minutes before respiration was satisfactorily established. The placenta was delivered normally at 3.40 p.m., and was of the type usual in these cases; the area I had detached was clearly distinguishable, and measured approximately six square inches. When bathing the child a little later, the nurse commented on the hardness—"like frozen meat"—of many of the muscle

masses, particularly the muscles of thighs and buttocks, and the hard swelling on the backs of the hands and feet; the skin appeared as if tightly bound down to the underlying muscle. Difficulty was experienced from the beginning in getting the child to swallow, and at first it refused to suck. Constipation was a trouble throughout. The child died on December 26th, death being ushered in by a sudden drop of body temperature and by an escape of pink-tinged fluid from mouth and nose.

On November 15th, 1919, Mrs. N. had had a single large haemorrhage which was sufficient to blanch temporarily the conjunctivae; and though she was taking iron in full doses from that time she was still markedly anaemic when the haemorrhage occurred which heralded the onset of labour thirty-two days later. The puerperium was uneventful except that the milk which came plentifully on the fourth day vanished on the eighth, perhaps because of the lack of stimulus as the infant was unable to suck.

Stafford. A. E. HODDER, M.B., B.Ch.Cantab.

Reports of Societies.

APPENDICULAR CONCRETIONS.

AT a meeting of the Section of Pathology of the Royal Society of Medicine, held on April 20th, with Dr. BULLOCH, F.R.S., in the chair, Dr. MURRAY demonstrated preparations and charts from three cases of malignant tumours in rabbits, in which autologous grafting had been carried out. The bearing of the results on the possibility of increasing or diminishing resistance to spontaneous cancer was discussed. Dr. LYON SMITH read a paper on direct haemolysis, a test for bacterial toxins, and for the quantitative estimation of doses of bacterial vaccines.

Professor S. G. SHATTOCK, F.R.S., made a communication giving the results of the systematic examination of twenty-five appendicular concretions, the examination being carried out by delamination under water; the concretions had at no time been allowed to dry. When an arbitrary centre of the size of a hempseed was reached, this was crushed in glycerin between a slide and cover-glass, and studied microscopically. In no instance was any nucleus present, the centre being of the same kind as the rest, and consisting of the undigested residues of plant tissues. In two or three the number of stiff pericarpal hairs present in flour and oatmeal was notable, but in no instance were they sufficient to constitute a nucleus after the manner of the oat hair concretions sometimes met with in the colon. In no example were any particles of steel, or of the enamel flakes from cooking utensils, present. The absence of these was opposed, therefore, to the suggestions that had been put forward in regard to the etiology of appendicitis in general—namely, that its increase was due to the introduction of enamelled ironware, or of the milling of flour by means of the cylindrical steel rollers now almost universally used. An examination of the contents of 100 appendices taken from subjects over 40 years of age, and of twenty-five from those between the ages of 15 and 25, dying from causes unconnected with the appendix, gave equally negative results in this respect. In a few of these, small faecal pellets were met with, which might be regarded as appendicular scybala; such appeared at times to furnish the starting point of concretions. The etiology of concretional formation, the author thought, resolved itself into neuro-muscular faults of the appendix, a matter of much interest in regard to ectasias and constrictions of the oesophagus, stomach, and intestine. The entry of faecal material into the appendix was presumably helped by the contraction of the caecum upon its contents, whereas the exit depended upon the appendix alone.

The factor of mechanical kink might be viewed as an exceptional one, since in concretional forms of appendicitis the organ retained its usual curvatures. As to roller-milled flour itself, the finest passed between as many as thirteen pairs of revolving steel cylinders. Yet the author had found that no inorganic iron could be chemically demonstrated in it. The skiagraphy of concretions, after being taken out of the excised appendix (and not allowed to dry), or whilst still in the excised organ, the author found, gave results too variable to prove a negative in clinical application. If the deposition of calcium carbonate and phosphate in the stercolith was well pronounced, a laminated picture was equally so; but if little, the picture was so faint that such a concretion would certainly escape observation in the living body. If the appendix, again, happened to lie behind the caecum, the picture would be obscured by the contents of the latter.

ANAESTHESIA FOR THYROID OPERATIONS.

AT a meeting, held on April 9th, of the Section of Anaesthetics of the Royal Society of Medicine, with Dr. HAROLD LOW, Vice-President, in the chair,

Mrs. DICKINSON BERRY read a paper on anaesthesia for operations on the thyroid gland. Her remarks were based upon an experience of 700 cases of operations for removal of goitre. In the past chloroform and its mixtures had been used either throughout or for induction, but since 1912 Mrs. Berry had relied entirely upon open ether, and had met with no fatality and little anxiety. She advocated an anaesthesia as light as was compatible with the requirements of the operator.

Atropine is used beforehand but not morphine; a slow induction is practised. The operation begins when regular breathing is established, even if the conjunctival reflex still persists. When the gland is reached ether is withheld if the patient is absolutely quiet. The eyes may open spontaneously or talking occur, the patient remaining quite motionless. Dislocation of the tumour is a dangerous process in cases of severe dyspnoea; the anaesthesia is kept specially light at this stage. Straining should occur when the last ligatures have been tied, in order to show any points which might lead to post-operative haemorrhage. Notes of cases illustrating the above and other points were read.

Two groups of cases were described as offering special dangers—those with much tracheal obstruction and those with cardiac trouble. For the former it was often necessary to use oxygen with the ether. The cardiac cases included those in which the heart was affected by long-standing dyspnoea, true exophthalmic cases, and cases of goitre not typically exophthalmic, but associated with cardiac symptoms.

Dr. J. F. W. SILK maintained that "team work" and a light form of anaesthesia were most important. He had found rectal oil-ether of great value, particularly in exophthalmic cases.

Mr. JAMES BERRY said that the anaesthetist should never begin the administration for a goitre operation until the surgeon had on gloves, gown, etc., and was quite ready to begin. It was sometimes necessary to perform the earlier stage of the operation very suddenly and rapidly on account of dyspnoea. In cases of dyspnoea it was well to ascertain to what extent the head could be extended without causing serious interference with breathing, and during the operation never to let it be extended beyond this amount. It was his custom to have the head held firmly throughout and turned only under special directions. In cases of dyspnoea the anaesthetist should acquaint himself before operation with the exact position and shape of the trachea. A unilateral goitre displaced the trachea to the opposite side, curved it, and flattened it on the side of the tumour. The point of maximum compression was nearly always $1\frac{1}{2}$ in. below the cricoid. The dyspnoea was always due to direct pressure on the trachea and had nothing to do with irritation of recurrent laryngeal nerves. In cases where the heart was seriously affected its condition should be ascertained by *x*-ray and electro-cardiographic examination. Mr. Berry said that he was using local anaesthetics less and less for goitre operations and relying more and more upon light ether anaesthesia.

Dr. J. S. GOODALL thought the performance of any thyroid operation, except simple ligation, under local anaesthesia undesirable on psychic grounds. Any local anaesthetic containing adrenalin might induce auricular, and even ventricular, fibrillation. He had examined the hearts of many patients before, during, and after thyroid operations, paying particular attention to (1) degree of myocardial exhaustion, (2) amount of dilatation, (3) presence of definite myocardial degeneration, (4) height of systolic blood pressure. Electrocardiographic and *x*-ray examination, together with mapping out of the field of cardiac response, were essential in estimating the condition of the myocardium.

Dr. J. BLOMFIELD said that he used open ether for these cases, but relied more than the reader of the paper upon

preliminary injection of omnopon, scopolamine, and atropine. Many surgeons were uncomfortable if as light a degree of narcosis as that described by Mrs. Berry were employed. He related a case showing the necessity for the surgeon's being ready to operate from the first moment of induction of anaesthesia.

Dr. F. E. SHIPWAY preferred intratracheal ether in all goitre operations except the exophthalmic cases. All difficulties were removed by this method, particularly those due to pressure of the tumours upon the trachea, and a very light narcosis could be accurately maintained, permitting straining or coughing at the surgeon's desire. For exophthalmic cases he favoured oil-ether per rectum, preceded by large doses of morphine and scopolamine; the direct laryngoscope and catheter should be at hand.

Dr. HAROLD LOW said that the cases requiring special treatment were those in which the trachea was pressed upon and those with constitutional symptoms. He considered the ideal anaesthetic to be either intratracheal or rectal ether; next to these he placed open ether used to maintain a light degree of narcosis. Only skilled anaesthetists should undertake goitre cases.

Dr. F. S. ROOD divided goitre cases into three groups. (1) Simple tumours or cysts with no respiratory obstruction and no toxaemia; (2) patients with stridor and possibly definite respiratory obstruction and heart failure; (3) cases of exophthalmic goitre. In the first group the choice of anaesthetic was not specially important. In the second group he preferred chloroform to ether; in the exophthalmic cases he thought it most important to guard against the element of fear, and a preliminary injection of morphine and scopolamine was most useful.

ISCHAEMIC CONTRACTURE.

AT a meeting of the Royal Medico-Chirurgical Society of Glasgow, held on April 16th, the President, Mr. A. ERNEST MAYLARD, being in the chair, Dr. J. SCOULER BUCHANAN and Dr. WALTER W. GALBRAITH showed two cases of effusion into both knee-joints due to congenital syphilis. In the first case, that of a boy aged 11 years, previously healthy according to his parents' account, the only symptoms had been a feeling of tiredness in the legs, with little or no pain, and swelling of the knees without tenderness or restriction of movement. He showed, however, some keratitis, fissures about the mouth, and pegged teeth; both he and his father gave a positive Wassermann reaction. In the second case, a boy aged 13 years, stiffness and swelling of the knee-joints were first complained of after a fall from a height on to his knees. Except a slight degree of "sabre-blade tibiae," the boy showed no evidence of congenital syphilis, but both he and his father gave a positive and his mother gave a "suspicious" Wassermann reaction.

Mr. ARCH. YOUNG showed a case of Volkmann's ischaemic contracture of the forearm, treated by manipulation and splinting.

The patient, a boy aged 11 years, was admitted to hospital in March, 1918, for simple fracture of both bones of the forearm slightly above the middle. Under an anaesthetic the arm and forearm were put up on an anterior (flexor) splint of moulded metal bent at right angles at the elbow (the forearm being fully supinated), supplemented by a corresponding moulded poroplastic splint applied to the extensor aspect of the forearm only. Six days later, on account of pain at the elbow and disability in finger movements, the splints were removed and put up less firmly, there having evidently been excessive pressure by the anterior splint at the bend of the elbow. By March 22nd there was well marked tendency to contracture of the fingers, and the patient, when dismissed on May 14th, was ordered to attend the outdoor department for massage and passive movement. On October 26th he was readmitted to hospital with well marked ischaemic contracture and atrophy of all the muscles of forearm and hand; the fingers were constantly flexed when the wrist was dorsiflexed, but extended slightly when the wrist was palmar flexed. The treatment adopted was on the lines of that described by Jones of Liverpool, but differed from it in detail. Under an anaesthetic the four fingers were separately stretched and fixed, fully—or almost fully—extended, in individual moulded sheet-tin splints, previously sized and fitted on the other hand, and covered in advance with lint. These being secured, maintenance of the palmar flexion of the wrist was obtained by applying a long metal splint duly padded and fixed on the extensor aspect of forearm and hand. At the end of a fortnight the splints were readjusted, flexion at the wrist being reduced and extension at the metacarpo-phalangeal joints increased. A fortnight later the fingers and wrist were further manipulated, and fixed again with the wrist still flexed and the metacarpo-phalangeal joints more extended. Twenty days later the fingers and wrist were freely manipulated and splints reapplied with the contracture almost fully corrected. Sixteen days later, after manipulation of the joints, a moulded and padded splint was applied on the palmar aspect of the forearm and hand from beyond the finger-tips to two-thirds of the way up the forearm, this splint being considerably dorsiflexed at the wrist; at the same time the special finger splints were discontinued. On the occasion of each readjustment of splints a general anaesthetic was given. Less than a week later the long splint was removed; massage was instituted and continued for some time, together with electrical treatment.

When the boy was shown to the society more than a year later the function of the limb was very good, but there was still disparity in muscular development of the two forearms, particularly in the flexor pronator groups. There had been slight recurrence of the contracture, especially of the middle finger, but not such as substantially to impair function, nor to be readily obvious. Sensation to touch was good, and all the muscles acted. Such contracture as existed was mainly of the flexor profundus. It might yet be desirable to renew the splinting in order completely to restore freedom of extension to fingers and wrist.

Mr. MAYLARD showed a specimen of hypertrophic stenosis of the pyloric orifice removed by operation from an adult. When admitted to hospital, the patient, a woman aged 36, was of poor build, very thin, with abdomen somewhat distended, and a firm, movable mass, rather tender, palpable in the right iliac region. She gave a history of rapidly increasing emaciation, of constipation, and latterly of pain in the right hypochondrium (followed by vomiting) shortly after taking food. The abdomen was opened by a transverse incision just above the umbilicus, when a freely movable pyloric tumour was found, associated with a greatly dilated stomach. In the belief that this was a growth, the pylorus, with half the stomach, was excised, and the continuity of the canal re-established by performing a "no-loop" posterior gastro-jejunostomy. The patient did well for three days, taking nourishment without any discomfort, but on the morning of the fourth day the temperature suddenly rose, and she died a few days later from double pneumonia. The pathologist reported on the specimen that there was stenosis of the pylorus, with marked hypertrophy of the muscular ring, but no evidence of tumour tissue suggestive of new growth, and no indication of recent or healed ulcers. Microscopical examination showed regularly arranged tubular glands which passed deeply, no new formed tissue round the glands, and hypertrophy and diffuse interstitial fibrosis of the muscular tissue.

EXPECTANT TREATMENT IN ECLAMPSIA.

AT a meeting of the North of England Obstetrical and Gynaecological Society, held at Leeds on April 16th, the President, Mr. MILES H. PHILLIPS, being in the chair, Mr. W. GOUGH (Leeds) presented an analysis of 61 cases of eclampsia treated at the Leeds Maternity Hospital during the last ten years; 47 were primiparae and 14 multiparae. The average age was about 26 years; multiple pregnancies occurred three times and hydatid mole once; in one case only was there a history of previous eclampsia.

The speaker brought this subject before the society with a view to advocating the expectant method of treatment. In 5 cases in which pregnancy was artificially terminated 2 died—a mortality of 40 per cent. In the remaining 56 cases the only treatment adopted was expectant, and followed closely the lines of that advocated by the Dublin and Glasgow schools; in a few cases delivery was hastened by forceps late in the second stage, but this was the only operative treatment. In 9 cases, the fits commenced postpartum, and of these one died. Of the remaining 47 cases 5 died, excluding 1 death caused by a perforated gastric ulcer. The maternal mortality for this group of cases was therefore 8.5 per cent. As regards the children, in the cases where labour was induced one child was born alive and 4 were stillborn. Where no operative interference was carried out, 24 were born alive and 21 were stillborn; in one the pregnancy was a hydatid mole, and the remaining patient recovered from her eclampsia and went home undelivered. He was convinced, therefore, that much better results were obtained for both mother and child if labour was allowed to come on spontaneously.

The PRESIDENT congratulated the Leeds Maternity Hospital on their excellent results. The maternal

mortality was much lower than any figure he had seen published hitherto. At the Jessop Hospital, Sheffield, the mortality over a similar period was nearly 25 per cent. in 177 cases; it varied very much from year to year, however. He thought Caesarean section good treatment in carefully selected cases, and had obtained several very satisfactory results from it.

Dr. BRIDE (Manchester) had analysed the cases treated at the St. Mary's Hospitals, Manchester. During the last ten years 220 cases were admitted, and the mortality was nearly 33 per cent. The figure varied much from year to year, in one year being as low as 12 per cent.; it was of interest that in that particular year the pregnancy was generally terminated by rapid dilatation of the cervix and immediate extraction.

Dr. HELLIER thought that Caesarean section was sound treatment if carried out by competent operators and in suitable surroundings. Where this was not possible the expectant method was much safer.

Dr. DOUGAL (Manchester) was of the opinion that cases varied so much in type that one method of treatment was not always the best. He had tried Caesarean section with disappointing results, but the cases were chosen because of their severity. He thought it possible that this mode of treatment might give the best results if carried out in every case at an early stage of the disease.

AT a meeting of the Pathological Section of Liverpool Medical Institution, held on April 15th, with the President, Dr. J. E. GEMMELL, in the chair, Mr. F. C. LEWIS read a note on the standardization of the blood-cell suspension in complement-fixation tests, and demonstrated his thesis *in vitro*. He laid emphasis on the fact that different workers used suspensions of different strengths, and further, that the method generally adopted for making the suspension led to irregularities in the strength. It was suggested that variations in the result of Wassermann tests applied to the same serum could, other factors being equal, be explained on the assumption of a variable minimum haemolytic dose of complement. A plea was made for the use of a uniform and gravimetric suspension in order to ensure that the term "minimum haemolytic dose of complement" was common to all laboratories. Mr. JOHN T. MORRISON contributed a short paper on diseases of the male breast, with special reference to chronic mastitis. The general similarity to diseases of the female breast was pointed out, and a brief description given of the malformations, acute inflammations, granulomata and neoplasms affecting the gland. The condition, unsatisfactorily termed "gynecomastia," was discussed in detail. Histological reports were very few in number, but none confirmed the suggestion that the condition was a true hypertrophy of mammary tissue. On the other hand, there was evidence that a slow, quiet inflammatory process was at work in most instances. In cases of frankly chronic inflammation the breast, or a nodule within it, felt as a firm well-defined tender mass; axillary adenitis might be present, but suppuration was rare. Histologically there was an increased formation of fibrous tissue, with sometimes, in addition, an increase in the number of ducts; inflammatory reaction was noted at this latter site. It was recommended that cases which did not react to rest and the application of heat should be excised and examined microscopically. The suggestion was made that the lactiferous ducts, or their accompanying lymphatics, were the path of entry of the causal factor. The paper was freely illustrated by lantern slides.

H. LECLERC (*Bull. Soc. de Thérap. de Paris*, February 10th, 1920) reports several cases, including that of himself, in which consumption of large quantities of cress gave rise to dysuria, vesical spasm, and (in one instance) priapism. Examination of the urine showed no characteristic changes, and in only one case did the sediment reveal an abnormal amount of epithelial desquamation. The symptoms, moreover, were of such short duration that they were apparently due to a transient irritation of the vesical mucous membrane, and not to actual cystitis. Chemical analysis of the cress showed the presence of iron, iodine, and a sulphonitrogenous essence, to the irritating properties of which it was thought probable the symptoms were due, since after being cooked (whereby the essence was destroyed) the cress did not produce any toxic symptoms. Leclerc had not been able to find any description of these effects of cress in medical literature, but a passage in the *Thesmophoriazusae* of Aristophanes showed that they were well known to the ancient Greeks.

Rebiews.

THE NAVY IN THE WAR.

THE first volume of Sir JULIAN CORBETT'S account of the *Naval Operations*[1] which began on August 4th, 1914, brings the story down to the battle of the Falklands in December of that year. It is the beginning of a History of the Great War prepared by direction of the Historical Section of the Committee of Imperial Defence. The Admiralty has given the author access to official documents, but declares itself "in no way responsible for his reading or presentation of the facts as stated." Among the official papers used are depositions of prisoners and captured documents, and recourse has been had also to unofficial publications—British, allied, and enemy. The author's main difficulty must have been the choice of material from the enormous mass available; the success with which he has surmounted it is remarkable. There are places where the mass of detail becomes oppressive, but in his handling of the larger incidents Sir Julian Corbett shows that he can be fired by a story and tell it well. He is judicious in commenting on British failures in judgement or enterprise, and generous in his tribute to any display of gallantry by the Germans, as when von Spee turned back to fight at almost hopeless odds at the Falklands. The narrative is kept well on the move; the reader is carried easily from incident to incident, and gradually obtains not only a general view of the course of the operations but a comprehension of the strategical principles by which they were guided. The volume contains some silhouettes of ships and a series of maps and plans which will probably suffice for most readers. The serious student will find eighteen large maps in a case supplied with the volume. All the maps are drawn by the Historical Section of the Committee of National Defence.

The period covered is comparatively short—barely five months—but it was a time when active operations were being carried out on many seas. The navy did its work so thoroughly that the area to be dealt with in later volumes will be narrower, and the story, therefore, in that respect less complicated. To the civilian the most interesting chapters will probably be those which deal with the "British War Book," and those describing the procedures during the time of "Strained Relations" and the "Precautionary Period," the vexed question of the escape of the German cruisers *Goeben* and *Breslau* to the Bosphorus, and the combined naval and military operations during the attempted relief of Antwerp and the fighting along the Belgian coast. The accounts of the important actions at Heligoland and the Falkland Islands probably contain little which has not already been published to some extent elsewhere, but the movements of von Spee's squadron in the Pacific are related in great detail, and the motives which may have led Admiral Cradock to accept action at Coronel against almost hopeless odds and in the absence of the vessels which had been specially detailed "to ensure his safety" are fully discussed.

The volume contains few references to medical affairs; the intention appears to be to publish the medical history by instalments in the *Journal* of the R.N. Medical Service; if so, it is to be hoped that the articles will eventually be published in a connected form. The story of Coronel and the Falklands confirms the belief that in a general action the defeated side loses so heavily in ships that the work of the medical service is wiped out. There were no survivors of *Good Hope* and *Monmouth* sunk at Coronel. Of the crew of *Scharnhorst* (11,420 tons), sunk at the Falklands, not one was saved. Of her sister ship, *Gneisenau*, it is said that out of a complement of 850 she had 600 killed and wounded; as 200 were picked up, this may be an over-estimate, but it gives some idea of the condition to which the crew of a beaten ship that fights to the last is reduced. These two ships were sunk by *Invincible* and *Inflexible*, and on neither ship was there a single casualty, though the former was hit a score of times. The *Emden* (3,592 tons), which also fought to the last, was beached; she had, apparently, a complement of 316, of whom 115 were killed; the prisoners numbered 211, of whom 56 were wounded.

---

[1] *Naval Operations*. Vol. i. By Sir Julian S. Corbett. London: Longmans, Green, and Co. 1920. (Demy 8vo, pp. xiv + 470; case of maps. 17s. 6d. net.)

To the reader who is interested in the Naval Medical Service and desires to understand the difficulties which, under modern conditions, it has to surmount, no part of the volume will be more informing than the Introduction, in which Sir Julian Corbett briefly relates the changes in strategical plans which had to be made during the ten or twelve years before the war. They were rendered necessary in part by the increase in the size and range of guns and in the efficiency of torpedoes and submarines. But the change of fundamental importance was that our principal enemy in any future war based its growing navy on North Sea ports.

For the easily defended English Channel, in which the old enemy had no naval base of any importance, there was the expanse of the North Sea, with its broad and stormy outlet between Scotland and Norway, and the new enemy was so placed as to have entries to it at two widely separated points which are linked together by a perfectly protected inland waterway. Finally, instead of our southern seaboard, rich in well-disposed naval ports, we had, facing the enemy, a long stretch of coast dotted with vulnerable commercial ports, but without a single fleet base of the first order, except Chatham, which, owing to navigational difficulties, was incapable of being adapted to modern war conditions

It was therefore decided in 1903 to make Rosyth in the Firth of Forth a first-class base, but within five years it was seen that it would not contain such a fleet as we needed; consequently plans were extended to Cromarty Firth and Scapa, and it was to Scapa that the Grand Fleet went on August 1st, 1914. The changes in the strategic plans affected every branch of the Navy, the medical with the rest. It had to adapt itself as best it might to the new conditions. Scapa, without defences, was equally without the buildings and equipment required for the medical services of the largest fleet ever assembled. The principal naval hospitals were in the south of England —at Plymouth, Portsmouth (Haslar), and Chatham, the last and nearest being some 600 miles from Scapa. How the situation was being met in 1917 was told in our columns by Sir James Porter and Staff Surgeon Vavasour Elder in that year. Nobody would be more competent to complete the story than the present Medical Director-General R.N., Sir Robert Hill, who was Principal Medical Officer of the Grand Fleet.

The interest of the story Sir Julian Corbett tells in this first volume is absorbing; it ought to be widely read, and we are glad to note that its price is moderate considering the high cost of producing so large a volume and eighteen large maps under existing conditions.

THE ENGINES OF THE BODY.

IN *The Engines of the Human Body*[2] Professor KEITH has reproduced the substance of his Christmas Lectures delivered at the Royal Institution in the winter of 1916–17, elaborated and extended.

The purpose of the book, as it was of the lectures, is to present to a lay audience the human body as an engine, or rather as a combination of many engines of varied structure and action. The book deals primarily with the muscular system of the body, and may be conveniently divided into two parts, according to whether it is the voluntary or involuntary muscular system which is under consideration. The first portion has not, perhaps, for a medical public the same interest as the second portion, and the homology between a muscle and the internal combustion engine of a motor cycle strikes us, despite the highly ingenious arguments of the author, as rather strained. No attempt is, indeed, made to establish a strict parallelism between the two, and such fundamental differences as the multiplicity of the muscle engines, and the associated action of antagonistic muscles eliminating the characteristic jerkiness which is the feature of mechanical movements are well and clearly emphasized. Due insistence is also laid on the fact that the muscles as living tissue can respond to additional calls made upon them in a way no mechanical engine can rival, although, on the other hand, they are subject to a sense of weariness of which an engine can have no experience.

The second portion of the book, to adopt our own method of division, is concerned with the action of the involuntary muscular system, and here the chapters dealing with the heart and the circulation, with respiration and digestion, are of special interest. It is particularly in these chapters that Professor Keith shows Nature and the engineer contending, if we may say so, with each other to obtain desired results. Although Nature is often, consciously or unconsciously, closely imitated, the superiority of her methods, her efficiency and economy, is never really in question. The instance which the author mentions in which he states that man seems to have stolen a march on Nature—namely, in the matter of wireless waves—is not, we venture to think, above dispute. "There is no evidence," he says, "which leads us to believe that Nature has ever used her wireless waves to provide a communicating system for linking living units together." That Nature does not habitually use this method of communication does not necessarily imply that she has not in the past and could not in the present supply such a system. She may have found the system unnecessary and inconvenient.

From the mechanical point of view everything is said, and said well, regarding the admirable pumping qualities of the heart, the perfect and economic piston-like action of the diaphragm, and the ingenious propelling power of the intestines. In connexion with this last matter Professor Keith compares and suggests that the comparison is close between the movements of the intestines and the movements of an earthworm. He does not, however, remark upon the important help which the worm obtains from its chaetae, and thus loses an opportunity of homologizing the chaetae with the fibres of the involuntary muscular tissue in the mesentery. The important part also which the mesentery plays not merely in supporting the intestines, but in preventing the intestines from forming those tangled coils in which the "resting" earthworm is frequently found, might have been mentioned.

The important parts played by chemical and psychological stimuli are adequately described, and much recent physiological knowledge on these matters is incorporated in the book, which is thereby made of very considerably greater interest and value. The work has the further and special merit of demonstrating more clearly than ever before the universal application of anatomy and physiology to other branches of human knowledge, and more than suggests that the chemist, physicist, engineer, and architect will find in the study of these subjects the solution of many of their problems, although no doubt there will always remain some residuum only to be resolved when, if ever, the secret of life has been disclosed.

Finally, no reference to the book would be complete which failed to express appreciation of the personal and historical passages which here and there lighten up its pages. If any criticism were passed upon these it would be that Professor Keith is somewhat inconsiderate in ignoring the work of Harvey's predecessors and contemporaries in connexion with the discovery of the circulation of the blood. Did, again, Sir Charles Bell find no warmth of welcome in London? Bell's account of his reception at the home of Sir William Blizard for some reason or other remains in our memory, and suggests that here and there at any rate he had as warm a welcome as could reasonably be expected.

These are, however, very minor matters. What is of real importance is that Professor Keith has managed, in a characteristically interesting and suggestive manner, and within the small compass of 280 pages, to convey much of our present-day knowledge regarding the principles upon which the human body is constructed, and the way in which its several parts perform their allotted tasks. The book is one which deals with these matters from a particular point of view—namely, that of the engineer; it is a point of view which was well worth stating, and we believe that there is no one in our profession who could have expressed it as adequately or as effectively as Professor Keith.

VENEREAL DISEASES.

COLONEL L. W. HARRISON'S *Manual of Venereal Diseases for Students*[3] resembles very closely the author's previous publication, *The Diagnosis and Treatment of Venereal Diseases in General Practice*. It is, however, as its

[2] *The Engines of the Human Body.* By Professor Arthur Keith, M.D., LL.D.Aberd., F.R.S. London: Williams and Norgate. 1919. (Demy 8vo, pp. xii+284: 47 figures, 2 plates. 12s. 6d. net.)

[3] *A Manual of Venereal Diseases for Students.* By L. W. Harrison, D.S.O., M.B., Ch.B., M.R.C.P.E., Brevet Colonel R.A.M.C., and K.H.P. (ret.). London: H. Frowde, and Hodder and Stoughton, Ltd. 1920. (Cr. 8vo, pp. 375; 19 plates; 63 figures. 16s. net.)

name implies, written for the medical student rather than for the qualified practitioner, and has been in certain directions condensed and simplified. But at the end of this process, and with all unnecessary details eliminated, venereal disease remains a formidably large subject in the curriculum of the medical student. Whether Colonel Harrison's estimate of the amount of knowledge of venereal disease that a student should be expected to obtain is excessive or not does not alter the fact that his *Manual* is an excellent work. Within its three hundred odd pages is condensed an immense amount of useful information—that is to say, information which is useful in the treatment of disease as well as in satisfying examiners. We believe, indeed, that the book will prove as useful to the general practitioner as to the student. It contains all that is essential of its forerunner, and some valuable additions—for example, a short description of the urethroscope and of its use in diagnosis and treatment has been added, and greater precision has been given to the chapter on the treatment of gonorrhoea in women. Where it has been necessary to make sacrifices in order to keep the book within the necessary bounds, points of theory rather than of practice have been cut out. In several places the blue pencil has been used to advantage, and chapters that were overloaded and guilty of repetition in the earlier work have gained in conciseness and vigour. As a result of this it is easier to seek out a particular point on which information is required. Where space is an all-important consideration a writer is compelled *malgré lui* to be dogmatic. This, though it may seem a disadvantage to the expert, is a boon to the beginner. Indeed, we feel that in many ways the *Manual* is an even better work for practitioners and students alike than its predecessor. In a chapter on the prevention of venereal disease the subject is regarded from the public health standpoint, and statistics are given of the results of prophylactic measures during the war. At the end of the book are four useful appendices. The first gives a clear sketch of the principles underlying complement fixation tests, and the second an account of staining methods employed in the detection of micro-organisms. The third and fourth appendices contain some formulae useful in the treatment of gonorrhoea and syphilis respectively. We have no hesitation in saying that *A Manual of Venereal Diseases for Students* is the best work on the subject that we have seen. It should have many editions.

Dr. WANSEY BAYLY'S book on *Venereal Disease: its Prevention, Symptoms, and Treatment*,[4] adds another to the list of useful small volumes dealing with these maladies in the light of modern knowledge. The author is a well known writer on this question, and his position as honorary secretary to the Society for the Prevention of Venereal Disease gives additional interest to the views expressed. The book opens with a chapter on prevention, in which the many-sided aspects of this complicated problem are indicated under various heads. Nevertheless, until some working agreement is reached between the two existing camps, all that is here written cannot be regarded as final. The part dealing with the clinical side of the subject is clear and informing, and shows in a practical manner how diagnosis and cure can best be effected in the different sorts and degrees of infection. Particularly striking are the clinical illustrations, the novel method employed conveying a clear suggestion of the diseased condition. The volume contains in short form the more important facts, and will be found a useful textbook for those embarking upon a study of these maladies. The concluding chapter discusses the organization, administration, and routine work of a venereal clinic.

UROLOGY OF TROPICAL DISEASES.

DR. JOSEPH KHOURI, in the preface to his essay on the pathological urology of hot countries,[5] has pointed to the important place that tropical disease now occupies amongst medical studies. The world war has brought very many European medical men into contact with tropical diseases that in former years had been to them merely unfamiliar names in medical textbooks. But whilst many excellent textbooks on tropical complaints are in existence, no author has previously attempted to treat the subject purely from the standpoint of the urologist. It is therefore with the idea of supplying a complete synopsis of the urology of tropical diseases that Dr. Khouri has written his book.

Under the headings of the various tropical diseases known to medicine are given concise accounts of the changes that occur in the urine. But although the careful examination of the urine is undoubtedly an important step in arriving at a diagnosis, it is to the research worker rather than to the ordinary practitioner in tropical diseases that Dr. Khouri's monograph will primarily appeal. The author writes as a pure scientist, and as a chemist rather than as a clinician. He has collected a large number of scientific facts and placed them at the service of all who may be disposed to undertake research along similar lines; and to each chapter he has appended a very complete bibliography. The book is the result of twenty years' work in Egypt, and undoubtedly contains much that is of value.

The second part deals with the elimination of drugs by the kidneys and with methods of detection and estimation. Much of it is the result of the author's original observation. Altogether the subject has been treated with great completeness and accuracy. It is a book to which future research workers in tropical medicine will certainly appeal.

[4] *Venereal Disease: its Prevention, Symptoms, and Treatment.* By Hugh Wansey Bayly, M.C., late Surgeon R.N. (temporary) and Acting Major R.A.M.C.T.F. London: J. and A. Churchill. 1920. (Med. 8vo, pp. viii + 152; 51 figures. 10s. 6d. net.)

[5] *Essai d'Urologie Pathologique des Pays Chauds.* Par Joseph Khouri, Docteur de l'Université de Paris (Pharmacie). Paris: J. B. Baillière et Fils. 1919. (Med. 8vo, pp. v + 183. Fr. 6.)

NOTES ON BOOKS.

REMARKING that there are already far too many medical periodicals that the overworked medical man is expected to read in Germany, Professor BRUGSCH of Berlin prefaces a new one, the *Ergebnisse der gesamten Medizin*,[6] with the pious hope that it may give a true and complete picture of current medical practice and progress; and no doubt the corollary is that all other medical periodicals will become superfluous now that this compendious summary is available. The first number contains five-and-twenty articles on the symptoms and treatment of disease, speaking generally. With regard to the subjects dealt with in these articles, it may be pointed out that eczema, diphtheria, gonorrhoea, and the like are subjects the general practitioner of medicine will be glad to read about in these pages; but will he have much use for the article on "Dysbasia angiosclerotica"? The various authors of these reviews give numerous references to the literature of their subjects, almost entirely excluding work done outside the borders of the Central Powers; we notice, however, that the important paper on "Trench Fever," by McNee, Renshaw, and Brunt, that appeared four years ago in the BRITISH MEDICAL JOURNAL is quoted under the title "Frenshfever," and under the names "Mc. Nee, Reuschan, and Brand," in these *Ergebnisse*. How often the periodical is to appear does not seem to be stated; its price—180 marks in paper, 240 marks bound—may be taken as an index of financial stringency rather than intrinsic merit. Broadly speaking, it appears too abstract a periodical for practical men, too loosely written and second-hand for men of science.

Dr. ROCKWELL'S *Rambling Recollections*[7] afford the reader an admirable picture of the happy insouciance of high class medical practice in America during the last third of last century, and give an attractive and entertaining description of the author's intercourse with countless Americans of note and notoriety. During the course of a long professional career Dr. Rockwell has been brought into contact with all sorts and conditions of men, and the story of his experiences as an army surgeon in the civil war, and as one of the first to introduce electrical treatment, interspersed with human touches at every point, should appeal to readers of all classes.

In *Domus Doloris*,[8] Mr. COMPTON LEITH offers an etherealized and philosophic picture of hospital life and hospital work during the war, purged of gross detail,

[6] *Ergebnisse der gesamten Medizin.* Unter Mitwirkung hervorragender Fachgelehrter herausgegeben von Professor Dr. Th. Brugsch, Oberarzt der II med. Klinik der Königlichen Charité in Berlin. Erster Band. Berlin and Vienna: Urban and Schwarzenberg. 1920. (Imp. 8vo, pp. 663; 160 figures, 14 plates. M. 180 in paper; M. 240 bound.)

[7] *Rambling Recollections.* An Autobiography. By A. D. Rockwell, M.D. New York: Paul B. Hoeber. 1920. (Roy. 8vo, pp. 332; 7 illustrations. 4 dols. net.)

[8] *Domus Doloris.* By W. Compton Leith. New York: John Lane Co. London: John Lane. 1919. (Cr. 8vo, pp. 222. 7s. 6d. net.)

analytical, redolent of the classics, in touch with humanity and the larger soul through all the avenues of feeling. Such literature as this, with its graceful cadence and dreamy sentences, falls pleasantly on ears deafened by the din of the market place, and should serve to bring home to its readers the deeper meanings and moral lessons that may be drawn from the war and all the sufferings it entailed. We commend this book to the attention of the many readers of all classes who welcome poetic prose and the distraction from the commonplace it offers.

Three lectures on various aspects of *Education in War and Peace*,[9] by Dr. STEWART PATON of Princeton, deal out to the patient reader a series of generalities on the aims and methods of education, the relations of the mind to the body, the interest of psychiatry and the study of social misfits, from the point of view of an American university lecturer in neurobiology and psychiatry. He urges the importance of studying the genesis of the social unrest and emotional disorders now so prevalent throughout the world.

Miss BARBARA LOW'S *Psycho-Analysis*[10] gives the general reader and teacher some insight into a subject that has suffered as much from its defenders as its critics. The book is short, generalized, and written in a highly appreciative manner; it is perhaps stronger on the theoretical side than the practical.

[9] *Education in War and Peace.* By Stewart Paton, M.D., Lecturer in Neurobiology, Princeton University, etc. New York: Paul B. Hoeber. 1920. (Cr. 8vo, pp. ix + 106 + 1.50 dols. net.)

[10] *Psycho-Analysis.* A Brief Account of the Freudian Theory. By Barbara Low, B.A. Introduction by Ernest Jones, M.D., M.R.C.P. Lond. London: George Allen and Unwin, Limited. 1920. (Cr. 8vo, pp. 191. 5s. net.)

THE LONDON RADIUM INSTITUTE.

ANNUAL REPORT OF THE MEDICAL SUPERINTENDENT, MR. HAYWARD PINCH, F.R.C.S., FOR 1919.

THE Radium Institute in Riding House Street, Portland Place, London, was opened in August, 1911. In his annual report for 1919, Mr. Hayward Pinch, F.R.C.S., the medical superintendent, who expresses his acknowledgements to Dr. J. E. A. Lynham (assistant), has taken the opportunity of summarizing some of the conclusions he has reached with regard to the method of using radium. Special attention is directed to the construction of apparatus, to application in various situations and for various purposes, to variations in the reactions, local and general, to the sequelae occasionally met with, and to the measures taken for the protection of radium workers from the local and general effects of the rays. Prognosis is discussed at some length in order to indicate what benefit may reasonably be expected from radium therapy. These sections are founded on Mr. Pinch's twelve years' experience, and on the administration of over 70,000 treatments.

APPARATUS.

The rays emitted by radium salt and radium emanation are identical, and both are used at the Institute. The therapeutic power of alpha rays, which consist of positively charged atoms of helium, with a velocity of one-fifteenth that of light, is negligible, as they are stopped by thin metal, glass, paper, rubber, or a few centimetres of air. The velocity with which the beta rays—consisting of negatively-charged bodies—are projected is of the same order as that of light, but varies so that three types are distinguished—soft, medium, and hard—the velocity of the first being least and of the last greatest. They are of the same type as the cathode rays produced in a vacuum tube. Gamma rays are considered to be analogous to very penetrating Roentgen rays; their passage through metals produces "secondary" or "excited" rays, which may cause considerable surface irritation.

When radium salt is used the strength of the apparatus is expressed in terms of hydrated radium bromide, which contains 53.6 per cent. of radium, but as it is a deliquescent salt, it is converted into the insoluble sulphate and is used either in capillary glass tubing or on applicators of various sizes and three strengths, containing in the square centimetre—full strength 1 cg., half strength 0.5 cg., and quarter strength 0.25 cg., corresponding roughly to the French classification of 2,000,000, 1,000,000, and 500,000 activities. An advantage of the applicators is that the emitted radio-activity is always constant, and the apparatus if carefully handled needs little attention beyond an occasional renewal of its varnish. Radium emanation is used either in tubes or in hollow applicators of thin german silver or glass. The loss of value of radium emanation, due to decay of the emanation, can be provided against. During the first twenty-four hours the emanation loses exactly 16 per cent. of its activity; it is therefore possible to make an apparatus the mean activity of which for twenty-four hours shall be practically the same as that of a radium salt applicator of known strength. For example, to obtain the effect of an exposure of twenty-four hours with emanation equal to that emitted by 100 mg. of radium bromide, an emanation tube is used possessing an initial activity of between 109 mg. and 110 mg.; at the end of twenty-four hours it will have fallen to between 92 mg. and 93 mg., so that its mean activity for the whole period will be as nearly as possible that of 100 mg. of radium salt.

Clinical experience has rendered it possible to reduce the number of screens to four types:

Aluminium, 0.01 to 0.2 mm. in thickness.
Silver, 0.2, 0.5, and 1 mm. in thickness.
Lead, 0.1, 1.0, 1.5, and 2 mm. in thickness.
Platinum, 0.3 mm. in thickness.

The best screen for general use, whether for tubes or applicators, is 1 mm. of silver, which reduces the percentage of beta rays to 1.18, but of gamma rays to 95.5 only. Aluminium screens are used in the treatment of superficial and non-malignant cutaneous lesions, and platinum for small but powerful tubes to be buried in small malignant growths in the neighbourhood of the mouth, fauces, and air passages. Lead screens 2 mm. thick cut off nearly all the beta rays, but allow the gamma rays to pass to the extent of 92.8 per cent. Screens of various forms are used to suit the situation and purpose in view. Investigations have been made in the Research Laboratory of the Institute to ascertain the best method of absorbing secondary rays excited in thick screens of heavy metal, which, as has been said, cause considerable surface irritation. It has been found that the emergent secondary rays from a lead screen 2 mm. thick can be completely absorbed for all practical purposes by a layer of aluminium 2 mm. thick: the lead screens now used have an aluminium sheath of this thickness.

A flat applicator should be somewhat larger than the lesion to be treated. Healthy skin and tissues surrounding the lesions should be protected by a layer of lead rubber; the lesions should be cleansed and dried, and the applicator, if used unscreened, covered with a thin layer of rubber sheeting to protect it from moisture or discharge. The method of burying tubes in growths varies according to the situation. Whenever it is possible to bury a tube this is done, because the radiation from it is centrifugal and the whole of its activity is made effective; if merely laid upon the surface, little more than 30 per cent. of the rays come into action. Details of the method of application in various positions are given.

REACTION.

All tissues when treated with radium respond by a reaction, the nature and extent of which is determined by a number of different factors.

Mucous surfaces are much more responsive than dry skin, and moist skin or surfaces more than dry. Carcinomatous or sarcomatous tissue does not show the same resistance to radium rays as normal cells, and it is upon the appreciation of this fact that successful radium therapy largely depends. Tissues which have previously been treated much with *x* rays or ionization, or by CO_2 snow, or cauterization, require special care, as slight overdosage may be followed by breaking down of old scar tissue far beyond the area it is desired to affect. The extensive dissection required in the performance of Wertheim's hysterectomy seriously impairs the vitality of the pelvic tissues for some time, so that the propriety of giving radium treatment within three or even six months must be carefully considered. The reactions in persons suffering from locomotor ataxy, syringomyelia, paralysis, or other diseases affecting the functions of the trophic nerves, are often extensive.

The reaction is influenced not only by the strength of the applicator but by the size of the area to which it is applied. Further, marked personal idiosyncrasies are observed; in neurotic persons both the local and systemic reactions are likely to be greater than in the phlegmatic. In the treatment of some uterine conditions it is desirable to use only half strength in persons of neurotic temperament.

Four degrees of local reaction are distinguished:

1. Simple erythema.
2. Erythema followed by desquamation.
3. Vesication with superficial ulceration.
4. Deep ulceration, generally followed by the formation of a definite "limpet-shell" crust, beneath which repair takes place.

The interval before reaction takes place varies. Sometimes it is short; this is particularly noticeable in capillary naevi. On the other hand, in treatment for rectal disease the reaction may not come on for three weeks or more, and may then persist for a month or six weeks, not disappearing entirely for about three months.

Systemic reaction may occur when a large quantity of radium has been employed and long exposures given; on or about the fourth day after the termination of the treatment the patient suffers from languor, nausea, sometimes vomiting, and a rise of temperature to 100° or 101°. These symptoms, no doubt due to autointoxication, may be ameliorated by the judicious employment of laxatives and diuretics. In exophthalmic goitre the first effect of the treatment is often an exacerbation of the symptoms, due probably to an increased influx of thyroid secretion into the blood stream.

SEQUELAE.

Certain late effects must be guarded against: among them are pigmentation and telangiectasis, noticed especially after treatment of cutaneous naevi; the risk cannot be altogether avoided, but it may be diminished by taking care to avoid vesication. Patients should be seen every three months for at least two years, and any telangiectasis destroyed with a fine electric cautery. Pigmentation may be kept in check by the application of a weak lotion of mercury bichloride and glycerin. Superficial ulceration sometimes follows prolonged treatment of naevoid growths; the treatment must then be suspended for at least six months, and resumed with care.

In the vagina or rectum frequent exposures with heavily screened applicators may be followed by a considerable degree of progressive annular fibrosis, which will require dilatation with the finger or bougie.

EXPOSURES.

The length of exposure varies according to the object it is sought to attain; exposures of three to fifteen minutes, using half-strength applicators unscreened, are generally used in the treatment of superficial cutaneous lesions, such as chronic eczema, lichenification, and psoriasis; exposures of thirty to ninety minutes, with half or full strength applicators, are used for very superficial small capillary naevi, keratomata, warts, corns, papillomata, and the early stages of rodent ulcer. Exposures of from ninety to 120 minutes are used, with full-strength applicators, when it is desired to produce a definitely destructive reaction, as in the treatment of hypertrophic or deeply ulcerated rodent ulcers, small localized epitheliomata, and pigmented moles. Cavernous naevi, keloids, vicious cicatrices, flat superficial epitheliomata, indolent ulcers, and inflammatory induration of recent origin are treated by half-strength applicators, screened with 0.1 mm. lead, or 0.5 or 1 mm. silver, for thirty to ninety minutes. When it is desired to obtain only the gamma radiation a screen of 2 mm. lead is employed, and the length of the exposure is usually from twenty to forty hours, or even longer.

When tubes of salt or emanation are buried in a tumour a screen of 1 mm. of silver is usually employed, and the length of the exposure is twenty-four hours. A tube should not be buried in a rapidly growing carcinomatous nodule, as it merely increases the necrosis; it should be directed to the periphery of the growth and prolonged screen exposures given, in the hope of limiting spread by stimulating fibrous tissue formation. Mr. Hayward Pinch states that "There appears to be some difference in the response of growths of epiblastic as opposed to those of hypoblastic origin; the former appear to be more favourably influenced by a longer exposure with a weaker dose, the latter by a shorter exposure with a larger dose—for example, 100 mg. for twenty-four hours in the one case, 200 mg. for twelve hours in the other."

RADIUM WORKERS.

A person who habitually handles radium or is constantly in contact with radium rays suffers local and systemic effects. After working for a few months with radium apparatus the skin of the fingers becomes roughened and inelastic, and the tactile sense is diminished, but sensation to heat and cold is exaggerated. Later the skin becomes fissured, small corns or warts develop, and the nails become thick and brittle. As the clinical workers are more affected than laboratory workers it is thought probable that the majority of the local effects are due to the "secondary excited" rays. The general symptoms are said to be disproportionate fatigue after a day's work, and after a time a fall in the number of white corpuscles; there is also a diminution in the number of red corpuscles, but at first this is to some extent compensated by an increase in the colour index. Many female workers, it is said, "show a peculiar susceptibility in respect of their menstrual functions. Menorrhagia is first noted, the periods then become irregular, and amenorrhoea results, and remains permanent so long as the worker continues at her employment, though the functions return to normal after a holiday of four or six months' duration."

To prevent local effects workers are required to wear thick leather gloves, and to handle apparatus as far as possible with forceps a foot long. Screens are also used, but it has been found that no nurse or attendant should be allowed to make up or habitually apply apparatus for more than three months; there should then be an interval of rest at least as long. As emanation does not produce secondary radiation for at least half an hour after its preparation it is easier to handle. For the prevention of the general effects care should be taken to keep all radium apparatus in closed leaden boxes 4 to 5 cm. thick. In making up the apparatus a leaden breastplate or screen should be used. Each worker should be given two clear days' holiday a week, to be spent as much as possible in the open air.

CARCINOMA.

With the exception of rodent ulcer, to which separate reference is made, no operable cases of malignant disease are treated at the Radium Institute, save in the few instances in which the patient positively refuses operation. In at least 70 per cent. of the cases treated the disease was far advanced, and extensive dissemination was present, so that arrest of the progress of the disease and relief of the attendant symptoms are the utmost that can be expected.

Breast.

Cases of carcinoma of the breast constitute 25 per cent. of all those treated. In the rapidly growing encephaloid type with extensive lymphatic involvement prognosis is invariably bad, but very prolonged screen exposures to the periphery of the growth may occasionally retard the progress of the disease to some slight extent. On the other hand, the atrophic type usually responds favourably to prolonged screened exposures, which have the effect of reinforcing the natural tendency to the production of a curative fibrosis. The prognosis in the various types of cases between these two extremes depends to a great extent upon the history and clinical features; the object of treatment should be to increase the development of fibrous tissue in the hope of constricting the carcinomatous alveoli, causing degeneration of their contents and arresting dissemination by the lymphatics. Half-strength applicators, screened with 1 mm. of silver and applied for twelve to eighteen hours, may induce healing of ulcerated skin over the growth. Small isolated subcutaneous nodules attached to muscles, ribs, clavicle, or sternum, are treated by the insertion of an emanation tube for eighteen to twenty-four hours. Metastatic lesions of the viscera, scalp, or long bones, are treated by prolonged screened exposures which may arrest the progress of the disease, and sometimes cause an actual decrease in the size of the secondary foci.

Uterus.

In the patients with cancer of the uterus received at the Institute the disease has, as a rule, existed for so long and dissemination is so far advanced that little hope of effecting even "apparent cure" can be entertained. In a few border-line cases radium irradiation has been used in the hope of diminishing the amount of existing induration and the fixation of the uterus, so that its removal can be more completely and satisfactorily accomplished. We quote in full the remainder of this section of the report:

It has hitherto been the practice at the Radium Institute strongly to urge immediate operation in cases where such a measure is practicable, but radium treatment appears to exert such a very beneficial effect upon early cases of carcinoma of the cervix that if the patient exhibit any great reluctance to operative interference the latter method of treatment may be adopted.

In cases which are manifestly inoperable the systematic improvement which almost invariably follows upon radium treatment is most striking, and far exceeds that of any other therapeutic measures. Arrest of haemorrhage, lessening of discharge, healing of ulceration, reduction of surrounding infiltration, diminution of the rate of growth, and amelioration of pain are constantly observed, and though the susceptibility of patients varies within very wide limits, some responding much more speedily and completely than others, yet in nearly every instance definite benefit results, and the progress of the disease is greatly retarded.

Several factors must be taken into account when attempting to form a prognosis in the radium treatment of uterine cancer. The disease usually runs a slower course, and dissemination into the pelvic glands is much less active in patients who have passed the climacteric than in those in whom the menopause has not been established. Very young and very corpulent patients also do badly, though this rule is not without its exceptions.

The cases in which the best results may be anticipated are those in which the patients are of 50 years of age and upwards, where there is but little fungation, the vesico-vaginal and recto-vaginal septa are not much involved, and there is no very great amount of peri-uterine induration present. In these instances definite arrest of the progress of the disease is sometimes obtained, the patient remaining apparently well for three, four, or more years. It is not, however, correct to speak of these cases as "cured," as there is always the probability that sooner or later evidence of dissemination will occur, and the disease will be found to be affecting regions far beyond the effective range of radium. Recurrences in the vaginal wall after the operation of hysterectomy, if taken at an early date, often do surprisingly well, their complete disappearance is occasionally brought about, and no recurrences take place.

When the uterus is very firmly fixed, the patient complaining of sacral and pelvic pain radiating into both thighs, infection of the pelvic glands and deep parametric tissues may be regarded as certain, and radium is able to do but little for these patients beyond possibly arresting the disease and slightly diminishing the pain.

When treating cases of cervical carcinoma, if the growth be of the cauliflower or fungating type the removal of as much of the mass as possible by excision or curetting before the treatment is commenced is to be advocated. A tube containing not less than 100 mg. of radium should be employed, the screening should be either 1 mm. of silver or 2 mm. of lead, according to whether the apparatus can be inserted actually within the cervical canal or has to be placed in the vagina in contact with the diseased surface.

The uterine tissues appear to have a greater power of resistance to the radium rays than have the vaginal ones, and the employment of a silver screen in contact with the vaginal wall for a period of more than eighteen hours may quite possibly lead to the formation of a fistula, but with the tube inserted within the cervical canal this contingency does not arise. The exposure should be between twenty and twenty-four hours' duration, and may advantageously be supplemented by the use of a plate containing 100 or more mg. of radium screened with 2 mm. of lead, and applied externally over the fundus. By this means a thorough radiation of the whole diseased area is obtained. The exposures should be repeated at intervals of not less than six weeks.

Circumscribed and indurated nodules of small size in the substance of the cervix may receive, in addition, treatment by the insertion into their substance of tiny emanation tubes of 20 to 30 mg. initial activity, screened with 0.3 mm. of platinum, for from twelve to eighteen hours.

Carcinoma of the body of the uterus is of much less frequent occurrence than cancer of the cervix, and since the prognosis as regards recurrence after hysterectomy is very favourable, operation should always be resorted to if practicable.

If radium treatment be determined upon, a tube of not less than 100 mg., screened with 1 mm. of silver, should be inserted into the uterine cavity, supplemented if possible with a plate of equal strength, screened with 2 mm. of lead, and applied over the fundus. Great caution must be observed in making the intrauterine application, the uterine walls being extremely friable when infiltrated with carcinoma, and readily perforated if undue force be used.

Tongue, Fauces, and Oesophagus.

Cases of carcinoma of the tongue, palate, and buccal mucous membranes only come under treatment when all surgical measures have been exhausted and recurrence is widespread, producing constant and severe pain. The results of treatment in such cases are unsatisfactory. Upon those in which acute ulceration predominates radium has very little effect, although occasionally exposures of one to two hours' duration to tube apparatus in contact with the ulcerated surface on four or five successive days tends to arrest the ulceration and sometimes to induce very transient repair. Cases in which induration predominates are more amenable; when the induration is circumscribed, or in the form of small non-ulcerated nodules in the tongue, the floor of the mouth, the palate or jaws, the insertion of a small powerful emanation tube, screened with 0.3 mm. of platinum, for five to six hours, will bring about their disappearance. The probability of lymphatic infection may be diminished by the prophylactic radiation of the cervical and submental glands. Exuberant papillated epitheliomatous growths of the mucous membrane of the mouth, with little submucous invasion, if treated at an early stage by burying powerful emanation tubes, often clear up completely and then seldom recur. With old lymphatic infection and masses of indurated glands prolonged exposures, with heavily screened apparatus, are often of considerable use in diminishing the size of the glands and preventing implication of the skin covering them. In some cases the neuralgic pains are distinctly relieved after prolonged irradiation, but this result cannot be assured in any particular cases. Definite but only temporary relief may sometimes be obtained in cancer of the oesophagus by the use of radium. It must be applied by a laryngologist skilled in oesophagoscopy.

Rectum.

The form of carcinoma of the rectum which does best is the annular, vascular exuberant type at the upper half of the rectal ampulla. If much ulceration be present colostomy should be performed before radium treatment is undertaken, as the passage of faeces over an ulcerated surface, made more tender by a radium reaction, produces very severe pain. As the healthy rectal mucous membrane is very susceptible to radium rays great care must be taken to protect it during the treatment. During the year some cases received injections of cuprase between the radium exposures; 5 c.cm. of the solution was injected intramuscularly every fourth day until 60 c.cm. had been injected. Mr. Pinch expresses no positive opinion, but the results have, he says, been such as to justify a continuation of the combined treatment.

Bladder and Prostate.

The treatment of inoperable carcinoma of the bladder by radium sometimes gives extremely good results, especially in women in whom, in addition to the radium tube in the bladder, a screened tube is placed in the vagina. Carcinoma of the prostate, limited to one lobe, the enlargement of the gland not being very great, is treated by burying a silver screened emanation tube within the carcinomatous mass. If the patient objects to this, the method of cross radiation with a tube in the urethra and a plate over the perineum has sometimes been found to produce definite improvement and prolongation of life for perhaps two or three years.

Stomach and Intestines.

In inoperable cases of carcinoma of the stomach and intestines prolonged exposures with heavily screened

powerful applicators sometimes diminish the pain and arrest the progress of the disease.

RODENT ULCER.

This is the only form of malignant disease in which it is at present justifiable to use radium therapy in preference to any other method. The results are, of course, more satisfactory in early cases. Rodent ulcers previously treated repeatedly with caustics, scraping, CO_2 snow, or x rays, must be very carefully handled, or a destructive reaction far exceeding what is desired may occur. If rodent ulcer has invaded the bony tissues radium has no power to cure; therefore the affected portion of bone should be excised before radium treatment is commenced.

SARCOMA.

The response of sarcomata to radium treatment varies; the periosteal variety usually responds better than the endosteal, and if it does respond, the tendency to recurrence or dissemination is greatly inhibited, so that the patient may remain "apparently cured" for many years. Prognosis is better in a spindle-celled sarcoma than in the small round-celled variety; the large round-celled type appears to occupy an intermediate position. The result in cases of myeloid sarcoma (now named "myeloma") is uncertain; in about half the cases radium produces no effect, but in the other half the result is gratifying. Of sarcomata affecting the nasopharynx Mr. Pinch says:

> These are extremely susceptible to radium, and often completely disappear within a month of the treatment. The lympho-sarcomata attacking the cervical and mediastinal glands usually show a very rapid and pronounced improvement, the improvement persisting for four or six months. In most cases some recrudescence of the condition is then noted, necessitating further exposures, which may have to be repeated at prolonged intervals for three or four years. A time is, however, ultimately reached when the response to radium treatment becomes negligible, and the disease then rapidly assumes the mastery.

For the treatment of sarcomata massive doses must be given, and whenever practicable silver-screened tubes should be buried in the centre of the mass.

NON-MALIGNANT CONDITIONS.

Uterine Fibroids.

The relief which follows the treatment of uterine fibroids with radium is stated to be definite and striking. The reduction in the size of the tumour may not be very great, but the flow is gradually checked and may return to normal or may cease altogether for three or four months, or longer. It may be necessary to repeat the treatment after three or four months, and if it is given on three or four occasions the probability of premature menopause must be made clear to the patient. Chronic metritis also responds to radium therapy.

Naevi.

The best results in cavernous naevi are obtained if the infant is seen before other treatment has been adopted. Radium treatment requires great patience on the part both of the operator and parents. When a cure has been effected there appears to be no tendency to recurrence. The results in capillary naevi vary very greatly. If complete blanching can be obtained by a moderate degree of pressure the result will probably be good; if not, no more than a diminution in the intensity of the colour is to be expected. Owing to liability at a later stage to telangiectasis or pigmentation the child should be seen at fairly frequent intervals for some time.

Warts, Papillomata, and Keloids.

The majority of corns, warts, papillomata, and keratomata can be removed by short exposures. With a correct dose exfoliation of the growth, with little accompanying inflammation, occurs three to four weeks after the application. Radium treatment of keloids and vicious cicatrices generally brings about great improvement, if not complete disappearance.

Lupus Erythematosus.

This obstinate and disfiguring disease is frequently very greatly improved by radium therapy, though recurrences tend to take place after varying intervals.

Tuberculosis.

In the treatment of lupus vulgaris the Finsen light is usually to be preferred to radium, but it will, not infrequently, give excellent results in cases that prove refractory to the light. Lupus in a position inaccessible to Finsen light, as in the mucous membrane of the nose, is suitable for radium therapy; cross radiation is employed. Lupus of the palate and fauces may often be very greatly improved by radium. Radium treatment of tuberculous adenitis, if adopted at an early stage before numerous glands are affected and caseation has occurred, may with some confidence be expected to give favourable results.

Skin Diseases.

Many chronic forms of superficial skin diseases, such as lichenification, chronic eczema, leucoplakia of the first degree, and pruritus, are favourably influenced; so also is psoriasis, though it shows a strong tendency to recur.

ARTHRITIS DEFORMANS.

Infective arthritis of comparatively recent origin in patients under 40, accompanied by peri-articular rather than intra-articular changes, is often greatly benefited by the internal administration daily of 500 c.cm. of a solution of radium emanation of a strength of 1.5 millicuries to the litre. When one joint only is affected and the changes are intra-articular, with osteophytic growths or pathological changes in the bones or cartilages, little good is to be expected.

CHEMICO-PHYSICAL LABORATORY.

Mr. W. L. S. Alton, F.I.C., director of the laboratory, has had the help of Mr. J. F. Clarke, M.Sc., who was appointed in June. The number of emanation tubes and applicators prepared was 771, giving an activity in terms of radium bromide equal to 66.04 grams. A large quantity of the radio-active water, referred to in connexion with arthritis deformans, was prepared. The number of radium applicators made included a set for a hospital at Reykjavik; others were made for a medical man in New Zealand, and a complete installation for making emanation applicators was supplied to a clinic in Paris. Mr. Clarke carried out measurements of the amount of secondary radiation emitted by compound lead-aluminium screens. Mr. Austin refers to the precautions that must be taken to protect the workers with radium; they include powerful fans for ventilation, as it is inadvisable to breathe air containing emanation, and accidents to emanation tubes occasionally occur.

RESEARCH DEPARTMENT.

Dr. J. C. Mottram, director of this department, reports that it was opened in May, 1919, but that considerable delay occurred in fitting up the laboratory. He reported to the Electro-Therapeutic Section of the Royal Society of Medicine an investigation into the leucopenia produced by radiation; he had also made a report to the same section on the examination of patients in ultra-violet radiation, after the manner devised by Professor R. W. Wood (Baltimore). Dr. Mottram describes it as follows:

> Dr. Wood produced a glass which, whilst allowing ultra-violet radiation to pass, is opaque to light. Using an arc lamp, such as a mercury vapour lamp, one is thus able to obtain a beam of ultra-violet radiation. On examining patients in the beam a number of striking appearances are seen. Briefly, the skin is seen to glow with a violet light; but certain areas, especially on the face, are not fluorescent, and appear as black spots. This spotty appearance varies much, some individuals are almost free from spots, whilst others are thickly covered. Similar differences are to be seen in photographs taken in a particular manner with an arc lamp, and it has been observed at the institute that patients showing a spotty appearance in these photographs are more susceptible to radium radiation than the relatively unspotted. As the spots in the two cases (that is, photographically obtained and seen in ultra-violet illumination) are almost certainly the same, it follows that examination in ultra-violet radiation will probably give the radiologist a means of at once estimating the susceptibility of his patient. Other striking appearances are seen besides the dark spots. Scattered over the face are numerous minute brightly fluorescent spots, having the appearance of stars. The teeth are very brilliantly fluorescent, less so the nails. The eyes may be likened to the eyes of a boiled fish—this being due to fluorescence of the lens. Whether these and other appearances will be of value in radium treatment remains to be seen.

British Medical Journal.

SATURDAY, MAY 8TH, 1920.

ENDOCRINOLOGY AS AN EXACT SCIENCE.

THE speculative philosopher is always with us, and during the last few years has found his chief medical field of activity in the ductless glands and their secretions. Here he has been extremely busy, with the result that the number of such "glands" has grown almost equal to the number of different tissues in the body; while the number of internal secretions and hormones postulated has become no less enormous. Indeed, it may be said, not unfairly, that with many writers who deal with the subject the only proof of the existence of a hormone nowadays required is that it should seem to be demanded by theory. As an example may be quoted the "libidogenous hormone," to which Higier attributes the existence of libido, libido being the term to indicate the instincts of self-preservation and race propagation. The libidogenous hormone, we read, is secreted "in all probability" by the interstitial substance of the testicle; the plain man may perhaps be excused if he prefers to regard it as a typical secretion of balderdash. Such loose fancies as those leading to the invention of "libidogenous hormones" and the like do nothing to aid in the advancement of science.

Professor Gley has recently collected four lectures,[1] delivered at the end of the year 1917 at Barcelona, and they form a useful corrective of the tendency. The whole subject is one which Professor Gley may be said to have made peculiarly his own during the last thirty years, and in these brief, masterly, and well-poised deliverances will be found a summary of present knowledge of the internal secretions. He would distinguish two classes—hormones proper, and harmozones, a word formed from ἁρμόζω (to regulate or direct); the word is intended to be non-committal, for the nature of the substances is unknown, though they must be presumed to exist in order to account for the known action of certain organs on the growth and nutrition of certain others at a distance. The most striking example is afforded by the thyroid, which influences the formation of the skeleton, the growth of the genital glands, and the development of the higher cerebral functions. Another instance is afforded by the interstitial substance of the testicle, a gland producing an internal secretion which determines the development of the special characters of the skeleton, and of the skin and cutaneous appendages proper to the male; further, it would appear that there are formed by the interstitial gland and the pituitary body not only substances which stimulate growth — harmozones — but others, called chalones[2] by Sir E. Sharpey Schafer, which control growth and limit its extent. Professor Gley traces the whole idea of internal secretions back to Claude Bernard's discovery of hepatic glycogenesis in 1855. In the second lecture Professor Gley shows that three criteria—histological, chemical, and physiological—must be satisfied before a gland can be passed as endocrine; and that a hormone cannot be recognized as such until it has been proved to have a definite physiological action and has been found both in the venous blood leaving the gland that secretes it and in the general arterial blood. The method of looking for hormones or internal secretions by the injection of glandular extracts is, he holds, inadequate, and he advances evidence to prove that it has often proved fallacious. Thus recent work on the suprarenal glands tends to prove that the suprarenal cortex and its secretion, adrenalin, have not the physiological importance usually attributed to them. The medulla of the gland may be the essential part; the cortex may be concerned mainly in the elaboration of lipoid substances and cholesterin. Professor Gley maintains that in the past experimental physiologists have often, for want of clear thinking and the neglect of suitable experimental methods, fallen into the error of assuming that the constant physiological action of an organ of internal secretion is identical with that of a large quantity of the extract of an organ suddenly thrown into the circulation. A line of argument often employed here is one that would lead an experimenter using cascara and observing its customary effects to conclude that constipation is an expression of hypocascarism.

Professor Gley admits that the experiments of Bayliss and Starling on secretin fulfil all the conditions he requires; they show conclusively that this substance is produced by the mucous membrane of the duodenum when acted upon by hydrochloric acid, and is carried by the blood to the pancreas, which is stimulated to activity; he recognizes also that the existence of a galactogenic hormone producing lactation and of a testicular harmozone may be taken as proved, though their existence cannot yet be regarded as certain. Much more uncertain is the secretion of hormones and harmozones by the hypophysis, the pancreas, the liver, the thyroid, the thymus, the testis, or the corpus luteum. Here is a fruitful country for further study, and Professor Gley points out the road that experimental physiologists must follow and the pitfalls into which so many of their predecessors have fallen. In his fourth lecture he describes the revolution in biological science produced by the notion and investigation of internal secretions.

The study of these lectures may be warmly recommended to medical men and others interested (as indeed we all are) in the progress of knowledge of the endocrine glands. It is a matter of great practical importance; it is also of great theoretical interest, but has here the weakness of lending itself too readily to hasty and speculative misinterpretation. Professor Gley may be accepted as an authoritative guide in all these matters both of fact and fancy, and his lectures will help to raise endocrinology from the slough of guesswork and hypothesis into which it has been precipitated by the enthusiasm of some—by no means all—of its exponents.

[1] *Quatre leçons sur les sécrétions internes.* Par E. Gley, Professeur au Collège de France, etc. Paris: J. B. Baillière et Fils. 1920. (Post 8vo, pp. 154. Fr. 6.)

[2] χαλάω = to check. *The Endocrine Organs.* London. 1916.

RADIUM THERAPY.

THE report for 1919, by Mr. Hayward Pinch, on the London Radium Institute, is a document of more than ordinary interest and well worthy of study, not only by those directly concerned with the administration of radium, but by members of the profession generally, since in it an attempt is made to define some basis for prognosis. Many difficulties in this respect remain, but Mr. Pinch has succeeded in indicating some of the factors, and we think that anyone who will read the full account published elsewhere in this issue (p. 640) will be convinced that he is actuated by a desire to give an impartial opinion.

He is to be congratulated upon the facility he shows in conveying to readers so much in words so few and so well chosen. Whilst on the whole the record of the year's work only emphasizes the results of previous years, three points appear worthy of special attention. In the first place, and speaking somewhat generally, there appears to be a tendency to emphasize the importance of using larger quantities of radium for the treatment of definitely malignant conditions. A second point of importance relates to the results he has obtained in the treatment of cancer of the uterus, and it is evident that increasing experience is suggesting that radium treatment of this condition should no longer be confined to so-called inoperable cases. For many years past radium therapy has been held to be justifiable only in cases in which operation was considered to be contraindicated; and although many results were obtained, surprising, perhaps, not so much from the point of view of cure as from that of amelioration of symptoms and the prolongation of life, it was not thought reasonable to apply radium to operable cases. More modern methods of dosage, together with a better appreciation of dosage and its effects, are undoubtedly pointing in the direction of radium therapy in earlier cases—even in those which are operable. A careful consideration of the part of this report dealing with uterine cases should be recommended to those whose special work brings them in contact with numbers of these unfortunates.

The third point to which special attention should be given is the effects of radium on those who have to prepare the various applicators, and who spend their lives, so to speak, in an atmosphere of radium. There is a warning as to the extreme care it is necessary to exercise. Apart altogether from the direct effects upon fingers and hands due to handling emanation tubes and applicators, there are the constitutional effects, due no doubt to prolonged radiation by gamma rays. It is found that after a certain time definite blood changes make their appearance, the white corpuscles falling well below 4,000 in the cubic millimetre, and at the same time the red corpuscles diminish in number. The same thing has been noticed amongst workers in *x*-ray departments, and it can hardly be doubted that the more general use of Coolidge tubes has increased these dangers. It is laid down in the report of the Radium Institute that no nurse or attendant habitually applying apparatus should work continuously for more than three months, and that this period should be followed by a change of occupation or a rest for an equal period of time; and, moreover, that all these workers should have at least two clear holidays a week to be spent in the open air. In the past not sufficient attention has been paid to the constitutional effects produced in workers with radium and *x* rays; in the case of the latter especially, who very often have to work for long hours in small, badly ventilated rooms, with inadequately protected apparatus, some drastic changes in the conditions of work will have to be made. Hospital authorities in the future must be prepared to deal more generously with the staffs of these special departments in regard to hours of work, holidays, and times for out-of-door life.

THE ROYAL ACADEMY.

THE one hundred and fifty-second exhibition of the Royal Academy of Arts, which opened to the public on Monday last, provides the usual medley of colour and gives the art critic his usual opportunity for blaming the academicians for their neglect of certain modern schools of painting. The ordinary sightseer, however, bent more upon enjoyment than criticism, will find much to interest him and a good deal to admire. The old bad practice of filling the walls with pictures from floor to ceiling seems to have been abandoned finally; almost every picture is now, so to speak, hung on the line and can be studied without fatigue. The first thing to attract notice in Gallery I is the presentation portrait of Sir Clifford Allbutt, painted last November by Sir William Orpen, R.A. The strength and dignity of the portraiture, the fine feeling for character, and the masterly handling of form and colour, make this picture worthy of the artist and of his subject. The first glance shows that it has been painted with real enjoyment. The expression is a little stern, but not severe, and all who know the doyen of our profession will say that the hands are as true to life as is the countenance. The inscription runs: "Sir Clifford Allbutt, K.C.B., M.D., F.R.S., Regius Professor of Physic in the University of Cambridge; President of the British Medical Association. Presented to him by his Profession, 1920." In the room set apart for drawings, engravings and etchings, is hung an unfinished proof of Mr. H. Macbeth-Raeburn's striking and sympathetic mezzotint engraving of the portrait; to be seen at its best it should be studied at not too great a distance. Other medical pictures in this year's Academy are an unmistakable profile in oils of Sir Charles Ballance, by W. W. Ouless, R.A.; a small but decorative painting of Dr. William Hunter in doctor's robes, by Eleanor Fortescue-Brickdale; Hugh Riviere's open-air study of Mr. and Mrs. Eardley Holland; and a spirited portrait of Surgeon Captain P. W. Bassett-Smith, R.N., by C. Ross Burnett, whose eye may perhaps have resented the magenta facings of the F.R.C.S. gown against the scarlet and gold of the naval rank badges. This is not the place to discuss the features of the exhibition in general, but we may note the curious effect upon one artist of painting the portrait of a gentleman with jaundice—a fine but distressing picture that speaks eloquently of the later stages of disease. Another portrait by the same painter has a slight icteric tinge, and a fainter echo of xanthocroic vision may be perceived in the nude figure dominating his third exhibit. If for nothing else, the 1920 Academy would be noteworthy for Walter Bayes' "Oratio Obliqua" and for Orpen's pictures; but in many respects it is well above the average of recent years.

THE ANNUAL DINNER AT CAMBRIDGE.

THE Master and Fellows of St. John's College, Cambridge, have very kindly invited members of the Association to dine in the College Hall at 8 p.m. on Thursday, July 1st, as guests of the College. As the seating accommodation is limited to 200 it will be necessary to ballot for tickets. Members who would wish to accept this invitation should therefore send in their names to the Local Secretaries, British Medical Association, The Medical Schools, Cambridge, before June 25th.

SECTIONS AT THE CAMBRIDGE MEETING.

THE following programme has been arranged for the Section of Surgery, which will meet under the presidency of Sir George Makins, during the annual meeting at Cambridge next month. On Wednesday, June 30th, a discussion on the surgical treatment of gastric ulcer will be opened by Sir Berkeley Moynihan and Dr. Charles H. Mayo. On July 1st a discussion on the surgical treatment of cancer of the rectum will be opened by Mr. W. Ernest Miles and Mr. Grey Turner. On July 2nd a discussion on the end-results of injuries of the peripheral nerves treated by operation will be opened by Sir William Thorburn and Mr. Percy Sargent. The discussions will begin at 10 a.m. each day and will end at noon. The following papers will be read at 12 o'clock: June 30th, Mr. Frank Kidd, treatment of calculi in the lower third of the ureter; July 1st, Lieut.-Colonel R. H. Elliot, diagnosis of glaucoma; July 2nd, Mr. Herbert Tilley, inflammatory lesions of the nasal accessory sinuses from the standpoint of the general

physician and surgeon. Demonstrations will be given in the afternoons by Major Meurice Sinclair on the treatment of fractures; by Mr. H. D. Gillies and Mr. Percival Cole on the plastic surgery of the face; by Mr. Tilley on endoscopy of the lower air passages and gullet; and by Mr. Arthur Cooke and Mr. Adrian Stokes, on the technique of blood transfusion. The Medical Education Section will meet on Thursday, July 1st, from 10 a.m. to 1 p.m., under the presidency of Sir George Newman, who will give an address. A discussion on Preliminary Scientific Education in the Medical Curriculum, will be opened by Professors S. J. Hickson, Arthur Keith, Ernest Rutherford, J. Lorrain Smith, and A. Smithells, who will deal respectively with the subject from the standpoints of biology, anatomy, physics, pathology, and chemistry. The Naval and Military Section will meet on Wednesday, June 30th, at 10 o'clock, under the presidency of Colonel Joseph Griffiths, who will introduce a discussion on the Army Medical Service in its relation to the education and training of newly qualified medical men. It is hoped that the importance of this subject to the profession generally will secure an adequate discussion; those desirous of taking part are requested to communicate with the president. At 2.30 p.m. Sir G. Sims Woodhead will give a demonstration on the purification of drinking water in the field. Further demonstrations for the afternoon are invited; early notice should be given.

PUBLIC OPINION AND PREVENTIVE MEDICINE.

THE annual Lady Priestley Memorial lecture of the National Health Society was delivered at the house of the Royal Society of Medicine by Sir George Newman, K.C.B., Chief Medical Officer of the Ministry of Health, on April 22nd. Sir James Crichton-Browne, F.R.S., Chairman of the National Health Society, presided, and H.R.H. Princess Christian, the president, attended the lecture and presented diplomas to the Society's students. The subject of the lecture was "The place of public opinion in preventive medicine." Sir George Newman said that the increase of physiological and pathological knowledge which had occurred during the last fifty years showed that disease resulted from definite causes which in a large and increasing measure were controllable. Public and personal health had become purchasable, and the business of preventive medicine was to make human life better, larger, and more useful, and to prolong our days. In spite of the improvement in national health shown in the mortality tables, three important sources of evidence proved that the English people suffered from very defective physique. Ten years of medical inspection in elementary schools had shown that one million children were so defective as to be unable to derive reasonable benefit from their schooling; the insurance returns for 1914-16 showed that more than half the insured persons in England and Wales received medical treatment every year; and in 1917-18, of the 2,000,000 recruits examined, only 36 per cent. were in full health and strength. The coming of the Ministry of Health would lead to new attacks on the strongholds of disease, but "as the science of Government becomes more representative of the aspirations of the people as a whole, so also its practice becomes more dependent upon their education and equipment; only an educated people is an effective and healthy people." Not only technical instruction in hygiene was required, but also an informed humanism which welcomed and understood the growth of medicine and accepted its results boldly and gladly on behalf of all mankind. Much of the impaired health of the country was due to public ignorance and neglect of the proper way in which to secure adequate nutrition, fresh air, and exercise. Economic conditions permitted, as a rule, the purchase of sufficient food, but among the great mass of workers there was ignorance of the right food to buy and how to cook it. Lack of knowledge and dominance of bad habit prevented also the use of the means for adequate ventilation in houses, schools, and factories. A complete national scheme for the provision of facilities for all forms of healthy physical recreation was necessary. The need for exercise was common to both sexes, and if music and dancing, golf, hockey, and tennis were good for any young woman, they were good for all. By maintaining a clean mouth and clear breathing passages, and by abstinence from spitting, sneezing, coughing, or shouting at others, people might go a long way towards the prevention of pulmonary tuberculosis, influenza, poliomyelitis, and cerebro-spinal fever; infantile mortality, as well as the incidence of dyspepsia, septic wounds, and other groups of diseased conditions, could be lessened by the diffusion of some simple knowledge of their causation. The whole child and adolescent population of all social grades and classes should be given a knowledge of personal health and an experience of the practice of hygiene—the habit of healthy living. A new opportunity for such teaching occurred in the continuation schools, attendance at which was now compulsory. All doctors, nurses, midwives, health visitors, sanitary inspectors, and welfare workers should be missionaries of hygiene. It was impossible to over-estimate the value of the admirable work done by voluntary health societies, or the significance of the newspaper press as an educative agency. Lastly, the Government itself could not be absolved from its share of responsibility in begetting a wise public opinion in health matters.

THE VIRUS OF EPIDEMIC ENCEPHALITIS.

STRAUSS, HIRSHFELD, and LOEWE just a year ago published a report[1] of some experiments in the pathological laboratory of Mount Sinai Hospital, New York City. They stated that the intracerebral injection of an emulsion of brain tissue in salt solution from a fatal case of epidemic encephalitis produced in monkeys lesions resembling closely those in man; that the inoculation of washings from the nasopharynx in a case of epidemic encephalitis filtered through a Berkefeld N filter produced the disease, and that it could be conveyed to another monkey. Another series of experiments published later[2] showed that the filtrable virus obtained from the nasopharyngeal mucous membrane of fatal cases of epidemic encephalitis produced lesions similar to those found in the human brain; it had been carried through four generations of rabbits, transmitted to monkeys in the fifth generation, and then brought back to rabbits. They stated that the virus could be recovered from the nasopharynx of animals inoculated intracranially. About half their rabbits showed natural immunity, and one monkey afforded evidence of acquired immunity. They also stated that the cerebro-spinal fluid from a fatal case of encephalitis caused the disease in rabbits. Mackintosh and Turnbull[3] throw doubt on the results of the experiments in New York; they suggest that some other virus must have been present, partly on the ground that gross haemorrhages which have not occurred in cases of human lethargic encephalitis were observed. The New York observers, however, in their second paper rejected this suggestion in anticipation, stating that they had found typical microscopic lesions at a distance from the haemorrhage, and also that one of their strains, which at the earlier inoculations manifested a tendency to produce haemorrhage, at subsequent inoculations yielded the more varied lesions found in human brains. The New York observations have been confirmed by Levaditi and Harvier[4]; they state that the virus is easily transmitted from rabbit to rabbit, that it can be preserved in glycerin, that it passes easily through Chamberland filters (1 and 3), and that by a certain number of passages through the rabbit its virulence for the monkey appears

[1] *New York Medical Journal*, May 3rd, 1919.
[2] *Journal of Infectious Diseases*, 1919, p. 378.
[3] *British Journal of Experimental Pathology*, April, 1920.
[4] *Bulletin de l'Académie de Médecine*. T. 83, p. 365 (April 20th).

to be increased, and it becomes virulent also for the guinea-pig. They consider that its behaviour towards animals shows that it is quite distinct from the virus of epidemic poliomyelitis. In a note on the organism published last October [5] Loewe and Strauss stated that cultivation, whether aërobic or anaërobic, of the material on ordinary laboratory media gave negative results, but by using the Noguchi method they obtained a growth which was manifested on the fifth to the seventh day by clouding of the medium in certain tubes; when recultivated on ordinary laboratory media it was proved to be free from contamination. The growth in the solid medium appeared as minute colonies. In smears from them stained with Giemsa solution or methylene blue after preliminary fixation, small globular purplish or bluish objects were seen, sometimes singly, sometimes in pairs, sometimes in chains or clumps. This organism resembled that described by Flexner and Noguchi in poliomyelitis, remained virulent in cultures for a period of at least six weeks, and had been carried to the twelfth generation.

GOVERNMENT POLICY AS TO HOSPITALS.

OUR Lobby Correspondent writes: Statements of a somewhat sensational character in London daily papers have created some misapprehension as to the attitude of the Government in regard to the problem of securing adequate hospital accommodation for the community. When the Ministry of Health Bill was introduced it was stated officially that after it came into operation there would be further legislation to reform the Poor Law system, and since then Dr. Addison has intimated that he would in the course of time introduce a Health Services Bill. This announcement and statements as to the lack of sufficient hospital accommodation in some areas led to questions as to the Government's intentions in regard to hospital services. Dr. Addison replied at various times that he could not put forward any general policy until he had before him the report of the Medical Consultative Council, which on its formation last autumn was instructed "to consider and make recommendations as to the schemes requisite for the systematized provision of such form of medical and allied services as should in the opinion of the Council be made available for the inhabitants of a given area." This report, it appears, has been completed and is in the hands of the Minister of Health, who meanwhile had received an application from Bradford for sanction to carry out an agreement between the corporation of that city and the board of guardians for the utilization of St. Luke's Poor Law Hospital as a municipal general hospital to supply the deficiency in existing accommodation. The proposal was sanctioned by the Ministry of Health, and on April 14th, in reply to a question as to whether this was indicative of a new policy, Dr. Addison said that, pending further legislation which was being prepared, he would deal on its merits with each application for sanction for a hospital to be provided by a local authority. That is really where the matter stands. There is good ground for saying that the Minister of Health does not intend to introduce a bill specially to deal with the provision of hospitals. But he does propose to include in a general bill provision to enable counties and county boroughs to establish hospitals if they think fit, and if they are able to satisfy the Ministry in various respects. The legislation will be optional, not compulsory. The idea probably will be to make or take units of area and to sanction the setting up of such additional accommodation as may be needed to make good deficiencies. Some hope has been expressed by Dr. Addison that a certain amount of progress might be made this session with the measure he proposes to introduce, but the expectation that time will allow such a bill to have the attention of Parliament within the present year is faint. It is even doubtful whether there will be an autumn session, and unless there is it can hardly be in contemplation to proceed with a Health Services Bill.

[5] *Journal of the American Medical Association*, vol. lxxiii, p. 1056.

OPHTHALMOLOGY AND THE PUBLIC.

THE report of the Council of British Ophthalmologists on the work it has done since it was founded two years ago shows that it has rendered very useful services. The Council has met on nineteen occasions to consider subjects thrashed out for it by committees consisting of London and provincial ophthalmologists with, when it seemed desirable, the help of others possessing special knowledge and experience. Two reports dealt with education; the recommendations of the one, on the need for improved training of medical students in the subject, was not accepted by the General Medical Council; but the other, on the need for a higher qualification in ophthalmology, has been fruitful; Oxford instituted such a diploma some time ago, and we publish elsewhere particulars of the regulations for the diploma in ophthalmic medicine and surgery to be granted by the Royal Colleges in England. The conclusions of a report on the vision of men engaged in motor road transport was accepted by the leaders of the men concerned, and has been adopted by the police authorities in London and elsewhere. Members of the council have served on the London County Council Committee dealing with the lighting of cinemas and eye strain. Committees have been appointed to consider the standardization of test types and the notation of cylinder axes, and a report has been issued on the standard illumination of tests of visual acuity. A committee has also been appointed to consider the question of sight testing by opticians. Two representatives of the council have been appointed to serve on the Visual Optics Subcommittee of the Advisory Committee on Technical Optics. The council is prepared to advise on any questions of ophthalmological interest arising in connexion with national industries or public services, and the spirit in which its work is done is evidenced by the fact that its expenses have been defrayed by its members.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

THE annual dinner of the West London Medico-Chirurgical Society was held at the Hotel Great Central on April 29th, with the President, Dr. Herbert Chambers, in the chair. After the loyal toasts has been honoured, Sir Robert Armstrong-Jones, C.B.E., proposed the Imperial Forces, paying a warm tribute to all those who had given their services on behalf of country and the Empire. In their replies, Surgeon Rear Admiral Sir Robert Hill, K.C.M.G., Medical Director-General R.N., and Lieut.-General Sir John Goodwin, K.C.B., D.G., A.M.S., expressed the gratitude and appreciation of all ranks of the regular forces for the invaluable aid given to them by the civilian medical profession. Each Director-General spoke also of the debt owed by very many of his officers to the excellent post-graduate courses at the West London Hospital. The toast of prosperity to the West London Medico-Chirurgical Society was proposed by Sir William Hale-White, K.B.E., who in an interesting speech mentioned some of the leaders of the medical profession who had served as presidents of the Society or as Cavendish Lecturers; and he ended, as he began, by complimenting the Society upon the vigour and enthusiasm with which it maintained its activities. The President, in acknowledging the toast gave an outline of the year's work and foreshadowed an early increase in the very modest subscription of 5s. a year. He then announced that the Society's Triennial Gold Medals, founded by Dr. Phineas Abrahams, had been awarded to Mr. G. E. Gask, C.M.G., D.S.O., and Dr. T. R. Elliott, C.B.E., D.S.O., in recognition of their signal services during the war in connexion with penetrating wounds of the thorax. He then handed one medal to Mr. Gask, explaining that the presentation to Dr. Elliott must be deferred until his return from abroad. Mr. Gask

was very warmly cheered on rising to acknowledge the award. On behalf of his colleague and himself he said that they wished it to be clearly understood that they claimed only a share in the great advances made during the war in thoracic surgery; their fellow worker, Pierre Duval of the French Army, by working along parallel lines, had reached similar conclusions with regard to the indications for operating and the method to be followed. He preferred to regard the award as including recognition of many colleagues whose work had helped to bring about success, including the administrative heads of the regular R.A.M.C. for their constant and open-handed support. The health of Kindred Societies and Guests was proposed by the Mayor of Kensington, Dr. A. J. Rice-Oxley, C.B.E., and responded to by Mr. V. Warren Low, C.B., President of the Medical Society of London, and Dr. Leonard Williams. A successful evening was brought to a close with the toast of The Chairman, proposed by Sir D'Arcy Power, K.B.E., and briefly acknowledged by Dr. Chambers.

DR. WILLIAM RUSSELL will give the George Alexander Gibson Memorial Lectures before the Royal College of Physicians of Edinburgh on Monday and Wednesday next, May 10th and 12th, at 5 p.m. The subject of the lectures is the sphygmometer in practical medicine.

Medical Notes in Parliament.

Medical Men and the Motor Car Tax.

IN the course of the debate in Committee of Ways and Means on the Budget, on April 27th, Sir Eric Geddes (Minister of Transport) said that the effect of the proposed change in the taxation of motors would be that the more a man used his car the less would the tax hit him. The car owner who used his car only for week ends and who did not use it regularly like the doctor was the man who was worse hit; but he was not badly hit. In the letters which the Ministry had received from two large central selling corporations it was stated that they were giving 7d. reduction in petrol, as soon as the 6d. tax came off; and thus those two very deserving users of motor cars—the doctor and the veterinary surgeon—would get an advantage which was not shown in the statement at all.

Dr. McDonald made a strong appeal on behalf of medical men throughout the country. He said that the Medical Committee of members of that House had met a strong deputation of the British Medical Association, which had urged them to point out that medical men had hitherto enjoyed a rebate. With the increase in taxation of motor cars now taking place many medical men in the country districts would be very hardly hit indeed. Those who had hitherto paid £3 3s. would be called on for £20. He asked that medical men should be allowed a rebate of half the tax as in the past.

Dr. Murray said that under the present regulations medical men were allowed a rebate on the petrol tax—not as a special favour to the profession, but for the reason that the medical man had to use his car for very necessary work. He believed that medical men generally would have preferred that the duty on petrol should have been retained, because they had some justification for feeling that if abolished, the advantage would go ultimately into the pockets of petrol proprietors. If the Minister of Transport stuck to the tax on power rather than on petrol, he ought to apply to medical men under the new regulations the same principle as applied to them formerly. Otherwise they would be very hardly hit. They would also suffer, because in some parts of the country they had to keep two cars, as they could not afford to wait if their ordinary car broke down until it could be repaired. He suggested, therefore, that the tax should apply to one car only, provided there was reasonable ground for thinking that only one car was used at a time. He asked the Minister to bear in mind also that in hilly districts very high power cars must be employed. He had seen many so-called hills in his part of the country which in Scotland would be termed gentle undulations, suited probably for exercise by people suffering from heart disease.

Sir Eric Geddes did not reply, and the resolution was agreed to. The matter will come up again at a later stage. The deputation from the British Medical Association to the Ministry of Transport is described in the SUPPLEMENT.

Departmental Inquiry on "Shell Shock."

Lord Southborough in the House of Lords, on April 28th, called attention to the different types of hysteria and traumatic neuroses, commonly called "shell shock," and to move for an inquiry, either by select or departmental committee, into the expert knowledge derived by the army medical authorities and the medical profession, with the object of recording for use in time to come the experiences of the war, and to advise whether, by military education or otherwise, some scientific methods of dealing with such cases could be devised.

Lord Southborough said that he was inclined to think that what in this war had commonly been called "shell shock" had occurred in previous wars, and that amongst its victims were many whose conditions were never properly understood and who suffered the death penalty. There was a fairly general consensus of opinion here, in France, and in America, that varying and differing types of hysteria or traumatic neurosis were common in civil life, well understood by medical practitioners and frequently met with after railway and other violent accidents.

If it was a fact that a true identification of the disorder was wanting in the early months of the war, then he feared that through inadvertence and want of knowledge dreadful things might have happened to unfortunate men who had, in fact, become irresponsible for their actions. It was clearly not long, however, before our army medical authorities, in common with the French, fully realized the gravity of the disorder. They appreciated that any one who understood hysteria would be well on his way to understand shell shock. The wonder was that the vast number of boys taken from civil life stood firm and sound in mind and body to the end. There was evidence, however, that shell shock or hysteria was not confined to the untrained soldier. Seasoned soldiers, marked for bravery, were often attacked. This meant, no doubt, that in some cases, after wear and tear, the nervous system refused to do more. It also probably meant that the seasoned soldier had already suffered from shell shock, had been invalided home, and then returned to the front. It was worth while to inquire whether, when a man had been badly damaged by shell shock, it was safe, either for himself or his comrades, to allow him to return to the fighting line. Other questions also deserved consideration. There were many thousands of cases of shell-shocked men discharged to pension or invalided out of the service; and some investigation, not of individuals, but of classes, might be expedient. Were there not a very large number of men doing nothing but drawing their pensions whose health might be greatly improved by an organization designed to give them a little work at the beginning? Again, as regards the cases which did not offer hope of recovery, was the treatment given to them the most desirable? Was it wise that various classes of the disorder should be mingled together? Coming to the cases in which dereliction of duty was followed by court-martial, and in some instances by the death penalty, Lord Southborough expressed the hope that if a committee were appointed the War Office would keep back the names of the unfortunate men even from the committee itself, using a number for a name. But the committee might privately consider the evidence to see whether any other course could have been taken in regard to some, at any rate, of the men—not with the object of revising a verdict as to any particular man, but for guidance. The real question in these cases was whether there was a loss of will power. He gathered that where a plea of insanity was entered at a court-martial the medical officer was not allowed to report generally on a prisoner's state of mind. Was it not a fact that a prisoner before a court-martial on a charge of malingering was in a worse position than he was before a civil court? Judges in recent years had approached the position that responsibility might be abrogated by loss of control, if arising from mental disease and infirmity, and not from the accused person's own conduct. Lord Southborough asked whether it would not be possible to prepare the minds of the soldiers against the disasters of hysteria and neurosis. Dr. Morton Prince, a distinguished physician of Boston (Massachusetts), held that it might be driven into the soldier's mind as part of his ordinary training that shell shock was a form of hysteria due to his own thoughts and fears, and external suggestion arising from the conditions of the modern battlefield, and that so long as he received no physical injury there was little danger to be apprehended from the disaster. Those familiarized with the risks of their employment were less liable to neurosis as the result of a violent accident. But, however this might be, soldiers after recent experiences naturally had a dread of disaster. He submitted it was worth considering whether some method of giving confidence might not be

devised. In conclusion Lord Southborough expressed his preference for a Departmental Committee of Inquiry.

Lord Horne, as a general officer who had had the honour of commanding large forces in the field, supported the motion, holding that there was a tremendous field for research open. Referring to the courts-martial, Lord Horne said that when a death sentence or long term of penal servitude was involved, or when there was any case open to doubt, the matter came before a higher commander, who was advised by officers with unrivalled knowledge of military law, and if there was any suspicion that the crime was caused by shell shock the sentence was not confirmed until the accused had been under observation by medical authorities. He thought it extremely probable that some method of training soldiers to endure the strain of war better might be devised; but he suggested that the term "shell shock" should not occupy people's minds too much lest it should affect their nervous tension. Courage was merely a form of nerve control, and bravery as exemplified by some highly organized people was on a much higher scale than it was on the part of a man of lower mentality.

Lord Haldane, who said that he had reviewed probably more courts-martial than had any other man in this country, expressed agreement with the grounds of Lord Southborough's motion. His own opinion was based not on his experience of courts-martial, but on close conversations with eminent experts on shell shock and analogous conditions. People might have received the impression that shell shock and its results were something peculiar to persons of a nervous temperament. If so, that would not be very easy to distinguish from what shaded into want of physical courage, but in reality a great deal of shell shock and its consequences were due to quite different causes. He had had before him privately cases of persons who thought themselves very much aggrieved by their convictions by courts-martial, principally in the early stages of the war. They said they did not know what they were doing. The tribunal could not find them insane in view of what had happened, and put it down to an affection of the nerves very difficult to distinguish from physical cowardice. But now it was known that want of mental control was in a great many cases the result of an actual physical cause. For instance, the shock of an explosion might physically inhibit the action of the nerves which controlled breathing; the supply of oxygen to the blood, and therefore to the brain, might be impaired. The result was that the individual was for the time being, and perhaps for some time after, a different personality. He might be permanently in the position of having his reason impaired. The inquiry would be much more than a question for the ordinary experts. Even the most careful inquiry in the present state of knowledge would encounter difficulties in reaching definite results. All that could be done, he thought, was to collect the very valuable body of evidence which had been got together lately; its value, however, could only be appreciated by expert investigation. It had too often been the custom, because a man was a very eminent medical man, to ask him to investigate a branch of a very great science which had ramifications with which he was not familiar. A small body of picked men of the highest eminence in this particular branch of investigation should be got together who could roughly, at all events, lay down certain standards.

Lord Peel (Under Secretary for War) said that no doubt cases of "shell shock" had occurred in former wars, but were not recognized as such, and of course the number of troops engaged had vastly increased this particular form of damage. Whether before the information now accumulated had been obtained cases of injustice had occurred it was impossible to say, but immense trouble was taken that no person should be condemned to death unless for very grave and most serious reasons, and unless all the different causes of mistake had been eliminated. The instructions issued for courts-martial were that where the soldier in his defence, or in mitigation of punishment, made a substantial plea on medical grounds, a medical witness was invariably to be called, either to substantiate or rebut the case before the finding, if it was in defence, and afterwards if it were urged in mitigation of punishment. What happened in practice was that the court adjourned and a medical board was held. On the adjourned hearing one or more members of the board would be called as witnesses, to give evidence as to the facts observed and the conclusion from these facts. A mental specialist was always included if there were any suggestion of shell shock or any other kind of mental or nervous derangement. If no such board was held, and if by reason of something which transpired afterwards there was the slightest ground for further inquiry, the army authorities or general head quarters would order a medical board to examine and report before any action was taken to confirm the proceedings or to carry out the death sentence. No death sentence was carried out in any theatre of war unless it was confirmed by the Commander-in-Chief of the force. Each force was accompanied by a Judge Advocate-General, who was consulted by the Commander-in-Chief before the proceedings were confirmed. The number of cases in which the death penalty was carried out was small. For cases of cowardice 18 death sentences were carried out, and 266 for desertion. The total number of sentences carried out was 343, which showed that the two particular offences mentioned embraced much the larger proportion of the whole 343. The total number of death sentences actually passed on officers and men was 3,076—a percentage of 11.15 of the whole. These figures covered every theatre of hostilities, and the whole period from August 4th, 1914, to December 31st, 1919. The Government felt that great advantages might be obtained from the inquiry suggested by Lord Southborough. Many of the nervous and mental conditions encountered were entirely new to many of the medical officers concerned, and there had been a great many expressions in different medical journals of their individual views. Such investigation as was suggested would be of value in co-ordinating all the opinions and experience gained during the war, and it would be of great value also for the purposes of discipline. It would, however, be very wrong if such a committee were to investigate cases already settled, and he was glad the motion had been so drafted as not to involve this. The composition of the committee must be a matter for consideration. There would have to be upon it men of expert knowledge, but it must also be considered whether perhaps from the discipline side some lawyers should not be included, and perhaps some soldier also, who though he had not the medical experience of the experts was familiar with the conditions under which these cases arose. It might be wiser to have a mixed committee of that kind than one consisting wholly of experts, but that could be discussed later. The suggestion for a departmental committee was accepted by the War Office.

Hospitals for Mental Cases.—Replying to Major Entwistle, on April 27th, Mr. Churchill said that the number of mental cases which had passed through Warrington Hospital since August 4th, 1914, up to March 31st, the date of the last report of the present year, was 8,410. The statistics up to the end of 1919 were as follows: Number of cases treated, 8,127; discharged to their homes recovered, 3,657; discharged to asylums, 1,026; transferred to other military mental hospitals or repatriated overseas, 2,433; died, 108; remaining in hospital, 903. The statistics for Whitchurch Hospital from the date of opening to October 31st, 1919, were as follows: Number of cases treated, 1,862; discharged to their homes recovered, 1,102; discharged to asylums, 446; died, 33; remaining in hospital, 281. The hospital was closed on January 2nd of the present year.

Midwives.—Asked by Mr. Briant, on April 28th, what steps, if any, the Ministry proposed to take to secure that an adequate supply of midwives should be available, Dr. Addison said that according to the last report of the Central Midwives Board, the number of women entitled to practise as midwives on March 31st, 1919, was 44,166; but the number who gave notice of their intention to practise in 1918 was only 11,293. No useful estimate could be made of the total number of midwives required. The shortage which existed in some districts was due to the fact that the number of cases within reach was too small to enable a midwife practising independently to make a living. The Ministry of Health had continued the policy of the Local Government Board of urging local authorities and nursing associations to subsidize midwifery in the more scattered districts, and of paying grants in respect of such subsidies. By this means the proportion of the rural population served by trained midwives had increased since 1917 from 51 per cent. to 65 per cent., and steady progress was being made. Nearly all the County Councils and County Nursing Associations had framed schemes for extending the midwifery service of their county. A number of local authorities in urban areas had also, with the assistance of the Ministry, subsidized the provision of trained midwives in parts of their districts in need of this service. A grant in aid of the training of women as midwives was administered by the President of the Board of Education.

Expenses of the Ministry of Health.—The total estimate for the expenditure of the Ministry of Health in the year ending March 31st, 1921, is £27,572,797. Out of this total £21,859,000 is for housing. The grants for maternity and child welfare amount to £300,000, for the treatment of tuberculosis £700,000, in respect of venereal diseases £300,000, for the welfare of the blind £109,000. The grant promised to port and riparian sanitary authorities is estimated at £67,000. The estimate

for contributions, benefits, etc., in England under the National Insurance Acts amounts to £9,096,800; this includes special grants for medical referees of £155,000 and for sanatorium benefit £45,000. The estimate for the Welsh Board of Health, including grants amounting to £54,000 for the treatment of tuberculosis, is £129,220. To this is to be added statutory contributions and special grants totalling £604,000. The estimate for the expenses of the National Insurance Joint Committee is £402,330—almost the same as last year. The total amount of the estimate for the Scottish Board of Health is £3,949,279; this includes £2,910,664 for housing grants. The estimate for the Local Government Board, Ireland, is £1,729,441, an increase over the previous year of £1,493,121, mainly accounted for by grants for housing. The expenses of the National Insurance Commission, Ireland, are estimated to be £442,380, an increase of £5,435, the chief item under which the increase has taken place being salaries, wages, and allowances.

Medical Degrees in East Africa Protectorate. — Mr. Waterson, on April 14th, again raised the question whether persons holding Indian University medical and law degrees, such as L.M. and S. and B.A.B.L., who are eligible to practise medicine and law in India, were allowed to so practise in British East Africa. Lieut.-Colonel Amery (Under Secretary for the Colonies) said that Indian medical degrees or diplomas were recognized in the East Africa Protectorate, provided that they entitled the holder to registration in the United Kingdom. The general question of the position of Indians in East Africa was under consideration between the Secretary of State and the Governor of the Protectorate.

Dangerous Drugs.—On May 4th the Home Secretary introduced a bill to regulate the importation, exportation, manufacture, sale, and use of opium and other dangerous drugs.

Answers in Brief.

Mr. Chamberlain states that the corporation tax is not devised as a tax on the individual, but as an impersonal tax on the profits of a company prior to distribution. No question of recovery by an individual shareholder therefore could arise. A person whose entire income of £100 a year is derived from company dividends must suffer with the rest.

A Member was advised on April 27th that he should supply any information in his possession as to the conduct of massage establishments in London to the London County Council, the responsible body.

The ventilation of the House of Commons is again being considered by the First Commissioner of Works with the assistance of officials of the National Physical Laboratory.

There are now 20 homes of recovery under the control of the Ministry of Pensions, and 2,383 men are under treatment.

Mr. Montagu is still awaiting the views of the Government of India as to what increases are to be made in the pensions of the widows, children, and dependants of deceased officers of the Indian Army, the Indian Medical Service, and the Royal Indian Marine. He has marked the matter "Very Urgent."

Mr. Montagu is in communication with the Government of India as to whether any assistance can be given to officers who were invalided from the service on comparatively small pensions.

The sick berth branch of the navy has now been nearly reduced to peace numbers, and promotions will therefore shortly be resumed. A report has been called for as to the alleged shortage in sick berth ratings in the Royal Naval Hospital at Haslar.

The number of ex-service disabled men in training on April 18th was approximately 21,000, of whom 8,000 began their training during the present year.

Mr. Law has promised to bring under the notice of the appropriate Government Department the allegation that unwholesome foreign manufactured whisky is now being imported into this country, and that even in Scotland there is being dumped cheap American whisky.

An After-care Committee established in Hull to deal with persons who have received sanatorium treatment has produced a striking improvement in the condition of the patients discharged. Asked whether "after-care" may be made an integral part of the scheme for combating tuberculosis and receive liberal financial encouragement from the Treasury, Dr. Addison said, on April 28th, that the financial arrangements were under consideration.

The Minister of Pensions hopes to be able to announce within the next fortnight his decision regarding the provision of half-fare vouchers to ex-service men undergoing treatment away from home.

Of the large number of British prisoners of war taken by the Germans 222 were still unaccounted for when the British Military Mission closed its inquiry. No similar inquiry had been made in Turkey, as any information obtained would be of small value.

Dr. Addison stated, on April 27th, that the financial arrangements which will be necessary on the termination of sanatorium benefits was under consideration, and he hoped to make an announcement at an early date.

It is estimated that an "all trading profit tax" of 5s. 6d. in the pound would be required to yield the equivalent of the Excess Profits Duty and Corporation Profits tax.

The number of Poor Law children in receipt of institutional relief on January 1st of this year was 59,283; the number in receipt of outdoor relief (including children boarded out) was 138,380. There were in the sick wards of workhouses 2,496 over 3 years of age and 2,326 under; in other wards the numbers were 3,084 and 2,914 respectively.

Asked on May 3rd whether the Discharged Soldiers Committee of the Citizens Committee of Birmingham was finding difficulty in dealing with orthopaedic cases in consequence of the masseuse staff being too small, Major Tryon said that the necessary additions to the staff would be made as soon as possible.

Two cases of small-pox have recently occurred in Bolton, one ending fatally. The medical officer of health has reported that the first case was that of a woman employed at a cotton mill, and that it is possible she contracted the disease from infected cotton.

The Minister of Health has given instructions that wherever practicable vacancies occurring on local Advisory Blind Committees shall be filled by blind persons, until at least one-third of the Committee (excluding representatives from local authorities) consists of blind persons.

The number of retired regular naval and military medical officers employed by the Ministry of Pensions on a sessional basis who are drawing pensions is 152, being 5 per cent. of the total number of medical men so employed. The maximum number of sessions is eleven a week, but owing to the number of medical men available for the work the average number of sessions a week which can be given to each officer is less.

AN AMERICAN HOSPITAL IN LONDON.

CONSIDERABLE progress has recently been made, both in England and the United States, with the organization of the American hospital for London; as we announced at the time, the hospital was founded at a meeting of the Royal Society of Medicine on July 17th, 1919, when Lord Reading was in the chair. A governing council was appointed, with Mr. Franklin, F.R.C.S., as honorary secretary. The American committee has now received a cablegram from ex-President Taft acepting the presidency of the institution in the United States; Lord Reading has accepted a similar position in Great Britain, and Lord Bryce is vice-president.

The plans have been carefully considered by an influential committee of American citizens resident in London, and steps are now being taken to incorporate the institution according to the laws of the State of New York, and a campaign will then be opened to raise an endowment fund of several million dollars. Under present conditions a large building scheme is hardly desirable, but the committee hopes to open a temporary building for the accommodation of patients early in the coming autumn.

The resolution by which the American Hospital was founded laid down that one of its most important aims was "to act as a link in binding together the two nations for the advancement of medical science as affecting the welfare of humanity." For many years past American graduates who desired to continue their medical education in Europe settled almost as a matter of course in Berlin or Vienna, where special opportunities were freely placed at their command by the German and Austrian authorities. Since 1914 conditions have changed, and the leading members of the American colony in London have determined that American graduates who come to Europe shall find in London all the facilities they were formerly offered on the Continent. This decision has received the fullest support of the British medical profession. The Medical Committee in Great Britain includes Sir Arbuthnot Lane, Bt., Sir Humphry Rolleston, Sir John Bland-Sutton, Sir John Y. W. MacAlister, and Mr. Philip Franklin, whilst the similar committee in the United States consists of such well known physicians and surgeons as Dr. George W. Crile (nominated by the American Academy of Science on International Relations), Dr. W. J. Mayo and Dr. Charles H. Mayo of Rochester, Dr. A. H. Ochsner of Chicago, Dr. Rudolph Matas of New Orleans, and Dr. Franklin Martin of Chicago.

The organization of the American Hospital is thus becoming of considerable international value, whilst in medicine it presents great possibilities.

The American Committee in London is proceeding steadily with its plans for the future. The social side is not being neglected, and in July the authorities of the hospital will entertain at dinner in London one of its American colleagues, Dr. Charles Mayo of Rochester, Minn., who is coming to this country to attend the Annual Meeting of the British Medical Association in Cambridge, where he will take part in the proceedings of the Surgical Section.



Scott and Wilkinson] BACK OF CLARE COLLEGE. [*Photo, Cambridge.*

EIGHTY-EIGHTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, CAMBRIDGE. 1920.

EVOLUTION OF THE MEDICAL SCHOOL
(continued).

As mentioned in the previous article (BRITISH MEDICAL JOURNAL, April 10th, p. 505) Humphry succeeded to the Professorship of Human Anatomy in 1866, and George Paget to the Regius Professorship of Physic in 1872. Neither of them was young when appointed, Humphry being 46 years of age and Paget as much as 62; but their work and influence had begun many years before.

Paget succeeded, as early as 1842, in persuading the University to institute bedside examinations for its medical degrees, and these were the first regular clinical examinations held in the United Kingdom. His other innovations may seem less radical, but were not less real. His service to the school consisted largely of a strenuous advocacy of everything that made for its advancement, such as the creation of Departments of Physiology and Pathology and the encouragement of all branches of Natural Science. His courteous and tactful manner succeeded where more aggressive methods might have failed. He spent the whole of his professional life in Cambridge, was Linacre Lecturer on Medicine at St. John's College from 1851 till 1872, and Representative of the University on the General Medical Council from 1863 till 1869.

Humphry came to Cambridge as a general practitioner, and in 1842, at the age of 22, was appointed surgeon to Addenbrooke's Hospital.

"He at once began to give clinical lectures and systematic teaching in surgery. In 1847 he was invited to act as deputy to the professor of anatomy [Clark], and he gave the lectures and demonstrations upon human anatomy from 1847 to 1866. . . . The Museum of Anatomy and Surgical Pathology engrossed much of his attention, and many of his holidays were spent in journeys designed expressly to secure specimens to fill its shelves. As an anatomist he was one of the earliest workers who attempted to bring human anatomy into line with the growing science of morphology."[1]

He entered Downing College as a fellow commoner in 1847, graduated M.B. in 1852, M.D. in 1859. In 1869 he succeeded Paget as representative of the University on the General Medical Council.

When Humphry began the teaching of anatomy the accommodation for dissection was only a small room adjoining the Anatomical Museum or Rotunda in Downing Street; and the lecture theatre in the same building was a mean room which would admit but a small class. Under his management the number of students increased until it became necessary, in 1879, to build a considerably larger dissecting room, and to hold the lectures in the larger theatre which had been built for zoology and comparative anatomy.

In the Natural Science Tripos Human Anatomy was at first admitted only as a branch of Comparative Anatomy. But Humphry's teaching invested the subject with so much more of the scientific spirit than was usual at the time, that he succeeded in getting Human Anatomy admitted as a separate subject in the Tripos from 1876 onwards.

At the appointment of Humphry the Professorship of Anatomy was subdivided, the comparative side being transferred to a new Professorship of Zoology and Comparative Anatomy, of which the first tenant was Alfred Newton of Magdalene College. Three years before his appointment new buildings had been commenced, including a museum which for its time was large and convenient. Under Newton's administration the department was greatly advanced, and the comparative collections received large additions, to which Humphry as well as Newton contributed.

The organization both of the museum and of the teaching was carried out chiefly by John Willis Clark of Trinity College, son of William Clark, the Professor of Anatomy, and nephew of Robert Willis, the Jacksonian Professor and eminent antiquary. He was appointed Superintendent of the Museum of Zoology when the professorship was instituted. A man of very versatile talents, he served the cause of science at Cambridge in many ways, but attained more distinction as an antiquary than as a zoologist. Sir Arthur Shipley, in his *Memoir of John Willis Clark*, tells us that an entirely new era in the teaching of zoology in the University was begun in 1871, when J. W. Clark, with the assistance of his friend T. W. Bridge (afterwards Professor at Birmingham), began for the first time to give courses of practical work, in which the students actually dissected the animals instead of watching a dissection by the professor, and were encouraged to make permanent preparations for their future use.

Humphry desired that the University should appoint a professor of surgery, and offered to accept the appointment without stipend and to resign the professorship of

[1] Sir D'Arcy Power, in the *Dictionary of National Biography.*



Hills and Saunders] GREAT COURT OF TRINITY COLLEGE. *[Photo, Cambridge.*
Showing Chapel, Fountain and west front of Great Gate.

anatomy. This change was carried out in 1883, and Humphry held the new professorship until his death in 1896. The professorship of surgery was a move towards the ideal, which Humphry always cherished, of making a *complete* medical school in Cambridge; but in this matter very few persons shared his views, for it was obvious that the town and neighbourhood of Cambridge were not populous enough to supply the necessary clinical material. Addenbrooke's Hospital is admirable for the first few months of clinical work, but after that the student should proceed to one of the great cities.

Through the influence of Paget and Humphry, and on the recommendation of Huxley, Michael Foster was brought to Cambridge to create the School of Physiology. He came in 1870 as Praelector in Physiology at Trinity College; the University did not give him a professorship until 1883. At first a couple of rooms in the zoology building were assigned to his department; these were not convenient, and the supply of apparatus was meagre; but Foster soon gathered around him many enthusiastic students, and from these he selected a number of demonstrators. His first demonstrator was H. Newell Martin, whom he brought from University College, London. Subsequent demonstrators trained in his Cambridge school were Gaskell, Sheridan Lea, and the present Professor of Physiology. For the growing department new quarters were provided in an extension of the zoology block of buildings in 1879; and eleven years later additional rooms were built, including a large lecture theatre for the joint use of the Professors of Human Anatomy and of Physiology. These buildings were used by the Physiological Department until the opening of the handsome Physiological Laboratory presented by the Worshipful Company of Drapers.

Paget, Humphry, Foster.

The writer had the privilege of working for several years under these three pioneers—Sir George Paget, Sir George Murray Humphry, and Sir Michael Foster—and on that ground he ventures to record his personal impressions of them, speaking in the first person, as his views may be influenced by personal bias.

In Paget the most striking characteristic was his extreme courtesy under all circumstances. His manner to patients was gentle and sympathetic, but authoritative, inspiring them with confidence to an unusual degree. His discussion of cases in hospital was critical and interesting, but (in later years at all events) he did not enter into commonplace details; he left these to be discussed between the students and the house-physician. He was already old when I first met him; and though he was still agile and keen, his more strenuous work for the School was finished.

Humphry was the most inspiring teacher I have ever known. He delivered his expositions not merely with earnestness but with enthusiasm, and in lecturing he seemed to speak to his pupils individually rather than as a class. His language in lecturing was informal, even colloquial. He never stooped to be funny; but his lectures, like his conversation, were often illumined with boyish gaiety and laughter. He often tested the success of an exposition by asking questions upon it, and if anyone happened to fall asleep at lecture, he was sure to be aroused by a question. Humphry always lectured sitting, and surrounded with abundant means of practical demonstration—real specimens, diagrams, and blackboard; and he enhanced the objectivity of his lectures by frequent reference to instances which had come under his own observation. He paid great attention to the functional aspect of all features and to their evolution. His enthusiasm was most pronounced over the mechanism of the joints, in many cases so exquisite, though he was not blind to the shortcomings of Nature, the failures of evolution, as for instance in the inadequacy of the external ligaments of the ankle. But he paid no attention to trifling details, such as are learnt only for examination, to be soon forgotten, or if remembered, to occupy room in the memory which is needed for more useful things. It was customary to call his anatomy "Humphryology," and to say that it was of no use for any examination but his own. It might not have sufficed for the "First Fellowship," but some of his pupils can testify that it did not fail them in other examinations.

Foster's mode of lecturing was in diametric contrast to

that of Humphry. His language was literary, carefully weighed, almost without a superfluous word. His method was strictly critical, and I cannot remember his ever betraying enthusiasm; he seemed to fear the possibility of over-statement, or the suspicion of advocacy. He never used any demonstration or objective illustration at lectures, not even a diagram, except such as he rapidly and skilfully drew on the blackboard—and wiped off immediately, so that his pupils had not time to copy it, or could only copy it incorrectly. All this was intentional. He said to me in after-years: "I don't wish my pupils to have anything to divert their attention from *what I have to say*." He objected especially to the optical lantern in teaching, saying that it was a method of obscuring one's exposition.

I was too much interested to criticize his lectures unfavourably, and no doubt many of his students were as satisfied as I was—but not all; a few complained that the lectures were intolerably dull and uninforming. As I look back on these lectures I think that, though brilliant expositions, they were a survival of the lecturing method of the Middle Ages, and not suitable for natural science, the teaching of which should be objective and practical.

His forte was organization: his department worked with remarkable regularity. He had the faculty of getting a number of men to carry out his arrangements thoroughly and willingly. In this way he delegated not only the practical demonstrations, but the lectures on special branches of the subject, to his lecturers and demonstrators. I do not remember to have seen him handle any apparatus but the microscope, and that to examine preparations made by others. He seemed to absent himself a good deal from his laboratory, but kept in touch with everything. If in spite of best intentions anything went wrong, he would remind the responsible person, not by a reprimand, but by a kindly hint that he depended upon him to prevent a recurrence.

If a student came to him with some new idea or a proposal for original investigation, Foster's intensely critical reception of it was liable to act as a wet blanket. This critical attitude probably deterred Foster from carrying out any important original work after his student days; he would probably not have trusted his own results. He had a particular objection to speculation, and did a good service in checking the publication of speculative ideas as if they were discoveries. Of course, speculation is useless except as an incentive to investigation, but without a speculative mind the scientist can hardly advance. The explorer must always imagine something beyond the visible horizon.

CORRIGENDUM.

In the last article, published on April 10th, it was implied that the Macartney collection was moved from the old to the new anatomical museum. This is incorrect, the Macartney collection not having been purchased until 1836, four years after the building of the Rotunda.

England and Wales.

THE CARLISLE EXPERIMENT IN LIQUOR CONTROL.

DR. HENRY BARNES, O.B.E. (Carlisle), has forwarded the following brief account of the fourth annual report of the General Manager.

Sir Edgar Sanders, the General Manager for the Central Control Board (Liquor Traffic) of the Carlisle and District Direct Control Area, in his report for the year 1919 (which has been issued as a Parliamentary White Paper [Cmd. 666], price 2d. net), briefly summarizes the measures which the special position of the Board at Carlisle has enabled it to take. The summary does not pretend to be exhaustive; it is a catalogue of facts only, and not of results:

1. The reduction of the number of licences in the City of Carlisle from 119 to 69.
2. The suppression of all grocers' licences.
3. The limitation to a reasonable number of the places where "off" sales of spirits are conducted.
4. The abolition of advertisements of intoxicants.
5. The limitation of the sale of intoxicants to young persons.
6. The appointment of salaried managers in all the Board's houses having no pecuniary interest in the sale of intoxicants.
7. The provision of food at public-houses.
8. The improvement of the structure and arrangements of many of the public-houses.
9. The provision of tea-rooms in country inns.
10. The permanent closing of two out of the four breweries in Carlisle.
11. The bottling of beer at one centre instead of a dozen, with its resulting economy.
12. The establishment of one up-to-date spirit store, instead of the wholesale trade being carried on at thirteen different places.
13. The organization of the whole trade in intoxicants on an economical and co-ordinated business footing, and the consequent prevention of overlapping.

In dealing with the supply of food on licensed premises it is noted that in addition to the Gretna Tavern six public-houses have been reconstructed as "food taverns"; the plan was described in the account of the report for 1918, published on April 19th, 1919, p. 487. The houses chosen were situated in different parts of the city, and were designed to cater for all classes of the community. The reconstruction in each case includes up-to-date kitchen accommodation and a dining-room, separate from the bar, where cooked meals are served and where in most instances cooked food can be purchased and taken away for home consumption. That these houses are appreciated is shown by the fact that their trade in food in 1919 amounted to £18,648, and the number of meals supplied for "on" and "off" consumption was about half a million in the year. Intoxicants can be obtained with the meals if desired, but it is a much more usual custom for a man to have his meal in the dining-room and then go through to the bar for a drink and a smoke afterwards. The popularity of these reconstructed houses is evident from the large numbers who frequent them. In Carlisle, where the distances are not great and most people live near their work, the food taverns, which have been well placed, go far to meet what demand there is for food and light refreshments.

The accounts of the undertaking for the year ending March 31st, 1919, which were published last October and appear as an appendix to this report, show that the capital involved at that date was £853,550, and that the total trading profits for the year were £137,985. After providing for interest on the money supplied by the Exchequer and for all the ordinary trading charges, the net surplus accruing to the State for the year was £96,518. This sum gives a return of nearly 12 per cent. on the average capital involved, in addition to the interest already provided for. In other words, there was for that period a full return of 17 per cent. on the whole capital employed. The accounts for the year ending March 31st, 1920, have not yet been completed, but interim accounts were prepared for the half-year to September 30th, 1919, and sufficient is known of the results for the year to state that the surplus which will accrue to the Exchequer in replacement of the capital cost of the undertaking will not be less than during the previous year. Assuming this to be the case, the accumulated surplus at March 31st, 1920, will amount to not less than £300,000. Taking into account the gradual accumulation of the capital, there will have been paid off up to March 31st, 1920, on that basis, upwards of one-half of the average capital employed from July, 1916. These facts indicate that, so far as the financial aspect of the scheme is concerned, it has been a success.

The number of convictions for drunkenness at Carlisle was actually smaller by two in 1919 than 1918; in the country generally the number was almost doubled. The Chief Constable of Carlisle, in his report to the justices for the year 1919, said:

> The continuance of sobriety I attribute almost entirely to the system under which intoxicants are sold in Carlisle, where none of the managers have any interest in the amount of liquor sold, and all are given strict instructions not to serve customers who appear to have had enough. I am unable to account for it in any other way, for while Carlisle is unique in its licensing system, it is subject to all the causes just mentioned, which in the country generally have contributed to a very decided increase in drunkenness. There can be no question in the minds of careful and impartial observers that the direct management of the licensed trade by the Control Board has been of great benefit to the city.

The general manager mentions various facts which throw light on the feeling of the public, which is one that cannot be estimated with any degree of accuracy. As to the customers, all that can be said is that if there were any real signs of discontent they would soon be apparent. Very few complaints of substance are made, notwithstanding that interested parties may try to persuade the public that

they are being badly treated. The managers assert that whereas there was loud grumbling when it was necessary to curtail the supplies drastically under the Food Controller's orders, now that the supplies are adequate the amount of grumbling is negligible. On the other hand, the customers appreciate what has been done for them in the way of improved conditions. It appears to be incontrovertible that any proposal to hand back the licensed trade to private interests would be received with dismay by the great majority of the inhabitants. At Carlisle the system of direct control has greatly improved the conditions under which the liquor trade is carried on. There have been put into operation most of the generally accepted temperance proposals made during the last half-century. This has been done without any sacrifice of the reasonable rights and privileges of the community, and without undue interference with the liberty, tastes, and preferences of the great mass of the adult population.

WHOLE-TIME MEDICAL APPOINTMENTS UNDER THE WORCESTERSHIRE COUNTY COUNCIL.

At a meeting of the Worcestershire County Council, on April 24th, the Chairman stated that difficulty had arisen in securing applicants for the ten whole-time appointments authorized by the council in connexion with the medical service scheme for the county. Two doctors had applied, but when the council endeavoured to insert the advertisement in the BRITISH MEDICAL JOURNAL and the *Lancet* it was informed that advertisements could not be accepted offering a lower salary than £500 per annum for such posts. A letter had also been received from the Ministry of Health expressing doubt whether tuberculosis officers, who should have special qualifications and experience, could be secured for the salary offered—namely, £450. The chairman objected to this sort of pressure, and to "allowing the medical press to dictate to the council."

Dr. H. E. Dixey said that when the price of living was considered, £500 was not an extravagant sum to be paid to a whole-time medical officer, and reminded the council that the doubts expressed by the Ministry of Health had found confirmation in the report of the medical officer of health on the scheme. He proposed that the committee should be authorized to advertise for eight assistant medical officers at a commencing salary of £500, rising to £600 per annum by annual instalments of £25; that the two medical officers already appointed should be placed on the same footing; and that the two senior assistants should have special advisory functions and should receive a salary of £600 per annum, rising to £700. The council was aware of the necessity of the scheme, and would, he hoped, agree to these proposals; of the increases, amounting to £650 a year, which were contemplated, half would be paid by the Board of Education. Dr. F. W. J. Coaker seconded the motion.

Other members protested that the county council should not submit to the treatment accorded them by the medical press. One member was not satisfied that the officers could not be obtained for £450 a year, and proposed first to try to do so; it would then be time enough to discuss an increase. Dr. Dixey recalled a somewhat similar situation which arose some years ago when the council decided to advertise in the lay press, and the chairman said he thought that although they got some applicants in this way they did not appoint any of them. Mr. G. E. Wilson said that this was not a new policy on the part of the medical press, and recalled certain advertisements for asylum medical officers issued some time ago by the council. Mr. C. Dalley thought that £500 a year for a trained medical man was not an extravagant sum; the council would be unwise to play with this matter. Dr. Broughton alluded to the serious shortage of doctors, which would be felt more in three or four years' time than to-day. In the end an amendment was carried by 34 votes to 23 that the appointments should be advertised at £450 a year in the London daily papers.

In March, 1915, the Worcestershire County Council authorized the appointment of an assistant school medical officer at a salary of £350 a year, inclusive of travelling expenses. The net salary offered was less than the minimum approved by the British Medical Association, and for some months, the county council's advertisement having been refused, a notice was printed in our columns. In October, 1915, the county council decided to abandon the proposed appointment, probably for the duration of the war. Possibly these are the events to which the members of the council allude; it seems clear in any case that the Worcestershire County Council in the past has not been unacquainted with the difficulties which it makes for itself by its unwillingness to pay reasonable salaries.

Scotland.

VILLAGE SETTLEMENTS FOR TUBERCULOUS EX-SERVICE MEN.

THE Scottish Board of Health has issued to local authorities a circular letter[1] summarizing those sections of the Departmental Committee's Report[2] of August, 1919, which deal with village settlements. Such settlements, which are intended primarily for discharged soldiers or sailors, should, it is said, adjoin and be closely related to a sanatorium and training colony; they should provide permanent employment, with housing accommodation for the patients and their families. The Committee suggested the provision of ten village settlements in Great Britain; on this basis, in Scotland one, or perhaps two, should be set up. The Treasury has not yet decided to make available the capital grant of one million pounds which, according to the suggestion of the Departmental Committee, should be provided for the erection and financing of settlements; nor is it expected that it will until constructive proposals are made by the Ministry of Health and the Scottish Board. The immediate purpose of the latter body is to invite local authorities responsible for administration of tuberculosis schemes to devote attention to the best methods for the foundation of village settlements; the full bearings of this question will be discussed at a conference shortly to be summoned.

MALARIA IN SCOTLAND.

The Scottish Board of Health has issued to local authorities a memorandum[3] pointing out that there are in Scotland many men who had malaria when serving with His Majesty's forces, and that among them may be persons carrying the parasites in their blood. The presence of the anopheline mosquito has been recorded in Aberdeen, Dumbarton, Fife, Inverness, Lanark, Midlothian, Perth, and Sutherland; climatic conditions are likely to limit its activities to the months of May to September, inclusive. The attention of medical men is drawn to the possibilities of the occurrence of indigenous cases of malaria among the civil population; children, especially such as are ill-clad or ill-nourished, are said to be particularly susceptible. To facilitate diagnosis the Board has made an arrangement whereby blood specimens sent by local authorities will be examined at the laboratory of the Royal College of Physicians for a fee of 10s. 6d. Malaria has been notifiable in Scotland since August 1st, 1919.

INFLUENZA-STRICKEN ST. KILDA.

The life of St. Kilda, a small island some seven miles in circumference far out in the Atlantic, to the west of North Uist, has been suspended by an epidemic of influenza and pneumonia. The news was brought by the trawler *Active*, which sailed again for the island from Aberdeen on May 2nd with supplies of medicine and comforts. The inhabitants support themselves chiefly on the myriads of sea-fowl that frequent the cliffs of the island; the eggs are collected and the birds are killed for the feathers and for the oil which some species yield. Fishing is perilous, and the care of the few sheep on the island has become impossible, because, of the eighty inhabitants, sixty are or have been ill. The nurse and the parish minister have done their best to cope with the conditions, but the scale of the calamity has been too much for their resources.

SMALL-POX IN SCOTLAND.

Cases of small-pox continue to occur in Glasgow; altogether 49 persons are known to have been affected in

[1] Circular I.D.B., No IX, 1920.
[2] H.M. Stationery Office, Cmd. 317, BRITISH MEDICAL JOURNAL, August 30th, 1919, p. 275.
[3] Memorandum on Indigenous Cases of Malaria in Scotland. Edinburgh: H.M. Stationery Office. (Price 1d. net.)

Glasgow or its immediate neighbourhood; 41 were under treatment at the beginning of this week. Among the earlier cases two groups could be traced to infection brought by sea from India and Alexandria respectively, but the source of the infection of the more recent cases has not been ascertained. The proportion of cases occurring in unvaccinated children remains high, but there is evidence that the public is recognizing the importance of having children vaccinated, as a considerable number are now being brought to the vaccination stations. Over 8,000 persons in the immediate neighbourhoods of the different cases have been vaccinated. A case of small-pox in a young man was notified in Edinburgh at the end of last week; no connexion with the Glasgow cases has been established.

Ireland.

GRAYMOUNT HOSPITAL, BELFAST: SIR H. GAUVAIN'S REPORT.

THE report of Sir Henry Gauvain, M.D., as to the suitability of Graymount as a place for the treatment of non-pulmonary forms of tuberculosis amongst Belfast children was presented to a meeting of the Tuberculosis Committee of the Corporation on April 26th.

Sir Henry Gauvain reported that the objections founded on the clayey soil and the site in the Lagan valley, said to be damp and foggy, were sufficient to render the place unsuitable as a hospital for surgical tuberculosis. The house itself was exceptionally well constructed, but it was costly and generally unsatisfactory to adapt houses built as private residences for the purposes of a surgical hospital, and the levels at Graymount did not lend themselves well to suitable additions. He advised the selection of a suitable site of some 20 acres and the construction of a specially designed hospital, with Graymount as part of the scheme. A hospital at Graymount in the existing buildings, with additional wards, would be expensive and would never be more than a makeshift. He recommended that the hospital should be on the sea front, with abundant sunshine and a considerable foreshore; the soil should be sandy, the rainfall moderate, the country relatively treeless, and the atmosphere pure; hills should protect the site from the north, and rivers should be remote. The patients should have freedom of access to the beach, and the spot chosen should not be overcrowded by holiday makers. There should be no cliffs, and there should be a maximum of reflected light, an ample supply of pure water, facilities for adequate drainage, and easy access to the nearest town. Graymount should be used only as a temporary hospital until a suitable building could be erected, when it might be used as an open-air school for surgical cases, thus relieving the pressure in the hospital itself. The new hospital should accommodate 100 cases, with facilities for extension; the work done should be of the very highest order.

MEDICAL FEES FOR PUBLIC WORK.

At recent meetings of the City of Limerick Medical Association, consisting of practitioners in that town, various important medical questions were considered with regard to (1) medical fees for life insurance examination, (2) the salary of the medical officer attached to the Limerick post-office, (3) surgeon to the Admiralty, (4) fees paid to certifying factory surgeons. The following resolutions were unanimously adopted, and are now in force:

1. That the scale of fees for life insurance examination shall be as follows:

INDUSTRIAL ASSURANCE (WEEKLY PAYMENT SYSTEM).				
Ordinary	Under £100	£0	10	6
	£100 to £500 (inclusive)	1	1	0
	Above £500 and less than £1,000	1	11	6
	£1,000, or any higher sum	2	2	0

2. That owing to the inadequacy of the salary and the multitudinous duties of the medical officer to the G.P.O. the position, which has been vacant for some years past, shall not be applied for; and that the fees shall be 10s. per visit (including certificate) within the borough boundary.
3. That the position of surgeon and agent to the Admiralty be not applied for under existing terms. Fees shall be 10s. per visit (including certificate) within borough boundary, and no duties other than purely medical duties be rendered.
4. *Re* position of certifying factory surgeon: The above association cannot recommend any medical man to apply, owing to extreme inadequacy of fees.

The following resolution has also been passed:

That the rate for contract practice be increased 25 per cent. Same to come into operation from beginning of next quarter.

Correspondence.

DUODENAL ULCER AND THE HYPERTONIC STOMACH.

SIR,—The very interesting lecture by Dr. A. F. Hurst on gastric and duodenal ulcer, published in your issue of April 24th, demands brief comment. Dr. Hurst's observation that duodenal ulcer is associated with a hypertonic stomach, emptying with unusual rapidity, is undoubtedly true in a large majority of cases. But the rule is by no means absolute, for I have recently operated on two cases in which *x*-ray examination showed a low-lying, hypotonic stomach, with considerable delay in emptying, but operation disclosed a definite chronic ulcer in the first part of the duodenum, unassociated with any organic stenosis. In each case the stomach was carefully examined, but there was no trace of gastric ulceration. In neither case had the radiologist been able to obtain satisfactory filling of the first part of the duodenum, so that the characteristic deformity of the duodenal bulb was not seen. The radiographic evidence, according to accepted ideas, pointed to gastric ulcer or simple gastroptosis. The clinical histories pointed to duodenal ulcer and proved to be right.

May I add a mild protest against Dr. Hurst's *obiter dictum*: "Everyone must agree that the surgical treatment of gastric and duodenal ulcer is a confession of failure"? There is a sense in which any operation, as, for instance, partial gastrectomy for cancer of the pylorus, is a confession of the failure of purely medical treatment. But the crux of the matter lies in this test: Does surgery offer the patient the prospect of a quicker, surer, and more permanent cure than medical treatment can give? From surgeons who are regularly dealing with gastric and duodenal ulcers there can be only one answer.

Dr. Hurst's convincing remarks on the relation of hyperchlorhydria to ulcer should remind us of the fact, long recognized but never more conclusively proved than by Mr. Sherren in his recent Hunterian Lecture,[1] that gastroenterostomy is followed by a constant slight regurgitation of alkaline bile into the stomach and a permanent reduction of gastric acidity. It is an undoubted fact that the great majority of patients with chronic ulcer show, after appropriate operative treatment, a permanent tolerance to all foods and freedom from their old periodic dyspeptic crises. —I am, etc.,

Manchester, May 1st. JOHN MORLEY.

ARSENIC IN LETHARGIC ENCEPHALITIS.

SIR,—In the leading article of April 24th on "Types and Treatment of Encephalitis" I was interested to see that the use of arsenic and neo-salvarsan is strongly condemned, as I have recently used neo-kharsivan in a case with markedly beneficial results.

On April 3rd I was called to see a woman aged 55, who complained chiefly of intense headache. There was a history of occasional diplopia recently and dizziness; respiration was rapid (55), pulse 65, temperature subnormal. There were frequent involuntary movements of the lips. During the following days lethargy developed; it was with effort that the eyelids were opened, and they very soon closed again. As I had not previously seen a case of lethargic encephalitis, I requested Dr. J. R. Monro of Spalding, who had some experience, to see the case with me, and he confirmed the diagnosis. On April 9th, symptoms having developed steadily, I gave 0.25 gram of neo-kharsivan intravenously. The next day the patient had obviously improved. On April 11th she did not seem so well; I therefore gave a further injection of 0.3 gram intravenously. She felt very ill some three or four hours later, but next day was much better. This improvement lasted several days, but as her condition did not seem so favourable on April 17th I gave 0.3 gram again. This was again followed by a feeling of serious illness a few hours later—not, however, sufficient for me to be sent for—and the next day the patient was cheery and feeling pretty well. She is still doing well.

My object in sending this brief note is to encourage others who might be disposed to try this drug, but who, in face of the very definite pronouncement of Netter, might refrain from its use.—I am, etc.,

Long Sutton, May 2nd. W. A. WILSON-SMITH, M.D.

[1] *Lancet*, March 27th, 1920.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—Dr. Freer "reminds" me of the war-limited hospital accommodation for civil patients. It was a work of supererogation. The Fabian report to which I referred is dated March, 1914; Mrs. Nevinson's paper which first drew my attention to the run on workhouse beds was early in the war, and of course dealt with the past; and I had limited myself to the end of 1915.

In answer to him, I pleaded the injustice of taxing the thrifty, in need and out, for the sake of the shiftless. His rejoinder, that it is not only the shiftless who have times of stress, seems to lack relevancy, unless it is meant as corroboration of my point.

May I say a few more words to wind up this correspondence? There is a terrible discrepancy between the tuberculous death rate as it is to-day and as it should have been had the rate of fall persisted which obtained under a policy opposite to that of to-day, and the tale of deaths which we had a right to look on as avoidable from 1896 to 1915, already exceeds the deaths in any war previous to the great war. Seeing that the change of policy has aimed at social amelioration, especially of the lives and health of the poor, it is incumbent on the advocates of this change to explain the discrepancy. This duty they disregard, except that now and again they will assign an obvious cause for a rise in any given year or two, a method which leaves much to be desired in explanation of an eighty-years' record or a world record.

I think any fair-minded man will acknowledge that in these columns there has been no satisfactory answer to the explanation I have submitted; indeed, I believe he would admit that my position has been strengthened by the opposition it has met. This much is certain, that while not contradicted by any facts as yet shown, it does explain all the startling facts, and on the world scale. For example, the three countries which in the last forty years of last century showed a rise in tuberculous mortality were exceptional not less in that than in the failure of wages to rise. It explains not only many fluctuations, but the rapid fall, the slackened fall, and the final rise in Great Britain. And it has stood the supreme test of successful prophecy, in that it foresaw a rise after the Insurance Act, and a check to the rise in the later years of the war. As Sir R. W. Philip shows for Scotland, the later years probably reduced the tuberculous mortality which otherwise would have obtained; and the obvious explanation is the complete temporary abolition of poverty among the classes which used to be called, and will shortly again be called, "the poor."

If you take, say, Mr. Harold Cox's letters to *The Times* in 1911 on the Insurance Bill, and compare them with, say, Mr. George's speeches at the time, you will find all the large prophecies of the one have come true and all those of the other falsified. Why should we pursue with unshaken confidence the principles of the false prophet and contemptuously disregard those of the true?—I am, etc.,

Rayleigh, Essex, May 3rd. B. G. M. BASKETT.

TREATMENT OF SEPTIC PERITONITIS.

SIR,—Mr. Steward, in his lecture on septic peritonitis (April 17th, p. 527) says: "A large amount of fluid is poured out, partly as free fluid into the peritoneal cavity. . . . This fluid is highly toxic; consequently the patient suffers from an acute toxaemia." Surely the fluid that is poured out by the peritoneum in response to attack is antitoxic and bactericidal; it only becomes toxic when its defensive powers are exhausted and the resistance of the peritoneum overcome by the invading sepsis. This fluid is Nature's first line of defence against septic infection, and is thrown out at once in order to gain time for the preparation of adhesions, which form her second line of defence.

That this fluid is non-toxic is demonstrated by every-day experience. A child will come in with a temperature of 102° and pulse 120; an acutely inflamed appendix is found, and an abdomen full of turbid fluid; unless this fluid is quite purulent and has the characteristic smell of *Bacillus coli*, the wound is closed without any attempt at drainage. In the morning the temperature and pulse will be normal, or nearly so. If this fluid were toxic the result of this closure would be disastrous, and if it were responsible for the toxaemia previous to operation the symptoms of toxaemia would continue until all the fluid had been absorbed.

Drainage is a difficult and at present a very confused subject in abdominal work. An intra-abdominal abscess cavity may be drained, but in the great majority of cases as soon as the contents are evacuated the walls of the cavity fall in.

When we put a tube into the abdominal cavity it is isolated in a marvellously short time by adhesions between viscera, and viscera and parietes. So certain in its action is this property of the peritoneum that we frequently depend upon it in operations such as those of gastrostomy and cholecystostomy. We know also that adjacent peritoneal surfaces when irritated will be strongly adherent in less than twelve hours. It seems certain, then, that so long as the peritoneum retains its power of forming adhesions it will isolate a tube or tubes in twenty-four hours. When the peritoneum has lost this power to form limiting adhesions, it means that Nature's resistance is at an end, and though in this case the tube may function as a drain, it will be quite useless in face of the unlimited spread of septic infection.

Certainly at the end of forty-eight hours, probably at the end of twenty-four hours, the great majority of tubes are draining nothing but their own track, and while they are doing this they are also helping on secondary infection, stimulating irregular intestinal movements, and so assisting in the spread of the infecting organisms, and are probably scrubbing a hole in the intestinal wall, with the possible production of a faecal fistula.

Surely, in face of the facts, we should recognize that the function of a drain is simply to facilitate the escape of deleterious matter to the surface of the body. A drainage apparatus should only be retained until it is reasonably sure that exit to the surface is freer than penetration in any other direction.

Mr. Steward omits to mention the two places where a drain is really seen at most advantage: these are those cases of pelvic abscess which can be drained into the vagina or rectum; even here it is not good to leave a drain in for more than a few hours. In the first case quoted by Mr. Steward it seems most probable that the paralysis of the ileum was due to trauma from the tube.

I cannot see that Carrel tubes will act in any way different to the usual; they will be more numerous, and constant irrigation may to a certain extent militate against the formation of adhesions, though this is not altogether to the good. The constant stream of saline may be useful in retarding a secondary infection, but it may be equally effective in aiding the spread of the primary infection, especially if it hinders the formation of adhesions. Case I would, I think, have done quite as well with dependent drainage through the vagina. Case II does not convey any conviction of the superiority of the method, in view of its subphrenic abscess and empyema. Case III is just an ordinary one, with nothing very remarkable about its recovery. Case IV would have done equally well with vaginal drainage.

With regard to pituitrin, it has seemed to me on several occasions rather to favour the development of cardiac weakness, and that its action is in no way better than that of eserine or strychnine.

I have written at length because Mr. Steward's lecture appeared to me to tend to encourage the undue retention of tubes—a practice which is too prevalent already.—I am, etc.,

Watford, April 29th. J. C. BARKER.

AORTITIS AND AORTIC REGURGITATION.

SIR,—Dr. Fisher (April 24th, p. 586) expresses the opinion that in my remarks I have not laid sufficient stress upon the associated myocarditis. The fact that the syphilitic virus gives rise to arteritis, aortitis, endocarditis, and myocarditis is known, but how to apportion the signs and symptoms to the separate lesions is difficult. The cases of aortic regurgitation in which myocarditis is the most dangerous lesion are probably the most numerous. On the other hand, in cases in which retro-sternal pain and dyspnoea on effort—or even at rest—are the most prominent symptoms, I would consider the aortitis to be the more important factor.—I am, etc.,

Belfast, April 26th. JOHN E. MACILWAINE.

Obituary.

SIR HENRY BURDETT, K.C.B., K.C.V.O.

WE regret to record the death of Sir Henry C. Burdett on April 29th, at his house in Porchester Square. His services in the cause of the voluntary hospitals, and his knowledge of hospital administration and finance during more than fifty years had earned for him a unique position in the hospital world.

Henry Charles Burdett was born in March, 1847; his father was the rector of Gilmorton, Leicestershire, a living which had been held by members of the Burdett family for several centuries. He began life in a Birmingham bank, but at the age of 21 was appointed secretary to the Queen's Hospital in that city. His great ability and enterprise soon became evident in that post, and he had a large share in linking up under one management the two medical schools which then existed in Birmingham. There also began his life-long concern for the training and welfare of nurses. In the early seventies his interest in medicine induced him to enter as a medical student at Guy's Hospital. It may be doubted whether he seriously thought of going on to qualification, but his period of medical study gave him an insight into hospital matters from a new angle, and in after-life he always took pride in speaking of himself as an old Guy's man. In the autumn of 1874 he was elected superintendent of the Seamen's Hospital at Greenwich. In 1883, when he was appointed secretary of the Share and Loan Department of the London Stock Exchange, he was elected to the Committee of Management of the Seamen's Hospital Society; in 1896 he was elected a vice-president and so remained until his death. Despite the responsibilities of the new work in the City he maintained his keen personal interest in the voluntary hospitals and showed it in many ways. Thirty years ago he published the first edition of *Burdett's Hospitals and Charities*, an indispensable yearbook of reference on matters relating to hospitals and other philanthropic institutions. In introducing the last edition to the public, Sir Henry Burdett spoke of the happiness he had derived from "fifty busy years in the cause of the sick, their treatment, nursing, and progressive welfare," and added that this might be the last preface that he would address to the readers of "Burdett." During his Stock Exchange days, which ended in 1897, and afterwards, his eloquent appeals on behalf of charitable objects charmed many thousands of pounds out of the pockets of rich men. He did a great service to the nursing profession by organizing, thirty years ago, the National Pension Fund for Trained Nurses and Hospital Officials. In this he had the active support of King Edward and Queen Alexandra (then Prince and Princess of Wales), who entertained for him a high regard and showed it often. In the year of the Diamond Jubilee his public services were rewarded by the K.C.B., and in 1908 King Edward created him a K.C.V.O. Sir Henry Burdett was the active spirit in starting what is now the King's Hospital Fund for London; he never missed a meeting of the council from the foundation of the Fund in 1897 until last year. He had an important share also in the foundation of the League of Mercy. Again, he was the acknowledged originator of the uniform system of hospital accounts; others improved and extended it, but the idea was his.

Sir Henry Burdett was a voluminous writer on hospital and nursing topics, on finance, and on various aspects of politics and public life. He was the founder and editor of the *Hospital*, a weekly organ of administrative medicine and institutional life, while the *Nursing Mirror*, which began as a supplement to that paper but has long been issued separately, gained great popularity under his guidance. He paid many visits of inspection to the hospitals of the United Kingdom, and during his foreign tours he studied the work and organization of medical charities in the United States and on the Continent. The outcome of these inquiries was his large work *The Hospitals and Asylums of the World*, in four volumes, with a comprehensive portfolio of plans. He had an almost fatherly feeling towards medical matters and the work of the medical profession. He missed no opportunity to use his influence in the advancement of medical science and practice, and showed warm interest in post-graduate education. At the annual meeting of the British Medical Association at Brighton in 1913 he took part by invitation in a discussion on "Hospitals in Relation to the State, the Public, and the Medical Profession" in the Section of Medical Sociology. He there expressed the view that, but for the services the hospitals were rendering, the Insurance Act would be a dead letter. He argued, too, that if only for financial reasons a whole-time salaried state medical service would never come to pass. Lady Burdett, whom he married in 1875, was a daughter of the late Mr. Gay Shute, F.R.C.S.; she died last year.

A former colleague writes: Those who at any time worked in close association with Sir Henry Burdett and visited him at The Lodge, Porchester Square, knew him as a kindly, hospitable, home-loving man. Until quite recent years, when death took one after another from the home circle, he was singularly happy in his family life. He was always to be found in the large library on the ground-floor, everlooking the lawn, where he spent a large part of the day, and did most of his work. Even through a personal talk he never could quite subdue the instinct for oratorical effect, for the dramatic pause with glittering eye and wide-armed gesture. His books and articles were dictated to an invisible audience, and as a result his literary work had often something of the diffuseness and floridity of platform speech, with the characteristic personal touch caricatured a little by cold print. Nevertheless he was an accomplished and alert journalist, eager for the success of his papers and well versed in the various branches of editing and publishing. His mind in general moved along large lines towards large objectives; but, while he much preferred to depute the working out of details to others, he could if need be get down to the smallest parts of a big scheme and handle them with bold dexterity. He was a man of strong and commanding personality, by no means an "intellectual" but with very great mental powers. The qualities that especially stand out in the memory of Sir Henry Burdett are his unquenchable enthusiasm, the bigness of his ideas and projects, and his persuasive eloquence. As a colleague he was most kind, courteous, loyal, and considerate; he could not be shaken from his opinions, but when he said he would do a thing he kept his word.

A. J. CHALMERS, M.D., F.R.C.S.,
Khartoum.

WE announced some time ago the death in Calcutta from pneumonia of Dr. A. J. Chalmers, who was best known to the profession as the author, with Dr. Castellani, of the large *Manual of Tropical Medicine*, which is the most comprehensive and detailed work on the subject in existence. Albert John Chalmers was born in Manchester in 1870, and received his medical education in the University Colleges of Liverpool and London. As a student his career was brilliant; he graduated M.B., Ch.B.Victoria in 1890, and in the same year was appointed Holt Fellow of the Liverpool College, a position he held for two years. When he graduated M.D.Vict. in 1893 he took the Gold Medal. He became F.R.C.S.Eng. in 1895. In 1897, probably more from a desire to become acquainted with tropical life than from any intention to follow it as a career, he joined the West African Medical Service; he served in the Ashanti war of 1900, was a member of the garrison that fought its way out of Coomassie, was mentioned in dispatches, and received the medal with clasp.

He was appointed registrar of the Ceylon Medical College in 1901 and did much to improve its organization and raise the standard of teaching, which is now at a high level. When he resigned in 1902 he gave full bent to his inclination to devote himself to the parasitology, bacteriology, and general pathology of tropical diseases. One outcome of this period was his share in the *Manual*, the first edition of which appeared in 1910, and the third last year. He afterwards gave much attention to pellagra and travelled widely, some of his journeys being made with Dr. Sambon to study the distribution of the disease, the occasional occurrence of which in England he was one of the first to recognize. He became Director of the Wellcome Tropical Research Laboratory at Khartoum in 1913, and since then has been responsible in whole or in part for a long series of papers on a large variety of subjects in tropical medicine. He was a member of the Sanitary Board,

of the Sleeping Sickness Commission and of the Archaeological Committee of the Sudan. Dr. Chalmers was industrious and accurate in research, and had a wide and intimate acquaintance with the rapidly growing literature of the department to which he had devoted himself. His premature death while on a holiday journey eastward round the world is a loss to tropical medicine.

DR. JOHN LIDDLE CROMBIE, who died at North Berwick on May 1st, aged 77, was for many years associated with the health offices of that well known and popular watering place at the entrance to the Firth of Forth. He graduated M.D. at Edinburgh University in 1863, having taken the diplomas of L.R.C.S. and L.R.C.P.Edin. in the previous year. After acting as house-surgeon to Perth Infirmary his lot was cast in North Berwick, where he quickly gathered together a large private practice. He became parochial medical officer and medical officer of health, as well as certifying factory surgeon. For a time he was Surgeon-Colonel (V.D.) 7th V.B. Royal Scots, and he was also surgeon and agent for the coastguard. He was honoured by his professional brethren by being elected a member of the Harveian Society, and his interests outside medicine were shown by his connexion with the Berwickshire Naturalists' Club.

To all who knew Dr. JOSEPH WILLIAM HUNT, who practised so long in Hackney, the news of his death on April 17th, after a long and trying illness, will come as a sense of loss, for though a man of retiring disposition, contented quietly to do his daily round of duty, he was endowed with abilities out of the ordinary, and a character of no common elevation. He was born in 1851 in Canada, where his father was a missionary. He came to England when 12 years old and entered University College Hospital Medical School with an exhibition at an early age. He took the degree of B.Sc.Lond. in 1876 and in the same year at the M.B. won a gold medal in medicine; in the following year he won the gold medal at the M.D. examination. After holding the appointment of house-physician to University College Hospital he became resident medical officer; he then went to Wolverhampton, where for four years he was physician to the General Hospital. In 1881 he settled in practice at Hackney in partnership with the late Dr. Daly, and soon won the affection and respect of his fellows. He had held the office of vice-president of the Metropolitan Counties Branch and chairman of the City Division of the British Medical Association; he was also at various times president of the East London Clinical Society and the Aesculapian Society. He was an earnest churchman, and lived a self-denying, consistent, and useful life. For many years he was the local secretary to Epsom College, and his work as one of the trustees of the Spinstowe Charity, and for the deaf and dumb at the Asylum at Clapton, was much valued.

Universities and Colleges.

UNIVERSITY OF OXFORD.

MR. EDWARD WHITLEY has offered to the University the sum of £10,000 towards the endowment of a professorship of biochemistry, and the British Dye-Stuffs Corporation has made a donation of £5,000 towards the cost of extending the laboratory of organic chemistry. Decrees accepting these munificent and timely gifts are being proposed in Convocation this week.

UNIVERSITY OF CAMBRIDGE.

AT a congregation on April 30th the following medical degrees were conferred:

M.D.—R. N. Chopra (admitted by proxy) and C. Worster-Drought.
M.B. AND B.CH.—A. W. Uloth, C. M. Billington, M. L. Young, G. L. Smith.
M.B.—C. R. Wright.

UNIVERSITY OF LONDON.

Advanced Lectures in Physiology.

PROFESSOR E. MELLANBY, M.D., began a course of lectures on nutrition, at King's College for Women (household and social science department), Campden Hill Road, Kensington, on May 3rd, at 5 p.m. The remaining lectures of the series will be given on May 10th, 11th, 17th, 18th, and 31st, and June 1st. A course of eight lectures on the biochemistry of sterols will be given by Mr. J. A. Gardner, M.A., F.I.C., University Reader in Physiological Chemistry, in the physiological laboratory of the University (South Kensington), at 5 p.m. on Tuesdays from May 18th to July 6th. The lectures are addressed to advanced students of the University and to others interested in the subject. Admission is free.

UNIVERSITY OF GLASGOW.

MEDICAL CURRICULUM.

AT a meeting of the General Council on April 28th a subcommittee reported that the summer term was the most advantageous time for the commencement of studies in the medical school. Members of the medical faculty were unanimous on the point, but the co-operation of the schools and of the education department would be needed. The matter will be further considered at a meeting of the University Court.

UNIVERSITY OF ST. ANDREWS.

AT the meeting of the University Court, on May 1st, Dr. John Taylor was appointed to the lectureship in regional anatomy, Dundee, and Dr. L. T. Price, surgeon to the Dundee Royal Infirmary, to that in diseases of children.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary comitia of the Royal College of Physicians was held on Thursday, April 29th, when the President, Sir Norman Moore, was in the chair. The President announced that Professor C. S. Sherrington had been appointed the representative of the College on the Committee to consider a memorial of the late Professor Sir William Osler.

MEMBERS.

The following candidates, having passed the required examination, were admitted as Members:

Robert Allen Bennett, M.D.Lond., L.R.C.P.; Francis Bernard Chavasse, M.D.Oxf., L.R.C.P.; Thomas Forrest Cotton, M.D.McGill; John Alexander Drake, M.B.Lond., L.R.C.P.; Arthur Wm. Mickle Ellis, M.B.Toronto; Francis Richard Fraser, M.B.Edin.; Joseph Gatt, M.D.Malta, L.R.C.P.; Mary Esther Harding, M.D.Lond.; Harold William Hills, M.B.Lond., L.R.C.P.; George Johnson Langley, M.D.Lond.; Elias Leopold Woolf Mandel, M.D.Lond., L.R.C.P.; Edward Mapother, M.D.Lond.; Henry Bret Russell, M.B.Lond., L.R.C.P.; Evelyn Dennis Scott, M.B.Lond., L.R.C.P.; Hugh Stannus Stannus, M.D.Lond., L.R.C.P.; Margaret Grace Thackrah, M.D.Lond.; Robert Heywood Wilshaw, M.D.Lond.

FELLOWS.

The following were elected Fellows on the nomination of the Council:

William Francis Menzies, M.D.Edin.; James Graham Forbes, M.D.Camb.; William Morton Robson, M.D.Lond; Samuel Ernest Dore, M.D.Camb.; George Basil Price, M.D.Lond.; Eardley Lancelot Holland, M.D.Lond.; Albert Ramsbottom, M.D.Vict.; Arthur Stanley Woodwark, M.D.Lond.; Francis Graham Crookshank, M.D.Lond.; Arthur Charles Douglas Firth, M.D.Camb.; Nathan Mutch, M.D.Camb.; Francis Martin Rouse Walshe, M.D.Lond.; George Graham, M.D. Camb.; George Ernest Beaumont, M.B.Oxf.

UNIVERSITY OF LONDON.

Dr. Fawcett and Sir Wilmot Herringham were appointed representatives of the College on the Senate of the University of London in place of Dr. Sidney Martin and Sir Seymour Sharkey. The thanks of the College were awarded to the retiring members for their services.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

A report was approved from the Committee of Management containing regulations for the Diploma in Psychological Medicine (D.P.M., R.C.P. and S.Eng.) drawn up after a conference with teachers in the various subjects. The examination will be held in two parts, in June and December. A candidate may enter for Part I at any time after obtaining a registrable medical qualification, and the two divisions may be taken separately or together. The subjects of examination will be (*a*) anatomy and physiology of the nervous system, (*b*) psychology. After passing Part I a candidate may enter for Part II of the examination on the completion of a year of special study subsequent to obtaining a registrable medical qualification. Candidates will be required to produce certificates (*a*) of having attended clinical instruction for at least two months at a recognized hospital for nervous diseases, or in the department for nervous diseases at a recognized hospital; (*b*) of having held a resident appointment at a recognized institution for mental diseases where clinical instruction is given, for at least six months, or of having attended clinical instruction in psychological medicine at a recognized institution during twelve months. The subjects for examination for Part II are (*a*) neurology, including clinical and pathological neurology, and (*b*) psychological medicine, including its legal relations. The conditions of study may be modified by the Committee in the case of a candidate (*a*) who has carried out original investigations or has written a thesis on psychology or neurology in relation to pyschological medicine, or (*b*) whose studies have extended over a prolonged period without fulfilling the exact conditions, but exemption will not be granted for any part of the examination. Graduates in medicine or surgery of Indian, colonial, or foreign universities recognized by the Examining Board in England, but whose degrees are not registrable in this country, may enter for the examination by fulfilling the same conditions in regard to study. The fee for admission or readmission to each part of the examination is six guineas.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY.

A similar report embodying regulations for the Diploma in Ophthalmic Medicine and Surgery (D.O.M.S., R.C.P. and S.Eng.) was also adopted. The examination will be held in two parts, in January and July. A candidate may enter for Part I at any time after obtaining a registrable medical qualification. He must present himself for the whole of Part I, but if he fail in one division only will be allowed to present himself for re-examination in that division. The subjects of examination will be (*a*) anatomy and embryology of the visual apparatus (including the contents of the orbit, the bones in the neighbourhood thereof, and the central nervous system so far as it relates to vision); (*b*) the physiology of vision; (*c*) elementary optics. After passing Part I a candidate may enter for Part II on completion of one year of special study of ophthalmology subsequent to obtaining a registrable medical qualification. Candidates will be required to produce certificates of having (*a*) specially studied ophthalmic medicine and surgery and general medicine in its relation to ophthalmology for a period of twelve months; (*b*) engaged in the investigation and correction of errors of refraction; (*c*) attended the clinical practice of a recognized ophthalmic hospital or ophthalmic department of a recognized general hospital for twelve months; (the conditions may be fulfilled by holding the appointment of house-surgeon or house-physician or clinical assistant at one of the above hospitals or departments, provided that in the case of a clinical assistant the certificate shows that he has attended for at least three hours a day on two days a week); of having (*d*) attended a practical course of operative ophthalmic surgery, and (*e*) attended a course of pathology and bacteriology with special reference to ophthalmic medicine and surgery. The subjects of the examination for Part II are (*a*) optical defects of the eye; (*b*) ophthalmic medicine and surgery; (*c*) pathology, with special reference to medical and surgical ophthalmology. These conditions may be modified in the case of a candidate (*a*) who has carried out original investigations in any branch of the examination; (*b*) who has written a thesis on the pathology of the eye; (*c*) whose studies have extended over a prolonged period without fulfilling the exact conditions, but exemptions may not be granted from any part of the examination. Graduates in medicine or surgery of Indian, colonial, or foreign universities recognized by the Examining Board in England, but whose degrees are not registrable in this country, may enter for the examination for the Diploma in Ophthalmic Medicine and Surgery on fulfilling the same conditions in regard to study. The fee for admission or readmission to each part of the examination is six guineas.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE following candidates have passed the examination of the school at the termination of the sixty-second session, February–April, 1920:

*H. E. Whittingham (Duncan medal), *A. K. Cosgrave, *A. Khalik, *E. J. Wood, *E. Forrester-Paton, J. Fanstone, E. G. Mack, W. P. Hogg, J. S. Armstrong, J. R. C. Stephens, M. Wong, G. A. S. Madgwick, G. A. Frendo, C. Basile, M. Jackson, E. U. MacWilliam, N. Nedergaard, H. R. Dive, J. R. Crolius, J. Gray, A. Y. Cantin, D. Schokman, C. H. Brangwin.

* With distinction.

Medical News.

THE University of London announces that M. Pierre Janet, Professeur de Psychologie au Collège de France, Paris, will next week give a course of three lectures on "La Tension Psychologique, ses Degrés et ses Oscillations." The first lecture will be given at the house of the Royal Society of Medicine, 1, Wimpole Street, W., at 5 p.m. on Tuesday, May 11th. The two other lectures will be given at the same hour on Wednesday and Thursday. The lectures, which will be delivered in French and will deal in part with the medical aspect of the subject, are addressed to advanced students of the university, but others interested are invited to attend. Dr. Henry Head, F.R.S., will take the chair at each lecture.

THE Ministry of Health has issued a Statutory Order, which came into operation on May 1st. It requires the M.O.H. of a city or borough council to send a copy of each certificate or notification of a case of acute primary pneumonia, acute influenzal pneumonia, malaria, dysentery, trench fever, acute encephalitis lethargica, and of ophthalmia neonatorum—whether notified by a medical practitioner or by a certified midwife—within twelve hours of its receipt, to the Metropolitan Asylums Board, who will repay to the borough council or to the common council the fee paid in respect of such notification.

AT the Leigh (Lancashire) Borough Police Court, on April 22nd, the Lancashire County Council took legal proceedings against Charles C. Abbott, "herbal specialist," of 56, Railway Road, Leigh, for treating a person for venereal disease and prescribing a remedy therefor contrary to Section 1 of the Venereal Disease Act, 1917. A fine of £10 was inflicted.

DR. J. F. MACDONALD, D.P.H., of the Middle Temple, and Dr. G. D. H. Wallace, of Gray's Inn, were called to the bar on April 28th.

THE Congrès Français d'Oto-Rhino-Laryngologie, which will be held in Paris next week (May 10th to 13th), will be attended by a number of British specialists.

NOTIFICATION of lethargic encephalitis was made compulsory in Denmark at the beginning of this year. By the end of January 29 cases had been notified, some of them dating back to July and August, 1919. Among them four deaths had been recorded, but in two the diagnosis was uncertain. The Pathological Institute of the University of Copenhagen has undertaken to examine *post-mortem* specimens.

CASES of lethargic encephalitis have recently appeared in various parts of Spain.

THE University of Birmingham has arranged for a post-graduate course of instruction to be given in the Medical Faculty, Edmund Street, Birmingham, and at associated hospitals, from Monday, July 5th, to Saturday, July 17th, both dates inclusive. The course will comprise sections of medicine, surgery, pathology and bacteriology, obstetrics and gynaecology, diseases of children, ophthalmology, diseases of the ear and throat, radiology, electrical treatment, and anatomy and physiology. The fee for admission to the lectures and clinical demonstrations in each section is one guinea. Further particulars can be obtained on application to the Clerk to the Clinical Board, University, Edmund Street, Birmingham.

IT has already been announced that the eleventh session of the Australasian Medical Congress (the first since 1914) will be held at Brisbane under the presidency of the Hon. W. F. Taylor, M.D., from August 23rd to August 28th, a season in which the climate of Queensland is usually agreeable, the maximum temperature being on the average 72.4° and the minimum 50.7°. The Executive Committee of the congress invites any member of the Association who may be visiting Queensland at the time to attend as an honorary member. Any one who thinks of accepting should communicate with Dr. Wilton Love, the honorary general secretary in Brisbane, at once, as the accommodation is limited. The principal subject for discussion will be the question of the permanent settlement of a healthy white race in tropical Australia. It is expected also that the contributions to the sections of naval and military medicine and surgery will be of unusual interest.

THE half-yearly dinner of the London Aberdeen University Club will be held at the Criterion Restaurant on Thursday, May 20th, at 7.30 p.m. The annual general meeting will take place at 6.30 p.m. Further particulars can be obtained from Dr. W. A. Milligan, 11, Upper Brook Street, W.1.

SIR EDWARD SHARPEY SCHAFER has thoroughly revised his *Essentials of Histology*, and the new (eleventh) edition will shortly be published by Messrs. Longmans.

THE shortage of the supply of paper is becoming an even more serious problem to periodical publications than the rise of price, great as that has been. Newspaper proprietors have been giving evidence before a Subcommittee of the Senate of the United States; one of them asserted that if consumption proceeds at the present rate there will be no paper-pulp producing forests left in twenty-five years. The only remedy so far suggested is to decrease the size of papers and periodicals and increase advertising rates.

WE are asked to state that the subscription (35 francs), to be paid by those who propose to attend the Congress of Physiology which will be held under the presidency of Professor Charles Richet in Paris from July 16th to July 20th, should be sent as soon as possible to M. Lucien Bull, Secrétariat du Congrès, Sorbonne, 1, Rue Victor Cousin, Paris, V, from whom a list of hotels with which special arrangements have been made can be obtained. The titles and summaries, not exceeding twenty-five lines, should be received by the secretary of the congress not later than June 1st. There will be an exhibition of apparatus and instruments. The last Congress of Physiology was held at Groningen in September, 1913.

SIR ARTHUR SHIPLEY prefaced his lecture to the Child-Study Society on April 29th on "Biting insects and children" (to which title *Punch* has alluded) with the remark that as a bachelor he knew less about children than he did about insects; accordingly his lecture was devoted to an entomological description (with literary and historical digressions) of lice, bugs, and fleas, with no particular reference to the special susceptibilities of children or to preventive measures which may be taken on their behalf. In the course of discussion the

question arose whether it was possible to secure personal immunity from fleas. Sir Arthur said that the essential oils, especially the oil of cedarwood, were supposed to keep fleas away, but the personal factor was so large in these cases that no means could be absolutely relied upon. Dr. C. E. Wallis said that in some correspondence on the subject which appeared in the BRITISH MEDICAL JOURNAL about eight years ago it was stated that the taking of two or three sulphur lozenges would render a person unpalatable to fleas. He had found that procedure of no use whatever, but he had discovered one preventive measure which in his personal experience had proved most successful. When he was a student doing midwifery he had to take lodgings in Clare Market, and found himself attacked the first night by a host of fleas. He decided that drastic counter-measures were necessary, and therefore applied with a sponge a 1 in 20 carbolic solution to his neck, wrists, and ankles, believing that these must be the means of entrance whereby the insects invaded the person. As a result he was immune from fleabite during the remainder of his month's stay. Sir John Cockburn, the chairman of the meeting, remarked that in Australia there were such things as flea storms, whirlwinds of fleas, which covered the verandahs of the houses. Stock breeders in Australia paid a good deal of attention to the question of susceptibility to insect bite, and animals much subject to the bites of fleas and flies were not allowed to breed.

THE honour of O.B.E. has been conferred upon Mr. Edmond Thomas Gann, M.B.E., Secretary Army Medical Advisory Board and Army Sanitary Committee.

As cases of small-pox have occurred in and around London during the past few weeks, and some of these have remained undiscovered for a considerable time after the first appearance of the disease, the London County Council draws attention to the arrangements under which in doubtful cases the practitioner confers with the M.O.H. of the borough, and to the fact that, should a further opinion be required, on application to the Public Health Department, the services of Dr. W. McC. Wanklyn will be available.

Letters, Notes, and Answers.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"L. C." writes: A patient, aged 52 years, suffers from a continuous saline taste in the mouth; the taste is like saltpetre. The patient is in good health and apparently quite sound; he has had some pyorrhoea, and is subject to lumbago and sciatica. He smokes about twenty cigarettes a day. The taste is worst in the morning, and improves as the day goes on.

INCOME TAX.

J. I. H. explains that in 1918 the local inspector of taxes asked that his figures should be verified by a chartered accountant, and that it was found that the sums returned for assessment had been insufficient. The inspector now asks that the years subsequent to 1918 should be dealt with on the basis of figures prepared by a chartered accountant. Is he justified in this demand and in maintaining the assessment on a basis of a three years' average?

*** The three years' average is the statutory basis of assessment and is binding. The inspector has no legal right to require audited accounts; his statutory function extends only to the bringing of the case to the attention of the Assessing Commissioners, who may in their discretion ignore the return made by the taxpayer and make an estimated assessment in excess of that amount. In that event our correspondent would presumably lodge a notice of appeal, and the Commissioners to whom the appeal was directed would have the right of requiring full accounts of the receipts and expenses of the practice; non-compliance with that requirement would result in confirmation of the assessment. It will be seen that there is some ultimate claim for accounts on the part of the authorities, and, as our correspondent was not at one time able to make a correct return without professional assistance, we hardly like to advise him to refuse the inspector's request. Possibly he might arrange a compromise by offering to prepare the detailed statements himself—on the lines followed by his accountant in 1918—and to show his books to the inspector if necessary.

SPIRITUALISM AND MENTAL DISEASE.

DR. GERARD SMITH (31, Greville Road, N.W.6) writes: In order to support the contention that in the pursuit of "spiritualism" persons of a certain temperament are exposed to grave dangers, I am anxious to secure evidence—especially recent evidence—of cases of mental derangement brought about in this way. I should, therefore, be glad to receive notes or short statements of such cases. I have no concern with the truth or error of "spiritualism."

LETTERS, NOTES, ETC.

PROPOSED TAXATION OF MOTOR CARS.

DR. W. BERNARD SECRETAN (Reading) writes with reference to the Government's intention to allow no rebate on the taxation of doctors' cars. Unless the profession makes its voice heard it will receive the usual official treatment meted out to those who are not too importunate or dangerous. I suggest that every medical man make a point of writing at once to his Member of Parliament, pointing out the harshness of the no-rebate proposal. Points might be made of (1) the falsity of the argument that doctors stand to gain more than the average motorist by the abolition of the petrol tax on account of their large mileage, since doctors have only paid in the past half this tax; (2) the unfairness of taxing two cars kept by one doctor, only one being used at a time, at the full rate; (3) the bad policy of a scheme which tends to hinder instead of increase the efficiency of the medical service of the country. No doubt other arguments will occur to many.

*** Accounts of the action taken by the British Medical Association have been published in the BRITISH MEDICAL JOURNAL during the last three weeks. An account of the proceedings at the deputation to the Ministry of Transport will be found in the Current Notes of the SUPPLEMENT for this week.

OPHTHALMIC OPERATIONS.

LIEUT.-COLONEL F. P. MAYNARD, M.B., F.R.C.S., I.M.S. (retired), writes: In your issue of May 1st it is stated that Grimsdale and Brewerton's *Textbook of Ophthalmic Operations* "is the only one of its kind on this special subject in our language." May I be permitted to point out that this is incorrect? In your columns for 1908 (vol. ii, p. 200) there is a review of my *Manual of Ophthalmic Operations*, a second edition of which will be published in a few weeks.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29, 30, 33, 34, 35, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 31, 32, and 33.

THE post of specialist medical referee under the Workmen's Compensation Act, 1906, for ophthalmic cases in County Court Circuit No. 6, is vacant. Applications should be made to the Private Secretary, Home Office, by May 26th.

THE following appointments of certifying factory surgeons are vacant; Ballindalloch (Banff), Cardenden (Fife), Ellesmere (Salop), Leicester, West (Leicester).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Observations
ON
THE NUTRITION OF ARTICULAR CARTILAGE.*

BY
T. S. P. STRANGEWAYS,
LECTURER IN SPECIAL PATHOLOGY IN THE UNIVERSITY OF CAMBRIDGE.
(From the Laboratories of the Cambridge Research Hospital.)

[*With Special Plate.*]

THE structure of articular cartilage has been the subject of numerous papers, but the study of its nutrition appears to have been neglected. The generally accepted explanation of the nutrition of this avascular tissue is that the nutritive fluid is derived from the vessels of the adjoining structures, chiefly from the vessels of the marrow and bone, but also to some extent from the *circulus articuli vasculosus* formed by the narrow border of vessels which lie underneath the synovial membrane and surround the circumference of the articular cartilage. The fluid from these vessels is supposed to reach the cartilage cells by imbibition. Some observers have described lymph channels in the hyaline matrix, but the existence of these is very doubtful.

Microscopic examination of a section through the articular cartilage prepared and stained by the ordinary methods reveals a characteristic, well defined structure. The cartilaginous tissue rests upon a thin, practically continuous layer of bone. In the deeper parts of the matrix are seen columns of cartilage cells which run perpendicularly towards the free surface; as these become more superficial the columns contain fewer cells and are distributed in an irregular manner, and the uppermost groups lie parallel to the free surface. The free surface is covered by a layer of cells with thin, elongated nuclei (perichondrium). In the deeper layers of the cartilage, where it lies in contact with the bone, a deposit of calcium salts is seen; this may be called the zone of calcified cartilage. A study of such a section shows that the cells of the superficial layers appear more active than those of the deeper layers, and it is difficult to understand how the nutritive fluid can pass from the vessels of the bone through the bone matrix and through the avascular layer of calcified cartilage towards the surface in sufficient quantity to cause the obviously greater vitality of the superficial layers. It is equally difficult to explain how the fluid from the vessels of the *circulus articuli vasculosus* can reach the cells forming the large area of cartilage on the articular surface.

If, as I believe, the present view of the nutrition of articular cartilage is incorrect, there is yet another source from which it may derive nourishment, namely, the synovial fluid. It is strange that this source of nourishment should not have been more widely discussed. The supply of synovial fluid in a normal joint is sufficient, and granting that it contains material suitable for the nourishment of the cartilage, the cells can obtain by imbibition all the nutriment required by this type of tissue.

In support of this view I offer the following description of the naked eye and microscopic changes seen in certain free bodies which are found occasionally in a joint cavity.

The origin of these free bodies has been discussed by several wrtters (Klein,[1] Weichselbaum,[2] Poulet and Vaillard,[3] Real,[4] König,[5] Rimann,[6] Ludloff,[7] and others). The question whether they arise from local changes within the joints, or whether they are of traumatic origin, need not be discussed here, but it seems probable that the majority, if not all, of the type referred to in this paper are due to traumatic detachment of a portion of the articular cartilage. Whichever explanation is the true one, the microscopic changes which take place are of considerable interest.

Four free bodies of this kind have been examined: they were obtained from the joints of three patients. The first was found accidentally in the knee-joint of a youth; the other three were very kindly presented to me by Major D. W. Hume, and were removed by him at the operation table.

The first specimen is from the knee-joint of a youth, aged 16, whose left lower limb was amputated for sarcoma of the thigh. On opening the joint there fell out a smooth shining lenticular body, 2.3 cm. long and 1.5 cm. broad, with rounded edges. To the naked eye its structure resembles cartilage. On the centre of the outer condyle of the femur there is a slightly depressed area of a shape similar to the free body, but somewhat smaller. The surface of this area is somewhat irregular and is covered with a thin smooth shining tissue, through which the yellowish texture of the underlying bone can be seen. Evidently the free body had been detached some time previously from this area. The articular cartilage of the joint is otherwise quite normal. One surface of the free body is white, smooth, and shining, and exactly resembles cartilage to the naked eye. This smooth surface is present on the rounded edges of the body, and is continued on to the other surface for a distance of 0.3 cm, forming a white ring around it. The other surface is slightly irregular and yellowish, but examination shows that this area is also covered with a thin smooth shining membrane. The smooth white cartilaginous surface evidently represents the free surface of the cartilage and the irregular surface the deeper portion where it was attached to the condyle. Small bony fragments were probably adherent to this side of the free body after its separation from the condyle.

Microscopic examination of the free body shows that both surfaces as well as the edges are covered by several layers of cells with elongated nuclei. On the side which forms the free surface of the cartilage they exactly resemble the cells of the normal perichondrium, and shade off into hyaline cartilage (Fig. 1). At the edges these cells form a definite layer of cells with elongated nuclei which shade off into young atypical cells (Fig. 2). The under surface is covered by several layers of cells of connective tissue type. This tissue varies in thickness; it is thicker towards the edges and becomes thin where it covers the irregular yellowish tissue seen on the deeper surface of the fragment. There are in this layer of connective tissue cells a few small areas which show signs of proliferation; these appear to be replacing the atypical tissue described below. At the edges of these proliferating cells, where they are in contact with the atypical tissue, a few well-formed giant cells are seen (Fig. 3). These resemble osteoclasts. The greater part of the section is composed of typical hyaline cartilage, which shows no signs of degeneration or of fibrillation. The nuclei stain well and the cells are arranged as in normal cartilage. They represent the free surface of the articular cartilage. There is in the deeper layers of this cartilage a definite deposit of calcium salts, but these are scattered irregularly and are for the most part grouped round cartilage capsules (Fig. 4). They do not show the normal appearance of calcified cartilage, but seem to represent calcium salts which have been set free from the layer of calcified cartilage as well as from bony fragments previously adherent to the cartilage and have then accumulated around the cells and in the matrix of the central part of the specimen where the proliferative processes are least marked. A thin layer of atypical tissue is seen on the under surface between the layer of connective tissue cells and the hyaline cartilage. This layer seems to be derived from and to replace the detached fragment of bone and the zone of calcified cartilage. Two distinct forms of cell are seen; one resembles young hyaline cartilage in the course of regeneration such as is sometimes seen in sections from joints of chronic arthritis. The young cartilage cells are of a hyaline type, but consist of closely set single cells lying in a hyaline matrix. These areas are found lying in and apparently replacing the other form of tissue, which consists of single cells fairly regularly scattered lying in a matrix somewhat hyaline in appearance when seen in sections stained with haematoxylin and picrocarmine. Stained by Schmorl's method, the cells present the appearance of typical bone cells with long processes. This tissue passes over in some places into the atypical cartilage tissue just described, and in other places into the layers of cells with elongated nuclei which form a capsule on the under surface of the free body. In no part of the section, however, is the structure of normal bone observed. Some parts of the matrix in which the bone cells lie show in those sections which are

* The expenses in connexion with this study were met by a grant from the Medical Research Committee.

stained with haematoxylin distinct blue granules apparently due to a deposit of lime salts.

From the above histological examination it seems clear that a portion of the articular cartilage was detached from the condyle of the femur, and small fragments of bone remained attached to the articular cartilage at the time of separation. Definite changes have occurred in these structures; the cells have proliferated, and the matrix has undergone changes. Thus the free surface of the hyaline cartilage shows an increase in thickness of the perichondrium, while the fragments of bone adherent to the cartilage show considerable modification. On the under surface the bone cells have proliferated and rearranged themselves so that they form a definite layer of cells of a connective tissue type which blend with the layer of thickened perichondrium, and thus a continuous capsule of connective tissue has been formed around the free body. The bone cells in the deeper parts have also rearranged themselves in an atypical matrix as described. These atypical tissues seem to have been formed partly by proliferation of the bone cells and partly by proliferation of the cells of the hyaline cartilage. In areas where the proliferation is most active new atypical hyaline cartilage has been formed.

The origin of the giant cells mentioned is not clear, but they are found in areas where the connective cells are undergoing proliferation and replacing the atypical bone and cartilage cells. These giant cells have presumably been formed from the proliferating connective tissue cells, and seem to be a form of osteoclast.

Microscopic examination of the depressed area on the condyle, from which the fragment was obviously detached, shows that the free surface is covered with a layer of tissue, which appears to be formed of connective tissue cells somewhat stellate in appearance with branching processes. This layer, which is avascular, is about the same thickness as the hyaline cartilage, which it unites on both sides around the edges of the depression. These connective tissue cells form a fairly sharp zone where they join the normal articular cartilage, the cells of which at the edge of the zone show obvious signs of proliferation. The bone trabeculae upon which the tissue rests show obvious signs of previous fracture and have a very irregular arrangement; they are also somewhat increased in thickness and density. In other respects there is little change in the structure of the articular tissue in this situation.

The second specimen of free body was removed at operation from the knee-joint by Major Hume. This free body had caused repeated attacks of pain in the joint for several years. The patient made a good recovery, but the attacks of pain continued, and a few months afterwards Major Hume fully exposed the joint, and found lying towards the posterior portion of the joint cavity behind the crucial ligaments a second free body. The larger specimen (which was removed first) is lenticular in shape, 3 cm. long, 1.5 cm. broad, and 0.75 cm. in its thickest part. One surface is smooth and shining and resembles articular cartilage. The other surface is nodular and shows depressions, but is also covered with a smooth, shining tissue.

On naked-eye examination of a section through the specimen two definite types of structure are seen. There is a thin white capsule surrounding the whole specimen. The tissue beneath the surface, which is smooth and cartilaginous in appearance, extends for a depth of 0.3 cm.; it occupies about a third of the area of the section, and resembles hyaline cartilage. The rest of the tissue is yellow and more granular in appearance, but on closer examination it is found to consist of a superficial whitish-yellow portion and a deeper central zone which has a brownish-yellow colour.

The smaller specimen, which was removed at the second operation, is 1.75 cm. long, 2 cm. wide, and 0.75 cm. thick, and shows a similar external structure to the other specimen, one surface being smooth and the other nodular, but on section the larger portion of the cut surface resembles hyaline cartilage. There is a thin layer on the nodular surface which has the same yellow granular appearance as that seen in the larger specimen.

Microscopic examination of the larger specimen shows on the smooth surface, which represents the free surface of the articular cartilage, a somewhat thickened layer of perichondrium; this is continued over the edge on to the nodular surface, where it is continuous with a tissue formed by several layers of connective tissue cells. These layers form a membrane of some thickness. The hyaline cartilage on the free surface is not much altered, though there is some evidence of proliferation of the cartilage cells, together with an irregular deposit of calcium salts, probably derived from the calcified cartilage and fragments of bone. Near the rounded edge of the specimen there is a formation of a new atypical hyaline cartilage, the cartilage cells being more numerous and the hyaline material less abundant than in normal cartilage. As in the previous specimen, an atypical tissue has replaced the bone which was adherent to the cartilage at the time of separation, and this can again be divided into two forms of tissue—one resembling atypical cartilage and the other atypical young bone. When stained by Schmorl's method well formed bone cells are seen lying in a granular matrix. In places this tissue shades off into a degenerated tissue lying in the centre of the mass, which appears to be made up partly of degenerating, but not necrotic, cartilage, and partly of a degenerate tissue which seems to result from an arrested attempt at the formation of hyaline cartilage. Towards the free surface the bone cells at the rounded edge of the specimen appear to have been transformed into the young hyaline cartilage previously mentioned, and on the under surface they blend with the cells of the connective tissue capsule previously described. Many of the cells in this layer, when stained by Schmorl's method, resemble typical bone cells.

One part of the specimen shows an interesting structure. The connective cells of the capsule, the bone cells in the atypical bone, and those of the young hyaline cartilage meet, and the impression is given that the connective tissue and young cartilage cells arise from the modified bone cells, which in their turn must have originated from the normal bone cells of the bone detached from the condyle.

In one section a small oval area is seen which consists of branching stellate cells with long processes somewhat myxomatous in appearance, resembling the cells seen in the early stages of the formation of fat (Fig. 5). This may be considered a form of avascular atypical marrow tissue.

A few giant cells are also seen in these sections; these appear to be formed from the connective tissue cells forming the capsule, and appear to be taking part in the tissue changes which are taking place at the edges of the atypical bone and cartilaginous tissue. These seem to be acting as osteoclasts.

Microscopic examination of the smaller specimen shows similar changes. The central portion of the section is composed of typical hyaline cartilage, the cells of which form groups owing to proliferative changes. On the free surface of this hyaline cartilage there is a zone of tissue which contains cells resembling atypical hyaline cartilage with single nuclei. Their structure is somewhat like the cartilage found in the ear of a mouse, but it shows more matrix. In some places a definite layer of cells is seen. These cells resemble bone cells when stained by Schmorl's method, and appear to be replacing the perichondrial layer.

The opposite surface of the specimen shows that the deeper layers of the hyaline cartilage are infiltrated with lime salts, and beneath this a layer of cells is seen resembling bone cells, which stain characteristically by Schmorl's method. In this region also there are areas of atypical cartilage tissue composed of single cells surrounded by a hyaline capsule. The free surface is covered with a distinct layer of connective tissue cells. As in the previous specimen areas of myxomatous cells are replacing the atypical cartilage and bone cells from which they seem to originate.

Groups of proliferating connective tissue cells are also seen in these sections. In some of these groups, where the cells are in contact with the atypical bone or cartilage a few giant cells are found.

The changes seen in the two specimens above described resemble closely those seen in the first examined. In this again there is evidence that the cartilage, when it became detached, carried with it fragments of bone, and that proliferative changes have occurred after its separation both in the bone and cartilage cells. In spite of the long history there is evidence that these changes are still progressing, for otherwise it would be difficult to explain the presence of the well-formed giant cells and the young

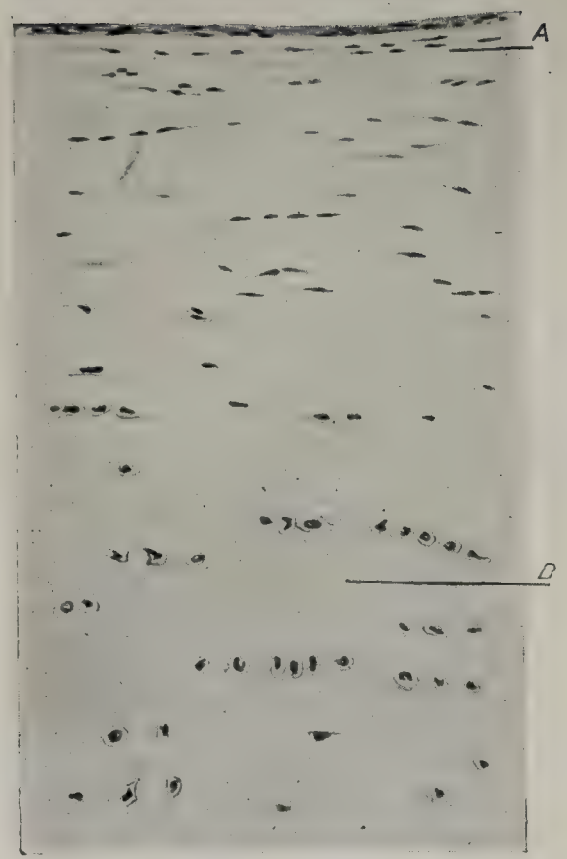


FIG. 1.—Showing connective tissue cells with elongated nuclei on the free surface, A; hyaline cartilage, B. × 350.

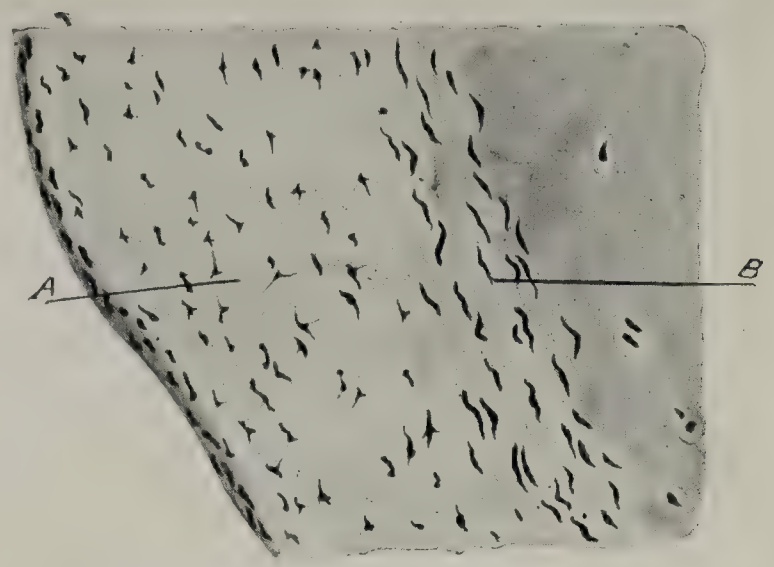


FIG. 2.—Showing connective tissue cells, A; cells with elongated nuclei, B. × 350.

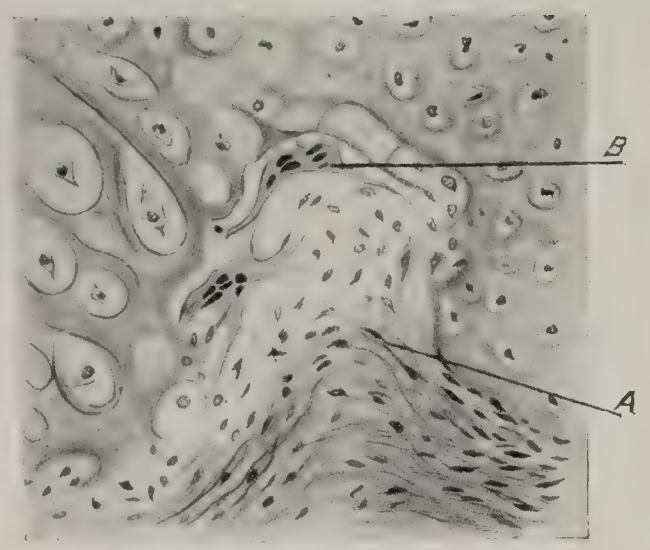


FIG. 3.—Showing proliferating connective tissue cells, A; giant cells, B. × 350.

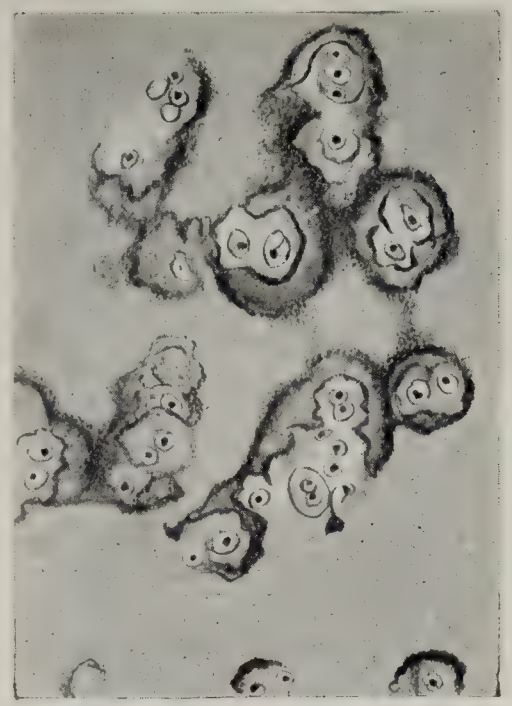


FIG. 4.—Showing hyaline cartilage with a granular deposit of lime salts around the cell. × 200.

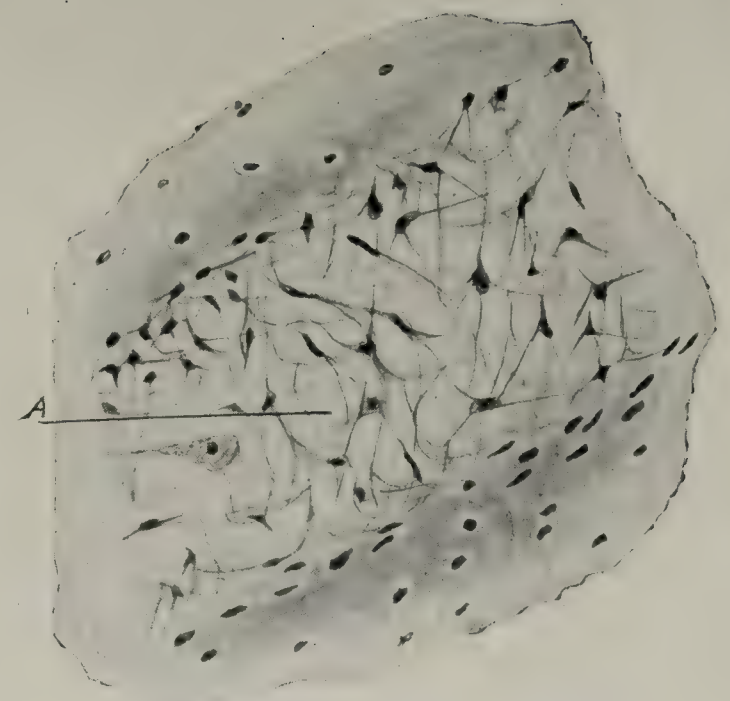


FIG. 5.—Showing connective tissue cells derived from proliferating cartilage cells.

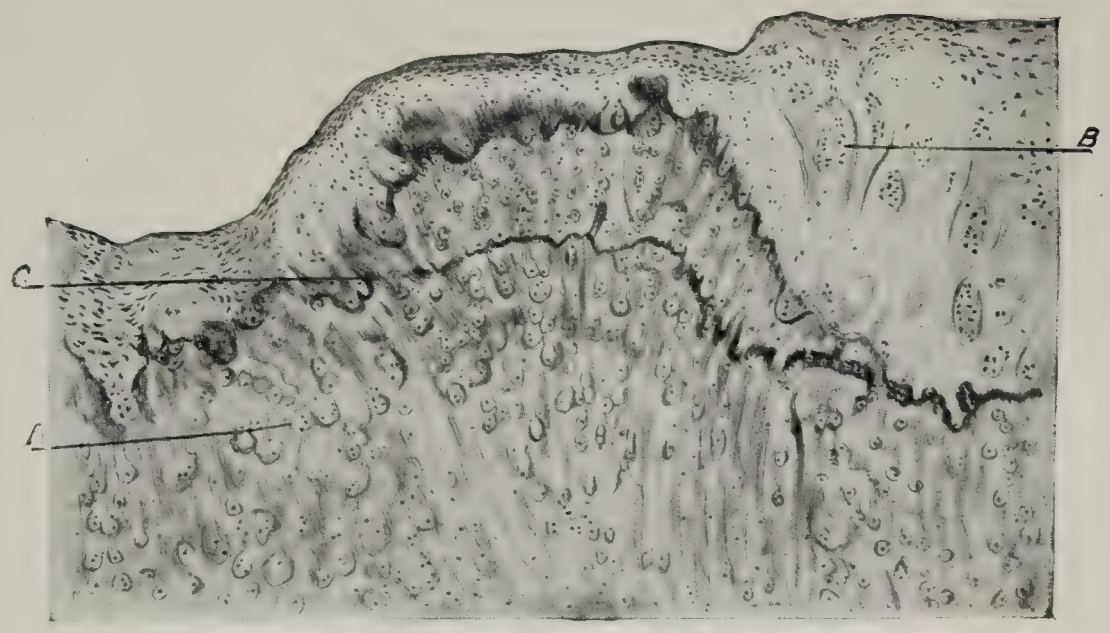
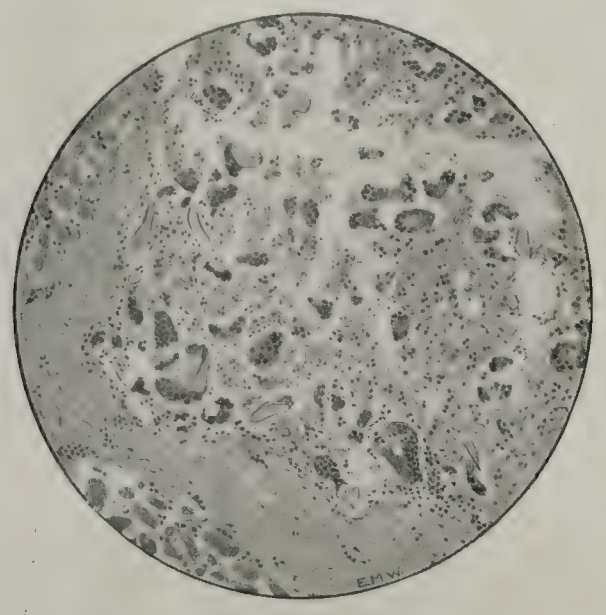
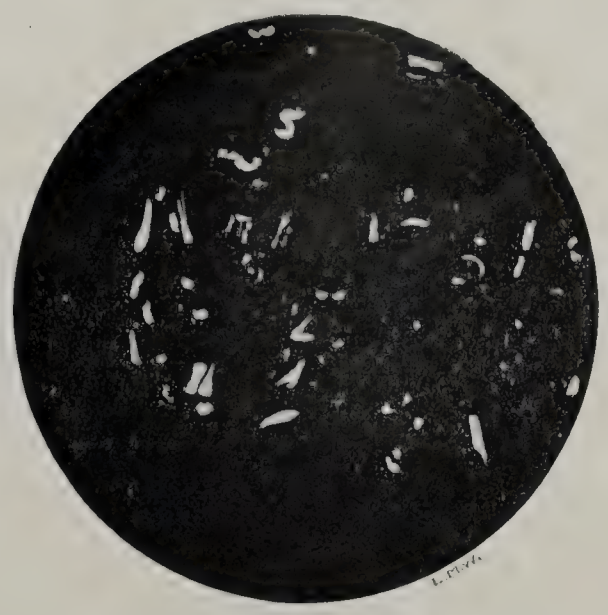


FIG. 6.—Showing degenerative changes in hyaline cartilage, A; proliferation of the cartilage cells, B; deposit of lime salts, C. × 60.

In each instance Figure A represents the ordinary microscopic appearances, Figure B the same field viewed between crossed Nicol's prisms.
(Drawings by Miss Ethel Wright.)

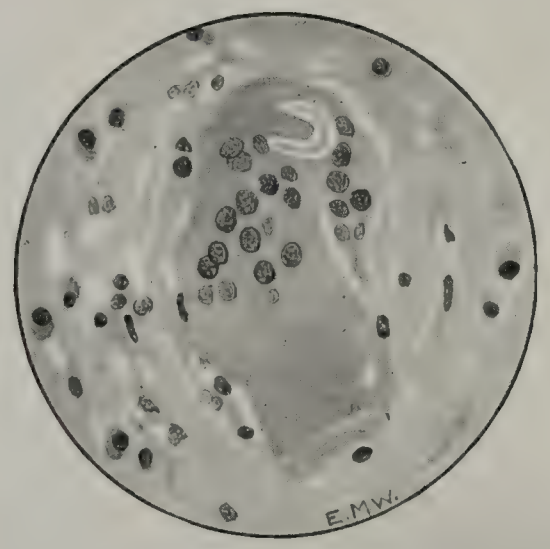


A



B

FIG. 1.—Low power. Case 2; duration six years; silkworm gut. The patient had been operated on six years before for appendicitis. The tissue containing the suture relics was removed from the wall of a sinus which had persisted ever since. Note numerous small portions of silkworm gut, many of them ingested by foreign body giant cells. The lesion is bounded by a layer of dense fibrous tissue (seen here on two sides) separating it from the surrounding striped muscle.

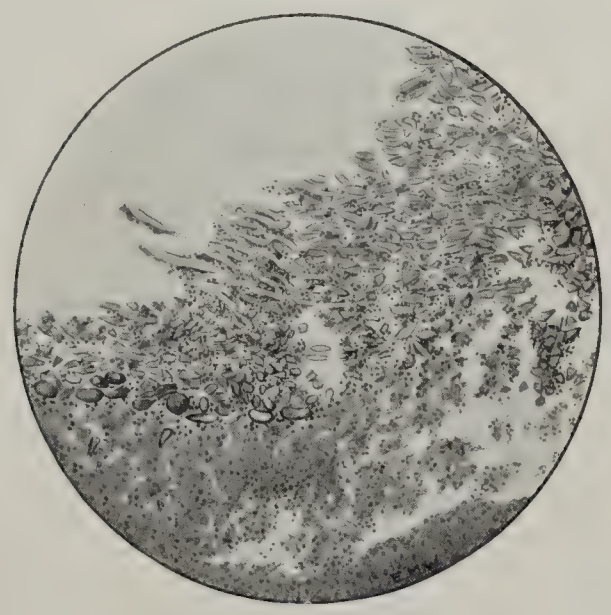


A

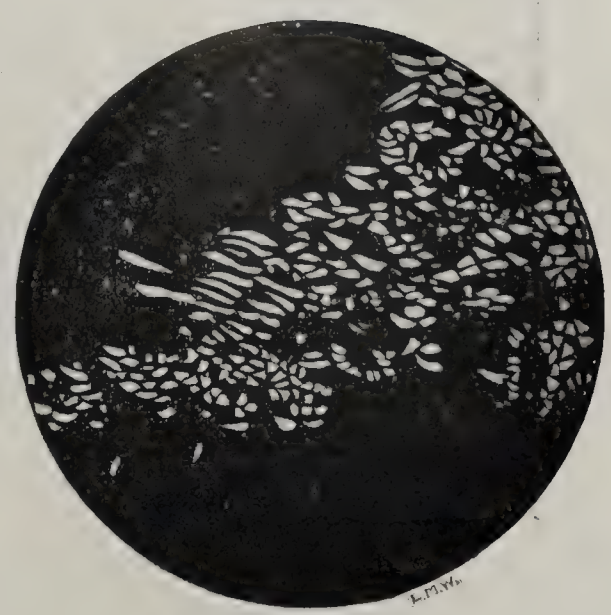


B

FIG. 2.—High power. Case 8; duration six years; silkworm gut. From a case of recurrent renal calculus in which a portion of the old scar was excised at the second operation. To show a large foreign body giant cell containing two small portions of silkworm gut.

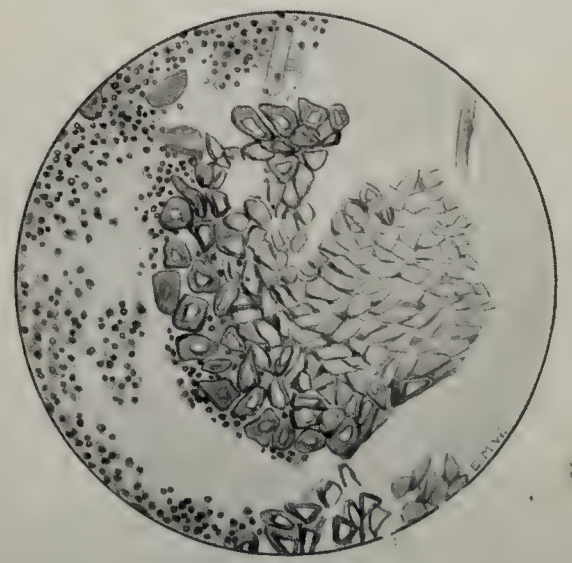


A



B

FIG. 3.—Low power. Case 6; duration three years; silk. From an old case of ventrifixation. At the second operation a small painful tumour was excised from the depths of the scar. To show numerous silk fibres cut transversely or obliquely, lying in the midst of necrotic débris and pus. Some of the fibres to the left hand side of the field show the pre-absorptive changes mentioned in the text.



A



B

FIG. 4.—High power. Case 19; duration three months; silk. Old gastro-enterostomy case. To show pre-absorptive changes in silk fibres. The marginal portion first and ultimately the whole fibre swells up and becomes granular and strongly eosinophilic, at the same time losing its optical activity from without inwards. Note the small, optically active cores in the left half of the field.

fibroblastic cells which are found in certain areas. The presence of stellate cells of pre-adipose tissue type is also of interest.

The fourth specimen of a free body was removed by Major Hume from the knee-joint of a patient who gave a history of recurrent attacks of pain in the joint for many years. The specimen is an irregular round flat body, 4 cm. in its largest diameter, 3.5 in the smallest, and about 0.5 cm. thick. The edges are rounded, and the surfaces are nodular and fissured but covered with a layer of shining, membranous-like tissue. On section the structure resembles modified hyaline cartilage. There can be little doubt that this specimen altered in shape and increased in size after separation.

Microscopic examination of this specimen shows changes which differ somewhat from those described in the previous specimen. No typical articular cartilage is seen. Part of the specimen is composed of a form of young hyaline cartilage mixed with which are areas of atypical fibro-cartilage. In some parts of this tissue a deposit of calcium salts is found (Fig. 6). Scattered throughout the section, especially towards the surface, are groups of cells which, on staining by Schmorl's method, are found to be typical bone cells. These do not, however, show the structure of true bone when stained with haemotoxylin and eosine, or with picrocarmine. In the centre of the specimen there is an area of degenerating tissue in which lies a small mass of true bone; this appears to be a portion of a fragment of the original bone showing typical bone trabeculae, with Haversian canals surrounded by their system of concentric lamellae. The fat cells of the bone marrow and the blood vessels of the marrow and bone are necrotic. The bone cells do not stain well.

In this specimen again there is evidence of proliferative change both in the cartilage and bone after separation, but this change is more advanced and the resulting structures are more atypical than in the other specimens described.

It seems fair to assume that the changes in structure found in the detached cartilage and bone of the four specimens described occurred after separation from the articular surface; even if this is not admitted, the long history of pain and inconvenience—which ceased in two of the patients after removal of the free body—is evidence that these free bodies had been present in the joint for some years. The staining properties and the appearance of the cells on section show that they were alive at the time of their removal from the joint cavity.

CONCLUSIONS.

It may thus be assumed that nutritive processes were being carried on after separation. That these processes were of an active type is shown by the proliferative changes described.

There are two possible sources from which this nutritive material might have been derived:

1. From the death of cells in the fragment. From these dead cells the surviving cells might have obtained their food supply. Nutrition of this type has been described by Burrows and Neymann[8] as occurring during the growth of cells in isotonic salt solution. This explanation, however, cannot be accepted, as there is evidence that such fragments increase in size after separation while they are lying free in the joint cavity.

2. The other explanation is that the nutritive material is derived from the synovial fluid. If this is so, then the possibility of cartilage cells and of bone cells also being nourished by the synovial fluid must be allowed.

It follows, therefore, that the articular cartilage of the joints may derive some, if not the greater part, of its nourishment from the synovial fluid.

If this hypothesis is true, then the changes which are found in the degenerative types of arthritis can also be explained. The primary cause of these degenerative types will be found not in the cartilage or bone, but in changes in the nutritive value of the synovial fluid. There is evidence, which I hope to produce later, that changes in the nutritive value of the synovial fluid may be due to changes in the vessels of the capsule of the affected joints.

REFERENCES.

[1] Klein: *Virchow's Archiv*, 1864, vol. lxix, p. 190. [2] Weichselbaum: Ibid., 1873, vol. lvii, p. 127. [3] Poulet and Vaillard: *Archiv. de physiol. norm. et path.*, 1885, vol. xvii, p. 266. [4] Real: *Deutsche Zeitschrift f. Chirurgie*, 1894, vol. xxxviii, p. 1. [5] König: *Verhdl. der d. Gesellschaft*, 1899, vol. ii, p. 1. [6] Rimann, H.: *Virchow's Archiv*, 1905, vol. clxxx, p. 446. [7] Ludloff: *Arch. f. klin. Chir.*, 1908, lxxxvii, p. 552. [8] Burrows and Neymann: *Journ. Exper. Med.*, 1917, vol. xxv, p. 93.

ON THE USE OF POLARIZED LIGHT IN THE DETECTION AND INVESTIGATION OF SUTURE MATERIALS EMBEDDED IN THE TISSUES.*

BY

M. J. STEWART, M.B.GLAS., M.R.C.P.LOND.,

PROFESSOR OF PATHOLOGY IN THE UNIVERSITY OF LEEDS.

[With Special Plate.]

THE use of the polarizing microscope in pathology has hitherto been mainly confined to the study of the doubly refracting lipoids, "myelin," cholesterin, cholesterin esters, and the like. Such investigations have been made by Adami and Aschoff (1906,[1] 1910[2]), Powell White (1908,[3] 1909[4]), Stewart (1915[5]), and others. Its use as a means of detecting microscopic foreign bodies (fragments and threads of clothing, particles of wood, etc.) in the depths of wounds has been pointed out by Policard and Desplas (1917[6]). Shattock (1917[7]) has shown its value in the elucidation of a unique case of foreign body tumour formed round crystals of silica which had been forcibly intruded into the tissues of the lip eleven years before.

The present communication will show that many of the suture materials in common use by the surgeon are optically active, and that the polarizing microscope affords a ready means for their detection in the tissues as well as for their subsequent investigation. Since the optical activity of these substances is unaffected by treatment with the usual dehydrating and clearing agents, paraffin sections are all that is required for the demonstration of the phenomenon. If such a section be viewed microscopically between crossed Nicol's prisms, the particles of suture material present will, in certain instances, show up brilliantly illuminated on a dark background, and in this way they can often be picked out with great readiness, even when their presence has not previously been suspected.

It is important to notice that certain tissues are normally optically active, even in paraffin sections. Thus, the collagen-fibril bundles of dense fibrous tissue show various degrees of luminosity, at least when they are cut longitudinally or obliquely, and the same is true of the stratum corneum of squamous epithelium and of the hairs in their root follicles. The muscle bundles of striped muscle are also doubly refracting under certain conditions (? of internal strain), and even the stratum lucidum and rete Malpighii may show the phenomenon to a slight extent. In these situations it is sometimes noticeable that luminous and non-luminous segments alternate. Elastic tissue, on the other hand, would appear to be optically inactive.

THE OPTICAL ACTIVITY OF SUTURES.

The suture materials used in surgery fall into two main categories, (1) absorbable (the various kinds of catgut), and (2) unabsorbable (silkworm gut, silk, linen and "celluloid" thread, and horsehair). Kangaroo tendon occupies an intermediate position. These substances have all been examined with the polarizing microscope in the freshly prepared state, before use, and it has been found that silkworm gut, silk, linen and "celluloid" thread show intense optical activity, whereas catgut, horsehair and kangaroo tendon show the phenomenon only to a very slight degree or even not at all. This difference is accentuated by residence in the tissues. Catgut tends to lose very speedily what little optical activity it possesses, whereas that of silk and silkworm gut persists for months and years.

Before discussing the morphological appearances of the more common suture materials as seen in paraffin sections it is necessary to indicate briefly the different purposes for which they are employed.

1. Silkworm gut is now used almost exclusively for skin sutures, whose function is temporary and which are removed by the surgeon after a certain number of days.

2. Catgut is used where absorbable sutures are required, but these must be able to hold the parts in apposition

* Communicated to the Pathological Society of Great Britain and Ireland, January, 1920. The expenses of this research were in part defrayed by a grant from the British Medical Association, for which I beg to express my thanks.

sufficiently long to allow natural union to take place; for example, in stitching the deeper layers of the anterior abdominal wall after laparotomy.

3. Silk, linen, and "celluloid" thread are used under two conditions, in both of which it is necessary that the mechanical action should be exerted over a considerable period of time, namely, (*a*) where the suture will ultimately cut out spontaneously and escape from a free surface, as in closing off the duodenum after partial gastrectomy, and (*b*) where it will probably remain permanently in the tissues, as in arterio-venous anastomotic operations and in ventrifixation.

MATERIAL STUDIED.

The material on which this study is based consists of twenty-six specimens containing suture relics. Most of them are from portions of tissue which had been excised during life by the surgeon; a few were obtained *post mortem*. Eighteen specimens were found to contain silkworm gut, five catgut, and six silk. The age of the various specimens, that is, the length of time the sutures had been in the tissues, varied between wide limits. The silkworm gut periods varied from three weeks to six years, the catgut from four days to five months, and the silk from three weeks to three years.

1. *Catgut.*—This is met with in the form of irregular masses, homogeneous or very slightly fibrillated, and occasionally broken up into a few irregular pieces, never into definite discrete fibres. If the stitch has become infected it will be found embedded in pus, otherwise it is shut off by a fibrous wall which is lined internally by cellular tissue containing many endothelial cells and foreign body giant cells. None of the latter show small portions of suture material in their cytoplasm such as occurs in the case of silkworm gut. The catgut takes the acid dye, and it may or may not show a slight degree of luminosity when viewed between crossed Nicol's prisms. The rate of absorption varies greatly in different cases, and is accelerated by the presence of sepsis.

2. *Silkworm Gut.*—This is the common variety of suture relic met with in connexion with old operation scars, and the one which provokes the most characteristic and striking foreign body giant-cell reaction. The appearances in these cases suggest that small fragments of the gut become detatched and remain behind in the track of the suture when the latter is removed.* They are seen as small highly refractile bodies of various shapes and sizes, often acicular or rod shaped, sometimes unstained, sometimes taking the basic dye, and always showing intense optical activity when viewed with polarized light (Figs. 1A and 1B). The smaller particles are frequently contained within the cytoplasm of giant cells (Figs. 2A and 2B); the larger have usually a number of giant cells in close relation to them. They tend to occur in small foci, with many giant cells, endothelial cells, fibroblasts, and lymphocytes, the whole often surrounded by a wall of dense fibrous tissue. In this way they may lie locked up in the tissues for years. I have never been able to convince myself that there is much evidence that foreign body giant cells absorb these silkworm gut relics. They seem rather to protect the tissues by simply enveloping or rounding off the corners of mechanically irritating particles. In some of the cases the particles of silkworm gut are both few in number and minute in size, and might readily escape detection† if looked for in the ordinary way. The use of the polarizing microscope may then greatly facilitate the search for such relics or confirm their presence (Figs. 2A and 2B).

3. *Silk.*—Silk and linen thread (including Pagenstecher's celluloid thread) are somewhat similar morphologically, and all show intense optical activity. They can be distinguished by the fact that linen fibres possess transverse cracks or striae, whereas silk fibres do not. The specimens which I have examined—six in number—all contain silk sutures. They are composed of fibres, usually tightly packed, which are triangular or polygonal in transverse section, and which, when they are cut obliquely or lie longitudinally, have often a prismatic as well as a doubly refracting action on polarized light (Figs. 3A and 3B). In haemalum and eosin sections the fibres remain unstained except for a narrow rim at the margin, which stains a purplish hue. The whole fibre is stained bright yellow by picric acid, as in van Gieson's stain. In two of the six cases examined the suture is embedded in pus, doubtless as a result of bacterial infection; in two it is surrounded by a zone of fibroblasts, endothelial cells, and foreign body giant cells, and in one it is simply encased round with dense fibrous tissue. In the two purulent cases, the marginal fibres of the suture, which are becoming separated from one another by pus cells, show a very definite and peculiar morphological change, associated with loss of optical activity (Figs. 4A and 4B). The change affects first the peripheral part of the fibre, which becomes swollen, granular, and intensely eosinophilic. The outline changes from triangular or polygonal to spheroidal, and there is a definite increase in size. The central zone, at first unaffected and still optically active, steadily diminishes in size until finally the whole fibre becomes changed in the manner indicated, and optical activity entirely disappears. It would appear to be a preliminary process to absorption, since such fibres may sometimes be seen in course of disintegration, and it is clearly related to the presence of pus, being perhaps due to a digestive action on the part of the leucocytic enzymes.

Apart from this physico-chemical change in silk, it is very striking how both silkworm gut and silk retain for long periods the property of optical activity when embedded in the tissues. In some of the cases which I have examined the suture materials have persisted in an optically active form for three years (silk) and six years (silkworm gut), the latter even after it has been broken up into tiny fragments and ingested by foreign body giant cells.

FALLACIES.

1. The only serious source of fallacy is the presence of small, air-borne particles of cotton-wool and the like on the surface of the section, since many of these—for example, cotton-wool itself—are optically active. It is usually easy to differentiate. Suture fibres are obviously embedded in the substance of the tissue; extraneous materials lie in a plane above (or below) that of the section, and are seen to be overlapping the cellular structure of the part. Sutures tend to be focally distributed more or less in relation to scar or granulation tissue, possibly with giant cells in their immediate neighbourhood; air-borne fluff may be found on any part of the slide.

2. As already mentioned, very dense fibrous tissue, striped muscle, and the stratum corneum of squamous epithelium, all possess slight optical activity, but the degree of luminosity is so slight and the anatomical arrangements are so obvious that no difficulty should arise.

SUMMARY.

1. Sutures or ligatures of silkworm gut, silk and linen thread—that is, all the ordinary suture materials except catgut—are intensely optically active, and the polarizing microscope affords a ready means of determining their presence in tissue sections.

2. These various materials may retain their optical activity in the tissues for years, and in the case of silkworm gut even after the fibres have been broken down into tiny pieces and ingested by foreign body giant cells.

3. Catgut is much less optically active than the other substances named, and the property tends to be speedily lost in the tissues. For this material, therefore, the method may be inapplicable.

4. Ordinary paraffin sections are all that is required for the demonstration of the phenomenon.

Addendum.—Since this paper was written Dr. J. G. Greenfield has very kindly lent me the histological preparations relating to the experimental investigation of nerve suture materials carried out by him in conjunction with Mr. Percy Sargent.[8] The experiments were made on the great sciatic nerve of rabbits, and extended over periods of from twenty-one to eighty-one days. Suture relics were visible microscopically in 13 cases, and in these the materials used were catgut of various kinds (6 cases), silk (3 cases), linen thread (3 cases), and Japanese silkworm gut (one case). The last three show very intense optical activity in every instance. Catgut is variable: some specimens are optically quite inactive;

*I am informed that this is quite in keeping with clinically observed fact—namely, that silkworm gut sutures are often rough and eroded at the time of removal. Sutures which have been repeatedly sterilized by boiling are much more liable to undergo this change, and are, indeed, sometimes frayed when inserted.

† Some were in fact so missed and only discovered when the sections were re-examined with polarized light.

most show fairly definite luminosity with crossed Nicol's prisms, at least in parts—even a specimen which had been eighty-one days in the tissues.

I beg to express my great indebtedness to Professor J. H. Teacher and Dr. J. G. Greenfield for the loan of valuable material, and to Mr. E. R. Flint for useful criticism and suggestions.

REFERENCES.

[1] J. G. Adami and L. Aschoff: On the Myelins, Myelin Bodies, and Potential Fluid Crystals of the Organism, *Proc. Roy. Soc. Lond.*, Ser. B, 1916, 77, 359. [2] L. Aschoff: Zur Morphologie der lipoiden Substanzen, *Ziegler's Beitr.*, 1910, 47, 1. [3] C. Powell White: Cholesterol, Fluid Crystals, and Myelin Forms, *Med. Chron.*, Manchester, 1908, 47, 403. [4] C. Powell White: On the Occurrence of Crystals in Tumours, *Journ. Path. and Bact.*, Cambridge, 1909, 13, 3. [5] M. J. Stewart: On the Cellular Reactions induced by Local Deposits of Cholesterin in the Tissues, *Journ. Path. and Bact.*, Cambridge, 1915, 19, 305. [6] A. Policard and B. Desplas: "A propos de la mise en évidence des corps étrangers microscopiques dans les plaies de guerre. Utilisation de la lumière polarisée." *Compt. rend. Soc. de Biol.*, Paris, 1917, 80, 248. [7] S. G. Shattock: Pseudo-tuberculoma Silicoticum of the Lip, *Proc. Roy. Soc. Med.*, 1917, vol. x, Sect. of Path., p. 6. [8] P. Sargent and J. G. Greenfield: An Experimental Investigation of Certain Materials used for Nerve Suture, BRITISH MEDICAL JOURNAL, 1919, ii, 407.

A Clinical Lecture ON GALL STONES.

DELIVERED AT GUY'S HOSPITAL

BY

R. P. ROWLANDS, M.S., F.R.C.S.,

SURGEON TO THE HOSPITAL.

I PROPOSE to make some general remarks upon gall stones and to illustrate my lecture by three interesting cases.

Nearly all gall stones form in the gall bladder, and are due to:

(*a*) Infection of the gall bladder.
(*b*) Over-concentration of the bile.

(*a*) The infection may occur through the blood stream, through the lymphatics, or ascend along the ducts from the duodenum. The researches of Rosenow indicate that infection by the blood stream is by far the most important, and cultivations obtained from infected human gall bladders often produce similar lesions in animals. It is very probable also that infection spreads to the gall bladder along the lymphatics from diseases of neighbouring organs, as, for instance, the appendix, duodenum, and stomach. The most common organisms to be found are the streptococcus, *B. typhosus* and *B. coli*. These have been cultivated from the centres of gall stones, from the bile, and from the wall of the gall bladder. It is well known that infection of the gall bladder often occurs in enterica and that gall stones frequently follow it.

(*b*) That concentration of the bile, leading to the deposition of mucus and crystals, is an important factor is clear, for nearly four-fifths of the patients suffering from gall stones are women who have had children, and in them symptoms often date from the time of pregnancy, when the bile is very concentrated. Stasis of the bile in the gall bladder is an important additional factor, therefore in a pendulous weak gall bladder, or in one the duct of which is kinked or obstructed in any way, gall stones are likely to form.

The cystic duct is very narrow and tortuous and its mucous membrane is raised into valvular folds, so that it is very difficult for any but very small stones to pass through it (Fig. 1). Moreover, it is much narrower than any part of the common bile duct, except the termination of the latter at the duodenal papilla, therefore the large majority of sufferers from gall stones never develop jaundice.

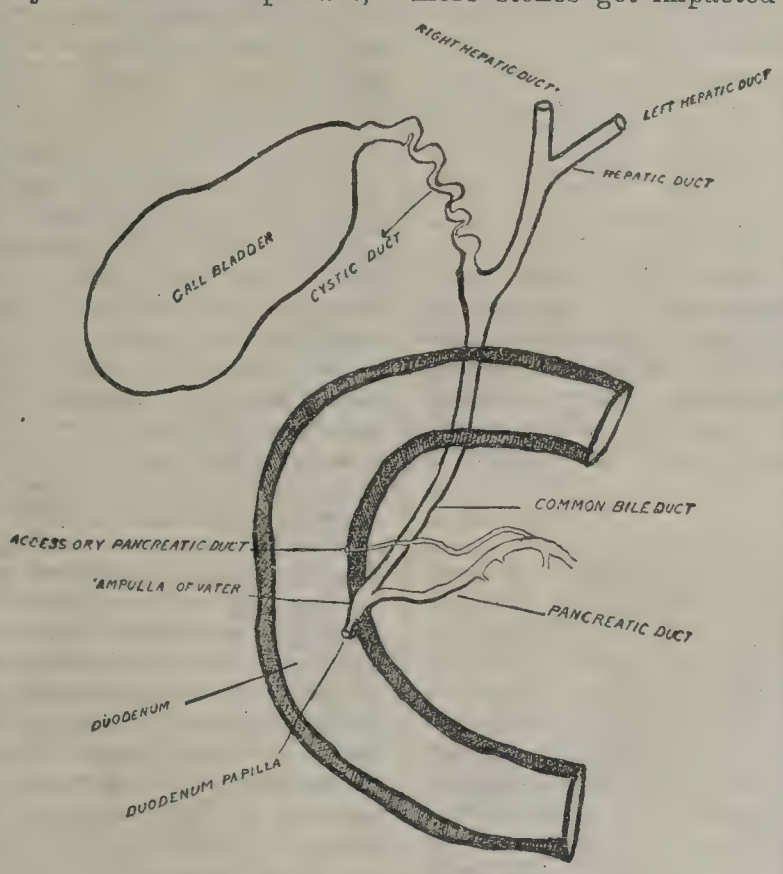


FIG. 1.—Anatomy of the biliary apparatus.

It is also important to remember that the part of the common bile duct traversing the pancreas is not as easily distended as the first part of the duct; hence it often happens that the common bile duct is shaped like a funnel, and stones become impacted in the upper part of the pancreatic portion of the duct. The duodenal papilla is very narrow, and minute stones which will pass freely through the other parts of the ducts become arrested here. A stone smaller than a pea may thus lead to death; when it is impacted at this point it dams up both the bile and the pancreatic juice.

SYMPTOMS.

1. *Stones in the gall bladder* may cause (*a*) recurrent attacks of pain in the right hypochondrium associated with vomiting and local tenderness. These attacks are often mistaken for gastritis. It may be possible to feel the gall bladder during the colic, or on deep inspiration there may be "a catch" or pain in the gall-bladder region, and local tenderness on palpation. Or (*b*) a dull aching pain in the right hypochondrium and right shoulder, with a distaste for food and flatulent dyspepsia. It may not be possible to feel any swelling unless the cystic duct be obstructed or cholecystitis with local peritonitis develop. There is no jaundice unless the common duct also is obstructed.

2. *A stone in the cystic duct* may cause colic at intervals, with a swelling having the characteristics of a distended gall bladder. Usually this is in the right hypochondrium, but it may reach the right iliac fossa. Jaundice is absent unless the stone is junctional and presses upon or otherwise obstructs the common or hepatic duct. The stone usually falls back and the colic abates after a few hours, but it may remain impacted and cause inflammation with suppuration, or even sloughing of the gall bladder. Grey patches appear at the fundus of the gall bladder or below the stone in the duct. Perforation may take place and local or general peritonitis ensue, or adhesion to the duodenum, colon, or stomach may take place, with the formation of a fistula. It is still a common error to believe that gall stones are unlikely without a history of jaundice, but it should be remembered that as the cystic duct is narrower than the common duct, except at the papilla, more stones get impacted in the cystic duct than elsewhere, and that jaundice is really an exceptional and late sign of gall stones. This error has condemned many patients to years of unnecessary suffering, a diagnosis of gastritis or hysteria being commonly made.

3. *A stone in the common bile duct* usually causes colic and jaundice sooner or later, and fever due to an ascending infective cholangitis is sometimes present during the attack of jaundice. Sometimes stones impacted in the common duct do not cause colic but only nausea. There is often tenderness on deep palpation over the common duct above and to the right of the umbilicus. Small stones in a dilated common bile duct, although they may cause frequent colic, may not obstruct long enough to produce jaundice. It is imperative, therefore, to examine the common duct carefully at the operation in every case, even when there is no history of jaundice. The gall bladder is usually contracted, shrunken, and matted down by adhesions in these late cases, so that no gall bladder swelling is evident. In fact, if the gall bladder can be felt in a jaundiced patient, the obstruction is probably due to other causes, such as growth of the head of the pancreas or chronic pancreatitis.

DIAGNOSIS.

(*a*) *Stones in the Gall Bladder.*

The diagnosis of gall stones in the gall bladder when there is no history of definite biliary colic may be very difficult, for the symptoms may closely resemble those of

gastric or especially duodenal ulcer or chronic appendicitis. Gall stones may give rise to reflex disturbances in the stomach and duodenum, altering the secretion and the movements of the stomach, and thus adding to the difficulties. The absence of hyperacidity on repeated examination is against peptic ulcers and in favour of gall stones. The researches now going on at Guy's by the analysis of the gastric juices every quarter of an hour may throw some additional light on this subject. The repeated presence of even minute quantities of blood in the vomit, gastric juice, or faeces is much in favour of peptic ulcer and against gall stones. I have, however, seen profuse melaena due to the erosion of the cystic artery by a gall stone impacted at the neck of the gall bladder. I have also known the same sign to be due to ulceration of the gall bladder and the formation of a fistula into the bowel. Anaemia and wasting are more commonly associated with peptic ulcers than with gall stones.

The time relationship of the pain to food is not so constant and striking with gall stones as with duodenal ulcer. Marked local tenderness on palpation below the ninth right costal cartilage on deep inspiration is much in favour of gall stones. Radiography may help by giving evidence of pyloric or duodenal obstruction or distortion of the shadow due to gastric or duodenal ulcer. It is unfortunate, however, that it does not often show gall stones; even with the greatest care in the examination and a good apparatus, only large gall stones or large collections of small stones are shown by the *x* rays. This fact is rather important, as many people are led to believe that they have no gall stones if the *x* rays do not show any. It is sometimes practically impossible to distinguish cholecystitis due to gall stones from chronic appendicitis, especially when the appendix is unusually high and near the gall bladder. If one is fortunate enough to see the patient in an acute attack the difficulties are less, for a local fixed swelling may be palpable over the appendix or the enlarged gall bladder may be felt moving on respiration.

(*b*) *Biliary Colic without Jaundice.*

This has to be distinguished from other colics, especially right renal colic. Here the distribution of the pain is of the greatest importance, renal colic shooting from the loin along the course of the ureter and causing pain and retraction of the testicle with urinary symptoms, and biliary colic being confined to the front and upper part of the abdomen and associated with local tenderness in the right hypochondrium. Pancreatic colic due to stones impacted in the pancreatic duct is very rare; the pain is mesial and lower down. Intestinal colic is a far more common source of error, but it is rarely so very violent as biliary colic. I have several times been temporarily misled by colic due to obstruction by a growth at the hepatic flexure, but on watching the abdomen carefully peristalsis may be noticed in the distended caecum and ascending colon. Appendical colic is rarely so severe and the pain is lower, generally referred to the navel. There is marked local tenderness over the appendix during the attack.

(*c*) *Biliary Colic with Jaundice.*

Jaundice due to gall stones has to be distinguished from that due to other causes, such as cirrhosis, or growth, or hydatid cysts of the liver, or obstruction of the main bile ducts by growth in their walls or pressing upon them from the head of the pancreas or lymphatic glands. To these conditions chronic pancreatitis and catarrhal jaundice must be added. The absence of severe pain is against gall stones and in favour of catarrhal jaundice or chronic pancreatitis. Jaundice due to cancer may cause severe pain, but rarely so acute and abrupt a colic as that due to gall stones. Moreover, the jaundice is gradual in its onset, progressive and severe, and not sudden, remittent or intermittent and moderate as it generally is with gall stones. Long-continued and black jaundice is very rarely due to gall stones. The age, sex, and especially the general condition of the patient, assist in the diagnosis, for with pancreatitis, and especially with malignant disease, the patient looks more ill and wastes more rapidly than with gall stones.

Small hydatid cysts may become impacted in the common bile duct, and give rise to jaundice and colic simulating that due to gall stones. Under these conditions the absence of a palpable stone in the common bile duct at the operation may be very disconcerting; but on examining the liver carefully the parent hydatid cyst may be felt. In a case of this kind I enucleated the cyst from the upper surface of the liver five years ago, and the man is quite well now.

With secondary cancer of the liver there is usually some indication of the primary growth, and definite local swellings may be felt in the liver; but with primary cancer of the liver jaundice may appear early. In one case I found a diffused primary endothelioma of the liver. Hypertrophic cirrhosis of the liver may also mislead, for the patient often denies the essential history. The peculiar congestion of the face, and the marked wasting associated with the enlargement of the liver, may help.

Indications for Operation.

For obstruction of the cystic duct or neck of the gall bladder with distension of the gall bladder which is unrelieved within forty-eight hours, it is imperative to operate in order to avoid suppuration and its complications, such as sloughing of the gall bladder, localized or even general peritonitis, pylephlebitis, and pulmonary complications, and such late complications as intestinal obstruction secondary to perforation of the gall bladder into the duodenum or colon. In the former case the stone is generally impacted in the lower part of the ileum. In the latter case it generally gets impacted in the narrow part of the pelvic colon. This complication is generally very grave, because it is not often recognized in time for a hopeful operation.

It is of the greatest importance to realize that jaundice which is neither slight nor transient, and is therefore not catarrhal, calls for early exploration and treatment. In this way only can such dangerous complications as infective cholangitis and post-operative haemorrhage be avoided with certainty. Sometimes it is advisable to wait for a few days when there is fever due to an exacerbation of existing cholangitis, for it is safer to operate in a quiet period.

When gall stones in the gall bladder give rise to symptoms, such as repeated attacks of colic or localized pain with flatulent dyspepsia, it is wise to advise operation unless there are grave contraindications to the anaesthetic. It is wise to do this in order to avoid the complications already mentioned, and also carcinoma of the gall bladder, which is apt to follow the chronic irritation of gall stones and to involve the liver early and to become irremovable by the time it is recognized.

Operation.

In operating it is of the greatest importance to obtain the best possible access to the bile apparatus, for the operation, although sometimes easy, may be one of the most difficult in surgery. After trying many incisions, I have come to the conclusion that that of Kocher is the best (Fig. 2). I have used this almost exclusively now for some years because it gives such a wonderfully good view, and also because it is so rarely followed by hernia, even after drainage. The incision begins above and to the left of the tip of the ensiform cartilage, and runs downwards and outwards nearly parallel to the costal margin and an inch below it across all the fibres of the rectus muscle. Occasionally it is necessary to prolong it into some of the fibres of the oblique muscles. It is not necessary to divide any intercostal nerves and thus weaken the abdominal wall. The muscular fibres join well. I make no apology for describing this incision, for several writers on operative surgery figure and describe it as being placed much further out where it would not give anything like as good access. In addition to this, the fatty coverings, which are often abundant, are divided for one or two inches more than the deep part of the wound, and a lumbar cushion is invaluable to bring the biliary apparatus prominently forward into the wound. If necessary, the falciform ligament also can be divided without detriment. In every case the operation should begin as an exploration of the whole abdomen, special attention being paid to the stomach, pancreas, and

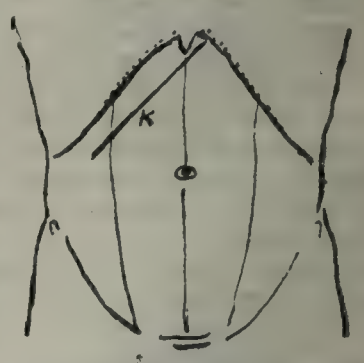


FIG. 2.—Kocher's incision, K. All the fibres of the right rectus but no nerves are divided, although the incision may be prolonged across the linea alba and outwards into some of the external oblique muscle.

appendix. Then the whole bile apparatus, including the liver, are carefully examined before any operation is decided upon. When the stones are limited to the gall bladder and cystic duct I always remove the gall bladder if the condition of the patient and the mobility of the parts allow it to be done without undue risk.

I believe that under these conditions cholecystectomy is not only more radical in that it removes the source of gall stones but also that it is safer, there being less risk of infecting the wound. In this way the considerable risk of recurrence of gall stones or the occasional occurrence of a biliary or mucous fistula and the danger of cancer of the gall bladder are avoided. The need and duration of drainage are lessened, a firmer wound is obtained, as well as a more comfortable and rapid recovery. It would, of course, be foolish to adopt cholecystectomy in old, feeble, or jaundiced patients, or when adhesions clearly add to the risk of the operation. A stone impacted in the cystic duct may be extremely difficult to remove by backing it into the gall bladder, and its impaction in the duct for some time may be followed by stricture with mucous fistula or mucocele. It is generally much easier and safer to remove the whole gall bladder and duct without opening them. Recurrence of symptoms is much rarer after cholecystectomy than after cholecystostomy.

Stones in the Common Bile Duct.

Whenever possible stones in the common bile duct should be removed through an incision in the anterior wall of the first part of the duct well above the duodenum. When a stone is impacted in the lower reaches of the duct it may be very difficult to press it back into the first part. It is much easier to do this before the bile is allowed to escape; therefore the stone should always be pushed back before the duct or gall bladder is opened. The incision is made well above the duodenum in order to avoid a branch of the hepatic artery which often runs down to the upper border of the duodenum, and in every case the left index finger is passed into the foramen of Winslow, and the stone is held up and fixed before an incision is made into the duct. When the stone cannot be dislodged from the lower part of the common bile duct it may be removed by displacing the second part of the duodenum forward and incising the duct as it runs through or grooves the pancreas. To allow this to be done the posterior peritoneum has to be incised vertically a little to the right of the duodenum. It is also of the greatest assistance to pass a blunt-pointed probe downwards from the first part of the duct. This serves to tilt the duct to the right and forward into the wound. When a stone is firmly impacted at or near the papilla and cannot be dislodged, the trans-duodenal route has to be adopted and the mucous membrane covering the stone incised, either at or above the papilla, and the stone thus removed. The wound in the anterior wall of the duodenum is closed with the greatest care, and sealed over by displacing and fixing some of the omentum over it. Without this care the trans-duodenal route does undoubtedly add considerably to the risk of the patient. In all cases the common bile duct must be proved to be clear by the insertion of the finger whenever possible, or by the passage of a blunt-pointed probe down the duct into the duodenum. The probe should also be passed up into the hepatic ducts, for a stone may have become displaced upwards into one of them. Whenever I have to open the common bile duct for stone, I drain it by inserting and fixing a small tube in it. I believe this is much safer than sewing up the duct and placing a tube near the incision. In one of my cases in which I did not fix a tube in the duct, bile escaped into the lesser sac, distended it enormously, and had to be evacuated ten days later. The patient had been very collapsed when the sac became over-distended, and she was then thought to be suffering from acute cardiac failure. She made a good recovery after the second operation. In another instance, which I published in the *Guy's Hospital Reports* (vol. lxvi, p. 219), a large clot formed in the sutured common bile duct, and gave rise to colic and collapse. At the second operation the healed duct was incised, the clot evacuated, and the patient made a rapid recovery.

MORTALITY.

The mortality of operations for gall stones has greatly diminished in recent years owing to improvements in technique.

Cholecystectomy and Cholecystostomy.—For the three years 1913–15 inclusive the Mayos[1] had a mortality of 1.2 per cent. in 1,767 cholecystectomies and 3.4 per cent. in 435 cholecystostomies. From 1907–15 inclusive they had a mortality of 1.3 per cent. in 2,493 cholecystectomies and of 1.5 per cent. in 2,854 cholecystostomies. It is very interesting that during the last three years of the period given the mortality of cholecystectomy should have been reduced below that of cholecystostomy. This is doubtless due chiefly to the fact that with increasing experience the Mayos have become more radical, doing cholecystectomy as an operation of choice and reserving cholecystostomy for the graver cases unsuitable for cholecystectomy.

Choledochotomy.—The mortality of simple choledochotomy in the absence of serious symptoms of infection or jaundice of long duration is about 2.5 per cent., but when infection of the bile ducts has occurred with remittent fever and deep jaundice and infective cholangitis has occurred, the mortality is about 15 per cent. The operation should, whenever possible, be done before the onset of this grave condition, or, failing this, it should, if possible, be performed during a remission of the fever and jaundice.

Duodeno-choledochotomy has a mortality of about 8 per cent. It is done for the removal of stones impacted at or near the ampulla of Vater, is often deferred until too late, and is in itself a severer operation, apt to be followed by duodenal fistula. Whenever possible the stone should be backed into the first part of the duct, whence its removal is much safer.

CASE I.—*Stone Impacted at Duodenal Papilla: Cholecystostomy: ? Pancreatic Growth: Biliary Fistula: Cholecystectomy: Choledochotomy: Recovery.*

The patient, a man aged 67, kindly wrote the following account of his symptoms:

Family History.

"Father never ill until age of 65, when he had a severe illness, at first thought malignant, but was no doubt due to gall bladder. He was not jaundiced. I, a student at the time, examined faeces for gall stones, but found none. He completely recovered for seven years, and then after a long walk died of haemorrhage from the stomach in twelve hours. I was then abroad. Father's brother, a healthy man, was treated for gall stones at the age of 45. Recovered and died at 74. Mother died at 85.

Personal History.

"Born 1852, never robust, but seldom laid up. Had typhoid badly in Argentina at the age of 20 and malaria badly in Persian Gulf at age of 24. Came home and malaria disappeared. Always lived a moderate life.

History of Present Illness.

"About five and a half years ago, after about twenty-four hours' dull pain in the back, I became slightly jaundiced, which lasted a few days. I had about two similar attacks in four years up to March, 1918. During this night (March 21st, 1918) I awoke at 1.30 with a strong rigor lasting twenty minutes. No pain; resembled malaria but without subsequent sweating. The day before this I had felt some malaria and discomfort in the back. Slightly jaundiced next day, which went off in four days' time. Day after attack motored twenty-one miles and sat on Recruiting Board. Got home very weak in afternoon. Went again next day, but could scarcely eat my lunch. Kept on the same for five days, but then awoke in the night with severe rigor and high temperature (104° or 105°). Stayed in bed three days, and symptoms, including jaundice, gradually subsided, but felt very weak. For some months before this attack was conscious of tenderness over gall bladder, which was always improved by doses of castor oil, even before bowels responded. Weight (stripped) after attack, 8 st.; about three or four years before, about 10 st. Went into a nursing home July, 1918. Had a rigor the first night there and about every six days; was operated on after about three weeks and three small gall stones removed. I noticed that the first two motions after operation contained bile, but no bile in the subsequent motions. Came home about a month after the operation. Nearly all bile came through sinus in wound, and I was slow in picking up strength. Had three or four loose motions every day, with ravenous appetite for the six months until the second operation. There was occasionally a streak of darker colour in the almost uniformly pale motions."

Second Operation.

I saw the patient for the first time in January, 1919. At the first operation the pancreas had been hard, and malignant disease was feared, but the patient's general condition improved, and he put on some weight during the next six months, but his biliary fistula became very irksome. When I saw him all the bile escaped at the biliary fistula, and the patient was still thin and in a bad state of nutrition. He was willing to undertake any risk in order to get rid of the fistula.

The lips of the fistula were separated and clamped to avoid spilling of bile infecting the wound, and also to maintain the

pressure inside the ducts. Kocher's incision was adopted; a vertical incision had been used at the first operation. The gall bladder was very large, the common bile duct was distended, no stone could be felt at first, but later, on feeling the third part of the duodenum, a large stone was felt evidently at the end of a very much elongated bile duct or pedunculated papilla. With some difficulty the pedunculated part of the duct was steadied with one hand while the stone was squeezed back into the duct with the other. In this way the need of opening the duodenum was avoided, and the stone then extracted from the first part of the common duct. In order to avoid recurrence, the ducts having been proved to be clear, the gall bladder was removed, and the common bile duct drained. The stone was the size of a filbert. The patient wrote on March 1st, 1920, stating that:

"Since my second operation there has been no looseness of bowels, and the appetite became very moderate. The motions are always uniformly stained dark-brown with bile. Unless the gall bladder has some beneficial secretion of its own—I have only heard of mucus—I think we should be better without it."

CASE II.—*Cholecystostomy: Cholecystectomy: Choledochotomy.*

Mrs. J., aged 52 years, was a patient of Dr. Talfourd Jones. After suffering some twenty years from symptoms of gall stones with intermittent attacks of jaundice and colic, she had been operated upon by a woman surgeon in March, 1916. Cholecystostomy was then performed and several stones removed from the gall bladder. The attacks continued. The second operation was performed in January, 1917, by the same surgeon, who then removed the gall bladder. The attacks continued. The patient had a slight attack of jaundice while she was still in the hospital. On several occasions she has been deeply jaundiced, and has suffered very severe colic. She has been very reluctant to consider another operation, but she found life intolerable, and at last consented to see me. A vertical incision had been adopted at the former operation.

She was admitted into Guy's Hospital in November, 1919. Kocher's incision. Six stones removed from the common bile duct, the stones serving as excellent guides to the dilated common bile duct, although the gall bladder had been previously removed. The patient made a good recovery, and has remained well since. It is probable that a larger and more suitable incision would have enabled the surgeon to find and remove the stones from the common bile-duct at the first or second operation.

CASE III.—*Gall Stone in Neck of Gall Bladder: Cholecystectomy.*

Mrs. A., aged 45, patient of Dr. Phillips, Croydon. She had had three children, and is a very active woman who eats very little owing to indigestion. She has never had a bilious attack, but often has slight attacks of diarrhoea. On the evening of November 7th, 1915, she ate a piece of unripe pear. At 1 a.m. on November 8th she was seized with violent abdominal pain, and did not sleep again. She got up and went into another room and lay on a bed there, but could not sleep. She was sick a good many times. She then went downstairs and lay before the gas fire, as she was so very cold and in much pain. She did not bring up anything but watery fluid, and later bile. Dr. Phillips saw her in the early morning, and thought she had intestinal colic due to the pear. The pulse and temperature were subnormal and she was cold. As she was very tender in the epigastrium, he wondered whether she had a perforated gastric ulcer, and got Dr. Male to see her. Dr. Male found that the tenderness and pain were then lower down towards the appendix, and he suggested an operation for (?) acute appendicitis. I saw her at 4 p.m. on November 8th, and felt two swellings, which Dr. Male and Dr. Phillips had also felt, in the right flank. Dr. Phillips thought that they might be scybala or a piece of pear, and found that they were movable. After getting the abdomen thoroughly relaxed, I was able to make out that the swelling was of the same size, shape, and attachments as the gall bladder, but it was lying very far back and a little lower down and farther out than usual. As I felt it the patient was seized with nausea and vomiting, and the consistence of the swelling seemed to vary. Once it seemed to consist of one lump, and another time of two. At the operation this was explained, for I clearly felt the fundus and at times also the bend of the neck of the gall bladder. I diagnosed gall stones impacted in the cystic duct, and advised an immediate operation, as the patient was so ill and would probably get worse. After some delay she was moved to a nursing home.

Operation.

Dr. Male gave the anaesthetic (November 8th, 1915). The gall bladder having been more definitely made out under the anaesthetic, a Kocher incision was made. The gall bladder was found. It was considerably enlarged, uniform in shape, and very oedematous. There was also some bloody fluid in the kidney pouch. A stone was felt impacted in the neck of the gall bladder. This was backed a good deal, but in view of the absence of stones in the common bile duct and the pendulous nature of the gall bladder, it was clearly safer to remove the latter, and this was done in the usual way, the raw area on the under surface of the liver being covered over with peritoneal flaps sewn with catgut. The abdominal wall was closed as usual, but a small tube was left at the inner and upper angle of the wound. She made a good, rapid, and complete recovery, and is now well, four and a half years later.

REFERENCE.

[1] *Collected Papers of the Mayo Clinic*, 1916, p. 274.

AIR-WAY INFECTIONS.

BY

T. H. C. BENIANS, F.R.C.S.ENG.,

PATHOLOGIST TO THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM, N.

IT is probable that in considering the mode of infection of the trachea and bronchial tubes sufficient attention is not paid to the normal protective mechanisms of these regions. At present methods of prophylaxis are directed mainly towards an internal immunity designed to lessen the severity of an infection when once it has taken place. It seems not improbable that an attempt to turn the natural mechanisms of prevention to account might be worth considering with the intention of actually preventing infection from occurring.

The respiratory passages from the anterior nares to the infundibula are so constructed by their plications and subdivisions and by their moist and sticky surface to take up the particles of dirt and bacterial organisms that may enter in the inspired air. Such foreign matter as may get right through into the alveoli is carried away into the body by the lymphatic system; but for dealing with that which settles in the air-ways—and this is the enormous bulk—we have, in all except the very smallest tubes, two essential mechanisms: they are the mucous secretion and the ciliary action of the mucous membrane.

The value of the mechanical self-cleansing process due to the sweeping action of the cilia is self-evident. Whilst the cilia are acting effectively any bacterial organisms deposited on the surface will be swept along and not allowed time to affect the underlying cells, for a stationary state would be necessary before invasion of the epithelium could occur. The sweeping-up function culminates in cough and expectoration of the offending matter.

As regards the protective functions of the mucoid matter lining the mucosa of the air tubes, apart from its capacity for maintaining an even supply of moisture so essential for ciliary action, there is experimental evidence that this type of substance protects the tissues in various parts of the body against the action of ferments. For instance, in the alimentary tract, Bayliss,[1] quoting Klug, states that it is the mucin which protects the alimentary canal from the action of its own digestive juices; this it apparently does by adsorbing the excess of enzymes. Now it is probable that the damage to the wall of the air passages that may follow the implantation on it of pathogenic organisms is in part effected by ferment action, the ferments being derived from the infecting organisms, either from their living or dead bodies. Apart from a direct breach in the epithelial wall from ferment action, there is also the probability of the absorption of toxic bodies if these lie directly on the epithelial surface. With the exception quoted below, I do not know of any experimental evidence on this latter point, although the same probabilities exist as in the case of ferment action, but it can be shown by staining experiments that large molecular bodies do not easily pass through a layer of mucilage. It follows that the action of bacterial ferments and toxins on the epithelial cells is likely to be inhibited by a free supply of mucus.

In the various examples of the "carrier" state we find the body protected from the action of pathogenic organisms, not by a true immunity of the internal type—for these patients are often not immune and may suffer reinfection—but apparently by the mucous environment of the bacteria. In these "carrier" conditions, if we except urinary tract infections, which are not properly to be considered in this class, we find the bacteria bedded in a mass of mucus: The typhoid bacillus in the gall bladder, the dysentery bacillus in the mucous crypts of the large bowel, the gonococcus in the prostate, the meningococcus in the nasopharynx, and the diphtheria bacillus in the muco-purulent discharge of chronic rhinitis. All these instances suggest that the body obtains protection from bacterial invasion in this manner.

I have shown elsewhere,[2] using bacteria embedded in mucilage of tragacanth, that the animal organism could be protected against the highly toxic Shiga's bacillus. The organism remained alive in the body for months, leading neither to the production of toxic symptoms nor to the production in the host of antibodies directed against the infecting bacillus.

This point of view of course is not new, but it seems probable that more might be done, both prophylactically and therapeutically, if closer attention were paid to the normal mechanisms of body protection.

REFERENCES.

[1] Bayliss, Nature of Enzyme Action, *Monographs of Biochemistry*; Longmans, Green and Co., p. 130. [2] Beilans, *Journ. of Path. and Bact.* (in the press).

LOEWI'S ADRENALIN MYDRIASIS AS A SIGN OF PANCREATIC INSUFFICIENCY.

BY

W. L. COCKCROFT, M.R.C.S., L.R.C.P.,

LATE ACTING MAJOR R.A.M.C., T.F.

SERVICE in the army has hitherto prevented me from publishing these notes, which were made in 1914. The cases, which were under the care of Dr. Murray in the Manchester Royal Infirmary, were, clinically, almost identical.

CASE I.

A man, aged 63, was admitted on October 26th, 1914, complaining of jaundice and intense pruritus all over the body. He stated that he had had dyspepsia for several years, had been a heavy beer and whisky drinker, and was very constipated. He first noticed jaundice and pruritus five weeks previous to admission, and for some months his stools had been gradually becoming lighter in colour. He had had no pain whatever over the liver or gall bladder.

Condition on Examination.

The skin, mucous membranes, and sclerotics were all extremely yellow. Emaciation was not marked until later, but the patient said that he had become weaker. The abdomen was distended and there was some ascites. No peristalsis was visible and no distended superficial veins were seen. The right lower border of the liver could be felt 3½ in. below the costal margin. The gall bladder was distended, tense, and tender; it extended down to the level of the umbilicus. The patient vomited once or twice soon after admission. The stools were soft, unformed, almost pure white in colour. The urine showed bile present, no albumin, no sugar, reaction neutral, specific gravity 1008.

After-History.

On November 2nd, 1914, two drops of adrenalin chloride solution (1 in 1,000) were dropped into one eye. After one hour there was no reaction, the pupils remaining exactly equal. The reaction was again negative on November 6th and on November 9th. The patient had free haemorrhage from the bowels and died on November 10th.

Post-mortem Examination.

The jaundice was found to be due to carcinoma of the bile ducts with secondary growths in the liver. Suppurative cholangitis was also present. The gall bladder was greatly distended with serous fluid, but it contained no gall stones. The pancreas was nowhere invaded by the new growth, nor were there any secondary deposits in it, the gland itself being quite healthy.

CASE II.

A man, aged 42, was readmitted to the infirmary about October 1st, 1914, complaining of jaundice. He had had "dyspepsia" during September and October, 1913, and influenza during the early part of that year. At Easter, 1914, he first noticed jaundice, accompanied by severe pruritus. His stools had been clay-coloured for some time. He was admitted on May 26th, 1914, refused operation, and was discharged June 23rd, 1914, "condition unchanged."

Condition on Examination.

The skin, mucous membranes, and sclerotics were very deeply pigmented with bile; he was worn and emaciated, the pruritus was much less than formerly, but there was great tenderness over the gall bladder and attacks of pain round the region of the umbilicus. The gall bladder was distended, and could be felt 3 to 4 inches below the right costal margin. The liver was not enlarged. There was a history of several attacks of epistaxis. No ascites was present, and no distended superficial veins were visible.

After-History.

On October 10th, 1914, two drops of adrenalin chloride solution (1 in 1,000) were dropped into one eye. After one hour there was marked dilatation of the pupil of that eye. On October 28th, and also on November 1st, the test was repeated, with marked positive reaction (dilatation of pupil) on each occasion.

A few days before his death exaggerated peristalsis of the walls of the stomach became visible through the abdominal wall. At the same time, owing to the progressive emaciation, a hard mass became palpable in the region of the head of the pancreas. The stools were clay-coloured; the urine mahogany-coloured, neutral, specific gravity 1009; bile was present, but no albumin nor sugar. *X*-ray examination on June 16th, 1914, and also later, had shown no gall stones nor other evidence of disease of the gall bladder. The patient began to vomit everything he took by mouth, became very depressed and stuporous, and died on November 4th.

Post-mortem Examination.

There was found to be malignant disease of the head of the pancreas, which invaded the duodenum and common bile duct. There were metastases in the liver, and obstruction and dilatation of the common bile duct and bile passages. The growth in the pancreas caused stenosis of the duodenum, with secondary dilatation and hypertrophy of the stomach and upper part of the duodenum.

It will be noted that in Case I, in which the pancreas was completely free from disease and quite efficient, Loewi's reaction was completely negative on three separate occasions, whereas in Case II, in which the pancreas was almost completely disorganized, the reaction was markedly positive, also on three separate occasions.

VAGASTHENIA.

BY

JAMES A. W. WATTS, M.B., B.S.DURH.,

MAJOR R.A.M.C.(R.).

ALL medical practitioners who, as officers or civilians, have been occupied with troops during the war, and those who are still engaged in treating returned soldiers or as members of Pensions Medical Boards, have been, and still are, constantly confronted with the letters D.A.H. My observation leads me to believe that the ideas held as to the meaning of these letters are not very distinct or informative. Broadly and literally, they indicate a condition of increased frequency, slowing or irregularity of the heart beat, or a combination of any two of these. Since these alterations of rhythm occur in many pathological and physiological states, which may depend on disordered function arising outside the heart itself or in the intrinsic structure of that organ, it seems to me that it is desirable to find a phraseology which will not only be less cumbersome but which will bear also some relation to the particular condition that is met with. It is a reflection on the medical profession that its members should so readily follow the Army fashion—neither dignified nor scientific—of labelling things by initial letters. The letters P.U.O., however useful a purpose they may have served until the discovery of a definite disease, which we now know as trench fever, are gradually falling into disuse, and I suggest that their brothers, D.A.H. and V.D.H., should accompany them into the war museum, not again to emerge.

Clinical Characters.

Although the term "D.A.H." may be applied to any of the conditions enumerated above, it is used in the vast majority of cases to signify a symptom group which has been described for many years past as irritable heart or soldier's heart, and it would have been as well to retain these names until we could decide upon a more scientific one. Notwithstanding the divergent views as to the cause of this malady, it has come to be recognized as a definite clinical entity, presenting a well defined and easily determined syndrome, marked by increased frequency of the heart's action, early exhaustion, shortness of breath, dizziness, and frequently precordial pain; less often there is precordial hyperaesthesia. These symptoms are common to all cases of myocardial exhaustion, and it is necessary that we should be able to exclude all forms of structural heart disease before arriving at a definite diagnosis. Murmurs may be and often are present to increase the difficulty of deciding. What are the points, then, which will help us? First and foremost, in my opinion, is the absence of cardiac enlargement; secondly, the rhythm, although much increased in rate, is always regular; the inception of a new rhythm, such as auricular flutter, auricular fibrillation, or extra systoles, never occurs. Murmurs are always systolic in time and soft in character, and are variable—that is to say, they are not always present and alter with the position of the patient, sometimes being audible when he is standing, at others when

he is recumbent. In making this somewhat dogmatic statement I would exclude cases due to rheumatism, for it is probable that these really belong to the class of structural disease, either the endocardium or myocardium being affected. In these cases the inception of a new rhythm is frequently met with, as also some cardiac enlargement.

The Origin of the Disorder.

Many circumstances have been assigned as the cause of the condition; foremost amongst them is the presence in the blood of the toxins of acute infections, especially influenza, but shock, the absence of basic salts in the blood, and other causes have also been suggested. Reflection on the characteristic features of this disorder leads us to believe that it is not due to any affection of the heart itself, interfering with its power of generating stimuli within itself, its faculty of conducting them or its power of contraction, but to something which affects its nervous control. In affections of the myocardium or the conducting paths in the heart we always find some increase in size of the organ, and the inception sooner or later of a new rhythm such as auricular fibrillation, followed eventually by "back pressure symptoms"; these features, in my experience, never occur in cases of irritable heart.

If, then, we conclude that the condition is due to interference with the nervous control of the heart, it must be due either to weakness of vagus action or over-stimulation of the sympathetic. Every medical officer who has served during the war has had cases in which the history could leave no possible doubt that the tachycardia was noticed for the first time after some severe shock, such as a shell explosion in close proximity to the patient, who, before it, was perfectly well. It is the same condition as that which supervenes on fright or shock in all stages of life, more especially in children. It has always been supposed that this latter condition is due to suppression of vagus control, and it is reasonable to suppose that the condition of irritable heart in soldiers is due to the same complex, which, instead of being temporary, persists.

If this view is accepted, I suggest that a more accurately applicable and more scientific name for this symptom-group would be "vagasthenia." A condition of vagotonia in which we get hyperactivity of the vagus mechanism has been described, more especially by Continental writers; why should we not use a name which describes an affection in which an opposite set of factors is at work?

Treatment.

The recognition of this malady as a neurosis gives us an important guide to its treatment. It may be that the methods of the psycho-therapist may meet with the same good results which have attended them in the other forms of neurosis. So far the only method of treatment giving good results has been the employment of graduated exercises, and I believe that these results are due to suggestion, or rather persuasion, as practised by the psycho-therapist, rather than to the effect of exercises on the heart muscle itself. Is it not irrational on any other ground to increase the work of the heart muscle, which is already doing a double amount of work in contracting constantly at almost double its normal rate? May we not hope that a further stage of this treatment—namely, psycho-analysis—may reveal some forgotten shock or emergency in early life which is at the bottom of the trouble, as in so many cases of neurosis which exhibit paralyses, phobias, etc.? My experience in the early stages of the war, when men joined voluntarily and so had not the terror of conscription before them, was that very great numbers suffered from irritable heart from the beginning of their training. Probably they had had it for years previously; it was only when they were called upon for the extra effort entailed in training that they found themselves unfit—that is to say, training did not cause but revealed it.

It is because I feel that ideas generally concerning D.A.H. are so confused, and that the retention of the name D.A.H. tends to perpetuate that confusion, that I put forward the suggested name vagasthenia, in the hope that it may elicit an expression of views from others better qualified than myself to speak on the subject.

ACUTE SUFFOCATIVE CATARRH.

BY

J. A. SMYTH, M.B.,

MELTON MOWBRAY.

HAVING read the reports of cases of this condition in recent numbers of the BRITISH MEDICAL JOURNAL, I think it may be useful to publish summaries of similar cases which I have attended since 1914.*

Case 1 occurred in a male of 63, who suffers from Bright's disease, and whose blood pressure is 200 mm. Hg.

He partook of a heavy meal at 6 p.m., and shortly after stood for ten minutes in a cold wind. Having gone in he felt distressed; he was almost immediately seized with urgent dyspnoea, and began to cough up copious brownish frothy expectoration, which flowed from the nose and mouth. His complexion was dusky. He was relieved in ten minutes by hypodermic injection of morphine and atropine and by amyl nitrite inhalations.

Case 2 was that of a woman of 82, suffering from mitral regurgitation.

In November, 1915, two hours after taking a heavy supper, she awoke with intense dyspnoea, rattling in chest, feeble rapid irregular pulse, intense pallor and sweating, and constant cough without expectoration. Râles were audible in the upper part of the chest. She was relieved by injection of morphine and atropine, and digitalin given by the mouth; the chest was clear next day. On February 24th, 1916, a similar attack occurred, and was relieved as before. The patient died in 1917.

Cases 3 and 4 occurred in patients of about 65, who were hearty eaters.

In both there was a sudden attack of dyspnoea with cough and rattling in the chest, but no expectoration; râles were audible, chiefly over the upper portions of the lungs. Relief was obtained by injections of strychnine and by inhalation of amyl nitrite. Case 4 died seven months afterwards of heart failure with dropsy.

In *Case 5* the patient had suffered from angina pectoris for five years.

From January, 1917, to 1919, his anginal attacks were frequently accompanied by rattling in the chest and oedema of the lungs, with constant dry cough; râles were limited to the upper part of the chest. The attacks usually lasted about an hour, and were relieved by chloral and nitroglycerin, together with amyl nitrite inhalations. He died early this year after an attack of pericarditis.

Case 6, a male of 69, had suffered from bronchitis.

Two hours after retiring he woke suddenly and exhibited cyanosis, dyspnoea, and copious secretion of a brownish-red frothy fluid, which filled the nose and mouth. He was relieved by strychnine and amyl nitrite, and remained fairly well until his sudden death a month afterwards.

Case 7, a man of 54, suffered from aortic regurgitation.

Urgent dyspnoea, with cyanosis, constant cough, and expectoration of a small amount of stained frothy fluid, appeared suddenly at 5 a.m., and were relieved in half an hour by amyl nitrite, nitroglycerin, and brandy. Five hours afterwards the chest, in which continuous "rattlings" had been audible, was clear. He had many subsequent attacks of dyspnoea, in none of which was pulmonary oedema detected. He died five months afterwards (heart failure accelerated by pulmonary embolism).

I have also met with two similar cases in consultation. In both of them the blood pressure was greatly raised; one was relieved by venesection.

In many of the milder cases of this condition the oedema was noted to be limited to the upper part of the chest, and not the basal region, as one would have expected if heart failure were the sole cause. The combination of the three factors—high blood pressure, cold winds, and indiscretions in diet—appears in some cases to act as an exciting cause. If one includes under the heading of "acute suffocative catarrh" the milder forms of this pulmonary oedema the condition is not uncommon.

* The clinical notes have been condensed.

ACCORDING to the official directory for 1920, Luxembourg possesses 129 doctors, 24 dentists, 40 chemists owning a shop and 54 without a shop, 2 druggists, 42 veterinary surgeons, and 199 midwives. At the frontier 19 doctors, 4 veterinary surgeons, and 25 midwives of Luxembourg nationality are allowed to practise in France, and 7 doctors and 25 midwives resident in France have similar permission to practise in adjacent Belgian territory.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF ENCEPHALITIS LETHARGICA.

THE following case, diagnosed as encephalitis lethargica, is of interest partly because of the bacteriological findings and partly on account of the treatment by sodium salicylate given intravenously in fairly large doses.

Abstract of Clinical Notes.

The patient, an adult Indian follower, was admitted without notes or history to a stationary hospital on January 17th, 1920. His pulse was 96, his temperature was 100.4°; the respirations were 26. His general condition was stuporose; he lay still, with expressionless face and closed eyes.

The ocular conjunctiva was congested; no strabismus was present; the pupils were medium sized and equal, contracting to light. There was a considerable degree of general muscular tension and irritability, the arms and legs being flexed. Rigidity of the neck and Kernig's sign were absent. Subsequent records are given below.

Fourth day: Slight improvement. Can be roused, when for a time he is intelligent and talkative, but suddenly reverts to lethargy. Photophobia; knee-jerks increased, Babinski's sign absent.

Sixth day: Not so well, cannot be roused. Constant muscle twitchings, general, but best seen in pectorals and hand and finger muscles. Bouts of hiccough. Extreme myoedema. General rigidity increased; sphincters not under control. Blood examination: 9,000 leucocytes per cubic millimetre, no malarial parasites. Sod. salicyl. gr. 3 in 20 c.cm. saline given intravenously; gr. 10 t.d.s. by the mouth.

Seventh day: Patient pulseless, pituitrin given in two injections.

Seventh to seventeenth day: The stupor persisted in varying intensity. Ptosis of the eyelids, lagophthalmos, slight external strabismus on the right and deviation of the tongue to the left were noticed, and attacks of muscular twitching continued to occur; between them the position of tetany was sometimes noticed. Complaint was made of pain in the eyes, mouth, and throat, and of failing vision. Cultures were made from a naso-pharyngeal swab; influenza bacilli were found, together with a few pneumococci. The cerebro-spinal fluid, clear and not showing increased tension, contained a few lymphocytes but no organisms. The injections of sod. salicylate (gr. 1½ to gr. 4) were repeated on the seventh, eleventh, and fifteenth days.

On the seventh day a blood culture was made on broth; the report showed the presence of Gram-negative bacilli a little larger than *B. influenzae*, inclined to lie in pairs. A second culture, made on the fifteenth day, contained no organism; possibly the first finding was due to contamination.

Seventeenth day: There was very noticeable improvement; he was less stuporose, and sat up; the rigidity began to disappear, and the ptosis and strabismus to diminish. His appetite returned.

On the thirty-fourth day he was almost well, except for incessant loquacity. The temperature had never risen above 100.4°.

It is noteworthy that in December, 1919, another patient in this hospital who was convalescent after what seemed a typical attack of influenza and had had a normal temperature for nine days, suddenly complained of inability to open his eyes. In the course of a few days this became worse, and gradually there set in a train of symptoms similar to the above. One intravenous injection of sod. salicyl. (gr. iij in 20 c.cm. saline) was given, and some slight improvement followed. Unfortunately this patient passed out of observation soon afterwards. I have since heard that he made a good recovery.

It has been generally noticed here that many patients convalescing after an attack of influenza have complained of heaviness in their eyelids, and have shown a great tendency to drowsiness.

I have to thank Captain Adler, R.A.M.C.(S.R.), who did the bacteriological work, and Colonel Kennedy, R.A.M.C., who verified the findings; also Colonel Mackelvie, I.M.S., for permission to publish these notes.

A. SMITH GOUDIE, M.B., Ch.B.Glasg.,
Captain R.A.M.C.(S.R.),
61st Indian Stationary Hospital, Baghdad.

GONORRHOEAL VULVO-VAGINITIS IN A NEWBORN INFANT.

AN infant, 14 days old, was brought to me for examination. The history was of a vaginal discharge beginning a few days after birth, very slight in amount, but increasing steadily and becoming more purulent. There was no evidence of the child having dysuria or being in any way upset by the local condition. She was otherwise healthy, but inflammation of the vulva was seen, and after the child's straining a little on micturition a rush of green pus from the vagina occurred. A film from the vagina was taken at once, and the pathological report was: "Pus and numerous gonococci present."

The child was born in a Poor Law institution, and details of labour, chart, etc., were easily procured. The mother's genital tract had appeared normal before, during, and after labour. Delivery was easy, though the presentation was breech. The mother's recovery was uneventful, not the slightest pyrexia appearing on the chart. She herself looked normal locally, but gonococci were found in films from the cervix.

The infant's infection was undoubtedly contracted during labour, and the interesting points are:

1. The infection of the child's presenting part.
2. Total absence of ophthalmia.
3. Child's general good condition and lack of malaise, though the local infection was severe.

There was no possibility of infection having taken place after birth, as the case was still in the maternity wards, where the child's toilet was wholly performed by pupil midwives.

MRS. MARGARET RORKE, M.B., Ch.B.,
In charge Female V.D. Clinics, Royal Free Hospital and Blackfriars Skin Hospital.
London, W.

Reports of Societies.

OPHTHALMOLOGICAL TEACHING.

THE annual congress of the Ophthalmological Society of the United Kingdom was held at the house of the Royal Society of Medicine on April 29th. The President, Mr. J. B. STORY, P.R.C.S.I., took as the subject of his presidential address the teaching and examination of medical students in ophthalmology. He said:

The Council of British Ophthalmologists have already urged the General Medical Council to adopt two reforms—first, to make three months' attendance at an ophthalmic clinic obligatory and secondly, to have an examination by ophthalmic surgeons as part of the final pass examination. The General Medical Council accepted the first and rejected the second, a most astonishing thing to those who know well that medical students have no time to waste on subjects that are not necessary and in which examination is not compulsory. There are two reasons why a certain knowledge of ophthalmology is necessary for every person permitted to practise—(1) because the vast majority of practitioners cannot escape from having to diagnose and treat diseases of and injuries to the eyes when no specialist can be obtained, and (2) because in many serious diseases the evidence afforded by ocular conditions is most important, and often the ocular symptoms are those which induce the sufferer to seek medical advice. For instance, interstitial keratitis may be the first evidence of infantile syphilis, even before the eruption of the teeth described by Jonathan Hutchinson; and acquired syphilis may show itself in the choroid, iris, or retina long after the patient has forgotten the primary disease completely. Ocular tuberculosis may be the first visible manifestation of that disease, and the ocular signs are important in tabes, disseminated sclerosis, meningitis, and other intracranial lesions, diabetes, nephritis, arterio-sclerosis, to mention only a few serious and not uncommon affections. In many of these the ocular signs may be mainly naked-eye appearances or fairly easily observed ophthalmoscopic lesions. The final decision of the General Medical Council is said to be that the hospitals should, or may, refuse certificates to students who do not acquire sufficient knowledge—thus shuffling off the responsibility thrown on it by Act of Parliament and placing it, not on the licensing bodies over whom it has control, but on the medical staffs of hospitals. It has been objected that if an examination in ophthalmology is instituted at the Final, it will overload the curriculum, and that other special branches of surgery will claim a similar privilege. As regards the first objection, the special clinical examination has been the rule in every one of the Irish licensing bodies for some thirty years, and has not caused overloading. As regards the second, it has been already pointed out how great is the importance of ocular signs and symptoms in serious constitutional diseases, an importance much greater than can be assigned to any of the other organs usually taken up as specialties. Ophthalmic surgeons are not narrow-minded, and would certainly urge that every medical man should be able to

recognize anomalies of ear, nose, and throat which can be seen with such simple instruments as the common head mirror and aural speculum.

The President, in conclusion, insisted upon the necessity of a practical clinical examination, because, in his experience of thirty years as an examiner, he had found students whose book knowledge was perfect unable to diagnose quite simple ocular anomalies in the patients before them. The General Medical Council, he said, should be urged by the Society to consider its recommendation and institute the following reforms: (1) That each candidate for a licence to practise should be compelled to attend an ophthalmic clinic for a period of three months; (2) that the final examination should include as a separate pass subject a clinical examination by ophthalmic specialists. If the Ophthalmological Society were unsuccessful he hoped the general practitioners throughout Great Britain would take the matter up.

TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

A CONJOINT meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine with the North of England and Midland Obstetrical and Gynaecological Societies was held in London on May 6th. In the morning a discussion on "The treatment of ante-partum haemorrhage" was introduced by Dr. HASTINGS TWEEDY, of Dublin, and in the afternoon Dr. EARDLEY HOLLAND read a paper on "Rupture of Caesarean section scar in subsequent pregnancy or labour." The chair was occupied in the morning by Mr. J. E. GEMMELL, of the North of England Society, and in the afternoon by Mr. CHRISTOPHER MARTIN, of the Midland Society.

Dr. HASTINGS TWEEDY said that it was an error to consider all ante-partum haemorrhages, other than those arising from placenta praevia, as accidental, yet this was a mistake commonly made by nurses and students. It was of great importance to determine the amount of loss which brought the condition within the category of accidental haemorrhage. At present various standards were used in the compilation of different statistics, and the comparison of results, therefore, was rendered difficult. In the Rotunda Hospital at Dublin the term was now not used unless the bleeding was sufficient to necessitate the presence of an assistant master, who was not summoned unless his presence was required in the interest of the patient; many insignificant bleedings thus escaped being recorded. During the speaker's entire mastership he reported but 49 cases of accidental and 45 of unavoidable haemorrhage in 13,924 deliveries, and in the extern maternity 47 haemorrhage cases in 15,543 deliveries. Sir William Smyly, in his first hospital report, adopting a different standard, recorded 44 cases in 3,600 deliveries, most of the cases being of little consequence. Amongst his own 49 patients who had accidental haemorrhage, Dr. Hastings Tweedy said that 22 were in serious danger, and were treated by the vaginal plug. He lost two of his hospital patients, the deaths probably arising from intraperitoneal haemorrhage, and seven of the extern maternity patients died, in five of whom the plug had been employed. In 1915 he returned to the Rotunda, and, in conjunction with Sir William Smyly and Dr. Purefoy, carried on the work of the institution for three years, when 23 cases of accidental haemorrhage were encountered. They were then in possession of the knowledge that accidental haemorrhage might arise as a result of pregnancy toxaemia, and this permitted them to perform Caesarean section when the double complication existed in a severe form. Altogether, his hospital experience comprised 72 cases of accidental haemorrhage in over 18,000 deliveries, with only two deaths; 30 of these cases were plugged. Berkeley and Bonney had expressed a doubt whether plugging could have any directly useful effect in concealed accidental haemorrhage, with the accompanying uterine inertia. A plug applied in the manner recommended by these authors, said Dr. Tweedy, would not compress the vessels, for they applied the plug with the aid of a speculum and a forceps, and used for this purpose rolls of cotton, each tied round with a string to facilitate removal. Dr. Tweedy strongly maintained that compression was accomplished with the plug which he applied, and that he had demonstrated this principle during the performance of severeal Caesarean sections.

To plug efficiently the left hand should be passed into the vagina, the tips of the fingers lying behind the cervix. Small pieces of cotton-wool, squeezed out with lysol solution, and each the size of the thumb knuckle, were then taken and inserted by means of the right hand around the cervix. The fingers of the left hand were kept busy squeezing the pellets into a compact mass and forcing the spaces between them to permit the insertion of still another plug. This process was continued in a systematic manner from above downwards until the vulva was reached and the vagina could hold no more. A T-bandage was applied to keep the plug in position and an abdominal binder was fastened tightly from above downwards to press the side walls of the uterus against the vaginal dam, and this completed the operation. To what extent intraperitoneal haemorrhage could be controlled by a vaginal plug was still a matter of doubt. In the vicinity of the internal os the control was complete; on the other hand, it would fail entirely to stop a leakage from the ovarian artery. The latter supplied a relatively small amount of blood to the placenta, chiefly flowing to its upper portion where detachment was rare. When the main supply was cut off the loss on blood pressure promoted coagulation in the sinus.

Dr. Tweedy added that hysterectomy had no place in the treatment of accidental haemorrhage, and finally it might be stated that rupture of the membrane did not contra-indicate plugging the vagina.

The CHAIRMAN (Mr. Gemmell) said that he had only carried out this method of treatment in one case some years ago, and the procedure was eminently successful. The old surgical axiom, "Put your finger on the bleeding spot," should be remembered; to put the finger on the bleeding spot in accidental and unavoidable haemorrhage was difficult, but there were means towards that end. In severe cases of accidental haemorrhage where blood clot remained behind the placenta a certain amount of inertia of the uterus always resulted, and played an important part in allowing the haemorrhage to go on. To plug the vagina successfully it was necessary to have hands accustomed to vaginal work; it could hardly be expected of the ordinary practitioner.

Dr. FLETCHER SHAW congratulated Dr. Tweedy upon the results of the Dublin method. It was an extremely good treatment for accidental haemorrhage, but in Manchester they adopted another method—rupturing the membranes, putting on a tight binder, and probably giving ergot, and he thought the results quite as good by this method as by the other. It must be remembered that in a large maternity hospital, while, of course, the treatment of the patients had primarily to be considered, the teaching of students had to be considered too. These men and women were going into practice, where they would get occasional cases of accidental haemorrhage, probably occurring in the very worst possible surroundings. There was nothing more alarming to the practitioner than to have haemorrhage. It seemed so essential that it must be stopped; every other consideration went by the board, and the treatment which had been taught to that practitioner in his student days presented itself naturally as the method to be carried out. The practitioner found a case of accidental haemorrhage; possibly he had not had a case for years, and was not prepared with sterilized material. If he had been taught to pack he used what he had at hand. Those who worked in maternity hospitals received cases in which the sepsis was appalling, the result of unfortunate packing. He had seen strips torn from bed sheets and just dipped in some antiseptic solution; one case was packed with a dish-cloth. With packing in this careless manner a large number of septic cases were bound to arise. He himself, however, did not use packing, and did not teach students to use it; the other method was quite as efficacious, and could be carried out without anything like the same amount of risk. There were but few cases in which haemorrhage could not be stopped by either of these methods. In 1916 he described six cases requiring abdominal section and hysterectomy, but he had not had a single case since. In the case of unavoidable haemorrhage, Caesarean section was used nowadays very much more frequently than formerly; there were undoubtedly a number of cases in which it ought to be used for placenta praevia and other conditions. If the patient had a fair amount of haemorrhage and the child was alive, and there was not much dilatation of the cervix, Caesarean section was the treatment to be generally adopted.

Dr. HERBERT WILLIAMSON gave some statistics gathered from the maternity ward of St. Bartholomew's Hospital.

The ward was opened in February, 1911. Between that date and the end of July, 1919, 2,600 patients were admitted. Among these were 98 cases of ante-partum haemorrhage; these figures were of no value in determining frequency, because the great majority were sent in on account of the bleeding, and but for the haemorrhage would have been delivered elsewhere. Fifty of these cases were accidental haemorrhage and 48 placenta praevia. Of the mothers with accidental haemorrhage, 47 recovered and 3 died, and of the children 27 were born alive and 23 dead. Of the cases of unavoidable haemorrhage 12 were central, 27 lateral, and 9 marginal placenta praevia. Of these mothers 45 recovered and 3 died, and of the children 16 were born alive and 32 were stillborn. Amongst the accidental haemorrhage cases 17 were suffering from albuminuria, and amongst the placenta praevia cases 3. Local infection in the puerperium was manifested in 12 per cent. of the accidental haemorrhage cases and in 25 per cent. of the placenta praevia. Of the whole 98 cases 37 were delivered without interference, the procedure being rest in bed, injections of morphine, etc.; these patients, of course, remaining under exceptionally favourable circumstances. This same treatment, with ruptured membranes in addition, was carried out in 8 cases; bipolar inversion and bringing down a leg in 11 cases; manual dilatation of cervix and forceps delivery in 3 cases; Champetier de Ribes's bag in 18 cases; Caesarean section in 3 cases; and plugging of vagina and application of abdominal binder in 18 cases, of which 11 were cases of accidental haemorrhage and 7 were cases of placenta praevia. The cases selected for plugging were those in which uterine contractions were not present and the cervix was not sufficiently dilated for bipolar version or the introduction of the Champetier de Ribes bag. Plugging was done under an anaesthetic, and instead of using little pledgets as Dr. Tweedy did, narrow strips of gauze were employed. The result of the plugging was that in 8 cases—of which 3 were placenta praevia, 2 external accidental haemorrhage, 1 concealed accidental haemorrhage, and 2 mixed accidental haemorrhage—the bleeding was arrested, labour pains excited, and no further treatment required; in 3—1 of placenta praevia, and 1 of external and 1 of mixed accidental haemorrhage—the bleeding was arrested but no labour pains were excited; in 3—2 of placenta praevia and 1 of external haemorrhage—the bleeding was arrested for a time but recurred after an interval; in 4—2 of placenta praevia, 1 of concealed and 1 of mixed accidental haemorrhage—the haemorrhage was not arrested and the treatment was abandoned in favour of other methods. Amongst these 18 cases there were 2 deaths, but he did not believe the lives of these women could have been saved had any other line of treatment been adopted. Of the children, 13 were stillborn, 4 were born alive, and in 1 case the patient died undelivered.

He regarded the plugging of the vagina as a valuable method. By its application the bleeding would be arrested in the majority of cases. It was by no means infallible, however, and those who employed it must be prepared to meet with disappointments. He now taught that, excluding cases of concealed haemorrhage of the toxaemic variety (which, in his opinion, should be treated by Caesarean section), where uterine contractions were not present and there was no dilatation of the cervix, if simple measures had failed to arrest the bleeding plugging should be employed. Where the cervix was sufficiently dilated to admit two fingers it was better either to practise bipolar version or to introduce the Champetier de Ribes bag. Dr. Williamson added that the method of blood transfusion in severe ante-partum and post-partum haemorrhage was important, and suggested that those working in hospital maternity departments should have their blood tested to determine their suitability as emergency donors.

Dr. BLAIR BELL believed that plugging was valuable, but he could not agree as to the action attributed to it by Dr. Tweedy. The speaker was positive that with fairly high blood pressure it was a physical impossibility to compress the artery, and many believed that even if they were to tie the uterine arteries in these cases it would not stop the haemorrhage. It was unfortunate that there was no animal on which the experiment could be made except the pregnant chimpanzee; and the ape did not breed in this country, so that the experiment would have to take place in Africa. He suggested another explanation: When a woman was in labour the mere introduction of the fingers into the vagina would stimulate a uterine contraction; in the same way it was possible that contraction was stimulated by plugging. He believed that the plug as used by Dr. Tweedy combined with the binder above would compress the fundus uteri, apart from causing strong uterine contraction. In severe accidental haemorrhage pituitary extract in not too big a dose seemed worthy of trial. In placenta praevia he believed that Caesarean section was the only satisfactory treatment.

Dr. HERBERT SPENCER insisted that many cases of so-called accidental haemorrhage were of very slight significance indeed. Those who had not a large experience might think it necessary to do Caesarean section in large numbers of accidental haemorrhage cases, but he believed that Caesarean section was rarely required for accidental haemorrhage or for placenta praevia. By tradition and practice he was not quite in favour of Dr. Tweedy's method of vaginal plugging, but in Dr. Tweedy's hands there was no doubt it had had good results. He felt with Dr. Shaw, however, that there was a certain danger in teaching students to do the plugging. Long ago in the maternity ward he saw more than 100 cases of ante-partum haemorrhage in six years, but very few were really grave cases of accidental haemorrhage or needed any treatment beyond ordinary mild measures. It was a very grave thing indeed to do hysterectomy for an accidental haemorrhage, though there might be occasions when this was required. In a very large experience of placenta praevia the only cases in which he thought Caesarean section was indicated were those in which the child was alive, a large quantity of blood had been lost, the os was not dilated, and the placenta was central.

Dr. W. E. FOTHERGILL was perfectly sure that most obstetricians, if they had seen what he personally had seen, would not teach students to pack at all for any condition of obstetric haemorrhage. The constant occurrence of sepsis after packing was quite enough to restrain him from saying anything about packing to students. The tragedies he had seen through the packing done by practitioners outside, before the cases came into the hospital, had impressed him very greatly, and he believed the practice would gradually die out of use; he considered it obsolescent, if not already obsolete. What they taught midwives to do was very much more important than what they did themselves, and he suggested certain respects in which the examination of the midwife was not as satisfactorily conducted as it might be.

Dr. GORDON FITZGERALD, referring to the obvious division of schools with regard to the proper treatment of accidental haemorrhage, thought there was too marked a tendency to stamp this or that school as the champion of this or that line of treatment without any reference to the different behaviour of the uterus at the time when the haemorrhage occurred. If the uterus was contracting—that is, if the patient was in labour—when the haemorrhage occurred, he did not think they were on contentious ground at all; those were the cases which might be classed as slight, and the uterus would do all that was necessary apart from plugging or similar treatment. As for concealed accidental haemorrhage, there were very few obstetricians who had seen a large enough number of true cases to have gained any reliable basis of opinion as to a proper course of treatment. The extirpation of the uterus might be necessary and justifiable. In all cases of concealed accidental haemorrhage he would do Caesarean section, and if the retraction of the uterus was not satisfactory he would go on to extirpation. The extreme rarity of the condition, however, made it out of the question to be dogmatic.

Dr. T. W. EDEN said that he had seen few cases of ante-partum haemorrhage. It was very important that the methods of treating accidental haemorrhage which students were told to adopt in practice should be taught to those students in hospital. The thing that mattered from the general point of view was, as Dr. Fothergill had said, not what was done in the hospital but what was done by practitioners, and the teaching that plugging was the best line of treatment for accidental haemorrhage must involve the demonstration to the students of how to do it. He had never yet seen a case sent into the hospital plugged which was in the least efficiently plugged. He hoped that there would be some outcome of this discussion with regard to the relation of Caesarean section to placenta praevia. If some conclusions could be formulated as to the class of case which could be treated by Caesarean section it would be a great help to teachers and to general practitioners.

Dr. SYDNEY RUMBOLL said that in the hospital where he worked the plugging method was followed. In every case of accidental haemorrhage which he thought required plugging the patient was put under an anaesthetic, and after a most thorough cleansing of the vagina the plugs were carefully introduced. He would never teach nurses to plug. Plugging, he believed, ought only to be carried

out in a special institution—either a surgical home or a hospital. In the majority of cases of placenta praevia plugging was the best treatment; in other cases Caesarean section might be employed.

Dr. GORDON LEY said that at the City of London Maternity Hospital during the war in the majority of cases of placenta praevia the practice of external version and bringing down the leg was effective. The mortality of the mothers was infinitesimal, and about two-thirds of the babies were born alive. Caesarean section, he thought, should only be done in placenta praevia when the cervix was not dilated, the patient was at full term, and the baby was alive.

Dr. R. G. MCKERRON was convinced that plugging was the best method of dealing with severe external accidental haemorrhage. He always taught his students to use the plug as the most effective method they could employ.

Dr. MUNRO KERR said that the advantage of external version in placenta praevia was not only that the manipulations inside were less, but also that the placental site was less disturbed, and therefore the chances of infection were diminished. The great argument in favour of Caesarean section for placenta praevia was the improvement of infant mortality. He did not think that by Caesarean section it was possible to improve the maternal mortality save in exceptional cases. He was sure that Caesarean section would be employed in placenta praevia more frequently in future. Why were so many children born dead after placenta praevia? If that question were investigated in the light of hospital records it would be found that a considerable number of children were lost after version in placenta praevia cases because the delivery of the child had been hurried. It was swinging between life and death, and it was very undesirable to hurry the delivery. To drag on the child too early might be a fatal interference. With regard to accidental haemorrhage, he had employed plugging very extensively. He agreed that in very few cases was Caesarean section necessary in accidental haemorrhage. But there were a few such cases. He thought it possible, as Dr. Gordon Ley had suggested, that the use of pituitary extract and rupturing of the membranes might be an alternative to plugging.

The CHAIRMAN, in summing up the discussion, remarked that it might now almost be said that Caesarean section could be done with as little chance of mortality as ordinary labour. In dealing with placenta praevia where they had a closed surface, and particularly when they were dealing with a primipara, Caesarean section ought to be the treatment of choice. At all events that treatment should be borne in mind, granted that there were good nursing homes and hospitals available.

Dr. HASTINGS TWEEDY, in a brief reply, said that the danger of sepsis in plugging the vagina was a real one, and this was one of the reasons why he emphasized the methods of plugging. Every nurse and student should be taught to plug. It was the one treatment that was available to nurses in bad cases of haemorrhage where a doctor was not at hand. In dozens of cases, in outlying parts of Ireland and Scotland, a nurse was left to herself while her patient was almost dying. The difficulty about aseptic material was not so great as had been suggested. A sheet could be torn in small pellets, and these boiled in a saucepan. It was extraordinarily easy to get aseptic materials. Even in a hovel, attending a midwifery case, the first thing to be done was to get the pot boiling on the fire, and there was no excuse for a man with this resource plugging unaseptically. If he did, it showed that his teachers had not done their duty. As for midwifery, his experience was that the midwives knew their work a great deal better than the students. The majority of practitioners were not able to send their cases into the hospitals, and this plugging offered them an extraordinarily efficient method. Several speakers in the discussion had said that plugging could not control the uterine artery. But they spoke on theoretical grounds. They had not put the thing to the test. It was a pious belief repeated at every meeting he attended. But he had found that it did control the uterine artery, and this was not the result of his own observation only, but also that of Sir William Smyly and Dr. Purefoy, who had been with him in Caesarean sections for haemorrhage. In Dublin at all events there was now a general belief that the plugging actually did stop the pulsation of the uterine artery.

(To be concluded)

THE PEPYS OF MEDICINE.

THE annual oration before the Medical Society of London was delivered on May 10th by Sir D'Arcy Power, K.B.E., who took for his subject "The Rev. John Ward and Medicine."

Ward, who was vicar of Stratford-on-Avon in the reign of Charles II, was versatile and curious, and loved experiment. While in London he had attended the lectures of Sir Charles Scarborough at the Barber-Surgeons' Hall, had visited the hospitals of St. Thomas and St. Bartholomew, and had made inquiries about the cost of foreign medical degrees. He treated gratuitously his parishioners of the humbler ranks, although there was an apothecary and at least one physician in Stratford during his incumbency. From time to time he did a little minor surgery, and he followed the surgical aphorism, "Allways lay a wound open, whether it bee fresh or ulcerated." He seemed to have some idea of the metastasis of cancer, for he spoke of glandules arising in other parts among people who thus suffered. On pleurisy and effusion he wrote: "When an incision is to be made into ye breast open it betwixt ye 3rd and 4th ribb reckoning upwards, yt is just above ye diaphragm, and to yt perhaps apply a Caustick wch is very strong and will eat through ye muscle; yn make an Incision and keep itt open with Tents."

Among the epidemics from which Stratford people suffered during Ward's incumbency were small-pox, measles, and plague. The difficulty of distinguishing between small-pox and chicken-pox did not escape him. On plague he made several observations—one that "itt was observed yt fat people catch itt sooner but lean people died 2 for 1." Some interesting facts about Greatrakes, the "stroker," or faith healer as he would be called to-day, were given in Ward's diaries. This man tried his cure on Lady Anne Conway, without success in her case, though he relieved many persons in the neighbourhood, so that Dr. Stubbs, the physician at Stratford, wrote a volume in favour of his cure.

From the details given by Ward of the illnesses of his neighbours and parishioners, it was sometimes possible to make a diagnosis, as, for instance, in the case of Dr. Gordon, Bishop of Exeter, and later of Worcester, who died of a stoppage of the urine which was supposed to be stone, but no stone appeared, only "two pieces of flesh growing one against another in ye neck of the bladder yt ye urine could not pass"—doubtless a case of enlarged prostate. Ward occasionally made an effort to generalize from the particular; thus he said: "Whether a great desire to live which some persons manifest uppon their sick beds, as also a willingness to take anything wch before they refused is not a sign they are tending to their long home." In Ward's own opinion, and probably that of his neighbours as well, he was very skilful in urinoscopy, and made many entries on that subject. He distinguished clearly between syphilis and gonorrhoea, which were rife at Stratford during his incumbency. Death did not end the interest which Ward took in the bodies of his parishioners. He gave many details of embalming.

Perhaps the most interesting observations in Ward's notebooks were his references to Willis, Lower, Robert Boyle, and others of his contemporaries, who were personally known to him as graduates at Oxford. Lower's classical experiments on transfusion, suggested by Christopher Wren's injection of various drugs into veins, were recorded by Ward. Of Sydenham, Ward wrote: "Dr. Sydenham advises a vomit two hours after a gentle dinner; after vomiting hee gives a narcotick potion or Bolus to allay ye tumult yt ye vomit hath made." Other entries related to Sir Charles Scarborough, Sir Francis Prujean, and Sir Alexander Frazier, of whom "the King hath a high opinion . . . and says all ye physicians are fools to him." The properties of opium, laudanum, and antimony were the subject of much inquiry at this time, and Ward made several allusions to these drugs. "Starkey told me that ye sleeping properties of opium may bee separated so as to make itt a hinderer of sleep, but ye sudorific and anodyne qualities cannot."

His observations showed Ward to be a man of great versatility at a time when the prevailing type of mind was versatile. In many respects he was a true disciple of Boyle. He would have made a good practitioner had he given himself entirely to medicine, and he would have advanced the science of physiology. Boyle interested him in the new chemistry, and his restless curiosity led him into metallurgy and the more dangerous quest of the philosopher's stone. But with all this he was a dilettante, spoiled, probably, by the possession of a competency, hampered perhaps by ill health, for he was certainly ruptured, and died at the age of 52, probably of phthisis.

Reviews.

THE SURGERY OF THE BREAST.

ABSORPTION in the war held up the progress of European surgery in every direction but that immediately concerned with it. The investigations of civilian surgery ceased for the time, and any advance made has been due to the implanting of the ideas of war surgery on the surgery of civil life. On the other side of the Atlantic for a long period of the war civil surgery progressed unimpeded. Some of the fruit of that progress we find in the monumental work before us, the review of which, we regret, has been unavoidably delayed. This volume on the *Breast: Its Anomalies, its Diseases, and their Treatment*,[1] is the joint production of Professor JOHN B. DEAVER and Professor J. MCFARLAND, with the assistance of Dr. J. LEON HERMAN. The result of the collaboration of a surgeon and a pathologist with an anatomist is that the subject is treated with infinite elaboration, meticulous care, and overflowing wealth of detail.

We may pass lightly over the chapter dealing with the anatomy, and its intricate description of the lymphatics of the breast, and also over those concerned with polymastia, amastia, gynemastia, polythelia, hypertrophy, actinomycosis, and sporotrichosis. Sufficient is it to say that they are each most copiously illustrated with pictures and statistical tables, that each contains not only references but short abstracts of cases recorded in literature. The inquiring surgeon will find in them all the available information possible to collect into one volume. We may here say that the work is not intended to meet the wants of the practitioner, into whose range breast cases come only once in a while; its appeal is to the operating surgeon, called upon, as he is, to decide as to the nature of the condition of the breast, to advise for or against operation, and to plan any requisite operative procedure.

It is a notable feature of the book that a serious attempt is made to simplify the nomenclature of many of the diseases of the breast. This need for simplification is nowhere more apparent than in the big section of these diseases classed as "cystic disease of the breast." Apart from the cystic conditions recognized by all writers, such as galactocele, serous cysts, hydatid cysts, there is a large class which, in this country, we have been inclined to regard as more or less connected with chronic mastitis. The complete nomenclature discovers at least twenty different names for this condition. The authors of this work advocate strongly that the suggestions made by Warren should be followed, and these cystic changes all placed together as changes brought about through abnormal involution. They go on to present the argument:

> The breast tissue is restless; it is acted upon by a variety of agencies, is stimulated to grow or its growth inhibited according to circumstances known or unknown. The result is disturbance of structure and function whose extreme departures from the normal constitute abnormal involution and are supposed to prepare the way for, if not directly lead into, the epithelial invasion of the malignant character that we know as cancer. There is no inflammation; or, any coexisting inflammation is incidental and accidental. There is no tumour, or if there be, it is either incidental, papillary formations in the cysts, or consequential, cancer.

It is these cases which present the greatest difficulty in diagnosis. Probably every surgeon has had experience of removing a breast for "early scirrhus" which proved on microscopic examination to be simply cystic disease. Clinically some of these cases are not distinguishable from early cancer. Even if the expedient of making a microscopic examination within the operating theatre at the time of operation is followed, a mistake may be made—unless the *whole* tumour mass removed is submitted to examination—for we learn that cystic disease from abnormal involution and a small cancerous nodule may coexist in the same breast and this nodule may be missed. Further, "abnormal involution" may possibly be a process secondary to "squamous-cell carcinoma, tuberculosis, and other chronic diseases." As "abnormal involution" may be accompanied or followed by carcinoma in one case in every ten, the importance of making a correct decision in any individual case is very obvious. The treatment will consist in subcutaneous excision of the breast or in conservative amputation of the breast with the axillary contents.

The most important of all breast diseases—carcinoma—is discussed as fully as any of the others. Indeed, the chapters are themselves a complete treatise on the subject. The authors ask for a simpler classification, and suggest that all the names of cancer of the breast be reduced in number from the fifty-four varieties which they give as having been found in literature to six: scirrhus or hard cancer; encephaloid medullary or soft cancer; carcinoma simplex (something between the two preceding forms); adeno-carcinoma (not derived from gland tissue but gland-like in structure); gelatinous carcinoma (formerly colloid); squamous-cell carcinoma. It may be argued that even these six might be simplified still more, and simpler names will occur to most surgeons. It may be noted that the manner in which the term "cell nests" is used by these authors differs from our usage. Cell nests to them are simply the collections or masses of cancer cells within the surrounding stroma. To us the cell nest is a distinctive formation seen in the terminal portion of the epithelial projections of epithelioma. Sampson Handley's permeation theory of the spread of cancer is accepted without reservation, and very complete descriptions of his operation for removal of the breast and lymphangioplasty, as well as the details of the theory are given. The only operative procedure in which the authors believe is properly one which will involve complete removal of both pectoral muscles and a complete dissection of the axilla *en masse* with the breast. Several of the methods of carrying out this procedure are described and lavishly illustrated. The chapter on the treatment of inoperable cancer is as inconclusive as the subject itself. The special author is Dr. Pfahler, and he seems to have had a considerable amount of experience in the treatment of such cases by *x* rays. He advises that every case operated on or inoperable should have a course of treatment by *x* rays. The details of the treatment and its success and failure are very fully placed before the reader.

The book is certain to meet with the highest approbation from surgeons for its large statistical collections and its pathological records, as well as for the even-minded discussions its chapters present of the problems of breast diseases. It is unnecessary to say that it is a handsome volume with few blemishes, and these of minor importance. Misspellings are observed on pp. 235, 282, 485, a singular substantive with a plural verb on p. 273, and the Americanese verbs "to disadvise," "to metastasize," jar on the British reader. But the meaning of the authors is never obscure.

[1] *The Breast: Its Anomalies, its Diseases, and their Treatment.* By John B. Deaver, M.D., LL.D., Sc.D., Professor of the Practice of Surgery, University of Pennsylvania, etc., and Joseph McFarland, M.D., Sc.D., Professor of Pathology and Bacteriology in the Medical Department of the University of Pennsylvania, etc., assisted by J. Leon Herman, B.S., M.D., Assistant Surgeon to the Methodist Hospital of Philadelphia, etc. London: Wm. Heinemann (Medical Books), Ltd. 1918. (Sup. roy. 8vo, pp. 724: 277 figures, 8 coloured plates. £2 net.)

ENTOZOA IN MAN.

MEDICAL science sometimes shows a tendency to proceed from the pathological to the normal. Medical students are taught to recognize a number of malevolent bacteria, but the neutrals, the saprophytes, the inhabitants of the mouth or skin which rarely or never produce lesions, are omitted from the crowded curriculum. Reports of investigations on this or that pathogenic protozoön are many, but few indeed are the papers or books written on these animals unless they produce hurt to man. We do not even know what is the normal fauna in the human intestine in most parts of the world.

We therefore welcome Dr. ANNIE PORTER'S *Survey of Entozoa observed among Natives in Johannesburg*,[2] and trust that workers the world over will devote some time to informing us what the normal fauna is. It is obvious that such an inquiry would throw a flood of light on epidemiology; at present "the natives" are rather vaguely regarded as a source of danger to the cantonment or barrack. In the few places in which such investigations have been made it has frequently been a source of surprise to find some particularly "deadly" organism occurring in a large percentage of the population and apparently causing no harm. A man (or a monkey) may carry *Entamoeba histolytica* for a very

[2] *A Survey of the Intestinal Entozoa, both Protozoal and Helminthic, observed among Natives in Johannesburg from June to November, 1917.* By Annie Porter, D.Sc. Johannesburg: S. African Institute for Medical Research. 1918. (Sup. roy. 8vo, pp. 58; 2 plates, 25 tables. 5s.)

long period and not be one jot the worse. Dr. Porter very definitely ranges herself with those who regard *Giardia (Lamblia)*, *Trichomonas*, and *Chilomastix* as causers of diarrhoea. Until some worker can produce a series of cases of "flagellate diarrhoea," the stools of which were proved by repeated platings not to contain pathogenic bacteria, we shall maintain an attitude of doubt. If we may be pardoned for saying so, the protozoologist's attitude is not a sound one: we grant that various flagellates are often numerous in persons suffering from diarrhoea; we are very much interested to hear that these infections were found to be associated *post mortem* with points of inflammatory oedema, sometimes with definite ulceration; we can, however, never forget seeing a stool consisting almost entirely of *Giardia* and mucus, which was regarded as an undoubted case of flagellate diarrhoea, until a methodical bacteriologist isolated from it the *Vibrio cholerae*.

Dr. Porter gives statistical evidence of the infection of various native tribes with the prevalent protozoa and worms; 56 per cent. of the men examined were passing entozoa in their stools; multiple infections were not common, and were usually due to infection with *Entamoeba coli* or *Spirochaeta eurygyrata*, in company with some other organism. The discovery that cockroaches feed on human excrement, and pass the cysts it may contain unharmed through their own alimentary canal, is of very great importance. Cockroaches are world-wide in their distribution and closely associated with man, and in warm climates, where intestinal disease is so rife, they have, owing to the habits of the people, much easier access to human faeces than in this country.

STARLING'S "PHYSIOLOGY."

AT every stage in his career the student of medicine is admirably provided nowadays with numerous textbooks from which he can choose whichever best suits his style of mind or special aptitudes in reading. This is, perhaps, most of all the case when he comes to study physiology, a science provided with a greater number of varied but first-class textbooks than any other at the present time. In the third edition of Professor STARLING'S *Principles of Human Physiology*[3] the student and medical practitioner will find a full and up-to-date account of the whole subject, clearly written, excellently illustrated, and summarized for his benefit by a practical physiologist of great knowledge and well-known originality.

The first part of the volume deals with general physiology, or the structural, material, and energetic bases of the body. In the second part the mechanisms of movement and sensation are described; a new feature in this edition is the introduction of chapters on vision by Dr. Hartridge, extending to over a hundred pages, in which the whole subject is very lucidly put before the reader. The third part describes the mechanisms of nutrition, including metabolism and the physiology of digestion, the part played by the circulating blood and lymph, respiration, renal excretion, and other such subjects. The last part of the book is devoted to the subject of reproduction.

Everywhere Professor Starling writes as a man of science interested primarily in the mechanics and chemistry of physiology, the concrete rather than the abstract, the practical reactions of the living body rather than the metaphysical conceptions or interpretations to which they may give rise. The book is admirably arranged, the text sufficiently dogmatic to form thoroughly instructive reading that is at the same time thoroughly interesting. The issue of three editions of the volume within nine years shows that it has attained the success it so fully deserves.

A PRACTITIONER'S CYCLOPAEDIA OF MEDICINE.

THE fifth edition of the large textbook of *Internal Medicine*[4] by Professor WILSON of the Jefferson Medical College, Philadelphia, and a number of collaborators, including Dr. C. H. Turner, is issued in four volumes. The first two of these have as sub-title the term "Medical Diagnosis"; the third volume is the fourth edition of Ortner's book on treatment, translated by Dr. Bartlett, and edited by Professor N. B. POTTER; and the fourth volume is described as a "complete desk index." The whole is intended for the use of the medical practitioner. Volume I deals with clinical methods or medical diagnosis in general, giving the various methods that may be used in examining the patient and their immediate results, the symptoms and signs of disease exhibited by the different systems of the body, and the modes of applying a number of tests. Volume II, erroneously described on its title page in the copy now before us, deals with the clinical applications of the results revealed by the methods and tests detailed in the first volume, and is described as a "Natural History of Disease." It is, in fact, a textbook of descriptive medicine in eighteen chapters, clearly written, and paying great attention to the differential diagnosis of the various morbid conditions described.

The third volume is given to the treatment of disease, and reflects current practice in Germany, enlarged by the addition of many notes by the editor; the prescriptions have been rewritten in conformity with the American *Pharmacopoeia*, both the English and the metric scales of measurement being given. The fourth volume is a general index to the other three, and appears to be perhaps less complete than the rest of the work: thus it contains no mention of *Filaria loa*, for example, or of "saltatory spasm," "palmus," "jumpers," "latah," "myriachit," and "Bamberger's static reflex spasm"—disorders all described in the second volume.

In general, the volumes of *Internal Medicine* may be described as well written and comprehensive, up to date, adequately illustrated, and therefore to be recommended to medical men in search of textbooks of clinical diagnosis and the principles of treatment. The general practitioner who acquires these volumes should consult the first of them as often as the second, and the second as often as the third.

A HANDBOOK OF SKIN DISEASES.

DR. FREDERICK GARDINER has succeeded well in describing the more common skin affections, in his small *Handbook of Skin Diseases*.[5] In present times, when the medical curriculum demands every spare moment from the hard-worked medical student, such a handbook will prove useful to those who have no opportunity for fuller reading. From a dermatologist so well known correctness of description and treatment are to be expected, and this is found in the book.

The reader will seek in vain for a chapter on eczema. Since the author says that new dermatitis is but old eczema "writ large," it is to be assumed that he includes the condition under this heading. But such a terminology seems to us to have many disadvantages and few merits, for the substitution of another name does not prevent the abuse of it. As understood by dermatologists, "eczema" has a definite meaning, and the proper employment of this term is both useful and accurate. For this reason alone its omission seems regrettable.

Apart from this criticism the book will be found to give in clear language a good short account of the diagnosis and management of the diseases of which it treats, and will prove a useful aid to those consulting it.

NOTES ON BOOKS.

AS an interesting study in modern sociology Miss ARABELLA KENEALY'S book on *Feminism and Sex-Extinction*[6] sets out to show the harmful side of feminism in the past, the present, and the future. It begins with a study of the part played by women in human evolution, and it is argued that human decadence and the fall of ancient civilizations have largely been due to feminist movements and doctrines; the last chapter of the book, entitled "The impending subjection of Man," foretells the coming downfall of the human race should feminist aims be realized. Miss Kenealy writes with conviction, and her pages should confirm, if not console, those who see nought but harm in votes for women.

---

[3] *Principles of Human Physiology.* By Ernest H. Starling, C.M.G., F.R.S., M.D., Hon.Sc.D.(Cambridge and Dublin), F.R.C.P. Third edition. London: J. and A. Churchill. 1920. (Roy. 8vo, pp. xiv+1315; 579 figures, 10 in colour. 25s. net.)

[4] *Internal Medicine: A Work for the Practising Physician on Diagnosis and Treatment.* With a complete Desk Index. By Nathaniel B. Potter, M.D., and James C. Wilson, M.D. Fifth edition, in four volumes. With 441 illustrations. Philadelphia and London: J. B. Lippincott Co. 1919. £3 15s. net.

[5] *Handbook of Skin Diseases.* By Frederick Gardiner, M.D., B.Sc., F.R.C.S.E. Edinburgh: E. and S. Livingstone. 1919. (Cr. 8vo, pp. xix+160; 46 figures. 6s. net.)

[6] *Feminism and Sex-Extinction.* By Arabella Kenealy, L.R.C.P. Dubl. London: T. Fisher Unwin, Ltd. 1920. (Demy 8vo. pp. x+313. 2s. 6d. net.)

THE FINANCE BILL.

THE activities of the tax collector entail such serious consequences in the present day that we feel impelled to turn again to the subject of national finance, to deal with the further information that has been made available by the recent publication of the Finance Bill, 1920—the Chancellor's proposals in statute form.

On the important question of motor-car taxation very little further light is thrown, as the Government White Paper, issued when the Budget was introduced, apparently contained an almost verbatim copy of the detailed proposals; the bill, however, contains a specific exemption in favour of "ambulances," a privilege which they share with road-rollers and the fire brigades of local authorities. Since Mr. Chamberlain's speech, however, the deputation from the British Medical Association to the Ministry of Transport and the Budget debate of April 27th have materially elucidated the questions in issue. The argument put forward in Parliament by Sir Eric Geddes was, in brief, that a system of taxation by "licence," instead of by fuel consumption, favoured the constant user at the expense of the occasional user, and in consequence automatically conferred a preference on the owner of a car kept for professional and therefore frequent use. To that argument the medical profession has two answers—first, that a frequent use often implies a virtual necessity to maintain a second or reserve car, which under the proposals would increase the licence duty by 30 per cent. for the quarter in which resort was had to the reserve car; and secondly, that even if the medical man has any such automatic preferential treatment, so has the owner of a commercial car, and equity demands that any advantage which the commercial car has by assessment of the licence duty on the basis of weight should be extended to cover both, seeing that the purposes served are essentially similar. The report of the recent Royal Commission on Income Tax unanimously recommended that the two classes of car should, for the first time, receive identical treatment as regards the income tax depreciation allowance, and the recommendation will presumably receive statutory effect before long; it seems strange to find one Government department deliberately setting up a distinction which another department has just been advised to abolish. We are clear that the same rules for licence duty should apply both to commercial and to professional cars; others may consistently take another view, but the point as to which there can surely be no difference of opinion is that at least a "reserve" car should be officially recognized and exempted from licence duty so long as it is not used simultaneously with the ordinary car. Any other course of action would put a very heavy penalty on any practitioner who keeps a reserve car. Seeing that when a sudden breakdown occurs the patient is the chief sufferer, the public as well as the profession are directly concerned in this question, and may even yet make their voice effectively heard.

On the proposals for reconstructing the income tax system so far as the graduating of the effective rate and the relief to earned incomes are concerned the bill throws some further light. To the taxpayer whose income is entirely unearned—or, in the newer phraseology of the statute, is "investment income"—the increase in the allowances is not quite so marked as might appear at first sight; for instance, in such a case the wife allowance is extended from £50 to £90 not from £50 to £100, and so on.

The position with regard to a married woman doing professional work has been somewhat improved. Under the old Act an allowance for separate "abatement" was given only where the total joint income of husband and wife did not exceed £500. In present circumstances that limit was sufficiently low to debar the great majority of married women working professionally from the advantage of any such allowance. The position under the new bill is that in any case the married man has a deduction of £90 from his "assessable income," and there is also to be deducted nine-tenths of the earned income of the wife, provided that that deduction does not exceed £45. When it is remembered that £225 of the taxable income is to be charged at 3s. and the remainder at 6s., it will be realized that the value of an allowance has in most cases to be reckoned at 6s. in the £, so that though the allowance seems insufficient, it will at any rate affect the actual tax payable to a maximum extent of £13 10s., which is better than no allowance at all.

The deduction to be made in respect of a child now applies irrespective of what may be the total income of the parents—the old Act limited the allowance to cases in which that total did not exceed £1,000 per annum—but a new proviso makes its appearance, that the child must not be "entitled in his own right to an income exceeding £40 a year." Having regard to the purposes for which the allowance is presumed to be required, it is difficult perhaps to find fault with the proviso, but it may disappoint some who had expected to find themselves entitled to the deduction, and are affected by the limit of £40. It should be added that scholarships and similar educational endowments are not reckoned in computing the £40 income.

The provisions in respect of Colonial income tax and the relief to be given to persons paying a "double" tax, because they reside in one fiscal jurisdiction and draw their income from another, strike us as being complicated and likely to be rather difficult to work; the basis of the allowance is, however, fairly simple. Briefly, the idea is for the British Exchequer to give up either one-half the effective rate of British tax or the rate of the Colonial tax, whichever is the less. Unfortunately, owing to the system of allowances, neither of these rates can be readily computed, and the reparation of claims for repayment under these provisions is likely to be a long and intricate task. In the result, however, the relief should be not ungenerous from the point of view of the other British taxpayers.

The stamp duties invite no further comment; they are unwelcome, but have been generally accepted in a spirit of somewhat mournful resignation. The excitement and feeling of resentment engendered in financial and commercial circles by the unexpected increase in the excess profits duty has probably diverted into another channel the antagonism which the increase in stamp duties would otherwise have attracted.

The opposition to the excess profits duty has to some extent concentrated on what is certainly the most objectionable feature of that universally disliked but very lucrative tax, and that is the unfortunate position of new concerns possessing no "pre-war standard" measured by pre-war profits. It is true that a "standard" is given by allowing a certain percentage on capital to be taken in lieu of a "profits" standard, but it is urged that this does not leave the founders of a new concern sufficient financial inducement to take the necessary risks, particularly in view of the high rate of the income tax levied on the residuum of the profits left after payment of income tax, and thereby is checking the organization of increased production. The Chancellor held out some hope that special consideration would be given to such cases, but the bill is silent on the point. No doubt he is reserving his decision in order that it may be dealt with when the bill is in a later stage. A levy of 60 per cent. is provided for, and as Sir William Pearce's committee does not seem likely to advocate a practicable scheme for a capital levy on war fortunes with any approach to unanimity, its reduction to 40 per cent., which was to be contingent on the adoption of such a scheme, does not appear very probable.

The corporation tax has only an indirect interest for members of the medical profession; it is, perhaps, sufficient to say that the bill provides for an allowance of £500 a year, the tax being imposed at 1s. in the £ on the excess over that sum, and contains provisions intended to prevent the artificial reduction of the profits by payment of high salaries to managers who are virtual proprietors, or in other ways.

The repeal of the land values duties is coupled with the grant of a right of repayment of past duties, such claims to be lodged within six months after the commencement of the Act. The Chancellor of the Exchequer suggested that it would be a graceful act to refrain from making such a claim. Time will show somewhat interestingly to what extent the British taxpayer is open to so altruistic an appeal.

The Finance Bill contains no reference to the new postal rates, but when it comes into force on June 1st the increase

in the letter rate from 1½d. to 2d. will make letter writing a tax on the pocket as well as on the time of doctors, and will seriously increase the expenditure of an Association such as ours.

WEIGHT, HEIGHT, AND LONGEVITY.

A PAPER read by Mr. Lewis P. Orr, manager of the Scottish Life Assurance Company, to the Faculty of Actuaries of Edinburgh last December, has now been published as part of the *Transactions* of the Faculty. We propose to direct attention here chiefly to one point in Mr. Orr's paper—namely, the matter of weight in relation to height and age.

Among the proposers for life assurance, he said, were some who, though they had no adverse points in their family or personal history, and showed no signs of disease, were light in weight and poor in chest development; their chance of living long depended upon their consenting to take a course of physical exercises and recreation in the open air. The best course was to give them this advice and either defer the proposal for a considerable time or impose a substantial extra premium, with a promise of reconsideration in the course of a year or two.

Tuberculosis.

The relation of weight to height appeared to be an important point in the consideration of lives giving a family history of tuberculosis. He suggested that the facts justified general recommendations on the following lines:

Lives up to age 25.—Up to age 25 lives with a tuberculous family history should not be accepted without an extra premium. Particular attention should be paid to weight and to the development of chest. In many cases the physical development will be found to be under average and to be associated with an under-average weight; it is desirable to defer such cases for some years unless the condition is so unsatisfactory as to lead to the harsher verdict of declinature.

Lives aged 25 to 35.—In this section of lives those under 30 should be subject to rigid scrutiny, and, generally speaking, should be regarded as requiring an extra premium dependent upon the incidence of the family history and the physical condition (particularly the weight) of the proposer. Those between 30 and 35 may be looked upon more favourably; where the family record is tainted by consumption to a very limited extent (say, one isolated case) and the personal history, physique, weight, and environment are good, then the life might be regarded as assurable at ordinary rates.

Lives above 35.—Unless the tuberculous family history be well marked (say, two cases) or the weight below the average, it is not necessary to load the premium for these lives, provided they are thoroughly satisfactory in all other ways. From and after the age of 40 a family record of tubercle loses much of its significance.

Personal Condition.—In assessing all such lives particular attention must always be paid to personal history and physical condition (including particularly the development of the chest and the weight in relation to height and age), and also to occupation and environment, for their importance as favourable or unfavourable factors is exceedingly great.

In the discussion which followed the paper both Dr. Byrom Bramwell and Professor Gulland expressed the opinion that Mr. Orr had taken too favourable a view with regard to a history of tuberculosis in persons over 35.

Weight in Relation to Height and Age.

As a contribution to an estimate of the importance of weight in relation to height and age in insurance practice Mr. Orr presented a table (printed at foot of page), based on the experience of male lives accepted as first class under 18,306 assurances; the actual number of lives was less, as cases in which the same life had been insured at intervals were included. The investigation comprised the period 1881–1915 inclusive, and the lives were of a good healthy class, as was shown by the satisfactory rate of mortality. The error introduced by the fact that the persons were weighed in their clothes—the weight of which would vary in summer and winter—was of little consequence from the insurance point of view, as in selection a margin was allowed on either side of the standard weight. The measurements were taken for the most part with the proposer's boots off.

Comparison of these statistics with those of the American medico-actuarial investigation showed close correspondence. The weights for the principal heights were very consistently about two pounds less than the American experience, except at ages over 50; the British weights above that age were two to four pounds more, but owing to the smallness of the British numbers no importance could be attached to this. From what was known

Average Weights in Relation to Height and Age. (*"Scottish Life" Experience—1881–1915.*)

MALE LIVES.

Age.	5 ft. 3 in.	5 ft. 4 in.	5 ft. 5 in.	5 ft. 6 in.	5 ft. 7 in.	5 ft. 8 in.	5 ft. 9 in.	5 ft. 10 in.	5 ft. 11 in.	6 ft.	6 ft. 1 in.	6 ft. 2 in.	Age.
	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	
15	8 5	8 8	8 12	9 1	9 4	9 8	9 12	10 2	10 5	10 9	11 0	11 5	15
16	8 7	8 10	8 13	9 2	9 5	9 9	9 13	10 3	10 7	10 11	11 2	11 7	16
17	8 8	8 11	9 0	9 4	9 7	9 11	10 1	10 5	10 9	10 12	11 4	11 8	17
18	8 9	8 12	9 1	9 5	9 8	9 12	10 2	10 6	10 10	11 0	11 5	11 10	18
19	8 10	8 13	9 2	9 6	9 9	10 0	10 4	10 8	10 12	11 2	11 7	12 12	19
20	8 11	9 0	9 4	9 7	9 11	10 1	10 5	10 9	10 13	11 3	11 8	11 13	20
21	8 12	9 1	9 5	9 9	9 12	10 2	10 6	10 10	11 1	11 5	11 10	12 1	21
22	8 13	9 2	9 6	9 10	9 13	10 4	10 8	10 11	11 2	11 6	11 11	12 2	22
23	9 0	9 3	9 7	9 11	10 0	10 5	10 9	10 13	11 4	11 8	11 13	12 4	23
24	9 1	9 4	9 8	9 12	10 1	10 5	10 10	11 0	11 5	11 9	12 0	12 5	24
25	9 1	9 5	9 8	9 12	10 2	10 6	10 11	11 1	11 6	11 10	12 1	12 7	25
26	9 2	9 5	9 9	9 13	10 3	10 7	10 12	11 2	11 7	11 11	12 3	12 8	26
27	9 3	9 6	9 10	10 0	10 3	10 8	10 13	11 3	11 8	11 13	12 4	12 10	27
28	9 3	9 7	9 11	10 1	10 4	10 9	10 13	11 4	11 9	12 0	12 5	12 11	28
29	9 4	9 7	9 11	10 1	10 5	10 10	11 0	11 5	11 10	12 1	12 6	12 12	29
30	9 4	9 8	9 12	10 2	10 6	10 11	11 1	11 6	11 10	12 2	12 8	13 0	30
31	9 5	9 9	9 12	10 2	10 6	10 11	11 2	11 6	11 11	12 2	12 9	13 1	31
32	9 5	9 9	9 13	10 3	10 7	10 12	11 2	11 7	11 12	12 3	12 10	13 2	32
33	9 6	9 10	10 0	10 4	10 8	10 13	11 3	11 8	11 13	12 4	12 11	13 3	33
34	9 6	9 10	10 0	10 5	10 9	10 13	11 4	11 9	12 0	12 5	12 12	13 4	34
35	9 7	9 11	10 1	10 5	10 10	11 0	11 5	11 10	12 1	12 6	12 13	13 5	35
36	9 8	9 12	10 2	10 6	10 10	11 1	11 5	11 10	12 1	12 7	13 0	13 5	36
37	9 8	9 12	10 2	10 6	10 11	11 1	11 6	11 11	12 2	12 7	13 1	13 6	37
38	9 9	9 13	10 3	10 7	10 12	11 2	11 7	11 12	12 3	12 8	13 2	13 7	38
39	9 9	10 0	10 3	10 7	10 12	11 2	11 7	11 12	12 3	12 9	13 2	13 8	39
40	9 10	10 0	10 4	10 8	10 13	11 3	11 8	11 13	12 4	12 10	13 3	13 9	40
41	9 11	10 1	10 5	10 9	11 0	11 4	11 9	12 0	12 5	12 11	13 3	13 9	41
42	9 11	10 1	10 5	10 9	11 0	11 4	11 9	12 0	12 5	12 11	13 4	13 10	42
43	9 12	10 2	10 6	10 10	11 1	11 5	11 10	12 1	12 6	12 12	13 4	13 11	43
44	9 12	10 2	10 6	10 11	11 1	11 6	11 10	12 1	12 7	12 12	13 5	13 11	44
45	9 13	10 3	10 7	10 11	11 2	11 6	11 11	12 2	12 7	12 13	13 6	13 12	45
46	10 0	10 4	10 8	10 12	11 3	11 7	11 12	12 2	12 8	12 13	13 6	13 12	46
47	10 0	10 4	10 8	10 13	11 3	11 7	11 12	12 3	12 8	13 0	13 7	13 13	47
48	10 1	10 5	10 9	11 0	11 4	11 8	11 13	12 4	12 9	13 1	13 8	14 0	48
49	10 1	10 5	10 9	11 0	11 4	11 8	11 13	12 4	12 9	13 1	13 8	14 0	49
50	10 2	10 6	10 10	11 0	11 5	11 9	12 0	12 5	12 10	13 2	13 9	14 1	50
51	10 2	10 6	10 10	11 1	11 5	11 10	12 0	12 5	12 11	13 2	13 10	14 2	51
52	10 3	10 7	10 11	11 1	11 6	11 10	12 1	12 6	12 11	13 3	13 10	14 2	52
53	10 3	10 7	10 11	11 2	11 6	11 11	12 1	12 6	12 12	13 3	13 11	14 3	53
54	10 4	10 8	10 12	11 2	11 7	11 11	12 2	12 7	12 12	13 4	13 11	14 3	54

The age given is the age next birthday. At ages 55 and upwards the average weight might be regarded as that applicable to age 54.

of German and Austrian insurance statistics, it appeared that the Anglo-Saxon, as represented by Great Britain and the United States and Canada, was lighter than the German and Austrian to the extent of, roughly speaking, one stone.

Opinions differ as to the extent to which over-weight and under-weight might prevail without making it necessary to require an extra premium. Mr. Orr suggested that 16.66 per cent., or one-sixth of the total normal weight, might serve as a general guide, but the facts in each case must be taken into consideration. Thus light weight combined with a family history of consumption or a personal history of chest disease was unfavourable, particularly in the younger lives. In normal persons light weight was favourable in middle age and among elderly lives. It might, indeed, be that among lives otherwise satisfactory it was only at young ages that light weight was adverse; it was adverse because at these ages there was apt to be in persons under weight a greater tendency towards lung trouble than among those of average build. Mr. Orr, after quoting Hippocrates to the effect that "corpulence is not only a disease in itself, but the harbinger of other diseases," went on to say that in life insurance heavy weights showed a heavy mortality and that among heavy weights those with a protuberant abdomen were the least desirable. Regret was expressed during the discussion that Mr. Orr was not able to give a table of weights of women to elucidate the general statement that females were lighter than males to the extent of some five or six pounds at the chief insuring ages and heights. He said, however, that the best type of female life for assurance companies was the spinster earning her own living; the least, the married woman not earning her own living. He thought it probable that in the latter case there was a selection against the companies, the wife's life being insured because it was believed not to be so good as the husband's.

SOME MANUSCRIPT NOTES BY FLORENCE NIGHTINGALE.

MAY 12TH was the centenary of the birth of Florence Nightingale, who was born in Florence on May 12th, 1820. The anniversary is touched with a peculiar glory in view of all that the nursing profession has achieved in the Great War. The Leader of Nurses died only a year or two before this supreme test of her ideals and achievements on a vast scale. But we seem to hear her voice once more, when, as now, there comes to hand in a medical library a scrap of writing from her prophetic pen. It is typical of a whole branch of her many activities, which were yet all concerned with nursing.

Long after she had won fame by her heroic labours in the Crimean campaign Florence Nightingale acquired quite another reputation—by which alone she would deserve to be remembered—as a commentator of official reports on the health and sick-nursing of soldiers. In 1863 was issued the Report of the Commission on the Sanitary Condition of the Army in India. It is contained in two folio volumes amounting to nearly 1000 pages, and in Volume II are the reports from every station in India occupied by British or native troops. This immense mass of evidence had been sent in manuscript to Miss Nightingale for her criticism and report. Her observations at p. 347 of Volume I bring together the facts "in an order and with an incisive force of statement," says one of her early anonymous biographers, "which render it one of the most remarkable public papers ever penned." The report was regarded as likely to inaugurate a new era in India, for her views extended to towns as well as cantonments.

During the American Civil War, and again during the European War of 1870, Miss Nightingale was officially consulted on several occasions as an authority on questions of military hygiene and assistance to the wounded in the field. Later, private persons appealed to her. In the early days of the movement for the fuller employment of women she was eagerly referred to. In the year 1881 an article entitled "Notes on Sick Nursing," by Nurse Enderby, was forwarded to Miss Nightingale by the editor of *Every Girl's Magazine*, with a polite request for comment and suggestion. Miss Nightingale's reply is in pencil. The handwriting is clear and more modern than might have been expected. The date is November 19th, 1881. She apologizes for a long delay in sending her reply

"I am always," she writes, "under the severe pressure of overwork and illness. . . . Some short remarks I will make by way of suggestion:

"The article rightly professes to take the form of notes and to afford only hints to those for whom systematic teaching and practice is not available. But it is to be feared that some portions of the Article would tend to induce a belief in the readers that mere lectures and classes, unconnected with Hospital *ward training*, mere reading, mere good will and intentions would enable them to do many things for which only a trained nurse is competent—

"—such, for instance, as the otherwise useful instructions relating to the authority of the nurse over her patient and those about the patient—

"—to the observation of symptoms and reporting thereon to the Medical Men—

"—to the giving of food and to some extent also to the proper carrying out of ventilation.

"The tendency to over-confidence is usually far greater in those possessing a superficial knowledge than in the well trained. The power both of observation and of safely exercising any discretion in executing the Doctor's orders can only be acquired by training and long practice; and in any serious illness outside a Hospital there must necessarily be always frequent occasions in which the Doctor's instructions cannot be precisely adapted to the varying circumstances of the Patient during his absence.

"Words of warning and caution seem to me, therefore, to be desirable with regard to the application of these portions of the Notes.*

"I need hardly say that it is a matter of rejoicing that the attention and interest of all classes of women should be aroused to the subject by periodicals specially addressed to them, and that it would be a matter of intense thankfulness if more of *first-rate* women could be brought in to fill, after a good Hospital training, the places which are eagerly waiting for them of heads, etc., of Hospital Nursing and of departments of Hospital and Workhouse and District Nursing. People scarcely realize how few the real labourers are to the harvest. I therefore hail beyond anything your interest in the subject.

"P.S. Since I wrote this, I have Miss Enderby's second note. I can only bid you 'God speed' with all my heart and might, and repeat my apology. It is very many years since I have been obliged to decline, however unwillingly, any work of this kind, such as revising ladies' articles, much as it may concern the subject on which I spend my life.

"Excuse a pencil scrawl. F. N."

* "Had I time and strength I could give you instances where the Patient's life has been jeopardized by the Nurse exerting her 'authority' with insufficient knowledge—in each of the applications cited."

The foregoing is a fragment and, though marked by much of her characteristic common sense, belongs to that latter period in the long and illustrious career of Florence Nightingale when she had retired into the seclusion of her sick room in her house in South Street, Mayfair, and had become somewhat of a myth—a voice, as it were, behind a veil. Her seclusion lasted some forty-five years, until her death some ten years ago. "The dying woman," says Mr. Lytton Strachey in his witty *Eminent Victorians*, "reached her 91st year," and he proceeds to paint a somewhat severe picture of the last phase of the once masterful heroine. The few phrases sent to the editor of the magazine, which are quoted above, are certainly in great contrast with the well known *Notes on Nursing* of 1860. The author of that "Classical compendium of the besetting sins of the sisterhood, drawn up with the detailed acrimony, the vindictive relish of a Swift, now"—in Miss Nightingale's last period, that is—"spent long hours in composing sympathetic addresses to probationers, whom she petted and wept over in turn." This is picturesque exaggeration: the *Notes on Nursing*, taking into consideration their epoch, are neither acrimonious nor vindictive. Their satire is in their very truth. They are pungent, as truth alone can be, in their references to "amateur females" and their "physicking" propensities, nurses who "rustle," nurses in crinolines, who expose themselves as much as opera dancers when they have to pick something up, "female ink-bottles" (delightful phrase), and "missionariness." In her last epoch Florence Nightingale had already begun to be mollified by the results of her teaching. Surrounding her had grown up a new generation of nurses, one trained in her passion for fresh air, long since discrinolined, actuated according to her fine ideals. There was, therefore, no further need for her satire. And it is this consideration which will account for her later style as it appears in her annual addresses to the nurses at the Florence Nightingale Institute at St. Thomas's Hospital. These addresses, begun in 1872, the year when she ceased her connexion with the War Office, and continued to the year 1900, are doubtless those of which Mr. Lytton Strachey does not approve.

VICTOR G. PLARR.
Royal College of Surgeons of England.

British Medical Journal.

SATURDAY, MAY 15TH, 1920.

EXPERIMENTAL INDUCTION OF CANCER.

ABOUT seven years ago[1] we called attention to a brilliant study by Fibiger of Copenhagen, in which he claimed to have produced *de novo* in the stomach of rats a squamous-cell carcinoma. This represented then, and probably still represents, the only indisputable instance of the experimental production of cancer. It may be recalled that he was struck with the high incidence of gastric cancer in a certain breed of rats, and after most painstaking investigations discovered that these rats all came from a certain sugar factory infested with cockroaches. The latter were carriers of a nematode of unknown species now recognized to be new, and named *Spiroptera neoplastica*. Fibiger stated that the female nematode was 4 to 5 cm. long by about 0.2 mm. in diameter. The male is less than half the size. The eggs are oval and clear; they measure about 0.06 mm. or less in diameter, and contain curled-up embryos. They were seen both in the body of the female nematode and lying free between the upper layers of the epithelium. The nematode, which was found only in that part of the stomach lined by squamous epithelium, lay, as an almost invariable rule, between the stratum corneum and the stratum granulosum. By feeding rats on the infected cockroaches, or by causing them to ingest the ova of the nematode, Fibiger was able to produce in a fair proportion chronic inflammation, papillomatosis, or even carcinoma of the stomach.

Since that time little more has been heard of his experiments, but recently[2] he has published some further interesting researches on the subject. He has found that the transmission of the nematode *Spiroptera neoplastica* (*Gongylonema neoplasticum*) to rats produced carcinoma in the cul-de-sac of the stomach with such frequency that it provides a method applicable to the systematic study of the origin of cancer. He undertook a series of experiments on several species of rodents, especially a strain of rats which had been preserved for a long time in the Copenhagen University Institute of Pathological Anatomy. Here the transmission of the nematodes was accomplished either, as in his former experiments, by feeding the rats on cockroaches (*Periplaneta americana* or *P. orientalis*) infected with the spiroptera, or by the ingestion of the nematode larvae obtained from the muscles of the cockroach, or by injecting the larvae directly into the stomach. The gastric lesions thereby produced were studied in 116 rats which had survived for periods of 30 to 298 days and the stomach of each was examined by serial sections. None of the rats dying from 30 to 44 days after the transmission of the spiroptera presented any indications of malignant growth, but of 102 rats which survived for 45 to 298 days no fewer than 54 showed quite typical carcinoma of the squamous-cell type in the gastric cul-de-sac. In the remaining 48 rats no carcinomata were found but only benign epithelial proliferations and signs of inflammation which are almost invariably provoked by the spiroptera; the absence of carcinoma was verified by serial sections. Of the rats that died with gastric carcinoma in from one and a half to three months after ingestion of the infected material 20 had tumours of more or less microscopical dimensions, and 5 had multiple carcinomata; of 26 which lived for three to ten months 18 had tumours of fairly large size and 8 had minute nodules, whilst 15 had multiple cancers. Finally 8 rats which lived for the prolonged period had tumours of considerable size. The fact that the great majority of carcinomata were more voluminous in the rats which survived for a relatively long time than in those whose period of survival was short would indicate that the majority of the tumours were produced in from one and a half to three months after the transmission of the nematode. The metastases of this experimental cancer have a marked tendency to localization in the lungs. Generally these metastases were so small that serial sections were necessary to demonstrate their presence. In 33 rats the lungs of which were thus examined, pulmonary metastases were observed in 6 cases. In the absence of the actual sections the evidence for pulmonary metastases may not be convincing, for any observer who has studied the histology of the lungs of rats or mice must have been struck with the frequency with which he encountered microscopic nodules of epithelial tissue difficult to interpret. But Fibiger, who is reputed to be an authority on the pathological anatomy of rats, may be credited with the ability to interpret the findings aright. At any rate, he has been able to demonstrate in one case metastases from the gastric epithelioma in a retroperitoneal lymph gland.

Up to the present he has produced carcinoma of the stomach in 89 rats and carcinoma of the tongue in 5, the particulars of which are to be given in another article. Whilst admitting that other strains of rats may be less susceptible to nematode cancer than those brought up in his institute, he states that the other strains of tame rats with which he has experimented are equally prone. But other species of rats —grey rats or black rats—would seem to be much less often affected. It would seem to be established that nematode cancer of rats can be produced readily in more than half of the experiments after a period of six weeks, and it provides a means for studying the mode of origin and conditions of development of cancer—problems which, so far, have been impossible of systematic experimental investigation.

[1] BRITISH MEDICAL JOURNAL, 1913, vol. i, p. 400.
[2] *Comptes rendus de la Société de Biologie*, vol. lxxxiii, No. 10.

VENEREAL DISEASE IN THE PORTSMOUTH AREA.

THE incidence of venereal disease in the Portsmouth area has acquired some importance in the unfortunate controversy which exists between those who do and those who do not advocate that soldiers and other males should be taught that self-disinfection immediately after sexual intercourse lessens very greatly the risk of acquiring venereal disease. On December 10th, 1919, in the House of Lords, Lord Willoughby de Broke, who is president of the Society for the Prevention of Venereal Disease, raised a debate on venereal disease. Lord Sandhurst, replying to a question regarding the prevalence of such disease in the "Portsmouth area," said that in 1914 the incidence of such cases was one and a half times as great, from 1916–18 about twice as great, and in 1919 two and a half times as great in this area as among the military population throughout the United Kingdom.

Sir Archdall Reid, in letters to *The Times* of December 16th and December 19th, said that Lord Willoughby de Broke, in framing his question in the House of Lords, "desired to ascertain in what proportion troops dwelling in a certain definite area under the medical care of a certain medical authority acquired venereal disease as compared to troops in other areas." Sir Archdall Reid expressed his belief that the true incidence in this area was under 25 per 1,000 per annum, and suggested that the figures given by Lord Sandhurst included not only cases of diseases contracted in the area, but also cases appearing among men not under the authority—as, for example, among drafts from other military areas and from overseas. He remarked also that if Lord Sandhurst still believed his reply to Lord Willoughby de Broke to be correct, it was easy for him to establish his position by publishing in full the figures on which the reply was based. These figures are set out in detail in the nine closely printed foolscap pages of a statement recently presented to Parliament by the Ministry of Health, with the concurrence of the War Office, on the incidence of venereal disease amongst soldiers in the Portsmouth area and in the rest of the country.[1]

Sir Archdall Reid has stated his belief that Portsmouth is the "model area for the whole country"; it appears from his letters published in this JOURNAL on January 24th (p. 128) and in *The Times* (December 16th) that by the Portsmouth area he meant "a certain definite area under the medical care of a certain medical authority," where the troops were infected at a rate of less than 25 per 1,000 per annum; this area included the greater part of Hampshire and Dorsetshire. From the Ministry of Health's statement it appears that Lord Sandhurst's comparison was based on notes of cases supposed to have come from "the two contiguous military stations of Portsmouth and Gosport, which practically form one compact urban area." This confusion of name is the first factor in the explanation of the difference between Sir Archdall Reid's figure of less than 25 per 1,000 on the one hand and the figure (163 per 1,000 in the Portsmouth area, compared with 64 per 1,000 elsewhere in the United Kingdom) on which Lord Sandhurst's statement to the House of Lords was based.

Two other factors contributing to this discrepancy would appear to be, first, a lack of uniform practice in classification of entrants to military hospitals, so that cases of venereal disease occurring among other troops were counted against the strength of the Portsmouth and Gosport areas; and secondly, the inclusion of certain admissions from colonial and R.A.F. troops. Lord Sandhurst's statement rested on a comparison of rates of 163 and 64 per 1,000 respectively in the Portsmouth area and the United Kingdom during 1919. In the White Paper these figures are admitted to be erroneous; the rate for the whole of the Portsmouth area should be 47·3 per cent., and for the garrison area 54·4 (not 163). In fairness it should be stated that the incidence rate of 64 per 1,000 for the United Kingdom, if calculated like the other rates on amended lines, would show some diminution.

It is difficult profitably to compare the incidence of infection among sections which differ from time to time in number and composition, and in which the duration of stay of the various elements varies widely at different periods. To obtain a basis for estimating the value of self-disinfection after intercourse it would be necessary to know (1) how many men were exposed to infection and afterwards made efforts at disinfection; (2) how many were exposed and subsequently made no such efforts; (3) how many of the first group became infected; (4) how many of the second group became infected. It is admitted that no information as to these ratios can be derived from the statistics given in sections B and C of the statement regarding the proportions of hospital patients who had practised immediate or late disinfection or none at all. These sections indicate that of 3,000 admissions to military hospitals in the Southern Command, 1,100 in round numbers had used antiseptics, 550 on the same day; a detailed investigation at two other hospitals showed that out of 385 patients questioned by the medical officers in charge of wards 7.3 per cent. said they had swabbed with permanganate solution within ten minutes after exposure; 3.6 said they had used calomel ointment within ten minutes; and 1.5 said they had used both preparations within that time. While these figures have little value for purposes of comparison, and have been challenged by the Society for the Prevention of Venereal Disease, they justify Lord Sandhurst's statement that, even among soldiers who had received instruction, immediate self-disinfection by no means invariably conferred immunity from infection. The statistics do not seem to justify any more general conclusion.

[1] Cmd. 505. H M. Stationery Office. 2d. net.

SECTIONS AT THE CAMBRIDGE MEETING.

AT the Annual Meeting of the British Medical Association at Cambridge, which begins at the close of next month, the Section of Medicine will meet on Wednesday, Thursday, and Friday, June 30th, July 1st and 2nd, under the presidency of Sir Humphry Rolleston. The morning session on June 30th, with the president in the chair, will be devoted to a discussion on the diagnosis of nervous disorders of the stomach and intestines, to be opened by Dr. A. F. Hurst. The other speakers will include Sir Clifford Allbutt, President of the Association, Dr. Charles Bolton, Dr. Langdon Brown, Dr. Maurice Craig, Dr. R. G. Gordon (Bath), Mr. H. Tyrrell Gray, Dr. Robert Hutchison, Dr. Craven Moore (Manchester), Dr. R. J. Buchanan (Liverpool), Dr. E. Hobhouse (Brighton), and Dr. W. J. Tyson (Folkestone). In the afternoon Mr. J. Barcroft, F.R.S., will demonstrate methods of analysing the gases of the blood and alveolar air. On the morning of July 1st, with Professor J. B. Bradbury in the chair, Professor F. G. Hopkins will open a discussion on the present position of vitamines in clinical medicine, which will be continued by Sir James Barr, Dr. S. M. Copeman, Dr. Corry-Mann, Dr. A. Croft Hill, Professor C. J. Martin, Dr. Eric Pritchard, and Dr. Leonard Williams. On the morning of July 2nd, with Dr. Thomas Lewis in the chair, a discussion on the clinical significance and course of subacute bacterial endocarditis will be opened by Sir Thomas Horder, who will be followed by Dr. Carey Coombs (Bristol), Dr. J. M. Cowan (Glasgow), Dr. H. S. French, Dr. A. G. Gibson (Oxford), Dr. A. E. Gow, Dr. A. J. Hall (Sheffield), Dr. J. Hay (Liverpool), Dr. F. J. Poynton, Dr. H. J. Starling (Norwich), and Dr. W. E. Hume (Newcastle). An exhibition of specimens illustrating the subject of this discussion will be held in the Pathological Museum. The Tropical Diseases Section will meet under the presidency of Professor G. H. F. Nuttall, on Wednesday, June 30th. During the morning session papers will be read on problems of filariasis, by Drs. Stephens and Yorke; on the part played by *F. bancrofti* in the production of lymphatic obstruction, and a consideration of elephantiasis from the pathological standpoint, by Dr. G. C. Low and Dr. Manson-Bahr; and on the effects of vitaminic deprivation on the endocrine organs, with special reference to wet beri-beri and epidemic dropsy, by Lieut.-Colonel R. McCarrison, I.M.S. During the afternoon Dr. R. T. Leiper will demonstrate parasitic worms; a collection of all known

species of tsetse flies will be exhibited by Professor Newstead, who will give a demonstration dealing with their morphology and bionomics. Lieut.-Colonel S. P. James will demonstrate the use of the mobile laboratory for malarial inquiries in England; and paintings illustrating the treatment of leprosy will be shown by Sir Leonard Rogers. The Section of Medical Sociology will meet on Friday, July 2nd, at 10 a.m., under the presidency of Dr. G. E. Haslip. Sir George Newman, K.C.B., M.D., will open a discussion on the Future of Medical Practice, dealing with the subject from the point of view of the State. The discussion will be continued by Sir Wilmot Herringham, K.C.M.G., M.D., from the standpoint of the Consultant; by Dr. Alfred Linnell, from that of the General Practitioner; by Professor F. Gowland Hopkins, F.R.S., from that of Medical Research; and by Mr. E. W. Morris, C.B.E., House Governor of the London Hospital, from that of the Hospitals.

NATIONAL COLLECTION OF TYPE CULTURES.

THE Medical Research Council has made arrangements with the Lister Institute to maintain a national collection of type cultures at the Institute, where all the necessary facilities have been provided. The object of the collection is to enable biologists in general and bacteriologists in particular to obtain from a trustworthy source authentic strains of recognized bacteria and protozoa for scientific work. The need of an available supply of this kind has long been felt in many directions and particularly in medical research work, for the study of principles and methods in bacteriological technique, and for the systematic classification of bacteria and protozoa in their various species and strains. In this country the Lister Institute of Preventive Medicine has for many years assisted bacteriologists both at home and abroad, so far as the resources of its own private collection have permitted, but British workers have been dependent in great part upon the courtesy of scientific colleagues or upon the collections of institutes in other countries. Before the war the collection at the Pasteur Institute in Paris, maintained by M. Binot, was very helpful to workers here. A collection of type cultures was formerly maintained on a commercial basis by Král at Prague, and this was subsequently transferred to the sero-physiological institute of Vienna. This source of supply was never completely satisfactory. In America the Museum of Natural History in New York has maintained a Culture Bureau during the last eight years, and it is believed that the facilities afforded by the bureau have been of the greatest benefit to workers there, not only by the provision of authentic cultures, but also through the studies in classification made by its staff. The Medical Research Council expresses its great indebtedness to the governing body of the Lister Institute for affording an opportunity of establishing a central collection upon a proper footing without further delay. The present arrangement is made for a short term of years, and the future location of the collection will be considered before the term expires. The scheme will be under the direction, on behalf of the Council, of Dr. J. C. G. Ledingham, bacteriologist in chief to the Lister Institute, whose part-time services have been lent for the purpose. Dr. R. St. John Brooks has been appointed by the Council to the full-time post of curator, and Miss M. Rhodes to that of assistant curator. It is proposed to collect and maintain bacterial and protozoal strains of medical, veterinary, and economic importance, but in the immediate future the efforts of the staff will be directed more particularly to obtaining fully authenticated strains of pathogenic organisms. Subsidiary researches on the viability of bacteria in artificial media will be undertaken with a view to the discovery of economical and labour-saving methods of subculture. The staff will also be prepared to give help in the identification and classification of strains received from workers at home or abroad. The co-operation of bacteriologists is earnestly invited; cultures that may be sent, either for identification or for maintenance in the collection, should be accompanied by the fullest particulars as to source and date of isolation and by clinical and epidemiological notes. The Director will determine what kinds of cultures are of sufficient importance to be maintained in the collection, but workers are asked to forward strains of even the commonest types as they will be of value at least for the representation of strains of recent origin, and studies in classification will be aided if large series of authentic specimens of different but closely similar or cognate species are available. Cultures will as far as possible be supplied on demand for a small charge to workers at home or abroad. Strains of the commoner types of human infection can already be supplied, and it is intended to prepare a catalogue for publication.

STERILIZATION OF MILK BY ELECTRICITY.

THE Medical Research Council has published a full account[1] by Professor J. Martin Beattie and Mr. F. C. Lewis of Liverpool of their experiments on the use of electricity in the sterilization of milk. The work was begun in 1914 and was assisted by the Medical Research Committee, as it was then styled. The method employed is the passage of alternating electric currents through milk which is flowing with uniform velocity through a horizontal tube. In practice it is found desirable that the temperature at the outlet should be 62° to 64° C. A higher temperature gives a slightly greater degree of sterilization, but is not advised, on the grounds that the milk undergoes chemical changes, that the process carried out under these conditions does not furnish any advantages over ordinary heat sterilization, and that wastage of electrical energy is considerable. If electrical treatment is followed by natural cooling there ensues a "favourable temperature period," during which "residual" bacteria may multiply; more rapid cooling is therefore requisite, and in large-scale practice a refrigerating plant is a necessary adjunct to the electrical apparatus. The taste of the milk is not altered, and souring is delayed to the fourth day at least. Milk prepared in this way was used at the Liverpool Corporation infant welfare centres. It was found that the average reduction of bacteria, as indicated by agar culture, was over 99.9 per cent.; *B. coli* was always absent from the treated milk, although control specimens furnished innumerable colonies growing on neutral red agar at 37° C. The effect of the process on *B. tuberculosis* was carefully tested; milk artificially infected with pure cultures of *B. tuberculosis* and also with sputum containing large quantities of this organism was rendered free, as tested by the inoculation of guinea-pigs with the centrifuged deposit of 100 c.cm. of milk. The Medical Research Committee was able to secure an independent trial of the method in Birmingham, where Professor Leith repeated and extended the Liverpool observations, and Sir Oliver Lodge superintended the study of current action. The work was much interrupted owing to the war, but the results confirm Professor Beattie's claim that the electrical is an effective method for the sterilization of infected milk. Professor Leith concludes that "both the thermal and electrical methods have a high practical value, and deserve consideration in any endeavour made to improve milk supplies. The thermal is simpler and cheaper, the electrical quicker in action." The Liverpool and Birmingham workers differ in the view they take of the manner in which these changes are brought about. The Birmingham workers found a close parallelism between the effects of heat and the electrical current respectively upon the organisms in the milk, and they concluded that the electrical method owes its results not to the direct action of the current as such on the bacilli, but to the heat generated in its passage; Professor

[1] Medical Research Committee. On the Destruction of Bacteria in Milk. London: H.M. Stationery Office. 1920. No. 49. Price 9d.

Beattie and Mr. Lewis, on the other hand, believe that the alternating current produces its destructive action on bacteria by other than thermal means. The Medical Research Council expresses the hope that this question may presently be settled by special inquiry; in the meantime it has no doubt "that the work of Beattie and Lewis has given us an elegant and practical method of purifying milk for human consumption, of which the use upon a large scale becomes now a problem for closer financial and administrative examination."

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

THE present instalment of the *Oxford* or *New English Dictionary*[1] passes from *visor* to *vywer* (an obsolete form of *viewer*), and contains some interesting medical terms. There is *volsella*, "the chyrurgions little tongs," so often referred to in textbooks of gynaecology, and so often wrongly written *volsellum*, as if volsella were a neuter plural instead of the singular feminine, which it really is; now that the *Dictionary* has given volsella its aegis, it may be hoped that the other form will disappear; *acanthabolus* is another name for it. *Vomica*, which is simply the Latin word for a boil or ulcer, has its strictly medical significance of an ulcerous cavity or abscess in the substance of the lungs, and also that of a place at which water issues. Every medical student knows that the *vomer* is so called from its ploughshare shape, but all are not aware that the *vomic nut* or the *poison nut* is the obsolete name of nux vomica. *Vomiturient*, which has the meaning of "characterized by a desire to vomit," is now obsolete—why, it is hard to tell, for it has an expressive enough sound and would seem, so to say, to meet a felt want. *Vomitory*, also, in its medical sense of emetic, is likewise marked as obsolete in the *Dictionary*, although a quotation is given from a work of 1743, and it is probably to be found in books much more recent than that. *Vomito* is given as a non-naturalized word; it means the yellow fever, and the reference is, of course, to the black vomit which accompanies it in its virulent form. *Vitellus*, and the words grouped with it (for example, *vitellary*, *vitelline*, *vitello-intestinal*, *vitelligenous*, etc.), mostly embryological names, are all fully illustrated; and *vitreous* (glassy), in its medical references, such as vitreous humour, is defined, but as applied to thick and tenacious mucus it has become obsolete. The many medical or, rather, chemical meanings of *vitriol* are set forth in order; but who knows now that *vitriol of Mars* is made by digesting filings of steel in spirit of vitriol? Also, who knows that *vitta* is "that part of the Coat called Amnion, which sticks to the Infant's Head when 'tis just Born"? Under *vivisect* and its associated words the anti's are well represented in the illustrative quotations. Dr. Craigie (the Editor of the present portion) has unearthed a realistic definition of *volvulus* from a book of 1679—namely: "When the Entrals are stopt that they cannot void, it is the Volvuli or wringing of the Guts." An interesting group of words is found in *vulnerary* (useful in healing wounds) and its associates (*vulneral*, *vulnerate*, *vulneration*). Archagathus, as described by Pliny (in Holland's translation), "was called (by report) The vulnerarie Physician or Chirurgion." So much Dr. Craigie's illustrative quotation tells us; but a reference to Holland's delightful book supplies us with the "end-result," so to say, of Archagathus: "Wonderfull much seeking and running there was after him, and none more wealthie than he at his first comming; but soone after when hee was knowne once to carry a cruell hand over his poore patients, in cutting, lancing, dismembring, and cauterizing their bodies, they quickly began to alter his name, and to terme him the bloudy Butcher or Slaughterman, whereupon not only all Physitians, but Physick also grew into a bad name and became odious." So much for "the first Physician that ever came to Rome" and his fair beginning but bad ending. It is a great virtue in a dictionary when its quotations send the reader out of curiosity to the original sources, and in this, as in so many other things, the *New English Dictionary* is "excelling."

[1] *A New English Dictionary on Historical Principles.* Vol. x, *Visor—Vywer.* By W. A. Craigie, M.A., LL.D. Oxford: At the Clarendon Press. London, Edinburgh, New York etc.: Oxford University Press, Humphrey Milford. March, 1920. Price 2s. 6d. net.

PHYSICAL THERAPY IN THE NAVY.

IN continuation of the series of reports dealing with the naval medical history of the war, Surgeon Commander A. K. Smith-Shand, R.N., has contributed to the current number of the *Journal of the Royal Naval Medical Service* a comprehensive account of the work done in radiology and physico-therapeutics. It increased progressively throughout the war and was done chiefly at the large naval hospitals at Chatham, Haslar, and Plymouth, but the R.N. Sick Quarters at Shotley dealt with casualties following certain of the bombardments and raids on the east coast, and the R.N. Hospital at Malta bore the brunt of the work arising from the Gallipoli campaign. A new building for massage and electro-therapeutics was erected at Chatham in 1916, and similar work was carried on in 1918 and 1919 at the R.N. Auxiliary Hospital at Peebles. *X*-ray work was chiefly performed at the three large hospitals. Foreign bodies were usually localized by Mackenzie Davidson's cross-thread method or by Bradbury's method; for eye work Sweet's localizer was usually employed. The number of opaque meal examinations increased fourfold during the war; recently a preparation supplied by Messrs. Allen and Hanbury, containing 75 per cent. barium sulphate in a pabulum of cocoa, arrowroot, and desiccated milk, was the material preferred. In treating ringworm Adamson's 5-exposure modification of the Kienbock method was employed, and one pastille dose was usually sufficient to cure mild uncomplicated cases of sycosis. Good results were obtained in chronic eczema and psoriasis; scars, keloid and lupus also responded well to repeated exposures. Cures were obtained in six cases of rodent ulcer. Surgeon Lieut. Commander Bradbury, at Plymouth, had good results in cases of tuberculous arthritis, and expresses the opinion that "tuberculosis of the wrist, ankles, etc., and of glands should not be operated on until *x*-ray treatment has been given a fair trial." Promising effects were obtained in cases of hyperthyroidism by the administration thrice weekly of one-third pastille doses through a 1 mm. aluminum filter. Ultra-violet radiation was introduced into naval hospitals in 1916, a Simpson lamp being used at Chatham and a Forbes lamp at Haslar; an English-made mercury vapour lamp was employed at Plymouth. The healing of granulating wounds, ulcers, and bedsores was thus accelerated; for after-treatment, a dressing of isotonic saline solution or simple shielding was preferred. Good results were also obtained in cases of acne, sycosis, keloid, and lupus, and after the battle of Jutland treatment by ultra-violet rays, directed through a speculum, was thought to produce remarkably rapid healing of rupture of the ear-drum. In the three large hospitals the work of the physico-therapeutic departments increased fourfold during the war, and was greatly helped by a generous gift made by Johannesburg and Rand school children. Ionic medication was extensively used in the treatment of gonorrhoeal and gouty arthritis, corneal ulcers, neuritis, and fibrositis. Surgeon Lieut. Commander Bradbury had good results from the use of zinc iodide in otorrhoea, and Surgeon Commander Connell reports the employment at Haslar of ionization with mercuric chloride in many cases of primary syphilitic sores and of chancroid. The departments of mechano-therapy were equipped with Sargent's weight-and-pulley apparatus, bicycle exercisers, foot and knee machines, and many other special therapeutic appliances; radiant heat, hydrotherapy, and diathermy were also used. The staffing of the massage

departments and training in them was greatly helped by the decision, taken in 1916, to employ women during hostilities; in 1917 it was arranged to appoint in each hospital a head sister and an assistant sister for massage, together with seven temporary masseuses and three masseurs; the head sister was chiefly employed in teaching. It is the intention of the Admiralty to form a trained staff of male masseurs, and for this purpose schemes have been prepared for the instruction and examination of twenty-four sick berth ratings each year.

THE HOSPITAL SURVEY.

THE hospital survey undertaken by Sir Napier Burnett, Director of the Joint Council of the British Red Cross Society and the Order of St. John, to which reference was made in a Current Note published on May 1st, has been completed. The object in view was to give an indication of the volume of work done by each hospital during 1919, and of the present financial position. The data used were either supplied direct by the hospital secretary or abstracted from the hospital's annual report. Throughout the fifty-five counties of England and Wales 550 hospitals have been dealt with, constituting approximately 78 per cent. of the voluntary civil hospitals, excluding those dealing solely with tuberculosis and excluding also the voluntary hospitals in London which enjoy the benefit of King Edward's Hospital Fund. A table has been prepared giving details of 507 hospitals, which, taken together, provided 29,821 available beds. They are classified in four groups: Group A, containing 82 large general hospitals of 100 beds or over, provided 15,958 beds; Group B, containing 87 hospitals with 30 to 100 beds, provided 4,724 beds; Group C, containing 240 small or cottage hospitals of under 30 beds, provided 3,355 beds; Group D, consisting of 98 special hospitals, provided 5,784, beds. Statistics were not obtained of the number of cases treated during the year in all these hospitals; but 498 hospitals treated 350,459 in-patients during the year. In the case of 296 hospitals with 23,621 beds, the daily average number occupied was 18,705 (79 per cent.). The enormous volume of work done is shown by the fact that in 374 hospitals 219,196 surgical operations were performed during the year. The ratio of medical to surgical cases found in sixty-eight hospitals from which such statistics could be obtained showed that the medical cases formed 21 per cent. and the surgical 72 per cent. of the total. It is suggested that these figures do not indicate that medical diseases are disappearing, but rather that people no longer shun the hospital from the dread of an operation. On the financial side it was found that the excess of expenditure over income for the hospitals under review was £475,627; approximately 75 per cent. of this deficit arose in the large general hospitals with 100 beds or over. The Joint Council is recommended to make a special public appeal in the hope of raising a million a year, and, further, to afford the hospitals facilities for co-operative buying. It is suggested also that the hospital work in each area should be co-ordinated by bringing the smaller hospitals into relation with the appropriate large or "key" hospitals. Arrangements would be made for the transport of patients and for the receipt of severe cases from small hospitals by the central hospital, and the return of slighter cases to the cottage hospitals and convalescent homes. It is further proposed that all pathological and bacteriological work of each group of hospitals should be conducted at the central hospital. We must defer further comment upon this interesting report to a future occasion.

VOLUNTARY MOVEMENTS IN NERVE LESIONS.

THE vast number of nerve injuries produced by the war has led to a new valuation and revision of many textbook "facts" as to the innervation of muscles and their actions. The pendulum has swung probably too far in the revolutionary direction, and a paper by Wood Jones,[1] in which the actions of muscles is examined in some detail, may act as a corrective to those who are apt to cover their ignorance by wilfully abandoning pre-war knowledge and setting up standards of their own. Despite recent teaching, Wood Jones figures the supinator longus and pronator radii teres as useful flexors of the elbow-joint. His brief analysis of many of the movements of the hand and fingers is lucid, and many "trick" movements, which may be mistaken for evidences of recovery in a given nerve, are exposed. One of the most interesting of these is the extension of the wrist by the interossei in case of complete musculo spiral division. This necessitates flexion at the metacarpo-phalangeal joints; the movement cannot be executed with the fingers extended. There is a discussion of the movements possible in injuries of the musculo-cutaneous, musculo-spiral, ulnar, and median nerves which will repay study. The estimation of the condition of injured nerves is always a very difficult and at best an uncertain procedure. A patient told to perform a movement sets himself to accomplish the feat without a thought for the particular muscles which he will or ought to use. For this reason, in nerve lesions the subject will use any muscle which has any power whatever to move the joint in question, and therefore the analysis of such movements requires close observation.

DINNER TO SIR GEORGE MAKINS.

THE complimentary dinner to Sir George H. Makins, G.C.M.G., C.B., P.R.C.S., was held on Monday evening, May 10th, when more than 100 medical men met together at the Hotel Great Central, with Sir Cuthbert Wallace, K.C.M.G., in the chair. Those present included Sir William Arbuthnot Lane, Sir Charles and Sir Hamilton Ballance, Sir Seymour Sharkey, Sir James Porter, Sir Felix Semon, Sir Walter Fletcher, Sir Archibald Reid, Sir W. G. Macpherson, Sir James Magill, Sir Robert Fox Symons, Sir C. Gordon Watson, Professor Arthur Keith, Dr. T. D. Acland, Dr. H. P. Hawkins, Mr. W. H. Battle, Mr. Raymond Johnson, Professor F. G. Parsons, Mr. Percy Sargent, Mr. J. Sherren, Colonel G. H. Barefoot, Mr. A. H. Cheatle, Dr. J. S. Fairbairn, Sir John MacAlister, Dr. F. F. Caiger, Dr. Alfred Cox, Mr. F. G. Hallett, and Dr. H. G. Turney, with many other members of the staff and former students of St. Thomas's Hospital. Messages were received from Lord Dawson and a number of colleagues who could not be present. The Chairman, in proposing the toast of the evening, gave personal recollections of Sir George Makins at St. Thomas's in former days, during the South African war, and as the first consultant surgeon with Sir Anthony Bowlby in the Great War. Sir Cuthbert Wallace spoke of the affection and trust inspired by their guest, of his kindly tolerance, and his calm and happy nature; to himself Sir George had been surgical father and friend. The toast was supported by Lieut.-General Sir John Goodwin, D.G.A.M.S., Mr. E. F. White, F.R.C.S., Sir John Bland-Sutton, and Sir George Savage. Sir John Goodwin said that his own debt to the teaching, writing and example of Sir George Makins was shared by the army, which had paid him the compliment of piling task after task upon him. An American colleague in France had aptly described their guest and their chairman as "two of the bulliest of surgeons." All who had worked with Sir George Makins admired his steadfastness of purpose, his rectitude, and human sympathy. Mr. White added the tribute of a general practitioner and a friend of forty-five years' standing. Makins, he said, always played the game as a consultant, and gave real help to the general practitioner, whether the patient were rich or poor or one of the doctor's own household. Sir John Bland-Sutton, speaking as a vice-president, described Sir George Makins as the most popular president of the Royal College of Surgeons within living memory. Their friendship began in 1887, when they took part in founding the Anatomical Society

[1] *Journ. Anat.*, 1919, 54, 41.

of Great Britain. A great tradition in the surgery of gunshot wounds had been carried on in direct succession by William MacCormac, George Makins, and Cuthbert Wallace; Makins's work on injuries to the blood vessels was a milestone in the progress of surgery. Sir George Savage, speaking of an unclouded friendship since the time when Sir George Makins was his pupil at Bethlem Hospital forty years ago, said that in all the relationships of life their guest's urbanity and humanity shone forth. Sir George Makins, who was received with great enthusiasm, expressed the pride he felt in seeing so many friends gathered round to do him honour. Among them was represented every one of the activities of his career. He thanked all his friends for the tribute they had paid him. With reminiscences of the past and kindly references to many of those seated around him he touched on his long association with the Army Medical Service and its succession of director-generals, on his relations with the Naval Medical Service and its heads, on St. Thomas's Hospital and the inspiring influence of Sir William MacCormac in war surgery, and on the great services rendered to medical education by the Royal College of Surgeons of England.

AUXILIARY R.A.M.C. FUND.

FROM the brief report, published at p. 689, of its recent annual meeting, it will be seen that the Auxiliary Royal Army Medical Corps Fund is doing good work. Since the last annual meeting it has given help to the orphans of thirty-one officers of the Auxiliary Royal Army Medical Corps who lost their lives owing to the war. As in many instances several children of the same officer were helped, the total number assisted was considerable. The fund, which also makes grants to the orphans of the rank and file, derives the major part of its income from subscriptions, which may be sent to the honorary secretary, Sir William Hale-White, K.B.E., M.D., at 11, Chandos Street, Cavendish Square, W.1. No one can doubt that the fund is needed, and we have reason to believe that it is judiciously and economically administered. It is therefore one which makes a strong appeal for the support of the profession.

THE Croonian Lecture of the Royal Society will be given by Professor W. Bateson, F.R.S., on June 17th. The subject is genetic segregation.

SIR WILLIAM OSLER, Regius Professor of Medicine in the University of Oxford, left estate of the gross value of £15,865, with net personalty £11,650. He bequeathed his medical and scientific library, as catalogued by himself, to the medical faculty of McGill University, Montreal. The remainder of his property he left to Lady Osler, but on her decease, or earlier if she should wish, Sir William Osler directed that his residence, 13, Norham Gardens, Oxford, be given to the Dean, Canons, and Governing Body of Christchurch as the residence of the Regius Professor of Medicine. Sir William Osler's only son was killed in the war.

Medical Notes in Parliament.

Financial Position of London Hospitals.

MR. R. YOUNG, on May 6th, asked the Minister of Health whether he was aware that some of the London hospitals were in a serious financial position, and that appeals were being made in elementary schools to the children, and through them to the parents, for assistance to prevent some of the hospitals partly closing down or otherwise curtailing their very necessary and beneficent work; and whether any steps were likely to be taken by legislation or other means to place these institutions on a sound footing to carry on their activities in the interests of the nation. Dr. Addison replied: In view of the urgent representation which has recently been made to me in regard to the financial position of certain of the London hospitals, I am considering what steps can be taken to meet a difficulty which I hope is only temporary, but I am not yet in a position to make a definite statement on this matter, which necessarily involves far-reaching issues.

Election of Direct Representative to Fill Vacancy.

Sir Henry Craik, on May 10th, introduced a bill to amend Section 8 of the Medical Council Act, 1886, under which a direct representative elected to fill a vacancy is elected for a full period of five years. The purpose of the bill is to provide that a direct representative elected to fill a vacancy shall hold office for the unexpired period of the term of the member whose place is to be filled. This course is usual, so as to avoid overlapping periods of office. The bill is backed by Captain Elliot and Dr. Nathan Raw.

Doctors and Motor Car Taxation.

Sir W. Joynson Hicks asked the Minister of Transport, on May 5th, whether it was intended under the new scheme for the taxation of motor vehicles to grant any special privileges, exemptions, or rebates in respect of motor cars used by doctors and veterinary surgeons, in accordance with the privileges enjoyed by them under the present system of taxation. Mr. Neal replied: There is no intention to give special privileges to these classes of motor car users. This question was carefully considered by the Departmental Committee on the Taxation and Regulation of Road Vehicles, and the reasons for the withdrawal of existing privileges are set out in paragraph 23 of their report. The rebates which these users now enjoy were conceded partly in order to bring them into line with commercial motor vehicles, which pay no Inland Revenue duty and are entitled to a rebate of half the duty on motor spirit. With the abolition of preferential treatment to commercial users, the case for medical practitioners and veterinary surgeons necessarily fails. There could be no justification for exempting members of two professions only. Every person using a motor car in connexion with his profession or business would be equally entitled to preferential treatment. The concession to medical practitioners and veterinary surgeons was made when motor cars were taxed as luxuries. This is now no longer the case. The proposed tax is in fact a tax upon road users for road purposes.

War Pensions Bill.

Mr. Macpherson, on May 5th, moved the Second Reading of the War Pensions Bill, the chief object of which is to provide that the administration of post-war pensions shall be undertaken by the appropriate service departments instead of by the Ministry of Pensions. For this particular purpose the end of the Great War is defined as July 31st of the present year, and from that time new awards are "post-war pensions." The Government made this proposal in the interests of economy and efficiency, so that it should not be necessary that post-war pensions should be considered by two different departments—that was, by the Ministry of Pensions as regards disability and by the Service Department as regards service recognition. The business of pruning the gigantic organization of the Ministry of Pensions had already begun. The training of disabled men had been transferred from the Pensions Ministry to the Ministry of Labour; and it had been decided not very long ago—not by the wish of the Government nor by the wish of the Ministry of Pensions, nor, he believed, by the wish of the Ministry of Health—that the medical and surgical treatment of discharged and disabled soldiers should in two years' time be given to the Ministry of Health. This was the decision of the House of Commons. Nothing in the present bill interfered with the powers of the Ministry of Pensions or the Pensions Committee, except that their operations would be confined to the circumstances and happenings of the period from August 4th, 1914, to July 31st, 1920. In speaking of the importance of economy, Mr. Macpherson said he believed the administration of the Pensions Department cost as much as five millions a year. Another feature of the bill was a clause to substitute for the present county committees local committees acting independently over wide areas within a county. The local committees at the present time had control over the expenditure of 24 million sterling. Mr. Macpherson praised the public spirit of these committees, but said that the new arrangement would tend to greater economy, and there was a further proposal for the Government to have powers to appoint a finance officer who, if need be, would take charge of the local finances in any exceptional case. In one respect the bill would give the Pensions Ministry new duties, in that it was proposed to transfer to the Ministry the award of wound pensions to officers, hitherto undertaken by the

War Office or the Admiralty. Amongst other changes intended under the bill was one to give the Minister discretionary powers for the restoration of pensions forfeited by men on conviction and imprisonment; to give the Ministry of Pensions definite power to control the children of officers or men who had died on service or were still on active service, this power to be placed in the hands of a particular representative of the Ministry.

There was some discussion, but the second reading was given without division.

New Select Committee on Pensions.—At the instance of the Government, on May 7th, the House of Commons ordered the appointment of a select committee to inquire and report upon (1) the position as to employment and training for ex-service men disabled in the war; (2) the payment of grants by the Civil Liabilities (Military Services) Department; and (3) pensions for officers and other ranks of the mercantile marine so far as they were engaged in war service. Lieut.-Colonel Allen, Mr. Betterton, Sir John Butcher, Captain Coote, Major Entwistle, Lieut.-Colonel Sir Frederick Hall, Sir Henry Harris, Captain Loseby, Lieut.-Colonel Parry, Mr. Pennefather, Captain Redmond, Mr. Roberts, Mr. J. Taylor, Mr. Stephen Walsh, and Major Mackenzie Wood were nominated members of the Select Committee.

Sale of Quinine Stores.—In reply to Mr. Glanville, on May 6th, Mr. Hope, Financial Secretary, Munitions Ministry, said that a considerable quantity of compressed tablets of quinine was recently sold by the Disposal Board to Messrs. John Bell and Croyden, Ltd. The quantity of quinine salts contained therein amounted to approximately 270,000 oz.; fifty-six invitations for tender were issued, and amongst those who offered were Messrs. Whiffen, Messrs. Howards, and Messrs. T. and H. Smith, Ltd. The price paid was slightly in excess of the valuation made by the expert advisers of the Department, and was substantially larger than the next highest offer received. The official responsible for the disposal of these tablets was a civil servant of many years' standing, and was still in the service of the Disposals Board.

Milk and Dairies Bill.—Dr. Addison on May 10th introduced a Milk and Dairies Bill to amend the Milk and Dairies Act, 1915. The main objects of the bill are to provide for the licensing of milk producers and dealers, for the definition and grading of milk, and to give power to local authorities to undertake the supply of milk in their areas.

Paper Supplies.—The President of the Board of Trade said, on May 10th, in reply to questions by Sir R. Cooper, that in consequence of the great demand and the general shortage of supplies of papermaking materials throughout the world, prices had risen everywhere to a very high level. He did not see what action the Government could take to ameliorate the situation, which was entirely due to economic causes. It was true that waste paper merchants were experiencing difficulty in disposing of waste paper to paper manufacturers, which appeared to indicate that persons who wanted material for the manufacture of paper preferred new and original supplies to waste paper; this would seem to indicate that the shortage of pulp was not so great as some people had imagined. On the suggestion that steps might be taken to ensure supplies of raw materials to Austrian paper mills, which made excellent paper before the war, Sir R. Horne said that supplies of raw materials were wanted in America and Canada as badly as here.

Answers in Brief.

Mr. Bonar Law has stated that it is intended to bring the National Health Insurance Bill into operation on July 5th, 1920, and that he hoped it might be read a third time this week.

The Minister of Transport has stated that the Committee on Motor Taxation early in its investigations indicated a preference for a petrol tax. On further consideration it arrived at the conclusion that it was impracticable. He undertook to publish the interim report on the subject.

The question whether the Government shall reconsider cases of hardship owing to pensioners being refused grants by the Civil Liabilities Commissioners on the ground that their applications are too late has yet to be determined.

The question of increasing the pensions of pre-war pensioners is now being considered by a Cabinet Committee.

The Government cannot make any definite forecast as to the period during which it may be necessary to continue the work of the Ministry of Food. A bill to extend its life will shortly be introduced.

Under the Budget proposals the amount of direct taxation per head of the population of the United Kingdom will be £14 7s. in 1920–21.

Eaton Hall, Chester, is the only remaining hospital for convalescent soldiers, but steps are being taken to transfer the patients, and it is hoped that the Hall will be vacated within the next two or three weeks. The number of patients treated during the first three months of the year was—January 119, February 75, and March 113.

Sir James Craig has stated that the qualification for participation in naval prize money is service in a seagoing offensively armed ship of war. In these circumstances claims based on hospital ship service would not be admissible.

The Government hope to introduce the Dentists Bill before the end of the month.

England and Wales.

SCHOOL MEDICAL OFFICERS' SALARIES.

AT a meeting of the Devon Education Committee, on May 6th, at Exeter, the secretary stated that though the salary of the school medical officers had been put at £400 a year, rising to £500, the annual increments had not been decided upon. In reply to a question, the County Medical Officer of Health (Dr. Adkins) said that the medical papers refused to accept advertisements for medical officers at a salary less than £500 to start with. He had now received the resignation of Dr. E. L. Sturdee, of Barnstaple, who wrote that he found it impossible to live on the salary paid by the committee, and he was accepting a better paid post. Advertisements were inserted in the local newspapers. Six applications were received, but five had since been withdrawn, a notice having been issued that before applying for a position under the Devon County Council doctors should communicate with the British Medical Association. The fact was that the Devon County Council was on the "black list." There was now only one applicant for the appointment. Dr. Mackenzie said he was not a member of the British Medical Association, and he was opposed to all trade unions, but he liked to look at these matters in a reasonable way, and if they wanted a good service they must pay for it. Dr. Adkins said the one remaining applicant was Dr. C. G. Mathews, who had done a good deal of work in Devon and came with strong testimonials. The appointment was for the Barnstaple district. He would have to work with the medical men in North Devon, and would be looked upon as a "blackleg"; it would be an awkward position. Dr. Adkins mentioned that the candidates who withdrew stated that they would be glad to take the position at a starting salary of £500. It was agreed to appoint Dr. Mathews, and that increments should be £25 per annum.

Dr. C. P. Mathew of 12, Thornton Hill, Exeter, asks us to state that he is not the medical practitioner who has been appointed assistant school medical officer for the Barnstaple district under the Devon County Council.

We have since been informed that Dr. C. G. Mathews also withdrew his application.

ASSISTANT MEDICAL OFFICERS AT MENTAL HOSPITALS.

It has been decided to increase the establishment of assistant medical officers at each of the larger mental hospitals in the county of London (that is, with over 2,000 patients) to eight. Hitherto the number has been six, with a locumtenent during the annual leave season. The services of the locumtenent will be dispensed with under the new arrangement. Among the reasons for this increase of establishment is that under the new conditions of employment and promotion for the nursing staff a greatly increased number of lectures has to be given by the medical officers. The suggestion has been made that the higher standard of nursing now required might operate to reduce the amount of professional medical care necessary; but the Asylums Committee is advised that this is not the case, and that the patients must suffer if the pre-war standard of medical care is not maintained. A further factor which affects the question is that the Council has provisionally agreed to the principle of granting study leave to assistant medical officers in the mental hospitals' service, with a view to their obtaining diplomas in psychological medicine; they are being give facilities for attending the course of lectures in psychological medicine instituted at the Maudsley Hospital.

PREVENTION OF VENEREAL DISEASE.

Early this year Dr. A. Mearns Fraser, M.O.H. Portsmouth, prepared a special report on the prevention of venereal disease, in which, after alluding to the prevalence of these diseases, he expresses the opinion that there are no infectious diseases so easily guarded against as venereal diseases. The report states that application of a disinfectant to the male genital organ within an hour of exposure to infection can be relied on to prevent the acquisition of venereal disease, and quotes the names of eighteen medical men (eight of whom are members of the executive committee of the Society for the Prevention of Venereal Disease) who have allowed their names to be

used in support of the opinion that "self-disinfection, promptly and efficiently carried out, is an almost certain preventive against venereal disease." The report goes on to combat the arguments which have been put forward against self-disinfection, and to discuss the ethical aspects of the question. Dr. Fraser recommended the Portsmouth borough authorities to take such steps as may be necessary to spread a knowledge of the means of self-disinfection; the procedure advised is that advocated by the Society for the Prevention of Venereal Disease—namely, the swabbing of the male genital organ, immediately after exposure to infection, with a solution of 1 in 1,000 potassium permanganate, and the rubbing in of a 33 per cent. calomel ointment. The report was approved by the Health and Housing Committee on March 3rd, and the policy which it suggests was adopted by the borough council on April 27th.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

The annual meeting of the general council of King Edward's Hospital Fund for London, to receive the accounts and the report for the year 1919, was held at St. James's Palace on April 30th, the Earl of Donoughmore, K.P., being in the chair. Among those present were Viscount Burnham, the Hon. Sir Arthur Stanley, Sir Norman Moore (President of the Royal College of Physicians), Sir George Makins (President of the Royal College of Surgeons), and Lord Somerleyton and Sir Frederick M. Fry, honorary secretaries. Lord Somerleyton alluded to the council's deep regret at the death of Sir Henry Burdett, and a resolution of regret and condolence was passed. A cablegram was read from the Prince of Wales, President of the Fund, expressing his regret that his absence in Australasia made it impossible for him to be present at the annual meeting. Lord Donoughmore, in moving the adoption of the report, compared the present annual expenditure of the London hospitals with that of 1897, when the Fund was inaugurated by the late King Edward VII. In that year the total expenditure was £700,000 and the annual deficit was £70,000. The estimated expenditure of the London hospitals for 1919 was about £2,100,000, with a deficit of £200,000. Mr. M. C. Norman, Governor of the Bank of England, seconded the adoption of the report, the most important features of which were summarized in our issue of March 27th, p. 451.

MATERNITY AND CHILD WELFARE ARRANGEMENTS IN LONDON.

The Public Health Committee of the London County Council has agreed, as an experiment for one year, that the appropriate officers of the Lewisham Borough Council should exercise the powers of infant life protection visitors and of lying-in homes inspectors. The argument in favour of the new arrangement is that it is in accord with the general principle governing local health administration that the local sanitary authority should be responsible for the internal sanitary conditions of homes. Further, as the local medical officer of health is the officer responsible for carrying out the maternity and child welfare scheme in the borough, it was felt to be desirable that he should be associated as closely as possible with the kindred work of the supervision of nurse-children and the inspection of lying-in homes.

THE 1ST AND 2ND SOUTH MIDLAND FIELD AMBULANCES, BIRMINGHAM.

A successful smoking concert was held on May 7th, at the White Horse, Birmingham, to commence the recruiting for the 1st and 2nd South Midland Field Ambulances. Lieut.-Colonel C. Howkins, C.B.E., D.S.O., T.D. (O.C. 1st S.M.F.Amb.), was in the chair. Lieut.-Colonel R. A. Broderick, D.S.O., M.C. (O.C. 2nd S.M.F.Amb.), and Majors H. Boeddicker, W. Bowater, M.C., Mundy Cox, M.C., Captain Hirst, M.C., Drs. Parsons, Teill, and many others who were interested in the re-formation of the ambulances, were present. The Chairman stated that it would be a great slur on the city of Birmingham if two ambulances could not be quickly raised up to the strength laid down for the peace establishment and carry on the traditions of those Birmingham field ambulances which did such excellent work with the 48th and 61st Divisions. Lieut.-Colonel R. A. Broderick, on behalf of the 2nd S.M.F.Amb., stated that he was prepared to do his best to carry on the ambulance and make it the success it was in the past, and, if possible, have the transport section again at Sutton Coldfield. Speeches in aid of recruiting were also made by Majors Bowater, Cox, and Captain Hirst, and from the large numbers of old members of the units present and the enthusiasm displayed little difficulty is anticipated in raising the units. An excellent musical programme was arranged and a most enjoyable evening spent.

Scotland.

BRITISH ORTHOPAEDIC ASSOCIATION.

A SPECIAL meeting of the British Orthopaedic Association will be held in Edinburgh on June 4th and 5th under the presidency of Sir Robert Jones. At the morning session on Friday, June 4th, Mr. R. C. Elmslie will open a discussion on the principles of the correction of congenital talipes equino-varus, and particularly of inveterate and relapsed cases; Mr. John Fraser will speak on the results of tendon transplantation for paralyses of the muscles below the knee; Mr. S. Irwin on acute arthritis of the hip in infants; and Mr. Harry Platt on traumatic dislocation of the knee-joint. At the afternoon session Professor Putti of Bologna will speak on the end-results of arthroplasty of the knee-joint; Dr. Murk Jansen of Leyden on hallux valgus, rigidus and malleus; Mr. A. P. Mitchell will read some notes on bone, fascia and tendon grafting; and Miss Forrester-Brown will present a paper on the possibilities of end-to-end suture after extensive nerve injuries. Mr. John Fraser will give a demonstration of cinematographic records illustrating the various types of gaits in children. A dinner will be held in the evening. On the morning of Saturday, June 5th, Sir Harold Stiles will demonstrate cases at the Edinburgh Royal Infirmary, and will operate.

THE STILLBIRTHS RATE IN EDINBURGH.

During 1919 283 stillbirths occurred in Edinburgh, and since the birth notifications numbered 6.280, the stillbirths rate was almost exactly 45 per 1,000. The births registered numbered 6,060. Of course the notified births, if complete, ought to tally with the registered *plus* the stillbirths, and therefore the notifications ought to have been 6,343 instead of what they actually were—6,280. This would seem to show some leakage in the notification of births returns. The neo-natal deaths for 1919 showed a rate of a little over 41 per 1,000 live births. By adding the stillbirths and the neo-natal mortality rates together, it follows that in Edinburgh 86 infants out of every 1,000 brought to the last two months of ante-natal life died either soon before, during, or within a month after birth. Roughly, therefore, the population of Edinburgh lost something like 500 babies from these two causes in the year. During the previous year (1918) the number of births notified was 5,400 and the stillbirths were 238, the stillbirths rate being therefore 44 per 1,000 notifications. This reveals a somewhat steady proportion of stillbirths. So far as 1920 has gone the stillbirths rate is 44.4. The details were as follows: January—notifications 831, stillbirths 44, rate 52.9; February—notifications 688, stillbirths 28, rate 40.7; March—notifications 941, stillbirths 40, rate 42.5; April—notifications 738, stillbirths 30, rate 40.6. So that, although there are variations in the rate from month to month, the annual rate remains fairly steadily round about 44 and 45 per 1,000 births (living and still).

SMALL-POX.

The number of cases of small-pox under treatment at the Glasgow Fever Hospital was nearly doubled during last week. The total number was 99, 17 new cases having been received during the week-end. Most of the cases have occurred in the east end of the city, but one was removed last week from a house in Langside. It was mentioned last week that one case had occurred in Edinburgh in which no connexion with Glasgow could be traced. A second case was notified on May 7th in a middle-aged man who had recently paid a visit to friends in Glasgow. The Scottish Board of Health has issued a memorandum to medical practitioners stating that there is

reason to fear wide dissemination of the disease, which is of a severe type, causing marked fatality among the unvaccinated. Medical practitioners are invited to co-operate closely with the public health department in efforts to prevent the spread of the disease and to secure early diagnosis of any suspected case. The number of unvaccinated children is known to be very high, and practitioners are asked to use their influence to induce persons to resort to vaccination. The Board has also issued a memorandum to medical superintendents of infirmaries and hospitals warning them of the danger of the introduction of the disease. The Board has notified medical officers of health and clerks to local authorities that it will keep a supply of vaccine in Edinburgh for issue to medical officers of health; it is the vaccine prepared by the Government lymph establishment, London, and will be supplied free on application to the Board, 83, Princes Street, Edinburgh. The medical officer of health for Edinburgh has issued an appeal to citizens to protect themselves by revaccination. A considerable number of cases have occurred in persons who were vaccinated in infancy but have not since been revaccinated.

Ireland.

ULSTER MEDICAL SOCIETY.

A SPECIAL meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on May 6th, to discuss the relationship of the Ulster Medical Society to questions of public health arising in Belfast and the neighbourhood. Mr. Andrew Fullerton, C.B., C.M.G., F.R.C.S.I., the president, occupied the chair, and the subject was discussed at considerable length in all its aspects, and it was finally agreed unanimously that certain meetings of the society should be held, which would devote themselves entirely to public health and kindred subjects. After full discussion, at such meetings, the society could take whatever steps they considered necessary to lay their views before the different public health authorities.

GRAYMOUNT HOSPITAL, BELFAST.

In the abstract of the report of Sir Henry Gauvain on the suitability of Graymount as a place for the treatment of non-pulmonary forms of tuberculosis amongst Belfast children, his opinion was accidentally misstated. In his full report Sir H. Gauvain said that three objections had been pointed out to him—that is, a clayey soil, the dampness of the Lagan Valley, and at times a smell from the foreshore of the Lough. In his opinion, however, these objections were not of such a grave nature as to render the house unsuitable for a surgical tuberculosis hospital.

Correspondence.

DUODENAL ULCER AND THE HYPERTONIC STOMACH.

SIR,—The quick, sure, and permanent cure of duodenal ulcer which Mr. John Morley, in his letter to the JOURNAL of May 8th, rightly described as following gastro-enterostomy is no doubt a triumph for the abdominal surgeon. But it is none the less a confession of failure that surgical treatment should be required at all—failure on the part of the physician who has not effected a quick, sure, and permanent cure by medical means; the practitioner who has not recognized the premonitory signs of ulcer and so prevented its development; the medical schools which have not taught their students how these signs can be recognized; the pathologists who have been too much interested in the pathology of the dead and of the lower animals to investigate the pathology of ulcer in the living man; and the Government which has not provided the money to staff and equip institutions, which would fulfil the objects described by Dr. Tyson in his letter of May 1st, in which people of every class could benefit by the modern methods of investigation in the earliest stages of disease.

Like Mr. Morley, I have seen a few exceptions to the rule that duodenal ulcer is associated with a small and rapidly emptying stomach. But what rule is there without exceptions, and what evidence have we that these exceptional cases did not conform to the rule in their earliest stages, the dilatation and delayed evacuation being due to achalasia or spasm of the pylorus, either of which may result from an ulcer in the neighbourhood, even before the actual sphincter is involved?—I am, etc.,

May 9th. ARTHUR F. HURST.

AORTITIS AND AORTIC REGURGITATION.

SIR,—In commenting upon Dr. J. E. MacIlwaine's paper I desired to draw attention to a feature of the morbid anatomy of aortic regurgitation associated with syphilitic aortitis, and perhaps in doing so appeared to criticize Dr. MacIlwaine. While this was not my intention, I feel that he lays too much stress on the situation of the pain. The most common position of cardiac pain arising from any cause is near the inner end of the third left intercostal space. I am not aware that there is evidence of aortitis causing pain in this situation, except indirectly by interfering with the nutrition of the cardiac muscle.

"The fact that the syphilitic virus gives rise to arteritis, aortitis, endocarditis, and myocarditis is known" is the opinion of Dr. MacIlwaine. Having made 2,500 autopsies, and also having been a careful student of various details connected with the heart, I feel that I am in a position to comment upon such a belief. It may be mentioned that I have never met with a case of syphilitic endocarditis, but, as was stated in a former letter to the BRITISH MEDICAL JOURNAL, the inflammation of a syphilitic aortitis commonly spreads to the aortic valve, causing a fibroid contraction of the cusps. With regard to myocarditis, if gummata of the heart come under the heading of myocarditis, then there is, of course, a syphilitic myocarditis; but apart from that I do not see how the term can be used unless applied to localized patches of disease associated with arteritis of the vessels in the cardiac wall. Such an arteritis of the cardiac vessels, definitely syphilitic, seems to me to be rare. I have only met with one clear example, and that, curiously enough, was after I had given up routine *post-mortem* work.

Degeneration of the cardiac muscle, due to syphilitic disease of the intrapericardial portion of the arch of the aorta, stands in a different category. It is probably the most common cause of sudden death in men between the ages of 45 and 55 or possibly 60.—I am, etc.,

Norwich, May 8th. THEODORE FISHER.

THE EARLY DIAGNOSIS OF SYPHILIS.

SIR,—In reply to the letters under this heading in the JOURNAL of May 1st, we wish it to be understood that we do not for a moment depreciate the value of laboratory methods of diagnosis when properly interpreted; and if the *Practitioner* of May, 1916, is referred to, an article by one of us (Ffrench) will be found which lays great stress on the use and value of laboratory diagnosis. Nevertheless, in cases in which the laboratory findings are negative, it is better practice to rely upon one's clinical experience and put the patient under treatment if the clinical signs are suggestive of syphilis, than to lose valuable time by keeping such cases under indefinitely prolonged observation. It is impossible to make an accurate time limit for such observation, for patients vary so greatly in developing secondary manifestations, and it is well recognized by experienced syphilologists that the first month after infection is the most important regarding the commencement of treatment. It has been our experience that obvious cases of syphilitic chancre have given negative laboratory results from day to day, and we know that in many such cases medical officers have hesitated to make a diagnosis of syphilis on account of the negative laboratory findings. We feel justified, therefore, in laying the greatest stress on the cultivation of clinical experience.—We are, etc.,

C. F. MARSHALL,
London, W., May 8th. E. G. FFRENCH.

TUBERCULOSIS SANATORIUMS.

SIR,—In your issue of May 1st, p. 619, Dr. F. W. Inman makes the alarming, and in my opinion very ill advised, statement that "In sanatoriums a very malignant form is always present in the wards, and those who are admitted

with a mild form probably contract there a severer form and convey it to their family."

During twenty years' experience of tuberculosis in sanatoriums and outside I have never met with a single case which would support such a theory.—I am, etc.,

LEONARD CROSSLEY, M.D.,
May 6th. County Tuberculosis Officer for Wilts.

EARLY MENTAL TREATMENT AND THE RIGHTS OF THE SUBJECT.

SIR,—In the speech in which the Right Hon. Dr. Addison introduced the Health Ministry Bill, he made explicit reference to "the inadvisability of including under the Health Ministry many judicial questions which are not in any sense medical, such as those that concern the rights of the subject, etc." In face of this declaration from such a high authority, it would seem a little curious to notice in the sketch communicated to your issue of April 10th (p. 515) the remark "that the Lunacy Board of Control will no doubt before long be transferred to that Ministry." In a preceding sentence the function of that Board is stated as "having to do with restraint of the liberty of the patient, with safeguards, etc., and with the protection of the hopelessly confirmed insane."

If so transferred, the Board will doubtless have to leave behind it at the Home Office a large proportion of its duties, for its legal half, at any rate, is intimately concerned with the rights of the subject, and must consequently (in accord with the dictum of the Health Minister) be excluded from the purview of his department.

In a memorial presented in July, 1914, to the Local Government Board, and supported by half the House of Commons, it was expressly urged that to promote the recovery of early uncertifiable mental cases it was both inexpedient and inappropriate that the recuperative hostels or sanatoriums designed for them should have any connexion with the Lunacy Board. The Lunacy Act, 1890, confers on the Commissioners no jurisdiction over any but the certified—that is, the incarcerated—and the protection of the helpless (if properly attended to) will give abundant scope for their energies. It is a sacred trust, involving serious responsibility.

In the communication of April 10th it is noted that the Lunacy Board desires "permissive legislation enabling early mental cases to receive treatment for six months in general or special hospitals or homes without the necessity for certification." I fail to see where any need for legislation to this end arises. General or special hospitals or borough hostels can, under the present law, receive and treat uncertifiable cases at any time, and for any length of time, where no detention is intended. That is the crux. A patient under the Lunacy Act, S. 74, can only be justifiably detained if he is proved to be "dangerous and unfit to be at large." It is somewhat difficult, on p. 516, to disentangle the meaning of one or two sentences dealing with the "detention of patients as voluntary boarders"—apparently a contradiction in terms.

It is, no doubt, a very convenient arrangement for the proprietors of mental homes to have patients consigned to them for detention on the sole recommendation of one doctor (p. 515), without any judicial investigation or appeal. But the ordinary outlook of the public (as the said article sagely comments) has also to be reckoned with, displaying as it sometimes does "a meticulous care for the liberty of the individual." As an instance, recall the defeat of the "Mental Treatment Bill," proposed by the Lunacy Board in 1915.

In devising expedients to evade certification (on the plea of evading "stigma") it is overlooked that the legal procedure of certification constitutes the main bulwark against false imprisonment; and it is highly dangerous to tamper with such safeguards. Better the risk of an evanescent stigma than the peril of a lifelong submersion in helpless misery. It is not the safeguarding procedure of certification that stigmatizes, but the degrading element entailed in detention, coupled with unnecessary indignity, and the loss of all personal and civil rights.

The one hope of an effective check to the constant increase of insanity is the natural and reasonable provision of untainted homes (kept carefully apart from any link with lunacy) which shall afford hope, encouragement, and freedom from apprehension, with bodily care and attractive surroundings, appropriate to the restoration of those highest faculties often temporarily unhinged from quite natural and sufficient causes. Such is the path of common sense. It is a pity that legislation should be invoked to destroy the usefulness of these health-giving methods. Mental homes for uncertifiable cases, free from detention, should immediately be started by the Health Ministry under suitable local committees, on a purely hospital footing. Patients would be controlled during their stay by the rules of the place, but be free to leave on giving a specified notice.

Ex-service men cannot be said to be specially enamoured of the so much admired regimen of military mental hospitals. Cases of acute transient mania—for example, influenzal, puerperal, etc.—ought to be treated in hospitals as delirious cases.

Money spent on half-way houses to asylums will be simply thrown away; whereas mental sanatoriums as above described would prove not only an immense boon to the community and a benefit to doctors, but by their adaptation to the needs of early cases would intercept them on the downward track, and tend eventually to a material reduction in our present huge and unproductive asylum expenditure.—I am, etc.,

London, W., April 17th. S. E. WHITE, M.B., B.Sc.

THE DEATH OF DR. A. P. SPELMAN: A MOVING APPEAL.

SIR,—I take the liberty of appealing to you on behalf of the widow and children of the late Dr. A. P. Spelman of Dunmore, co. Galway. Last week, when returning from a call, his motor car skidded at a badly protected part of the road, and overturning killed him instantly. The deceased was only 26 years of age, and had not his life insured in any way.

Mrs. Spelman and two young children are now left absolutely destitute and totally unprovided for, and in these circumstances I would appeal to your readers for their help.—I am, etc.,

P. J. DELANEY, M.B., B.Ch.
Claremorris, co. Mayo, May 4th.

P.S.—We are circularizing all the local doctors. Subscriptions, which will be duly acknowledged, may be sent to myself or Dr. Heneghan, Ballindine, co. Mayo.

The Services.

HONOURS.

TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon the following officers of the R.A.M.C.,T.F., under the terms of the Royal Warrant of August 17th, 1908, as modified by the Royal Warrant of November 11th, 1918: Lieut.-Colonel Alexander G. Hamilton, O.B.E., and Major Douglas C. L. Orton, attached Welsh Mounted Brigade Field Ambulance; Major Vyner Graham, attached 5th Battalion Yorkshire Light Infantry; and Major George P. Chappel, attached 7th Battalion Middlesex Regiment.

FOREIGN DECORATIONS.

The following decorations have been conferred by the Allied Powers in recognition of distinguished services rendered during the course of the campaign:

By the King of Italy.

Order of the Crown of Italy (Cavalier).—Brevet Major Arthur D. Griffith, R.A.M.C.,T.F.

By the King of Serbia.

Order of St. Sava.—1st Class: Colonel Sir Almroth Wright, K.B.E., C.B., F.R.S., late A.M.S. *4th Class:* Major Cuthbert Lindsay Dunn, I.M.S.; Surgeon Lieut.-Colonel Basil Pares, Royal Horse Guards. *5th Class:* Captain (acting Major) Robert Patrick Starkie and Captain Gilbert Wolridge Rose, R.A.M.C.,S.R.; temporary Captains Edward William Archer, George Herbert Brown, John William Grice, Ernest Eugene Herga, M.C., Orme Stirling Kellett, Frank Harold Looney, Edward Holmes Rainey and William Johnston Symes, R.A.M.C., Gerald Spencer Coghlan, M.B.E., S.A.M.C., and the late temporary Captain Arthur Maxwell Fisher, R.A.M.C.

AUXILIARY ROYAL ARMY MEDICAL CORPS FUND.

THE annual meeting of the Auxiliary R.A.M.C. Fund was held on April 30th, when Lieut.-General Sir John Goodwin, D.G.A.M.S., was in the chair.

Since the last annual meeting the sum of £1,974 has been granted to help in the maintenance of the orphans of 31 officers in the Auxiliary Royal Army Medical Corps who lost their lives as a result of the war; and £2,620 has been granted in the same way to the orphans of 83 of the rank and file, making a total of £4,594 granted and 114 cases relieved in a single year. As frequently several children in a single case were relieved, it will be seen that the total number of persons relieved was considerable.

The major part of the income of the fund is derived from subscriptions, and the committee earnestly hopes that these will continue to be sent to the Honorary Secretary, 11, Chandos Street, Cavendish Square, London, W.1.

DEATHS IN THE SERVICES.

MAJOR LLEWELLYN LANCELOT GRAEME THORPE, R.A.M.C., died at Whitstable on April 23rd last, aged 46. He was the younger son of the late Captain Edward Thorpe, of the 43rd Foot and 27th Madras Infantry, and was educated at University College, London. He entered the R.A.M.C. on June 21st, 1900, and became major after twelve years' service.

Captain Robert Gordon Ball, R.A.M.C., died in Dublin on February 3rd. He was educated at Trinity College, Dublin, where he graduated M.B. and B.Ch. in 1911, and was a member of the West African Medical Staff till he took a temporary commission in the R.A.M.C. as lieutenant on August 14th, 1917, becoming captain after a year's service.

Major Satis Bose, I.M.S., died at Barrackpore, where he was in command of the Indian Station Hospital, on January 5th. He was educated at Edinburgh, where he graduated M.B. and C.M. in 1897, and entered the I.M.S. as lieutenant on June 27th, 1901, becoming major in December, 1912.

Brevet Major Gwilym Gregory James, I.M.S., died on December 19th, aged 35. He was born on June 24th, 1884, and educated at Westminster Hospital, graduating M.B. and B.S.Lond. in 1907. After filling the posts of demonstrator of histology and house-surgeon at Westminster, and of second assistant medical officer at St. Marylebone Infirmary he entered the I.M.S. on January 30th, 1909, and was promoted to captain after three years' service. He was medical officer of the 127th Baluch Infantry, and served in that capacity during the war, being mentioned in dispatches in the *London Gazette* of August 15th, 1917, and receiving a brevet as major on January 1st, 1918.

Universities and Colleges.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examination indicated:

D.P.H.—Margaret H. Grant, G. H. Gunn, R. F. Lunn, A. B. MacDougall, J. M. Ritchie, J. M. Young.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated:

SURGERY.—*G. S. Ashby, *C. C. Bennett, *†A. G. L. Brown, †A. Furniss, *†M. Ibrahim, *†A. L. Urquhart.
MEDICINE.—*R. E. Laurent, *†M. Pigott, *†A. L. Urquhart.
FORENSIC MEDICINE.—E. Brazao, J. A. Cohen, M. Pigott, A. L. Urquhart.
MIDWIFERY.—E. Brazao, J. A. Cohen, A. McKenzie, M. Pigott, R. M. Rodriguez, W. H. Summerskill, A. L. Urquhart.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. M. Ibrahim, M. Pigott, and A. L. Urquhart.

Obituary.

CROYDON has sustained a great loss by the death on April 12th of its late coroner, Dr. THOMAS JACKSON. Advancing years and ill health caused him, in July, 1919, to resign this office, in which he was succeeded by his son, Dr. Beecher Jackson. Thomas Jackson was born at Torrington, North Devon, in 1846, and took the B.A.Lond. at the age of 21. In 1870 he was Congregational minister at Launceston, but his views on theological questions being in advance of those times he gave up the ministry. He obtained a scholarship at the Middlesex Hospital Medical School, and took the diplomas of L.R.C.P.Ed. and L.S.A. in 1877. He became M.R.C.S. in 1878, and was appointed resident obstetric officer at the Middlesex Hospital. He settled in practice at Thornton Heath. He was appointed coroner in 1889. A strong Liberal, he took a keen interest in local and other politics, and did much to improve the social condition of his neighbourhood, being largely instrumental in the opening of Thornton Heath recreation ground, the polytechnic, and the free library. He was one of the first aldermen of the borough of Croydon, and a justice of the peace. Much beloved, his death will be deeply regretted by all who came in contact with him. As a coroner he was always sympathetic, tactful, and kind, as a public man—although a keen fighter—always good-tempered, stimulating both friends and foes, and he lived long enough to see some of his ideals universally adopted. From all deepest sympathy will be with his widow and four children, two of whom are members of the medical profession.

WE regret to record the death of Dr. CHARLES AUGUSTUS THORNE, M.B.E., the senior medical practitioner in Dore and Totley, Derbyshire, which occurred on April 24th, in his 63rd year. The cause of death was heart disease, brought on by continued overstrain during the war. For five years he served as M.O. to the Dore V.A.D. Auxiliary Hospital, and his kindness to the wounded will long be remembered by them. He devoted all his spare time to the wellbeing of the "Boys in Blue"; and two or three were generally to be seen accompanying him on his long country rounds. He also served on the Recruiting Board in Sheffield. In civil practice he was beloved by rich and poor alike, and served the district for long faithfully for about thirty years. He took the L.R.C.P., L.R.C.S.Edin. in 1885, previously he had served as a cadet in the Royal Navy. In later years he became a county magistrate, and was also medical officer to the Ecclesall Union and Cherry Tree Orphanage. He was laid to rest in Ecclesall on April 26th, large numbers of his old friends and patients attending the funeral.

THE death of Dr. HENRI TRIBOULET calls for a few words of tribute to his memory, if only because he was the honorary secretary of the committee in Paris which arranged the visit of French doctors to London in October, 1904, the first evidence of the growing sympathy between the two countries, which came to fruition in the *entente cordiale*. Those British doctors who shared in the return visit to Paris in the following spring will recall that the perfection of the arrangements in Paris was largely due to his organizing powers. Dr. Triboulet was born in 1864 and began practice in Paris in 1893. He became médecin des hôpitaux and devoted himself specially to the study of diseases of children, a subject to which he made many important contributions. He was joint author also of a *Traité de l'alcoolisme*, published in 1905, in which that difficult subject was treated with scientific impartiality. It was, however, as a practising physician, and more especially as a teacher, that Dr. Triboulet attained distinction. His enthusiasm, his high standard of conduct, and his conscientious devotion to duty, endeared him to all his pupils. He died, after a long and painful illness, last February.

DR. JOHN KERR BUTTER of Cannock passed away on April 29th after an illness of ten days, in which erysipelas and kidney trouple played a leading part. He received his medical education in the University of Aberdeen and graduated M.B., C.M. in 1879 and M.D. in 1881. He settled at Cannock, Staffordshire, in 1887; as police surgeon he established a wide reputation, and was considered an excellent witness in medico-legal cases. He also did much useful work for the St. John Ambulance Association both as lecturer and examiner. He was a man of fine physique; he possessed in a marked manner a racy Scottish humour, and was well versed in Burns literature and song. He established a fine collection of animals and birds. The funeral service was in Cannock Parish Church on May 4th, and the thousands who thronged the streets of Cannock testified to his popularity in the district. The body was taken to Glasgow for cremation.

WE regret to record the death, which took place very suddenly on April 24th, at the age of 53, of Dr. RICHARD LUMLEY ROBERTS, of Bethesda, North Wales. He was born in London in 1867, and afterwards lived at Plas Hwfa, Talybont; he was educated at Guy's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P. in 1896. He was greatly respected in Bethesda, where he enjoyed a large practice. Dr. Lumley Roberts, who was a member of the North Carnarvon and Anglesey Division of the British Medical Association, leaves a widow and one child.

LIEUT.-COLONEL WILLIAM KINGTON FYFFE, New Zealand Medical Corps, died at Wellington, New Zealand, after an operation, on April 23rd. He was the eldest son of the late Deputy Surgeon-General William Johnston Fyffe, R.A.M.C., and was educated at Cambridge and St. George's Hospital, graduating B.A. in 1885, and M.B. and B.C. in 1890, also taking the L.S.A. in 1890, and the M.R.C.P.Lond. in 1893. After serving as house-physician and medical registrar at St. George's, and assistant physician and pathologist at the Victoria Park Hospital for Diseases of the Chest, he went to New Zealand, where he settled in practice at Wellington. He served at Gallipoli as medical officer with the 4th New Zealand contingent.

Medical News.

SIR STCLAIR THOMSON, M.D., has been awarded the Médaille de la Reconnaissance Française in silver for valuable services as a specialist in laryngology.

DR. JAS. SCARTH SPENCE LOGIE of Kirkwall, who took the diploma of L.R.C.P.Edin. in 1841 and graduated M.D. in 1842, celebrated his 100th birthday on May 11th. Among the congratulatory messages received was one from the King.

THE annual general meeting of the Chelsea Clinical Society will be held at St. George's Hospital Medical School on Tuesday, May 18th, at 8.30 p.m., when the retiring president, Dr. T. B. Hyslop, will deliver an address.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Tuesday, June 8th, at 7.45 p.m., Major-General G. F. A. Harris, C.S.I., in the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S. (ret.), 63, Addison Road, Kensington, W.14.

SIR ROBERT ARMSTRONG-JONES will begin a course of four Gresham Lectures on physic, at Gresham College, Basinghall Street, E.C., on Tuesday, May 18th, at 6 p.m. The subject of the course is "The vegetable parasites affecting man, and the diseases caused by them." Admission is free.

AT the Congress of Dermatology and Syphiligraphy, held at Rome last December, a proposal was made to found a biennial prize named after the well-known specialist, Professor Tommaso de Amicis, for the best Italian work on dermatology. Professor Ducrey, of the University of Rome, was elected President for the forthcoming session.

THE final arrangements for the Congress of the Royal Institute of Public Health in Brussels have now been made. The inaugural meeting on Thursday, May 20th, will be attended by the King of the Belgians. On the previous evening the delegates and members will be received at the Palais des Académies by the Brussels Organization Committee. There will be seven sections, in all of which papers will be read and discussions held. Full particulars can be obtained from the honorary secretary, 27, Russell Square, London, W.C.1.

THE programme for the fourteenth French Medical Congress, which will be opened in Brussels on May 19th, is now complete. The chief subjects for discussion are syphilis of the cardio-vascular system, the importance of lipoids in pathology, and the value of artificial pneumothorax. Further particulars can be obtained on application to the Secrétaire-Général, 22, rue Joseph II, Brussels. An excursion to Yser and the Flanders battlefields will be made on the Sunday and Monday following the meeting.

IN a circular letter, dated April 23rd, addressed to local and port sanitary authorities, the Ministry of Health expresses its anxiety to obtain appointments for discharged and disabled officers and men who have been trained by the Ministry of Labour as sanitary inspectors and inspectors of nuisances. It is not suggested that preference should be given to these men over sanitary inspectors who during the war joined the Services or were on public grounds retained in civil employment; where, however, no such suitable candidates offer themselves, the local authorities are asked, in filling vacancies, to appoint men trained under the scheme of the Ministry of Labour.

SIR ARTHUR STANLEY, chairman of the Joint Council of the British Red Cross Society and the Order of St. John, in speaking to the Incorporated Association of Hospital Officers last week, said that there were two alternatives for the hospitals at the present time. The first was that they should be taken over by the State or the municipalities; the Minister of Health had given the most explicit assurances that the Government did not contemplate this course, and would regard the disappearance of the voluntary system as a calamity. The municipalization of hospitals, which meant that they would be supported by the rates, was an unsatisfactory proposal, especially when regard was had to the heavy municipal rates already imposed. The alternative to State or municipal support was the development of the voluntary system. He estimated that at present only 10 per cent. of the population of the country contributed in any way to the hospitals; that 10 per cent. was finding about two-thirds of the total hospital expenditure, and he was sanguine that the deficiency of one-third could be made up from 10 to 20 per cent. of those who did not now subscribe.

THE house of the Royal Society of Medicine will be closed from Saturday, May 22nd, to Tuesday, May 25th, both days inclusive.

DR. A. G. WILKINSON, who this year has completed his eighty-fifth birthday and his fiftieth anniversary as a medical practitioner in Northampton, was presented on May 3rd with a cheque for £150 and an illuminated address as a mark of esteem by his many friends and patients in the district.

DR. J. S. FRASER (Edinburgh) will give a lantern demonstration of microphotographic slides illustrating diseases of the internal ear, at the Central London Throat and Ear Hospital, Gray's Inn Road, on Thursday, May 20th, at 5 p.m.

TUBERCULOSIS officers are invited to attend a meeting at 1, Upper Montague Street, Russell Square, W.C.1, on Friday, May 28th, at 3 p.m., when a proposal to form a Tubercle Group within the Society of Medical Officers of Health will be discussed.

THE Publication Committee of the Zoological Society has issued a notice calling the attention of those who propose to offer papers to the great increase in the cost of paper and printing. This, it is stated, will render it necessary for the present that papers should be condensed, and be limited so far as possible to the description of new results.

MLLE. SENTIS and M. Rimbaud reported to a recent meeting of the Montpellier Medical Society a case of poisoning by veronal in a hysterical person who presented symptoms—somnolence and paralysis of the ocular muscles—suggestive of lethargic encephalitis.

AT an inquest held at Southport it was found that a man had died from poisoning by potassium bichromate. A friend had recommended him to take "bi-something of potash" for neuritis, and in mistake he purchased from the chemist bichromate instead of bicarbonate.

A DEPUTATION from the London and Counties Medical Protection Society, Ltd., was received by Dr. Addison at the Ministry of Health on May 6th. The deputation was introduced to the Minister of Health by Lieut.-Colonel F. E. Fremantle, M.P. The chairman of the society, Dr. C. M. Fegen, on behalf of the deputation, urged upon the Minister the necessity for early legislation to protect the medical officers of venereal disease clinics from being compelled in the witness box to violate the established principles of professional secrecy and to give information of the nature of their patients' ailments and of anything else which came to their knowledge in their professional capacity. These medical officers were being compelled in the law courts, under penalty of imprisonment for contempt of court, to reveal what their patients had communicated to them believing that the information would be treated as absolutely confidential. The effect of this, it was urged, would be disastrous to the working of the clinics, and would militate against the efforts at present being made to cure and eliminate venereal disease. Dr. Addison expressed his cordial agreement with the views of the deputation, and promised to do what he could to promote legislation as suggested by the deputation. He said that he felt sure that public opinion would support the maintenance of professional secrecy in connexion with venereal disease clinics.

To celebrate the centenary of the birth of Florence Nightingale, who was born on May 12th, 1820, an appeal has been issued to complete the fund for the National Tribute to the Nurses. The appeal is signed by the three matrons-in-chief of the Army, of the Territorial Force, and of the Expeditionary Force during the war, and by the head of the Nightingale School at St. Thomas's Hospital, which was endowed with the proceeds of another fund established by Florence Nightingale after the Crimean war. The object of the appeal is to raise £20,000 to complete the endowment of the College of Nursing, and to create a benevolent fund for the relief of nurses in old age, sickness, or unavoidable pecuniary trouble. "In no way," the matrons-in-chief say, "could the hundred years be more fittingly commemorated than by completing the Nation's Tribute to Nurses, and as the biography of this leader of nurses shows, she was ever mindful of the well-being of those engaged in nursing. We would appeal to all those who realize the value of the gentle ministrations of the trained nurse, to honour the memory of one of England's greatest daughters by sending a contribution of one shilling or more to Miss C. May Beeman, 10, West Bolton Gardens, S.W.5 (Honorary Organizer); or Miss Lloyd Still, Nightingale School, St. Thomas's Hospital, S.E."

Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

F. B. E. asks for references to recent literature on the treatment of psoriasis, and whether salvarsan has been used with success.

"BACK NUMBER" asks for opinions as to the prognosis and treatment of pseudo-hypertrophic muscular paralysis. The case, a boy aged 12, is in the early stage, without any sign of hypertrophy.

G.P., Lancs., asks for suggestions for treating a lady of 25 who suffers periodically from a "clicking in the ear," after which "her voice seems peculiar," and as she breathes she "hears the passage of the air." To put the ear right she has to hold her nose and "draw in"; she is only free from these symptoms when she has a cold. There is no deafness, and the nose and throat are normal except for slight pharyngeal catarrh; she has no hysterical tendency.

INCOME TAX.

A. R. has been informed by the local inspector of taxes that he cannot be allowed as a deduction from his gross receipts more than one-third of his rent or of the wages and maintenance of the extra maid who attends to the surgery. Is there a chance of successful appeal?

*** A. R. is entitled to deduct a reasonable proportion of the expenses—provided that in the case of the rent it does not exceed two-thirds. So far as our experience goes, one-half is generally allowed in provincial practices, and unless there are special circumstances in the case we consider that A. R. would have a reasonable prospect of success if he presses for that proportion.

A. B. X.—When husband and wife both practise as doctors, what allowances can each claim for rent, rates, servants, etc.; also for repairs to the house? Is it any advantage for them to keep separate books, and make separate claims?

*** Assuming that there is a certain amount of connexion between the two practices, separate claims could not be made, and there would be no advantage gained by keeping the accounts of the two practices apart. The proportion of the general expenses applicable to the practices would depend upon the facts, but of course the same expenditure could not be deducted by *each*—for example, each could not deduct half the rent. Probably the most that would be allowed would be from one-half to two-thirds the rent; the cost of one servant, and the estimated cost of lighting and heating the waiting-room and surgery. The proportion for repairs would be the same as for rent, subject to any special facts—for example, if the bedrooms were papered and not the surgery, or vice versâ, the result is obvious.

. R. A. M. was in the forces of the Crown during the financial years 1917–18 and 1918–19, and in 1919–20 has been doing work as an assistant, and later was employed on a sessional basis by the Ministry of Pensions on Medical Boards. What is the proper basis of liability for 1919–20 and the future?

*** We have been informed that where a person was in a definite "employment" and after service in the forces has returned to similar work even under a different "employer," he is allowed to average the army or navy emoluments with his civil earnings; if, therefore, E. R. A. M. was acting as an assistant in 1916–17 and had continued to act in that capacity during 1919–20, he could properly have returned his earnings at £516—on the average basis. We agree, however, with him, that his employment is casual and therefore akin to private practice—for example, there is no continuity of engagement even for part time—and on that construction of his agreement with the Ministry of Pensions a different result follows; he is assessable for 1919–20 on the basis of that year's earnings, for 1920–21 on the same amount, for 1921–22 on the basis of the average of 1919–20 and 1920–21, and thereafter on the ordinary three years' average. This assumes, of course, that he does not change the nature of his work—for example, by taking a share in a partnership. E. R. A. M. points out that undue effect may be given under such an arrangement to an unusually high level of earnings in 1919–20, but this is met by a provision in the Income Tax Acts which gives him the right to discard the statutory basis in favour of the earnings of the actual year if they should prove less; that right exists until the year 1919–20—that is, the first year—has disappeared from the basis of the assessment.

LETTERS, NOTES, ETC.

ASPHYXIA FROM INHALATION OF TOBACCO SMOKE.

MR. SOMERTON CLARK, F.R.C.S.E. (formerly C.M.S., Dera Ismail Khan, N.W.F.P., India), writes: During five years' work in Dera Ismail Khan I observed a few cases of a condition which, I believe, has not previously been described. These cases only come for the treatment of burns in the Ramzān (Mohammedan Lent). The patients are men in the prime of life who have ridden long distances across the desert in the later part of the Fast and arrive at their destination exhausted. As they are prohibited from eating or drinking between sunrise and sunset they seek comfort by smoking. They light their hubble-bubbles at a fire and fill their lungs with smoke, till they become asphyxiated and tumble into the fire, burning the left arm and the left side of the face. These cases are not epileptic.

A RECORD TRAMP?

COLONEL FRED. E. BURNHAM, M.D., President of the Canadian War Hospital Fund, writes from Field Head Quarters at Dulcigno, Montenegro, as follows: On April 23rd I had occasion to travel from Dulcigno to Antivari. The usual means of conveyance having for the moment failed, to walk was the only alternative. Accordingly I set out at 4 a.m. and reached Antivari at 8.40 a.m., having traversed twenty-three miles in 4 hr. 40 min. Even among these hardy mountaineers this is looked upon as an achievement. After twenty-six years in the practice of medicine and surgery this may be considered a fairly good demonstration of physical fitness. I am curious to hear of similar efforts by any who have been a quarter of a century in the practice of medicine. In the many journeys which I have made through the Balkans both by day and by night since the beginning of the war, as a rule the mind has not been allowed to rest on time or distance. In the instance above there was no thought of making a record.

READING BY EAR.

DR. FOURNIER D'ALBE published in *Nature* of May 6th a description of the instrument for reading by ear, to which the name optophone has been applied. By means of an ingenious optical system a line of luminous dots is thrown on the print, each dot having a different musical frequency. The light constituting these dots is reflected back on to a tablet of selenium. Those dots of light which fall on white paper produce a note of their own musical frequency in the telephone, while those which fall on black are extinguished. A "white-sounding" optophone is thus obtained, in which the black letters are read by the notes omitted from the scale. With this a blind girl was able to read habitually at a speed of about twenty-five words a minute. By a modification of the instrument it had been found possible to obtain a "black-sounding" optophone, which would probably make it easier to learn the alphabetical sounds.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 37, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 35, 36, and 37.

THE following appointments of certifying factory surgeons are vacant: Blackford (Perth), Campbeltown (Argyll), Gravesend (Kent).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Clinical Lecture

ON

CHRONIC PAROXYSMAL TRIGEMINAL NEURALGIA AND ITS TREATMENT.*

BY

WILFRED HARRIS, M.D.CANTAB., F.R.C.P.,

SENIOR PHYSICIAN, ST. MARY'S HOSPITAL; PHYSICIAN, HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE.

THE subject of these lectures has been revised and brought up to date in order to present results of my experience of the treatment of this disease during the last twelve years.

Trifacial neuralgia, chronic trigeminal neuralgia, tic douloureux, or neuralgia major of the fifth nerve, as it has been variously described, is an inveterate and violently painful paroxysmal neuralgia, affecting, in the majority of sufferers, one side of the face only. In by far the larger number of sufferers the pain is referred to the territory of the second or the third division of the fifth nerve—that is to say, roughly, the upper jaw and cheek, upper lip and side of the nose for the second division, and the lower jaw, lower lip, and perhaps the side of the tongue for the third division. In a considerable proportion of cases the second and third divisions of the nerve are both affected, and the pain will not cease, or ceases only for a time, if one of the divisions alone is treated. In a small proportion of cases the supra-orbital branch of the first division is involved, scarcely ever alone, but in addition to neuralgia affecting the second division or the second and third divisions. Supraorbital neuralgia alone is usually due to temporarily acting causes, such as influenza, malaria, or other fevers, or to such causes as errors of refraction, frontal sinusitis, migrainous neuralgia, and many others, and it must be distinguished from the chronic paroxysmal and inveterate disease known as trigeminal neuralgia. The pathology of this disease is somewhat obscure. What is certain is that there is no disease to be detected by hitherto known methods, either in the nerve centres of the brain, Gasserian ganglion, or main branches of the fifth nerve. The undoubted fact that efficient interruption of the conduction of afferent sensations along these branches of the fifth nerve gives instant relief to the neuralgia appears to me sufficient proof that such neuralgia is dependent upon stimuli affecting the nerve endings at their periphery.

The results of destruction of the ganglion as compared with neurectomies or alcohol injections below the ganglion differ only in the degree of their permanence—that is to say, operations on the nerve trunks, however complete at the time, are always followed by some re-establishment, sooner or later, of nerve conduction through downgrowth of nerve fibrils from the ganglion cells above. If, on the other hand, the ganglion is thoroughly destroyed by any means, the anaesthesia of the fifth nerve territory is permanent, and the cure of the neuralgia is correspondingly complete.

The nature of these stimuli from the periphery in this neuralgia is a matter of speculation, but it seems highly probable that they are due to septic neuritis of dental nerve filaments, the result of previous dental caries, pyorrhoea, or abscess around the roots; and recently in a case of this chronic neuralgia a piece of the maxilla was removed for me by Mr. Warwick James under the most careful aseptic precautions, and a pure growth of streptococci was obtained.

I have been impressed, in taking the histories of cases, by the number in which the pain has definitely started immediately after dental operations or antral abscess. No other nerve in the body, except the second and third divisions of the fifth nerve, is so liable to chronic infection of its branches, and although in some cases even many years have elapsed between the loss of a tooth and the onset of the neuralgia, yet this does not exclude septic neuritis from dental infection as the cause, and when the infection has thus spread backwards into the dental filaments within the jaw it is easily understandable that removal of the tooth does not cure the neuralgia; indeed, it often makes it worse.

* The substance of two lectures given for the Fellowship of Medicine at the Royal Society of Medicine (June, 1919).

Causes.

During the last twelve years I have seen a large number of cases of chronic trigeminal neuralgia, and I have analysed my records of over 312 cases, 230 in private practice and 82 hospital cases. I have, in addition, seen and operated upon a considerable number of hospital cases whose records are not available or are inadequate. Some curious points come out in my analysis which I have never seen referred to in other writings on the subject. The proportion of women affected to men is 62 per cent. to 38 per cent., or about three women to two men, while of the unilateral cases of neuralgia, which of course form a very large majority, the right side is affected in correspondingly greater frequency—namely, 62 per cent. to 38 per cent. This excess of right-sided cases over left-sided obtains in each group of men and of women, both in private cases and in hospital cases, and, moreover, in each separate year of the eleven years I have analysed a somewhat similar excess of right-sided cases over left is seen. I cannot therefore look upon this difference in frequency of incidence on the two sides as accidental; what its cause can be it is not easy to say.

I do not know whether any statistics are available of the relative frequency of dental caries on the two sides. Other factors, too, have to be taken into account which may act as the exciting cause for the origin of trigeminal neuralgia. I have already spoken of dental operations originating the pain in a certain number of cases, such as fracture of teeth and difficult stump extractions. In ten of my cases severe *chill* to the face, as by motoring in a cold wind, was the immediate precursor of the original spasms of pain; in five cases intense *emotion* immediately preceded the first attack. A woman was shocked by being told that her child, who was playing in the roadway, had been run over by a motor car and taken to the hospital. She immediately hurried off to the hospital, and on reaching there three-quarters of an hour later heard that her child was dead; at the same time a spasm of violent neuralgia struck her in the right lower jaw, the pain continuing at intervals until I saw her two years later, and was able to arrest it by injecting the third division of the fifth nerve with alcohol.

Still another cause of onset of this terrible neuralgia is a *blow* upon the jaw or face; this occurred in six of my cases. For example, a young woman, aged 27, was stooping to pick something off the floor when another girl's head struck her violently on the lower jaw, making her teeth clash and rattle, as she said. About three hours later, when she had just mounted on to the top of an omnibus, she was suddenly seized with the most excruciating pain in the face, which made her behave so wildly that she said she was like a mad woman, and had to be taken off the bus. The paroxysm lasted altogether some ten minutes, but recurred again and again in the manner characteristic of trigeminal neuralgia until I saw her and injected the third division of the nerve some years later.

Such suddenness and violence of onset of the spasms of pain are extremely characteristic of this peculiar form of neuralgia, and I have notes of some forty-six cases in which this was the case. One of apparently the most severe cases of pain I have ever seen began in this way. She was a cook, aged 45, who in her spasms of neuralgia lost all control, and screamed and threw herself about. Six years previously her first attack occurred, without any warning one night at 3 a.m., when she was awakened with the most awful agony in her face. Her screams awoke the whole household; a doctor had to be sent for, and she was kept under morphine almost continually for three weeks. She got no relief from any drugs until I injected the second and third divisions of the fifth nerve with alcohol; this gave her complete relief for two years. Recurrence and reinjection with alcohol again gave her two years' freedom from pain, when I injected her Gasserian ganglion with alcohol, since when she has been completely free for several years.

In other patients the pain may at first be mistaken for dental neuralgia, but the spasms of pain gradually increase in severity, in spite of the removal of teeth, until at last it is realized that the neuralgia is of the graver inveterate type.

Age.

The age of onset of the disease varies very widely in my experience, the oldest being 85 when the disease

commenced. In two cases, both females, the severe neuralgia began at the age of 17; one of them had suffered from neuralgia of the third division for twenty years when I saw her, temporary relief only having been obtained by a division of the inferior dental nerve. Alcohol injection of the third division ten and a half years ago gave her complete relief, which still persists. The other patient was a lady aged 70 when I saw her for the pain; she had suffered almost constantly for fifty-three years; in her case injection of the ganglion was done under chloroform two and a half years ago, causing total anaesthesia of the fifth nerve and complete relief of all pain, which should be permanent.

The onset of the neuralgia is rare under the age of 30, though I have seen eleven other cases commence before the age of 30, at the ages of 20, 21, 22, etc. The average age of onset in 205 of my cases is almost exactly 50. Once the disease has started it is practically certain that permanent cure can only be obtained by destruction of the nerve trunks involved, or of the ganglion itself. In only two instances have I known the neuralgia disappear spontaneously, after existing a number of years. One was the father of a lady whom I injected for typical neuralgia, and she told me that her father suffered from the same spasmodic pains from the age of 65 until he was 90, when the pains gradually left him, so that he was free from the neuralgia during the last twelve years of his life, for he died at the age of 103.

In a number of cases a considerable interval may elapse between the first onset of the neuralgia and its subsequent establishment. A lady had severe spasmodic pain in her left lower jaw at the age of 45, lasting for nearly two years, when it left her for thirty years, recurring severely after exposure to a cold wind when driving. After the pain had continued for nine weeks I injected the left Gasserian ganglion. I have notes of similar intervals of twenty years, seventeen years, nine years, seven years, and so on.

Heredity.

I have noticed heredity as a factor of trigeminal neuralgia in five cases. I have already referred to one patient, a lady of over 60, whose father suffered for over twenty-five years from this form of neuralgia, and then outlived it. In another instance I have treated a mother over 70 years of age, who suffered for many years with bilateral neuralgia, mostly of the third division. Injection of the nerve at the foramen ovale gives her about two years' freedom from pain. One of her daughters at the age of 36 began to suffer in a similar manner with spasmodic neuralgia of the right third division. I saw her for this soon after the pain began, and recommended drug treatment and rest; this, however, failed entirely. I did not see her for three years, the pain having continued all that time, and she told me she had been twice injected by another physician without any relief, as the nerve could not be found. I then injected the third division at the foramen ovale, causing complete anaesthesia of its distribution and immediate cessation of the pain, from which she has now been quite free for three and a half years. In my other three patients—two men and one woman—it was the mother in each case who was said to have suffered from typical trigeminal neuralgia for many years. In investigating such histories one must be careful to distinguish between migraine and the true trigeminal neuralgia.

Chill.

I have already referred to chill as being the exciting cause of the first spasms of the neuralgia in ten cases. One illustration will suffice. A woman, aged 50, drove twenty-five miles in an open dogcart through a blizzard, snow, and icy cold wind to Exeter. The same evening, about 9 o'clock, while she was having supper, intense neuralgia struck her lower jaw, the pain being on the same side as had been exposed to the wind. This was the beginning of a severe case of trigeminal neuralgia which continued for several years until I saw her. In numerous other instances exposure to a cold wind or draught will restart the paroxysms of a neuralgia which has become dormant, and, indeed, cold wind or draught may be said to be the worst enemy of these subjects of neuralgia.

Although chill has such a bad effect upon trigeminal neuralgia it is surprising that subjects of this disease have not special immunity during hot weather, and it is extremely common for patients to say that the time of year makes no difference to their pain, and it is waste of time and money to send such patients for treatment to a hot climate.

"Warnings."

I have referred to the absolutely sudden onset of the disease in numerous cases. Three of my cases have described a warning by which they recognize the imminence of a period of severe attacks. A lady, aged 64, had suffered from right lower jaw neuralgia for ten years, made worse by extraction of the teeth. Alcohol injections by Horsley gave no relief. As she says no numbness of the face was produced, the nerves were no doubt not injected. She says she has always noticed a burning sensation on the top of the head for some days before the neuralgia attacks commence. Alcohol injection, in May, 1916, of the second and third divisions relieved her pain entirely, the relief still persisting. In another case, a man whom I injected at the age of 39, with neuralgia of the left second and third divisions, seven years ago, used to get a warning, for a day or two before the neuralgia attack, of constipation and sensation of swelling in the gums.

Another patient, a lady aged 54, says she always gets a shivering sensation along the right cheek before the pain starts. She had lost all her teeth twenty-seven years before the pain began.

Character of the Pain.

The suddenness of onset of neuralgia is often likened to an electric shock; one patient thought she had bitten on to a needle, another that she had broken a tooth. Some speak of a stinging pain at the commencement. Very many describe the pain as hot, "like a lot of red hot bradawls being pushed up," "flickering," "hot," "like daggers," "like a hot knife or needles being run into the forehead." In others the pain starts with a tacking sensation or tapping, scarcely painful at first, but rapidly getting worse, until the pain "explodes along the nerve like fireworks or hot electric wires." The severity of the attacks must be witnessed to be appreciated, and patients get little sympathy or credit for their suffering, except from others who have seen them in it. Some patients lose all control of themselves in the attacks, screaming out, fighting, and struggling. In others the jaw becomes fixed, perhaps wide open, and saliva may trickle from the mouth.

One patient described the commencement of her attack as having suffered for two days with severe agony in a tooth; she thought such pain was impossible, had two teeth out, but was no better for a week; since then she has been subject to repeated attacks in which the pain stings into the right side of her tongue. She calls it a "hellish pain," and says it has destroyed her nerve, and she feels during the attacks as if she could smash everything, or commit suicide. Indeed, before the remedy was devised for this pain in the operation of gasserectomy, and later by alcohol injection of the nerve trunks, suicide was not a very uncommon ending for sufferers from this dreadful disease.

So long as patients are able to take food they do not lose weight or suffer notably in health, but as soon as the neuralgic spasms are sufficiently frequent and severe to prevent the taking of food there is danger of rapid loss of strength from starvation, and it may be necessary for the patient to suck liquid nourishment through a straw or tube on the other side of the mouth, and to write instead of speak, because the spasms of pain are started by attempts at eating and talking.

Treatment.

Only a comparatively small number of sufferers from trigeminal neuralgia get relief from drugs. In a few gelsemium gives relief, though with the majority even morphine in large doses fails. Practically the only two methods are gasserectomy and alcohol injection. In my opinion the former operation should never be undertaken until alcohol injection has been thoroughly tried. During the last ten years I have injected the Gasserian ganglion with alcohol through the foramen ovale in 63 cases; in 31 the anaesthesia has remained total and no recurrence of pain has taken place. In many of the remainder partial

ganglion anaesthesia has persisted though pressure could be felt, yet the relief from pain appears to be equally good.

In many cases, though total ganglion anaesthesia is produced at the time of injection, yet the anaesthesia of the first and second divisions wears off, perhaps completely, in from ten minutes to an hour, though the third division remains totally anaesthetic. This is no doubt due to the ganglion cells having been shocked, and not destroyed, by a partial infiltration only. In such a case pain is liable to recur after twelve months or two years, as in a case of ordinary injection of the nerve. With total destruction of the ganglion there is the same liability to keratitis as with the operation of gasserectomy, but if the lids are kept carefully closed by strapping for the first week and the conjunctival sac washed out with boracic lotion twice a day, I have found little or no trouble with my later cases. The lids, however, should be kept closed from the beginning, and it is unwise to wait and see whether keratitis develops, as then it will be necessary to keep them closed for a much longer time.

Hutchinson's partial gasserectomy avoids the danger of keratitis, but is not a certain permanent cure, as I have seen three such cases relapse with neuralgia.

Bilateral Neuralgia.

Bilateral trigeminal neuralgia is comparatively rare, though I have seen and injected 25 bilateral cases, usually at different dates, but on several occasions I have injected both sides, one after the other.

Gasserectomy is an impossible operation for bilateral cases of trigeminal neuralgia, owing to the necessary destruction of the motor branch of the fifth nerve on each side and consequent jaw-drop. Alcohol injection has the advantage that the nerve injury is less complete, and the motor nerve fibres regenerate. In one case I produced jaw-drop for two and a half months, which recovered completely later. On December 10th, 1919, I injected the left Gasserian ganglion in a woman of 49, for neuralgia of the left upper jaw, whose right Gasserian ganglion I had previously destroyed by alcohol injection seven years previously. She was still totally anaesthetic over the whole right fifth distribution, just as much as in any case of gasserectomy, though in her case the motor branch had recovered well, and she had quite good right temporal, masseter, and pterygoid muscles. Injection of the left Gasserian has now produced in her case total anaesthesia of the whole of the face and front half of her head, though she can chew fairly well by means of the muscles on the right side, and those on the left side will doubtless recover also later. So far as I know, bilateral destruction of the Gasserian ganglia has never previously been done.

Method of Injecting Alcohol.

As regards the methods of practising alcohol injection, details have already been published and need not here be repeated, though I would like to insist on the advisability of using the method of trial and test. That is to say, when the needle is thought to have struck the nerve inject a few drops of 2 per cent. novocain, and, after waiting half a minute, test the skin distribution of the nerve for anaesthesia. If none has developed do not inject alcohol, but try again to find the nerve. As soon as anaesthesia appears to novocain injection, then complete by injecting about 1 c.cm. of 90 per cent. alcohol, when total anaesthesia to touch, pin, and pressure will develop almost instantaneously if the nerve at the foramen ovale or foramen rotundum has been correctly hit.

Results.

In almost every case, as soon as anaesthesia develops from the injection, the neuralgic spasms cease, and they can no longer be started by any chewing movements or rubbing the face.

The duration of the cure rarely lasts less than twelve months, if good anaesthesia has been obtained, and in the majority the relief from pain lasts from two to three years. Very many of my cases have been quite free for four or five years, one six and a half years, another seven years, another nine years after nerve injection only, while I expect my cases of ganglion injection to be permanent cures, just as if gasserectomy had been done. No trophic effects on the skin are ever seen. Keratitis is a risk if the cornea is anaesthetic after injection of the ganglion, but this may always be avoided by proper precautions.

THE SIGNIFICANCE OF ACIDOSIS IN CERTAIN NERVOUS DISORDERS.*

BY

B. H. SHAW, M.D.,

MEDICAL SUPERINTENDENT, COUNTY MENTAL HOSPITAL, STAFFORD.

ACIDOSIS, as evidenced by the presence of acetone bodies in urine, is frequent in cases of acute delirium, confusional and stuporose states, certain melancholic conditions, and in epilepsy.

The following notes are taken from two recent deaths resulting from extreme acidosis:

1. E. J., a mischievous, weak-minded boy of impulsive tendencies, aged 15, admitted in September, 1917. He was well nourished, and took his food very well indeed. He had had no fits previously. During the night of December 30th, 1919, he had a severe typical epileptic fit, and lapsed into a condition of cerebral irritation, with paresis of his legs and conjunctival injection. Specific gravity of urine 1024; no albumin or sugar, but strongly positive to acetone. He was put on alkaline treatment and improved, the acetonuria disappearing, and he continued to take his food well. On January 10th he again developed strong acetonuria, which did not yield to alkaline treatment, and he died at 9.40 a.m. on the 16th.

Post-mortem Examination.—Intense minute injection of the pia arachnoid in a patchy fashion, especially marked over sulci and along veins, one large patch extending over the vertex of the left hemisphere; numerous puncta cruenta on section of the cerebral tissue; strong acetone reaction in cerebro-spinal fluid and blood. Microscopical examination showed minute vascular engorgement, diffuse and central chromatolysis of the neurone body, and degenerative changes in nuclei—in other words, primary degeneration of the nerve cell. The suprarenal glands showed some congestion and fat deficiency; other organs apparently normal.

2. J. H., a well developed man, aged 49, admitted on February 4th in a state of acute confusion; had been ill for six weeks prior to admission. He was, on admission, in a state of restless noisy excitement, continually wet and dirty, rendering it impossible to collect his urine for examination. He was put on milk and other extra diet, which he took satisfactorily. He was extremely feeble when admitted, became gradually weaker, and died at 2.30 a.m. on the 10th.

Post-mortem Examination.—Cadaver in good condition, marked opacity and thickening of the pia arachnoid, with much recent minute injection and patchy ecchymotic areas. Brain tissue showed numerous puncta cruenta on section. Acetone reaction strongly marked in cerebro-spinal fluid, which was in excess in pericardial fluid and in the blood. Microscopic examination showed engorgement of vessels, with some minute extravasations, diffuse and central chromatolysis of cells, nuclear changes, and absence of pigment. Suprarenal glands softened, scanty fat; liver somewhat fatty; other organs normal.

In mental cases it is the exception to find *post mortem* a normal transparent pia arachnoid. Secondly, in long-standing cases of epilepsy almost the only change met with may be a thickening and opacity or milkiness of the pia arachnoid; this thickening and opacity I regard now as most probably due to congestive attacks resulting from acid intoxication. These congested areas are most pronounced over the vertex where the membrane is thickest and the underlying neurones mainly motor.

Thirdly, after death in status epilepticus there is intense congestion of the membranes and the cells show the profound structural changes of primary degeneration—structural changes which I have shown to be also present in the cases mentioned. It is of interest to note here that the meningeal appearances in these cases are very similar to many I have seen in the Balkans as a result of malignant malaria, and in which the symptoms indicated intense toxaemia, no doubt due to deficient oxidation as a result of the destruction of vast numbers of erythrocytes and also to the haemoglobin and oxyhaemoglobin set free in the plasma behaving as weak acids. Addison, Lusk, and Graham consider that the rise in heat production in severe anaemias is due to the pathological production of lactic acid from carbohydrates in consequence of an inadequate supply of oxygen to the cells. Recently I have had two cases of confusion following malignant malaria contracted at Salonica, one of whom had definite acidosis periodically while here.

* Abstract of paper read at a Staffordshire Branch meeting of the British Medical Association, February 26th, 1920.

Notes on twelve cases were quoted, in which the acidosis was associated mostly with delirium, confusion, mild melancholia, stupor, epilepsy and masked epilepsy, and it was pointed out that in cases which recover improvement synchronized with diminishing acidosis. Haemolysis of erythrocytes by acetone bodies and bile acids simply means cellular disintegration. Taking into account the other still more destructive ferments present in acidosis, it is obvious that these substances in the blood and body fluids must have a most irritative and disastrous effect on tissue cells. This is already evidenced by the degenerative cell changes noted in the *post-mortem* examinations alluded to. If the acidosis is intense or continued for a length of time, or if the patient gets frequent recurrences, permanent damage to the neurones must ensue.

It was next pointed out that the adult human brain contained practically 2 per cent. of cholesterol, while children's brain tissue contained much less—a child 3 months old only 0.69 per cent. This substance can be shown *in vitro* to exercise a protective function on erythrocytes with regard to the action of haemolytic agents such as autolytic ferments and acids, and it is therefore suggested that the more serious cerebral effects of acidosis in young children may be traceable to this deficiency of cholesterol as compared with adults.

Referring to ferment action, it was mentioned that the diastatic content of urine in cases of acetonuria was somewhat higher than normal, and also it was pointed out that pancreatic lipase which is normally present in blood became haemolytic when activated by fat. In reference to this, serums from different types of mental disorder were investigated as regards the effect on them of tryptic digestion. The serums were drawn at the same time of day in every case, primarily for syphilitic serodiagnosis, and in the results the serum in cases of chronic alcoholism, chronic melancholia, and epilepsy, showed a higher acid content as compared with others. Charon and Briche's observation that fits are most frequent at night time, when the reaction of the blood tends most towards acidity, was confirmed. The relationship between tuberculosis and epilepsy and the influence of acidosis in favouring microbic infection was pointed out. It was suggested that Biedl's glycosuria resulting from throwing the thoracic duct out of circulation was due to the absence of a ferment derived from lymphocytes, and that the lymphocytosis present in such diseases as tuberculosis, typhoid fever, malaria, and epilepsy, is an evidence of increased ferment action and acidosis. It was pointed out that the adrenals, as well as being concerned with sugar elaboration, have antidotal properties as regards autolytic agents; in sympathetic disturbances serious interference with cell metabolism and consequent acidosis may result. Thus:

> Fright or anxiety produces hyperglycaemia; this is probably due to stimuli emanating from the brain passing over the splanchnic nerves, in part to the liver, inducing acetone formation and the splitting up of glycogen, and also to the suprarenals, causing a discharge of adrenalin. Constant action of this nature may lead to exhaustion of the adrenal tissue, with resulting loss to the organism of the protection normally afforded against agents producing cell autolysis. Further, adrenalin is *in vitro* readily precipitated by acetone, consequently the presence of acetone in the body fluids directly inhibits the action of adrenalin. . . . Degenerative suprarenal changes are very constantly met with at necropsies on the insane. In epilepsy, Prior states that out of twenty suprarenal glands examined by him degenerative changes were present in fifteen; also, in addition to adrenalin being readily precipitated by acetone in solution, its normal destruction in the blood is inhibited by any tendency towards acidosis.

The production of acid from glucose by the streptococci responsible for pyorrhoea alveolaris was referred to, and the frequency of this affection in cases of mental confusion instanced.

After reference to previous experimental work on animals, the following evidence of the toxic effects of acetone-containing urine was mentioned:

Two rabbits were taken, both bucks from the same litter and each weighing 3 lb. Into the first rabbit 2 c.cm. of urine from a patient suffering from marked acetonuria was injected intravenously, with the following result:

> In a few minutes he became drowsy and lethargic, taking no notice of food though previously feeding with avidity. Incoordination of hind legs set in and paresis; breathing, at first rapid, became appreciably slower. In half an hour he looked very ill, hunched up, fur ruffled, movement of nostrils spasmodic and slow; remained in one place; resistive to stimuli; shut eyes occasionally; half an hour later hind leg paresis had passed off, although still lethargic and disinclined to move.

Into the second rabbit the same amount of the same urine, but one-third saturated with anhydrous sodium carbonate, was injected intravenously. This injection has no apparent effect on the animal. It had previously been ascertained that 2 c.cm. of normal urine had no effect on a rabbit when injected intravenously.

Treatment.

In mild cases the indications are rest, warm clothing—in view of the fact that acidosis is nearly always associated with low blood pressure; sleep, nutritious diet—avoiding fat and including plenty of carbohydrates, bynogen, Allenbury's diet and such artificial foods; free purgation and alkaline medication. Potassium citrate is very useful, as in addition to the fact that it changes into carbonate in the blood it provides citric acid, which has the effect of restoring fat metabolism to normal, thereby reducing directly the acetonaemia. This, combined with the carbonates of calcium and lithium and the bicarbonate of soda, makes a very useful prescription. The more bases given the better. Free ventilation is necessary to secure an adequate supply of oxygen.

In a case showing more serious symptoms, complete rest in bed and, in addition to the above, enemata of 20 per cent. glucose solutions; while in a severe attack it may be necessary to give glucose or sodium bicarbonate intravenously. It might indeed be advantageous to consider gum saline intravenously, as Bayliss suggested in wound shock. Glucose, it must be recollected, may behave as a weak acid in the blood.

Unless absolutely necessary for the provision of sleep, as little drugging as possible and as little disturbance in the way of chatter and interference—the exhausted and damaged neurone has quite enough to put up with. Be firm and make the patient realize that his is a serious bodily disorder. In all but the mildest cases send the patient to hospital as soon as possible. The acetonuria having disappeared, continue a full dose of the alkali towards evening and give a mixture of iron and arsenic. The experiments of Crile show that in these conditions strychnine is contraindicated, as it caused cell changes precisely similar to those resulting from the emotions, toxins, and foreign bodies—namely, hyperchromatism succeeded by chromatolysis. With regard to means of control of the kinetic drive, Crile also states:

> Whatever the activation, whether infection, emotion, injury, or Graves's disease, morphine measurably controls the outward phenomena such as pulse rate, respiratory exchange, sweating, thirst, restlessness, acid excretion, fever, muscular action, and pain. . . .

And it is interesting to note that so far back as 1822 De Quincey, in his *Confessions*, states opium to be

> . . . under an argument undeniably plausible alleged by myself, the sole known agent, not for curing when formed but for intercepting whilst likely to be formed, the great English scourge of pulmonary consumption. . . .

He considers that he himself was cured of phthisis between the ages of 22 and 24 by the regular and continued use of opium. There is at present here a patient, at one time a confirmed epileptic, who was given, many years ago, continuous and gradually increasing doses of opium for a number of years. During this period the fits disappeared, nor have they ever returned, though for a good many years now the opium habit has been broken off.

In conclusion, attention was drawn to:

1. The profound structural alteration in the neurone caused by acidosis, and the extreme danger of permanent injury to it by continuance of the condition or by frequent attacks.
2. The urgent need of early diagnosis, and the recognition that such cases are very ill indeed, and need complete rest and proper treatment, or they may become invalids for life and a burden on the community.
3. The simplicity of the diagnosis.
4. The fact that, as a rule, acidosis can be readily counteracted by efficient treatment.

5. The need—in view of acidosis being a probable etiological factor in epileptic states—for careful investigation, and the probability that, if such is the case, efficient alkaline treatment may cure the condition if recognized at the onset of the fits. The giving of bromides would seem to be dangerous in such a state, as it only tends to dull cellular activities; later on it may be of use in treating nerve cells which have acquired vicious habits.

6. The danger to the patient in not adopting a firm attitude. If such cases are at once sent to hospital before serious mental symptoms come on there would soon be marked diminution in the admission rate at asylums.

7. The predisposition to microbic diseases afforded by acidosis, above all to tuberculosis. As regards children, there are questions which can best be answered by the general practitioner; for instance:

What is the relationship between "biliousness" in children and subsequent tuberculosis? Are the sexes equally subject to acidosis? Does it throw any light on the greater mortality of male children?

With regard to tuberculosis:

Is it a question of the optimum reaction of the medium necessary for the growth of the tubercle bacillus? In other words, do certain individuals, as a result of errors of nutrition or faulty cell metabolism, offer a more favourable pulmonary or lymphatic culture medium for the growth of the tubercle bacillus than do others?

Finally, is this whole question of acidosis, within limits, at the bottom of what we understand by heredity in respect to disease processes? Is it an effort on the part of the organism to autolyze itself? All these questions are of extraordinary interest, and the whole subject may bring us vastly nearer a proper comprehension of certain processes which up to the present have been shrouded in mystery.

THE CARE OF CRIPPLED CHILDREN.

BY

G. R. GIRDLESTONE, M.B., F.R.C.S.,

VISITING SURGEON, HEADINGTON ORTHOPAEDIC HOSPITAL; HONORARY SURGEON, SHROPSHIRE SURGICAL HOME; HONORARY ASSISTANT ORTHOPAEDIC SURGEON, RADCLIFFE INFIRMARY, OXFORD.

CRIPPLED children need both treatment and education; only thus can they be restored to active citizenship, healthy-minded and, so far as may be, healthy-bodied.

In a former paper, published in the BRITISH MEDICAL JOURNAL, October 11th, 1919, attention was called to the crying need for effective treatment for crippled children, and a system of orthopaedic hospital-schools and out-patient clinics designed to carry out the work was outlined. It was estimated that about 10,000 beds would be required for the whole of England and Wales, but it was pointed out that new construction was not involved to this extent, both because in some places hospitals carrying out this work already existed, and in other places there were hospitals in use by the War Office or Ministry of Pensions which would be suitable, and could eventually be made available for this civil orthopaedic work.

Those who have studied the problem feel very strongly that provision for the treatment and all-round education of crippled children is the reverse of an extravagance, even in the present financial straits. The following figures are taken from the report on "An inquiry concerning physically defective adults and children" carried out by the City of Birmingham Education Committee in 1911. Their capacity for work was a subject specially noted, and it was found that among 1,001 cripples over the age of 16 only 111 were "able to do remunerative work at home," and 531 were "unable to do any remunerative work." Now it is the experience of those who work at hospitals for cripples that 90 per cent. can be cured or improved sufficiently to enable them to take a share in industry if the disability is tackled early and efficiently and training given.

It is true that there must be expenditure, perhaps for six months, during the active treatment of a crippled child, and that in some cases his education expenses afterwards may be high, but from the financial point of view alone it is a clear economy, for he is thus enabled to become a producer instead of a dependant for the many years that follow. Further, these crippled children are already being maintained somewhere and by somebody. Many are in workhouses, infirmaries, or industrial homes, and quite out of touch with expert treatment. A large number have to be admitted to general hospitals on account of the severity of their condition; this is especially true of cases of tuberculosis of the spine, hip, and knee—the very cases that need many months or several years of unremitting treatment in open-air wards in the country with plenty of good food. These are the children above all others for whom the hospital-school and continued supervision are needed. On all these children money is now being spent, but with very imperfect results. On the other hand, a certain number of orthopaedic hospitals, orthopaedic departments of general hospitals, and hospital-schools for crippled children are already doing most excellent work; they can only deal with a minority of the cases, yet their very existence means that so much of the capital cost has already been faced, and so much of the maintenance expense is already being found.

In some places new hospital-schools for crippled children are needed, but almost everywhere there is waste and inefficiency due to lack of the combination of education and treatment, of the fellow-working of all the forces that have hitherto worked apart, and of continuity of orthopaedic supervision. The recognition of this is neither new nor singular, as the following quotations will show.

1. *Report of the City of Birmingham Education Committee March 29th, 1912:*

> "More systematic co-operation and definite co-ordination between the local education authority and the hospital and medical charities, especially those which deal with orthopaedic cases, (are needed). In England, speaking generally, the divorce between these two organizations and their respective attitudes towards the children under their supervision is complete. The success which has attended the joint work of education and cure of cripples in America and on the Continent is in no small degree due to their close co-operation and identity of outlook."

2. *Report of Census of Cleveland, Ohio, 1916:*

> "The need does not arise from failure to recognize separately the medical and educational requirements, but the failure to co-ordinate these and other forces affecting the life of each crippled child."

On the completion of their treatment most of the children would be able to go to ordinary schools. In towns some "special schools" would be advisable, but certainly far fewer than are called for now, when many children are allowed to remain crippled needlessly. As the cases are sent in progressively earlier the reduction of the number of children too crippled to attend ordinary schools will become greater in the same degree.

For a few children, either very severely crippled or living too far from a school, a "residential school" would be needed in each district, and this should be in the same grounds as the hospital-school. On their discharge from the hospital these children would then remain under the supervision of the orthopaedic surgeon and continue to attend the school and workshops. The advantages would be many, including administrative, educational, and workshop economy, and facility of orthopaedic supervision.

The publication of the paper already mentioned brought some of those whose work lay specially in the treatment of crippled children into touch with others who had done much for their education and training. These mutual interests have combined, and the "Central Committee for the Care of Cripples" has been formed. Its purpose is to represent and help voluntary associations devoted to the welfare of cripples, and to push forward the work in every possible way. This committee has become associated with the "Central Council for Infant and Child-Welfare," and has an office at 20, Berkeley Street, W.

Whenever schemes are put forward or new associations formed there is alarm amongst existing organizations, for they naturally feel anxious lest their proved work is to be set on one side. In this case probably the feeling has been—"Is some new and theoretical system of State Service to start afresh with the slate wiped clean, and then perhaps never to work with the same sympathy and enthusiasm?" That is the last thing desired. Rather is the aim to unite and help the present efforts, to combine the workers and put better tools into their hands, and to make the attainment of results easier and quicker.

There is no need for new administrative machinery. The organization of this work must be moulded so that it will fit into its place in the health work of the nation—that system composed of central government (by the State), local authority (locally elected), and the ultimate network of health and social services, official and unofficial. Of this network the hospitals form nodal points; voluntary in origin, they are becoming more and more linked up with State mechanism by the system of capitation grants for the treatment of various types of disability.

The Hospital-Schools for Crippled Children will, it is hoped, be worked in close touch with the medical officers of health in their districts, and in affiliation to the general hospitals. For the costs of maintenance each hospital-school will be largely dependent on capitation grants from the local authorities, who will pay only if they are satisfied with the work that is being done, and if the institution has been approved by the Ministry of Health and Board of Education, for with this approval 50 per cent. of the maintenance fees paid out can be recovered. In some districts several counties will be served by one hospital-school; these arrangements will be made to accord with the geographical conditions in various parts of England and Wales. On the other hand, in London and other big cities a fitting plan would be that each orthopaedic hospital, or general hospital with an orthopaedic department, should have its section of the town, and its beds for crippled children in the country. This would make towards simplicity of working, and continuity of treatment and supervision of the patients present and past throughout hospitals, special schools, and their homes.

Guidance and help from the Ministry of Health and Board of Education would be welcome, for an organization for the care of cripples, planned to give them all that they need, must at the same time be moulded to fit into its place exactly, and be linked up accurately with the existing health and education machinery, for only thus will efficiency be quickly realized and permanently maintained. It will be a small part of the whole structure, yet essential, for it is to deal with children to whom effective care alone can give lives active, happy, and self-supporting.

A Hospital-School for Crippled Children.

An attempt has been made to represent diagrammatically a hospital-school of 200 beds, with its various parts indicated and grouped on a definite plan, and an associated "residential school." The plan is intended to serve as a means of illustrating some of the many points to be thought of in planning such a hospital and as a stimulus towards further consideration of the subject. No doors or windows are indicated.

Types of Cases.

The conditions for which these hospitals are needed can quickly be grasped from such a table as that given in the article on the Cure of Cripples, in the British Medical Journal of October 11th, 1919. It is now repeated—corrected in one particular—in the next column. It will be seen that the cases are grouped into three main categories:

1. Deformities.
2. Paralyses.
3. Surgical tuberculosis and other affections of bones and joints.

Desiderata.

1. *Open Air Wards in the Country.*—Probably only those who have worked in a hospital where the children are in open air night and day can realize its marvellous effect on their vitality and powers of recovery.

2. *A site on dry subsoil*, fairly high, with southern aspect, and a low rainfall. A low local rainfall can sometimes be found in a district which as a whole has a comparatively high rainfall.

3. *A position in the neighbourhood of a main town*, with good radiating railways and roads, and if possible near enough to the town to share in the advantages of its electricity and gas and the transport, water, and drainage systems.

4. *Affiliation with a good General Hospital.*—Hospital organization is tending towards the co-ordination of the special hospitals in each neighbourhood with a "mother" general hospital. This should give many advantages—for instance, the special hospitals would share in the benefits of a first class pathological laboratory, and it should bring the spirit of team work into hospital relationships.

Table of Cases under Treatment.

	Shropshire.	Stoke.	Total.
Approximate population of area served...	425,000	246,307	671,307
Approximate proportion of cases under treatment to population	1 to 538	1 to 722	1 to 594
A. Deformities, congenital or acquired:			
Rickets	177	51	228
Deformities of the foot	71	51	122
Scoliosis	8	14	22
Congenital dislocation of hip... ...	16	8	24
Fractures, non-union and mal-union	15	10	25
Other deformities...	43		43
Total	330	134	464
B. Paralyses:			
Infantile paralysis	211	72	283
Infantile hemiplegia	43	11	65
Spastic paraplegia		11	
Total	254	94	348
C. Surgical tuberculosis:			
Spine	55	75	230
Hip	57		
Knee	26		
Other joints, etc.	17		
Total	155	75	230
D. Other conditions:			
Osteomyelitis	33	11	44
Various	16	28	44
Total	49	39	88
Grand total	788	342	1,130

5. *Sufficient beds* to meet the demand from the area which the hospital serves. It is particularly important to avoid the results of bed pressure: (1) Undue curtailment of treatment, and (2) a heavy waiting list.

6. *A Unit of Manageable Size.*—The hospital shown is planned for 200 patients. This is recommended as the best size. Sufficiently large to justify the necessary expense of an expert staff, it is yet not too large to be dealt with effectively by a clinical team consisting of orthopaedic surgeon, assistant orthopaedic surgeon, two house-surgeons, physiotherapist, and masseuses.

7. *Administration Offices.*—Where these hospitals are to be managed by a committee, offices will be required for a secretary-accountant and his clerk or clerks; for the matron and her clerk; and for a housekeeper or steward.

8. *Construction and Design.*—The hospital as shown might well be of semi-permanent construction and of "bungalow" type. Wood should not be used externally, owing to the great cost of maintenance involved. Beside the general principle of placing all wards and living rooms on the southern side of the hospital the following points illustrated in the plan may be mentioned:

(*a*) *Ward units*—each main ward complete with its two accessory blocks.

(*b*) The concentration of departments specially concerning the surgeon (west end of centre block); the conjunction of clinical rooms of surgeon and physiotherapist (49, 50).

(*c*) The aggregation of the departments requiring heating or hot water supplies into a small number of groups. In each of the three main groups the heating plant can be situated under or close to a department requiring special heat—namely, (1) theatres in the surgical group, (2) the hydrotherapy room, and (3) the kitchen.

(*d*) The economy of service, heating, and hot water supplies obtained by the grouping together of all the dining-rooms and the resident quarters of the matron and the three medical officers.

(*e*) The advantage of locating entrance, kitchen, etc., on the northern side of the hospital, so that the southern may be clear.

(*f*) An arrangement of drive, short, but serving the principal points of supply.

(*g*) The provision of covered walks between the various buildings of as short a total length as possible, yet so arranged that nurses or children can get from any one part of the institution to any other without getting wet.

(*h*) A convenient position should be found for the nurses' quarters. This building should stand in its own garden. Each nurse should have a separate small bedroom. A reading room and a recreation and lecture room should be provided.

9. *Departments and Wards well equipped for Orthopaedic Work.*—Points that may be mentioned have regard to:

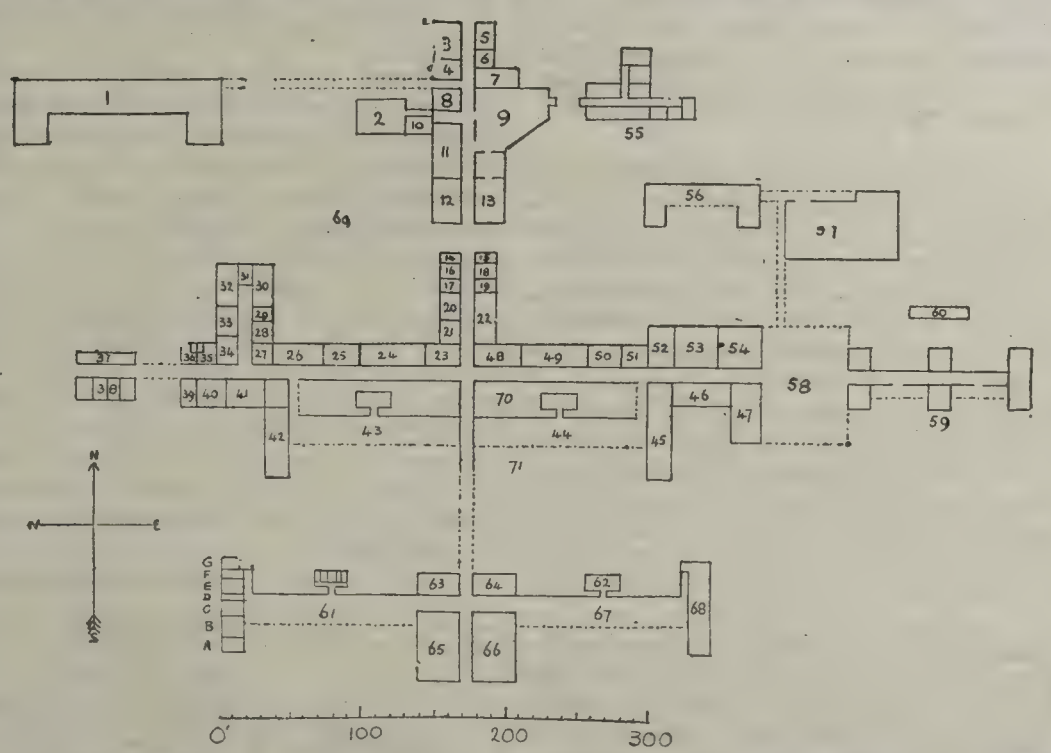
A. *Examination Room.*

This should be long, so that patients may be seen walking, warm, and with good light. There should be a waiting-room for patients. Even if the main clinical laboratory work is done at the general hospital, simple equipment for the examination of smears, etc., should be provided.

B. *Theatres.*

Two are indicated with the anaesthetic room between. Each should be complete with its whole outfit and one reserved exclusively for clean cases. There should be ample space and light. The plan does not show separate rooms for washing-up. The writer works in a theatre devised in accordance with a plan worked out by Mr. A. P. Dodds-Parker which is recommended as very simple and extremely safe. It involves merely a rather elongated theatre with one end reserved for washing-up and the sterilizing of instruments, the other for operating. The ends are partially separated by a central transverse baffle coming down from the ceiling to within 7 ft. of the floor. Fresh air is admitted to the operating area through ample inlets protected by a single layer of muslin; at the same time the steamy air is prevented from spreading into this half of the theatre (and there condensing) by the baffle and by an exhaust fan at the southern end.

A room for aspirations and minor operations in the south block is shown.



1. Nurses' quarters.
2. Matron's bungalow.
3. Kitchen offices.
4. Cooks' room.
5. Housekeeper's office.
6. Stores.
7. Larder.
8. Servants' room.
9. Kitchen.
10. Matron's dining-room.
11. Nurses' dining-room.
12. Girls' dining-room.
13. Boys' dining-room.
14. Porter's room.
15. Telephone room.
16. Matron's office.
17. Matron's clerk.
18. Secretary's office.
19. Secretary's clerk.
20. Waiting room (parents).
21. Stores.
22. Ditto.
23. Dispensary.
24. Sewing room.
25. Photography.
26. Radiology.
27. Developing.
28. Plaster casts and records.
29. Sterilizing.
30. Theatre for septic cases.
31. Anaesthetic room.
32. Theatre for clean cases.
33. Plaster.
34. Splint store.
35. Surgeon's changing room.
36. Nurses' changing room.
37. Isolation annexe and sanitary.
38. Isolation ward.
39. Mother and baby.
40. Babies.
41. Recovery ward.
42. Ward annexe.
43. Centre ward, girls.
44. Centre ward, boys.
45. Ward annexe.
46. Reading room.
47. Play room.
48. Waiting room.
49. Clinical room, surgeon and clerk.
50. Clinical room, physiotherapist.
51. Masseuses' duty room.
52. Hydrotherapy.
53. Electricity and massage.
54. Gymnasium.
55. Medical officer's quarters.
56. Residential school quarters.
57. School.
58. Covered playground.
59. Workshops.
60. Sanitary block (workshops, etc.).
61. South ward, girls.
62. Ward sanitary block.
63. Plaster.
64. Minor operations.
65 and 66. Schoolrooms.
67. South ward, boys.
68. Ward annexe.
69. Drive.
70. Asphalt or concrete area.
71. Asphalt or concrete slope.

Garage, laundry, chapel not indicated.

N.B.—Pathological laboratories and an out-patient department, though not shown, will be required if the hospital is not working in touch with a general hospital.

C. *Plaster Rooms.*

Plaster-of-Paris plays a great part in the work of these hospitals. The actual treatment of cases in plaster, the preparation of casts on which to make spinal jackets or other appliances, and record casts, together necessitate good provision of plaster rooms. Two are shown in the surgical block, and a third in the south block for the treatment of the cases there.

They should be well heated and ventilated, and equipped with an Abbott's frame, a good vertical suspension frame, and a strong table with arrangements for pelvic rests, etc.

D. *The Splint and Appliance Workshops.*

These workshops are mentioned later.

E. *The Wards.*

The four main wards shown on our plan can be partitioned further if thought desirable. They face directly south, and on this side are open right up to the ceiling level, which should be about 9 ft., the place of the south wall being taken by pillars.

The beds would usually be ranged in a double row. When driving rain beats into the ward the front row of beds could be pushed back. Further protection can be given by stout canvas roller blinds which can be pulled down between each pair of pillars.

All main wards should be lit and ventilated by windows on the north side, in addition to being open to the south.

The floor of the wards should slope slightly outwards.

In these open-air wards the children need plenty of food, plenty of blankets, and, in cold weather, a supply of artificial heat. Whether hot bottles which have to be reheated or refilled several times a day or electrically-warmed mattresses will prove more economical is not yet clear. Possibly the latter system will gain on the score of economy due to the saving of hot water, labour, and breakages; it is certainly a more efficient source of controlled and steady heat. Information on this point should soon be available from the Hayling Island annexe of Sir William Treloar's Alton Hospital.

The southern block of the hospital could be specially devoted to cases of surgical tuberculosis. Diseases of the spine and hip account for the majority of such cases in hospital and mean treatment in bed for very long periods.

Each main ward has attached to it:

1. *Ward Annexe*, containing—

A. Sister's room, 15 ft. by 9 ft., from which there is a good view of the ward.

B. Nurses' duty room, 15 ft. by 19 ft.; this is available for dressings and the massage of certain bed cases,

C. Bathing room, 15 ft. by 12 ft., with tables on which cases on frames or in plaster can be washed.

D. Ward kitchen, 15 ft. by 5 ft., with gas stove.

E. Bathroom, 15 ft. by 7 ft., with washing basins and baths.

F. Drying room, 15 ft. by 7 ft., for damp clothes or bedclothes.

G. Kit and linen store, 20 ft. by 10 ft. south, 15 ft. by 10 ft. centre.

Rooms B, C, D, and E should be fitted with hot and cold water. For B and C warmth combined with thorough ventilation is most important, for it is dangerous to take the more delicate children into a stuffy room for washing or dressing, although they remain free from bronchitis if treated continuously in the open ward. It is exceedingly difficult to keep these two rooms warm and airy without windows which can be opened on either side and open fires. Further, the nurses on duty must be remembered as well as the patients.

The projection of this annexe in front of the ward gives some shelter from cross winds, and adds to the stability of the structure.

2. *Sanitary Block*, connected to the centre of each main ward by a short cross-ventilated passage, and containing a slop sink, etc.

Wards for Isolation and Acclimatization.—The plan indicates three small wards (15 ft. by 10 ft.), with partially glazed partitions, and a nurse's room from which the wards can be overlooked. The south side of these wards consists of double doors which can be opened inwards. The wards can be used for infectious cases or for the acclimatization of specially delicate children to living in the open air. Observation of newly admitted cases in special wards is not found necessary in open-air hospitals.

Babies' Wards.—On the south side of the west end of the central block are two wards—one for babies, the other for the admission of both mother and baby when necessary; both can be completely opened to the south.

Recovery Ward.—In a children's hospital especially it is a very great advantage to have a ward set aside for the reception

of cases for the first twelve or twenty-four hours after operations. It must be most harrowing for children to watch others go through the process of "coming round" from an anaesthetic, and a most undesirable preliminary to a subsequent operation on themselves.

Adolescents and Adults.—No special wards are indicated for these. The girls and boys are in distinct sides of the hospital, so that adults could be accommodated in one end of the ordinary wards.

Paying Patients.—Similarly no wards are indicated. Small bungalows in suitable positions could be provided.

Education.

Regulations as to education in hospital-schools are laid down by the Board of Education. In this plan no design of the schoolrooms is indicated, but positions are suggested. The main school lies to the east of the site and is surrounded by the workshops, residential school quarters, covered playground, reading and play rooms. The main school block would be attended by walkers and chair cases from the central block of the hospital, as well as by the children in the residential school quarters. The schoolrooms in the centre of the south block are so placed that the children confined to bed in this ward can be pushed to school easily, bed and all.

The residential school quarters are for children who, though they no longer require hospital treatment, would get no education if sent home, owing to the relation of the degree of their disability to the distance of the school from their home. Here, again, no internal structure is indicated, but as some of the children in these quarters will probably be convalescent from tuberculous conditions, one or two open-air dormitories might well be provided. No cubicles or dormitories should be on the north side. The size of this particular building should not be regarded as a reliable guide as to the residential school needs of an area requiring a hospital of 200 beds. A group of small cottages would be an alternative method of housing the older children. The children in hospital and in residential school need reading rooms, play rooms, covered and open playgrounds.

The *Workshops* should supply training in various handicrafts. Besides those of general application, such as carpentry, cobbling, leather and basket work, in each district the local trades should be specially considered.

Splint Shop.—It is an immense gain to an orthopaedic hospital that all the splints and appliances needed in the hospital should be prepared in its own workshops. The instrument makers can then work in constant touch with the orthopaedic surgeon, and so carry out his ideas exactly. Further, in urgent cases special splints can be made immediately.

It is recommended that part of the workshops should be of the open-sided hut type, and that all should be specially well ventilated, for they will be used in the training of children in the hospital and residential school. It will sometimes be possible to give permanent work as instrument makers or instructors to children who have passed through the residential school and shown special aptitude.

Maintenance.

Complete fulfilment of the conditions laid down by the Ministry of Health and the Board of Education, which include arrangements for dental and refractive work, is necessary so that the "approval" of these departments may be obtained for work under (*a*) the Maternity and Child Welfare Act, (*b*) the Education Act (1918), and (*c*) the tuberculosis clauses of the Insurance Act.

Great benefits will be derived from close association with the medical officers of health and tuberculosis officers of the group of local authorities served by each hospital-school.

Definite working arrangements should be made with the local authorities by which the costs of maintenance, worked out to an average for each child and approved by the Board of Education, are paid on a capitation basis by the local authority concerned in accordance with the Acts mentioned above.

Expenditure.

The following is an analysis of the weekly expenditure per child at Baschurch for the quarter ending December 31st, 1919:

	£	s.	d.
Food	0	19	1
Drugs and chemicals	0	1	9
Instruments and appliances *X*-ray apparatus Boots and leather	0	4	4
Salaries	0	11	2
Repairs and renewals Buildings and machinery Hardware and crockery Furniture and bedding	0	5	0
Oil and fuel	0	2	1½
Laundry	0	1	0
Printing Stationery Postage, telegrams Rent, rates ... ... Carriage Railway fares Miscellaneous	0	2	10
Total	2	7	3½

The total weekly cost is seen to be greater than the estimate of £2 given in the paper published in October. This is due to the rise of prices, which unfortunately has not yet stopped.

Beyond all these material advantages, there is needed in the staff enthusiasm for the work, orthopaedic experience, with a balanced judgement of the values of various methods of treatment, the highest degree of skill, and well arranged clinical team work. Further, the efficacy and permanence of the work of such a hospital depends on early recognition and treatment and on thorough after-care. The use of all the health services of the district, official and voluntary, especially the work for infant and child welfare, should lead to the early discovery of crippling conditions, and avail to bring them into touch with orthopaedic treatment without delay. Similarly, each patient on discharge from hospital should be attached to one or other of the orthopaedic clinics scattered through the district. Careful after-treatment and supervision will then make for the attainment of the best result possible for every child.

THE X-RAY TREATMENT OF ACNE VULGARIS.

BY

H. C. SEMON, M.A., M.D., M.R.C.P.,

DERMATOLOGIST TO THE GREAT NORTHERN HOSPITAL, LONDON, N.

INTRODUCTORY.

In spite of the general advance in dermato-therapy during the last decade, it is discouraging that few of the commoner skin diseases can be permanently cured. It is now established that acne vulgaris—perhaps the most widespread minor skin ailment in this country—no matter how extensive, or in what stage it presents itself, can be permanently cured by judicious *x*-ray treatment. I am well aware that, in making this statement, I lay myself open to the retort that radiotherapy for so trivial a complaint is a dangerous and quite unjustifiable remedy. The comedo and pustular stages of the condition are, however, very objectionable, and women especially cannot afford to regard the prospect of permanent disfigurement by pitted or keloidal scars with equanimity. It is surprising to find that most of the larger textbooks incline to the opinion that *x*-ray treatment should be reserved for the most intractable cases. In these, however, irremediable cicatrization will already have occurred, and the final appearance when cure has been brought about may resemble the after-effects of small-pox or lupus. It would seem to be an axiom of therapeutics that nearly all its most effective weapons are dangerous in unskilled or injudicious hands; but no reasonable member of the profession would therefore limit the administration of salvarsan in syphilis, of emetine in dysentery, or of chloroform in the major operations of surgery. To relegate an invaluable and approved remedy to the position of a last resource because there have been disasters among the earlier cases, is to assume an attitude for which there is now no justification, and which it is the main purpose of this article to repudiate.

Pathology.

Acne vulgaris is mainly attributable to the activities of a particular microbacillus first grown by Sabouraud. Every comedo contains this in more or less pure culture, as can be proved histologically by suitable staining reagents. The acne pustule is the result of contamination of the

comedo with various other organisms, among which the staphylococcus predominates. The deep-lying acne nodules also contain the acne bacillus, but in reduced numbers; and cultivations from these, as from many other types of very chronic abscesses, are not infrequently sterile.

The acne bacillus flourishes only in the presence of sebum, and is found more or less profusely wherever sebaceous glands are situated. As it can be recovered from the normal gland, it follows that it is not necessarily pathogenic, a circumstance of which there are other instances—for example, (1) *B. coli* in the large intestine is physiological, but in an appendix abscess it is pathological; (2) Vincent's spirillum is a normal parasite in the saliva, but a dangerous factor in certain types of buccal and pharyngeal ulceration; and so with the pneumococcus, *Streptococcus faecalis*, and *Staphylococcus albus*, all facultative pathogenic organisms.

The sebaceous glands share the increased activity of all glandular structures at puberty; and it is, perhaps, to their superficial position and liability to fortuitous secondary infection that the appearance of acne at this time of life may be due. The comedo is nothing but a sebaceous gland the duct of which is choked with inspissated sebum, cellular detritus from the corneous layer, and colonies of the acne bacillus.

We are still unable to explain why this "inspissation" should occur; but, as with other secreting organs of the human body—as, for example, the appendix, gall bladder, and kidney—once it has taken place, secondary infection is only a matter of time and opportunity. Streptococci, staphylococci, the bottle bacillus, and various yeasts are frequent contaminations; and the symbiosis thus established appears to increase the proliferative and irritant characters of each. Whilst infected and blocked glands become pustules or spread deeply into the cutis and become nodular abscesses, those in the immediate neighbourhood react to the irritation by an increased output of sebum, which in its turn favours extension of the condition by the rich pabulum it provides for new generations of the causative organisms. We are thus confronted with a very simple example of a vicious circle.

The morbid histology, so far as it concerns our thesis, may be considered under three headings: (1) Involution of the comedo to a condition of normal sebaceous activity; (2) secondary infection and acute suppuration, with destruction of the sebaceous gland, and eventual scarring or pitting; (3) chronic suppuration which may result in the production of (*a*) deep nodular abscess formation, or (*b*) cicatrization, or hypertrophic and true keloidal tissue.

The structure of a comedo has already been alluded to. In addition to inspissation of sebum and cell detritus in the duct, there is usually a small round-celled infiltration about the duct and neck of the affected gland. This infiltration is excessive in the second stage, that of acute suppuration; being usually extraglandular, it explains why it is that such an abscess is difficult to express, an easy procedure in the case of a comedo. It is with the results of the third stage, the chronic suppurative condition, that our discussion is mainly concerned.

Histological sections reveal the well known cells common to all the granulomata—for example, chronic sepsis, tubercle, syphilis, etc. Fibroblasts, mast cells, giant connective tissue cells, leucocytes of various kinds, and strands of fibrous tissue are present in all such sections in varying degree—the fibrous element predominating in direct proportion to the chronicity of the lesion. The periglandular fibrosis is often exceedingly dense, a fact which may have some bearing on the frequent failure of vaccines and topical application to reach the micro-organisms in the ducts, where they lie secure, and in a state of latent or potential virulence, which only needs such factors as constipation, dyspepsia, menstruation, or the abuse of alcohol or tobacco, to call them into activity.

Treatment by X Rays.

If the preceding pathological sketch is correct in essentials, the causes of failure to cure by internal and external medication or by vaccines become apparent, and can be ascribed in the main to the presence of young connective tissue cells and their fibrous derivatives, which bar the access of all remedial agents to the seat of the disease. The action of *x* rays is selective on fibroblasts and on any unorganized and rapidly proliferating cellular structure. It is this selective affinity which is responsible for the favourable destructive effects on certain types of cancer, more especially in sarcoma, which is a connective tissue cell derivative.

Its relatively superficial position in the epidermal or subepidermal plane renders the acne lesion peculiarly accessible to the penetration and direct action of *x* rays. But the rays possess a still more valuable characteristic: they are inhibitory to the physiological action of the secreting cells of sebaceous glands—as well as sweat glands, thyroid and ovarian glands, etc. If, therefore, the fibrous capsule of the infected comedo is "dissolved," and at the same time the secretory activity of the gland itself diminished or altogether inhibited, two favourable conditions for the growth of the acne bacillus will have been removed and the vicious circle broken. Whether the explanation offered is correct or faulty is of academic importance only. The incontrovertible fact is that *x* rays will cause involution both of the comedo and the deep nodular abscess, and reduce to a minimum the still greater disfigurement already caused by hypertrophic scars and keloidal tissue.

Dose of X Rays.

The dosage of *x* rays required to effect a cure in any particular case depends in the first place on the stage of the infection. For the sake of convenience, and in conformity with the pathological data, three such stages can be clearly distinguished: (1) Comedo formation; (2) comedo and pustulation; (3) nodulation, or deep infection, with concomitant fibrotic or keloidal changes.

In stage (1) local applications of sulphur, resorcin, mercury, or salicylic acid, are almost invariably prescribed either in a lotion or in an ointment. Soft soap is frequently incorporated in the ointment base, or directed to be used antecedently in the form of a shampoo with hot water. Stock or autogenous acne and staphylococcic vaccines are administered periodically; and the results, as long as treatment is continued, are satisfactory, the comedones disappear, and the case is apparently cured. It must be admitted that in the great majority of cases, and in spite of the most punctilious attention to detail on the part of the patient, relapse is exceedingly common. I am of opinion that in some cases treated by this method the energetic friction and application of local remedies has actually favoured secondary infection with staphylococci and the development of pustules. Be that as it may, it will be generally conceded that the process is tedious and causes considerable discomfort to sensitive skins. The *x*-ray treatment of the comedo stage is entirely free from both these objections.

Method.

In stage (1), in which only mild surface action of *x* rays is required, a filter is not used. A tube of medium hardness, working at a spark gap of between four and five inches, is the best for the purpose. A visible erythema—the so-called "reaction"—should not be aimed at; nor is it necessary to produce subjective sensations of itching or heat. The dose must be controlled in every case by the change of colour of a reliable make of the Sabouraud-Noirée pastille, which should be accurately placed at a point exactly equal to half the distance between the anticathode of the tube and the surface irradiated. It is also of the utmost importance that the trajectory of the rays should make a right angle with the plane on which they fall. As the areas usually affected by acne (except in the case of the back and chest) are relatively curved, and not plane surfaces, this direction can only be approximately followed in most cases. The summit of the curve will obviously be the nearest point to the anticathode; and it follows that the measurement of the distance from the anticathode, which should not be less than 6 in., must be made from the centre of this area. For a case of uncomplicated comedo formation a dose approximating to four-fifths of the full epilation dose (or B tint) is generally sufficient to effect a marked improvement. The administration is usually given in two sessions, with an interval of five days between them. In some cases the activity of the sebaceous glands is not effectively damped down by four-fifths of the pastille, and another two-fifths* or

*I use a recent modification of Corbet's radiotintometer (made by the Cox-Cavendish Electrical Company) for accurate estimation of slight colour changes.

three-fifths of the full dose may be required. In all cases ten days must be allowed to elapse after the primary four-fifths B dose has been administered. If this precaution is rigorously adhered to there is no risk of overdosage. The appearance of an erythema is the signal for cessation of *x*-ray application to that particular area; the final effect of the treatment cannot be accurately gauged until all reaction has passed away. A cure can be anticipated in the majority of the cases in which it has occurred; for slight and invisible cutaneous atrophy, in which the sebaceous glands particularly are implicated, will ensue. It is again emphasized that the atrophy of the sebaceous gland is neither physiologically desirable nor a factor in the treatment. Inhibition of an excessive activity is all that is required to cause involution of the comedo. In every case of facial acne treated by *x* rays the eyebrows, eyelashes, and mucous membranes must be effectively protected by strips of malleable lead foil, which can be fixed *in situ* by rubber strapping.

In stage (2), when pustulation and dermatitis are marked, an effort should first be made to allay them by the application of mild antiseptic and detergent lotions of lead, calamine, or mercury oxycyanide (1 in 4,000). A few days later the areas can be treated by *x* rays. Two-fifths of the B tint can be given at intervals of ten days, and repeated as found necessary. "Erythema reaction" should be carefully avoided in the pustular stage.

While there are conceivable alternatives to radiotherapy in (1) and (2), the presence of intradermic and subdermic nodules and cold abscesses, periglandular fibrosis, and keloidal tissue (stage 3) is a direct indication for *x*-ray treatment, for by no other agency can their involution be permanently achieved. The deeper situation of all these lesions calls naturally for the use of harder or more penetrating rays. These can be obtained in two ways: either (*a*) by the use of a "hard" tube, with a spark-gap working at a distance of 5 to 6 in., or by (*b*) interposing a screen of sheet aluminium, which cuts out the soft erythema-producing rays altogether. The filter should have a thickness of 0.5 mm., and with this in position a full pastille dose (tint B) may be given at the first session without risk. (The pastille holder must be used on the proximal side of the screen.) Considerable improvement will usually be noticed in ten days or a fortnight, and filtered half-pastille doses may be repeated at this interval until involution is complete. The use of a filter will prevent or delay the development of erythema reaction, and in most cases a satisfactory result will have been obtained before this develops.

Local relapse after efficient treatment by *x* rays has, in my experience, rarely occurred. A case I treated in 1913 will suffice to illustrate the contention. The patient, an unmarried lady of 26, had suffered from the deep nodular variety with recurrent suppuration and hypertrophic cicatrization for many years in spite of vaccine treatment, local applications, ultra-violet rays, and yearly visits to a sulphur spa. The case was undertaken with considerable trepidation, as at that time my experience was not extensive. During the seven years which have since elapsed there has been no recurrence, nor is there now the slightest suggestion of cutaneous atrophy, although, as a result of treatment, the patient developed temporary erythema at the time.

X-ray Stigmata.

The ill effects produced by overdosage of *x* rays are well known, and may be either permanent or temporary.

An *x*-ray burn is a serious disability; it can be caused only by massive or repeated and uncontrolled doses of *x* rays. In the most intractable cases painful ulcers may develop. More usually there is parchment-like atrophy of the skin, pigmentation, and minute vascular stigmata (telangiectases), with permanent, partial, or total destruction of hair follicles. Such appearances are still occasionally the result of inaccurate dosage in epilation treatment for tinea of the scalp and chronic sycosis barbae, and more excusably after massive doses for lupus vulgaris and epithelioma. Modern refinements, however, have rendered the accident relatively uncommon, even in cases in which massive doses are essential. If the rules insisted on for acne cases are rigorously followed such accidents will not occur in the treatment of this disease. It is therefore with the results of mild irradiation only that we are concerned. These are temporary, as a rule, and consist, as far as evident at all, of disturbances in the physiological distribution of pigment. As might be expected, blonde individuals are more susceptible in this respect than dark, and these should always be warned in advance of the possibility of the temporary appearance of "freckles" as a result of the *x* rays. In no case do they result in anything approaching the acne nodule or pustule in degree of disfigurement, and in a few weeks they vanish. The only treatment called for is the occasional application of calamine lotion, which is also useful in cases which develop erythema reaction. Grease in any form is never well tolerated, and ointments should therefore not be prescribed for patients undergoing radiotherapy.

Conclusions.

1. Acne vulgaris in its early stages can be relieved by vaccines and the application of lotions and ointments containing sulphur, resorcin, or mercury.
2. As far as the author knows, cure can only be attained by the judicious application of *x* rays.
3. The nodular and keloidal varieties of the disease are not amenable to relief or cure by any other method.
4. Relapse after apparent cure by *x* rays is rare. Should it arise it can be dealt with by further irradiation.
5. There are no permanent contraindications to the treatment by *x* rays.
6. Temporary cosmetic stigmata are sometimes met with, especially in blonde subjects; but permanent disfigurement of any kind is the result of faulty technique.

TREATMENT OF SLEEPING SICKNESS BY SALVARSANIZED SERUM.

BY

CLAUDE H. MARSHALL,

MEDICAL OFFICER, UGANDA PROTECTORATE.

THE history of the treatment of sleeping sickness in the past has been one of optimistic hopes resulting in failure, as each new method tried has been found to be nearly the cure, yet to have just fallen short of success. This applies more especially to African patients, for while certain Europeans and Asiatics have been undoubtedly cured of the disease, no such success has followed the treatment of natives. The reason may be that the African native is seldom seen in the very early stages, and being also more susceptible to the poisonous effects of the arsenic preparations used, is unable to stand the large doses employed to kill the trypanosome in the cases of non-natives.

For nearly a year after its introduction atoxyl was hailed as a definite remedy, only to prove not quite successful, while more recently Drs. Rodhain and Broden in the Congo have shown that salvarsan produces great improvement in early cases, although they do not claim it to be a cure, and definitely state that it is of little value if the trypanosome can be found in the cerebro-spinal fluid (Manson).

Quite early in the disease the trypanosome appears to gain an impregnable position in the central nervous system, and when attacked by drugs which drive it from the blood stream, remains undefeated in the spinal cord, in the same way as syphilis, which in the early stages is easily cured, but once it has established itself in the central nervous system complete cure is more problematical.

It would appear therefore that if sleeping sickness is to be cured, except in the earliest stages, the trypanosome must be attacked in the spinal cord, as well as in the blood stream. With this idea I commenced treating cases by intraspinal injections of neo-kharsivan; unfortunately the first case so treated died as a result of the injection.

Case 1.—W., a man aged about 40 years, was examined on September 26th, 1918. The glands were small, but typical. Trypanosomes were present in the gland juice. An intravenous injection of 0.6 gram neo-kharsivan was given on September 27th, and on October 1st an intraspinal injection of 0.025 gram neo-kharsivan, after 10 c.cm. of cerebro-spinal fluid had been drawn off. The patient died on the following day.

Though doubtless this method will not necessarily cause death, I decided to employ neo-kharsivanized serum for future injections into the spinal cord instead of the drug itself.

The patients treated were divided roughly into five classes according to the stage of the disease, as follows:

CLASS A.—Early cases with distinct glands, the juice of which contains scanty trypanosomes, but with no other signs. The patients consider themselves quite well, and are only discovered by systematic examination of a large number of natives.

CLASS AB.—The glands are well marked and contain numerous trypanosomes. The patients do not feel well, and complain of pains and sleeplessness.

CLASS B.—In addition to above signs there are finger and tongue tremors, increased knee-jerks, headache, and pain in the limbs. Impotent.

CLASS BB.—Advanced cases, unintelligent, spastic, and uncertain gait.

CLASS C.—Almost comatose. Unable to walk or reply to questions.

With this classification it is suggested that the central nervous system has been invaded in the AB class, though it is possible that this may occur even earlier.

Method.

1. An intravenous injection of neo-kharsivan is given, and after one to two hours 10 c.cm. to 40 c.cm. of blood are drawn off from a vein into a sterile vessel.
2. The vessel containing the blood is kept cool by being placed in a beaker of cold water for from twelve to sixteen hours, by which time the clear serum has separated from the blood clot.
3. A lumbar puncture is performed, and 15 c.cm. to 20 c.cm. of cerebro-spinal fluid drawn off, and a corresponding quantity of the serum, obtained as above, slowly injected into the spinal cord through the lumbar puncture needle by means of a large all-glass syringe.

This method has been used in a series of 12 selected cases, with the results tabulated below. Several patients have only been observed a short time since the treatment; the longest period of observation has been sixteen months.

While no absolutely definite results can be looked for till several years have elapsed after the patient has been treated, it must be borne in mind that these cases have only had one injection of the serum and were then sent back to their homes without further treatment of any kind, except in one case, No. 9, to whom two injections of serum were given.

Two cases are recorded in detail, and the others are shown in the table.

Case 2.—A woman, aged about 30, Class AB, was examined on September 9th, 1918. There was a large typical chain of glands in the neck and trypanosomes were present in the gland juice. On October 1st an intravenous injection of 0.6 gram of neo-kharsivan was given; 2 oz. of blood were drawn off after three hours. Twenty minims of serum were injected into the spinal cord next day. On December 14th, 1918, the glands at re-examination were found to be few and pea-like. One cubic centimetre of the patient's blood was injected into a monkey, which on December 24th escaped and was not recaptured. On the 30th the glands were as before and another monkey was inoculated. On February 8th, 1919, this animal was well; as I left the station on tour it was not seen again, but I understand it remained perfectly well until it escaped some time later. The patient was re-examined on May 29th and September 2nd, 1919, when she was quite well and the glands were very small. A monkey inoculated on the latter date was quite well at three subsequent examinations (the last on January 7th, 1920). The patient was last seen on November 29th, 1919, when she was quite well; two pea-like glands were present, the juice of which contained no trypanosomes.

Case 4.—A woman, aged 27, Class AB, had one large soft gland in the neck on January 9th, 1919; trypanosomes were present in the juice. On January 10th, 1919, 0.6 gram of neo-kharsivan was injected into a vein, 40 c.cm. of blood being drawn off. Intraspinal injection of 20 c.cm. of serum was performed next day. At her next examination, on September 2nd, 1919, no glands were palpable, and inoculation of 2 c.cm. of blood was made into a sheep, which was found quite well on October 30th, 1919, and January 7th, 1920. At subsequent re-examinations on November 12th, 1919, and January 7th, 1920, the patient was well and her glands were not palpable.

Note.—This woman disappeared during the severe famine in the early part of 1919, and was not seen for nearly nine months.

These two cases had only one injection and no other treatment. After sixteen and twelve months respectively they show no signs of relapse, declare themselves to be perfectly well, and are certainly in better health than when they first came under treatment.

Table showing Twelve Cases Treated.

No. of Case.	Sex.	Class.	Dose of Serum.	Months since Treatment.	Result.
2	F.	A B	20 min.	16	Well.
3	M.	A	3 c.cm.	1	Disappeared.
4	F.	A B	20 c.cm.	12	Well.
5	F.	A B	8 c.cm.	1	Died (cause unknown).
7	M.	B	15 c.cm.	6	Well.
8	F.	B	15 c.cm.	4	Well.
9	M.	C	20 c.cm.	1½	Died.
10	M.	B B	15 c.cm.	2½	Improved.
11	M.	B	21 c.cm.	1½	Well.
12	F.	A B	7 c.cm.	1½	Well.
13	F.	B	20 c.cm.	1½	Well.
15	F.	A B	24 c.cm.	1½	Well.

Of the cases quoted above, Case 3 showed no signs of relapse when last seen, but he was lost trace of during the famine, and is said to have died of hunger and dysentery in April or May.

Case 5 was treated on July 11th, 1919, and showed considerable improvement. She died suddenly on August 18th, 1919, from some unknown cause. I did not see her as I was away on tour, but I understand that she was well and working on the cultivation in the morning, but was found dead in her hut next day. There appears to be no reason to suppose that her death was due either to sleeping sickness or to the serum injection.

Case 9 was very advanced; on admission he could not give his name and was unable to walk, and could only stand with difficulty. This patient was a man, aged about 22, Class C; he was examined on September 25th, 1919. A very large chain of typical glands was found on both sides of the neck, and the gland juice contained numerous trypanosomes. Trypanosomes were also found in the blood but not in the cerebro-spinal fluid. Next day 0.6 gram of neo-kharsivan were injected intravenously. On the 27th an intraspinal injection was made of 20 c.cm. of serum, and on the 29th he appeared better. On October 12th he was much improved and more intelligent; the glands were harder and smaller and their juice contained no trypanosomes. The same observation was made two days later. On October 16th 0.6 gram of neo-kharsivan were given; this was repeated on November 1st, on which date no trypanosomes were found in either the blood or the gland juice. Next day 22 c.cm. of serum were injected intraspinally, and no trypanosomes were found in the cerebro-spinal fluid, of which 3 c.cm. were injected into a dog. The patient died on November 3rd; on January 7th, 1920, the dog was well.

It appears quite possible that this man died from the effects of treatment, but at the same time the disease was so far advanced that even supposing the trypanosomes in his system had been killed their effect prior to treatment might still have caused death. It is interesting to note that there was no rise in temperature above normal after the first injection.

In order to confirm the experiments of Drs. Rodhain and Broden, as well as the one or two similar cases which have occurred in Uganda, I quote the following cases to show that the improvement noted in the patients tabulated above is not due to the injections of neo-kharsivan alone:

Case 6.—A large dog was brought to me suffering from keratitis, and on examination its blood was found to be swarming with trypanosomes of the *gambiense-brucei* type (Duke). On July 11th, 1919, it received an intravenous injection of 0.3 gram of neo-kharsivan; on the 13th it was much improved, the eye symptoms being better and the dog eating well. On the 22nd the trypanosomes returned to the blood, and on August 1st the animal was very ill, and refused all food; 0.4 gram of arsenophenylglycin was given intravenously, and three days afterwards no trypanosomes could be found in the blood. They returned, however, on the 14th, and on the 26th the animal, which was blind and refused food, was shot.

Case 7.—M., a man of about 30, Class B, had a few small glands with trypanosomes in the juice when first examined on June 1st, 1919. He disappeared for a month, but when he returned similar findings were observed (July 1st). On the 10th, 0.6 gram of neo-kharsivan was injected intravenously, but no serum was given. On the 27th the glands were small and hard, and trypanosomes could not be found in the juice; 20 minims of cerebro-spinal fluid, containing no trypanosomes, were withdrawn by lumbar puncture on September 29th, and injected into a monkey. On October 25th the patient was greatly improved, and stated he could do work of which he was not previously capable. All glands but one (very small and hard) had disappeared. The monkey was quite well. Three days later trypanosomes were found after prolonged search in the

centrifuged deposit from the man's cerebro-spinal fluid, 3 c.cm. of which were injected into a sheep. Next day 0.6 gram of neo-kharsivan was injected intravenously, and 15 c.cm. of serum were given intraspinally. On January 7th, 1920, the patient, the monkey, and the sheep were found to be quite well.

In these cases the patients made undoubted progress under neo-kharsivan alone, but in neither case was the disease cured.

The fact that the cerebro-spinal fluid in Case 7 showed no trypanosomes on first examination, and that both the sub-inoculated animals remain well, I am unable to explain except as due to faulty technique.

In conclusion, I would suggest that these experiments tend to show:

1. That intra-spinal medication causes improvement in the patient, and may prove to be a complete cure.
2. That it has a greater beneficial effect than intravenous injections alone.
3. That in advanced cases, even if the actual disease is arrested, the damage already done to the central nervous system is probably beyond repair.

I wish to express my thanks to Dr. C. A. Wiggins, Principal Medical Officer, Uganda Protectorate, for permission to publish these notes.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF ENCEPHALITIS: LETHARGY AND MYOCLONUS.

A STEEL dresser in a shipyard was admitted to the Royal Victoria Hospital, Belfast, under the care of Dr. William Calwell, on April 26th.

He had been a soldier for eleven years (one year in Africa, no illness; six years in India, enteric; four years in France, influenza, 1916). On April 2nd he felt ill, complaining of headache and double vision and pain and stiffness of the neck and right shoulder; the following day his right eyelid dropped and he developed a double internal squint. About a week later the muscles of the neck and right side of the face were twitching.

He was admitted in a drowsy condition; temperature 99.4°, pulse 84, systolic blood pressure 130; urine, heart, and lungs normal. He lay indifferent to his surroundings, and would only answer questions if vigorously roused, when he was, however, quite intelligent, though slow of cerebration. When the stimulus of the raised voice was withdrawn he sank back into lethargy. Although lethargic he did not sleep at night.

There were striking myoclonic movements of the face and neck; the twitchings, rhythmical, at the rate of 60 a minute, involved the levator anguli oris, the masseter, the temporalis, the sterno-mastoid, and the upper part of the trapezius of the left side. The diaphragm was not involved. The sphincters were normal; the knee-jerks were brisk; there was no ankle clonus; the abdominal and epigastric reflexes were absent. The pupils responded to light, but not to accommodation. There was ptosis of the right eyelid (N.3), double internal strabismus (N.6), and inability to close the left eyelid (N.7). The discs were normal.

The cerebro spinal fluid was clear under pressure, and the cell count under 10. The Wassermann reaction, blood and cerebro-spinal fluid, was negative.

On May 14th the patient's condition was unchanged except that there was a slight decrease in the lethargy and abatement of the ocular symptoms.

The case is therefore hybrid between lethargic and myoclonic encephalitis. It conforms to the lethargic syndrome with the dominant exception of the myoclonus.

JAMES CAMAC, M.B., B.Ch.,
Royal Victoria Hospital, Belfast. House-Physician.

A BUST has recently been erected by the Faculty of Medicine and Pharmacy of Lille to commemorate Joseph Willot, a Roubaix chemist, who by the publication of a journal known as *L'Oiseau de France* did much to keep up the courage of the population of Northern France during the German occupation, and subsequently died during imprisonment in Germany.

Reports of Societies.

TREATMENT OF TUBERCULOSIS.

AT a meeting of the Medico-Chirurgical Society of Edinburgh, held on May 5th, with Emeritus Professor F. M. CAIRD in the chair, Professor Sir ROBERT PHILIP opened a discussion on the treatment of tuberculosis. He showed how the Hippocratic conception of the disease was a terminal phenomenon, and explained the modern outlook on the subject by which all efforts were directed to the early recognition of bacillary infection. He outlined the essential facts as to invasion of the organism, tissue reaction and systemic intoxication, drawing an analogy between tuberculosis and syphilis. He urged a broad outlook in dealing with a general disease with local manifestations. In the past too much had been made of the local phenomena in the various organs without taking sufficient notice of the systemic disturbances, these latter being very frequently in advance of the local signs. The value of the various special diagnostic tests was briefly reviewed. He then dealt with the advances that had been made in the recognition of the tractability of the disease if taken in hand sufficiently early and sufficiently firmly. He urged strongly the importance of keeping the patient under surveillance once the disease had been definitely determined. Tuberculosis took a long time to come and a long time to go, even with the best results. Once the patient was tuberculinized there was always the risk of further spread in acute or chronic form. So-called "fresh outbreaks" were simply caused by further spread in an already infected individual. He showed from the Registrar-General's returns the very steady decline in the mortality, although there was an increase in the cases coming for diagnosis and advice. He also reminded his audience how the age of death had gradually been postponed, as shown by the mortality tables. Finally, he urged the need for continuous intensive observations, both clinical and experimental, with a fuller training of men on the modern lines. There was ample reason for sound optimism.

Sir HENRY J. GAUVAIN dealt with the conservative as opposed to the radical treatment of non-pulmonary tuberculosis. He pointed out that tuberculosis was a general disease with local manifestations, and the aim of conservative treatment was to make use of every means in our power to assist in the formation of Nature's fibrous barriers. Conservative treatment was not to be confounded with convalescent treatment. He considered his lines of treatment under four main headings:

1. General treatment, which included (*a*) climate; (*b*) hygiene; (*c*) occupation, on which he laid considerable stress, and told how he had five educational establishments at Alton, beginning with a nursery school and going on in stages to continuation classes for cripples; (*d*) dietetic; (*e*) specific, including drugs.
2. Local treatment. This included orthopaedic and other measures designed to secure local rest and prevention and correction of deformity. He explained the vital importance of minute attention to detail in carrying out these procedures.
3. Adjuvant methods of treatment, including (*a*) heliotherapy, which was used by gradual increasing exposure to the sun—he found those who did not take on pigment readily did badly; (*b*) *x* rays; (*c*) vaccine-therapy; (*d*) chemio-therapy; and (*e*) surgery.
4. Treatment of complications. He gave in detail the gradual change which had taken place in our views as to the treatment of tuberculous abscesses.

Finally, figures were given to show the results obtained by the conservative method as practised at Alton, and he explained how a considerable length of time was required to attain satisfactory results.

Professor GULLAND, in thanking Sir Robert Philip and Sir Henry Gauvain, mentioned the importance of the time factor and good will of the patient in treatment.

Mr. JOHN FRASER, from his study of the pathology of bone and joint tuberculosis, declared himself a strong believer in conservative methods of treatment, but urged that certain conditions made operation necessary—namely, (1) social conditions, (2) age of the patient, (3) in bone tubercle, when the disease was near a joint, removal of disease would save the joint.

Dr. IAN STRUTHERS STEWART spoke of sanatorium difficulties. He found the question of occupation of his patients of vital importance, as the tendency to staleness

was great. His experience of pigmentation in heliotherapy agreed with Sir Henry Gauvain's. He considered there had been no definite general advance in sanatorium treatment during the last twenty years, and thought the cause was due to a failure to develop sufficiently broad lines of research.

Sir DAVID WALLACE confined his remarks to renal tuberculosis, and classified such cases into three groups—namely, (1) early cases with renal symptoms but no cystitis, (2) cases with vesical symptoms and no special renal symptoms, (3) cases showing a palpable tumour, with no urinary symptoms because of total destruction of the kidney. He quoted cases showing the value of removal of the affected organ, and so removing the source of infection and toxaemia; this also had the result of diminishing bladder symptoms. He urged on his audience the necessity of excluding or verifying tuberculosis as a cause of any chronic cystitis. Tuberculin he considered of some value, but general lines of treatment were, in his opinion, much more valuable.

Dr. LOGAN TURNER gave a series of statistics showing the frequency of tuberculous disease in nasal and laryngeal regions; there was a large excess percentage of lupus in the female. He considered enforced silence and general treatment the essential factors in treatment.

Dr. FERGUS HEWAT spoke of D.A.H. as at times a symptom of latent or undiscovered tuberculosis, and quoted a case in which tubercle bacilli were found in the sputum on the twenty-eighth consecutive examination. He urged a more careful consideration of toxaemic symptoms.

Dr. W. G. SYM referred to cases of pseudo-glioma and prolonged inflammation of the ciliary body. He was not satisfied that tuberculin was of much avail in the latter type of cases. His experience of children with chronic infected corneæ—not blindness—was that they took in consequence a lower place in the world. He noted, however, that even three days in the ward made a vast difference to them, but economic conditions of the present day were against these children.

Dr. CHALMERS WATSON spoke of the importance of secondary infections in tuberculosis, and urged that a more complete investigation should be made along these lines. He also referred to latent tuberculosis in childhood.

Dr. GEORGE MACKAY referred to a paper he had published in the BRITISH MEDICAL JOURNAL of October 19th, 1912, in relation to tuberculosis in ophthalmic work. He thought the value of tuberculin was enhanced by the addition of a vaccine from a secondary infection organism—for example, staphylococci. He referred to tuberculous deposits as a cause of ocular paresis.

Mr. CATHCART spoke of the conservative treatment of chronic abscesses, and referred to Lister's method of treatment in such cases. Mr. Cathcart obtained good results from the use of iodoform emulsion.

The CHAIRMAN referred to the length of time required for treatment, the importance of rest and fixation, and considered the site of the disease was an important factor in determining operative or conservative treatment. He had had good results by operation in advanced cases, as he found the removal of advanced disease assisted the natural tendency to recovery. He said some of his results had been most surprising.

RUPTURE OF CAESAREAN SECTION SCAR.

(Concluded from 674.)

AT the afternoon session of the conjoint meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine and the North of England and Midland Obstetrical and Gynaecological Societies,* Mr. CHRISTOPHER MARTIN presiding, Dr. EARDLEY HOLLAND read in abstract a paper on "Rupture of the Caesarean section scar in subsequent pregnancy or labour," and this was followed by statistical reports from various hospitals. Dr. Holland said that he supposed no accident in the whole of obstetrics was so disturbing to the surgeon as the one which formed the subject of his paper. It had seemed desirable to him to get at the truth of the matter by a series of investigations in which various hospital staffs and others had willingly co-operated. This investigation had been an unqualified success.

* The first part of the report appeared in the BRITISH MEDICAL JOURNAL of May 15th, p. 672.

In the first part of his paper he reported 5 new cases; in the second part he reviewed the literature and entered into a general discussion of the etiology of ruptured scar; and in the third part he compressed the results of his follow-up inquiry. The cases of ruptured scar after the classical operation which he had been able to find in literature in the shape of the original report numbered 92; two-thirds of these had occurred between 1910 and the present time, corresponding with the period during which the indication for the operation had been very much extended.

He touched upon the anatomy of the completely healed scar, thin scar, and ruptured scar. There was no doubt that perfect healing led to complete muscular regeneration, with the result that under the microscope not a trace of scar tissue could be seen. The essential point in all the badly united scars was failure of the muscle-fibres. During pregnancy the scar became thin, and ultimately might come to consist of peritoneum outside and decidua inside, and between the two a layer of thin fibrous tissue. As to the frequency of rupture, no information had hitherto been available. There was a tradition in obstetric literature that rupture occurred in 2 per cent. of cases after Caesarean section, but that tradition could be traced to its source and there was no truth in it. Dr. Holland then gave the results of the collective investigation.

Some twenty-four hospitals and private obstetricians had contributed, and the totals were as follows:

Caesarean sections	1,582
Followed up	1 089
No subsequent pregnancy	610
Subsequent pregnancy	479
Delivered by natural passages	70
Repeated Caesarean section	326
Abortions	42
Pregnant now	91
Ruptured scar	18

An investigation was also made as to the suture material employed, and it was found that this was catgut in 713 cases and silk in 293.

The Glasgow Royal Maternity Hospital, for example, had been able to trace the subsequent obstetric history of 94 patients. Of these, 40 patients had not since become pregnant; 54 patients had become pregnant since operation, and 8 of them had conceived for a second time. There had thus been an opportunity of investigating the strength of the scar in 62 pregnancies. In 7 cases the pregnancy was not sufficiently far advanced to produce an appreciable strain on the scar. Of the remaining 55 cases, 2 patients were at present bearing the strain of eight months' gestation; 39 were delivered by abdominal Caesarean section after the onset of labour, and 7 similarly delivered before labour had set in; 3 cases terminated by normal labour, 1 by a breech labour, 1 as a forceps delivery, and 2 as craniotomies. In this series of 55 scars one rupture was to be recorded, one scar was on the point of rupture, and one dangerously thin. The conclusions from this one hospital report were that there was relative sterility following Caesarean section to the extent of 42.6 per cent., that abortion was relatively uncommon, only occurring in 5.3 per cent., that liability to rupture was present in 5.5 per cent., and that rupture actually occurred in 1.8 per cent.

Professor MUNRO KERR (Glasgow) discussed the subject under the following heads:

1. The evidence that the uterine scar in conservative Caesarean section was often unsatisfactory.
2. The reasons why the uterine scar was so often defective.
3. The means by which a better scar could be secured with an ordinary longitudinal incision.
4. An alternative incision which he considered preferable to the old longitudinal incision.

He believed that the scar was unsatisfactory because of the difficulty of securing complete asepsis; the autolysis which occurred in the uterine muscle fibres, during involution; the great difficulty in adjusting accurately the edges of the wound; the state of unrest of the uterus subsequent to operation; the difficulty of complete haemostasis; the spongy and friable condition of the tissues on the placental site when this was on the anterior wall of the uterus. He believed that a better scar would be secured if the patients could be properly prepared for the operation beforehand, and that the risk of infection would be less if the placenta were expressed through the vagina instead of being brought out through the uterine wound. He advocated suture in layers; personally he employed catgut for the deepest layers, linen thread or fine silk for the bulk of the muscle tissue, and catgut for the peritoneal surface. He thought it important to suture the uterus whilst it was in a state of retraction, not of contraction. He suggested an alternative incision—namely, a transverse incision in the lower uterine segment, and gave details of the procedure. The advantages he claimed for it were: (1) The comparatively slight bleeding incurred; (2) the uterine wall

was here thin and the edges of the wound therefore more easily adjusted; (3) this area of the uterine wall was at rest during the earlier days of the puerperium; (4) owing to the fact that the lower uterine segment was not fully stretched until labour was well advanced, the risk in subsequent pregnancies and labours was less than with the ordinary incision.

Dr. J. D. BARRIS said the subject under discussion was a vital one. If it could be proved that the scar was liable to rupture they must modify their attitude with regard to the classical conservative operation. The cases had been collected at St. Bartholomew's Hospital so as to include all those recorded up to July, 1919. The results were:

Total number of Caesarean sections (excluding sterilized cases), 81.
Number of cases traced, 48 (59 per cent.).
Number of cases in whom no subsequent pregnancy occurred, 20 (41 per cent.).
Number of cases who subsequently became pregnant, 28 (59 per cent.).
Results of pregnancies: Delivery by natural passages, 4; by repeated Caesarean section, 21; abortion, 1; non-pregnant, 1; rupture of scar, 0.
The method of suture employed was a buried interrupted silkworm gut. Caesarean section had been performed several times upon the same patient without untoward result.

He pointed out that the common factors in the 18 cases of rupture reported by Dr. Holland were the use of catgut in 15 cases and sepsis which occurred in about half. He considered there was justification for preferring the classical operation.

Dr. L. G. PHILLIPS said that, excluding sterilized and fatal cases, sixty Caesarean sections had been performed since 1912 at the Middlesex Hospital.

Of these 60 cases, 39 had remained sterile and 21 had subsequently become pregnant, of whom 14 had had repeated sections, 3 had had subsequent natural labours, 2 had had miscarriages, and 1 was pregnant at the present time. There had been 1 case of rupture of the scar. With regard to the condition of the scar in repeated sections, 4 cases had had three and 11 cases had had two repeated sections, making in all nineteen repeated sections. In 1 case only was the scar seen as a thin line; in the other 18 cases the scar was invisible and impalpable, and healing was apparently perfect.

An interesting feature was the anterior placental implantation in every case of repeated sections, though in the first sections the placenta was often posterior, and it had been maintained that implantation on the scar was harmful, through the trophoblastic action of the placenta or the liability to retro-placental haemorrhage. Dr. Phillips suggested that the reverse might be true, for a thick placenta might act as an internal splint to the scar, and tend to prevent thinning of the scar region in labour. Moreover, the uterine musculature of the scar region because of its apposition with the placenta would not be subjected to the same muscular strain in labour as the rest of the uterus. If this were not so, uterine retractions and contractions would lead to premature separation of the placenta, which was not common.

Of the 60 cases, 39 had remained sterile for from two to seven years, mostly three years or over, and, excluding cases where precautions had been taken, the percentage still worked out at 52. There was no indication that pyrexia in the puerperium was a causative factor, for 68.4 per cent. of the sterile cases had afebrile puerperium, while 27 per cent. of those subsequently pregnant had pyrexia in the puerperium. Age and parity appeared to have no influence, as half of the sterile cases were primiparae in the twenties. The frequency of recurring pregnancies with repeated Caesarean section indicated that the operation itself was not to blame; latent gonorrhoeal infection might play a part. Perhaps this sterility and delayed pregnancy represented Nature's attempt to allow time for consolidation of the scar.

Dr. AMAND ROUTH said that when, in 1910, he collected 1,282 cases of Caesarean section performed by over 100 obstetricians and gynaecologists then living, beginning with a Caesarean section performed by Dr. Lloyd Roberts in 1867, the risk of repeated Caesarean section in anticipated cases was briefly discussed, more particularly from the point of view of whether sterilization of the patient was justifiable or desirable.

In 1910 the mortality of Caesarean section for contracted pelvis in clean cases was under 3 per cent., and the risk of repeated Caesarean section in anticipated cases was even less, but fourteen out of the 100 operators advised sterilization to avoid the danger of rupture of the scar in subsequent pregnancies. In this century "not sterilized" operations had increased considerably, leading to more subsequent pregnancies and repeated Caesarean sections. Of 669 "not sterilized" cases of Caesarean section for contracted pelvis 112 cases had become pregnant. Of these 112 pregnancies 108 ended in repeated Caesarean sections (some more than once), and three had a subsequent rupture through the scar, a percentage of 2.6.

Dr. Routh thought, however, that there must have been many pregnancies and probably some more ruptures amongst the 354 "not sterilized" cases included in the last three and a half years of his series. To encourage perfect union, if the position of the placenta could be determined or surmised, the incision should be made elsewhere, especially in "unclean" cases. It seemed clear that transverse fundal incisions were not advisable, partly because the placenta often spread on to the fundus. Caesarean section should be performed at full term or at the earliest indication of labour, so as to secure perfect uterine retraction. Intrauterine sepsis was doubtless a cause of imperfect union of the incised muscles, especially if the incision had been made through the placental site. Sepsis, even with suppuration of the wound, did not necessarily prevent further pregnancies or repeated Caesarean section. As to sutures, in 1910 catgut was used for both deep and superficial sutures by twenty-seven operators, whilst forty-one used silk and eight silkworm gut.

Dr. CARLTON OLDFIELD said that he had been able to follow up 39 out of 41 cases operated upon by himself. Twenty-one had had no further pregnancies; this fact he believed was due mainly to dread of a subsequent operation. Nineteen had afterwards become pregnant; 3 were delivered through the natural passages; 11 had Caesarean section performed twice, and 1 three times.

Dr. HERBERT SPENCER, after expressing appreciation of the valuable papers by Dr. Holland and Professor Munro Kerr, regretted that the work had not been carried out on the same scale and general plan as that adopted by Dr. Routh. It was a pity that the series was not made continuous with Dr. Routh's, and that the cases in which the first operation was performed before 1912 were excluded. He (Dr. Spencer) had performed 66 Caesarean sections and 13 repeated Caesarean sections, and had never met with a case of ruptured scar; it ought not to occur in an aseptic case properly sutured. He regarded adhesions in an aseptic case as due to faulty technique.

Dr. BLAIR BELL held that failure of the uterine scar to heal firmly was due to sepsis. He believed that in the most definitely "suspect" cases an afebrile puerperium could be obtained by sterilization of the uterus and vagina with hypochlorite solution. A large gauze pack, saturated with this solution, undiluted, should be left in the uterus protruding through the cervix into the vagina, and removed when the patient had been put back to bed. The question of technique, however, was important. He preferred to make the incision as high up as possible in the uterus. He had operated in the way described by Professor Munro Kerr. This situation, however, might be unsuitable owing to the presence of a large venous plexus running across the utero-vesical pouch. For the closure of the wound he preferred mattress sutures of chromic catgut for the deeper part of the uterine muscle, the same stitch being carried over to bring together the superficial part of the muscle of the peritoneum.

Dr. FOTHERGILL said that investigations conducted by American obstetricians in recent years led to the conclusion that in the absence of obstruction, and when the recovery from the previous Caesarean section had been afebrile, the patient under skilled observation might be left to deliver herself. He thought the present discussion did not warrant any advance from this position. Too much stress seemed to have been laid upon the suture material. He had had equally good results with silk and various kinds of catgut, and now sewed up with anything the nurse gave him. Adhesions were avoided by making the abdominal incisions high up, so that when the uterus was emptied and sewn up, the two incisions should not lie opposite one another. He had always avoided cutting into the lower uterine segment owing to the proximity of the vagina and bladder, and because of the large venous structures around it; before adopting the procedure advocated by Dr. Munro Kerr he would like to have the results of a few hundred cases.

The discussion was continued by Dr. GOUGH, Dr. FLETCHER SHAW, Dr. BRIDE, Dr. CLIFFORD WHITE, and Dr. LAPTHORNE SMITH.

In reply, Dr. EARDLEY HOLLAND said that the most important point revealed in this collective investigation was the danger of catgut, and he hoped that those who used this material would renounce this dangerous practice. Professor MUNRO KERR said that time only would show which incision gave the soundest cicatrix. Perhaps in five or ten years' time he would be convinced that the incision in the lower uterine segment did not possess the advantages he now believed it to have. He was at present a little uncertain whether infection in the wound would be more likely to occur with this incision than with the classical longitudinal one.

ANNUAL OPHTHALMOLOGICAL CONGRESS.

THE annual congress of the Ophthalmological Society of the United Kingdom was held from April 29th to May 1st at the house of the Royal Society of Medicine, London. The president, Mr. J. B. STORY, of Belfast, in his opening address, of which an abstract was printed last week at p. 671, dealt with the position of ophthalmology in the curriculum of the medical student and in the final examinations.

The first morning of the meeting was devoted to the reading of papers. Amongst these were papers by Mr. Usher on "Enlarged cornea in fish with indications for the cause of the overgrowth"; a companion paper by Mr. Treacher Collins on "Megalo-cornea and micro-cornea." A paper by Mr. John Rowan, entitled, "Are not some cases of glaucoma better treated without operation, and, if so, what are the indications?" gave rise to a keen discussion, which showed that there is much room for critical observation of the progress of chronic glaucoma and the advisability of operating, and of the results of the various modes of operating. Other papers were read by Mr. Harrison Butler on "Infection after operations for cataract," by Mr. G. H. Pooley on "Abnormalities of the lacrymal apparatus," by Mr. Harvey Goldsmith on "Double traumatic dislocation of the lens," and by Mr. G. F. Alexander on "Operation for cataract and for squint."

In the afternoon a clinical meeting was held at the Royal London Ophthalmic Hospital (Moorfields), the features of which were an exhibition of "artificial daylight" and a most interesting archaeological disquisition on the neighbourhood of old Moorfields by Mr. Percy Flemming, illustrated with lantern slides and maps.

Friday morning was occupied by a discussion on "Diabetes in relation to diseases of the eye," opened by Sir Archibald Garrod and Mr. Foster Moore, followed by Dr. Leyton, Mr. G. Mackay, Dr. Poynton, Mr. P. H. Adams, Dr. Cammidge, Mr. Gray Clegg, Dr. C. O. Hawthorne, and others. The most striking point arising from the various papers was the difference in view of the ophthalmic surgeon and the physician. To the former the association of eye diseases with diabetes was a fairly frequent finding. To the physician, with his much greater number of cases of the general disease under observation, the connexion was a comparatively rare one.

The evening of the day was taken up by the reading of papers: Mr. H. M. Traquair on "Anatomically separate anterior commissure at the chiasma in a case of pituitary tumour with acromegaly"; Dr. Gordon Holmes on "Tumours involving the optic nerves and chiasma"; Mr. M. L. Hine on "Primary epithelioma of the ciliary body"; Mr. Ernest Clarke, "A further note on the accommodation of the eye"; Mr. Humphrey Neame, "Cysts of the retina"; Mr. William Wallace, "A glyptic method for the representation of certain conditions of the fundus in disease."

Saturday morning was occupied by a visit to St. Margaret's Hospital, Kentish Town, which has recently been established by the Metropolitan Asylums Board for the reception of infants infected with ophthalmia neonatorum and their mothers. A discussion on "The prevention and treatment of ophthalmia neonatorum" was opened by Dr. Gibbon FitzGibbon, Master of the Rotunda Hospital, and Mr. M. S. Mayou. A number of members of the Congress took part in the discussion.

Reviews.

MEDICAL ENTOMOLOGY.

THE first edition of Colonel ALCOCK's *Entomology for Medical Officers*[1] was published in 1911, and immediately established its position as an excellent introduction to the entomological borderland of medicine. A second edition has now appeared; it has been written and illustrated anew, but its aim has not been altered. Colonel Alcock has been guided by his experience as lecturer on entomology, etc., at the London School of Tropical Medicine, but the easy style in which it is written shows that he understands how much the usefulness of a book dealing even with a technical subject can be increased by attention to literary form. It is aptly said that ever since the days when Aaron stretched forth his rod and smote the land of Egypt with lice and flies Arthropoda have had an evil reputation as the source of some of the sharpest and readiest scourges of mankind. "A series of discoveries brilliantly initiated by Manson in 1879" have replaced vague surmise by precise knowledge, and the object of the handbook is to outline the range of the activities of the Arthropoda in the domain of human pathology, as parasites, as agents in spreading infection, and as aggressively or defensively venomous. This object is well fulfilled, and though many pages of the book are necessarily filled with details, the author does not hesitate when occasion offers to discuss the general principles of administration and to express his own opinion. As an illustration we may refer to what is said on p. 191 with regard to schemes for dealing with the tsetse flies. The sweeping extermination of wild animals upon which these flies naturally feed is declared to be not only insecure in its particular foundations, but "almost impious in its disregard of all the lessons of Nature." "We ought," the author writes, "now to have learned that though, after long experience and by gradual reconstruction of his whole environment, man may subdue organic Nature, yet any isolated blind strokes that merely 'deal damnation round the land' will not be overlooked by Nemesis." The book is addressed to medical officers whose circumstances or inclination take them to hot countries, but from the manner of its composition it will appeal to many others, who will find in the introduction to the book and to the several chapters much matter of absorbing interest.

THE ORTHOPAEDIC TREATMENT OF GUNSHOT INJURIES.

ORTHOPAEDICS is perhaps the branch of surgery which has received the biggest impetus as the outcome of the war. Civilian surgery is certain to benefit proportionately, for there can be no doubt that many surgeons have had their thoughts turned to the possibilities of orthopaedics in conditions hitherto regarded as outside their province, and have realized as never before the need for preventive surgery in deformities. It is therefore very proper that surgeons to whom the opportunities for orthopaedic work came should bring their opinions and experiences before their colleagues.

Dr. MAYER'S book, *The Orthopedic Treatment of Gunshot Injuries*,[2] is in no wise a treatise on the subject. He claims only that it is an attempt to help those (in the words of his dedication) striving to aid the cause of the crippled soldier, by presenting principles and rules of guidance that have been of value to himself. It is divided into two parts, according to the stage of treatment: at the front, and at the base hospital. Naturally, the second is the important one now.

In the treatment of bone injuries the author lays stress on the advantage of powerful extension, preferably with "bone-tongs" and heavy weights, on the prevention of joint stiffness in prolonged immobilization (pictures and description of mobilizing the knee while extension of the femur is maintained are shown), and on bone implantation in non-union of fractures. The operative skill demanded

[1] *Entomology for Medical Officers.* By A. Alcock, C.I.E., M.B., LL.D., F.R.S. Second edition, revised. London: Gurney and Jackson. 1920. (Demy 8vo, pp. xv+380; 197 figures. 18s. net.)

[2] *The Orthopedic Treatment of Gunshot Injuries.* By Leo. Mayer, A.M., M.D., Instructor in Orthopedic Surgery, New York Post-Graduate Medical School and Hospital. Philadelphia and London: W. B. Saunders Co. 1918. (Post 8vo, pp. 250; 184 figures. 12s. net.)

for implanting bone grafts is very considerable, and no surgeon should attempt these procedures without possessing practical ability as well as theoretical knowledge of the best kind of graft, its object and its fate. The author in this chapter goes a little out of his way to describe experiments, illustrated with some very beautiful pictures, to controvert the Macewen theory of the function of the periosteum.

In the chapter on treatment of nerve injuries the various methods of suturing nerve ends and bridging gaps are mentioned with sufficient detail to guide the reader. The author is exceedingly open-minded on the whole question and frankly says that "in nerve suture no one dare speak with authority." While not unmindful of the great value of posturing and transplanting methods, he claims sufficient success in a few cases for nerve grafting to justify its use. One cannot avoid comparing the conclusion of Sir Robert Jones on the matter, that only end-to-end suture, however brought about, should be attempted.

The best chapters in the book are the two last, dealing with tendon operations and the treatment of the amputated. Mayer argues strongly for a more thorough knowledge of the intimate anatomy of tendons and their sheath relations. Minute details are given for most of the commonly employed transplantations; as these are the result of the author's experience, they will be found of great value to the surgeon. The secret of a non-adhesive transplantation is to follow Biesalski's suggestion and draw the transplanted tendon through the sheath of the paralysed one. In the treatment of the amputated, personal sympathy and tactful encouragement play a great part, for here is a social as well as a surgical question. These qualities are plainly the possession of Dr. Meyer to a marked degree, for this whole section is most happily written and beautifully and plentifully illustrated. Indeed we would be glad if the public could have their eyes and minds opened through such a chapter to the possibilities of usefulness and pleasure in the lives of the maimed with practised management of artificial limbs.

We have sufficiently indicated the scope of this very commendable book; it is a valuable contribution to war surgical literature, and will amply repay the surgeon who looks to it for help and guidance.

GYNAECOLOGICAL SURGERY.

THE appearance of the second edition of BERKELEY and BONNEY'S *Gynaecological Surgery*[8] has been delayed for several years by the claims of the war upon the time of the writers. In the eight years that have elapsed since its first publication, however, gynaecological surgery has made several advances, and this new volume was needed. The text of the original has been revised and in many parts rewritten, and some hundred new figures have been added, which, we are particularly glad to note, retain the simplicity of those of the first edition and are each content to demonstrate one point. Only too often are figures of operations obscured by an attempt to illustrate two or more steps at once—a false economy.

The section on the plastic surgery of the vagina has been rewritten, and that on the treatment of displacements has been strengthened quite legitimately by the inclusion of a chapter on the normal supports of the genital canal, and on the various factors involved in different forms of displacement. Although more strictly pertaining to a textbook of gynaecology, this is so obviously and closely related to the selection of the proper method of operating in different cases that there will be no cavil at its inclusion in this book. Both the section in which myomectomy is discussed and that on radical abdominal hysterectomy for cancer of the cervix have been brought up to date in the light of the authors' further experience. The latter is a most interesting record, of which they may well be proud, though never satisfied. The discussion of the place and risks of this operation is still the best short consideration of the subject familiar to us.

A description of abdomino-perineal excision of the rectum has been included, in view of the possibility of gynaecologists having to deal with a carcinoma of the rectum or pelvic colon which has been mistaken for a tumour of the uterus or its appendages.

In every respect this book reflects the very highest credit upon its authors, and it will long continue to rank as the standard guide to gynaecological operative methods in this country and in the British Empire.

[8] *A Textbook of Gynaecological Surgery.* By Comyns Berkeley, M.D., F.R.C.P., and Victor Bonney, M.S., M.D., F.R.C.S. Second edition. London: Cassell and Co., Ltd. 1920. (Med. 8vo, pp. xii + 829; 489 figures, 16 coloured plates. 42s. net.)

NOTES ON BOOKS.

A CORDIAL welcome is assured to the fifth edition of Dr. FERGUSON'S handy little *Aids to the Mathematics of Hygiene.*[4] Anyone who has had to struggle with the formulae, etc., encountered in the course of preparation for any D.P.H. examination will find here all the help he needs clearly and concisely set forth. This work has been thoroughly revised, and the new method of recording barometrical observations is introduced, and also an estimation of the calorific values of foods. Examples and illustrations taken from papers set by the various examining bodies are included, and will prove a valuable guide to candidates preparing for such examinations. Considerable service is rendered by the author in thus collecting and explaining with admirable clearness and brevity the many formulae and mathematical processes employed in public health work, too often found scattered at large throughout the textbooks and lightly dismissed as presenting no difficulties to the advanced student, who may, however, have ceased to have any facility in mathematics.

No better book than Dr. BARDSWELL'S *Advice to Consumptives*[5] could be offered to convalescent patients with pulmonary tuberculosis in this country. Beginning with a short account of the disease itself, it goes on with chapters devoted to such subjects as fresh air, food, rest and exercise, occupation, emigration, and the like. It gives plenty of sound and sensible advice; perhaps its most useful section is that dealing with emigration to various parts of Africa, North America, and Australia, in which the general advantages and limitations imposed by nature and humanity on the emigrant are discussed at length and with much special knowledge. The book is well written, and may be warmly commended.

The small book on the *Change of Life: its Difficulties and Dangers*,[6] by Mrs. SCHARLIEB, M.D., is a practical guide that should be of great use to women confronted with the problems with which it deals, and may be warmly recommended to the attention of middle-aged laywomen. A more ambitious work, dealing with the same subject for the most part, but also touching on other analogous problems that have to be solved by men and women of other ages, is Mr. GALLICHAN'S *The Critical Age of Woman.*[7] Both volumes contain a quantity of common-sense instruction and advice.

[4] *Aids to the Mathematics of Hygiene.* Fifth edition. By R. Bruce Ferguson, M.A., M.D., B.C.Cantab., D.P.H.Eng. London: Baillière, Tindall, and Cox. 1919. (Fcap. 8vo, pp. xii + 186. 3s. 6d. net.)

[5] *Advice to Consumptives. Home Treatment, After-Care, and Prevention.* By Noel Dean Bardswell, M.V.O., M.D., F.R.C.P. Second edition. London: A. and C. Black, Ltd. 1920. (Cr. 8vo, pp. xvi + 153. 3s 6d. net.)

[6] *Change of Life: its Difficulties and Dangers.* By Dr. Mary Scharlieb. London: The Scientific Press, Ltd. 1919. (3¾ × 5¼, pp. 126. 1s. 3d net.)

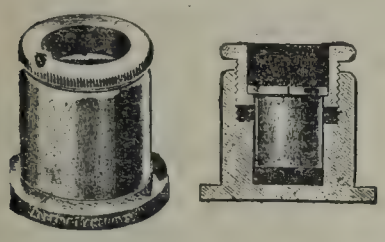
[7] *The Critical Age of Woman.* By Walter M. Gallichan. London: T. Werner Laurie, Ltd. 1920. (Cr. 8vo, pp. 160. 6s. net.)

APPLIANCES AND PREPARATIONS.

Sedimenting Cell for Microscopical Examination of Cerebro-spinal and other Fluids.

DR. FRANK C. EVE (Hull) has devised a mechanical cell, shown in the accompanying illustrations, to render it possible to scrutinize every bacillus contained in a column of cerebro-spinal fluid 1 cm. in depth. A cover-glass (not too fragile) is placed at the bottom of the cell, which is then filled to the brim with cerebro-spinal fluid. If tuberculous meningitis is suspected the fluid must be fresh, because a fine clot may quickly form in that disease. After an hour or two the cells and cocci will have sunk through the 1 cm. of fluid and will be lying on the cover-glass. The supernatant fluid is got rid of without disturbing them or the clot by gently unscrewing the milled head. This causes the floor of the cell to rise, creating a vacuum beneath it. Hence, provided the screw is airtight (a trace of vaseline on the thread ensures this), the fluid must retire through the little channels provided into the well below the cell. This leaves the cover-glass free of fluid. A few more turns of the screw and the cell becomes detached from the base. The cell is placed in front of the

fire and its wall will drop by its own weight, leaving the cover-glass on a little altar of brass, where it quickly dries. The ordinary routine is then followed of fixing by gentle heat in a flame and then briefly in absolute alcohol. In staining no heat should be applied to the stains, lest some cells be washed off. In collecting the fluid the first blood-stained portion should be rejected. If the cerebro-spinal pressure exceeds 12 in. by my cerebro-spinal manometer (Messrs. Allen and Hanburys), meningitis, or tumour, or abscess is almost certainly present. If a *quantitative* measure of the number of cells is required a one-sixth objective is used, a Thoma-Zeiss counting chamber placed beneath it, and the tube of the microscope moved till the circular field coincides in breadth with four of the smallest squares—that is, 4/20 mm. Then the area of the microscope field will be $\pi \times 2/20 \times 2/20$—that is, 3/100 square millimetre, and the volume of fluid will be 3/10 cubic millimetre, which originally contained the cells now visible in each field of the microscope.



Half scale. Section.

Even if the cells are not counted, by the regular use of this apparatus a quantitative impression of the number of cells is obtained and they are quite evenly spread. In tuberculous meningitis a spider-web clot often forms which entangles the tubercle bacilli, and any one who has tried knows that when an attempt is made to spread out this clot thinly it inevitably ravels into a tangled mass which cannot be scrutinized microscopically. If this apparatus be used, a tubercle bacillus cannot hide. If the whole of a cover-glass 1 cm. square was systematically searched with a mechanical stage, the report, instead of the usual "No T.B.s present," would read: "Absence of tubercle bacilli can be guaranteed in the thousand cubic millimetres of fluid searched." If the cerebro-spinal fluid looks turbid to the naked eye, it will need dilution before using the instrument. For microscoping urines this apparatus is better than the centrifuge if two hours' delay does not matter. Messrs. Allen and Hanburys supply the instrument as here described; also the earlier model shown at the Neurological Society, the design and action of which is more self-evident. My thanks are due to my engineering friend, Mr. F. M. C. Lewis, for the excellent design.

Nujol.

A sample of nujol, made by the Standard Oil Company, New Jersey, U.S.A., has been examined; it is found to be a pure liquid paraffin, having a specific gravity of 0.883 at 15.5° C., and complying with all the requirements of the *British Pharmacopoeia*, 1914, for liquid paraffin.

THE LISTER INSTITUTE.

THE Report of the Governing Body presented to the annual general meeting of the Lister Institute of Preventive Medicine, Chelsea, on May 12th, showed that in many directions the Institute was resuming its civil work, which had been interrupted by the war. Upwards of thirty original papers have been published during the year from the laboratories of the Institute. The output of scientific work would no doubt have been still greater but for three circumstances: first, the diminished regular staff, especially in the bacteriological department; secondly, the various readjustments necessary; and thirdly and chiefly, the scarcity of research workers. For the five years of the war the supply of young men suitably trained and willing to devote a few years to medical research work was seriously curtailed, and those who have worked in the Institute have gone there rather to learn methods of investigation than to engage in research. In this way the Institute has given much useful post-graduate instruction, particularly to Colonial officers who have served in the war, but the actual return for this labour is not yet. Amongst the subjects investigated were the following:

Rickettsia Bodies in Trench Fever and Typhus.

Dr. Arkwright and Mr. Bacot have continued their observations on the small micro-organisms found in the intestines and faeces of lice some time after feeding upon a patient suffering from trench fever; the organisms conformed to the description given by Ricketts of those found by him in ticks fed upon Rocky Mountain fever and by Ricketts and Wilder in lice fed upon typhus patients. Mr. Bacot has confirmed the opinion that in the case of trench fever the Rickettsia bodies do not occur in lice unless they have had a meal of blood from a patient suffering from the disease. In eight to twelve days after the meal, the time varying with the temperature at which the lice are kept but falling within the period at which the lice are known to become infective, immense numbers of the bodies are found in the stomach, but not in sections of any other part of the insect. Dr. Ledingham, on his return from war service, was invited to assist the War Office Trench Fever Committee, and gave attention chiefly to the transmissibility of the virus to laboratory animals; some indications that this occurred were obtained, but actual proof was not reached. In the course of his work Dr. Ledingham established the fact that the Rickettsia bodies are agglutinated in a manner similar to bacteria in general by the serums of immunized animals. The reaction would be of great assistance in further studies should opportunity occur. Trench fever, however, has virtually disappeared, but Mr. Bacot has gone to Poland to make use of the knowledge acquired about trench fever in an investigation into the etiology of typhus fever under the auspices of the League of Red Cross Societies.

Bacterial Variation.

Dr. Arkwright has also been studying problems in bacterial variation, and has found that cultures of dysentery bacilli, and probably other organisms of the great coli-typhoid group which agglutinate quite uniformly with the respective immune serum when tested in the mass, may as the result of examination of individual colonies be found to consist of two types of organisms, the one reacting like the parent mass, the other possessing little or no serological affinity. This observation will have to be reckoned with in connexion with modern attempts to classify bacteria on serological grounds.

Accessory Food Factors.

Much of the work in the department of biochemistry was a continuation of the programme of experiments on accessory food factors. Reasons have been found for supposing that rickets and xerophthalmia in children and osteomalacia in adults may be due to deficiency of the "fat-soluble A" factor in the diet. Experiments with the fat-soluble factor have hitherto been rendered somewhat indecisive owing to the necessity of administering it with the fat in which it occurs. Dr. Zilva proposes to avoid this source of uncertainty by employing an alcoholic extract of green leaves and carrot, both of which contain the factor in considerable amount. Endeavours are also being made to isolate the active principles responsible for the actions of both the fat-soluble and the antiscorbutic substance. An estimate has been made of the antiscorbutic requirements of the monkey, and it has been found that that animal requires the same absolute amount of orange juice to prevent the onset of scurvy as the guinea-pig, an animal about one-eighth its weight; the time of onset of the disease is, however, very different, being about three weeks in the guinea-pig and two months in the monkey. It is added that clinical experience as to the amount of orange juice that must be administered daily to a child to obviate scurvy, when the diet is otherwise devoid of antiscorbutic power, tends to show that the requirements of the human organism in this respect are probably much nearer to those of the monkey than those of the guinea-pig. Dr. Robison has found that orange juice can be reduced to a dry residue by rapid evaporation at a low temperature without suffering appreciable loss of its antiscorbutic power, and that the residue still contains a considerable degree of potency after storage for two years in the dry condition. It is considered that the preparation on a commercial scale of dried fruit juices of high antiscorbutic power is quite practicable. Dr. Zilva is making some experiments to test the general belief that a deficiency of diet renders the subject more liable to disease; animals are being kept on diets deficient in definite constituents and their susceptibility tested by their capacity to produce agglutinins and other antibodies in response to immunization, as well as by direct infection.

Diseases due to deficiency of accessory food factors have been studied also in the Department of Experimental

Pathology. Experiments have been made to ascertain the amount of antiscorbutic substance in various foodstuffs; they have involved hundreds of observations, each extending from three to six months; the results are expressed in the following table, in which the average value of one gram of lemon juice is taken as 100:

Fresh lemon juice	100	Carrot juice	7
Fresh orange juice	100	Beet juice	7
Fresh cabbage juice ...	100	Potato, boiled 30 mins. ...	7
Ripe onion	100	Tamarind	7
Fresh swede juice	60	Coccum	7
Fresh turnip juice	60	Mango	7
Green French beans, uncooked	30	Grape juice	5
Germinated peas	30	Fresh cow's milk ...	1 to 1.5
		Dried cow's milk	less than 0.5

The influence of heating and drying was tested in the same way in the case of cabbage, fresh juices, and milk. The drying of vegetables even at a low temperature reduced their antiscorbutic value to 10 per cent. or less of the original. The factor is much more stable in acid fruit juices. It will be noticed from the table that dried milk was found to possess less than half the antiscorbutic value of fresh milk; a monkey on a maximum diet of dried milk developed acute scurvy, and was cured by the same quantity of fresh milk—a result of obvious import for infant feeding.

An experiment on the etiology of pellagra was made by Dr. Harriette Chick and Miss Hume. Monkeys were fed on a diet complete in every respect, save that the protein, which was derived from maize, was not of good biologic value. All the animals gradually lost in weight and became very weak. One of them developed cutaneous lesions strikingly like those of pellagra in the human subject, and two others patches of dermatitis of the same nature. The loss of weight was stayed by the daily addition of tryptophane and diamino acids, but otherwise no improvement was noticed. In the case with the severe skin lesions a dramatic cure was brought about directly casein was added to the diet.

Antitoxic Serums.

Experiments to ascertain whether antitoxic serum saturated with sodium chloride would prove sufficiently stable to be used as a standard antitoxin have given encouraging results. Diphtheria and tetanus antitoxins so treated have retained their original potency during twelve months, and proved as stable as the standard serums sent out by the Hygienic Laboratory, U.S. Public Health Service, Washington. Samples of the brined serums have been sent to that laboratory with a request that they may be compared with the standard serums. Brined antidysentery serum is being studied from the same point of view, and the possibility of using the method for vaccines is also being tested. Large quantities of various antitoxins and serums were supplied to the military and naval authorities during the year ending March 31st, 1920, and over one million and a half cubic centimetres of influenza vaccine have been supplied to the Ministry of Health.

Antivariolous Vaccine.

Some progress has been made in the study of the cultivation and identification of the specific organism of vaccinia. The experiments indicate that that organism can be propagated, although when cultivated under artificial conditions it ceases to be capable of producing its specific effect. Observations showing that certain animal products are specially congenial to the virus will encourage further research in this direction. The bulk of the antivariolous lymph produced is supplied to Crown colonies, mostly to tropical Africa. The satisfactory reports received from medical officers in Africa prove that the Institute has been successful in producing a vaccine which, even after transport and retention in a tropical climate, retains sufficient potency for successful vaccination.

Research Hospital.

Last year the members of the Institute decided that its constitution should be extended so as to make it possible to establish and maintain a residential hospital. The legal advisers were not satisfied that the resolution then adopted was correctly drawn; consequently at the meeting on May 12th a resolution embodying the principle in terms drafted by the lawyers was presented and adopted by the annual meeting and by an extraordinary general meeting. It will be submitted to a second extraordinary general meeting on May 26th. In taking this step the Institute is following the precedent of the Pasteur Institute in Paris and the Rockefeller Institute in New York. The progress of medical research has proved that the divorce of the laboratory from clinical work is disadvantageous. The ordinary funds of the Institute cannot be used for the establishment of a hospital, but a site is available, and we do not doubt that the appeal which the Institute will issue for a special fund will be generously supported.

VOLUNTARY HOSPITALS:

RESULTS OF A PRELIMINARY SURVEY.

BY

SIR E. NAPIER BURNETT, K.B.E., M.D.,

DIRECTOR OF HOSPITAL SERVICES, JOINT COUNCIL OF THE BRITISH RED CROSS SOCIETY AND THE ORDER OF ST. JOHN.

LAST week a summary of the principal results of the survey recently carried out by the Joint Council of the British Red Cross Society and the Order of St. John was published in the BRITISH MEDICAL JOURNAL. It will, I believe, be interesting to the medical profession to set out some of these results again and to point to some of the conclusions which may be drawn from them. The object of the survey was to obtain some indications, first, of the volume of work done by the hospitals during the year 1919, and secondly, of their present financial position. The voluntary hospitals in London were not included in the survey, but 550 hospitals (approximately 78 per cent. of the voluntary civil hospitals) throughout England and Wales were included. The hospitals dealt with included: (*a*) 82 general hospitals of 100 beds or over, providing together 15,958 beds; (*b*) 87 hospitals of 30 to 100 beds, providing 4,724 beds; (*c*) 240 small or cottage hospitals, providing 3,355 beds; and (*d*) 98 special hospitals, providing 5,784 beds. The special hospitals included twelve maternity hospitals.

SUMMARY OF RESULTS.

A. *Volume of Work Done.*

Of the 550 hospitals reviewed—
- 507 hospitals have 29,821 available beds.
- 498 hospitals treated 359,459 in-patients during the year.
- 376 hospitals treated 1,600,869 out-patients during the year.
- 296 hospitals with 23,621 beds had a daily average occupation of 18,705.36 beds—79 per cent.
- 374 hospitals show 219,196 surgical operations during the year.
- 68 hospitals give figures showing the nature of cases treated—namely:
  - Medical cases ... 7,034 = 21 per cent. of total.
  - Surgical cases ... 26,466 = 79 ,, ,,

B. *Financial Position.*

543 hospitals show ordinary income...	£2,835,269
543 hospitals show ordinary expenditure	£3,310,896
Excess of expenditure over income	£475,627

Some Details of Ordinary Income.

316 hospitals show as workmen's contributions, direct or through Saturday Fund	£451,426
464 hospitals show as patients' contributions ...	£214,570
248 hospitals show as public services (for example, War Office, Pensions Ministry, Borough or County Councils)	£517,890
512 hospitals show as interest from investments ...	£423,044
The total from these four sources ... ... (56.67 per cent. of ordinary income).	£1,606,930

Of these 543 hospital accounts analysed—

449 hospitals show invested capital amounting to ...	£9,585,865
Yielding annual interest	£340,529

- 65 hospitals show £33,706 as annual interest, but show no capital.
- 28 hospitals show no capital or interest.

Depreciation of Invested Funds.

9 hospitals show invested capital amounting to ...	£306,956
Market value at end of 1919	£248 199
Depreciation in value	£58,757

This last item is given in answer to a criticism that the hospitals in their present financial difficulty should realize some of their capital. Some few hospitals have actually been obliged to take this course, but only very few. The figures indicate that the hospitals cannot afford to unload their stock in the present state of the market.

Owing to differences in the manner of recording their results it has not been found possible to make an estimate of the average annual cost of each occupied bed, nor of the average length of stay in hospital of each in-patient. The figures from 296 hospitals show that 79 per cent. of

the beds were occupied daily; the difference (21 per cent.) of beds not in actual occupation daily is not high. It will be noted that returns from 374 hospitals show that over 200,000 surgical operations were performed during the year. An examination of the returns of 68 hospitals shows that the medical cases constitute 21 per cent. and surgical cases 79 per cent. of the total. While admitting that medical cases on the average remain probably twice as long, yet this ratio appears to indicate that medical cases are gradually being squeezed out of the hospitals. This conclusion is supported by remarks made in the annual report of several hospitals. Looking at the figures in a general way, and making an allowance for hospitals not included in the survey, it would appear that the voluntary hospitals are supplying beds in the proportion of about 1 to 1,000 of population. In my opinion this is inadequate, and the provision ought to be, in industrial areas, 3 to 1,000 of population, and in rural areas 1 or 1.5 to 1,000.

From the financial particulars given it will be seen that the deficit was about one-seventh of the total ordinary expenditure. The financial difficulties from which many of the voluntary hospitals throughout the country are known to be suffering are due to increased expenditure and diminished income.

The expenditure of hospitals is increased by the higher cost of foodstuffs, drugs, surgical dressings, and hospital furnishings; by the increased cost of labour and of materials for cleaning, repairs, and alterations; and by the increase in salaries and wages, including the larger staff needed to meet the requirements of nurses and other employees for shorter hours. In addition to these causes, common to almost all undertakings at the present time, there is the fact that the number of patients treated has largely increased; many more people are now using the hospitals than formerly; they no longer look upon them with dread as places to die in, but as healing houses where the best nursing and medical skill can be obtained to restore them to life and activity.

The diminished income is due, first, to diminished subscriptions; secondly, to depreciation in invested funds; and thirdly, to the fact that the hospitals no longer receive the capitation grant from the War Office for the military patients they did so much for during the war. The beds which were occupied by the paying military patients are to-day occupied by non-paying patients, so that some hospital committees are considering whether they must not restrict the usefulness to the public of their institutions by closing certain wards.

To prevent such a catastrophe the Joint Council of the British Red Cross Society and the Order of St. John desires to offer voluntary hospitals assistance, financial or other.

The Survey figures show that for 543 hospitals the excess of ordinary expenditure over ordinary income during 1919 was £475,627—that is to say, that for all the provincial voluntary hospitals the deficit on the year's working was approximately £600,000, a sum probably much below what had generally been supposed.

These figures, however, do not fully represent the true situation. In view of the extra cost of labour and materials many hospitals have refrained from carrying out the necessary repairs, alterations, and improvements that have fallen into arrears since the beginning of the war. Further, many have been "carrying on" with plant much of which is out of date. For instance, in some cases new laboratory provision is needed, and new *x*-ray plant, fresh operating theatre and appliances are necessary to bring them up to the standard of modern requirements. Especially the larger hospitals—groups (*a*) and (*b*)—are faced with increased expenditure in providing additional accommodation for an enlarged nursing staff. In fact, this is one of the most pressing problems confronting many of these hospitals. Again, there is the necessary expenditure for increasing the accommodation for patients.

It has become of late almost impossible for one to speak on this question of hospital finance without being confronted with the question, Are you in favour of the hospitals being nationalized, or do you favour the voluntary principle? I do not regard it as altogether unfortunate that this important subject of hospital service has become a matter of discussion between those holding opposite views, for both are seeking doubtless for a more efficient service in the healing of the people and the general welfare of the State. My own impression is that the controversy is likely to end in the old-fashioned British way of compromise. There is room and need for both State aid and voluntary service. From the standpoint of finance I suggest that the voluntary principle has failed to meet the needs of the present situation, owing not to any fault in the principle as such but to the methods of its application. The voluntary principle of finance operating in many of our hospitals belongs to the nineteenth century, and has failed to adapt itself to the situation of to-day. If the voluntary methods are brought up to date, I have no doubt they will go a long way in the maintenance of our hospital system. Illustrative of the former methods, one hospital secretary informs me despairingly that his committee recently issued through the post 25,000 copies of an appeal for funds in support of the large hospital in the town, with the result that the annual subscriptions were increased by £50 and some £500 was received in donations. Now let me give two instances of more recent methods. One secretary writes:

> You may be interested to hear that considerable progress has been made by the committee in connexion with their appeal for funds. With only two exceptions up to the present, all the men in the large works in the town have agreed to contribute for a period of three years the sum of 1d. in the £ earned per week, and an effort is now being made to induce the employers of labour of all kinds to contribute £1 per man over the same period, and I am glad to say there is good prospect of many of them doing so.

At another hospital the report is:

> The Workpeople's Hospital Fund, which is entirely organized by the workpeople of the city, have made great efforts to induce their members to double their subscriptions at least, and to subscribe twopence per week instead of a penny, and although the scheme has only been in work for a small portion of the year, it has resulted in an increase of the funds at their disposal for the benefit of the medical charities making their grant to this one hospital of £11,500 for the year. Following on these lines a scheme is also being launched to give the employers of the city the opportunity of bearing their share in the expense of this hospital and the other charities. Under this scheme the employers make a voluntary levy upon themselves of 2s. per annum per employee (less than one halfpenny a week). So far the scheme has met with universal support, and this hospital's share will amount to £10,000 or £12,000 a year.
>
> One well-known business firm has made an interesting offer to the local hospital—namely, to defray the actual cost of in-patient treatment of any of their employees and dependants, based on the cost of the previous hospital year.

In these examples I suggest that we have a more satisfactory basis of hospital support than has hitherto obtained.

Paying Patients.

A number of the provincial hospitals now provide private wards for the treatment of paying patients, more particularly the small or cottage hospital group. Comparatively few of group (*a*)—the largest type of hospital—have yet adopted this idea, but many admit that they are now considering the advisability of doing so. As soon as the public knows that in the general hospital there is accommodation for those who can afford to pay modified fees, in addition to the free beds, then I suggest that to the patients themselves may be left the choice between free and paying bed. The basis of money distribution has altered considerably since pre-war days, and hospital provision might quite well accommodate itself to the altered circumstances.

State Aid.

One of the chief functions of the Ministry of Health is to endeavour to co-ordinate the various agencies at work in the country seeking for the prevention and cure of disease. In no branch is this co-ordination more needed than in the voluntary hospital system. Each hospital to-day is an isolated unit working on its own, with comparatively little knowledge of what other hospitals are doing; and whatever be the extent of State assistance to the voluntary hospitals, I suggest that it might be accompanied by some attempt at co-ordinating the work of these institutions, leaving the management in the hands of those voluntary committees who have rendered such excellent service in the cause of the sick and suffering, and who know the local needs of their districts.

Hospitals Associated with Medical Schools.

Of the five groups of hospitals set out in the survey it will be seen that group (*a*)—the largest hospitals—show an

excess of ordinary expenditure over ordinary income for the year of £355.685. In that group of eighty-two hospitals are included fifteen hospitals attached to medical schools. The figures are as follows:

Number of school hospitals	15
Number of beds	4,791
Average number of beds to each hospital ...	319.46
Total ordinary income	£490,934
Total ordinary expenditure	£688,174
Excess of expenditure over income	£197,240

In London the medical schools and their hospitals are under the same management or authority, whereas in the provinces the medical school and the hospital are separate institutions, and administered by entirely different authorities. The Board of Education gives annual grants to the medical schools, but not to the associated hospitals, which provide the facilities for the clinical training of the medical student. These hospitals, I suggest, are important national outposts, and in the interests of the training of the future medical practitioners of the country merit some special consideration from the State.

The Demand for More Beds.

The statements made by so many voluntary hospitals as to the crowded condition of the available accommodation, and the number of patients waiting for admission, taken in conjunction with the fact that 296 hospitals, with 23,621 beds, had an average daily occupation of 18,705 (79 per cent.), indicate that the present available accommodation in the voluntary civil hospitals is not adequately meeting the needs of the people.

The pressure is undoubtedly greater in some localities than in others, and I suggest that it is sufficiently widespread and acute as to justify the need for an official inquiry on a broader and more detailed basis than that of the present survey. Such an inquiry should be undertaken by some commission visiting the more important areas and ascertaining on the spot the actual requirements, and how best they could be met. This should be undertaken before the hospitals launch the new building schemes they now have in contemplation, and also before the Government finally decides on its hospital policy.

Apart altogether from the unalleviated personal suffering, I suggest that these waiting lists have an economic importance to the State in that so many men and women have idleness and unemployment compulsorily thrust upon them.

How is the Demand to be Met?

Two questions arise with regard to the demand for more hospital beds:

First, are the present hospital beds being put to their best use? I suggest that the voluntary hospitals, instead of seeking continually to enlarge their capacity, might seriously consider the problem from another angle—namely, how to accelerate the discharge of their patients and thus make room for those on the "waiting list." I admit that to-day many patients are discharged too soon, to return to their homes, with the result that sometimes the cure begun in hospital remains uncompleted in the home and the patient's name reappears on the "waiting list." They should return to their homes by way of the convalescent hospital. Undoubtedly additional hospital provision is needed in many localities, but the suggestion is worthy of consideration before large and expensive building schemes are entered upon. Throughout the country there are to-day some 12,000 convalescent beds under the control of a large number of private associations. Of these beds, only some 2,200 are directly affiliated to the voluntary hospitals.

Further, in many hospitals there is quite a number of chronic patients never again likely to be fit for active duty who are occupying beds. They might be transferred to other institutions specially reserved for this class of case.

The second question is, Are we as a nation to continue for all time building more and more hospitals? Is there to be no attempt made to lessen the demand for and the need of these expensive institutions? There are thousands of people who might be prevented from graduating as in-patients of hospitals if in the early stages of their illnesses they were prescribed a fortnight's residence in a convalescent home in the country. Every doctor practising in industrial and manufacturing communities realizes how true that statement is. How often he is at a loss to know what to do for a patient not responding to medicine and yet not sufficiently ill to be admitted to hospital. These are patients showing the beginnings of disease; and instead of allowing them to continue their work in the factory or shop, for which they are temporarily unfitted, they ought to be sent to the convalescent home for a short period, and thus short-circuit them from becoming hospital patients.

Our policy in dealing with disease is so often "too late," that I put forward a plea for the establishment of pre-hospital convalescent homes for the arrest of these early phases of disease, and thus lessen the ever-growing demand for more and more hospitals. Birmingham has this idea already in operation for pensioners in the form of a chain of convalescent institutions scattered along the Welsh coast.

These homes might be associated with the local municipalities, under the guidance and direction of the public health committees, whose main function is prevention rather than the cure of disease. Such institutions should operate in close association with the out-patient departments of the local hospitals. If the medical officers in attendance could be provided with a wider outlet for their treatments in the direction of convalescent homes, the pressure on the hospital beds would be relieved.

Scarcity of Nurses.

I was somewhat surprised to find how widespread was the shortage of nurses at the hospitals, both large and small. Among the larger hospitals comparatively few stated that they had a sufficient number to select their probationers from. The greater number of hospitals indicate not only a deficient supply, but also that the general standard of the applicants was not of a high order, whereas both quality and quantity were complained of in the smaller hospitals.

There is a shortage of probationer nurses, and this is a question of some national concern, for the great majority of the nurses trained in our hospitals in due course pass into the service of the general community, so that the diminished supply of probationer nurses in the hospitals to-day will, in three years' time, reveal itself in a shortage of nurses for the private household.

I submit the following reasons in explanation of the present falling off in the supply of hospital nurses—namely:

1. The inducements offered in other professions. For example, a woman may become a trained masseuse in about a third of the time required to qualify as a nurse, and receive about double the salary. A stenographer can earn from £150 to £200 per annum after twelve months' training.
2. Health visitors and the school medical service, and even the medical profession itself, are now absorbing a considerable number of women who have either trained as nurses or who would have been eligible for the nursing profession.
3. A spirit of revolt against the long hours of drudgery in ward work and the low rates of pay that have hitherto obtained in this profession.
4. A neglect on the part of the hospital authorities or of the community in which the hospital is located to offer facilities for the social welfare and general training of the nurses. Plenty of time and energy as a rule are expended on the professional side of her training, but far too little has been attempted in the way of providing opportunities for the more general development of the nurse's life.

Further, in view of the national aspect of this question, I suggest that the Ministry of Health or Board of Education might supply money grants to hospitals for the training of nurses, as is now done in the case of lying-in institutions. Such grants might be apportioned in part to the hospital and in part supplementing the nurse's salary. In this way it would be possible for the central authority to exercise some control over the general standard of training, which varies greatly in different institutions.

The nursing difficulty in the case of the small hospitals is in large measure due to the number of beds being below the standard required for a hospital to be recognized as a training school for nurses granting the requisite certificates. Obviously a probationer will select a hospital for her training that is in a position to grant her the authorized certificates.

In order to overcome this difficulty some of the smaller hospitals are making arrangements with the nearest large hospital to share in the training of probationer nurses. Further, the local Red Cross associations are prepared to recommend V.A.D. members for part-time service in these smaller hospitals.

British Medical Journal.

SATURDAY, MAY 22ND, 1920.

THE HOSPITAL SURVEY.

THE account which Sir Napier Burnett gives in this issue (p. 710) of the preliminary results of the survey of voluntary hospitals which he has carried out for the Joint Council of the British Red Cross Society and the Order of St. John will be read with much interest, and may serve as a prelude to the account which we expect to be able to give in our next issue of the interim report on the organization of the medical services of the country which the Medical Consultative Council of the Ministry of Health has prepared. The survey is concerned with the work done by the voluntary hospitals throughout England and Wales, excluding London, and with their financial position. The survey extended to 550 voluntary hospitals in the fifty-five counties of England and Wales; this is 78 per cent. of the whole number. The information obtained was not uniform, being far more complete in the case of some hospitals than of others. On most of the main points, however, the figures are sufficiently complete to justify certain conclusions.

The first point that emerges is that 507 hospitals provided nearly 30,000 beds, so that the total number of beds in voluntary hospitals must be well over this amount. The return as to hospital accommodation in England and Wales, prepared by the Local Government Board[1] and published in June, 1915, showed, in round numbers, 33,500 beds in the general and special hospitals, excluding London. The results of the two investigations are therefore concordant, and would appear to indicate that the provision of beds in voluntary hospitals is in the proportion of rather over one bed to 1,000 of population. The Local Government Board return showed that there were in the Poor Law infirmaries, including sick wards at workhouses, 94,000 beds (74,000 outside London) and 39,121 in fever and small-pox hospitals (30,367 outside London). The total number of beds in hospitals of all sorts and in Poor Law infirmaries in the whole country was 178,525, or 4.9 beds to 1,000 population; but the beds in fever and small-pox hospitals should be omitted in order to obtain a correct view of the situation; when this is done the proportion of beds to population is reduced to about 3.5 to 1,000 population. Sir Napier Burnett expresses the opinion that the proportion ought to be, in industrial areas 3 beds to 1,000 of population, and in rural areas 1 or 1.5 to 1,000 of population.

The results of his survey, taken together with the facts given in the Local Government Board return, show how important a part Poor Law infirmaries can be made to play in the provision of hospital accommodation and how nearly, to a rough estimate, the total number of beds which would be made available by their inclusion approaches the proportion which he considers necessary. A deduction must, however, be made in respect of the sick wards at workhouses, which, in many instances, do not come up to hospital standard. The reform of the Poor Law is promised and cannot be long delayed; the London County Council last year expressed the view that the health functions of the Poor Law authorities should be divided between the council and the borough councils, and proposed that a central council of London hospitals should be formed, having a large voluntary representation but containing members nominated by the County Council and the Ministry of Health. It laid down also the principle that, except for public services dealing with environmental conditions, public authorities in providing medical treatment should recognize the principle that the cost of such treatment should be borne to the extent of his ability by the person treated or by a fund like the insurance fund, made up mainly by the contributions of employers and employed. In replying to a deputation from the London County Council on April 23rd the Minister of Health said that it would not be possible to split up hospital supervision and that the main principles governing the Council's recommendations were unassailable.

The results of the survey on the financial side are, as its author indicates, rather surprising; the deficit on the year's working (1919) of the provincial voluntary hospitals is estimated at approximately £600,000, an amount equal to about one-seventh of the total ordinary expenditure, a proportion probably, as he says, much below what had been generally supposed. The facts, however, are not so satisfactory as might be concluded from this generalization, for repairs, alterations, and improvements which have been accumulating since the beginning of the war will now have to be carried out, new apparatus must be provided, and increased expenditure will be incurred by the employment of a larger nursing staff and in providing additional accommodation for it. The Joint Council intends to make an attempt to raise a sum of £1,000,000 a year by public appeal, not only to the classes who have hitherto been the largest contributors to voluntary hospitals, but also for an increase in the workmen's contributions, which already constitute about 16 per cent. of the ordinary income of voluntary hospitals outside London.

From the point of view of public policy the most instructive part of Sir Napier Burnett's comments on his survey is contained in the paragraphs discussing the demand for more beds and the manner in which it should be met. He asks the pertinent question whether the only way in which the demand can be met is by building more hospitals or adding to those already in existence; would it not, he asks, be possible to relieve the general hospitals, which are necessarily expensive to erect and maintain, by providing auxiliary institutions? Such auxiliary institutions, he suggests, would include not only convalescent homes, but similar institutions for the reception of persons not sufficiently ill to be admitted to hospital, but needing rest and change of air for their restoration to normal health. In this way he thinks that part of the stream of persons who now eventually become hospital patients might be short-circuited. Another illustration of the same principle is afforded by the paper of Mr. Girdlestone on the care of crippled children, published at p. 697; it illustrates the need for special methods and modes of institutional treatment for a special class of case, for whom the best treatment is to be obtained, not through the elaborate and necessarily expensive equipment of a large general hospital, but through the good fresh air and food and the kindly nursing, under skilled medical supervision, in a country institution where they can also have the advantage of elementary education, and eventually, perhaps, of early training for a skilled occupation.

[1] H.M. Stationery Office, 1915. Through any bookseller. Price 3s.

THE DANGEROUS DRUGS BILL.

ON May 4th the Home Secretary, in redemption of promises repeatedly given, introduced a bill—the Dangerous Drugs Bill—"to regulate the importation, exportation, manufacture, sale, and use of opium and other dangerous drugs." A brief memorandum attached to the bill explains that it has been prepared to give effect to the International Opium Convention signed at the Hague more than eight years ago. In an article which appeared in the JOURNAL of March 6th last we adumbrated the presentation of this bill, and added that we looked to the Government to lose no time in handling this question effectively.

There is no doubt that, as pointed out by Sir William Collins in these columns on September 20th, 1919, the Treaty of Versailles has given a fresh impetus to the effectuation of the International Opium Convention of 1912. As explained in an answer given by the Foreign Office to a question in the House on December 2nd, 1919, and as is repeated in the memorandum to the bill, Great Britain, although, unlike some of the Powers which are contracting parties to the Treaty of Versailles, she had prior to the war ratified the Opium Convention, yet holds herself bound, by Article 295 of the Peace Treaty, to enforce the Convention forthwith and to enact the necessary legislation within a year from the coming into force of the Treaty.

The Dangerous Drugs Bill consists of fifteen clauses and is in four parts, dealing respectively with raw opium, prepared opium, morphine, cocaine, etc., and certain general administrative questions. The bill as drafted appears, broadly speaking, to follow the provisions of the Hague Opium Convention. As regards "prepared opium"—that is, opium prepared for smoking—its import, export, manufacture, use, and possession are absolutely forbidden, as far as the United Kingdom is concerned, under penalty of a fine not exceeding £200, or imprisonment, with or without hard labour, not exceeding six months. As regards raw opium, morphine, cocaine, ecgonine, heroin, and their salts, and medicinal opium, their import and export are forbidden, except under licence, under similar penalty. No raw opium may be exported to any foreign country prohibiting its import nor, except under appropriate restriction, to any country restricting such import. Regulations, which must be laid before Parliament, may be made for preventing the improper use of the alkaloids already mentioned or of medicinal opium, whereby the manufacture, sale, possession, and distribution will be controlled. To this end the manufacture of these drugs will be restricted to licensed premises, and the traffic in them to authorized persons; the prescription and dispensing of such drugs will also be regulated. The premises, books, and stocks of persons producing or dealing in these drugs will be liable to inspection. Preparations containing less than one-fifth per cent. of morphine or less than one-tenth per cent. of cocaine, ecgonine, or heroin fall outside the purview of Part III of the Bill. There is power by Order in Council to add any new derivative of the aforenamed alkaloids or "any other drug of whatever kind (which) is or is likely to be productive, if improperly used, of ill effects substantially of the same character or nature as or analogous to those produced by morphine or cocaine," to those enumerated in the Bill.

Much will depend on the nature of the regulations which will be drafted under the powers conferred, presumably on the Home Secretary, and almost everything will depend on the vigilance of administration by the Customs officers and inspectors charged with the new duties. The smallness of bulk of the dangerous alkaloids must inevitably make their supervision, from manufacture to distribution, a matter of considerable difficulty, and the misuse of prescriptions will require to be carefully guarded against. It must nevertheless be conceded that the Bill now introduced represents a bona fide attempt to give effect to the requirements of the Opium Convention, especially in the case of the alkaloids of addiction, whose inclusion was so strongly pressed at the Hague by the British delegates on behalf of their Government. If all those Powers which, by their ratification of the Convention or by their signature of the Special Protocol or by adhesion to the Peace Treaty, are similarly bound will proceed forthwith to enact and enforce similar legislation, the appalling over-production of these drugs, in excess of legitimate requirement, should be checked, where alone it can be effectually checked, at the source.

It will be remembered that the general supervision of the international execution of the Opium Convention is entrusted to the League of Nations. As it is understood that the Dutch Government, which has played so courteous and successful a part hitherto in promoting the effectuation of the Convention, is desirous that further steps in this direction should now rest with the League, there should be no difficulty in that body urging the universal adoption of legislation similar to that which is now before the Commons of the United Kingdom.

SECTIONS AT THE CAMBRIDGE MEETING.

THE following programme has been arranged for the Section of Electro-Therapeutics at the forthcoming Annual Meeting of the British Medical Association at Cambridge. On Friday, July 2nd, the President of the Section, Dr. A. E. Barclay, will give his address on the place of the radiologist in medicine. Mr. H. S. Souttar will open a discussion on diagnosis and treatment of paralysis caused by nerve injury. Papers will be read by Dr. Robert Knox on tumours of the chest; by Dr. Howard Humphris on the use of the melted paraffin wax bath, and the tungsten arc-light; by Dr. E. P. Cumberbatch, on the treatment by diathermy of intravesical growths and ulcers of the urinary bladder; by Professor J. Goodwin Tomkinson on *x*-ray therapy in oriental sore; and by Dr. S. Gilbert Scott on the diagnostic value of the renal outlines and the method of determining the relation of abnormal shadows to them. A joint discussion with the Section of Obstetrics and Gynaecology on the treatment of uterine fibroids by *x* rays will be opened by Dr. Robert Knox. The Naval and Military Section will meet on Wednesday, June 30th. In the morning a discussion on the Army Medical Service and its relation to the education and training of newly qualified medical men will be opened by the President, Colonel Joseph Griffiths, at 10 o'clock. The discussion will be followed by papers on the evolution of protective measures against gas warfare; on the relation of the condition of the teeth to the physical fitness of the soldier, and on the incidence of water-borne disease in the Gallipoli campaign. In the afternoon there will be a demonstration by officers of the Naval, Military and Air Force Medical Services, who will exhibit the various improvements and inventions that arose during the war. Details of the arrangements for all the Sections are given in the SUPPLEMENT, p. 161.

THE ASSOCIATION OF SURGEONS.

THE newly formed Association of Surgeons of Great Britain and Ireland held its first meeting in London at the end of last week. The proceedings opened on Thursday afternoon, when the president, Sir John Bland-Sutton, gave an address, in which he sketched the early history

of surgery. It will be published in full in the *British Journal of Surgery*, which has now become the property of the Association of Surgeons; those who know the author will not be surprised should it turn out that he followed the Horatian maxim that a lesson may sometimes be best enforced by quips of wit and sallies of humour. On Friday morning, May 14th, a discussion on the ritual of the surgical operation was opened by Sir Berkeley Moynihan and Mr. Raymond Johnson. Saturday morning was devoted to the study of the specimens in the war collection in the museum of the Royal College of Surgeons; Professor Keith related the history of the collection, Sir George Makins spoke on specimens of wounds and blood vessels, and Sir Cuthbert Wallace on gunshot injuries of the abdomen. The afternoons of Friday and Saturday were spent at various London hospitals, where operations were witnessed. On Thursday evening Sir John Bland-Sutton entertained members of the Association to the number of over one hundred at Claridge's Hotel. Speeches after dinner were few and happy. The host spoke of the birth of the Association, and Sir Berkeley Moynihan, who may, perhaps, be called its father, said that surgical thought in Great Britain and Ireland had been deep, but it was hoped through the new Association to lead it into wider channels. Mr. Herbert Pendlebury, the honorary secretary, also responded, and Mr. Thomas Sinclair, C.B., of Belfast, proposed the health of Sir John Bland-Sutton, which was received with enthusiasm and acknowledged in a few characteristic phrases. The menu was adorned with a reproduction from a Pompeian mural painting showing the surgeon Iapyx extracting the head of the dart from the wound in the thigh of Aeneas. (*Aeneid*, Lib. XII.) Among those present at the dinner were the Earl of Athlone, chairman of the Board of Management of the Middlesex Hospital, Sir Robert Hill, Medical Director R.N., Sir John Goodwin, Director-General A.M.S., Sir George Makins, President of the Royal College of Surgeons, Sir William Macewen of Glasgow, Professor Marnoch of Aberdeen, Sir Harold Stiles and Professor Alexis Thomson of Edinburgh, Sir Robert Jones and Mr. Thelwall Thomas of Liverpool, Sir William Thorburn of Manchester, Sir W. de C. Wheeler of Dublin, Sir Rickman Godlee, Sir Gilbert Barling, Sir Anthony Bowlby, Sir Charles Ballance and Sir Hamilton Ballance. Among the guests were the Editors of the *Lancet* and the BRITISH MEDICAL JOURNAL, and it may be concluded that though the Association will not permit its discussions to be reported, it bears no ill-will to the medical press. The rule prohibiting the reporting of discussions is, we believe, in the case of a meeting of experts where free discussion and criticism is desired, altogether sound.

POST-GRADUATE COURSES.

THERE are many signs of a growing desire on the part of a large number of medical men, both at home and in the Dominions, to make use of opportunities for attending post-graduate courses in Great Britain. We publish elsewhere particulars of the scheme which is being evolved in Glasgow, and some time ago gave information as to the plans at Edinburgh. The courses in Manchester are regularly noted in our columns, and a little time ago we gave an account of a special course in spa treatment to be held in Bath during next month; a great deal of trouble has been taken by the profession in Bath to arrange a useful and comprehensive course extending over a fortnight. An introductory lecture will be given by Dr. Cave on June 7th, and among the subjects to be treated during the course will be those bugbears of practice—gout, fibrositis, and arthritis of various forms, including rheumatoid arthritis and osteo-arthritis. Ample opportunities will be afforded for clinical observation in the wards of the hospitals and the method of using the waters of spas will be illustrated. The Fellowship of Medicine is receiving from all parts of Canada and the United States a steady flow of inquiries about opportunities for graduate study in London. Last year the graduates, who crowded the courses arranged by the Fellowship, were chiefly army medical officers brought together under exceptional circumstances, and in most instances still in military employment. This season the graduates are coming upon their own initiative and at their own personal expense. Their number is a matter of speculation, but each week adds names to the register, and day by day arrive reports of those who are contemplating the journey. The future of London as a post-graduate centre will be largely determined by the opportunities offered to overseas visitors during the immediate future. The call is for clinical work, and particularly for short intensive courses in special subjects. Additional courses should be arranged without delay, and with as long a preliminary notice as possible. A time-table should also be drawn up to cover the holiday season; work naturally slackens in London from the middle of July to the end of September, but it is during this vacation period that many men will fit in a course of study, and these dates are specifically mentioned in many letters of inquiry. As London is not wholly a desert during the summer months there should be more than one way of surmounting the difficulty. The Fellowship of Medicine is conducting a propaganda which reaches the entire English-speaking medical world, and the more energetically this young organization is supported the better the hope that its efforts will be fully successful. The argument that because London has not been a post-graduate centre in the past the present campaign must necessarily fail is threadbare. It is clear that the English-speaking graduates from overseas want to come to the home country and that many of them desire to attend courses in London, if the capital city of their race will give them what they need.

LEICESTER UNIVERSITY COLLEGE.

DR. ASTLEY CLARKE, in his presidential address to the Leicester Literary and Philosophical Society in 1912, suggested the establishment of a university college for Leicester; his address led to much discussion, and matters were in train when the outbreak of war arrested the scheme. Its consideration was resumed in March, 1918, when a provisional committee was formed and a fund established, to which Dr. Finch bequeathed £5,000. A public meeting to discuss the position was then held, and the site of the Fifth Northern General Hospital was presented, with the buildings thereon, which are of considerable size, to the city of Leicester for educational purposes; it was resolved to establish the Leicestershire and Rutland University College. The fund now, before any appeal has been made, amounts to £100,000. The appeal, which is just being issued, states that the purpose of University College is to provide advanced education in the pure sciences, in arts and economics, in the fine arts, and in those branches of technology that are vital to Leicester. It is felt that Leicester, which is largely concerned in the manufacture of boots and shoes and hosiery, and in engineering, ought to play a great part in meeting the need for that increased and more enlightened production which alone can bring national and international stability. Classes will be started in the autumn. The trust deed has been completed, and the domestic science college will be removed to the new building at an early date. The provision of hostel accommodation is contemplated. The local Division of the British Medical Association was one of the first bodies to pass a resolution in favour of the college, and is represented on the Committee, of which Sir Jonathan North is chairman and Dr. Astley V. Clarke vice-chairman. Among the other members are Dr. Wallace Henry (at whose instance the local Division adopted the resolution mentioned), Dr. L. K. Harrison, and Dr. R. Sevestre (Leicester Medical Society). One of the principles adopted is that no university college or university should

managed by the educational authorities of the city or county council alone; it is held that the governing body should represent a wider constituency. We have already on several occasions mentioned the movement in Nottingham for the establishment of an East Midland University. Conferences have been held between the Nottingham body and the Leicester committee, at which Leicester has expressed its willingness to join Nottingham on equal terms as a federal college. While Leicester feels itself strong enough to stand on its own feet it recognizes that a university of federal colleges would be stronger, and there is reason to believe that this view will prevail with Nottingham also.

WHAT THE SOLDIER SAID.

WE regret to observe, from accounts printed in *The Times* and *Daily Mail* of May 12th, that the Westminster Coroner does not always remember what is due to his office. He held an inquest last week on the body of an engineer's fitter, aged 28, who threw himself into the Thames and was drowned. The father stated that his son, David Carey, joined the army in 1914, and was discharged in 1916 for valvular disease of the heart: "An army doctor told him that he only had three or four years to live." In reply to the Coroner, who asked "Did your son sometimes refer to the fact that he was sentenced to death, so to speak?" the witness said: "Yes, he often said so, and worried about it." A police surgeon who made the necropsy said that he found all the organs normal and the heart one of the healthiest he had ever seen; there was no trace of valvular disease. The Coroner then sought to lead this medical witness on to express an opinion about what a professional colleague was stated to have said four years ago. The police surgeon agreed that it would be very silly, very unkind and very wicked of a doctor to profess dogmatically that a man could not live beyond a certain number of years, and to tell the man so. The Coroner is reported to have then made the following fatuous remark: "I read of a case of a man who had been in the Royal Hospital for Incurables for fifty years and died aged 90. That shows that mistakes are made by doctors who are dogmatic." In his summing up the Coroner, we fear, must have had more than a side glance at the reporters. Taking as his text the commonplace that for a doctor to tell a patient that he has only a limited time to live is generally wrong, he aired his ideas on dogmatism in prognosis, and declared that in this case a perfectly healthy young man had been condemned to death by a doctor, with the result that he came out of the army broken-hearted and drowned himself. "Carey might have lived for many years, but some ignorant fool of a doctor, who did not know his work, diagnosed heart disease and doomed him to death." After this a verdict of "Suicide while of unsound mind" was recorded. Now the Westminster Coroner is a medical man, and he must know that even educated people cannot be trusted to report accurately what a doctor said ten minutes before. The Westminster Coroner is also a barrister-at-law, and knows the worth of hearsay evidence. He may even be familiar with Mr. Justice Stareleigh's dictum about "what the soldier said" in the leading case of "Bardell *v.* Pickwick." Nevertheless, it seems that the Coroner in this case accepted without hesitation the third-hand story of what an army doctor was said to have told a soldier in 1916, and that he used this unverified tale as a stick wherewith to beat an absent colleague. The circumstances of the man's discharge from the army must be on record, but the Coroner does not appear to have called for any evidence, documentary or otherwise, from the military and pensions authorities. The medical profession has had much to put up with from lay coroners; it looks to the medical coroner to set an example of fairness towards medical practitioners, absent as well as present.

HOME AMBULANCE SERVICE.

THE Motor Ambulance Service for England, Ireland, and Wales, instituted by the British Red Cross Society and the Order of St. John, has now completed its first year's work, and the report shows that the service had already proved itself very useful. The scheme was initiated shortly after the armistice, when the Red Cross had a very large fleet of motor ambulances for the transport of the sick and wounded. It was decided that a selection should be made from the best of these ambulances, which—after the cars had been thoroughly overhauled and equipped—should be distributed on loan throughout the country for the benefit of civilian and pensioner patients. Arrangements as to their distribution in the counties were made by head quarters working in close co-operation with county directors; the ambulances are placed in charge of Red Cross detachments, special committees, or local authorities, as local circumstances dictate. Over 300 ambulances have been allotted under the scheme, and already 256 of these are at work. It is intended that, as far as possible, the service shall be self-supporting, and a charge is made for the use of the ambulances, which is, however, remitted in necessitous cases. The provision of these ambulances has met a want that had become very urgent by supplying transport for the removal of the sick to hospitals and convalescent homes. In rural areas particularly—towards which special consideration has been given in the distribution of cars—there existed a great lack of means of transport for the sick. This want the Home Ambulance Service is filling with complete success. Although the greater number of the ambulances distributed have been working for only a few months, the number of cases carried already exceeds 7,000. Every county has now its ambulance stations, and the number will be increased as the remaining ambulances allotted become available for distribution. The service has been adopted by the Ministry of Pensions for the transport of all pensioner patients, a very considerable number of whom are periodically taken to hospitals for treatment. In addition to the ambulance stations in the counties, a central unit is being organized in London to meet a need found to exist for cars to link up the work of the counties and to provide for the transport of cases between the railway termini. This unit, it is hoped, will also be of service in supplying ambulances for patients entering and leaving nursing homes in London. It has been wisely determined to maintain central control of all the ambulances, and thus any which are not found to be serving a useful purpose can be transferred. This provision will enable the committee to adapt the scheme to the changing conditions affecting health administration. As schemes for hospital co-ordination develop, the service can be so adjusted that the ambulances may be placed wherever it is found that they will most efficiently supply the needs of the public.

PLANT RESPONSE.

IT will be remembered that last March Sir J. C. Bose gave a demonstration at the Royal Society of Medicine of plant growth as demonstrated by his instrument, the magnetic crescograph, and that after the demonstration Dr. Waller raised the question whether the movements might not be due to heating effects, and invited the lecturer to repeat his experiments under laboratory conditions here. This invitation was accepted, and on April 23rd Sir J. C. Bose gave a demonstration in the physiological laboratory of University College, London, in the presence of Professor Bayliss, Lord Rayleigh, and other authorities on physiology and physics, who reported that they were satisfied that the growth of plant tissues was correctly recorded by the instrument at a magnification of from one to ten million times, and continued as follows: "We saw in particular that a flower-bud in active growth,

if treated by immersion in a solution of potassium cyanide for some hours, no longer gave a movement of the recording spot of light. We conclude that such movement, when shown by a similar bud in the active state, is not due to accidental stretching or to undetected effects of currents of air, radiant heat, etc. We agree that the instrument correctly records changes of length in the growing tissue, or, indeed, of any substance attached to the lever of the instrument, however such changes may be produced. Naturally, under the conditions of the experiments, it was impossible for us to analyse completely the complex effects produced by the passage of an electrical current." At the meeting of the Royal Society on May 13th Dr. Waller gave a demonstration, using an apparatus of his own which magnified only one thousand times, but would yet enable a record to be obtained on a photographic plate of the effect of electric stimulation on living plants, on plants killed by boiling, and on fiddle-strings as had previously been shown by Engelmann. He adhered to the view he had previously expressed that Sir J. C. Bose had not established his point. A somewhat animated discussion followed, and Sir J. C. Bose replied. The President, Sir J. J. Thomson, said that the instrument devised by Sir J. C. Bose was very ingeniously adapted to register very small movements, and might be of use in physics.

THORACOPLASTY IN PULMONARY TUBERCULOSIS.

PROFESSOR SAUGMAN has recently published[1] an account of the 40 patients on whom he has performed thoracoplastic operations at Vejlefjord Sanatorium. In all these cases the pulmonary disease was advanced, and owing to extensive pleural adhesions collapse of the lung by artificial pneumothorax was not feasible. The position, then, of these patients was, under ordinary circumstances, practically hopeless. Yet, by adequate collapse of the most diseased lung by extensive extrapleural resection of ribs, Professor Saugman was able to restore 13 out of the 40 patients not only to comparative health, but to a certain capacity for work. Another paper on this subject deals with the results achieved by Professor Bull in Christiania. In his first series of 11 cases the operation was fatal in 3; in his second series of 26 cases there was only one death from the operation. He attributes this great improvement in his immediate results to various changes in method, the most important being the performance of the operation in two stages instead of one. Of the 33 patients who survived the operation 7 died later from tuberculosis and one of influenzal pneumonia; 11 of the remaining 25 were at work, were always free from fever, and their sputum no longer contained tubercle bacilli. They had also ceased to cough, except when they caught "colds." In 7 other patients the final result could not be stated, as less than a year had passed since the operation was performed; in several, however, tubercle bacilli had disappeared from the sputum, and other signs of improvement had been noted. Professor Bull believes, therefore, that several of them may ultimately be included among his "cures." It is an instructive fact that, though these two writers have worked independently, their results are strikingly concordant. They show that, roughly speaking, a third of the patients who undergo extrapleural thoracoplastic operations may expect complete arrest of the disease, in spite of being in the last stages of pulmonary tuberculosis.

CENTENARY OF DR. LOGIE OF KIRKWALL.

As we briefly announced, Dr. James Scarth Spence Logie, the doyen of the medical profession in the British Isles, celebrated his centenary last week. He was born in Kirkwall, Orkney, on May 11th, 1820, and received his early education at the Kirkwall Grammar School. He took the diploma of L.R.C.P.Edin. in 1841, and graduated M.D. of the University of Edinburgh in 1842, at the early age of 22. His diploma is signed by Sir Robert Christison, Professor James Syme, Sir James Young Simpson, and Dr. Thomas Stewart Traill. He was one of the first to make use of chloroform anaesthesia after its discovery by his teacher, Sir James Simpson. For many years he conducted his practice with zeal and self-sacrificing devotion among the specially difficult conditions existing in the Orkney Islands. In the early days of his professional life there were no made roads in Orkney and no wheeled vehicles except farm carts. Dr. Logie has received a telegram from the King, an illuminated address signed by all the members of the medical profession in Orkney, a resolution of congratulation from the Senatus Academicus of the University of Edinburgh, and congratulatory telegrams from the President of the Royal College of Surgeons of England, and Sir Watson Cheyne, Lord Lieutenant of the County of Orkney. At its meeting on Wednesday, May 19th, the Council of the British Medical Association resolved to send to Dr. Logie a congratulatory message.

[1] *Tubercle*, April, 1920, which also contains an abstract of Professor Bull's paper.

THE LONDON SCHOOL OF TROPICAL MEDICINE.

THE London School of Tropical Medicine has arranged, in addition to its ordinary course designed for candidates for a diploma in tropical medicine, short courses of lectures and clinical and laboratory demonstrations on tropical diseases for those who cannot devote the whole three months to the full course. The lectures and demonstrations will be given on Mondays, Wednesdays, and Fridays, from 2 to 4 p.m. The first course will begin on Monday, May 31st, and end on Friday, June 25th. The lectures have been specially arranged for medical men engaged in pension work, who will be certain to meet with many cases of malaria and dysentery, but others who wish to acquire some practical experience in tropical medicine will find the means of doing so in this special course. The school and hospital are in Endsleigh Gardens, close to Euston Station, and can be reached easily from any part of London.

SIR ARCHIBALD E. GARROD, K.C.M.G., F.R.S., Regius Professor of Medicine in the University of Oxford, has been elected to a studentship of Christ Church.

Medical Notes in Parliament.

National Health Insurance Bill.

The Right of Appeal.

ON report on the National Health Insurance Bill, which was taken near midnight on May 13th, Captain Elliot submitted a new clause to enable a medical practitioner to appeal to the High Court (without further appeal) against the decision by the Minister of Health, or any special body acting for the Minister of Health, to remove the name of the practitioner from the list of panel doctors. Captain Elliot said this was a right granted in the 1911 Act, which was apparently being withdrawn under the present bill. If practitioners were struck off the panel under the 1911 Act they had a right to appeal under subsection 15 (*b*). The only right of appeal practitioners had under the bill was to the Minister of Health. They had no right of appeal to any legal body. If a medical practitioner who came on the panel by statutory right was considered to be conducting himself improperly his case was brought before a small subcommittee of doctors, then before the Insurance Committee, and from that the appeal was made to the Minister of Health; if these authorities were against him his name was struck off the panel. It was not fair that the bureaucracy should have this tremendous power over a medical practitioner. No one would risk embarking on some individual line of treatment if he knew that any failure of this treatment would be brought before a committee of what were, after all, his competitors. If they disapproved of his action the case went before the Insurance Committee, who would probably decide against him, and then the Minister of Health would find that he had to back up the Committee. Thus a man's career might be wrecked. It was all very well for the Minister to say that nobody asked a man to come on the panel, and

that he should not object if the Minister threw him off it; but the panel covered an enormous majority of the people of these islands. A man removed from it was faced with the ruin of his whole professional career, and should in the last resort have the chance of placing his case before an unbiassed and non-technical court. What was asked for was an ultimate court of appeal, and unless the medical practitioner considered that he had a very good case he would not run the risk of bringing it before a court of law.

Lieut.-Colonel Fremantle, seconding the motion, said Captain Elliot had spoken of the panel practitioner's work as practically becoming coterminous with the whole of the medical profession. But that was not so. There was another tendency which was rather dangerous. This was for certain members of the profession to say, "We will not practise under these conditions." If they were able to carry on private practice at higher fees they would have nothing to do with panel practice. That would be a bad condition for any Government service to get into. He had a very high opinion of his own profession and of Dr. Addison, but it was quite wrong that medical men should be judged like this by such means as was proposed. He could conceive of many mistakes that might happen and hasty judgements given. The Minister of Health, if busy in other directions, might be largely governed by the judgement submitted from below, and there would be a feeling of grievance. Therefore a doctor should be given a feeling of security in his practice.

Dr. Addison said that the speech of Captain Elliot was one of the most inaccurate he had ever heard. It had no real relation whatever to the facts. He had described the bill as an extension of the power of the bureaucracy; there was no alteration whatever; there was no fresh purpose in the bill from first to last. There was no word in the bill which related to the conditions of the removal of the medical man from the panel. The fact was that when a complaint was made under the original Act, if a medical man was to be removed from a panel, it had to be proved that he was doing something which was prejudicial to the efficiency of the service, and it was a very grave matter. In the next place the case had to go before the Insurance Committee, which was a lay body—not a professional body at all, not a body of jealous fellow medical men.

Lieut.-Colonel Fremantle, interposing, asked whether the following words were not true: "This will apply only after an inquiry by his own professional brethren in the first place."

Dr. Addison, continuing, said that the Insurance Committee, before stating a case, referred the matter to the Medical Committee to see if there was a case to be stated. But the Medical Committee did not judge the matter in any way. If there were a case at all—which of course it required professional examination to see—it went to the tribunal which was set up under the original Act, and which had not been changed in any way in the present bill. That tribunal had to consist of two medical men who were experts, not in the man's own area, and it was presided over by a barrister or a solicitor. Formerly this body reported to the Insurance Commissioners, but with the establishment of the Ministry of Health the Insurance Commissioners disappeared and became absorbed in the Ministry. There was no change in the machinery. The Minister of Health was responsible for the efficiency of the service. There was nothing to compel a medical man to go off the panel; he could go on or go off if he liked. Moreover, Parliament never intended to create a statutory vested interest. What applied to a medical man under the Insurance Act applied equally to any other man in any other department of the Ministry. It was the business of the Ministry to see that the service was well and truly rendered, and this machinery was set up to secure that in a fair way. It was a complicated machinery, but although he had been Minister of Health for more than a year, no case came up to him. It was unthinkable that a man in any section of the Government service should have an appeal to the High Court on the finding that he was not doing his duty properly.

Mr. Dennis Herbert submitted that Dr. Addison's was the most convincing speech in favour of the amendment. The object of the amendment was to get rid of a gross piece of bad management under previous Acts and sustained by the bill. If cases only of a very grave character would arise, surely the very last thing that the House ought to allow was that a man under such accusation should be deprived of the ordinary remedies of the law. Dr. Addison had said that if this amendment were carried, it would be impossible to dismiss people from other branches of the service. If he dismissed one of his clerks on an allegation of a grave offence which made him unfit to carry on the practice of the profession or business in which he was engaged, Dr. Addison would find that he would not escape the law courts. These people all had the right of appeal to the courts. The mover and seconder of the amendment put their case from the professional view-point which made it weaker.

Dr. Murray regretted very much that Dr. Addison would not agree to the amendment. He accepted the statements that the proceedings of Insurance Committees were public, but when a man chose to go before a judge and have the evidence examined, it showed that he had a very considerable belief in it, and the elementary right of such reference should not be denied to doctors on the panel. The panel practice to the majority of members of the profession was the most important part, and if they were dismissed from it their professional career was absolutely ruined. There was no desire to protect any man doing his work inefficiently or improperly, but the doctor (like any other citizen in the land) should have the security of the courts set up to protect the interests of every individual in this country.

Captain Loseby thought that there was a misapprehension in this matter. If a medical practitioner was aggrieved under common law, like any other contractor, he could have recourse to that law, and he should not have a greater right than any one else. If he were wrongly dismissed, or if the tribunal had in any way misbehaved, he had his remedy under common law in the courts.

Replying to Lieut.-Colonel Murray, Dr. Addison again defined the position. A case, he said, came up on the complaint of an insured person, and the complaint went to the Insurance Committee. The Insurance Committee then referred it to the Panel Committee, which reported their findings to the Insurance Committee.

Major Barnes said he could not believe that an amendment like this would have been supported by three medical men unless there had been some real grievance. What was asked for was that in the very rare case—a grave case as it must be—coming up there should be an appeal to the courts. That did not appear a very great thing, and he wondered why it should be denied. In the old days it was said that the King could do no wrong. In these days the Executive seemed to wish to usurp the divine right. He could understand a Minister not wishing to have an appeal against his decision, but after all, they had to consider something more important than the position or the dignity of a Minister. They had to consider the rights of individuals, and the disposition seemed to be to block the way to the courts. That had appeared over and over again during the session, but the doctrine that the Executive could do no wrong had received a nasty knock during the last few days on an appeal to the House of Lords.

Dr. Addison: There is no denial of any appeal to the courts. A doctor can appeal to the courts on the same ground as any other citizen.

Major Barnes inquired why, if there was no denial of the right, it should be resisted. It was intolerable that it should be within the power of any man, however important the department over which he presided, to block the avenues to justice.

Mr. George Roberts, in opposing the amendment, reiterated that no change whatever in the law was contemplated in the bill. He thought they might rely upon the Insurance Committees to do full justice. During the last twenty-five years he had been connected with friendly societies, and did not yet know of a complaint against a doctor under the Insurance Act. The encouragement of litigation, unless it was absolutely necessary, was objectionable. In his opinion it was unnecessary here. The medical profession was quite capable of looking after itself. It was one of the most powerfully organized professions in the land, and quite capable of seeing that no Insurance Committee, or even a Minister himself, was able to do injustice. It was not a bureaucratic body that determined this matter, but a thoroughly democratic and representative body—the Insurance Committee, acting on the advice of other medical men.

Major Farquharson said the question of the initial determination of the doctor's fault lay in the hands of a body of doctors—the Medical Service Subcommittee of the Insurance Committee of the county or county borough. This body of doctors was democratically elected by the whole body of the medical profession in the area. It very rarely happened in practice, but if it should happen that a competitor were serving upon that committee when a doctor was appearing to answer a charge, he (Major Farquharson) had sufficient faith in his profession to feel sure that such a person would withdraw from the inquiry. With regard to the Ministry of Health, it was now plausibly suggested that there should be an appeal from the Minister to a judicial tribunal. It was suggested that in a case of a breach of contract or dismissal an

action would lie. He was not prepared to advise the House on that point, but he suggested that if the Minister in the exercise of his ministerial capacity ever did a thing or caused a condition to arise as to which a doctor would be aggrieved—in the technical sense of the word—the proper place for dealing with the Minister of Health would be the House of Commons. Let the members make the Minister toe the mark and answer for his misconduct.

At this stage Captain Elliot asked permission to withdraw his amendment. He thought it was useless to go on at that hour (after one o'clock in the morning). Before this application was taken Captain Benn quoted the terms of the original Act to maintain that vested interest was created for the medical man, and that therefore Dr. Addison was wrong in contradicting Captain Elliot. If the Government was pressing conditions which the best class of men on the panel did not think fair, the best class of men would not be got to go on the panel. Mr. Myers inquired whether the delinquents amongst the members of the profession were so numerous as to make this machinery necessary.

Dr. Addison replied that he did not know of any delinquents.

Major Entwistle thought the amendment was reasonable and one that ought to be supported by the House.

Mr. Briant said the main difficulty in the Act had been to get any doctor removed at all. It was not a case of more or less exaggerated statements against the doctor, but to shift one doctor from the panel was a herculean task. No medical man need think that his reputation would be blasted by any panel of a few other medical men. The Minister of Health had been somewhat misleading the House and talking round the subject without apparently having grasped the real facts of it.

Mr. Bromfield sought to raise the question of the inadequate supply of drugs and surgical appliances to assist the doctors in their treatment, but the Deputy Speaker ruled this out of order, and the proposed clause was then negatived.

Tuberculosis Sanatoriums.

Clause 4, to discontinue sanatorium benefits under the Act of 1911 (except for Ireland) in order that separate provision might be made by the Ministry of Health, was afterwards discussed in the early hours of the morning.

Commander Kenworthy wished to leave out the discontinuing clause. In Hull it was felt that the necessary work could be done better by the existing Insurance Committee than by the Health Committee, which was overburdened with other duties.

Captain Wedgwood Benn recalled Mr. Lloyd George's confident declaration that after three or four months in a sanatorium tuberculous patients would be discharged cured.

Dr. Addison replied that a good deal had been learnt about tuberculosis since the Prime Minister's utterance ten years ago. As for what Commander Kenworthy had said, he reminded the House that such institutions as that for Hull were not provided by Insurance Committees, but by county councils. What was proposed was that one authority should be made competent to deal with all stages of tuberculosis, and it was for the benefit of the insured that the enlarged scheme was being devised.

Mr. Myers said that the defects in administration with regard to tuberculosis had been largely due to lack of funds on the part of the Insurance Committees, and lack of accommodation available from the local authorities. Domiciliary treatment had been altogether inadequate and unsatisfactory. As soon as the diagnosis of tuberculosis was made the patient should be put into the hands of the specific expert authority. He objected to practitioners of "ordinary professional skill dabbling in the tuberculin treatment."

Dr. Murray thought that the new proposals of the Government offered a very great improvement, but regretted that the discussion of so important a subject was being taken at 2.30 a.m. He disagreed with what Mr. Myers had said about the general practitioner. Early diagnosis of the disease was very difficult sometimes, but in his opinion for the most part the general practitioner was just as able to deal with tuberculosis as any of the so-called tuberculosis officers appointed under the Act.

Sir R. Thomas said Wales possessed one of the most up-to-date organizations, which had been brought unto existence by voluntary contributions as a memorial to the late King Edward. From three sources—from the insured person, from the employer, and from the State—this institution had been receiving £25,000 annually, and the concern of the Insurance Committees was where the money was to come from in future. There was nothing sufficiently definite, in his opinion, to warrant a change of system.

Lieut.-Colonel Murray and Major Entwistle said that considerable apprehension existed with regard to the intended transfer.

Dr. Addison, dealing first with a question why Ireland was not included in the scheme, pointed out that there was no medical benefit in Ireland such as obtained in England. There was a Poor Law service which worked differently, but Ireland had to be left out until an alternative system of medical services had been applied to that country. In Great Britain, in connexion with the scheme now being developed for post-sanatorium training for disabled soldiers, it was proposed to make the arrangements generally applicable. It was intended to develop the village settlement system as far as practicable, and to link the whole system up with the after-care at the end and the dispensing services at the beginning, as far as could be done, under one composite authority. The Ministry was now making a survey of village settlements as part of one comprehensive scheme, instead of dealing with it in two sections as at present.

Commander Kenworthy's amendment was then negatived.

On the motion for the third reading of the bill, Dr. Addison said the additional benefits which were the principal features were to come into operation on July 5th, and the measure had to be brought on to the Statute Book immediately. Between now and July 5th the Department had to distribute to sixteen million persons various forms, etc., and the stamps required, and the societies had to prepare their cards and do other work.

The bill was afterwards read a third time.

The bill was read a second time in the Lords on May 17th, and it was taken in Committee and read a third time in that Chamber on May 18th.

Direct Representatives of the General Medical Council Bill.

This bill was introduced in the House of Commons on May 10th by Sir Henry Craik, with the support of Captain Elliot and Lieut.-Colonel Raw.

MEMORANDUM.

Under the Medical Act, 1886, the term of office of the direct representatives on the General Medical Council is five years; but as the Act does not contain any provision by which a person elected to fill a casual vacancy should continue in office only for the residue of the term of office of his predecessor, the result has been that, instead of one general election of direct representatives being held once in five years, elections of individuals as direct representatives are continually occurring at irregular intervals. As the expenses of the election of a single representative amount almost to as much as elections of several, the burden on the General Council of expenditure on elections has been largely increased. The object of this bill is to remove this defect.

The bill also removes the obligation to fill a casual vacancy which occurs less than twelve months from the date of the next general election, and extends the time for holding an election. In many cases only one candidate is actually nominated, but the shortness of time allowed after the precept has been received from the returning officer makes it necessary to prepare for a contested election immediately, whereby a considerable expenditure is often unnecesarily incurred.

A Bill to amend section eight of the Medical Act, 1886.

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. *Term of office and elections of direct representatives on the General Council.*—Notwithstanding anything in section eight of the Medical Act, 1886—

(*a*) Any registered medical practitioner who, after the passing of this Act, is elected as a direct representative to fill a casual vacancy caused by the death or resignation of a direct representative shall hold office so long as the person in whose place he was elected would have held office, and no longer.

(*b*) Where a casual vacancy is caused by the death or resignation of a direct representative within twelve months from the time when his term of office would have expired, it shall not be necessary to fill the vacancy.

(*c*) The time within which elections to fill vacancies amongst the direct representatives on the General Council, whether caused by expiry of term of office, death, or resignation, are to be held shall be forty days after the receipt of the precept of the returning officer, and accordingly "forty days" shall be substituted for "twenty-one days" in subsection (3) of section eight of the Medical Act, 1886.

2. *Short Title.*—This Act may be cited as the Medical Act, 1920, and may be cited with the Medical Acts.

Naval Medical Establishments and Services.

In Committee of Supply on the Naval Estimates on May 17th, the vote was taken for a sum of £677,300 to defray medical services, including establishments at home and abroad, for year ending March 31st, 1921.

Sir Donald Maclean pointed out that while the number of officers and men of the Royal Navy had fallen from 225,000 to 126,000 there had been no corresponding reduction in the medical establishment. With a great reduction in fighting units, how was it that 3 surgeon rear admirals, 8 surgeon captains, 17 surgeon commanders, and 43 surgeon lieutenants were still required? He noticed that there was some reduction in the nursing staff—its cost had gone down from £34,300 last year to £30,700 this year; but there was a greater charge for the rear admirals whose numbers were undiminished. There was a slight increase in the charge for surgeon captains, while that for surgeon commanders had risen from £16,900 to £18,400.

Sir Thomas Bramsdon asked questions with regard to promotion for sick berth ratings, and Commander Kenworthy asked information as to the employment of hospital ships.

Sir James Craig, in reply, said that it was impossible suddenly to drop from war to peace conditions. Two

hospital ships were on hire, one attached to the Atlantic Fleet, the other to the Mediterranean; they would be replaced probably by purchase.

Viscount Curzon, who said he had noticed that in certain naval dépôts and establishments the medical staff at times had very little to do, suggested naval medical officers should be allowed to attend on the wives and children of the men.

On a further question by Sir Donald Maclean, Sir James Craig intimated that he would endeavour to clear up the particulars of the votes on report, and Mr. Long added that the figures given under Vote 3 did not constitute the total medical service vote.

Sir F. Banbury said it appeared to cost more to treat 136,000 men than to treat 280,000; it could not be said that that was owing to the increased cost of material and wages, because the comparison was with last year. For hospitals' and infirmaries' provisions and stores, medicines and instruments, the sum was £278,000 as against £232,000.

Dr. McDonald greatly regretted the opposition to the vote. He was especially sorry to hear Viscount Curzon suggest that naval medical officers should be asked to attend families and children. Other officers in the navy as well as medical men had spare time. As for the increased cost, members did not realize the enormous increase in the cost of medical and surgical appliances. Medical salaries had been increased, but not unreasonably so. Dr. Murray referred to the item "medical sustenance of seamen at sick quarters," and said that before the war surgeons had to find accommodation for seamen on land with considerable difficulty. The allowance of 2s. a day, including cost of lodging, food, and nursing, was sweating.

Mr. Acland said that when he held a responsible position at the War Office he found that there was no department in which it was more difficult to reduce expenses than the medical, except the nursing department, because doctors always had such a strong position in pointing out the fine work they did, and how essential it was they should have proper material and apparatus. That applied also to the navy.

The vote was then agreed to.

Health Conditions of Recruits.—Captain Elliot asked, on May 11th, if the War Secretary was aware that many men re-enlisted for general service were drawing pensions for wounds received in the war, and whether a man suffering from a physical disability so great that he was receiving a pension on this account should be selected to fight for his life. Mr. Churchill replied that a few men of the kind named had been re-enlisted. The majority of these were not serving in combatant units, but in specialist corps, and had not been found unfit for their duties. The regulations provided that in the case of men discharged on medical grounds applying for re-enlistment, the medical officer should consult the former discharge documents before certifying the man for re-enlistment. During the rush of recruiting last year, a few men were enlisted and subsequently found unfit for service, but steps had been taken to obviate such mistakes in the future. In view of the present position of recruiting, orders had been given that ex-soldiers receiving disability pensions were not to be re-enlisted. Captain Elliot asked if Mr. Churchill would on information look into the cases of men actually in combatant units and cavalry regiments who were in receipt of disability pensions. Mr. Churchill responded he would wish to deal with each case separately. If a man had been wounded and wished to go on in the service, and his military superiors thought he could do useful work, he should not be subjected to the same rigid examination for health as an absolutely new man. Captain Elliot inquired whether this was a question for a man's "military superiors"—was it not rather for the medical authorities, who could say whether or not a man would ultimately break down from the strain of service, though he might be perfectly fit for peace soldiering? Mr. Churchill said he did not altogether agree. In regard to recruiting for the Territorial Army, he had directed that men who had disability pensions were not for that reason—if there were no other—to be refused. There were many officers in the Army who liked the idea of continuing service with their old comrades—men who served in the Boer War and in the Great War. Dr. Murray asked if it were not the fact that pensions were granted for slight disability that did not interfere with a man's usual work. Mr. Churchill said that in some cases the pension was on account of the amount of disablement, in others the amount of suffering and injury that an individual had incurred. Replying to Mr. Houston, who alleged that new men who were physically unfit were being recruited, Mr. Churchill answered he was doing his best to stiffen the standard of recruiting. In the first instance the War Office had to take anybody that could be got. It was intended by a refining process to get rid of the men who were not physically fit.

The Value of Vaccination.—Mr. W. Thorne asked, on May 11th, whether during the past ten years fewer children had been vaccinated in England and Wales than in any previous decade; whether, during this period, there had been fewer small-pox deaths recorded than in any previous decade; and if so, whether the Minister of Health would instruct his department to publish the facts, "so that the misapprehensions of the position which were widespread in official medical circles might be removed." Dr. Addison replied that the figures were as Mr. Thorne indicated; the statistics regarding vaccination were published annually, and he was not aware of any misapprehension in official medical circles. He might point out that a consideration of these statistics without regard to other relevant facts might result in a misapprehension of the protective value of vaccination against small-pox. The matter was referred to in the 48th Annual Report of the Local Government Board (Medical Supplement), 1918-19.

Medical Service Pay.—Mr. Dennis Herbert asked, on May 11th, if the War Secretary was aware that great hardship and much discontent was being caused among members of the medical service of the Royal Air Force by the delay in payment of back pay now many months overdue. Mr. Churchill replied that the arrangements for remustering Royal Air Force medical personnel to the new rates of pay had been under preparation for some time, and the necessary order was issued last week.

The Demobilization of Medical Students.—Major Glyn, referring to a telegram issued by the War Office on March 19th, to the effect that all non-regular officers were liable to retention beyond April 30th, 1920, irrespective of whether they did or did not volunteer, asked whether this was not a reversal of the policy laid down by Mr. Churchill on February 23rd, when he said that all such officers would be demobilized by the end of April. Major Glyn said he raised the matter especially in the interests of medical students retained in Mesopotamia who wanted to continue their studies at home. Mr. Churchill regretted that he was unable to take any exceptional action in the case of medical students. Officers held their commissions during His Majesty's pleasure, and they were liable to be retained in the following circumstances: when they filled an appointment within an authorized establishment; when no regular officers were available to replace them; and when it was impossible to dispense with their services without relief. Every effort, however, was being made to replace temporary officers.

Medical Conditions of Service in India.—Replying to Sir W. Joynson-Hicks, Mr. Montagu stated, on May 12th, that in 1914 the number of officers in the Indian Medical Service was 706 Europeans and 63 Indians. In December, 1919, excluding officers holding temporary commissions, there were 650 Europeans and 80 Indians. During 1919 twenty-five Europeans and twenty-one Indians were appointed to permanent commissions. In amplification of improvements already sanctioned he hoped to announce at an early date increased rates of pay and pension for the Indian Medical Service. He recognized also that it was essential to improve the facilities for leave and study, but no decision on these points could be effective until recruiting had brought the service nearer to its normal strength. Mr. Montagu added that he hoped to be able to state decisions within a few weeks.

Travelling Facilities for Men under Treatment.—Major Tryon announced, on May 11th, new regulations for travelling facilities for ex-service men under medical treatment away from home. Under the present regulations a man under treatment away from home may be provided with a free railway ticket after six months, and a further free ticket for each subsequent six months' treatment. In future, four half-fare vouchers may be substituted for two free tickets, and the man under treatment for less than six months will thus be able to visit his home at half fare after three months. Men under treatment in the convalescent centres will be allowed three free tickets or six half-fare vouchers instead of four and two respectively.

British Soldiers in France and Germany.—Replying to Captain Elliot, on May 11th, Mr. Churchill said he was aware that there had been a rise in the incidence of venereal disease amongst the troops in France and Germany since the armistice. The subject had been receiving anxious consideration for some months, and he was satisfied that the authorities on the spot were taking all possible steps to combat it.

The Treatment of Tuberculous Soldiers.—Dr. Addison, on May 12th, announced that the Ministry of Health had come to decisions on the report of the Interdepartmental Committee on tuberculous soldiers. The capital grant-in-aid for the provision of additional sanatorium and hospital accommodation had been increased to £180 a bed, and considerable extensions of the existing accommodation were being made. Facilities for the training in suitable occupations of ex-service men suffering from tuberculosis were being provided at existing sanatoriums at an estimated cost of £250,000; and a scheme for the provision of village settlements for these men and their families had been worked out, and was now under consideration by the departments concerned.

Answers in Brief.

The total number of persons employed by the Ministry of Health on May 1st, including the staff of the Welsh Board of Health, was 5,825, of whom 3,452 were on a temporary basis.

Mr. Bridgeman, on May 12th, stated that any person who could obtain a medical certificate that coal was needed in a case of illness could get from a merchant a supply forthwith.

Sir Archibald Williamson has stated that R.A.M.C. officers are detailed for service overseas in accordance with a foreign service roster, except in the case of an officer who, on account of special qualification, is required in the United Kingdom. When an officer who had completed a tour of service in India became due for foreign service every endeavour was made to post him to a colony. Due consideration was given to service in theatres of war other than France and Italy.

Sir Robert Horne has stated that he is aware of only three factories in Great Britain producing morphine. When the Dangerous Drugs Bill is passed into law, control over such factories will be exercised in accordance with the provisions of the Opium Convention. Licences are at present granted by the Board of Trade for exports of morphine on the basis of the legitimate requirements of the country of destination.

Sir Robert Horne has promised a statistical statement as to the quantity and quality of condensed milk imported into this country.

Scotland.

POST-GRADUATE MEDICAL TEACHING IN GLASGOW.

For many years before the war post-graduate courses in medicine had been conducted at several of the Glasgow hospitals, but there was no organized scheme whereby the teaching in the different hospitals might be correlated. Early in 1914, at the request of the medical faculty of the university, a meeting of the medical staffs of the university and other medical schools and of the general and special hospitals of Glasgow was convened, and a committee was appointed to promote co-operation between the various bodies concerned with the purpose of instituting a general scheme of post-graduate medical teaching. The scheme, however, fell into abeyance on the outbreak of war in August, 1914, and nothing further was done until February, 1919, when an emergency course for the ensuing summer session was instituted, partly to meet the needs of graduates who had been on service. This course was repeated in the autumn, and comprised clinical classes in medicine, surgery, tuberculosis, and other special subjects, as well as evening demonstrations in diseases of the nose, throat, and ear. Eighty-six graduates attended; the majority were officers or ex-officers of the navy or army, but a number of local practitioners also availed themselves of the opportunity of refreshing their knowledge in the classes.

In December, 1919, a conjoint meeting of the medical faculty of the University and the general committee was held, in order to consider the results of the emergency classes, and to discuss the further organization of post-graduate teaching in Glasgow; as a result a special sub-committee was appointed to formulate a permanent scheme. This scheme was unanimously approved at a conjoint meeting held in the University, on March 2nd, under the chairmanship of Principal Sir Donald MacAlister, K.C.B. It is recommended that for the purpose of arranging, co-ordinating, and administering post-graduate medical teaching in Glasgow and the West of Scotland a central body shall be formed under the title of the Glasgow Post-Graduate Medical Association. The governing board is to consist of ten representatives of those institutions granting facilities for post-graduate teaching, and eight representatives of the teachers who have taken part in the post-graduate teaching in either of the two years preceding the year of election. It is recommended that the following courses be arranged: (1) "Refresher" courses for the general practitioner, to be held twice a year, and to last four to six weeks; (2) weekly demonstrations for local practitioners, to be held one afternoon a week, the summer months excluded; demonstrations of an hour and a half's duration are to be given by different members of the teaching staff; (3) advanced and comprehensive courses intended particularly for those desirous of qualifying specially in one or more subjects. These courses are to occupy the full time of the practitioner, and to be of not less than six months' duration. The committee consider that medical practitioners who attend such courses and show proficiency in the subjects studied should be able to obtain suitable recognition of their work, in the form either of a diploma conferred by the university or of a special certificate granted by the Post-Graduate Association. Courses in venereal diseases, tuberculosis, obstetrics and child welfare, and school medical inspection and hygiene, should be instituted as soon as possible. It is suggested also that the Post-Graduate Association should make known the facilities offered for research workers in medical subjects, and be the means of introducing suitable workers from other parts. Fees should be charged for all teaching, and the practicability of obtaining direct or indirect financial assistance from the Government should be considered.

SMALL-POX IN SCOTLAND.

Cases of small-pox continue to occur in Glasgow, and at the end of last week 116 were under treatment in Belvidere Hospital. A case has occurred also at Paisley and another at Dundee. The Glasgow Health Committee has approved the arrangement for the offer of free vaccination to all persons, has invited insured persons to go to their panel doctors (the cost of vaccination being borne by the corporation), and has agreed to pay a fee of 2s. 6d. to doctors in respect of non-insured persons. Dr. A. K. Chalmers, M.O.H. Glasgow, held a conference with representatives of the medical profession at which a proposal to institute a house-to-house visitation in the east end of Glasgow was discussed. Dr. Glen, Secretary of the Glasgow Division of the British Medical Association, said that medical practitioners had undertaken to note the names and addresses of the insured persons they vaccinated. As regards others, doctors were asked to inform the medical officer of health of all vaccinations.

The Royal Faculty of Physicians and Surgeons of Glasgow has issued a memorandum to the public on the value of vaccination in which the opinion of the Royal Commission of 1889 is set out. That Commission found that vaccination diminishes liability to attack and renders the disease if contracted less fatal and of milder type, but that its effect gradually diminishes, so that revaccination is required to restore the protection after a period of nine or ten years. The memorandum goes on to recall that the value of effective recent vaccination was amply illustrated during the prevalence of the disease in Glasgow, which began in 1900. Early in the following year the Health Committee offered free vaccination; ultimately over 4,000 persons made use of the offer, and not one case of small-pox occurred among them; 1,800 cases which did occur were all in persons who did not accept the offer. The experience of the small-pox hospital is quoted also. The medical and surgical staff numbered eighty; all were efficiently vaccinated and none contracted the disease, and the same was true of fifty hospital servants. Further, over 150 practitioners and students of medicine visited the hospital; all were vaccinated beforehand and none contracted the infection. During the outbreak it became necessary to extend the hospital, and 230 workmen were employed; 217 accepted revaccination and none contracted the disease. Of the 13 who refused or for some reason were not recently revaccinated, 5 contracted the disease and 1 died.

Ireland.

THE LATE DR. SPELMAN, OF DUNMORE, CO. GALWAY.

It was stated in a letter which we printed last week that a fund has been opened for the relief of the widow and two young children of Dr. A. P. Spelman, who was killed by the skidding of his motor car as he returned from a professional call. Subscriptions may be sent to Dr. P. J. Delaney, Claremorris, co. Mayo, or to Dr. Heneghan, Ballindine, co. Mayo. Dr. Spelman was only 26 years of age, and his widow and two young children are left totally unprovided for. It is a case that should make special appeal to the generosity of the medical profession.

England and Wales.

THE BLACK SMOKE TAX.

The Manchester City Council has for years been seriously concerned about the excessive smokiness of the air in that town, and in our issue of July 11th, 1914, we described the appointment of an air pollution advisory board. The conclusions reached by the statistical subcommittee of the board have been published in a pamphlet with the title of *The Black Smoke Tax*. One of the chief endeavours of the committee was to estimate as precisely as possible the actual monetary loss caused to the town by undue smokiness of the air. A member of the staff of the Public Health Department who made a comparative investigation of the cost of the weekly washing in similar working-class households in Manchester and Harrogate respectively found that in Manchester the average cost of soap, starch, and other materials was 50 per cent. greater, and the average cost of fuel 30 per cent. greater; material and fuel together cost 7½d. a week per household more in Manchester. This difference amounts to £183,000 per annum in working-class houses where the washing is done at home. In middle-class homes where the washing is partially or wholly sent out the additional cost is larger, and includes expenditure on collection, labour, and laundry profits; but if these costs are ignored, and the outlay for the material and fuel is calculated at the same rate as in poorer households, the total expenditure in Manchester is £242,702 per annum

greater than it would be in a city of the same size as Manchester but of the same degree of atmospheric cleanliness as Harrogate. These calculations have been verified by a firm of auditors. The committee's estimates of other sources of loss through smokiness have of necessity been made with less precision; but as a result of careful inquiries from hospital superintendents, architects, property owners, hotel proprietors, and manufacturers, they conclude that excessive smoke pollution costs Manchester at least three-quarters of a million a year. To expend much thought and money on measures that would reduce this "smoke tax" is regarded by the committee as a sound business expedient. It appears from the Manchester figures that the estimate of £1 per head made by the Hon. Rollo Russell for the London area was well within the mark; comparison may also be made with the Industrial Research Department's inquiry at Pittsburg, where the estimated loss through smoke pollution was £4 a head. These economic conclusions should be collated with the well known work of Professor Cohen and Mr. Ruston[1] (who studied from the scientific side the effects of excessive smoke production); together they deserve the serious attention of urban authorities. An abortive Smoke Abatement Bill was introduced into the House of Lords in 1914; since that time the matter received little national notice until the appointment, recorded in our issue of February 28th of this year, by the Ministry of Health of a Smoke Abatement Committee, with Lord Newton as chairman.

Opening of Department of Pathology at Swansea.

On May 7th the Beck Laboratory at the Swansea General and Eye Hospital, founded mainly through the generosity of Mr. Roger Beck, was formally opened by Sir George Makins, G.C.M.G., C.B., President of the Royal College of Surgeons. Mr. Beck's name is a household word in the town of Swansea wherever wise beneficence is concerned; the medical profession at large is also indebted to him as founder of the Marcus Beck Laboratory at the Royal Society of Medicine. The two principal working rooms of the Beck Laboratory have been named respectively the Brook Room and the Lancaster Room, in acknowledgement of the practical aid given by Mr. W. F. Brook and Dr. Lancaster, of the hospital staff, towards the establishing of the new department. The laboratory consists of four rooms placed on the first floor, and is equipped for all types of clinical pathological work, including chemical pathology. When necessary the department can readily be expanded by taking over rooms on the ground floor of the present building. The animal house is conveniently placed within a few yards, and the *post-mortem* room is also in close proximity.

The department has been in working order for a year, and clinical pathological work is being done for the Swansea Hospital, various public health authorities, and for practitioners of the district. It is intended to develop the laboratory as a centre of inquiry and research as soon as the necessary expansion of the working staff has been effected. The department has been under the direction of Dr. A. F. Sladden from its initiation.

At the opening ceremony, at which there was a large attendance, Sir George Makins gave an address on the growth of clinical laboratories during the past fifty years. He instanced some of the advantages derived during the war from the close association of clinicians with laboratory workers, and emphasized the importance of the clinical laboratory as the link uniting the science with the art of medicine. Sir George Makins was followed by Professor Hepburn, Dean of the Welsh National School of Medicine, who with subsequent speakers expressed appreciation of the generous and far-seeing spirit which has actuated Mr. Beck. Mr. Beck, in reply, happily described the department he has founded as a "first aid" to the profession of Swansea and the district.

In the evening the honorary medical staff of the hospital gave a complimentary dinner to Sir George Makins and Mr. Roger Beck; it was very well attended by medical men and their friends, and was presided over by Dr. A. W. Cameron. The Laboratory, the two guests of the evening, and the Swansea General Hospital were all heartily toasted, the gathering being especially delighted by the toast of the staff's two guests, proposed with felicitous phrasing and dignity by Dr. Lancaster.

[1] *Smoke: A Study of Town Air.* London: E. Arnold. 1912. 5s.

Correspondence.

STERILIZATION OF MILK BY ELECTRICITY.

SIR,—In the extremely fair note on "The Sterilization of Milk by Electricity," which appeared in your issue of May 15th, p. 682, it is stated that the work was started in 1914. This is not correct, as the work was in progress when I came to Liverpool at the end of 1912. A certain degree of success had been obtained, and when, at the request of the Health Committee of the city, I presented a report on the work, I was able to state that it gave "promise of success." There was at this period definite evidence that, without obvious change in its constitution, the milk had been freed from *B. coli*, but there was no satisfactory evidence that *B. tuberculosis* had been destroyed. The control and other experiments were, in my opinion, far too limited and the conditions under which the work had been done too unsatisfactory to justify any conclusions as to success or failure. As a result of my report a plant was erected in my department, and I was asked to carry on further investigations. This was my first connexion with the actual experimental stage, and I was fortunate in having Mr. F. C. Lewis, who had been in close association with the previous work, attached to my laboratory staff. Thus we were able to avoid the repetition of methods of experimentation which had given unsatisfactory results and to concentrate on those which had given promise of success.

Work on sterilization of fluids by electrical action had been recorded many years before this work was started, but the credit of initiating the work along the special lines recorded in the monograph by the Medical Research Committee must be given not to me but to the earlier workers in 1911 and 1912.—I am, etc.,

Liverpool, May 15th. J. M. BEATTIE.

EXPERIMENTAL INDUCTION OF CANCER.

SIR,—Apropos the leading article in your issue of May 15th, page 680, concerning Professor Fibiger's work on carcinoma in rats, the late Professor H. G. Plimmer told me in 1917 that five wallabies at the London Zoological Gardens, confined in the same pen, had died of this disease. In four of these, all affected in the same year, it was primary in the stomach. These animals, so I was informed by the keeper, are fed on oats, cabbages, and a little bran. If I am not mistaken, Professor Plimmer said that the primary growth was by far most commonly gastric, in his experience of the animals in this collection which died of carcinoma. I found other curious cases among his records, but was unable to pursue the matter further. In view, however, of the strong suspicion entertained by many besides Sir John Bland-Sutton, that carcinoma in man is the result of an infection in most cases via the alimentary tract, I would suggest that the incidence of carcinoma among animals kept in captivity is a subject which might well reward a searching inquiry.—I am, etc.,

Liverpool, May 17th. EDMUND HUGHES.

EPIDEMIC ENCEPHALITIS.

SIR,—I have read with much interest Dr. Hubert Phillips's admirable note in the BRITISH MEDICAL JOURNAL of May 8th on his case of encephalitis with myoclonus. I am sure, however, that he will accept a correction from me on one point of some small importance. My examination of the cerebro-spinal fluid showed 40 cells per c.mm., these being almost exclusively small lymphocytes.

In the earlier cases of this disease which were published a normal cell count was, I believe, generally recorded; several reporters of late, however, have found a slight lymphocytic increase. A blood count made on Dr. Phillips's patient at the same time showed nearly normal proportions—namely, 5 million red cells and 8,100 leucocytes, of which 80 per cent. were polymorphs, and only 15.25 per cent. lymphocytes.—I am, etc.,

Swansea, May 12th. ARTHUR F. SLADDEN, D.M.Oxon.

"A PLEA FOR THE TONSILS."

SIR,—It might occur to your readers, after perusing Professor Berry's letter in your issue of February 7th, that his work on the subject had been overlooked in my

book *Immunity in Health*. Professor Berry had not seen the book when he wrote. As a matter of fact, his very valuable researches on the lymphoid tissue of the caecal apex are referred to in a number of places in the text, and indeed serve as a basis of some of the conclusions arrived at.—I am, etc.,

KENELM H. DIGBY,
Professor of Clinical Surgery.

University of Hong Kong,
March 30th.

WAR REWARDS.

SIR,—It seems to me that some alteration should be made in the rewards given out by the War Office. I know a medical man who had first of all served in the Royal Naval Artillery Volunteers and then in the Royal Engineers (Submarine Miners), and who enrolled at once as an *à la suite* officer when Lord Haldane's scheme was formulated. This man on August 6th, 1914, in reply to urgent requests for enrolments, sent a letter to the War Office to say that he was anxious to undertake any service abroad that he could possibly get. He has a good knowledge both of French and German. The usual reply came that a note of the offer had been made, and there the matter rested till he was called up for *à la suite* service in May, 1915. He was classed C 1, and consequently kept at his *à la suite* post all through the war, although he made every effort to get away; not only so, but in addition to these duties he gave assistance voluntarily and without any remuneration for a whole year at the examination of recruits. He began his work in the morning with recruits, went to the military hospital about 1 o'clock, and returned to his house about 7 at night, and during that whole year he had not a single day's leave of absence except three days for a trifling operation. The strenuous times caused him to resign a teaching post of some considerable value, and also a post which he held under the corporation of the town in which he lived. The monetary losses in that respect might be put down at a couple of hundred pounds per annum, and these losses are permanent.

When he resigned his teaching appointment it was advertised, and a young practitioner in the same line of specialism applied for it and got it. This man was of medical military age. I am not aware that he had ever done any military service. Ultimately, however, when conscription came in he was compelled to join up, and thus a man who apparently had never the slightest intention of crossing his own doorstep for military service now goes about as one of the patriots entitled to the Overseas medal. The man who gave up these appointments, who saw something like 1,700 recruits in a year without a penny of payment, and who in his early days did some volunteer service, gets nothing, while a young man who did not join up till he was compelled to gets a reward. Is there any sense in such arrangements? Surely it is more patriotic to use every effort to get abroad in the service of your country than to remain at your own fireside till the recruiting officer compels you to join up. Not only did the man above mentioned get nothing for his examination of recruits, but as he was in a home station all his allowances were cut off. The hospital in which he served was situated some three miles from his dwelling, and these allowances came in handy as they helped to pay the taxis. Surely it would have been only fair to have given full allowances to a man who was doing, at any rate, nine or ten hours' work every day in a double capacity, first as an *à la suite* officer, for which he got his ordinary pay; secondly, as one of the staff of the Recruiting Boards, for which he got nothing, but which involved him in considerable expense for the hire of taxis.—I am, etc.,

X. Y. Z.

Glasgow, April 30th.

THE salaries of the professors of the Paris Faculty of Medicine have been raised retrospectively from July 1st, 1919. The professors have been placed in two classes according to their seniority, those in the first class receiving a salary of 25,000 francs and those in the second class a salary of 23,000 francs. By a recent Ministerial decree Professors Richet, Pouchet, Hutinel, De Lapersonne, Gilbert, Roger, Nicolas, Ribemont-Dessaignes, Quénu, Prénant, Widal, Chauffard, and Weiss have been put in the first class, and Professors Delbet, Marfan, Hartmann, Bar, Marie, Broca, Teissier, Desgrès, Lejars, Achard, Robin, Legueu, Letulle, Couvelaire, Carnot, Besançon, Vaquez, Dupré, and Jeanselme in the second class.

Obituary.

SIR KENDAL FRANKS, C.B., M.D., F.R.C.S.I.

THE death of Sir Kendal Franks at Johannesburg, which has been announced in the public press, will cause much sorrow and regret amongst his many—and he had very many—friends both in the United Kingdom and in South Africa.

Kendal Mathew St. John Franks was born on February 8th, 1851, at Jerpoint Hill, co. Kilkenny, and was the fourth son of Robert F. Franks and Henrietta, daughter of the Right Hon. Charles Kendal Bushe, Lord Chief Justice of Ireland. He was a distinguished graduate of the University of Dublin, in which he obtained first-class honours in mathematics and a scholarship. As a medical undergraduate he was also awarded a gold medal by the Dublin Pathological Society for an essay on "Injuries and diseases of articular cartilage." He graduated A.B. in 1872, M.B. 1873, and M.D. in 1876. He took out the licence of the Royal College of Surgeons, Ireland, in 1875, and the Fellowship in 1879, and held the position of senior demonstrator of anatomy in the school attached to the College for some years. Shortly after graduation he was appointed surgeon to the Throat and Ear Hospital, and subsequently to the Adelaide Hospital, of which he was for some years the senior surgeon. He was also an examiner in surgery in the University of Dublin, and consulting medical officer to the London and North-Western Railway in Dublin. He was an able surgeon and brilliant operator as well as a popular teacher, and soon gained a large and profitable private practice. During the viceroyalty of the Marquis of Zetland he was appointed surgeon-in-ordinary to the Lord Lieutenant.

He was a fellow of many medical and other learned societies, including the Royal Medico-Chirurgical Society, and was a member of the Surgical Council of the Royal Academy of Medicine in Ireland. He was the author of many valuable contributions to medical literature, including an article on "Movable kidney" in the *Twentieth Century Practice of Medicine*, vol. ix; on "Cholecystotomy" and on "Cases of enterectomy and enterorrhaphy" in the *Transactions* of the Royal Academy of Medicine, Ireland (1889–1893).

He married in 1879 Charlotte Selina, daughter of Richard Greene, Esq.; she died in 1881. In 1885 he married Gertrude Jane, daughter of Lieut.-Colonel Bromhead Butt, 79th Regiment; she died in 1896, leaving three sons and one daughter. In 1906 he was elected vice-president of the Royal College of Surgeons in Ireland, but in the same year, and before he had been long in office, he determined, in consequence of the serious ill health of his wife, to emigrate to South Africa. There he rapidly developed a large consulting practice and was appointed honorary consulting surgeon to the Johannesburg Hospital. During the South African war he was appointed consulting surgeon to H.M. Forces, and for his conspicuous services was thrice mentioned in dispatches and in 1900 received the C.B. He was knighted in 1904.

Sir Kendal Franks was remarkable not only for his professional attainments but also for his broad mental culture and artistic taste; his skill as an artist in water-colour, which he inherited from his mother, was of no mean order. But he especially excelled in those social qualities which endeared him to so many devoted friends—a genial optimism and extraordinary enthusiasm even in trifling matters, and never-failing sympathy. He was indeed a man.

W. J. S.

THE announcement of the sudden death of Dr. J. H. FULLARTON will cause much regret in many quarters. Glasgow graduates who can recall the early eighties will remember him as a brilliant student of biological science and the winner of prizes and scholarships. He graduated B.Sc. in 1880 and D.Sc. in 1891. For some years he was assistant to the late Professor John Young, and afterwards was appointed as examiner in biology in the university. During a number of years he devoted himself to scientific and practical zoological studies, and was zoologist and superintendent of the Fisheries Marine Laboratory, H.M. Fishery Board for Scotland. In this department his published work gained general recognition, and he was

elected an honorary member of many foreign biological societies. Later he decided to enter on the practice of medicine, and he qualified at the Scottish colleges in 1906. In the West End of London he gained a considerable measure of success, although he came somewhat late in life to the anxieties and strain of practice. Nor could science and medicine wholly content him. Always a man of decided views, he in recent years became active in political work, and only a few weeks before his death was engaged in an active campaign in a Scottish by-election. To all his work, as well as to his leisure, he brought heartiness, energy, and comradeship, and many who knew nothing of his scientific attainments will always remember him as a man and a brother. At his own request his remains are to be interred in the Island of Arran, his native home, to which he was dearly attached.

SURGEON-MAJOR-GENERAL HENRY FOLJAMBE PATERSON, Army Medical Service (retired), died in London on May 11th, aged 83. He was born at Ballater, Aberdeenshire, on July 9th, 1836, and educated at Marischal College, Aberdeen, where he graduated M.D. in 1858; he took the M.R.C.S.Ed. in 1857 and the F.R.C.S.Ed. in 1866. Entering the army as assistant surgeon on October 19th, 1857, he became deputy surgeon-general in 1888, and S.M.G. in 1893, retiring on July 9th, 1896. In the regimental days he spent the first sixteen years of his service in the Royal Artillery. He had held the post of P.M.O. at Hong Kong, Malta, and Aldershot. He took great interest in the work of the British Medical Association, and assisted in the formation of the Hong Kong and China Branch in 1891, and was appointed its first president. In his address on retiring from that office he referred to the British Medical Association as "the grandest medical brotherhood the world had ever seen."

WE regret to report the death of Dr. WILLIAM STEWART, M.O.H. Gourock, which occurred from pneumonia, on April 8th, at the age of 58. Dr. Stewart was educated at Glasgow University, where he graduated M.B., C.M. in 1889; some years later he took the D.P.H. He began practice in the Dennistoun district of Glasgow, but after two years removed to Gourock, where he soon acquired an extensive practice. He was medical officer of health for over twenty years, and took a leading part in the many public health improvements of the burgh. He was also police surgeon and ambulance instructor to the Caledonian Railway Company. During the war Dr. Stewart was called upon greatly to exceed the limits of his strength. Deeply conscientious and of a retiring nature, his services were always available. When the end came he was mourned by the whole community. He leaves a widow and one daughter; his only son was killed on active service in Gallipoli.

WE regret to record the death of Dr. PETER BURROWES KELLY, D.S.O. Dr. Kelly was born in Ireland and received his medical education first in Dublin, where he obtained a medal for chemistry, histology, and medicine, and later at St. Bartholomew's and Charing Cross Hospitals. He obtained the diplomas L.R.C.P.I., L.R.C.S.I., and L.M. in 1911. He joined the Royal Navy on August 4th, 1914, and served first at Antwerp. He volunteered for service on H.M. transport *River Clyde*, the ship which was run ashore at Gallipoli to facilitate the landing of troops, and although wounded in the foot continued to attend the injured; for this and other gallant services he was awarded the D.S.O. He served in Gallipoli until the army was withdrawn. His last appointment was at the Royal Naval College at Osborne, and worked very hard during a severe epidemic which prevailed there. Immediately after leaving, and without any interval of rest, he commenced civil practice in London, but his health rapidly declined, and he died on April 6th at the residence of his brother, Dr. J. Kelly, of Ballytore, co. Kildare. He leaves a widow and one child.

ONE hundred and forty-one cases of gonorrhoea (sixteen in females) and thirty-one of syphilis (eleven in females) were notified to the Public Health Department of Western Australia during the last quarter of 1919.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 8th the following medical degrees were conferred:

M.D.—W. B. G. Angus.
M.B., B.CH.—W. E. H. Bull.
M.B.—B. Haigh, R. T. Raine.

UNIVERSITY OF GLASGOW.

THE Senate of the University of Glasgow has resolved to confer the honorary degree of Doctor of Laws upon Sir Robert W. Philip, Professor of Tuberculosis, Edinburgh University, and President of the Royal College of Physicians of Edinburgh; and on Dr. John Macintyre, F.R.S.Edin., Surgeon for Diseases of the Throat and Nose, Glasgow Royal Infirmary, and lecturer on this subject in the University of Glasgow.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia of the Royal College of Physicians of London was held on May 13th.

The President, Sir Norman Moore, nominated Dr. James Taylor to be the representative of the College on a committee being formed by the Minister of Health to investigate the causes of blindness and defective vision.

The following gentlemen elected to the Fellowship at the last meeting were admitted Fellows of the College:

William Francis Menzies, M.D.Edin.; James Graham Forbes, M.D.Camb.; William Morton Robson, M.D.Lond.; Samuel Ernest Dore, M.D.Camb.; George Basil Price, M.D.Lond.; Albert Ramsbottom, M.D.Vict.; Arthur Stanley Woodwark, M.D.Lond.; Francis Graham Crookshank, M.D.Lond.; Arthur Charles Douglas Firth, M.D.Camb.; Nathan Mutch, M.D.Camb.; Francis Martin Rouse Walshe, M.D.Lond.; George Graham, M.D.Camb.; George Ernest Beaumont, M.B.Oxford.

Diplomas in Public Health were granted to the following candidates, jointly with the Royal College of Surgeons:

Eleanor E. Bourne, M. A. C. Buckell, J. N. Dobbie, H. Evans, G. A. D. Harvey, G. D. Jameson, W. Simpson, J. G. Wallis, G. S. Wilson.

Diplomas in Tropical Medicine and Hygiene were granted to the following candidates, jointly with the Royal College of Surgeons:

M. K. Abdel-Khalik, J. S. Armstrong, C. Basile, A. K. Cosgrave, E. Forrester-Paton, J. A. Frendo, W. P. Hogg, T. S. Keith, A. W. M. Harvey, N. Nedergaard, H. E. Whittingham, Man Wong, E. J. Wood.

The President then dissolved the Comitia.

The Services.

R.A.M.C. COMMISSIONS.

THE War Office announces that a limited number of commissions in the Regular Royal Army Medical Corps will be given at an early date to officers who are at present serving in the army or who have held commissioned rank during the war. Intending candidates, who will be required to fulfil the undermentioned conditions, should write for forms of application and further particulars to the Secretary, War Office (A.M.D.1), Cornwall House, Stamford Street, London, S.E.1. Officers who are still serving should submit their applications through the usual official channels.

Conditions.

1. Candidates must be registered under the Medical Acts now in force in the United Kingdom.
2. They must be under 29 years of age. Previous commissioned service, if as a medical officer of the Royal Army Medical Corps, will count towards seniority promotion and retired pay. Commissioned service other than as a medical officer will count only towards retired pay. The period of any such service may be deducted from an applicant's age if this is over 28 years.
3. They must be pronounced fit for general service by a military medical board.

The rates of pay are as laid down in Army Order 324, an extract from which is appended:

Army Medical Service.

	Per day. £ s. d.
Major General	4 10 0
Colonel	3 5 0
Lieut.-Colonel	2 10 0
Lieut.-Colonel, after 20 years' total service	2 12 6
Lieut.-Colonel, after 25 years' total service	2 15 0
Major	1 15 0
Major, after 15 years' total service	2 0 0
Captain	1 5 0
Captain, after 5 years' total service	1 7 6
Captain, after 10 years' total service	1 10 0
Captain, holding higher rank by brevet, in addition	0 2 0
Lieutenant	1 0 0

The rates of allowances, gratuity, retired pay, etc., will be communicated to intending candidates.

AMERICAN SURGEONS MENTIONED IN DISPATCHES.

THE *Journal of the American Medical Association* announces that King George has ordered certificates to be awarded to Colonels Christopher C. Collins; George W. Crile, Cleveland; Harvey Cushing, Boston; Mathew A. Delaney; Robert U. Patterson; Harry L. Gilchrist; James D. Fife; Richard H. Harte, Philadelphia; and Lieut.-Colonel Lucius L. Hopwood, M.C., U.S. Army; and to Miss Julia Stimson, Superintendent of the Nurses of the Medical Department, U.S. Army. The certificate is as follows:

The war of 1914–1918. U.S. Army Medical Corps (name of recipient) was mentioned in a dispatch from Field Marshal Sir Douglas Haig, Kt., G.C.B., G.C.V.O., K.C.B.E., dated November 7th, 1917, for gallant and distinguished services in the field. I have it in command from the King to record His Majesty's high appreciation of the services rendered.

WINSTON S. CHURCHILL, Secretary of State for War.

War Office, Whitehall, S.W., March 1st, 1919.

Medical News.

THE next session of the General Medical Council will commence at 2 p.m. on Tuesday, June 1st, when the President, Sir Donald MacAlister, K.C.B., M.D., will take the chair and give an address.

DR. J. STRICKLAND GOODALL, on his retirement from the lectureship in physiology and biology at Middlesex Hospital, held by him for seventeen years, has received a presentation subscribed for by past and present students.

THE President of the French Republic has conferred the honour of Officer of the Legion of Honour on Dr. Aldo Castellani, C.M.G., of the London School of Tropical Medicine, for his method of combined typhoid-paratyphoid and enteric-cholera vaccination, the early descriptions of which were published in our columns, and other work found of utility to the allied armies during the war.

AT the meeting of the Medico-Legal Society to be held at 11, Chandos Street, Cavendish Square, on Friday, May 28th, at 8.30 p.m., Dr. T. H. G. Shore will read a paper on sudden deaths on active service.

DR. DAVID J. GIBBS WISHART has been elected president of the Aesculapian Club, Toronto; Dr. Alexander Primrose, C.B., vice-president; Dr. Edmund E. King, treasurer (re-elected); and Dr. Frederick C. Harrison, secretary.

THE Glasgow University Club, London, will dine at the Holborn Restaurant on Friday, June 4th, at 7.30 p.m., when the Right Hon. A. Bonar Law, M.P., Lord Privy Seal, Lord Rector of the University, will be in the chair.

DR. LATARJET has been appointed professor of anatomy in the University of Lyons to replace Dr. Testut, who has retired.

AT a recent meeting the council of the Chicago Medical Society adopted a new scale of fees, increased by 50 per cent.

THE village of Athens (New York) has embodied in its sanitary code a regulation providing that no corporation, association, firm, or individual other than licensed pharmacists and physicians shall sell or offer for sale in the village any medicine or so-called medical appliances without a permit from the local health officer.

THE ninth annual general meeting and conference of the British Waterworks Association will be held at Nottingham on July 1st, when the manager of the Sheffield Waterworks will describe the scheme of pumping water from the River Don in substitution for the statutory compensation water, and the interim report of the Water Power Resources Committee will be discussed.

IN response to the appeal of the University of Liverpool, Mr. T. Harrison Hughes, of Liverpool, has contributed £50,000, and Messrs. Alfred Holt and Co. (Liverpool) £15,000. The Association of West African Merchants and the African Section of the Chamber of Commerce, Liverpool, have asked members of the section to subscribe voluntarily at least £12,000 on the condition that the contribution shall be earmarked for some object which bears a relation to the West African trade.

THE second edition of the *Oxford University Press General Catalogue*, complete up to the end of 1919, gives an account of each of the books published and on sale, arranged in six sections according to the nature of their contents, and occurring again in an alphabetical list at the end of the general list. Many excellent textbooks of medicine, surgery, and allied subjects are published by the press.

MORE than 6,000 cases of small-pox have recently occurred in the north-east of Bohemia.

THE Genoese medical journal, *Liguria Medica*, which suspended publication in May, 1915, has reappeared.

IT is proposed to establish a course of stomatology at the University of Liège and a course of psychiatry at the University of Ghent.

THE chairman of the Board of Licence Commissioners of Ontario has informed a committee of the legislature that 80 per cent. of Ontario physicians write less than ten prescriptions for liquor in a month.

A RIOT recently occurred at the University of La Plata (Argentina) between the professors and the students. A medical student, who was taking his examination, was killed by a revolver shot.

THERE are a few vacancies for the third post-graduate course of instruction in the diagnosis and treatment of venereal diseases by Mr. K. M. Walker at the St. Bartholomew's Hospital Clinic, Golden Lane, E.C., established by the Corporation of London. The course will be held on Thursday afternoons at 5.30 p.m. Medical men wishing to attend should write to the Secretary, National Council for Combating Venereal Diseases, 80, Avenue Chambers, Vernon Place, Southampton Row, W.C.1.

A DEPUTATION from the Society for the Prevention of Venereal Disease laid the views of the society before members of Parliament interested in the subject in Committee Room No. 7 of the House of Commons on May 12th. The policy of the society that venereal disease can be easily prevented by immediate self-disinfection within an hour of exposure to risk, was presented by Lord Willoughby de Broke (President), Sir James Crichton-Browne, Sir William Arbuthnot Lane, Miss Norah March, and Dr. Mearns Fraser. At the conclusion of the meeting the members of Parliament present resolved unanimously to form themselves into a Parliamentary Committee with the object of furthering the aims of the society, more particularly in endeavouring to obtain the support, both official and financial, of the Ministry of Health for the society's work; and of obtaining the repeal of the clause in the Venereal Disease Act, 1917, which forbids a chemist to recommend to the public or to expose for sale approved disinfectants for the prevention of venereal disease.

THE third annual report of the Conjoint Board of Scientific Societies shows that the total number of constituent bodies is now 57. Among them are the Royal College of Physicians of London and the Royal College of Surgeons of England, the Royal Society of Medicine, the Physiological Society, the Biochemical Society, and the Pharmaceutical Society of Great Britain; the Röntgen Society, the Society of Public Analysts, the Psychological Society, the Royal Anthropological Institute, and the Institute of Chemistry and the Chemical Society are also represented. The Board has a large number of committees; one of these, the Watching Committee on Education, has not been reappointed, as it is considered to have accomplished its purpose in the presentation of a joint report with the Council for Humanistic Studies, which was published under the title *Education: Secondary and University*. Its chief recommendation was that the first school examination intended by the Board of Education to be taken at about 16½ years of age should be a test of general knowledge, and should always include English language and literature, and four other groups of subjects—languages and literature other than English, history and geography, mathematics, and natural science. At the same time it was recommended that excellence in two of these groups, combined with evidence of adequate school training in all four, should be allowed to compensate for weakness in one group. It was recommended that in order to avoid premature and excessive specialization at schools, the scope of scholarship examinations should be enlarged so as to allow credit to be given for general ability, and not alone for excellence in one special department, whether literary or scientific. One of the effects of the disturbances of commerce due to the war was difficulty in obtaining glue and other adhesives; a committee was appointed which instituted researches under the direction of Professor S. B. Schryver. Investigations on the methods of preparing gelatines and glues from various tissues were carried out and results obtained which it is thought will be of value not only in the manufacture of gelatines, but in the production of gelatine for use in photography and for making foodstuffs. Investigations were also made into the preparation of adhesives from casein and from the residue of castor beans after expression of the oil.

Letters, Notes, and Answers.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London:* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

M. C. wishes to hear of a natural sulphur water for internal consumption, containing little or no calcium.

C. S. invites suggestions as to the preventive treatment of nocturnal cramps in the legs; the patient is an extremely healthy old lady.

D. J. M. asks (1) whether any of the typhoid group is known to be louse-borne, and (2) whether milch cows which have access to contaminated water for drinking communicate typhoid through their milk.

INCOME TAX.

V. P. has in the past included an honorarium received as visiting physician to an institution in the income tax return for his general practice under Schedule D. He understands that some of his colleagues are not charged on similar honorariums on the strength of a recent "legal opinion."

*** The principle involved seems to us to be covered by the decision of the House of Lords that Easter offerings are assessable on the clergy, which implies that a fee or honorarium received for services rendered is liable to tax apart from any question of *quantum meruit*. If our correspondent can throw a little more light on the source and foundation of the "legal opinion," we should be pleased to consider the question further.

"BOMO" came to the United Kingdom from the Malay Peninsula, arriving on February 21st, 1920. At what date does he become liable to income tax—on August 21st, 1920, or October 5th, 1920?

*** Our correspondent is not liable to tax if he leaves the country before October 5th. That is as the law stands. There has been some discussion of the question before the Royal Commission, as a result of which the law may possibly be altered in the future, and this may perhaps account for the conflicting opinions which "Bomo" has gathered. We assume that he has not retained a residence for his family in this country during his absence abroad.

LETTERS, NOTES, ETC.

ACUTE PULMONARY OEDEMA.

DR. JOHN BROWN (Bearpark, Durham) writes: The following case of acute pulmonary oedema occurred in my practice a few years ago: M. P., aged 27, a 2-para, was delivered of a full-term healthy male child. Labour was absolutely normal. Neither ergot nor help of any kind was given. About a quarter of an hour after delivery the patient began to cough. She coughed so incessantly that the binder could not be pinned. At first the cough was dry, but in a few minutes was accompanied with expectoration of white, frothy fluid. A hasty examination discovered the chest full of râles. The expectoration soon became very abundant and the patient rapidly cyanosed; she died in less than half an hour from the commencement of the cough. She was given strychnine hypodermically and mustard was applied back and front, but without any effect. She was a strong, healthy woman, but I was informed that during her pregnancy she had been troubled more or less with a cough, but not bad enough to seek advice about. Occurring so soon after delivery, one at first thought of pulmonary embolism, but from the abundant white and frothy expectoration and rapid course it was clearly a case of acute pulmonary oedema.

DR. D. W. SAMWAYS (Mentone) writes: Some years ago I was asked to see a lady in consultation in England. I recognized the malady as acute oedema of the lungs from the excessive frothy expectoration, and suggested that atropin should be given subcutaneously at suitable intervals. The oedema disappeared rapidly, and had practically cleared up within a day or two. I had never seen another case, and I advised atropin chiefly on theoretical grounds, though in acute nasal catarrh I have seen complete relief, at least temporarily, after a single injection, and a similar result seemed not unlikely with the pulmonary tissue involved. Judging from the letters lately published on this subject atropin seems almost a specific in acute pulmonary oedema.

THE VALUE OF CALCIUM LACTATE.

DR. GARRY SIMPSON (Lancaster Gate, W.) writes: I feel sure many practitioners must have been disappointed with calcium lactate as a haemostatic. This is due to the fact that its therapetic value is greatly diminished by keeping, the compressed form being practically useless. I have of late been in the habit of using freshly prepared calcium lactate, with the most gratifying results. In a recent case a child 3 years old in which I removed tonsils and adenoids, the blood lost would hardly fill an egg-cup.

The following is the method for preparing the drug:

℞ Acid. lactic., 75 per cent.	gr. 140
Aq. dest.	ʒ iv
To which add in successive portions	
Calc. carb. praecip.	gr. 58
After effervescence subsides add	
Tr. capsici	♏ xij
Syr. limonis	ʒ iij
Aq. chloroformi ... ... ad	ʒ vj

Each half-ounce contains calc. lact. recentis gr. 10.

The dose for a child should be from ten to fifteen grains three times a day for not more than three days before operation. Continued administration is said to diminish the coagulability of the blood.

THE ANTISPIRITUALISTIC VACCINE.

AN editorial article in the *Journal of the American Medical Association* of March 27th, commenting on spiritualism and the spokesmen of the cult, refers to the propaganda of two well-known English exponents, the one a physicist and the other a physician who "has long left the medical field for more interesting adventures." "We should assume," says the article, "that a mind adjusted to the thought-habits of to-day would have set up a resistance to any such beliefs so completely adequate as to reject them without effort. Education is the vaccination that confers immunity; but it does not always take."

A RECORD TRAMP?

DR. H. T. BARTON (Blackpool) writes: Colonel Burnham's walk of twenty-three miles at the rate of five miles an hour is under the circumstances an excellent performance. As he wishes to hear of similar efforts of veteran walkers, I give details of some performances accomplished during the past winter by a general practitioner whose qualification dates back thirty-two years: 1 mile covered in 7 min. 40 sec., 4 miles in 35 min. 50 sec., 6 miles in 55 min. 45 sec., 4¾ miles in 43 min. 15 sec.

VENEREAL DISEASE IN THE PORTSMOUTH AREA.

BY an obvious error in our article on p. 681, column 1, third paragraph, line 58 (May 15th, 1920), we are made to say that according to White Paper Cmd. 505 the rate of incidence of venereal disease in the Portsmouth area was 47.3 *per cent.* It is clear from the context that this should read "per 1,000."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 35, 36, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 33, 34, and 35.

AN appointment of medical referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Lanark is vacant. Applications to the Private Secretary, Scottish Office, Whitehall, S.W.1, by June 5th.

THE appointment of certifying factory surgeon at Bollington (Chester) is vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Lecture
ON THE
TOXAEMIAS OF PREGNANCY.*

BY
ALECK W. BOURNE, M.B., B.CH., F.R.C.S.ENG.,
OBSTETRIC SURGEON TO OUT-PATIENTS, ST. MARY'S AND QUEEN CHARLOTTE'S HOSPITALS.

THE exact relation of the mother to her unborn child has been debated since Bar[1] first suggested that both lived for the mutual advantage of each other. He believed that in return for the protection and nourishment of the growing fetus afforded by the mother, the fetus conferred certain nutritional advantages, as shown by an accelerated and intensified metabolism, which make for her improved general health, lasting not only during pregnancy but for long after the birth of the child.

But welcome as such a theory may be to our sentiment, the recent immunological investigations on pregnant women, notably by Leith Murray,[2] afford strong evidence that the fetus *in utero* is not only not a symbiotic partner but rather a foreign element, always a source of potential danger to its host. Such laboratory findings only support common clinical evidence. Though the pregnant woman may be in what she calls good health from the beginning to the end of gestation, yet we know that departures from the normal, sometimes very serious, are only too common, and in general it is undeniable that pregnant women are in a less stable and robust condition than when not carrying.

It is necessary to realize that a state of poisoning exists throughout pregnancy, the toxin produced almost certainly by the growing ovum being absorbed by the maternal circulation. Whether the pregnant woman be well or ill depends not upon the formation and absorption of some unusual poison, but on the capacity or failure on the part of the mother to develop an adequate antipoison, by which she is rendered immune. We may almost say that the ovum is always poisoning its mother, but that in all healthy women, fortunately the majority, the poison is effectively countered by her own immunizing efforts. Where these fail, then can the toxin effect its work unhindered.

The actual source and nature of the toxin of pregnancy have been the reason of years of search and controversy, but it would be unprofitable to-day to devote any time to discussion of all the various theories. I will simply consider the later views in so far as they may help us in understanding more fully the clinical features of the toxaemia of pregnancy and act as a guide to its rational treatment.

The most recent and important work bearing on this question began with Schmorl's discovery that small pieces of syncytial protoplasm could be found in the maternal circulation. The importance of this observation was the definite proof it affords that the foreign fetal protoplasm is conveyed into the maternal circulation. The next question which naturally arose was whether there was any biochemical defence against this invasion, set up by the mother's tissues, comparable with that which the organism makes against invasion by any other foreign protein or bacterial products. The answer was probably given by Abderhalden in 1911, when he demonstrated that the maternal blood during nearly the whole of pregnancy and for ten days afterwards contains a specific ferment capable of digesting placental protein. An enormous amount of experimental work has been done in order to confirm or disprove Abderhalden's claim, and, though there is still some controversy as to the exact meaning of the reaction, the general thesis that the mother's blood contains an anti-enzyme (or other form of antibody) capable of rendering innocuous the foreign proteins from the placenta, is probably true.

Further evidence of a biochemical response on the part of the mother was furnished by Theis and Lockemann,[3] who showed clearly that the maternal serum is sensitized to some bodies in the fetal serum and placenta; by Murray[4] and Fieux and Mauriac,[5] who showed by the complement-fixation reaction a definite antibody for an antigen existing specially in young chorionic villi; and by many others.

* Delivered to the Hampstead Division of the British Medical Association, April 15th, 1920.

A modification of this theory has been put forward by Young,[6] who suggests that the poisoning is due to the absorption of auto-digestion products from a portion of prematurely separated—and presumably necrosing—placenta. But his view is apparently not applicable to all cases of toxaemia, though it goes far to explain the association of eclampsia with accidental haemorrhage.

Finally, I may refer to the view of Tweedy, who believes that the toxins arise from the maternal gut. He argues that in the non-pregnant condition the neutralizing and excretory mechanism of the body is capable of dealing with any noxious products absorbed from the bowel, but that in pregnancy this mechanism can be overwhelmed by the strain due to the excess of such products caused by the metabolism of the fetus *in utero*. His conclusions are based largely on the good results he has observed after starvation and purgation, with thorough lavage of the stomach and colon. But in spite of this observation a general survey of clinical and laboratory knowledge leads irresistibly to the view that the toxin is supplied by the placenta, that ordinarily this toxin is neutralized by maternal antibodies, and that failure to develop these in sufficient quantity causes symptoms of pregnancy toxaemia.

Biochemical Examination.

Turning now from theories, we find that the investigations of laboratory workers have been chiefly in the direction of blood and urine analysis, immunological reactions of the serum, and experimental attempts to isolate a toxin and cause the disease of eclampsia by injecting it into animals. In 1914 Young[6] described experimental toxaemia in animals caused by the injection of placental extracts. In many respects the animals showed symptoms almost indistinguishable from eclampsia, and, still more significant, the *post-mortem* appearances were almost identical with those in patients dead of eclampsia.

The broad results of urine analysis are the finding of albumin, a tendency for the urea output to be diminished, a variable increase in the percentage of nitrogen excreted as ammonia, and the presence of acetone. Further, the amount of urine may be diminished even to complete suppression, and a deposit of renal casts and red blood cells is frequently observed. The general results of urine analysis point to (1) degeneration or necrosis of the specific excretory cells of the kidney, shown by diminished quantity and the presence of albumin and casts; (2) degeneration or necrosis of the liver cells, causing the disturbance of the urea and ammonia coefficients.

Let us consider the hepatic derangement and its consequences first.

We know that in health the amino-acid cleavage products of the digested proteins are absorbed and transported to the liver, where they are largely transformed, the nitrogenous moiety being converted chiefly into urea. In experimental occlusion of the hepatic portal circulation no urea is produced, and if ammonium carbonate or amino-acids are perfused through the living isolated liver, urea is formed. An intermediate product, however, in the formation of urea is ammonia (or ammonium carbonate).

It follows, therefore, that a diminished urea output indicates some degree of hepatic insufficiency; an increased ammonia coefficient in the urine may similarly indicate a stage of hepatic degeneration, short of a complete functional breakdown, but enough to prevent the final stage of urea formation from the ammonia.

One indication, then, of high ammonia and low urea excretion is hepatic degeneration, short of massive necrosis, for in this condition neither ammonia nor urea could be formed. But, as Leith Murray[7] points out, a high ammonia output has a second significance in pregnancy toxaemia, as in other conditions. It may indicate an excessive acid formation in the system, for ammonia production is the body's natural mechanism for the neutralization of that amount of acid formed above the quantity which can be neutralized by the fixed bases (sodium, etc.).

The ammonia of the urine may therefore be divisible into two moieties, the first being an intermediate product of the liver in the course of a conversion of the amino-acid into urea, and the second being that which is purposely produced by the liver, as such, for the work of neutralizing fatty acids due to an abnormal fat metabolism. The first indicates partial hepatic insufficiency in that the final urea

stage is not reached; the second that the patient is in a condition of acidosis—of which more anon.

These different fractions of ammonia may be separated by giving large doses of sodium bicarbonate, for should the body be producing ammonia in order to neutralize excess of acid, it will be relieved of this work if the required alkali be supplied by the mouth, and the ammonia excretion in the urine will fall. In short, the fall of the ammonia, after giving sodium bicarbonate, will be a measure of the acidosis present.

The ammonia remaining, if much above the normal in pregnancy (and it tends ordinarily to be higher in pregnancy), will be a measure of how far the liver is failing to convert its nitrogen to the final stage of urea, and therefore of hepatic degeneration, but not of massive hepatic necrosis.

In spite, however, of the importance of the liver changes, it is obvious that the results of analysis of the urine may depend very greatly on the condition of the kidneys. The liver may be working well, and yet the waste products it has produced may be unable to pass through the damaged renal epithelium. How, therefore, may we obtain an index of the efficiency of the kidney? First, the quantity of urine excreted. If with an ordinary or excessive fluid intake the urine is scanty, it is reasonable to suppose that the kidney is either damaged or that, owing to congestion, the urine is unable to escape. White[8] has shown that the kidney in eclampsia may be so intensely congested that the urine cannot flow down its collecting tubules.

Secondly, the microscopical examination of the deposit will give valuable information. Few or no casts or red blood cells with a fair secretion will indicate only slight kidney changes, while a heavy deposit of casts with much blood will be a sign of more extensive damage.

Unfortunately, the quantity of albumin gives very little information, for we find some cases of serious toxaemia with little albumin, and the contrary condition is often present.

Acetone is found in the urine in some cases. It is derived from a disordered fat metabolism, and indicates an abnormal production of acid in the system. It is commonly seen in starvation and is constantly present in those cases of toxaemia associated with intractable vomiting. In eclampsia it may indicate acidosis, and its presence is of great diagnostic value.

Symptoms in the Prodromal Stage.

During the prodromal stage the patient usually comes to her doctor on account of headache and malaise or oedema of legs and face, less commonly for a failing of sight, and more rarely still for epigastric pain and vomiting.

A headache in late pregnancy is common, not always due to toxaemia; frequently it is a symptom of a low tension debility, often complained of by multiparae. By itself, without changes in the urine, or a high blood pressure, it usually means nothing; but it is a fairly constant warning symptom, which is of value in showing the need for a complete examination of the patient. Similarly, oedema of the legs is often non-specific in its indication, but if combined with oedema of the face and other parts its presence should call for full investigation. Failing or altered vision is an important and dangerous symptom, and warrants an immediate ophthalmoscopic examination of the fundus oculi. Miller[10] states in a recent paper that early eye changes are usually significant of chronic nephritis rather than of pregnancy toxaemia. The differentiation is important for prognosis and for treatment. Of itself, retinitis is one of the more serious symptoms of albuminuria, and if, as has been pointed out, this condition indicates a pre-existing kidney disease rather than an albuminuria of pregnancy origin, then the safest course is to end pregnancy as soon as possible. If treated expectantly such patients may develop uraemia or permanent increased damage to the kidney and lasting changes in the retina.

Epigastric pain and vomiting coming on in late pregnancy, when simple dyspeptic causes can be safely excluded, may be for a few days the only symptoms of impending eclampsia. In fact it is not uncommon for a patient's friends to state that the attack of eclampsia was preceded by a few hours or days by vomiting. As a pregnant woman has probably suffered vomiting during the early weeks, the recurrence of the symptoms does not excite her apprehension, and therein, perhaps, lies danger. Vomiting and pain coming on suddenly in late pregnancy should always be regarded very seriously, and an exhaustive examination made. In a minority of cases, as already stated, little or nothing else can be found, and the absence of albuminuria fortifies one in the belief that whatever may be the cause it is not toxaemia. Should the cause be simple, sickness rapidly yields to simple treatment, such as rest and starvation, but if in spite of careful dieting or starvation, combined with enemata and diaphoresis, the patient continues to vomit, then she is in the gravest danger, and pregnancy should be terminated with all speed. But most patients suffering from toxaemia who begin with vomiting as the first and only symptom, rapidly develop the other familiar signs, and the diagnosis is easy.

Perhaps of greater value than the symptoms are the signs discovered by examination, and of these I regard an elevated blood pressure as the most important single sign. It is the most important because it is one of the earliest and also most constant. Albuminuria may vary from 3 per cent. to the slightest trace, which is often found in normal pregnancy, but the blood pressure is nearly, if not always, definitely raised early in the prodromal stage.

Further, unlike albuminuria, the height of the blood pressure is some measure of the gravity of the toxaemia, and an indication of the likelihood of fits supervening; for instance, Irving[9] has shown that with blood pressure—

Between 130 and 140 mm. Hg	...	1 in 32	developed	toxaemia
,, 140 and 150 ,,	...	1 in 11	,,	,,
,, 150 and 160 ,,	...	1 in 3	,,	,,
,, 160 and 170 ,,	...	1 in 2	,,	,,

Above 180 all developed toxaemia.

Therefore, in any patient complaining of any one of the prodromal symptoms, or during the routine ante-natal examination of pregnant patients, the blood pressure should invariably be taken and noted. During antitoxaemic treatment the blood pressure movements are amongst the best indications of the reaction of the patient. In bed, on a low or starvation diet, and freely purged and sweated, the blood pressure should be low—in the region of 100 to 110—and if it quickly falls from its original high figure to this low level the other symptoms usually clear up with it, and an expectant attitude may be continued. But if, in spite of depletion, the tension maintains its height, as it not uncommonly does, then eclampsia is still just as likely to develop, and further expectant treatment is dangerous. During pre-eclampsia the blood pressure should be determined at least twice a day, and the results plotted on the chart.

The second sign in the early stage is the quantity of urine excreted. The total for the twenty-four hours on an ordinary diet should be collected and measured. A definite diminution is significant, and the urine always shows other signs of abnormal renal activity in the shape of casts, albumin, or diminished urea output. Diminution in quantity is not an early sign, however, and therefore its chief value is as an indication of the progress of the case under treatment. The most reliable method of obtaining the quantity is by regular catheterization, as otherwise some urine may be lost during a movement of the bowels. But inasmuch as the total quantity of urine is variable in normal health, depending upon the amount of fluid taken, diarrhoea and sweating, it will be readily understood that figures of the total quantity of urine have not the quality of exactness, as an indication of progress, that is possessed, for example, by the blood pressure determinations. However, gross variations from the normal are easily observed, and are indications of serious renal insufficiency.

The third sign is albuminuria. In the great majority of all cases of toxaemia in pregnancy there is some albumin, and therefore its presence has definite value for diagnosis. Only in a small minority is albumin absent until fits occur, when it may suddenly appear in large amount. The percentage of albumin (Esbach) is very variable and cannot be taken as a guide to the severity of the case, nor is it of much value in prognosis. Some patients may suffer many fits with little more than a trace of albumin, while others with as much as 3 per cent. or 4 per cent. may never develop fits or other serious symptoms.

The chief value of albuminuria as a sign may be summarized as follows:

1. Its mere presence, very easily tested for, is the strongest evidence of some degree of toxaemia.

2. If there is a sudden increase in the amount while the patient is under treatment during the prodromal period, we have a definite sign that the patient is not under control, and is passing into a dangerous condition.

3. After an attack of eclampsia the rapidity or slowness of its disappearance has some significance. Broadly speaking, if it disappears rapidly and completely the disease has been due purely to pregnancy toxaemia and the prognosis is good, both immediately and for future pregnancies, while if the amount of albumin remains high and persists for some weeks during the puerperium there is evidence either that the disease was really chronic nephritis, and not true pregnancy toxaemia, or that if it were really toxaemia the kidney has suffered some permanent damage. The prognosis for the next pregnancy is not so good. It is therefore important to have the amount of albumin determined each day by the Esbach tube.

The Convulsive Stage.

Eclampsia proper differs from the prodromal stage in that there is added a fresh symptom—convulsions and often coma—while the other conditions, such as oedema and urine changes, may be more marked.

The fits vary in onset, number, and degree, and are of the utmost importance in their effect on the patient's chances of recovery. In general, a few slight fits without coma are associated with recovery, while the prognostic outlook worsens as the fits increase in number or severity, or if coma be superadded. To this there are exceptions—for example, a patient who has only had one fit may die, while occasionally another, who has had forty or more fits, recovers; but such cases are unusual, and it remains true that the patient's life is gravely prejudiced by a large number of fits. Every fit is a fresh threat to the patient, especially because of the great danger of cerebral haemorrhage, which is often the cause of death; moreover, every fit renders a living child still more doubtful.

The time of onset of fits is also of importance, inasmuch as the earlier in pregnancy they occur the more severe is the disease, and, further, ante-partum fits are more dangerous than intra-partum or post-partum fits.

While it is difficult to be sure as to other factors, the occurrence of convulsions has a definite relation to three conditions—the blood pressure, delivery, and external stimuli. First, the blood pressure usually mounts after fits have been established, and, in the absence of treatment, remains high. So long as it is elevated, especially while the patient is undelivered, fits are so liable to occur that a sequence of them may be expected. They may also occur in the later moribund stages, when the blood pressure is falling from exhaustion and cardiac failure, but should the tension be reduced by means of treatment there is every prospect of a diminution or cessation of fits. Further, if during treatment the blood pressure again rises to a dangerous height, fits will be likely to reappear.

Delivery of the child has such a marked influence in stopping fits that it has led many to believe that the only rational treatment of the disease is the earliest possible delivery. In about 8 or 10 per cent. of cases, however, the fits first occur after delivery, within the first twelve hours, so that though delivery is one of the surest methods of stopping fits it is not quite certain.

It is important to remember that, apart from the severity of the toxaemia, the number of convulsions may be increased by external stimuli, such as light, noise, manipulation, and passing a catheter; in fact, almost any interference with the patient may start a fit.

A second sign of fundamental importance is suppression of urine. For this reason a close watch should be kept on the amount of urine in the bladder at definite intervals. With the large amounts of fluid usually administered in the treatment of eclampsia, scanty urine or its suppression is a serious sign; on the other hand, an increase in the amount is of favourable import. Complete suppression of urine is so dangerous a symptom that it demands active and rapid surgical interference—nephrotomy or capsulotomy—as almost the only chance of saving the patient.

The qualitative examination of the urine in ordinary clinical work should be chiefly directed towards the search for casts and red blood cells in the deposit, as a large number of cellular casts is strong evidence of serious kidney mischief, and thus influences the prognosis. Further, the amount of albumin should be estimated in each specimen of urine obtained. The determination of urea and ammonia, though of great scientific interest, has probably not the same clinical importance as the other estimations.

A third point, sometimes overlooked, is the condition of the heart. Throughout the whole of the first or prodromal stage while the tension has been high, and particularly during the convulsive stage, the heart has been subjected to a great strain; not uncommonly dangerous dilatation, leading to sudden heart failure and death, occur. Further, I have recently seen a case which furnished strong evidence that the toxins of pregnancy exercise a specially deleterious action on the heart muscle, apart from the extra strain imposed upon it by the occurrence of fits. It is no uncommon result for a patient who has been successfully shepherded through the actual attack of eclampsia to die suddenly during following days from heart failure. Where there has been pre-existing chronic nephritis compensatory hypertrophy of the heart will probably have developed, but in pregnancy toxaemia there is a sudden very great effort required of a heart which is already suffering from the additional handicap of a specific myocardial poisoning. A study of the cardiac condition is of importance when deciding upon the various measures of treatment, such as massive saline injections, or doses of veratrone, or venesection, and we should be guided in the adoption of such measures by a knowledge of the state of the heart. After delivery also the heart should be carefully watched and treated if it has suffered dilatation.

Treatment.

It is not here possible to do justice to the very numerous methods of treatment which have been advocated for eclampsia. There has been endless controversy around the most fundamental principles of treatment. Broadly, there are two main schools—the "active" and the "conservative." The first maintains that as the child or placenta are the source of the poison, the sooner they are removed the better, and to this end it is prepared to deliver as soon as possible by Caesarean section or accouchement forcé; while the second group holds that the main line of attack should be towards elimination of toxin already in the system and prevention of the fits, combined with a more deliberate obstetric treatment.

Each side upholds its method by statistics more or less favourable, but the subject is still *sub judice*. Examples of such statistics are as follows:

Brandt[11] reports:

		Maternal Mortality.	Fetal Mortality.
1889–1905.	Entirely expectant ...	23.6 %	31.3 %
1909–1912.	Entirely "active" ...	18.4 %	23.4 %
1913–1915.	"Active" *plus* narcotics...	15.0 %	34.4 %
	Total 431 cases.		

Essen-Möller[12] reports 64 cases:

Spontaneous delivery (12 cases) ...	14.2 %	—
Active treatment (52 cases)	13.4 %	—

Forssner[13] reports:

1912–1915.	51 cases entirely expectant	9.8 %	—

Whatever statistics are examined, the wide variations in mortality under either method of treatment are striking. The difficulty lies in the undoubted variation in severity that seems to occur in different towns and at different seasons.

Those who advocate active interference involving the most rapid delivery hold that as the ovum is the source of the toxin the sooner the child is delivered the better. To this the answer of the conservatives is that while it is true that the ovum is the origin of the toxin, yet the insult and shock to the organism involved by rapid delivery is so evil in its effects that it more than counterbalances the benefit derived from an immediate arrest of the production of the poison; that sedative treatment in controlling the fits robs the disease of its chief dangers though not immediately curing it; and, finally, that while the fits are controlled the elimination of the toxin already present is the rational procedure.

Now, for the treatment of a protean disease like eclampsia, it appears to me futile to lay down a rigid set of rules. If ever a case should be treated on its own merits it should be eclampsia, for scarcely two cases present the same clinical condition. We should approach these cases in a flexible attitude of mind, prepared to do

anything, from the simple injection of veratrone or morphine to the peformance of Caesarean section and nephrotomy.

The greatest success will follow the path of the *via media*, each patient being treated on her merits. For example, a primigravida at term, developing frequent severe fits before labour, with the os closed and cervix not "taken up," and passing no urine, will probably do better if the child is removed by abdominal Caesarean section, combined with sedative and eliminative measures, than if labour is waited for or slowly induced, and allowed to drag on through many hours of fit-provoking pains.

But a multipara overtaken by fits, after premature labour has begun, with the prospect of a quick delivery, will certainly have a poorer chance if she is subjected to a forcible dilatation of the os, or cervical incisions, or vaginal Caesarean section. Broadly speaking, labour should be induced by a bag if it has not already started, but if it is established when the patient is first seen, it should only be interfered with if delayed, which is not common in eclampsia.

For the moderate cases I think the best is to employ the first few hours by sedative and eliminative treatment, which will diminish the degree of toxaemia, and put the patient in a better condition for the forthcoming labour. Of all the drugs veratrone appears the most satisfactory for the prevention of the fits and the reduction of albumin. Its chief physiological effect is the reduction of the blood pressure and pulse rate when they are high, a heavy fall occurring within half an hour after injection. It is not uncommon for no more fits to occur while the blood pressure is kept low by judiciously repeated injections of veratrone. The dose and time of injection are entirely conditioned by the state of the blood pressure and pulse—in fact, a dose should not be given unless both figures have just been determined.

The higher the tension and pulse the greater is the absolute fall after veratrone injections. The drug is potent, and liable to cause dangerous prostration if administered without due care. The general method of its use is to give an initial dose of 1 c.cm. where the tension is at 170 or above, with a correspondingly rapid pulse. For less high pressures a smaller dose, such as 0.75 or 0.5 c.cm., may be given. The first dose causes a rapid fall within half or three-quarters of an hour from 180 to perhaps 130, or less, usually with complete cessation of the fits, but it shows a tendency to rise again, sometimes within two hours, the pulse rate following suit. By repeated estimations of blood pressure every hour it is easy to arrive at the time for the next injection, usually of 0.5 or even 0.25 c.cm., according to the level of the tension. Veratrone does not stop restlessness in all cases, and for this troublesome and exhausting condition small doses of morphine are useful and without danger.

Having reduced the tension and pulse rate, and with this the liability to fits, say, after the first hour of treatment, it is necessary to have the colon washed out thoroughly until the washings are clear, as much as five or six pints being used if necessary. Gastric lavage is strongly advocated by many, but it is very disturbing to the patient, and may easily provoke a convulsion.

Every encouragement is to be given to free sweating by hot packs, electric lamps, or hot bottles, and after the colon has been washed out it is well to give saline rectal injections, containing glucose and sodium bicarbonate, up to a maximum of two pints within the first four hours. Further injections of saline are beneficial if there is good sweating and an increasing output of urine, but should there be a serious deficiency of the excretory activity too much saline injected is liable to embarrass the heart and cause pulmonary oedema, two not uncommon causes of death. Venesection is not so commonly employed as formerly, but is distinctly indicated if there is cyanosis and embarrassment of the right heart. It should always be considered in relation to the proximity of delivery, when a sufficient amount of blood may be lost from the uterus.

After twelve or more hours of this treatment the patient is usually in a much better condition and ready for the induction of labour or any other obstetric operation. The fits have ceased, the mental condition is less confused, the pulse slower and stronger, the blood pressure between 110 and 140, the skin acting freely, and the bladder containing more urine.

Where these conditions obtain in a multipara and labour pains have not begun, I think the quickest and safest obstetric procedure is the insertion of a Champetier de Ribes bag. Labour is rapidly induced, and there is a minimum of shock. Should the presentation be a breech, an alternative is the bringing down of a leg. Observation of the blood pressure and pulse rate, with the administration of veratrone when necessary, should be continued for at least twelve hours after delivery, even when no further fits have occurred.

This is, of necessity, only the briefest account of the treatment of eclampsia—time forbids discussion of variations and elaborations of method. Suffice it to say that for cases of moderate severity I am a firm believer in the preliminary employment of conservative sedative and depletive treatment, followed later, and only if necessary, by obstetrical assistance. This should never be a violent interference, such as accouchement forcé by the vaginal route, but rather of the nature of the use of forceps, version, Champetier de Ribes's bag, and bringing down a leg, or, as an operative measure, abdominal Caesarean section. Few diseases show a greater variation in mortality. We find the same principles of treatment producing widely differing results in different towns and countries, rendering a comparison of statistics very difficult.

Some cases will die—must die—whatever is done for them. No patient can survive if the liver is almost totally destroyed by massive necrosis. But it is in the pregnancy toxaemias that preventive medicine has one of its greatest opportunities. Eclampsia is almost an entirely preventable disease, for its premonitory signs are plain for any who take the trouble to watch for them.

REFERENCES.

[1] Paul Bar: *Leçons de Pathologie Obstétrique*, 2, 1907. [2] Leith Murray: *Journ. of Obstet. and Gynaec.*, February, 1913. [3] Theis and Lockemann, quoted by L. Murray, loc. cit. [4] L. Murray: Loc. cit. [5] Fieux and Mauriac: *Compt. Rend. Soc. Biol.*, 1910, T. 68, No. 17. [6] Young: *Proc. Roy. Soc. Med.*, June, 1914. [7] L. Murray: BRITISH MEDICAL JOURNAL, 1915, vol. i. [8] C. White: *Proc. Roy. Soc. Med.*, 1919, vol. 12. [9] Irving: quoted by Dice, *Amer. Journ. Obstet.*, 1918, lxxvii. [10] Miller: *Amer. Journ. Obstet.*, August, 1915. [11] Brandt: *Arch. Mens. d'Obstét. et de Gyn.*, July-September, 1916. [12] Essen-Möller: Ibid. [13] Forssner: Ibid.

A Collective Investigation

OF

TEN THOUSAND RECRUITS WITH DOUBTFUL HEART CONDITIONS.

Conducted at the National Hospital for Diseases of the Heart by C. CHAPMAN GIBBES, R. O. MOON, S. RUSSELL WELLS, P. HAMILL, FREDERICK W. PRICE, *and* J. STRICKLAND GOODALL.

REPORT IV.*

COMPILED BY

S. RUSSELL WELLS, M.D., B.Sc.

THE ETIOLOGY OF MITRAL STENOSIS.

IN dealing with the etiology of mitral stenosis we thought it wise only to take into consideration those cases where this lesion could be diagnosed with practical certainty. Excluding those cases where there was reason to believe that the murmur was really the so-called Flint, or was due to pericardial friction, we have taken as signs of mitral stenosis an apical presystolic murmur or a definitely apical murmur in diastole. This gave us an assemblage of 306 cases where the diagnosis of mitral stenosis depended mainly on the presence of a presystolic murmur, and an assemblage of 36 where either an early diastolic, a mid-diastolic, or a diastolic extending through the whole of diastole occurred at the apex. That is to say, in 342 of our 10,000 cases mitral stenosis was thought to be certainly present. There were, however, 48 cases in which mitral stenosis was strongly suspected, though no presystolic murmur nor definite diastolic could be heard. The reason for this opinion varied in the different cases, but it is needless to enter into the details here. Of these 48 cases 18 gave a history of rheumatic fever, and 30 no history of this affection. After careful consideration we thought it wiser to exclude these 48 cases entirely from our universe of discourse, which reduces the number of

* The earlier reports were published in the BRITISH MEDICAL JOURNAL, 1918, vol. i, p. 555; vol. ii, p. 248; 1919, vol. i, pp. 510 and 544.

cases we have to deal with from 10,000 to 9,952, of which 342 were considered to have mitral stenosis, and 9,610 to be free from this lesion. It is necessary to repeat the caution given when speaking of aortic regurgitation with regard to the nature of our material. It must be remembered in drawing any deductions that these cases consist of men alone, between the ages of 16 and 42; consequently any conclusions arrived at do not necessarily apply to women, nor are they necessarily valid for the earlier or later periods of life. In many of the 342 cases other lesions besides mitral stenosis were believed to be present.

TABLE I.—*Showing the Diagnoses made.*

Diagnoses.	No. of Cases.
Mitral stenosis alone	105
Mitral stenosis and mitral regurgitation	148
Total pure mitral lesions	253
Mitral stenosis and—	
Tricuspid regurgitation	1
Tricuspid regurgitation (secondary)	1
Mitral regurgitation and pulmonary stenosis	2
Mitral and tricuspid regurgitation	3
Mitral and tricuspid regurgitation and roughening of aortic valves	1
Mitral regurgitation and roughening of aortic valves	9
Mitral regurgitation and aortic stenosis	1
Aortic regurgitation	15
Mitral and aortic regurgitation	34
Mitral and aortic regurgitation and aortic stenosis	4
Pericardial roughening	2
Mitral regurgitation and pericardial roughening	13
Tricuspid regurgitation and pericardial roughening	1
Mitral and aortic regurgitation and pericardial roughening	2
Total mixed lesions	89
Total	342

Adopting the method pursued in investigating the etiology of aortic regurgitation, the incidence, as shown by the histories of the various antecedent diseases dealt with, was compared in the case of our 342 mitral stenotics and in our whole universe of 9,952 cases. Many of the cases, of course, gave histories of more than one of the diseases inquired for.

TABLE II.—*Antecedent Diseases.*

	9,952 Recruits.		342 Cases of Mitral Stenosis.	
	No. of Cases.	Percentage of 9,952.	No. of Cases.	Percentage of 342.
Rheumatic fever	2,084	20.9	152	44.4
Rheumatism	1,686	16.9	59	17.3
Growing pains	2,692	27.0	86	25.1
Chorea	258	2.6	43	12 6
Tonsillitis	2,202	22.1	64	18.7
Scarlet fever	2,201	22.1	70	20 5
Diphtheria	744	7.5	21	6.1
Pneumonia	561	5.6	15	4.4
Influenza	5,646	56.7	150	43.8
Syphilis	207	2.1	7	2.0
Gonorrhoea	618	6.2	20	5.8
Strain	2,767	27 2	96	28.1

It will be noticed that the mitral stenotics show a much higher percentage giving a history of rheumatic fever than the average, and that the same applies to chorea, but that, with the exception that fewer stenotics than the average gave a history of influenza, the percentage for all the other illnesses were so similar in both cases as to make it appear that the incidence of these diseases in cases of mitral stenosis was purely accidental. A percentage table like this, though it has its uses, is open to many objections, so the degrees of association were calculated from Pearson's formula for Q_5, which gives a fairly close approximation of the correlation coefficient r, and which involves no assumption as to the characters of the two variates. The values of χ^2 for a fourfold table have also been calculated, because by calculating χ^2 a quantity P can be reached, giving the probability that the system is really a random sample from material in which the two variates are independent, quite apart from any assumption as to the nature of the distribution.

TABLE III.—*Correlation between Mitral Stenosis and Rheumatic Fever and Chorea.*

A.	B.	History of A. and B.	History of A. only.	History of B. only.	No History of A. or B.	Coefficient of Correlation.	Limit of Error.	χ^2
M.S.	Rheumatic fever	152	190	1,932	7,678	0.372	0.017	118.18
,,	Rheumatism	59	283	1,627	7,983	0.007	0.020	0.024
,,	Growing pains	86	256	2,606	7,004	0.036	0.020	0.65
,,	Chorea	43	299	215	9,395	0.349	0.018	139.71
,,	Tonsillitis	64	278	2,138	7,472	0.073	0.020	2.39
,,	Scarlet fever	70	272	2,131	7,479	0.034	0.020	0.56
,,	Diphtheria	21	321	723	8,887	0.052	0.020	0.91
,,	Pneumonia	15	327	546	9,064	0.060	0.020	1.04
,,	Influenza	150	192	5,496	4,114	0.208	0.019	23.91
,,	Syphilis	7	335	200	9,410	0.003	0.020	0.002
,,	Gonorrhoea	20	322	598	9,012	0.015	0.020	0.08
,,	Strain	96	246	2,611	6,999	0.016	0.020	0.135

A = Mitral stenosis. B = Etiological factor under consideration—for example, rheumatic fever, chorea, or the like.

From the above table it will be seen that the correlation coefficients and the value of χ^2 both suggest that there is real correlation between mitral stenosis and a history of rheumatic fever and chorea, while the values of Q_5 and χ^2 in those cases giving a history of influenza seem to imply a similar though not so marked connexion. The correlation coefficients in the case of histories of the other diseases are so low as to be negligible, and the value of χ^2 is so small as strongly to suggest that the system is not really a random sample from material in which the two variates are independent.*

Since the correlation between mitral stenosis and a history of rheumatic fever and chorea is so definite we must be careful in ascribing mitral stenosis to any other cause when there is an antecedent history of either of these two affections. We have analysed in detail the cases of mitral stenosis with histories of the different diseases investigated, and have compared the percentages giving a history of rheumatic fever in each case with the percentage of the whole 342 cases with this history. If two diseases such as rheumatic fever and pneumonia were both causes of mitral stenosis we should expect to find a smaller proportion of cases with a history of rheumatic fever among those also giving a history of pneumonia than among the 342 as a whole.

It will be seen from Tables IV and IVA that with the exception of rheumatism, diphtheria, and strain, the percentage giving a history of rheumatic fever is higher than the percentage of the whole 342 giving this history.

When we were dealing with cases of aortic regurgitation it was found, just as with mitral stenosis, that the case, giving a history of rheumatism showed a lower percentage with a history of rheumatic fever as well than the averages and it was suggested that probably some cases of true rheumatic fever had been included in the "rheumatic" group. Probably the same explanation holds good for mitral stenosis, though the difference is not nearly so marked as with aortic regurgitation. With regard to the

* The formulae used were—

$$Q_5 = \sin \frac{\pi}{2} \frac{1}{\sqrt{1 + K^2}}$$

where $K^2 = \frac{4\,a\,b\,c\,d\,N^2}{(a\,d - b\,c)^2\,(a + d)\,(b + c)}$

Q_5 being taken as a sufficiently near approximation to r (see Pearson, *Phil. Trans.*, 1900, series A, vol. 195).

$$(P\infty)\chi^2 = \frac{N\,(a\,d - b\,c)^2}{(a + b)\,(c + d)\,(b + d)\,(a + c}$$

Error: $\pm\ 2.02347 \times \frac{1 - r^2}{\sqrt{N}}$

TABLE IV.—*Analysis of the Rheumatic History of 342 Mitral Stenotics.*

	No. of Cases.	With History of Rh. F.		Without History of Rh. F.	
		Cases.	Per Cent.	Cases.	Per Cent.
Total mitral stenosis ...	342	152	44.4	190	55.6
M.S. and rheumatism ...	59	21	35.6	38	64.4
,, and growing pains	86	42	48.8	44	51.2
,, and chorea	43	20	46.5	23	53.5

TABLE IVA. — *Comparison of the Percentage of 342 Mitral Stenotics giving History of Rheumatic Fever with the Percentages giving that History of the other Diseases Investigated.*

	No. of Cases.	With Rh. Fever.		With Rh., Gr. Pains, or Chorea.		Without Rh. History.	
		Cases.	Per Cent.	Cases.	Per Cent.	Cases.	Per Cent.
Total mitral stenosis ...	342	152	44.4	86	25.2	104	30.4
M.S. and tonsillitis ...	64	37	57.8	8	12.5	19	29.7
,, and scarlet fever ...	70	39	55.7	15	21.4	16	22.9
,, and diphtheria ...	21	9	42.9	7	33.3	5	23.8
,, and pneumonia ...	15	8	53.3	2	13.3	5	33.3
,, and influenza ...	150	77	51.4	33	22.0	40	26.6
,, and syphilis ...	7	4	57.1	2	28.6	1	14.3
,, and gonorrhoea ...	20	13	65.0	4	20.0	3	15.0
,, and strain	96	25	26.0	26	27.1	45	46.9

mitral stenotics with a history of diphtheria, the difference between 44.6 per cent. and 42.9 per cent. is so small as to be negligible, but the strain figure of 26 per cent. is suggestive.

When we were dealing with the etiology of aortic regurgitation we pointed out that, since acute rheumatism frequently produces lesions of more than one of the cardiac valves, we can use the ratio between pure and mixed lesions in the cases giving a history of any particular antecedent disease as a method of investigating the etiology. With aortic regurgitation we found that cases showing pure lesions of the aortic valves were less common than those where some lesion of another valve was also present, and therefore the ratio of pure aortic to mixed lesions was less than unity. In this connexion, however, it must be borne in mind that since the diagnosis of mitral regurgitation necessarily largely depended on the presence of an apical systolic murmur, many of the cases of aortic regurgitation credited with mitral regurgitation as well may have been due to secondary stretching of the mitral ring. Such stretching is not likely to occur when mitral stenosis is present. We found that as we passed from cases giving a history of rheumatic fever to those with no rheumatic history at all, the proportion of mixed lesions steadily rose, probably because the mitral was more likely to be affected when the cause was not true rheumatism. An inspection of the table at the commencement of this paper will show that with mitral stenosis pure mitral lesions are much more common than mixed lesions, and that of the 89 mixed cases in no less than 66 (practically three-quarters) aortic lesions were also present. Therefore the ratio between pure and mixed lesions in these cases of mitral stenosis is greater than unity.

It is interesting to notice (Table V) that the ratio 2.3 for chorea is very similar to that for rheumatic fever—2.53. In a previous paper we showed that there is a definite correlation between the incidence of these two diseases, and this similarity between the ratio of pure and mixed lesions is an additional support, though only a slight one, in favour of their identity.

The following table classifies the cases into three groups: (A) With definite rheumatic history, (B) with doubtful rheumatic history, (C) with no history at all suggestive of rheumatism. The ratio of mitral to mixed lesions suggests that there is some cause of mitral stenosis which is more likely to affect the mitral valve alone than does acute rheumatism.

TABLE V.—*Ratio of Pure Mitral to Mixed Lesions in our Cases of Mitral Stenosis, with the Histories of the various Antecedent Diseases.*

	Total.	Lesions.	Ratio.
		Mitral. Mixed.	
Rheumatic fever	152	109 : 43	2.53
Rheumatism without Rh.F. ...	38	28 : 10	2.8
Growing pains	44	36 : 8	4.5
Chorea	23	16 : 7	2.3
Tonsillitis	27	21 : 6	3.5
Scarlet fever	31	22 : 9	2.4
Diphtheria	12	9 : 3	3.0
Pneumonia	7	5 : 2	2.5
Influenza	73	59 : 14	4.2
Syphilis	3	2 : 1	2.0
Gonorrhoea	7	7 : 0	—
Strain	71	50 : 21	2.4

TABLE VI.—*Three Groups: Definite, Doubtful, and No History of Rheumatism.*

Group.	Total.	Pure Mitral Lesions.		Mixed Lesions.		Ratio of Mitral to Mixed Lesions.
		Cases.	Per Cent.	Cases.	Per Cent.	
A. With history of rheumatic fever	152	109	71.71	43	38.29	2.53
B. With history of growing pains, chorea, or rheumatism	86	65	75.58	21	24.42	3.19
C. With no history suggestive of rheumatism	104	79	75.96	25	24.04	3.16
	342	253		89		2.84

Age Incidence in Mitral Stenosis.

In dealing with aortic regurgitation we found that there was on the whole a decline in the incidence of this lesion between the ages of 17 and 41, but that when a history suggestive of rheumatism was excluded the incidence was practically the same for each quinquennial period. On taking the figures on the same method for mitral stenosis a somewhat similar general decline is found for the whole number of cases, but when any history suggestive of rheumatism is excluded there is a definite and fairly regular decline as the age advances. The numbers are not large, but, taken for what they are worth, they seem to indicate that the cause or causes of aortic regurgitation other than rheumatic fever have a fairly even incidence over the whole period between 17 and 41, while in the case of mitral stenosis such cause or causes are more active in the earlier portion under consideration.

TABLE VII.—*Age Incidence in Mitral Stenosis.*

(Omitting cases below 17 and over 41 years of age, and 47 cases of doubtful mitral stenosis.)

	Total Recruits Examined.	Total Mitral Stenotics.	M.S. with no History Suggestive of Rheumatism.
Ages 17 to 21	2,091	82 = 3.92 %	32 = 1.53 %
,, 22 to 26	2,008	69 = 3.44 %	22 = 1.09 %
,, 27 to 31	2,298	85 = 3.70 %	24 = 1.04 %
,, 32 to 36	2,107	61 = 2.90 %	14 = 0.66 %
,, 37 to 41	1,409	43 = 3.05 %	11 = 0.78 %

We see that the evidence gathered by the percentage method, the evidence afforded by the correlation coefficient, and that gained by investigating the proportion of cases giving a history of rheumatic fever where there

is also a history of another disease, all strongly point to rheumatic fever and chorea as efficient agents in producing mitral stenosis. We therefore thought it wise to eliminate all cases giving a history of one or other of these diseases before attempting to arrive at any conclusion with regard to what other factors may stand in etiological relation with mitral stenosis.

The following table gives the correlation figures when these two histories have been excluded.

TABLE VIII.—*Correlation Figures when Histories of Rheumatic Fever and Chorea have been excluded.*

Omitting 2,259 cases with a history of rheumatic fever or chorea and 25 cases of doubtful mitral stenosis without a history of rheumatic fever or chorea.

Total Recruits ...	... 7,716	Total Diphtheria ...	... 551
,, Mitral stenotics	... 167	,, Pneumonia ...	... 453
,, Rheumatism	... 1,375	,, Influenza ...	... 4,240
,, Growing pains	... 2,030	,, Syphilis ...	... 150
,, Tonsillitis ...	... 1,611	,, Gonorrhoea	... 427
,, Scarlet fever	... 1,626	,, Strain ...	... 2,262

A.	B.	History of A and B.	History of A only.	History of B only.	No History of A or B.	Coefficient of Correlation.	Limit of Error.	χ^2.
M. S.	Rheumatism ...	31	136	1,344	6,205	0.016	0.023	0.064
,,	Growing pains ...	40	127	1,990	5,559	0.045	0.023	0.49
,,	Tonsillitis ...	26	141	1,585	5,964	0.120	0.023	2.91
,,	Scarlet fever ...	27	140	1,599	5,950	0.109	0.023	2.47
,,	Diphtheria ...	9	158	544	7,005	0.070	0.023	0.81
,,	Pneumonia ...	7	160	444	7,105	0.075	0.023	0.85
,,	Influenza ...	66	101	4,174	3,375	0.248	0.022	16.42
,,	Syphilis ...	2	165	148	7,401	0.078	0.023	0.50
,,	Gonorrhoea ...	5	162	422	7,127	0.109	0.023	2.11
,,	Strain	63	104	2,199	5,350	0.139	0.023	5.82

It will be noticed that the correlation coefficient for influenza, 0.248, and χ^2 16.42, are sufficiently large to make it worthy of consideration. When we excluded those cases giving a history of rheumatic fever from our cases of aortic regurgitation, we found that the correlation coefficient between a history of influenza and aortic regurgitation was 0.218, χ^2 being 11.18, figures which are only a little smaller than those found under comparable conditions for mitral stenosis. How are we to account for these figures?

A history of influenza frequently means little more than a history of some febrile ailment, usually accompanied by lassitude, headache, and wandering pains. It is probable that infections due to many different agents are described by patients when giving histories as influenza. The initial illness recounted by Rose Bradford, Bashford, and Wilson as occurring in the acute infective polyneuritis described by them in the early part of 1919, would almost certainly be described by a patient as an attack of influenza, and no doubt many other pyrexias of unknown origin would figure in the history given by a patient as influenza. Some time ago Sir Thomas Horder expressed the opinion that mitral stenosis was in certain cases produced by some short infective illness other than rheumatic fever. Dr. C. F. A. Moss, who has worked as a medical missionary at Tananarivo in Madagascar for thirty years, in a private communication to the writer, states that mitral stenosis is of quite frequent occurrence among the natives of Madagascar, but that as a result of thirty years in an extensive practice of an exceedingly general character, he should say that acute rheumatism does not exist there, at any rate in the centre of the island, while there are various forms of other febrile disorders which are very common.

The organism causing acute ulcerative endocarditis is probably not the same as that producing acute rheumatism, and it is possible that there may be slighter infections, bearing a similar relation to acute ulcerative endocarditis that a boil or a localized attack of furunculosis bears to general pyaemia. May we not in the figures just given see statistical indications of the existence of some disease capable of producing organic valvular lesions, and having a preference for the mitral rather than the aortic valves, such disease being characterized by symptoms which the patient would describe as influenza, or possibly in some cases as tonsillitis?

When dealing with aortic regurgitation we found evidence pointing to strain as an efficient cause in producing this lesion. The figures for mitral stenosis and strain are very different. When rheumatic fever was eliminated in the case of aortic regurgitation we got a correlation coefficient of 0.433, χ^2 being 59.10; the comparable figures for mitral stenosis are 0.139 for the correlation coefficient, χ^2 sinking to 5.8.

The following table gives the classification of our 342 cases of mitral stenosis according to the strain they were exposed to either as a result of their occupation or recreations, and divides them further according to whether they gave a definite history of rheumatic fever, a doubtful history, or no history at all of this ailment. The figures for the total number of recruits and the comparable figures for our 307 cases of aortic regurgitation are included for comparison.

TABLE IX.—*Occupation and Exercise.*

	Light.	Medium.	Heavy.
	Per cent.	Per cent.	Per cent.
10,000 recruits	50.0	22.9	27.1
342 mitral stenotics	43.8	28.1	28.1
10,000 recruits	50.0	22.9	27.1
Mitral stenosis with rheumatic fever ...	49.3	34.2	16.5
Aortic regurgitation with rh. fever ...	52.5	29.6	17.9
10,000 recruits	50.0	22.9	27.1
Mitral stenosis with rheumatism, growing pains, or chorea	44.2	25.6	30.2
Aortic regurgitation with rheumatism, growing pains, or chorea	30.1	19.2	50.7
10,000 recruits	50.0	22.9	27.1
Mitral stenosis without rheumatic history	35.6	21.2	43.2
Aortic regurgitation without rheumatic history	23.6	11.1	65.3

Table IX shows that, as in aortic regurgitation, the patients suffering from mitral stenosis and giving a history of rheumatism show a drift from the heavy occupations and exercises to medium. As a history of rheumatism is eliminated there is an increasing percentage of cases who are engaged in heavy labour or indulge in strenuous recreations. This increase is much less pronounced among mitral stenotics than among aortic regurgitants. Since some of our cases of mitral stenosis also had their aortic valves affected, we thought it possible that the inclusion of such cases might account for the increase in the heavy exercise class. We therefore prepared the following table, contrasting the subjects of mitral stenosis in whom no other valve was affected with the subjects of aortic regurgitation in whom the aortic valves alone were affected. In each case we give the numbers for the mixed lesions as well for comparison.

TABLE X.—*Occupations and Exercise.*

MITRAL STENOSIS.

		Pure Mitral Lesions.			Mixed Lesions.		
		L.	M.	H.	L.	M.	H.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Total mitral stenosis ...	342	45.45	27.67	26.88	39.33	29.21	31.46
With rheumatic fever ...	152	51.38	32.11	16.51	44.19	39.54	16.28
With rheumatism, growing pains, or chorea ...	86	44.62	27.69	27.69	42.86	19.05	38.09
Without history suggestive of rheumatism ...	104	37.98	21.52	40.50	28.0	20.0	52.0

AORTIC REGURGITATION.

		Pure Aortic Lesions.			Mixed Lesions.		
		L.	M.	H.	L.	M.	H.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Total aortic regurgitation ...	307	39.52	24.19	36.29	40.93	20.77	38.25
With rheumatic fever ...	162	50.0	34.29	15.71	52.17	28.26	19.57
With rheumatism, growing pains, or chorea ...	73	34.48	17.24	48.28	29.55	15.91	54.54
With no history suggestive of rheumatism ...	72	16.0	4.0	80.0	29.79	10.64	59.57

L.=Light; M.=medium; H.=heavy.

An inspection shows that while in the case of mitral stenosis there is an increased percentage of those who indulge in heavy exercise as we pass from a history of rheumatic fever to no history suggestive of rheumatism, the increase is in no way comparable with the increase in the case of pure aortic lesions; and, further, that as we pass from pure mitral lesions to pure aortic lesions where no history of rheumatism exists, there is again a steady increase in the percentage engaged in heavy exercise. Another remarkable fact that this table reveals is that the distribution between light, medium, and heavy exercise is practically the same for both aortic and mitral cases where there is a history of preceding rheumatic fever. The deductions which we are inclined to draw from these tables are that while strain has possibly some effect in producing mitral stenosis, it is nothing like so important a factor as it is in the production of aortic regurgitation. From the extremely similar numbers in aortic and mitral cases in the various strain groups, we cannot help suspecting that the disability that rheumatism causes, and which determines the amount of exercise or work the patient does, is more dependent upon some common factor, such as damage to the cardiac muscle, than on the particular valve affected.

When we were dealing with aortic regurgitation we compared the number of cases engaged in heavy, light, and medium labour who gave no history of acute rheumatism with numbers calculated on the assumption that strain and rheumatic fever were the two chief causes of aortic regurgitation, and we found a remarkably close agreement between the calculated and the actual figures; when we applied this method to the mitral stenotics the difference between the actual and calculated numbers was so great as to negative such an assumption, which again leads us to the same conclusion as the other figures in the present communication—namely, that there is another cause of mitral stenosis besides rheumatic fever, which is not strain.

SUMMARY.

Taking aortic regurgitation and mitral stenosis as the two typical valvular lesions which can be diagnosed with comparative certainty during life, the results of the present statistical inquiry lead us to the following conclusions:

1. The most important etiological factor in the production of organic lesions of the heart valves in men between the ages of 18 and 41 is rheumatic fever.
2. Strain can independently produce aortic regurgitation.
3. While strain may be a cause of mitral stenosis, it is a much less important factor than in the production of aortic regurgitation.
4. There is a third agent giving rise to symptoms simulating influenza, which is an efficient cause of mitral stenosis, and can possibly affect the aortic valves as well, but is not nearly so likely to do so.

We have been unable to find any statistical evidence that syphilis, scarlet fever, diphtheria, pneumonia, or gonorrhoea, are causes of valvular lesions, nor can we find statistical evidence that a history of growing pains points to affections productive of valvular lesions. The same may be said, with slight reservations, of a history of rheumatism where there is no clear account of pain, swelling of the joints, fever, or confinement to bed. The evidence in favour of chorea as an efficient cause of mitral stenosis is strong, and we have found some, though not very striking, evidence in confirmation of the view that chorea and rheumatic fever are both manifestations of the activity of a common cause.

THE IMMEDIATE CLOSURE OF EMPYEMATA.

BY

FRANK HATHAWAY, M.D.,

SURGEON, KING EDWARD VII HOSPITAL, WINDSOR.

THERE is nothing new under the sun, and I was very much surprised, after I had drafted this paper, to be told by a friend of mine that twenty-five years ago it was the custom at King's College Hospital, under Lord Lister, to wash out their cases of empyema and sew them up. The fact remains, however, that when I returned from France late in 1917. it struck me that in the treatment of empyema it was not sufficient merely to open the abscess and put in a drainage tube, but that something more should be done and the wound immediately sutured.

These short notes are the result of my experience since I published my first successful case in a paper on the abuse of drainage tubes[1] in 1918, when I thought I had struck something original and really good. Although I am not a pioneer in the immediate closure of empyemata, I hope that the success I have met will stimulate others to follow the lines of treatment I find by experience to give the best results.

It stands to reason that the simple resection of rib, letting out of pus, and putting in of a drainage tube is not the ideal and complete treatment of empyema. Something more is wanted, because re-expansibility of lung is far more important than the mere evacuation of pus, and this re-expansibility can only be produced in two ways: (1) By introducing the whole hand into the pleural cavity and freeing the lung of all adhesions and removing all fibrinous clots; (2) by immediate closure of the wound.

Those who have had experience of chest surgery in France learnt that the first thing was to do away with a "sucking wound." Why, then, should we by the use of a drainage tube deliberately establish one in the treatment of empyema? By using an open tube the atmospheric pressure in the pleural cavity must be greater than that in a collapsed lung, and in order to get a lung to re-expand as quickly as possible it is essential to produce a vacuum in the pleural cavity. This result can only be attained by immediate closure of the wound, after filling up the cavity with some fluid.

Every surgeon in France was surprised to observe how quickly the lung re-expanded after immediate closure for gunshot wounds, and the same holds true for empyemata. Breath sounds will be heard down to the base of the lung within a few days after operation, and the lung will rapidly push out the fluid left, so that it comes to lie under the skin and can be easily and painlessly evacuated.

Therefore we may lay it down as an axiom in chest surgery that the lung will quickly re-expand if only it is given a fair chance. This favourable condition can only be secured by freeing the lung from all adhesions and by closing the wound at once.

If these two main rules are carried out, we shall do away with the old-standing cases of empyema which go on from year to year, with collapsed lung and a persistent sinus, and eventually have an enormous Estlander operation performed. Is it too good to hope that this operation will become a thing of historical interest only?

As I have pointed out elsewhere, there is no reason why a pneumococcal infection should be treated on lines different from a tuberculous infection. In either case, by using an open drainage tube, we are asking for trouble by producing a secondary mixed infection.

It is important to note that a careful bacteriological examination is essential in every case of empyema. If pneumococci or pneumococci and staphylococci are present the wound may be sutured; but if streptococci are present, then I think it advisable to remove the stitches and treat by some open method—that is, Carrel-Dakin, packing with gauze, or by a drainage tube.

Operation.

I have, since my return from France, sewn up all my cases, and my experience up to date has taught me that the following are the best lines:

I have always used a local anaesthetic, but I am inclined to think that when handling the lung a little general anaesthetic with it is useful.

I resect sufficient rib, either a long section of one rib or adjacent parts of two ribs, to allow of the introduction of the whole hand into the pleural cavity. This is the first most important point, because, after evacuation of the pus, it is essential to pass the hand into the chest cavity and strip off the collapsed lung all adherent fibrin and separate the lung from all adhesions. In any early case this is easily done, but an old-standing one will require much freeing of the lung in order that it may recover its re-expansibility. I then wash out the pleural cavity with flavine till the fluid comes away quite clean, and fill up the chest with a 2 per cent. suspension of iodoform in sterilized paraffin. The pleural wound is then sewn up with catgut, not that I think this is very important, because these stitches soon give way. I then carry out immediate

closure of the skin wound with deep sutures, so as to leave no "sucking wound."

The next important point is the after-treatment. When dressing on the next and following days the wound will be bulging; this is due to a mixture of pus and iodoform and paraffin being pushed out of the pleural cavity by the expanding lung under the skin. Daily I introduce the needle of an exploring syringe between the edges of the wound—this is quite painless—and extract all the fluid I can. This process usually takes ten to fourteen days, depending on the re-expansion of the lung. Daily bacteriological report of this fluid shows that the number of organisms in a field steadily diminishes. A certain amount of this mixture of pus and iodoform and paraffin will ooze out also into the dressings.

The two most important points in technique, then, are—

1. Introduction of the whole hand into the pleural cavity to separate adhesions and remove all fibrin. The lung must be made to re-expand.

2. Daily evacuation by an exploring syringe of the pus and paraffin as it is pushed out under the skin by the re-expanding lung.

I have now sutured 9 cases. The ages of the patients were 55, 53, 44, 30, 27, 25, 18, 4, and 2½. All were pneumococcal except two; one was staphylococcal as well as pneumococcal, and one which was my only failure; this was a tuberculous case—a man, aged 44, with two big abscesses pointing under the skin, one behind and one in front. He was very debilitated and ill. As it was one of my early cases I did not sufficiently explore the chest with my hand; had I done so I should have found, as I did *post mortem*, that the lung was tied in a knot at the root. I sewed the incision up, and the patient died in twenty-four hours. After seeing the condition of his chest I am quite sure the result would have been the same had I drained with a drainage tube or sewn up.

Of the other eight cases, all made good and rapid recoveries. The temperature fell at once, and the pulse and respirations came down more gradually.

The duration of the disease in these cases varied from two to six weeks, after the resolution of the primary pneumonia.

A further suggestion has occurred to me, but I have not lately had an empyema to try it on. It is this: Whether it would not be a good plan to insert into the pleura a soft piece of folded rubber—that is, a passage tube—in order gradually to let out the iodoform and paraffin, and to do away with the daily needling of the collection under the skin. This piece of folded rubber will not allow air to enter the pleura, and will yet slowly allow the escape of pleural contents.

REFERENCE.
[1] BRITISH MEDICAL JOURNAL, 1918, i, p. 718.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF FACIAL TROPHONEUROSIS WITH DEFORMITY OF THE HAND.

As progressive facial hemiatrophy is a rare condition, the notes of the following case observed during the examination of recruits will be of interest.

A boy, aged 17, presented the following structural abnormalities, which are seen in the photograph.



Bones. — There was atrophy of all the bones of the right side of the skull, including the cartilaginous portion of the external ear. The metacarpal and phalangeal bones of the thumb and right index finger were atrophied and deformed.

Muscles. — Wasting was noted on the right side in the muscles of the face and of the thenar eminence, and to a lesser degree in the muscles of the neck; the right sterno-mastoid, however, was well formed. The right upper limb was poorly developed although he was right-handed.

Nerves.—Epicritic and protopathic sensations were everywhere normal; in no muscle was there palsy.

Other points of interest were that the right carotid and radial pulses were perceptibly weaker than those of the left side, and that the skin of the affected side was of a more delicate texture.

The boy is a junior member of a family of fifteen, and I have excluded as far as possible the question of natal trauma with resultant torticollis and facial asymmetry.

Wrexham. I. H. LLOYD, M.B., B.S.Lond.

FOREIGN BODY IN BRONCHUS.

THE case reported in the JOURNAL of May 1st, p. 602, by Mr. W. C. Cammock, in which a toy air balloon was present in the left bronchus, recalls a similar one with which I had to deal about three years ago.

A boy, aged 11, when playing in the street, inhaled a small rubber balloon with wooden mouthpiece which caused immediate and complete respiratory obstruction. This was relieved by tracheotomy performed by a doctor near whose house the boy was at the time. He was then taken to the Liverpool Royal Infirmary, and when I saw him there soon after his arrival he was suffering considerably from shock, and surgical emphysema, originating no doubt from the tracheotomy wound, was present over the neck and a great part of the trunk. The boy's condition at the time did not justify any attempt to find and remove the foreign body which was probably then in the larynx. On the following day the rubber balloon without the wooden mouthpiece was coughed out, and the boy could breathe and phonate clearly on closing the tracheotomy opening. The surgical emphysema disappeared and his general condition improved, so that six days after the accident I considered it safe to endeavour to remove the mouthpiece which was presumed to be lying in some part of the bronchial tree, although there were no physical signs in the chest giving any clear indication of its position. Inferior bronchoscopy at once revealed its presence in the right main bronchus, from which it was removed without difficulty. The absence of physical signs of obstruction of the bronchus was due no doubt to the fact that air had passed freely through the lumen of the foreign body as well as between its walls and those of the bronchus in which it lay quite loosely.

THOMAS GUTHRIE, M.B., F.R.C.S.,
Honorary Laryngologist, Royal Infirmary, Liverpool.

Liverpool.

CARBOHYDRATE EXCESS AND BERI-BERI.

CONSIDERABLE interest attaches to the fresh light thrown upon the pathogeny of rickets and beri-beri by Professor Mellanby in his opening remarks at the Section for the Study of Disease in Children of the Royal Society of Medicine on February 27th, 1920. While admitting that administration of the suitable vitamines in rickets and beri-beri will effect a cure, he holds it not improbable that the two diseases are brought about by some other elements in the diet, probably a carbohydrate excess, together with some considerable protein deficiency. Such facts are in agreement with results of observations I made some years ago upon the former diets of beri-beri patients, in which, generally speaking, in addition to the lack of the particular antineuritic vitamine, carbohydrate was found to bulk largely in the diet, with insufficient intake of protein derived principally from polished rice and dried fish.

The epidemiological distribution of beri-beri still, however, to some extent remains unsolved, in its special incidence upon sea-coast places, in which immigrants specially suffer, whilst residents partaking of an identical diet almost invariably escape. In regard to occupation I found a large number of those engaged in sedentary trades, such as the Chinese tailors in Singapore, specially prone to the disease.

Whilst I hesitate to introduce a further causative factor in beri-beri, it may well be that a degree of acidosis is the ultimate determining agent in the production of neuritic symptoms, a condition now known to be liable to arise in new arrivals to the hot moist climate of the seaboard towns of the Straits Settlements, being aggravated by the already mentioned dietary deficiencies and excesses, against which the Straits-born inhabitants have become more or less immune through prolonged residence.

The connexion between neuritis and acidosis may be further traced in the neuritis complicating diabetes and diphtheria, in which acidosis is usually a feature in cases which develop neuritis. There is some direct evidence in the results of Brandon, Cooper, and others in favour of the view that the offending element in the diet in polyneuritis avium is a carbohydrate excess.

Pellagra is now definitely known to result not from lack of a vitamine but from a diet of low biological value, such as maize.

Whether or not the function of the vitamine is to preside over metabolism through the stimulation of one or more hormones is yet undetermined, but such a view would appear feasible in the light of recent observations on the pathogeny of beri-beri and the kindred "deficiency" disease of rickets.

K. SIMPSON, M.D., M.R.C.P., D.P.H.,
late Medical Officer, Colonial Service.

Reports of Societies.

RADIUM THERAPY.

AT a meeting of the Sheffield Medico Chirurgical Society, held on April 15th, Dr. RUPERT HALLAM read a paper on the therapeutic uses of radium. After a brief description of the chemical and physical properties of the metal, he explained the methods employed in estimating the quantity of radio-activity in the various applicators used in medicine and surgery. The strength of each applicator supplied by the Sheffield Radium Institute is described in terms of radium metal, and he suggested that it would be of great advantage for the comparison of doses and results if this unit of dose were universally adopted. Although the Sheffield radium, which was purchased in 1915, was primarily intended for the treatment of inoperable malignant disease, it had also been used extensively for the treatment of certain skin diseases. In his experience the results obtained in the treatment of rodent ulcer, providing the ulcer did not involve the bone or conjunctiva, were good. He had latterly employed carbon dioxide snow in conjunction with the radium, and anticipated a higher percentage of non-recurrences. Thirty-three cases of cavernous naevi treated during the year 1919 had all responded exceedingly well, and he maintained that this method superseded all others. A large number of cases of malignant disease had been treated during the last four years by the surgeons of the four voluntary hospitals in Sheffield; cases of sarcoma apparently responded most favourably to the application of radium, and four such cases which had been free from recurrence for periods varying from one to four years were shown. The results of the treatment of carcinoma of the cervix had been disappointing. In no case of carcinoma of the mouth could improvement be said to have occurred. In conclusion, Dr. Hallam maintained that apparent cure of inoperable malignant disease by radium was exceedingly rare, but that it often relieved pain, lessened discharge, and gave patients hope.

At the close of the paper several members related their personal experience of the treatment of malignant disease with radium. Dr. MILES PHILLIPS had found it of little value in carcinoma of the cervix. He expressed the opinion that equally good results were obtained by curetting the growth, and he related a case in which this method had been employed and the growth remained quiescent for four years. Dr. WILKINSON described several cases of sarcoma of the tonsil which had responded well to the treatment and were apparently free from disease. Mr. ARCHIBALD CUFF had employed it with satisfactory results in two cases of menorrhagia.

PSYCHOLOGICAL ANALYSIS.

AT a meeting of the Manchester Medical Society, held on March 3rd, 1920, Professor R. B. WILD, the President, being in the chair, Professor T. H. PEAR read a paper on psychological analysis, which he defined (following Bernard Hart) as "any method whereby the nature and relationship of the causes responsible for the patient's (mental) condition are determined, and the condition is removed by the rearrangement and readjustment of these causes." The term was said to be wider than psycho-analysis; the latter should be reserved to describe that method which owed its inception to Sigmund Freud. The purpose of the speaker was to describe the nature and uses of psychological analysis (of which psycho-analysis was one variety) in the diagnosis and treatment of what were known as the "functional nervous disorders." Of these disabilities there were two kinds, often but not always distinguished sharply from each other: (1) Conversion hysteria, (2) the anxiety neuroses. These two types of disorder might be symptomatic of different kinds of mentality in a patient, and the cure might necessitate different methods of treatment. Professor Pear said that, though psychological analysis was only one method in psycho-therapy, it was sometimes the only method which would ultimately be successful, because it was the only "radical" method. The different psychological processes involved in the methods known as suggestion, persuasion, and analysis were discussed and compared, and reference was made to the view taken by Bernard Hart of the differences between these disorders. It was pointed out that the meaning attached to the word "suggestion" was usually extremely vague, and that, though suggestion probably entered into treatment both by persuasion and analysis, it could be distinguished from them. The definitions of suggestion and persuasion given by Hart in the *Proceedings of the Royal Society of Medicine*, vol. xii (Section of Psychiatry, pp. 13–34) were further discussed. In conclusion, Professor Pear pointed out that the adoption of all methods of psycho-therapy, and in particular of the analytic method, required a knowledge of the technique and of the psychological processes underlying them. He emphasized the necessity of training medical students in the future to understand and to discriminate between the uses of the various methods.

Professor E. S. REYNOLDS, Dr. D. E. CORE, Dr. S. HERBERT, Dr. A. V. STOCKS, and Dr. S. R. WILSON took part in the subsequent discussion.

MIXED FUNCTIONAL AND ORGANIC PALSY.

AT a meeting, held on February 27th, of the Section of Medicine of the Royal Academy of Medicine in Ireland, the president, Dr. G. PEACOCKE, being in the chair, Dr. DRUMMOND showed a case of senile urticaria pigmentosa of fifteen years' duration in a man of 68. Dr. O'KELLY, who had examined sections of the skin, reported the presence of mast cells in large numbers; this was considered by Brock, Unna, and Gilchrist to be pathognomonic. This patient suffered also from auricular fibrillation, and had been treated by Dr. NESBITT, who showed slides of tracings taken to demonstrate the condition.

Dr. MAXWELL showed a patient of 58 suffering from pituitary tumour, who complained of difficulty in reading. There was a history of two years' headache and dizziness. She was found to be suffering from bitemporal hemianopsia; the turbinated bones on the right side were very oedematous.

Dr. PURSER stated that he had seen the case. There was bad headache, but not severe enough to make one suspect intracranial growth. Amenorrhoeic signs were of no value as the patient was past the menopause; fat was slightly increased and there was some loss of hair. The tumour of the pituitary was well shown by *x*-ray photograph. He asked for views as to operative treatment.

Dr. SPEARS showed a case of paralysis of the left arm and leg in a woman of 28. In February, 1919, she was delivered of a healthy male child. The placenta was torn; after its removal she had a haemorrhage, and was unable to move her left arm or leg. A fortnight later she was sent to Monkstown Hospital, where she had electrical and massage treatment for nine months and improved greatly. She had severe pain on the left side of her head and face; the left side of her face was "crooked," and all food dropped out of her mouth on that side.

On examination the arm was held in a position of tetany, except that the interphalangeal joints were flexed instead of extended, and that the wrist was drawn to the radial instead of to the ulnar side. Sensation, except touch, was normal. After slight massage some movements of the arm were produced. Similar conditions were present in the leg. *Reflexes:* Left knee-jerk exaggerated, right sluggish, ankle clonus marked in left foot. Babinski? Abdominal reflexes absent.

Wasting of calf muscles of left leg; painless periarticular swelling of both knee-joints. Eyes normal; Wassermann test

negative. *Electrical reactions:* All muscles of arm and leg responded to faradic and galvanic currents.

Dr. PURSER said there was probably a functional element in the case, aggravated by not having been taken in hand earlier, but as the gait was characteristic of hemiplegia, he thought the condition was organic in origin, whether due to haemorrhage or thrombosis, he could not say.

Dr. DRURY thought it was probably due to thrombosis caused by slow and scanty circulation through the brain. He knew of two other cases following pregnancy in previously healthy women.

Dr. SPEARS, in reply, said he thought the case was one of mixed paralysis—that of the arm was functional and that of the leg organic. He had not examined the cerebro-spinal fluid: he thought Dr. Drury's theory of origin was probably correct.

TUBERCULOSIS SOCIETY CONFERENCE.

A CONFERENCE under the auspices of the Tuberculosis Society was held on May 13th and 14th at Leeds; delegates, including tuberculosis officers, medical superintendents of sanatoriums and of tuberculosis colonies, were present from all parts of Great Britain and Ireland. At the opening of the conference in the Town Hall the Tuberculosis Society was welcomed to the city by the Lord Mayor and by the Vice-Chancellor of the University (Sir Michael Sadler).

Dr. H. de Carle Woodcock, in the course of his presidential address, remarked that in Leeds the civic authority had been less ready than private enterprise in the fight against disease. Robust democracies despised minorities, and the sick were a minority. Research should begin by co-ordinating our knowledge so that we knew where we stood in this matter. Dr. Benjamin Moore (Lister Institute) then moved the following resolution, which was carried unanimously:

> That in the opinion of this congress a conference should take place between those actually engaged in tuberculosis work and those engaged in research work, to arrange the lines on which future investigation should be conducted, and the manner in which the records should be kept and collated and their results circulated.

On Thursday afternoon Dr. A. Trimble, chief tuberculosis officer, Belfast, in opening a discussion on tuberculosis in workshops, said there was little to be gained by demanding increased wages unless the workers themselves knew how to make the best use of them; increases spent on cinemas, railway travelling, theatre going, more tobacco or more liquor were useless. Smokeless and dustless roads were required. Mr. Fisher (secretary of the Glass Bottle Makers' Society, Hunslet) stated that eight out of ten of the deaths he had to record in that trade were due to tuberculosis. This could be largely overcome if the men had their own blowpipes and proper means of sterilizing and keeping them clean. Dr. Nathan Raw, M.P., said that sanatorium treatment had not been a success, first, because it was a dull, monotonous, and uncomfortable life; and secondly, because the patients did not stay there long enough. The Ministry of Health were about to form a special department to deal with tuberculosis alone.

At the School of Medicine Dr. Marcus Patterson, who opened a discussion on recent advances in treatment, said that it was within the last twenty years that it was first decided to open the windows of rooms in which consumptives were being treated; until recently treatment had consisted only of fattening by milk feeding. Sir Henry Gauvain described the treatment of non-pulmonary tuberculosis at the Treloar Cripples' Hospital at Alton, and illustrated by lantern slides the correction of various deformities. He said that whilst under treatment the children received instruction for three hours a day; crippled lads between the ages of 14 and 18 were taught a trade.

At the Section on "Tuberculosis and child life" papers were read by Dr. A. Wear, chief medical officer to the Leeds Education Committee, and by Dr. C. W. Vining. The Section on Farm Colonies was addressed by Dr. S. Jacob and by Mr. A. G. Ruston, lecturer on farm economics at Leeds University. On Thursday evening popular lectures were given by Sir Henry Gauvain and by Dr. Halliday Sutherland.

Tuberculous Ex-Soldiers.

On Friday a discussion on tuberculosis and the war was opened by Sir Montague Barlow, M.P., Parliamentary Secretary to the Ministry of Labour, who said that 40,000 ex-service men might fairly claim to have been affected with tuberculosis as a result of the war. If they were allowed to return to ordinary life they would probably not only disappear very quickly but also infect others. The Interdepartmental Committee recommended that sanatorium accommodation, where deficient, should be increased; that after prolongation of the ordinary sanatorium treatment there should be facilities in connexion with many sanatoriums for a farm colony, with scope for employment in the workshop or on the farm; and that ten village settlements should be created. It was intended that the men should group themselves round the sanatorium in village life, with medical and industrial advantages; they should have pensions from the State. The Government had now set up a committee to establish as promptly as possible a reasonable number of these village settlements. It had been whispered to him that the money was going to be forthcoming, and that the Government were quite agreeable. Dr. Noel Bardswell stated that of 430 tuberculous ex-service men demobilized in the London area, 264, or 60 per cent., were already dead. The establishment of village settlements might take two or three years, and before this had been accomplished the great majority of the men would have succumbed.

Artificial Pneumothorax.

On Friday afternoon Dr. Vere Pearson opened a discussion on artificial pneumothorax. Careful observation, he said, was required in order to determine whether the less diseased side was capable of sustaining life. Refills should not be at too long intervals. He did not consider this treatment suitable as a routine for early cases. If one lung was collapsed the patient ran a greatly increased risk if he developed influenza or pneumonia. Dr. Morriston Davies said that no case was too early for pneumothorax. Adhesions, if they were fine bands, could be easily cut with a tenotome under *x* rays. Dr. Halliday Sutherland advised pneumothorax in suitable cases of recurring haemorrhage. After induction of pneumothorax he found that many adhesions would give way or stretch if the patient were given breathing exercises; in suitable cases the results were brilliant.

At the Section on "Care Work" addresses were given by Dr. Jane Walker and by Dr. Stanley Tinker.

At the Central Tuberculosis Dispensary Dr. H. Ellis demonstrated his treatment of lupus.

At the closing session, held at Harrogate on Saturday, Dr. Halliday Sutherland outlined the policy of the Society. Two years ago there was no other organization to advance the material interests of tuberculosis officers. The status of tuberculosis officers was now recognized, and a group representing their interests was being formed within the Society of Medical Officers of Health. It was not desirable for the two societies to amalgamate, because the Tuberculosis Society included not only tuberculosis officers, but sanatorium superintendents, hospital physicians, bacteriologists, and others interested in various aspects of tuberculosis. Their primary aims were not medico-political, but they desired to make the society a clinical institution representative of every aspect of clinical tuberculosis work in the United Kingdom.

Reviews.

BRITISH MOSQUITOS.

ONE of the most important functions of a large public museum is to publish monographs on subjects which are not attractive to the publisher; we may surely congratulate our own Natural History Museum on having produced in the last few months Hirst's work on *Demodex* and W. D. LANG'S *Handbook of British Mosquitos*.[1] The practical importance of the twenty-one gnats or mosquitos (we are glad to see that the author makes no attempt to use these English words as if they meant different insects) which inhabit this country is fortunately small; though three species of *Anopheles* are included in the list, our low mean temperature, even in summer, makes it unlikely that malaria acquired in Britain will ever again be common. Fortunately Dr. Lang's book is written so that it can be used as an introduction to the study of mosquitos generally. We know no textbook of medical entomology which gives the man unversed in the systematics of the Culicidae so definite a grasp of the points on which genera and species are distinguished. Anyone who is willing to work

[1] *A Handbook of British Mosquitos.* By W. D. Lang, M.D., M.A. Sc.D. London: Longmans, Green, and Co., B. Quaritch, Ltd., Dulau and Co., Ltd., and the British Museum (Natural History). 1920. (Roy. 8vo, pp. 131; 5 coloured plates, 132 figs. £1.)

through a few of the British species with the aid of this book will find that he has equipped himself with a general knowledge of the structure of these insects—not merely their scales and nervures, but their claws, their genitalia, and their palps. Having this knowledge he should be able to study the mosquitos of any part of the world with the aid of the various more technical monographs which are available.

The chapter on the characters by which larvae may be distinguished is one of the best features of the book. The medical man in the tropics has often been puzzled by his inability to discover any absolute structural difference between two mosquito larvae which he felt sure represented different species; if he is willing to put himself to school and to study these pages he will have a clear idea of what distinguishing characters can generally be relied upon.

The book contains sound biology as well as sound morphology. We have all of us seen gnats dancing in sheltered spots at dusk, but few of us know that the dancers are males, and that when a female approaches the dance becomes more and more frenzied; finally, the female overcomes her shyness, enters the swarm and is seized by a male with whom she leaves the dance; the males then continue to dance until another female enters the swarm and finds a partner. The prevalent idea that a feed of blood stimulates the female to pair appears to be true only of certain species of *Anopheles*.

The figures in the text and the coloured plates are alike excellent, though no magnification is given with most of the text figures. There is an index of specific names and synonyms, but no general index. In every other respect the book does immense credit to the author and the museum.

THE MEDICAL ANNUAL.

THE *Medical Annual for 1920*,[2] the thirty-eighth volume of this valuable series, begins with a short section on recent advances in materia medica and therapeutics, including *x*-ray work, radio-activity, and electro-therapeutics. This is followed by nearly four hundred pages in which the progress of medicine and surgery during the year 1919 is reviewed by some three dozen authorities, each of special competence in the subject with which he deals. Arranged as a dictionary of treatment, this part of the *Annual* is full of detailed information on all the urgent medical and surgical problems of the day. Deficiency diseases and vitamines are fully discussed, and the limits of fact and fancy in this interesting branch of chemical physiology are indicated. The most recent views on the dietetic treatment of diabetes mellitus are set out; lethargic encephalitis is described and its diagnosis discussed; a case is made out for the consumption of alcohol; the treatment of nasal catarrh and recurrent bronchitis by the administration of vaccines, preferably autogenous, is described, and much interesting information about bronchial asthma and hay fever has been collected. The various neuroses and allied states brought into prominence by the great war receive adequate consideration, and there is an excellent article on the surgical treatment of visceroptosis. The treatment of deep frontal headache by the administration of pituitary extract is described, and recent investigations into the pathology of paralysis agitans are summarized.

The third and last section of the *Annual* deals with numerous miscellaneous topics—public health administration, new books, sanatoriums, spas, and the like—of practical interest to medical men. The volume is provided with particularly good indexes, its illustrations are numerous and well reproduced, and its get-up does great credit to the publishers.

ANTHELMINTICS.

IN Southern Brazil the State of Paraná has set up a scheme of rural prophylaxis against three local plagues—namely, malaria, ankylostomiasis, and leprosy. This is worked in conjunction with hospitals, dispensaries, bacteriological laboratories, and similar adjuncts over a large area, under the direction of Dr. DE SOUZA ARAUJO,[3] who has recently published an account of the first few years of the scheme's growth. This volume is very fully documented, and in addition contains clinical and administrative accounts of ankylostomiasis, infection with round worms, trichocephalus, and other intestinal parasites. He finds thymol and oil of chenopodium to be, speaking generally, the best anthelmintics. The thymol is given in capsules by the mouth, finely powdered and mixed with an equal weight of glucose; the dose of thymol is 1 gram at the ages 1 to 5, and 5 grams at the ages 20 to 50; the patient is made to lie down for a time after taking it. No permanent ill effects have followed in any of the 20,000 of these treatments given; and larger doses can be employed in the case of hospital patients, say, 6 grams, together with 3 c.cm. of chenopodium oil. This oil is superior to thymol as a vermifuge, according to Dr. Araujo; adults receive 1.5 c.cm., children 2 or 3 minims for each year of their age; an adequate dose of magnesium sulphate should be given as a purge the night before. Ten days later this treatment is repeated. Neither thymol nor chenopodium oil can be expected to yield a radical cure for helminthiasis. It is reckoned that there are 600 to 800 lepers in Paraná; it is hoped to isolate these in colonies on some island off the coast, if the Federal Government will support the plan. There are many interesting points and discussions in this very full and florid report to which no reference can here be given; it is illustrated with many reproductions of photographs, and should be studied by all medical men interested in tropical medicine who can read Portuguese.

NOTES ON BOOKS.

THE fourth edition of Mr. RENDLE SHORT'S *The New Physiology in Surgical and General Practice*[4] consists of a series of fourteen essays attractively written about subjects of interest to general practitioners of medicine and importance to students facing final examinations, particularly in surgery. The subjects dealt with are all of daily recurrence in the public or the medical press, and the author is to be congratulated upon the skill and completeness with which he gives a scientific presentment of them in terms easily comprehensible. They include such things as food deficiency diseases, researches on the blood, a chapter on the heart contributed by Drs. Carey Coombs and Herapath, surgical shock, chloroform poisoning, the growth of bone, and many other interesting topics. Possibly the account given of the pineal gland (page 197) might be fuller were the author to avail himself of Krabbe's monograph on the subject. The book may be cordially recommended to all readers wishing to keep abreast of recent progress in physiology.

Mr. R. P. P. ROWE'S *Concise Chronicle of Events of the Great War*[5] provides a summary of the chief events that took place day by day in all the theatres of war 1914–1918. Seven appendixes are added, giving Austria's ultimatum to Serbia, Serbia's reply, Germany's declarations of war against Russia and France, President Wilson's Fourteen Points (we are reminded that *Le Bon Dieu lui-même n'en a que dix*), an abstract of the terms of the armistice, and an outline of the terms of the Peace signed at Versailles on June 28th, 1919. An excellent index closes the volume, which will have a permanent value as a work of reference.

Bulletins Nos. 4 and 5 of the *Stanford University Medical Publications*[6] contain some seventy reprints of articles that have appeared in various medical, surgical, and pathological periodicals in America during the years 1916, 1917, and 1918. They deal with a great variety of subjects, and show no little activity on the part of the university's alumni.

---

[2] *The Medical Annual: A Year Book of Treatment and Practitioner's Index, 1920.* Thirty-eighth year. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1920. (Demy 8vo, pp. 634; 80 figures, 47 plates. 15s. net.)

[3] *A Prophylaxia Rural no Estado do Paraná.* Esboco de Geographica Medica. By Dr. Heraclides Cesar de Souza Araujo, Assistente-adjunto do Instituto "Oswaldo Cruz," etc. Vol. i, Anno I, Summula dos trabalhos realizados de Setembro de 1918 a Agosto de 1919. Curityba-Paraná: Livraria Economica. 1919. (Med. 8vo, pp. 329; illustrated.)

[4] *The New Physiology in Surgical and General Practice.* By A. Rendle Short, M.D., B.S., B.Sc.Lond., F.R.C.S.Eng. Fourth edition, revised and enlarged. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd.; Toronto: The Macmillan Co. of Canada, Ltd. 1920. (Cr. 8vo, pp. 302. 9s. 6d. cloth; 7s. 6d paper.)

[5] *A Concise Chronicle of Events of the Great War.* By R. P. P. Rowe, M.A.Oxon. London: Phillip Allan and Co. 1920. (Demy 8vo, pp. 349. 10s. 6d. net.)

[6] Committee of Publication, Stanford University.

FUTURE PROVISION OF MEDICAL SERVICES.

REPORT OF THE MEDICAL CONSULTATIVE COUNCIL FOR ENGLAND.

WHEN the Medical Consultative Council for England of the Ministry of Health was appointed, on October 1st, 1919, it was instructed

> "to consider and make recommendations as to the scheme or schemes requisite for the systematized provision of such forms of medical and allied services as should, in the opinion of the Council, be available for the inhabitants of a given area."

The Minister of Health asked for an interim report at an early date. The Council has met on many occasions, and an interim report, signed by the chairman, Lord Dawson of Penn, and the vice-chairman, Mr. C. J. Bond, C.M.G., F.R.C.S., on behalf of the Council, has been issued, and has been placed on sale as from May 28th.*

The other members of the Council are Mr. N. G. Bennett, M.B., L.D.S.Eng., Dr. R. A. Bolam, Mr. Victor Bonney, F.R.C.S., Dr. H. G. Dain, Dr. A. Fulton, Sir William S. Glyn-Jones (secretary to the Pharmaceutical Society), Dr. T. A. Goodfellow, Dr. G. E. Haslip, Dr. T. Eustace Hill, Professor F. Gowland Hopkins, Miss M. H. F. Ivens, M.S., Miss Janet Lane-Claypon, M.D., D.Sc., Dr. A. Linnell, Dr. J. A. Macdonald, Mr. E. W. Morris (House Governor of the London Hospital), Dr. John Robertson, Dr. T. W. Shore, and Sir William A. Tilden, D.Sc., F.R.S.

We are indebted to the courtesy of the Chairman of the Consultative Council for an advance copy, from which the following sketch of its arguments and recommendations has been prepared. The report itself fills 28 foolscap pages, and is illustrated by a diagram, a map, and plans showing designs for Primary Health Centres of three types—small, intermediate, and large.

To illustrate the character of the scheme evolved by the Consultative Council we have reproduced a diagrammatic sketch given in the report, showing the disposition of the Primary Centres it proposes should be established, and their relation to a Secondary Centre, and, through it, to a Teaching Hospital Centre. Facing this diagram we have printed the "Summary of Recommendations" contained in Section VII of the report.

GENERAL PRINCIPLES AND A PARTICULAR APPLICATION.

The earlier part of the report points out that medical treatment must be both individual and communal, and that individual treatment may be either domiciliary or institutional. By communal treatment is to be understood pre-natal and maternity care, child welfare, the inspection and treatment of school children, dental treatment, clinics for early tuberculosis, and facilities for physical culture.

The general conception is that domiciliary treatment in each district should be based on a "Primary Health Centre." This institution would be conducted by the general practitioners of the district, and would be provided with an efficient nursing service. It would be linked with a "Secondary Health Centre" in some town conveniently placed in relation to the means of communication. Opportunities would be provided for consultation, either at the primary centre or at the homes of the patients, with physicians, surgeons, and specialists of the secondary centre, which would itself be brought into corresponding relation with a medical school hospital.

The general nature of the scheme proposed is illustrated by reference to that for Gloucestershire, described by Dr. J. Middleton Martin, county medical officer of health, in our columns of February 22nd, 1919, p. 218. The report states that the scheme has been approved by the county authorities, and by the authorities of the towns and hospitals, and that all the doctors in the county have agreed to the plan of service as framed. Details are given of the application of the scheme to the area of which the city of Gloucester is the centre. The area measures about thirty miles from north to south, and about twenty-four from east to west. It is nearly bisected by the river Severn, over which there is no road bridge below Gloucester, though there is a railway bridge fourteen miles down the river. The area contains various types of population: the mining district of the Forest of Dean, the tin-plate works at Lydney, cloth factories at Cam, and engineering works at Dursley. It includes also large rural districts, some of them sparsely populated. The report is illustrated by a map showing the places considered suitable for primary health centres, having regard to the distribution of the population and the means of communication. It indicates existing cottage hospitals and the provision proposed for supplementary services. The secondary centre would be in the city of Gloucester, which has a population of 50,000; it would be linked with the teaching hospitals and medical school of Bristol. A scheme on similar lines has, it is stated, been prepared by the North Eastern Hospitals Association for the counties of Durham and Northumberland.

DOMICILIARY SERVICE.

The domiciliary service, which is regarded as the first link in the chain of systematized treatment, would be rendered by the general practitioner, dentist, pharmacist, midwife, nurse, and health visitor.

Domiciliary nursing is regarded as an essential part of a health service, and the Consultative Council holds that nursing should be available for all illnesses and all persons when the doctor deems it necessary. The nursing services of a district should be based on the corresponding primary and secondary health centres, and existing organizations should be made use of for this purpose by the Health Authority. It is proposed that this subject should be referred to a special committee.

A PRIMARY HEALTH CENTRE.

The size and standard of equipment of a primary health centre would depend on the local conditions and needs of a neighbourhood. The distinguishing feature of the primary health centre in contradistinction to a secondary health centre would be that it would be staffed by general practitioners. Each centre would have general wards with an appropriate number of beds, also a midwifery ward. There would be provided also an operating room, radiography room, a laboratory for simple investigations, a dispensary, baths, and equipment for massage, electricity and physical culture, and a public mortuary. It is proposed that the general practitioner should attend at the primary health centre such of his patients as require hospital treatment, irrespective of their status. The centre would provide the patient with food, nursing, and all equipment for efficient treatment, but not with medical attendance, which would be paid for either by the patient, or through some method of insurance, or by the Health Authority. The centre would also contain a common room to serve as a meeting place for the general practitioners of the district, and for the storing of clinical records on a standardized system. Not all these various departments would be established at once at all the smaller centres, and it is hoped that the more fully equipped centres would render aid to those less well provided.

The primary health centre would have preventive as well as curative functions. The communal services, such as those for pre-natal care, child welfare, physical culture, and the examination of suspected cases of tuberculosis, would be gathered together at the primary centre. Domiciliary nursing is recognized to be an essential part of a health service, and residential accommodation would be provided at the primary centre, not only for nurses employed in it but also for those working in the district it serves and for midwives. An essential feature of the scheme is that the primary centres should be staffed by general practitioners, but that there should be opportunities for obtaining the assistance of consultants and specialists on the staff of the secondary health centres, who would attend at fixed intervals or make a special visit in an emergency. In suitable cases, of course, patients would be transferred to the secondary centre, and the scheme contemplates an ambulance service to maintain communication, on the one side between the home and the primary centre, and on the other between it and the secondary centre.

The dental clinic forming part of the primary centre would have a staff of visiting dental surgeons employed

* H.M. Stationery Office: through any bookseller, price 1s. Messrs. Eyre and Spottiswoode, East Harding Street, Fetter Lane, E.C.4, will supply a copy post free on receipt of a postal order for 1s. 3½d. (under the new postage rates.)

either on a part-time or whole-time basis. It would provide for patients of all ages all ordinary treatment, including extractions under anaesthesia, conservative dentistry, the treatment of inflammatory infections of the jaws and gums, simple orthodontal cases, and the fitting of dentures. Where possible the present school dental service would be transferred to the clinic.

In the scheme the work of the general practitioner would be partly domiciliary and partly institutional, for at the primary centre he would treat such of his patients as attended or were referred to him there; in this way it is hoped to secure the advantage of organization, combined with the preservation of liberty of thought and action. The alternative of a whole-time salaried medical service was carefully considered by the Council, but the report expresses its conviction that the public would be serious losers by the adoption of such a plan, for the clinical worker, especially if a general practitioner, requires a knowledge not only of the disease, but of the patient. His work must be individual. The confidence of the patient, which is of vital importance to treatment, must rest not only on sound knowledge, but on personal harmony. On the other hand, it was considered that laboratory workers and medical administrators who do not come into personal contact with the sick could with advantage be paid entirely by salary.

As has been said, it is proposed that there should be accommodation for communal services at the primary centres; each communal clinic would be directed by a doctor, or more than one, practising in the area who had specially qualified himself for the post. The directorships of these communal services would be part-time posts, and paid on that basis. The report expresses the opinion that as a beginning it might be possible in many instances to adapt existing buildings, such as cottage hospitals or Poor Law infirmaries, to the purposes of a primary health centre, but extensive alterations to buildings are deprecated, since the adapted buildings could only be makeshifts. Health centres and hospitals require adequate ground to permit of extension and for open-air clinics, convalescent treatment and physical culture. Many war memorial hospitals, it is said, are likely to be defective because their promoters have not made such provision and have failed to realize that a modern hospital should be part of a more comprehensive organization.

SUMMARY OF RECOMMENDATIONS.

A. DOMICILIARY — including both curative and preventive work.
Personnel.—Doctors; Pharmacists; Nurses; Midwives; Health Visitors and other officers of the Health Authority.

B. PRIMARY HEALTH CENTRES — including Medical, Surgical, and Maternity beds; Out-patient Clinics; Dental Clinics; Accommodation for equipment needed for treatment and investigation; Accommodation for the work of Communal Services; Ambulance Service.
Personnel.—General Practitioners; Visiting Consultants and Specialists; Officers engaged in Communal Services; Visiting Dental Surgeons; Workers in ancillary services.

C. SECONDARY HEALTH CENTRES — including Facilities for curative services in cases requiring highly specialized diagnosis or treatment; Accommodation for the work of Communal Services; Dental Clinics; Accommodation for workers in ancillary services; Ambulance Service.
Personnel.—Consultants and Specialists; Officers engaged in Communal Services; Dental Surgeons; Workers in ancillary services.

D. SUPPLEMENTARY SERVICES—including Provision for facilities for specialized treatment of such conditions as tuberculosis, mental disease, etc.
Personnel. — Specialists in the appropriate forms of treatment; Workers in ancillary services.

E. TEACHING HOSPITALS WITH MEDICAL SCHOOLS — including facilities for treatment of cases of unusual difficulty; Facilities for Research; Facilities for Post-Graduate Study (including training for Communal Services).
Personnel.—Consultant, Teaching and Research Staff; Workers in ancillary services.

F. and G. RESEARCH: CLINICAL RECORDS.
It is recommended that provision should be included in any scheme for (F) the encouragement of research, and (G) the operation of a system of standardized clinical records.

H, I, and K.—ADMINISTRATION.
Recommendations as to the principles of administration are submitted; H, The establishment of a single Health Authority to supervise the local administration of all medical and allied services, whether curative or preventive. I, Representation of the medical profession on each such authority. K, Establishment of Local Medical Advisory Councils.

SECONDARY HEALTH CENTRES.

Secondary health centres must be situated in towns where adequate equipment and an efficient staff of consultants and specialists exist, and to which means of communication are convenient. The secondary, like the primary health centres, would have both a preventive and a curative side. On the latter their services would mainly be consultative; they would receive cases referred from the primary centres for diagnosis or special treatment. It is recognized that in some towns it would be necessary that primary services also should be rendered at the secondary health centres. The equipment of a secondary health centre would provide general services (medicine and surgery), and special services of midwifery and gynaecology, ophthalmology, laryngology rhinology and otology, dermatology, genito-urinary surgery, orthopaedics, and dentistry, and for radiology, electrotherapy, hydrotherapy, physical culture, massage, and nursing. They would possess also fully equipped pathological laboratories.

Existing institutions would form the nucleus for the curative services of secondary health centres, but as their functions were extended present buildings would not be large enough. Their accommodation might in many instances be supplemented by linking them with existing Poor Law infirmaries, the beds in the allied institutions forming one field of work for an associated medical staff. It is considered, however, that in many areas it would be necessary to establish complete and model secondary health centres, and that where possible they should be built on open ground just outside the town. Patients referred from the primary centres would either attend the out-patient clinic of the secondary centre or be admitted as in-patients. The medical staff of the secondary centre would be responsible for their treatment, and every facility would be afforded to general practitioners to keep in touch with their patients while they were attending the centre, and to resume their supervision on discharge. The clinical consultants at the secondary health centres would attend out-patient clinics regularly to see cases referred to them, would attend the referred cases in the wards, would pay periodical visits to the primary health centres allotted to them, and would be available to make special visits of emergency in consultation with general practitioners to the primary centre, or, if necessary, to the home of the patient. These consultants would be paid on a part-time basis, with extra fees for special visits. The non-clinical consultants—pathologists, radiologists and the officers connected with the communal and preventive services of the secondary health centres—some of whom would be whole-time officers, would also visit in a consultant capacity the primary health centres allotted. The members of the consultant services would in practice be on the staff of the hospital or the institutions associated with it; they would be appointed on the recommendation of a committee of selection, representing the medical profession of the locality, the health authority, the hospitals themselves, and the medical faculty of the university within whose sphere of influence the secondary health centre was. To be eligible for such an appointment the applicant must produce evidence of special training and experience, such as would be afforded by (1) special academic distinction and post-graduate study; (2) tenure of hospital and other appointments affording special opportunities for acquiring experience; and (3) local professional recognition of competence in a consultative or expert capacity. It is intended that general practitioners shall be eligible for these posts, and it is considered that their representation in the consultant services and on the staffs of the secondary health centres would be an advantage.

PAYING WARDS.

The report expresses the view that it would probably be advisable to provide private self-supporting wards at health centres. The reasons given are, first, that the plan would be conducive to efficient and economic working, and, secondly, that the more the serious cases are limited to one place the more time is a doctor able to spend in caring for them and the less in travelling. The essential services in the public and private wards would be identical. The charges in these private wards would vary according to the accommodation and local conditions.

PAYMENTS AT HEALTH CENTRES.

The report does not advise that curative services should be provided by the health authority free of charge. Illness, it is said, is a direct and personal concern, and the patient should contribute in some form or another to the cost of cure; experience shows that he is willing to do so. He could contribute only a portion of the cost, for efficient treatment will often be beyond the means of most citizens to provide in its entirety. It is recommended that standard charges should be fixed for treatment in the public wards and other curative services, but it is recognized that the charge might vary in different parts of the country. It is suggested that the charges would usually be met by some method of insurance, though private patients recommended by their doctors would have a right to avail themselves of the services by direct payment.

The standard rate of payment at a primary health centre would include residence, food, and nursing, but not medical attendance. At the secondary centre, acting in its consultant capacity, the charge would include medical attendance, and would be defrayed by moneys allotted to such services. The patient would possess the right of selecting the consultants and specialists assisting in his treatment, and in the secondary centre would be entitled to request additional advice from a consultant or specialist of his selection, the patient being responsible for the fee.

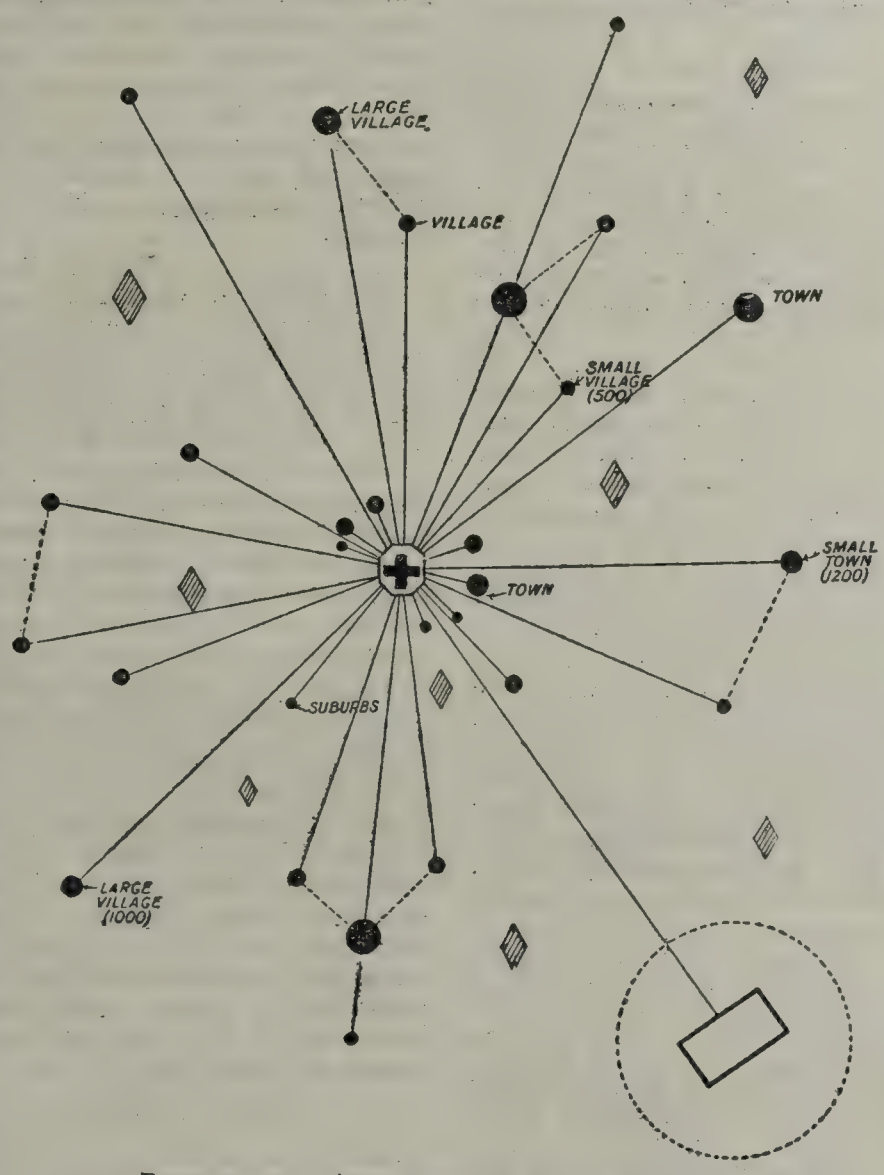


DIAGRAM OF AN AREA SHOWING HEALTH SERVICES.

The rectangle within a dotted circle indicates a teaching hospital with medical school; the black cross within an octagon, a secondary health centre; the black circles, primary health centres; the diamond-shaped figures, supplementary services.

SUPPLEMENTARY SERVICES.

It is proposed that certain institutional services should be correlated with both primary and secondary health centres; as examples of these supplementary services the following are indicated: Sanatoriums for tuberculosis; recuperative centres (convalescent centres); hospitals for curable and incurable mental disease; institutions for the feeble-minded; epileptic colonies; orthopaedic centres; hospitals for certain infectious diseases.

VOLUNTARY HOSPITALS.

It is considered that the nucleus of a health centre, especially in a town, will be the existing voluntary hospital. The incomes of these hospitals are less and less commensurate with their needs, owing to the increased complexity of equipment now required, so that a patient to-day costs twice as much as a patient twenty years ago. The opinion is expressed that grants for equipment and maintenance of communal clinics would, with the payments already mentioned for admission of patients, bring much-needed assistance to voluntary hospitals without interfering unduly with their management.

MEDICAL SCHOOL HOSPITALS.

Where possible every secondary centre should be brought into relation with a teaching hospital; the academic influence and the spirit of inquiry and progress associated with such a hospital would permeate the system of secondary, primary, and domiciliary services within the allotted sphere of influence of the school or hospital. It would receive cases of unusual difficulty requiring specialized knowledge and equipment, and its laboratories and special departments would be a court of reference.

THE HEALTH AUTHORITY.

In the section of the report dealing with administration it is advised that a new type of health authority is needed to bring about unity of local control for all health services, both curative and preventive, and to ensure continuity of idea and purpose and a complete system of reciprocal communication between the associated teaching hospitals, secondary centres, primary centres, and all domiciliary services, whether in town or country. The Council states that it has not been able to arrive at any final opinion on the question whether the new health authority should be an independent body set up for the purpose of administering health services alone or whether it should be a statutory committee of an existing local authority. It is, however, laid down that the success of the health service will depend upon the co-operation of the medical profession, so that its members must play a responsible part in the administration of the health authority. It is therefore recommended that the medical profession should be represented on the new health authority, and that a local medical advisory council should be associated with each such authority. It is recommended that the members of the authority should, as to two-fifths, be medical representatives nominated by the local Medical Advisory Council and other persons specially skilled in health questions; the other three-fifths of the authority would be representatives elected by popular vote.

The local Medical Advisory Council, it is recommended, should consist of ten to twenty members, according to the needs of the area. The members of this council would be elected periodically by and from among all the registered practitioners resident in the area by means of a postal vote conducted by the Health Authority. The principal medical officer and the two chief assistant medical officers would be *ex officio* members of the advisory council. The council should have power, for special purposes, to appoint committees, which would have the right to co-opt persons specially skilled in the subject under consideration. The Health Authority would be expected to invite the advice of the local Medical Advisory Council, which would be in a position to act as a medium for communicating to the Health Authority the collective opinion of the practitioners in the area.

MEDICAL OFFICERS OF THE HEALTH AUTHORITY.

The duties and responsibilities of the chief medical officer to the Health Authority would be more extensive than those possessed by existing medical officers of health, and it is therefore proposed that he should be called the Principal Medical Officer. He would be the administrative head of the medical services in the area of the authority and would have two chief assistant medical officers, the one specially concerned with the administration of the curative, and the other more especially with the preventive service. Under these would be assistant medical officers, their number varying with the size and needs of the area concerned. On the staff of the Principal Medical Officer would be the principal dental officer, principal matron, and so on.

LABORATORIES.

A sketch is given of a scheme for laboratory services. The first and essential function of the laboratory at a primary centre would be to give facilities to the general practitioner; it would be so equipped as to enable him personally to make any examinations he desires to undertake. The equipment would be supplied from the secondary centre and adapted to meet any increase in knowledge, skill, and interest displayed by the practitioners concerned. Some person must be placed in charge of such a laboratory; it is thought that his qualifications might vary with the size, geographical situation, and special needs of the centre. At the smaller primary centres the part-time services of a moderately skilled attendant might suffice; at larger primary centres persons with more training should be provided, and it is suggested as a matter for consideration whether, in certain cases, such persons might not combine the duties of the pharmacist with those of the laboratory worker. At the largest primary centres two laboratory workers might be required, especially at centres far remote from a secondary centre, to report, at least provisionally in case of urgency, as, for instance, when diphtheria is suspected. It is suggested that the laboratory workers at the primary centres should spend occasional periods in the laboratory of the secondary centre, for the improvement of their knowledge and skill. The responsibility for staffing primary centres would lie with the director of the laboratory of the secondary centre. In case of emergency, as on the outbreak of an epidemic, it would be possible to concentrate laboratory assistance in the locality by the transfer of workers. Certain types of work, as for instance histological examinations, might as a matter of routine be sent to the secondary centre. When materials must be taken from the patient, especially when quantitative methods are involved, a visit by a consultant might be necessary. The laboratory of a primary centre must be in communication by telephone and by motor transport with the related secondary centre.

The laboratory of a secondary centre should provide ample accommodation and equipment, and its senior staff should be highly qualified to do clinical laboratory work, both for the primary centre and for the hospital of the secondary centre; it would also do post-graduate teaching. The head of the laboratory would be a well qualified pathologist, and the staff would comprise specialists in morbid anatomy, bacteriology, and pathological chemistry. Some of the assistants would be preparing for the higher posts in the service; others, in an intermediate class, would furnish recruits for the staff of the primary centres.

The laboratory of the secondary centre would be linked with the chief or university centre, which would have a special laboratory for health services distinct from a professorial department, though in close contact with it. A separate health services laboratory would protect the academic staff from routine, leaving it free for teaching and fundamental research work. The staff of the health services laboratory would be recruited from that service and be dependent upon meritorious performance within it. At the same time it is recognized that no rigid barrier should be erected between the academic pathologist and those engaged in the health services. Though there would be two distinct careers circumstances would often cause individuals to pass from one to the other.

The health services laboratory of a university centre, in addition to the routine work, would carry out the more difficult investigations referred to it from the subsidiary centres, but it might also undertake much of the routine work for the university hospital. The director of such a laboratory would rank with a university professor, but would usually be a distinguished pathologist with tastes inclined to organization and administration rather than teaching.

RESEARCH.

With regard to research, it is suggested that the organization throughout the proposed health service would facilitate inquiry into the causes of disease. It is suggested that the facts showing the need for inquiry might often be brought together in the first place by the medical practitioners in a locality; the manner in which it should be further prosecuted would depend upon the subject, but research into fundamental problems would still continue to be conducted through the university and the Medical Research Council. A national organization of laboratories in touch with every branch of the health services would, it is believed, provide opportunity for systematic investigation and team work. The director of the health services laboratory at the university centre would be in a position to start machinery for the intensive investigation of any urgent problem, and with the goodwill of the general practitioners the investigation would include cases never available in the wards of a hospital. In particular, the earliest stages of disease might be made the subject of organized research, which, it is hoped, might be subsidized and perhaps supervised by the Medical Research Council.

DENTAL SERVICES.

The object of dental treatment is to secure normal formation of the jaws and dental arches and a clean and healthy mouth. While many of the impediments to the attainment of this ideal are to be found in pre-natal conditions, others are due to the environment of early childhood; the ill effects of dental disease and oral sepsis in adult life are well recognized. As dental treatment, therefore, comes into close relation with medical care, a dental clinic should form part of every primary health centre. It would provide ordinary treatment for young children under school age, school children, expectant and nursing mothers, and for the adult population generally. It would be staffed by one or more dental visiting surgeons, and a dental service would be attached to each centre.

At secondary health centres there would be similar dental clinics, but on a larger scale, especially as regards the fitting of artificial dentures, which would be made in an attached dental laboratory. Its staff would consist partly of part-time officers and partly of visiting dental surgeons, and it would have a staff of nurses and mechanics. Members of the dental staff would act as consulting dental surgeons at the primary centres, to which they would pay periodic visits. Arrangements should be made for the dental treatment of all persons admitted to convalescent homes, sanatoriums, and other institutions belonging to the supplementary services. All forms of dental treatment provided at the clinics of the primary and secondary health centres would be regarded as part of the necessary medical treatment, and would be arranged on an insurance basis or according to a scale of fees. The remuneration of dental surgeons would be on a time basis, and it is suggested that arrangements might be made to use the clinics for private patients. The payment of dental surgeons for consultations would be on the same basis as that of other consultants.

MATERNITY AND CHILD WELFARE.

It is the intention of the Council to appoint a committee to consider details of maternity and child welfare services, but the report contains an outline of what it is considered should be provided. The services would be domiciliary and institutional, the latter being given in primary and secondary health centres and teaching hospitals.

The domiciliary treatment would include advice and treatment for pregnant women unable to attend the health centre, and provision for attendance at the labour at the woman's home. A doctor and a midwife should be available for every labour, and also when necessary an anaesthetist. A midwife trained to know when a doctor is needed would attend natural labours, and it is suggested that additional assistance might be obtained from a service of home helps, exercising carefully defined functions and working under proper supervision. Sterilized maternity outfits should be obtainable from a primary health centre, and a practitioner should be able to

summon an expert obstetrician with the necessary assistance and outfit in a case of difficult labour. The service should also include the supervision at the home of the welfare of mother and infant and any necessary medical attendance, should the mother be unable to attend at the primary health centre.

The institutional treatment provided at the primary health centre should include beds for labour and after-care and arrangements for isolating any case of sepsis after delivery. The number of beds available for ante-natal, maternity, and post-natal cases would at first be limited, but should be increased by adding to the centre or by a separate institution, should the demand arise. The services of a consultant from a secondary centre would be available. Women suffering from gynaecological disorders, the result of child-bearing, would either be admitted to the wards of a primary health centre or sent to the secondary centre, being treated as in-patients or out-patients, as the practitioner might determine. The residential accommodation should make it possible for mothers to be accompanied by their infants, and an infant welfare department should be part of the primary centre.

Standardized Clinical Records.

It is proposed that a uniform system of records of illness should be established and filed on the card index method. At the primary health centres they would be simple to avoid an undue tax upon the staff, but at the secondary health centres and teaching hospitals the aim would be to have a complete record, clinical, pathological, and communal. When a patient was transferred from one centre to another a copy of the record would accompany him. It is advised that an officer should be appointed at each secondary health centre and teaching hospital to take charge of the records, which it is believed would be very valuable for research into the nature of disease and the results of treatment. General direction would be in the hands of the teaching hospital, subject to the final control of the Ministry of Health in consultation with the Medical Research Council.

Physical Culture.

After reference to the policy of the Board of Education with regard to physical education in the schools, the Consultative Council expresses the opinion that every community should possess grounds for physical training, provided and maintained at the public expense, and so planned as to meet the needs of children, adolescents, and adults. It is recommended that a doctor specially skilled in the subject should be attached to each secondary health centre to supervise the work and training of masseurs and masseuses, and to act as consultant and adviser throughout the area. It is pointed out that though at present there is provision for the training of women, there is no training college for men. The Council proposes to set up a committee to consider this question of physical culture.

Recuperative Centres.

The establishment of recuperative centres is advised to serve the double purpose of restoring persons to health, either after illness or before their ill health has become disease. Such institutions are declared to be essential to any scheme of medical service, and would, it is said, be a great field for preventive medicine and for the study of the early manifestations of disease. The site should be sufficiently large and in an open situation, but elaborate buildings would not be required. It is pointed out that the experience of the Army Medical Service during the war in the establishment and conduct of convalescent and rest camps will be of great value to the civilian organization proposed.

Prefatory Note by the Minister of Health.

The following is the text of a note prefixed to the Report by the Minister of Health:

"1. This Report, the first to be received from the Consultative Council on Medical and Allied Services established under the Ministry of Health Act, 1919, is published in order to facilitate discussion of the questions raised in it.

"2. Action is being taken by the Minister of Health and the local authorities in relation to a number of matters touched upon in the Report; and proposals for action in other directions are in process of formulation.

"3. Many of the Council's recommendations must necessarily be considered in relation to a comprehensive policy for the extension and development of health services (including the question of the future administration of services at present entrusted to Poor Law authorities), which will be submitted to Parliament by the Government in due course.

May, 1920. C. Addison."

MEDICINE AND THE STATE.

The Presidential Address to the Section of State Medicine in the Brussels Congress of the Royal Institute of Public Health, May, 1920.

BY

THE RIGHT HON. LORD DAWSON OF PENN, G.C.V.O., K.C.M.G., C.B., M.D., F.R.C.P.

It is a convenient opportunity to pass briefly under review the relations of the medical profession to the State. These relations have undergone considerable changes during the last ten years, owing to a growing sense of the importance of health and the responsibility of the State thereto. This has led to a considerable extension of the activities of the State, and chiefly into the domain of curative medicine, and these extensions have been made one by one in answer to specific public need or demand rather than in accordance with any predetermined policy. There is further in contemplation the systematic provision of medical services for the use of all members of the community. I am omitting reference, for my present purpose, to either the public health service with its high and ever-growing reputation, or to the Poor Law, which by common consent should be superseded as unsound in principle and ineffective in application.

In 1912 the State, through the machinery of the Insurance Act, made organized provision for the medical care of three-quarters of the heads of families in the country, and, for the purpose of such treatment, supplements the contributions of the insured persons to the extent of over five millions annually in England alone. These rights are confined to manual workers and to persons earning not more than £250 per year—that is, they are determined by the occupation and the economic position of the patient. In other words, it is a service open to a limited class for all ordinary illnesses.

But the State is further providing, step by step, for a growing list of illnesses and disabilities, such provision being open to all citizens, irrespective of their economic position. To mention examples. It is the duty of the Local Education Authority to inspect medically and provide medical treatment for the children in elementary and continuation schools, and it is empowered to set up clinics and provide doctors, dentists, and nurses for this purpose. The local authority (county or county borough council) is responsible for the diagnosis and free treatment of tuberculosis; under the Act of 1917 it may provide clinics for the free treatment of venereal disease, and may pay for the travelling expenses of patients.

The latest example is furnished by the Maternity and Child Welfare Act of 1918, whereby the local sanitary authority is empowered to maintain maternity and child welfare centres, maternity homes and hospitals, and convalescent accommodation with the necessary provision of doctors and nurses and health visitors for both mothers and infants. It is easy to see that extension of these *ad hoc* services would soon embrace a large part of medical practice. It is a State medical service by instalments, almost by stealth, and before we go further it would be well to take stock of the position, and define our policy.

Underlying both these types of provision of medical services is the public opinion that the health of the people, like the education of the people, is of supreme importance to the State; that the best means of maintaining health and curing disease should be made available to all citizens; that such means need to be organized and distributed according to the needs of the community; and further, that the cost, being beyond the capacity of most citizens to provide, must be partly or wholly borne by public funds.

The first of the above organizations—namely, that of

the Insurance Act—is open to a limited class for all ordinary illnesses; and the second to all classes for *some* illnesses. As regards cost the first is contributory, and the second is free. In their functions they overlap; in their local administration they are disunited.

How far does each of them afford guidance for the development of medical services in the future?

With regard to what I may call the *ad hoc* services—such as those for maternity, school children, tubercle, venereal disease, etc.,—these have the advantage of being adequately provided both in fabric and in personnel, but as at present constituted they are isolated units of effort, tending to be aloof from the medical practice and doctors of their district. It is a most important principle that the health services of a district should, wherever possible, be staffed on a part-time basis by the doctors practising in that district. The more the general practitioner is identified with the health of his community, and the more, through him, the correlation of preventive and curative medicine is realized, the better for the public interest. The staffing of these services by whole-time specialists narrows the scope of the general practitioner's work and discourages his ambitions, for it cannot be too much emphasized that to get good men one must provide good work.

The Insurance Act brings medical attendance within the reach of large masses of the population, and maintains freedom (of choice) for both doctor and patient. Its organization is widely distributed, but its service is restricted to certain classes of the community, is exclusively domiciliary, and is devoid of the complete equipment of both personnel and material necessary to that efficient service which the doctors desire to give and the public should receive. This is no criticism against insurance as such, but against its existing imperfections.

Seeing that some system of insurance is the only practicable alternative to entirely free provision of all medical services, there is no general desire on the part of either the public or the medical profession to destroy the present insurance organization, under which over 80 per cent. of the doctors of the country are doing medical service. There is, however, a strong desire to remedy its defects and extend its provisions.

Surely the wise course is to fit and mould the insurance organization into the larger scheme of systematized medical service, which, if the health of the people is to be secured, must be set up and made available for all sections of the community. Just as education requires schools and colleges, as well as teachers, so does the health of the people require clinics, hospitals, laboratories, and such like provision, as well as doctors, distributed according to the population and its needs.

But the parallel between education and health cannot be carried further, and therein lie many of the difficulties in health administration. The teacher is a salaried official, and his sphere of work and his pupils are allotted to him.

The problem of health provision is more complex, in that the people who have to be provided for are of all ages, are sick, and in large measure require individual attention in their homes as distinct from collective attention in institutions. Education is concerned with healthy youth, which is still under external control, though even here it is no uncommon experience to find a pupil who learns under one master while failing to learn under another, owing to some temperamental antagonism.

The sick person is intensely individual, and requires, besides knowledge, the support and confidence which comes from temperamental harmony between doctor and patient. From the point of view, therefore, of the patient, the voluntary association between him and his doctor should not be lightly put aside. It is a privilege highly valued by the people, as shown by the widespread demand for free choice of doctor.

Moreover, this voluntary association is of equal importance to the doctor and his work. It stimulates effort, encourages initiative, and the taking of responsibility. If a patient is allotted to a doctor under a State service, there is loss of the stimulating force of rivalry; responsibility is apt to be transferred rather than undertaken, and advancement is as likely to follow seniority and genial flexibility as efficiency and enterprise.

Another difficult question is, whether health services should be entirely free or partly paid for. Let us not begin by trying to make everything free; we may easily get something stereotyped and shoddy if we do. An early attempt to make everything free would cause much strain on public funds, reaction would follow, and so starvation and inefficiency of the services would ensue.

Why not let a tariff of charges be fixed for various kinds of services? Experience shows that the people are far from unwilling to contribute towards treatment of their illnesses. What they want to get rid of is the idea of charity associated with health institutions.

In practice, systems of insurance will most often secure the cost—not individual payments; and no doubt when an organized health service has been set up by public authority, the insurance companies of high standing will institute policies for health and against sickness, of which the middle classes will largely avail themselves. Those who are in misfortune, and devoid of means, could be paid for by charitable or public funds.

The foregoing remarks apply chiefly to curative services. With many preventive services the advantages to be received are more contingent and less obvious, and therefore would be unwillingly paid for, and consequently evaded. Such services should be free.

As regards payments to doctors, disturb the present system as little as possible, and leave the relation between doctor and patient free. If medical services are to be made available to all citizens, new and extended organization will be required, and all such health services will need to be administered by one local health authority in each area. On this authority the medical profession, as such, should be represented. Its responsible connexion with the administration will give to that administration the skilled guidance necessary to success, and ensure the confidence of the doctors as well as the public.

The principle of strengthening local governing bodies by adding to their membership non-elective or indirectly elected elements, has been adopted for many years, and in recent times has been employed to secure to the community the advantage of expert advice. For example, in the case of education the local authority was required to include in its Education Committee a minority of co-opted members skilled in education.

It is obvious that with the increase of knowledge, and especially with matters so technical as those connected with medicine, expert representation on the health authority is essential to efficiency. The majority of such expert members would be medical men, who would advantageously be nominated by the doctors resident in the district concerned. This plan has a precedent under the Scottish Education Act of 1918.

The responsible association of the medical profession with the health of the community would be productive of nothing but good. It would bring to health administration throughout the country the skilled knowledge necessary to sound judgement. On the other hand, it would strengthen the corporate life of the profession, increase its power of collective expression, and develop its civic sense.

The bringing of the knowledge of skilled callings to the aid of Government has shown further development in recent years by attaching advisory bodies to central administrations. Such bodies have been set up by statute in connexion with the Board of Education, the Ministry of Agriculture, and, more recently, the Ministry of Transport.

The Ministry of Transport Act, 1919, directs that certain advisory committees *shall* be set up; it prescribes a procedure which aims at making these committees representative, independent, and influential. In illustration the following paragraphs may be quoted:

> 1. For the purpose of giving advice and assistance to the Minister with respect to and for safeguarding any interests affected by the exercise of the powers and the performance of his duties under this Act in relation to roads, bridges, and vehicles and traffic thereon, a committee (hereinafter referred to as Roads Committee) shall be appointed.
>
> 2. The Roads Committee shall consist of not less than eleven members, of whom five shall be representative of highway authorities, appointed after consultation with such authorities, and five shall be representative of the users of horse and mechanical road traffic, appointed after consultation with the interests concerned, and one shall be a representative of labour appointed after consultation with the interests concerned.

The Act of Parliament which constituted the Ministry of Health approved and made provision for such advisory councils. "The Consultative Council on Medical and Allied Services" was constituted by the Minister to

represent as much as possible varieties of knowledge and experience, and in selecting the members the Minister asked advice of representative bodies in the medical profession.

The selection of the members of an advisory council presents difficulties. To be useful the size of the council must be limited, and the members must not only be individually suitable, but must form a good team. Direct election by all qualified practitioners would not secure an efficient council, and some method of indirect election or nomination would appear to be most appropriate.

The method of selection of the council and its representative character might at a later stage be improved, but the actual form the council has taken is of less importance than the principle it embodies. Such a consultative council attached to the Minister has within its proper sphere real power for good. It brings to the administration, in a responsible way, the views of the profession outside, and has the power to initiate advice. It is the principle of vocational representation applied to administration.

The usefulness of the Consultative Medical Council will depend on a comprehension of its proper functions. It should be acquainted with the lines of policy pursued by the Ministry, and have opportunity to influence that policy. Its chairman should be in the inner counsels of the Ministry, and be a member of all important departmental conferences which are concerned with policy rather than details of administration. Such co operation between the Consultative Medical Council and the administrative staff should be of mutual advantage, and it need hardly be said that the ultimate responsibility for decisions would always rest with the Minister.

As the provision of medical service extends, the Ministry of Health will have increasing control over medical policy, and therefore over the medical profession, and this influence will be enhanced by the power of the purse. It is undesirable that the centre of gravity of a learned profession should be in a Government department, and the application of the principle of vocational representation would be a counterpoise to this tendency. Professions, like nations, have need of self-determination.

Reverting, in conclusion, to the general aspect of this question, the growing recognition of the necessity and desirability of vocations being represented in the spheres of government and administration is no doubt due to the increased range and technicality of the knowledge on which they are based, and to the advantage of securing the confidence of the members of the calling concerned. No body of departmental advisers, however able, could alone envisage all the problems which arise, and their bearing on different interests concerned. The supplementary information and advice of responsible advisory councils cannot fail to be advantageous, and would, if needful, be a useful corrective to bureaucratic tendencies. Vocational representation is, I venture to think, likely to play an increasingly important part in Government.

THE MANCHESTER RADIUM INSTITUTE.

Results in Cancer.

The report by Dr. Arthur Burrows of the Manchester and District Radium Institute for 1919 deals generally with the 677 cases treated during the year, but lays special stress upon the radium treatment of cancer of the mouth and carcinoma of the cervix of the uterus.

Dr. Burrows states that hitherto radium therapy of carcinoma of the tongue, floor of the mouth, fauces, soft and hard palate, tonsils, and pharynx, has been looked upon as unsatisfactory. Until recently it was often doubted whether this treatment was worth while attempting. In discussing the general conditions known to be adverse to successful radium treatment it is said that as regards the mouth these include: (1) Large tumours with extensive infiltration; (2) deficient blood supply which produces a tendency to sloughing and ulceration; (3) the frequent involvement of bone; (4) the tendency to rapid dissemination; (5) the persistent purulent and inflammatory condition, usually a septic reaction, which sometimes follows the application of radium. In reviewing the conditions in which radium is often used, the report reads as follows:

> The conditions which respond best to radium treatment are rodent ulcer, carcinoma of the skin, carcinoma of the breast, carcinoma of the cervix of the uterus, carcinoma of the body of the uterus, endothelioma of the parotid gland, and sarcoma of the nasopharynx; a noteworthy feature being (with two exceptions) "accessibility." It would almost seem as if carcinoma of the cervix of the uterus is particularly responsive, as good results are reported from many varying methods of application. Examples of those growths which do not respond well as a rule are carcinoma of the rectum, melanotic sarcoma, and carcinoma of the mouth. Certain conditions, such as cancer of the larynx, oesophagus, and bowel, suffer markedly from the evil of inaccessibility.

The disappointments hitherto met with in cancer of the mouth have been so great that in many instances patients have been advised that radium treatment is inapplicable and useless. In view of this report and the results obtained by Dr. Burrows with the latest method the position needs reconsideration. To quote again:

> The technique is as follows: After boiling one or more capillary emanation tubes of a strength of two to eight millicuries, the number of tubes varying with the size of the tumour, they are introduced into the growth by means of a large exploring syringe needle and stilette. The distance between them must never be less than one centimetre, nor must they be placed near to healthy tissue or bone, otherwise a painful reaction will follow. No attempt is made to remove the tubes unless one projects and is uncomfortable, when it may be taken out twenty-four hours or more after the application. To prevent sepsis the mouth should be cleansed before the application. If the rules for avoiding healthy tissue and bone are observed, a practically painless reaction will often follow. If adequate dosage is employed, it may not be necessary to give a second application, and, as a rule, in successful cases two or three is a maximum number. The three desiderata are therefore: (1) A method of application of radium to which cancer of the mouth is susceptible; (2) a treatment which needs little repetition and may be painless; (3) the element of sepsis is diminished or may not be of much account.

Following on this the question of the treatment of metastases is discussed. Glands with some mobility or a good blood supply, if not too large, may be treated by burying, for six to forty-eight hours, emanation tubes of 10 to 25 millicuries, screened by three-tenths of a millimetre of platinum or seven-tenths of silver; in addition, tubes should be buried along the course of the cervical lymphatics. Further, it is suggested that the neck area should be irradiated repeatedly from the outside by either radium or x rays. In cases in which very large or ill-nourished masses are present, too small a dose may produce no effect, and too large a dose sloughing, without any ultimate benefit to the patient; that is to say, no good result follows on the use of radium only. In such cases the only hope, and that a slight one, is to remove surgically, so far as can be safely done, the main or central mass of the tumour and treat the growth remaining by burying radium tubes in it. Among the cases related in the report are the following:

> A male with a twelve months' history presented himself with a flat growth occupying the posterior two-thirds of the left side of the tongue, nodular and ulcerated. There was considerable induration, but no enlarged glands. Microscopically the growth was found to be carcinoma. In March, 1919, six unscreened emanation tubes, each of a strength of 2.5 millicuries, were buried in the growth. The reaction was practically painless. In the beginning of May the tumour was considerably smaller and flatter, and the improvement continued for some time. In July eight more unscreened emanation tubes, each of a strength of 2 millicuries, were inserted in the tumour. The reaction was again painless, and after it had passed off no growth could be palpated, but some scar thickening remained. The patient has remained in the same condition until the present time—a period of five months.
>
> A second case had had a portion of the tongue removed for carcinoma in October, 1918. In March, 1919, he had a soft fungating swelling along the left side of the jaw with induration beneath. It was adherent to the jaw. No glands were palpable. Five unscreened emanation tubes, each of a strength of 3 millicuries, were buried in the tumour. The reaction was very severe, and the patient had much pain, with a considerable amount of sloughing. The jaw remained painful till July. In December, 1919, the pain had gone, and the patient was well, and no sign of growth could be found.

These cases are typical of those quoted in the report, and indicate the lines on which the treatment is being carried out and developed, and the results which are being obtained. The methods appear to be a distinct step forward in the treatment of an extremely unpromising condition. The report includes a description, illustrated by drawings, of the radium emanation plant, and this part concludes with a series of tables classifying the cases and the results.

British Medical Journal.

SATURDAY, MAY 29TH, 1920.

THE REPORT OF THE CONSULTATIVE COUNCIL.

THE anxiously expected report of the Medical Consultative Council of the Ministry of Health has been published this day (May 28th). The Council when appointed last October was instructed to draft a scheme for the systematized provision of the medical services which should be available for the inhabitants of a given area, but the document now issued is described as an interim report, for it was felt that certain questions raised could not be answered without instituting special inquiries.[1] As it stands, however, the report is something more than a sketch, and the application of its recommendations would have a profound effect on the future of medicine in England.

The suggestion to establish a whole-time salaried service was considered, but rejected, because "by its adoption the public would be serious losers." Under the plan proposed the general practitioner would retain all the liberty he now possesses, his facilities for doing good work would be increased, and he would not, save in the case of certain special posts, be a salaried officer. On the other hand, the members of the staffs of the general hospitals would become part-time, or, in some instances, whole-time salaried officers paid out of public funds. Each of the new health authorities would have in its area, which we may think of as a county, a number of whole-time salaried officers, a principal medical officer, two chief assistant medical officers—the one to look after the curative and the other the preventive work—a staff of assistant medical officers, a principal dental officer, and a principal matron. Medicine would not be "established" like the Church, but would have a new hierarchy.

The general features of the scheme propounded are easily understood, and can be seen at a glance in the diagram reproduced at page 741. In a conveniently situated town in the area of a health authority would be a "secondary health centre," consisting of a fully equipped general hospital, with annexes on suitable sites for special classes of cases. Linked to this centre would be a series of "primary health centres" in small towns or villages, or in suburbs. The staff of these outpost institutions would consist of the general practitioners of the neighbourhood. They would have the right to claim the assistance, in consultation, of the members of the staff of the secondary centre, and to transfer to that centre such patients as they considered to be in need of its more elaborate equipment.

The cost of the application of such a plan as this is not discussed, and it is to be gathered both from what the report contains and what it omits that the Council considered that it would best fulfil its duties by putting forward an ideal, and we are authorized to say that it has striven to develop this ideal without greater disturbance of existing machinery than was deemed necessary. Looked at from this point of view we may regard the primary health centres of the report as corresponding to existing cottage hospitals, and the secondary health centres as the equivalent of the voluntary general hospitals without teaching schools. From the detailed analysis of the report given at p. 739, it will be seen that the Consultative Council contemplates a great development of primary health centres. To start the scheme it is proposed to utilize existing cottage hospitals extended as necessary, and to bring into it such poor law infirmaries, and it may be assumed such sick wards of workhouses, as may be found suitable when the promised abolition of the poor law system is realized.

The report agrees with the Ministry of Health Committee of the British Medical Association that general practitioner domiciliary attendance and treatment is the only foundation on which any systematic provision of other kinds of treatment can properly be based; it agrees also as to the importance of providing dental treatment, such ancillary services as those afforded by nurses and midwives, an opportunity for obtaining the opinion of consultants and specialists, and in the primary or local health centres beds for institutional treatment and laboratory facilities. Shortly, it may be said that the Council and the Committee agree that the general practitioner should have not only greater facilities for treating his patients under the best conditions, but also for contributing to the progress of knowledge. This he would be able to do through the laboratory and other facilities to be provided, but, as we gather, mainly by being able to keep in touch with such patients as he may refer, for consultation or treatment, to the secondary centres and the teaching hospitals. He would be the person to decide that a patient should be so referred, and the patient on leaving the hospital would return to his care. The Council recommends that in all this he should be assisted by a careful system of clinical records, begun by himself and carried through by the various institutions to which the patient might go.

The primary health centre would contain wards of various sizes, with a nursing staff and provision for midwifery; it would provide also clinics properly equipped, in which doctors could see their patients and consult with each other; it is considered that the custom whereby each practitioner has his consulting room in his own house should be continued, but it is recommended that where a doctor cannot provide adequate accommodation at his own expense, as in certain congested areas, the Health Authority should have power, after consultation with the local Medical Advisory Council, to provide such accommodation at the primary health centre. It is said, also, that where local conditions and medical opinion favour the plan, collective surgeries might be tried, either attached to a primary health centre or set up elsewhere. On this point there would seem to be difference of opinion between the Consultative Council and the Committee of the British Medical Association, as the latter has deprecated the establishment of general practitioner clinics "under the ægis of the State."

Communal services, by which is to be understood such services as those already provided for pre-natal care and child welfare, inspection and treatment of school children, tuberculosis, and physical culture, would be conducted in or from the primary centre, and each communal service would be directed by a doctor practising in the area who had specially qualified himself for the post. These directorships would be part-time posts.

Primary health centres would vary in size: in addition to a dispensary and laboratory to be provided everywhere, a complete centre would have equipment for radiography and electricity, and a staff for massage and electricity; such a centre would be

[1] For particulars of these and other details see page 739 *et seq.*

expected to help smaller neighbouring centres. The pathological laboratory would be a place in which the general practitioner could himself carry out or supervise simple investigations such as, to quote the instance given, the identification of the diphtheria bacillus, but many other instances might be given. The pathologists of the secondary centre would be available for consultation. A laboratory assistant, however, must be available on the spot, and the Council admits that it is difficult to decide what his qualifications should be. It intends to appoint a committee to report on this matter, but seems disposed to suggest that the pharmacist might be trained to do this work. Similar considerations would apply to radiology and electricity. The pharmacist might be trained to be a competent laboratory assistant, but a proposal to entrust him with radiology for diagnosis and treatment would be very debatable. The final opinions of the Council on these matters will be awaited with interest not unmixed with anxiety. Those most competent to judge are confident that great advantages will flow from the establishment of these outpost laboratories, and it is important to avoid an initial mistake in organization.

Proposals of far-reaching character are made with regard to the staff of secondary centres; they would consist of clinical consultants and what may be called laboratory consultants. The former would be part-time officers, paid on a time basis, with extra fees for special visits; in addition to attending, as now, the out-patient clinics and wards of the secondary centre to which they were attached they would be required to pay periodical visits to the primary health centres allotted to them, as well as special visits either to these centres or to the homes of patients in consultation with the general practitioner.

The recognition of the consultant status of the pathologists and radiologists at the secondary centre is a very commendable feature of the report. In addition to the duties ordinarily discharged by such officers now, they would pay periodical visits to the primary health centres in the area. The officers of the communal services at the secondary health centre would similarly act in a consultant capacity at the local centres. The Council agrees with the Committee of the British Medical Association that the test of eligibility to serve as consultant or specialist should be evidence of special training and experience, and the definition of such qualifications is identical with that put forward by the Committee. Finally, it is intended that the secondary centres should be related to a teaching hospital.

We do not find definite evidence in the report of an intention to limit to insured persons, as by some had been expected, the benefits that it is hoped will flow from the scheme. In the address delivered by Lord Dawson in Brussels (p. 743) he expressed the view that the wise course will be to fit the insurance organization into the larger scheme of systematized medical service which the Council he presides over has put forward. He contends that the voluntary association between the patient and doctor is highly valued by the former, and of equal importance to the doctor in his work. Certain members of the Council, we are told, were of opinion that curative services and preventive services should be provided by the health authority free of charge to every individual patient. The majority, however, considered that this course would impose too heavy a burden on public funds, and Lord Dawson, as will be seen, maintains that experience proves that the people are far from unwilling to contribute towards the cost of the treatment of their illnesses. It is recommended that standard charges should be made in the public wards and for other curative services, though the standard might vary in different parts of the country, and it is suggested that the charges would most often be met by some method of insurance, though private patients recommended by their doctors would have the right to avail themselves of these services by direct payment. It is generally agreed that the facilities for in-patient treatment at present open to the intermediate middle class are insufficient in quantity, and too often in quality, and the Council in the Section on Secondary Centres proposes that health centres should provide private wards at charges varying according to the accommodation and local conditions, the patient being responsible for medical fees. It suggests that these self-supporting wards should be "part of the fabric of health centres." The point is not free from difficulty, and separate institutions on the plan of St. Chad's Hospital at Birmingham[1] may prove a better solution of at least part of the problem.

Brief reference is made in the report to what are called supplementary services, including sanatoriums for tuberculosis, recuperative centres, orthopaedic centres, hospitals for mental disease and feeble-mindedness, epileptic colonies, and hospitals for certain infectious diseases. We would be glad to see this subject more fully developed, for we believe that it will be through such ancillary institutions that the pressure on the beds in the centres may most efficiently be relieved.

As to the constitution of the Health Authority, to which reference has already been made, the members of the Council are not in agreement; some would prefer a statutory committee of an existing local authority—presumably the county council or county borough council; others desire an independent body, elected for the purpose of administering health services alone. However constituted, the Health Authority, it is suggested, should have control of both curative and preventive services, and in order to ensure the cordial co-operation of the medical profession it is suggested that it should be represented as such on the Health Authority, and that each Health Authority should have a local Medical Advisory Council elected by and from all the registered practitioners resident in the area.

At a first glance, at any rate, it would seem that the scheme in its full symmetrical arrangement will be more easily adapted to rural counties than to industrial areas. A plan on the lines indicated has been elaborated in a part of Gloucestershire: the secondary centre is in the city of Gloucester; it is associated with the medical school hospitals in Bristol, with a series of twenty-four primary centres, and with a number of supplementary institutions in the manner indicated in the diagram reproduced on p. 741. We take it that the Consultative Council hopes that some other areas may shortly follow the example of Gloucester, so that experience may be gained of the working of such a scheme as it has outlined. The note prefixed to the report by the Minister of Health may be read in this sense; for he says that action is already being taken by the Ministry of Health and local authorities in relation to a number of matters raised in the report, and that proposals for action in other directions are in process of formation, but adds that many of the recommendations must be considered in relation to a comprehensive policy, including the future of the services at present entrusted to poor law authorities. A bill embodying such a policy is to be submitted to Parliament by the Government in due course.

[1] See BRITISH MEDICAL JOURNAL, February 21st, 1920, p. 263.

THE STEWART PRIZE.

THE Stewart Prize of the British Medical Association was awarded by the Council, at its meeting on May 19th, to Miss Harriette Chick, D.Sc. Dr. Chick, who has been an assistant in the department of experimental pathology at the Lister Institute since 1906, has published numerous papers on bacteriology and physical chemistry. Her work on the laws governing the germicidal action of chemical agents and hot water form the basis of the knowledge of the process of disinfection, and her researches upon heat-coagulation of proteins and the salting out of proteins, made in collaboration with Professor C. J. Martin, afforded an interpretation of these phenomena in terms of modern physical chemistry. Dr. Chick has also made a number of other discoveries in the chemistry of colloids, more particularly concerning proteins. Recently she has been mainly occupied in dietetic questions, with reference especially to deficiency diseases. When, towards the end of 1915, there were indications that troops in certain theatres of war were suffering from beri-beri and scurvy Dr. Chick made a study of the literature and instituted researches, the importance of which was at once appreciated by the War Office and the India Office. Dr. Chick organized and directed a band of workers at the Lister Institute, who extended the observations of Cooper, previously carried out there, on the anti-beri-beri vitamines in various foodstuffs. From a consideration of the mass of data collected and provided the military authorities were able to select the most manageable additions to the diet of troops. Starting from an observation made by Professor Fürst in 1912, to the effect that the antiscorbutic principle of fresh vegetables was developed as soon as the germination of seeds occurred, it was demonstrated that the active principle was produced in quantity sufficient to be of practical use, and that it was therefore possible to prevent scurvy amongst, for example, Indian troops, to whom, owing to military circumstances, it might be impossible to supply fresh vegetables for a considerable period. The fact that this could be done without increase of transport was of great military importance, for it was shown that dry pulses, if carried unsplit and soaked for twenty-four hours prior to cooking, germinated sufficiently to produce the accessory body. The addition of germinated pulses to the dietary was the only antiscorbutic element available to the troops at Archangel during the winter of 1918–19. It was completely successful. Observations were also made on the antiscorbutic value, weight for weight, of fresh and of dried and preserved foods, including various vegetables, fruits, eggs, milk, and meat. In this way adequate data were afforded not only for deciding on suitable additions to the diet of troops under the circumstances mentioned, but also as to the additions which might properly be made to the diet of infants reared on dried or preserved milk. In the course of the inquiry the suspicion which had arisen in recent years on epidemiological grounds, that the lime juice issued to the army was ineffective in preventing scurvy, was confirmed, and by a historical research into old Admiralty papers it was shown that the lime juice issued to the navy with good effect since the beginning of the nineteenth century was not the juice of limes but of lemons, a juice much richer in antiscorbutic principles. The information obtained during the extensive researches of Miss Chick and her colleagues has not only been of great service during the war, but is of permanent scientific value. Every fact had to be obtained by careful experiments on animals, often prolonged for five or six months. In the autumn of last year Dr. Chick, accompanied by a colleague, Miss Dalyell, went to Vienna to give assistance to the medical profession there in regulating diets, and to ascertain by observations upon the population of that unfortunate city how far the results of the experimental work on animals are applicable to mankind. Dr. Chick has been very successful in establishing friendly relations with members of the medical profession in Vienna. She has in consequence obtained every facility for study, and has been able to enlist many keen collaborators from amongst some of the prominent physicians of Vienna. This is the first occasion upon which the Stewart Prize which is awarded every two years for researches regarding the origin, spread, and prevention of epidemic disease, has been awarded to a scientific worker not a member of the medical profession, and the first time also that it has been given to a woman.

GREEK SCIENCE AND MODERN SCIENCE.

DR. CHARLES SINGER delivered his inaugural lecture as lecturer in the history of medicine in the Univerity of London on May 12th. His subject was "Greek science and modern science," and he indicated certain respects in which they were similar and certain others in which they were in contrast. Greek science, he said, might be regarded as having had its origin among the Ionian colonies in the seventh century B.C. But even the very earliest Greek writings, some of which could be referred to that date, presupposed long generations of research and careful record and observation. The self-centred character of the Greeks had often been remarked upon. Their science was the fruit of individual minds, not the product of the social consciousness. An element of Greek thought which united the Greeks to us was their conviction of the existence of order. It was the Greek faith that order reigned in Nature. This was a most vital contribution to scientific thought. Such a trust in the reign of law was due to faith or intuition, not to observation. Greek scientific workers often blundered in observation, and their besetting sin was a habit of making sweeping generalizations on inadequate evidence; but their firm faith in order was their crowning glory. From such points of similarity between ancient Greek science and that of the modern day Dr. Singer turned to certain elements which separated the two. We had nothing like the habitual inter-relation of science and philosophy which the Greeks exhibited. It was an inter-relation which originated in the historical basis of Greek science as a department of philosophy. No people were more free than the ancient Greeks from theological and social prejudices. Modern science did not arise as the offspring of philosophy, nor did it form any alliance therewith until it had gained some strength of its own. In its earliest stages modern science applied itself almost exclusively to the solution of so-called practical problems. The mediaeval limitations within which modern science was cradled undoubtedly worked far more harm than good, though there were certain elements in our science, such as specialization and practical applicability, which we owed, in part at least, to those limitations. Greek science, save in mathematics, contained an intolerable amount of speculation. A more striking difference between Greek and modern science was in technical treatment. It was sometimes said that Greek science failed because it was without instrumental aid, and thus could not reach the degree of precision of modern science. But this begged the question. Why had the Greeks no instruments of precision? Instruments of precision were the product of scientific discussion. Modern science found its expression in the periodical issue of memoirs on special subjects. These papers had a constant structure. The problem was first stated, then the efforts of others to solve it were recalled, then the worker detailed his own experiments and observations, or some of them, described at greater length his final line of verification, and summarized his conclusions in a short paragraph. The scientific workers of antiquity proceeded on very different lines. They set down only their conclusions, but not their experiments. It was as though we had a collection of the last few lines of a series of scientific articles. The great defect of Greek

science was the omission to record the process, save again in mathematics. To the Greek it was the general principle which was important. The modern scientist knew that it was the conclusions which were the temporary and local accidents, and that it was the process which really mattered. In justifying his lectureship Dr. Singer said that the history of science had been neglected in this country. What there was of it, alike in science and in medicine, was too frequently allied with superficial biography, which seemed to take account of every department of a man's life except his mental processes. The breakdown of the educational system based on the old humanities made the history of science an almost necessary element in the curriculum. The history of science provided, along with other elements in the history of civilization, just that view of the mental history of the race which had been given by a study of the classics of Greece and Rome. We were well accustomed to recognize that the store of scientific knowledge was a general treasury from which all men drew, but it was not always remembered that the guardianship of that treasure had been in the hands of a very small company. The organic apparatus by which new knowledge had been created was the work of a mere handful in all countries and periods; and the contemplation of the conditions under which those men worked and lived must be of value, even in the practical and everyday sense, to those who would follow in their footsteps.

THE LEPROSY PROBLEM IN INDIA.

A CONFERENCE attended by forty-six missionary superintendents of Indian leper asylums (including six medical missionaries) and four medical Government delegates was held in Calcutta last February to consider the leprosy problem in India. The Conference, after sitting for four days, unanimously passed a series of resolutions; those dealing with medical matters were drafted by a committee of medical delegates. The resolutions affirmed that leprosy is slowly contagious, often by the discharge of the causative bacilli in the nasal discharges, even in early cases with no outwardly visible sores; that, although not directly hereditary, children are especially susceptible to infection from an early age; segregation, therefore, is the most effective measure for reducing the prevalence of leprosy. The committee unanimously endorsed the memorandum regarding the amendment of the Indian Lepers Act of 1898, which has been submitted by the Indian Auxiliary of the Mission to Lepers to the Government of India, and has been the basis of an amending Act recently introduced into the Imperial Legislative Council at Delhi. This will remove the absurdity of existing regulations which allow pauper lepers to be retained in leper asylums only so long as they have open sores; it will give further powers to control vagrant lepers and those engaged in certain trades, such as those connected with food supplies. After recommending facilities for training medical assistants in the diagnosis and treatment of leprosy, the Conference recommended that, in view of the fecundity of female lepers especially, the separation of the sexes is desirable as far as possible, and that any children born of leper parents should be separated from them at the earliest possible age; it recorded that a test by fourteen medical officers of leper asylums throughout India of Sir Leonard Rogers's treatment with sodium salts of unsaturated fatty acids had given most favourable results, 72 per cent. showing marked improvement in spite of the fact that most of the cases were advanced and the period of treatment had been comparatively short; further research into the treatment of leprosy was recommended, and arrangements for this have been made in Calcutta. The general resolutions recommended that pauper lepers ought first to be segregated in suitable settlements, as they are the greatest menace to public health; for owing to the numbers of lepers it does not appear to be practicable at present to segregate all those in India, although it has been accomplished with excellent results in the Philippines. The Conference was of the opinion that this measure would stamp out the disease in India if it were possible to apply it. A series of papers on the treatment of leprosy read at the Conference have been published in the April number of the *Indian Medical Gazette*, and include one by Sir Leonard Rogers, summarizing his results to date and reporting further progress with his researches. He now records ten cases in which the lesions have remained completely in abeyance for from one to two and a half years; but does not claim to cure the disease. Sodium morrhuate has proved to be as efficient and more easily used than sodium gynocardate, a point which is confirmed by the trials in the leper asylums. This led him to make similar preparations from other oils with still higher content of unsaturated fatty acids, and one of these, prepared from soya bean oil, has already given even better results than the former drugs; it has the great advantage of being almost painless when injected subcutaneously, and thus promises to prove a further important advance in the treatment of leprosy. The field is now opened up to further researches on this line. If those recommended by the Conference should indeed result in still more effective treatment which can be carried out in the proposed leper settlements, this should prove a powerful incentive to these dangerous patients to enter them voluntarily. In this way it may well prove an important factor in the future control, and eventual extermination, of this loathsome disease.

PREVENTION AND TREATMENT OF INSANITY.

THE first of the Maudsley lectures, founded by the bequest of the late Dr. Henry Maudsley, was delivered to the Medico-Psychological Association of Great Britain and Ireland by Sir James Crichton-Browne, at the house of the Royal Society of Medicine, on May 20th. The lecturer expressed the hope that the Maudsley lectures would prove a means of extending the usefulness of the Medico-Psychological Association, and of disseminating knowledge of its work. He dissented from the suggestions that had recently been made that asylum medical officers in England were deficient in knowledge of advances in psychiatry; these officers had in proportion to their numbers produced more than their fair quota of sound progressive scientific work; and in the diagnosis, treatment, and study of insanity this country had nothing to fear from comparison with others. Changes and reforms were necessary, but none recognized this more clearly than the asylum officer. The medical staff in some of the large asylums should be reinforced and more liberally remunerated. It was of the greatest importance that facilities should be provided for early treatment of mental disorder. In connexion with asylum treatment legal formalities, intended for the protection of the liberty of the subject, had led, if not to an increase of lunacy, to an accumulation of lunatics. The national shrinking from certification had in many cases converted what might have been a transitory illness into a permanent infirmity. It was to avoid such calamities and to facilitate early treatment that Maudsley had supplied the funds for the Denmark Hill hospital. Sir James Crichton-Browne went on to say that he looked forward to the establishment in large towns of similar hospitals and clinics, where early cases could receive treatment without incurring the odium of having been in an asylum. He anticipated also an extension and an improvement of the out-patient departments of public asylums; it was in these institutions that the chief bulk of the insane would always continue to be lodged and treated. He believed that during the war, when medical examination was essentially physical, many men of unsound mind had passed into the army; had their mental condition been examined as thoroughly as their physical state, a startling amount of mental unfitness in the adult male population would have been demonstrated. In consequence of the reawakening of public opinion to the importance

of national health, and the formation of the Ministry of Health, with a medical head, prompt steps would be taken for the better housing and feeding, and for the physical training of the people, for protection against over-fatigue, and for the restriction of the ravages of preventable disease, especially venereal disease. All these measures would be reflected in the course of time in the improvement of national mental vigour and a diminution in certain forms of mental disease. Improvement was also to be expected as a result of the new Education Act, but in order that education might be made fully effective in the prevention of insanity and its neurasthenic and hysterical harbingers, it was necessary that much study of the growing mind should be undertaken by psychological experts.

TREATMENT OF CEREBRO-SPINAL FEVER.

To the report by Surgeon-General R. S. F. Henderson, Director-General of Medical Services, New Zealand, on the health of the men in training camps during 1918, Captain J. W. Crawshaw contributes an account of an epidemic of cerebro-spinal fever at Featherston Camp. There were thirty-six cases among an establishment of 5,600, with eight deaths; a meningeal variety with early loss of consciousness, and a septicaemic variety were observed. In twenty-three cases the meningococcus was found on lumbar puncture; in five others the spinal fluid showed polymorphonuclear leucocytosis; thirteen out of twenty-four cases—an unusually high proportion—had the meningococcus in the blood. The low mortality of 22 per cent. is attributed to the vigorous use of antimeningitic serum given intrathecally, intravenously, or subcutaneously in average doses of about 50 c.cm., 150 c.cm., and 100 c.cm. respectively; repeated lumbar punctures were made in chronic cases, and if a serum rash had appeared a vaccine was used. Captain Crawshaw records a mild septicaemic case in which the meningococcus was found in the blood, although the cerebro-spinal fluid was clear and contained no organisms nor excess of leucocytes. Believing that the blood infection is primary and that of the meninges secondary, he advocates early intravenous (rather than intrathecal) injections of serum. The occurrence of cerebro-spinal fever was contemporaneous with a severe epidemic of influenza, which began in July and reached its maximum in November, producing altogether 8,528 cases. There were 287 deaths: of this number, 9 were directly due to cerebro-spinal meningitis. In the four camps there were 55 cases of cerebro-spinal fever, which in 31 cases followed directly on an influenzal attack. The clinical features of the influenza observed were very similar to those of the British and American epidemics. The influenza bacillus or a streptococcus was usually found; there was a certain amount of evidence of a partial immunity during the first few weeks after an attack. The systematic use of inhaling chambers, in which a vapour containing a 1 per cent. solution of zinc sulphate was breathed quietly for three minutes (preferably twice a day), was found to diminish the incidence of nasopharyngeal catarrh, measles, and diphtheria; though it did not altogether prevent influenzal attacks, it was thought to lessen the severity of the illness in those who were attacked. Inhalation chambers were installed on troopships, and a lessened incidence of severe infection followed.

THE dinner in celebration of the services of the Royal Army Medical Corps, and the eminent civilians attached to it, during the recent war, will take place at the Connaught Rooms on Tuesday, June 8th. Lieut.-General Sir Alfred Keogh, G.C.B., G.C.V.O., will be the chief guest, and among those who have accepted invitations to be present, as commanders of armies, are Field-Marshal Viscount French, Field-Marshal Earl Haig, Generals Lord Horne, Lord Rawlinson, Sir Ian Hamilton, and Sir Archibald Murray. The Right Hon. Winston Churchill, Secretary of State for War, and other members of the Army Council will be present. Some forty hosts will preside at the different tables; the committee being Lord Derby, Lord Midleton, Lord Edmund Talbot, General Seely, the Right Hon. H. J. Tennant, and Colonel Sir Edward Ward, to whom all communications should be addressed at 10, Grosvenor Street, W.1.

THE first examinations for the newly established diplomas in psychological medicine and ophthalmic medicine and surgery of the Royal Colleges of Physicians and Surgeons will commence on June 28th and July 26th respectively. Full information can be obtained from the Secretary, Examination Hall, 8, Queen Square, Bloomsbury.

Medical Notes in Parliament.

The Parliamentary Session.

THE Whitsun recess gives little opportunity of taking stock of the parliamentary session, but nevertheless marks an important stage. It is intended as the briefest of breaks, and after the House of Commons reassembles on Tuesday, June 1st, great matters will within a very short time have to be settled. Dr. Addison has succeeded in passing the National Health Insurance Amending Bill, and Sir Robert Horne has had similar success with the second Profiteering Bill. Mr. Chamberlain, too, whatever the view taken of his enthusiasm for a levy on capital, has strengthened his reputation for courage in pressing a necessarily unpopular budget through Parliament. Mr. Bonar Law, it may be added, maintains to the full his hold upon the rank and file of Government supporters.

The main interest at the moment is in finance and houses, and indirectly in the question whether there will be an autumn session, because on the latter point will depend the decision what measures are to be advanced through all stages this year. There is a feeling in the House—not confined to one side—that the unsettled condition of affairs abroad, and spasmodic labour troubles at home, make a long recess of four or five months undesirable; and it is held by those who argue thus that the power to summon Parliament quickly would hardly meet an emergency situation, as it is a dangerous weapon to employ, being liable to accentuate trouble, whereas a Parliament sitting or about to sit might be of some use.

What, however, will probably determine the issue is whether the Cabinet decides to adopt the war wealth levy scheme, which Sir William Pearce's committee has found to be "practicable," while carefully refraining from offering any recommendation concerning it. Bankers and other financiers, not necessarily hostile to a levy on war wealth, condemn such a proposal as dangerous to credit being put forward after the money has been so widely applied to business (when it has not been dissipated), and they also urge that hardship would be caused by the inevitably arbitrary boundaries, and the inability to distinguish thrift from war wealth despite qualifications. Against these considerations is Mr. Chamberlain's eager desire to cut down the war debt by a big sum. If he should carry the Cabinet with him in favour of the scheme, then a highly controversial bill will occupy much time, and, by delaying other matters, involve an autumn session.

In that event it is possible that the promised Health Services Bill may be presented and possibly passed into law this year. Weighted as he is with so many other responsibilities, Dr. Addison could not be expected to produce this in time for it to be dealt with in a session ending in this summer, if, indeed, it can be done at all this year. As for the Licensing Bill, which was mentioned in the King's Speech, the belief is that in any case only a short renewing measure can be contemplated this year; and it is doubtful whether the bills dealing with labour questions can be taken, as they mean the completion of a variety of negotiations. As things stand, the last stage of the Budget has still to be passed. The Rents Restrictions Bill was only introduced last week; the Bill to amend State arrangements for agricultural production as regards guaranteed prices and wages is also at first reading. The Milk Bill, the Census Bill, the Bill for Training and Assistance of the Blind, and a host of small measures have yet to be discussed all through in both Houses. Then, too, the additional grant, which is contemplated to assist the building schemes, will bring that very serious problem

of housing accommodation before Parliament again in its varied aspects. Altogether the business before the House of Commons is very considerable, and there are always contingencies that may bring fresh calls upon time. The hardest worked department of all is the Ministry of Health, and it certainly should have every sympathy and encouragement in its energetic efforts to make good in a few years for the many years of slow going by the Local Government Board of the past, when public support was not behind the vital interests of preventive and protective services.

Financial Difficulties of London Hospitals.—Sir C. Kinloch Cooke asked the Minister of Health, on May 19th, to make a definite announcement regarding the steps he was taking to meet the difficulty that had arisen in connexion with the finance of London hospitals; whether he was aware that some hospitals were even now unable to meet their current liabilities, and that unless relief by grant in aid was immediate they would have no alternative but to curtail their beneficent work, and possibly close down altogether. Dr. Addison said that he was in consultation with the various authorities concerned, but was not yet in a position to make any definite statement. He was well aware that the matter was pressing, and hoped that it would not be long before he could make a statement.

Blind Persons Bill.—The Blind Persons Bill, introduced by the Minister of Health in response to an undertaking given in the discussion of the bill proposed by Mr. Ben Tillett, was read a second time on May 14th. The aim, Dr. Addison said, was not only to deal with blind persons, but to prevent the occurrence of blindness. As a result of the work of the Advisory Committee on the Blind, the Ministry had a complete survey of the existing methods of dealing with blind people, and Mr. Barnes had consented to preside over a special inquiry to advise on the steps which should be taken to improve preventive services. The two main provisions of the Government bill are, first, that county councils or county borough councils shall have power to provide for the training of the blind; and, secondly, that the conditions relating to old age pensions shall become applicable to blind persons at the age of 50.

Indian Services.—In reply to a question by Mr. Lunn, on May 19th, the Under Secretary of State for India gave the following particulars of the approximate cost per annum of the increases of pay sanctioned in the Indian services indicated:

	£
Indian Civil Service	360,000
Indian Police Service	130,000
Indian Educational Service	100,000
British officers of Indian army and of British troops in India	1,700,000
Indian Medical Service	250,000

He did not propose to publish his correspondence with the Government of India, which was very voluminous. The usual course was for the Government of India to announce decisions by resolutions promulgated in India, and this was the most convenient procedure.

Opium and Morphine.—Mr. Montagu has stated that the acreage under opium cultivation in India in the year 1916–17 was 204,186 as compared with 144,561 in the year 1913–14. The quantity exported to the United Kingdom on Government account in 1918–19 was 2,400 chests, of the value of Rs. 20.11.230. There was no export to the United Kingdom on private account, and comparative figures for pre-war years are not available. Sir Robert Horne has given particulars of the export of morphine from the United Kingdom during 1919. The total quantity of morphine and morphine salts manufactured in the United Kingdom and exported was: To British possessions 20,237 oz., of the value of £21,913; to foreign countries 303,733 oz., of the value of £314,948. These figures do not include exports through the post.

Vaccinal Condition of Small-pox Carriers.—Mr. R. Young, on May 18th, asked for particulars of the vaccinal condition of various small-pox carriers in England and Wales in the year 1919, given on pages 87–90 and pages 126–129 of the Medical Supplement of the 48th annual report of the Local Government Board. Dr. Addison replied that the soldiers at Pontefract, Bury St. Edmunds and Chorley Wood had been vaccinated in infancy; the soldier at Lincoln had been vaccinated in infancy and apparently revaccinated while in the army, but the latter operation was not successful. The vaccinal condition of the soldier at Croydon was not known; there was no evidence to show that he suffered from small-pox. The person who introduced small-pox into Wisbech had been vaccinated in infancy, as had also the first known case at Southend (that of a child). A relative of the soldier at Bishops Stortford was unvaccinated, the other had been vaccinated in infancy. The three cases removed from the ss. *Porto* were aged respectively 36, 5½, and 4½ years; the first mentioned had been vaccinated in infancy, the last two were unvaccinated. The reason that this information was not given in the sections of the report to which Mr. Young referred was that they were not specially concerned with the vaccinal conditions of the patients. Particulars of the vaccinal condition of the cases of small-pox occurring in the country during the year 1918 were given on page 179 in Appendix C of the Report, and similar particulars appeared in the Medical Supplement of the Annual Report of the Local Government Board for several years past. Dr. Addison stated, in reply to a recent question, that the year in which the highest percentage of children was vaccinated in England and Wales was 1881; the year of the lowest percentage was 1917; the number of deaths in England and Wales from small-pox amongst children under 10 years of age in 1881 was 1,078; there were none in 1917.

Venereal Disease in the British Army.—In reply to a question by Captain Elliot as to the case rate of venereal disease amongst the British army in the United Kingdom, France and Flanders, and Germany (occupied country) in the years 1918, 1919, and the first quarter of 1920, the Secretary of State for War said: The approximate ratios per 1,000 of admission for venereal disease are as follows:

	Ratio per 1,000 per annum, 1918.	Ratio per 1,000 per annum, 1919.	Ratio per 1,000 First Quarter 1920.
United Kingdom	43	59	14.8
France	32	67	40.5
Army of Rhine	—	46	42.3

The ratios for 1919 and 1920 are to a large extent fallacious owing to rapid demobilization. As I stated in my answer on May 11th, there has been a rise in the incidence of venereal disease amongst the troops in France and Germany, but I am glad to say that the latest information shows some improvement.

Importation of Condensed Milk.—Sir Robert Horne stated, on May 19th, that during the first four months of 1920 this country received 344,024 cwt. of sweetened whole milk, and 114,696 cwt. of separated or skimmed, and 125,034 cwt. of unsweetened milk. The United States contributed 245,959 cwt. of sweetened whole milk, 5,074 cwt. of separated or skimmed, and 123,347 cwt. of unsweetened milk. It was impossible to say what proportion of imports was of the standard composition defined by the Government chemist in his annual report, as only a limited number of consignments were sampled. The number examined in Government laboratories from January 1st to March 31st was 34. Of these, 4 were samples of unsweetened milk and they showed a range of concentration of from 2.35 to 2.42. Of 30 samples of sweetened milk 19 had a concentration less than 2.5 (range 2.06 to 2.49), and 11 had a concentration of 2.5 and over (range 2.50 to 2.90). The definition of the Government chemist was milk reduced to two and a half to three times its original bulk by the evaporation of water.

Central Research Institute, Hampstead.—Colonel Burn, on May 20th, said that complaints had been made by residents about the howling of a dog kept at the Mount Vernon Hospital, Frognal, Hampstead, and asked whether a licence for vivisection was held by anyone in the hospital. The Home Secretary said that no complaints on the subject had been made to him, and he was unable on inquiry to find any confirmation of the complaint. The place was not now a hospital, but the Central Research Institute of the Medical Research Council was registered under Acts 39 and 40 Victoria, chap. 77, and several persons held licences available there. It was under regular inspection and supervision by His Majesty's inspectors under the Act, and he had every reason to believe that the regulations as to the treatment of animals under experiments were strictly carried out. He saw no ground for any further inquiry.

Typhus in Poland and Russia.—In reply to Mr. Lawson, on May 17th, Mr. Harmsworth, Under Secretary, Foreign Office, said that at the meeting, on March 13th, of the Third Session of the Council of the League of Nations it was decided, on the motion of the British member, to instruct the International Health Conference to consider what measures should be taken to prevent the spread of typhus in Poland and the neighbouring countries. The situation in Poland was certainly serious, but it could not be said that the country was ravaged. The recent military advance of the Poles did not modify the proposal before the League of Nations. On the contrary, the medical authorities interested held that to the extent that the advance secured better conditions of Government in the Ukraine it would increase the opportunities of controlling the epidemic. Lord Robert Cecil inquired whether there were as many as 250,000 cases of typhus in Poland, and whether this was five times greater than existed at this time last year. Mr. Harmsworth replied that he had not the exact figures on record.

Answers in Brief.

In reply to a question, on May 18th, as to the action to be taken on the report of the Medical Consultative Council, Dr. Addison said that no pledge could be given as to the date on which the Health Services Bill would be introduced.

A discharged soldier in an institution for nerve strain does not draw a pension, but receives allowances, generally at the rate of 21s. a week, with additions for rank and dependants. The Ministry of Pensions defrays the charges of the institution. Pensions may be reduced by one-half or less if the treatment certified to be necessary in the man's own interest is refused. Every such case is considered on its individual merits.

England and Wales.

HEALTH SERVICES AND HOSPITALS IN LONDON.

IT was reported to the London County Council on May 18th that the Minister of Health received a deputation from the Council on April 23rd to discuss the recent resolutions of the Council on the health services of London (BRITISH MEDICAL JOURNAL, December 27th, 1919, p. 861). Dr. Addison told the deputation that in any scheme which was proposed the question of London must be specially dealt with. In regard to many health services he said that it was essential that there should be an authority competent to deal with them over a considerable area, and the more highly specialized they became the wider generally must be the range of authority. When the draft stage was reached, he would consult freely with the Council. It was inconceivable that any system of health authority could be set up which did not include the hospital system. In any case 50 per cent. of the beds in the country generally—he did not know how it was in the London area—were in the Poor Law infirmaries, so that it seemed to him that it would not be possible to split up hospital supervision. Speaking in general terms, he thought that the main principles governing the Council's recommendations were unassailable.

BIRTHS AND DEATHS IN THE FIRST QUARTER, 1920.

The Registrar-General's last quarterly return, dated April 30th, shows that the deaths registered in England and Wales during the first quarter of 1920 numbered 137,637. Influenza was stated to be either a primary or a contributory cause of death in 4,037, or 2.9 per cent. of the total deaths in the quarter. Thirteen deaths from small-pox were registered. The total number of deaths was 22,877 more than in the preceding quarter, but 54,285 fewer than in the first quarter of 1919. Infant mortality, measured by the proportion of deaths under 1 year of age to registered deaths, was 88 per 1,000, being 32 per 1,000 below the average in the ten preceding first quarters, and the lowest recorded rate for any first quarter. During the same period 271,082 births were registered in England and Wales, being 47,513 more than in the first quarter of 1919; it was the highest number recorded in any quarter since the establishment of civil registration, and corresponded to an annual rate of 29 per 1,000 of total population. The natural increase of population in England and Wales by excess of births over deaths was 133,445, against 14,810 and 24,303 in the first quarters of 1917 and 1918, and a natural decrease of 47,002 in the first quarter of 1919. This statement excludes, however, all deaths among the armed forces, except those registered in this country.

PRESENTATION TO MR. F. C. LARKIN OF LIVERPOOL.

Mr. F. C. Larkin, F.R.C.S., of Liverpool, has just retired from the post of honorary surgeon to the Liverpool Stanley Hospital, where he has worked for nearly thirty years. He has also recently retired from the secretaryship of the Lancashire and Cheshire Branch of the British Medical Association and from the chairmanship of the Organization Committee of the Central Council of the Association. Though not personally engaged in panel practice, he has acted as chairman of the Liverpool Local Medical and Panel Committees from their formation. A committee has been formed, with Sir James Barr as chairman, from the members of the Liverpool Division and the Liverpool Panel Committee, and from St. Helens and Burnley, to arrange that Mr. Larkin shall receive some recognition of his work. An appeal which has been issued states that, while heartily engaged in his professional work, Mr. Larkin has devoted much time and energy to the important though often thankless task of organizing his medical brethren in their own defence, and whatever measure of success has attended the movement for the betterment of the medical profession in recent years must be largely attributed to the pioneer work of Mr. Larkin and those who acted with him in London and the provinces. Subscriptions, not to exceed one guinea each, should be forwarded to the honorary treasurer and secretary, Mr. F. Strong Heaney, secretary of the Lancashire and Cheshire Branch of the British Medical Association, at 36, Rodney Street, Liverpool.

PAYMENT OF VISITING STAFFS OF VOLUNTARY HOSPITALS.

A conference of representatives of the honorary visiting staffs of some of the larger voluntary hospitals of the Midlands was held at the Leicester Royal Infirmary on May 18th. The hospitals represented included those of Birmingham, Burton, Coventry, Derby, Leicester, Loughborough, Manchester, Northampton, Nottingham, Salford, Sheffield, Stoke-on-Trent, West Bromwich, and Wolverhampton. Thirty-six representatives were present. The chair was taken by Sir Richard Luce of Derby. The questions brought up for discussion were:

1. The desirability of payment for the visiting staff for work done at their hospital on behalf of the Ministry of Pensions, the Ministry of Health, or the local medical health authorities, and, if so, at what rates.
2. Whether the time has come to ask for payment for the visiting staff for all work done by them at the hospitals, and, if so, whether this should take the form of an honorarium, a salary, or a percentage of the expenses of the hospital. If not, what alteration in the existing management or financial arrangements of the hospitals would create the need for such a request.

After full discussion the following resolutions were passed:

1. That payment for the visiting staffs is desirable for work done at their hospitals on behalf of the Ministry of Pensions, the Ministry of Health, or for the local medical health authorities.
2. That the time has not come for visiting staffs to ask for payment for all work done by them at the hospitals. But that the need for such a request would arise if the State or local authorities should assume control over the hospitals or if the income of the hospitals ceased to be derived from voluntary contributions.

The question of methods and rates of pay was referred to a committee for detailed consideration and report. No definite organization was formed for future meetings, but the chairman and secretary to the meeting were instructed to reassemble the Conference at their discretion.

CENTRAL MIDWIVES BOARD.

A penal session of the Central Midwives Board for England and Wales was held on May 20th, with Sir Francis Champneys in the chair. Two women were removed from the roll; decision was postponed in one case for report; and two midwives were cautioned. One application for restoration to the roll was granted. At the ordinary monthly meeting, held on the same day, Dr. Fairbairn raised the question of reconsidering the conditions on which approval of midwives as teachers is granted, and also the question of arranging for courses of training for midwives seeking approval as teachers. It was decided to ask the Approval Subcommittee to consider and report on a scheme for the further instruction of teachers, and that Dr. Griffith be added to the committee for this purpose. In reply to a letter signed by all the examiners at the Birmingham centre, it was resolved to increase the number of examiners at that centre from six to eight, and to inform these examiners that if they will forward to the Board a request from the examiners at all the examination centres that the fees be increased, with reasons therefor, the Board will favourably consider such request.

Scotland.

GENERAL NURSING COUNCIL FOR SCOTLAND.

THE first meeting of the General Nursing Council for Scotland was held on May 10th at the office of the Scottish Board of Health, Edinburgh. The meeting was opened by Sir Leslie Mackenzie, of the Board of Health. Captain C. B. Balfour, of Newton Don, and Miss Norah Milne, B.Sc., were appointed chairman and vice-chairman of the Council respectively. Mr. C. L. Farmer, of the Scottish Board of Health, was appointed interim secretary.

TREATMENT OF VENEREAL DISEASES.

The Scottish Board of Health states that it has under consideration the question of extending the application of the Venereal Diseases Schemes inaugurated or to be inaugurated in Scotland in pursuance of the Public Health (Venereal Diseases) Regulations (Scotland), 1916, to cases of syphilis other than those to which the operation of the

schemes is at present restricted. In the light of the experience which has already been gained, the Board has been advised of the difficulty in distinguishing between communicable and non-communicable phases of the disease. It has accordingly decided that differentiation between communicable and non-communicable cases should no longer be attempted, and that all cases requiring anti-syphilitic treatment should be regarded as being properly included within the scope of the schemes for the control of venereal diseases, with the exception of those of general paralysis of the insane, the majority of which are removed to asylums.

Correspondence.

THE GENERAL PRACTITIONER AND THE HEALTH SERVICES.

SIR,—Dr. Brackenbury's paper, which appeared in the SUPPLEMENT of May 15th, should be carefully studied by every general practitioner. The position might be summed up as follows:

The health of the community depends chiefly on three main factors: (1) A good mother, (2) a good general practitioner, (3) a good scavenger.

Now that the mother has a vote she must insist that the general practitioner is made easily accessible to her, that her daughters are no longer spoilt by the so-called educational authorities, and that the scavenger does his cleaning thoroughly and minds his own business.

The general practitioner must now wake up and make sure that all the other factors in the so-called health services, which are only really valuable in proportion to the assistance they give him—and through him to the mother—are kept in their proper place and are not allowed to push him aside or to become his masters.—I am, etc.,

WILLIAM PATERSON, M.B., Ch.B.Edin.,
Honorary Secretary, Willesden Division.

Harlesden, N.W., May 22nd.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

SIR,—Dr. Thomas Beattie's description of the common signs and symptoms of early phthisis (January 24th, 1920) is so far from that I have encountered in this country that it may interest your readers to know the differences.

Haemoptysis without apparent cause or prior symptoms is, unless due to hydatid cyst, always tuberculous in origin here. Pleurisy without effusion is rare unless there is some accompanying disease, but pleurisy with effusion of the so-called idiopathic type without any apparent cause is equally always tuberculous. Not every case subsequently develops phthisis, but it is a perfectly safe thing to treat all such cases as being of tuberculous origin. I make a rule of having the cytology of all puncture fluids reported on and, in addition, all pleural fluids injected into a guinea-pig, in order to leave no doubt as to the origin of the effusion.

The general ill health and toxic symptoms—dyspepsia, wasting, etc.—are the same, but recur from time to time, and in the absence of any obvious cause, such as poor teeth or bad habits in eating or drinking, should lead to a regular investigation of the temperature. The charts of early phthisis we get here are quite distinctive—97° in morning and 99.4° or so in the afternoon—and, other causes being excluded, are as positive an indication of phthisis as can be had even without physical signs.

I am surprised to see no mention made of cough as an invariable accompaniment of active tuberculosis. I have never yet encountered a case in which this was absent. I should not call a case with the physical signs he describes an early case; I should regard it as long past the early stage. Personally I always try to make a diagnosis irrespective of physical signs; in this country it is quite simple. Loss of weight and appetite *plus* cough and a characteristic temperature chart, other sources of such trouble being excluded, are reliable indications.

Dr. Beattie's statement as to the occurrence of tubercle "at any site in the lungs," where it may cause physical signs, is not in accordance with my experience. The contiguous borders of the upper and lower lobes, close to the edges, and more frequently on the right side, is where I have learned to look. I have never encountered early phthisis anywhere else.

I doubt if there is such a primary disease as bronchitis, except from the direct irritation of dust and such like causes. The bronchitis of the textbooks is a disease I have been on the look-out for for the last thirty years without yet encountering a case which was not either tuberculous in origin or accompanied by some evidence of parenchymatous disease of the lung. I heartily endorse Dr. Beattie's remarks on the value of sputum examination.

X-ray examination is my routine in all cases, as cysts in the lung are not uncommon and will exactly simulate phthisis. A clear conception of the deficient expansion of an apex is most easily obtained by this means.

As to the use of tuberculin, I have given it up as being far too dangerous, and I should feel exceedingly sorry to find I had stirred up enough focal reaction to increase the physical signs.—I am, etc.,

ALFRED FOSTER,
Hon. Physician, Christchurch General Hospital.

Christchurch, New Zealand, March 22nd.

TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

SIR,—In the discussion on the treatment of ante-partum haemorrhage, as reported on page 672 of your issue of May 15th, mention is not made of the patient with severe external accidental haemorrhage who is still not in labour twenty-four hours after plugging cervix and vagina.

In a recent case of this nature I left a black catheter in the uterus before replugging the vagina. Labour terminated satisfactorily for the mother ten hours later. If I again meet with a case of severe external accidental haemorrhage in which the patient is not in labour it is my intention at the outset to pass several gum-elastic bougies into the uterus and plug the vagina without removing the bougies.—I am, etc.,

H. S. HOLLIS, M.B.Lond.

Hove, May 18th.

THE EARLY DIAGNOSIS OF SYPHILIS.

SIR,—In regard to the two letters under this title that appeared in your issues of May 1st and 15th, may I be permitted, as one of the earliest writers in this country on the laboratory diagnosis of early syphilis, to record my opinion on this important subject?

During the period 1908–1913 my interest was largely confined to the study of the clinical pathology of syphilis especially in regard to the early diagnosis; whilst since that date I have had more opportunity of studying syphilis from the clinical side.

I am in cordial agreement with the writers of the letter in your issue of May 15th as to the importance of clinical observations, and I think it is a matter beyond doubt that a large number of cases of syphilis in the early primary stage can be diagnosed with absolute certainty by clinical observation alone, and that valuable time may be lost while waiting for confirmation by laboratory methods. If the history of the incubation period, the appearance and induration of the sore, and the associated inguinal adenitis, all conform to a diagnosis of syphilis, I am of the opinion that it is best to accept this evidence as conclusive, and to immediately adopt anti-syphilitic treatment. I have on more than one occasion in the past delayed treatment until I have been able to obtain corroborative pathological evidence, and have only been able to obtain this evidence concurrently with the onset of secondary symptoms, and thus much valuable time—indeed, time of almost vital importance—has been lost. On the other hand, there are very many sores which I have not been able to diagnose as syphilitic by their clinical appearance or history, but in which I have been able to find typical *Sp. pallida*. It must be the experience of nearly every one with an extensive experience of examination by dark-ground illumination how frequently *Sp. pallida* are found in sores that are quite atypical in appearance. It appears to me, therefore, to be a matter of very grave importance that all sores atypical of syphilis should be subjected to a searching examination for *Sp. pallida*.

I have no great faith in the Wassermann reaction as a means for the *early* diagnosis of syphilis, and I do not

quite understand the rationale of Dr. Johnson's procedure. If he does not find the *Sp. pallida* he gives two injections of 0.45 gram of novarsenobenzol at a month's interval, the first followed by two blood tests a week and fortnight after injection, and the second by a blood test a week after the injection. If all these blood tests are negative I gather that he concludes the patient is not suffering from syphilis. Such evidence cannot be accepted as conclusive. If the clinical appearance and history are atypical and the dark-ground illumination and Wassermann reaction both negative, I should prefer to omit all but local treatment until the occurrence of definite clinical or pathological evidence of syphilitic infection.

It is very rare to fail to find *Sp. pallida* in a recent sore (even if local antiseptics have been applied by the patient before consultation) if the sore is treated with hypertonic saline solution for a couple of days.

A negative Wassermann reaction is also extremely common, even with well-marked and typical sores in which large numbers of *Sp. pallida* are present; indeed, I place no diagnostic value whatever on a negative Wassermann with a sore which has not been present for over a month. I conclude, therefore, that clinical observation and pathological examinations are of equal importance under different circumstances.—I am, etc.,

London, W., May 18th, H. WANSEY BAYLY.

AORTITIS AND AORTIC REGURGITATION.

SIR,—Dr. Theodore Fisher's letter in the JOURNAL of May 15th, p. 688, calls for a reply, if only to thank him for the courteous manner in which he has written. I think I may also say that his two letters show that we are in complete agreement on the main issue—namely, the extreme importance of the cardio-vascular lesions of syphilis.

I should, perhaps, in my letter in the JOURNAL of May 8th, have given definite reference to recent American writings upon the question under discussion. Warthin (*American Journal of the Medical Sciences*, 1916, vol. clii) describes the presence of spirochaetes in the aortic tissues and in the myocardium. His work has been quoted by several writers in the *Medical Clinics of North America* (Dr. Thomas McCrae, vol. i, No. 2, and Dr. Charles Louis Mix, vol. i, No. 5).

In the last five cases of cardio-vascular syphilis on which we obtained a *post-mortem* examination a myocarditis was in three instances considered to be present on naked-eye appearance. We have not as yet undertaken the demonstration of the presence of spirochaetes in these cases.—I am, etc.,

Belfast, May 17th. JOHN E. MACILWAINE.

Obituary.

WE regret to record the death of Dr. WILSON EAGER, which took place at his residence in Woodbridge, Suffolk, on May 11th, 1920. He was born on May 10th, 1845, and was the son of Dr. Richard Eager, a surgeon in Guildford, Surrey. Like his elder brother, Dr. Reginald Eager, he was educated at Guy's Hospital, and eventually made his life-work the study of mental disease and the cure of the insane. Dr. Wilson Eager, having taken the M.R.C.S., L.R.C.P., and L.S.A. diplomas in 1871, became clinical assistant at Bethlem Hospital; thence he went as assistant medical officer to the Prestwich Asylum. In 1876 he was appointed resident physician and superintendent of the Suffolk County Asylum, Melton (now St. Audry's Hospital), a position from which he retired in 1897 after twenty-one years' successful service. Dr. Eager was responsible for greatly improving the lighting, heating, and structural arrangements of this institution, which during the latter part of the eighteenth century had been the Woodbridge workhouse. Besides being an able administrator Dr. Eager was of an inventive frame of mind; he introduced into the institution many ingenious appliances for institutional nursing and equipment. Dr. Eager took a warm interest in the social life of the institution; he was fond of music, and by his own personal efforts secured the provision of an excellent organ for the chapel. On leaving the County Asylum Dr. Eager joined his brother in partnership at a private asylum near Bristol, but after ten years he decided to retire, and went to live in Woodbridge, where he had many friends. He leaves a son, Dr. Richard Eager, O.B.E., who is deputy medical superintendent of the Devon Mental Hospital, and a married daughter, who lived with him for many years. His wife predeceased him by twelve years.

Medico-Legal.

AN ABORTIONIST'S SENTENCE.

IN the JOURNAL of April 24th, p. 589, a short account was given of the trial at the Central Criminal Court before Mr. Justice Shearman, of Devi Dayal Sasun, L.R.C.P. and S.Edin., L.R.F.P.S.Glasg., of Brady Street, Bethnal Green, for the murder of a young single woman. The prosecution alleged that the woman died as the result of an illegal operation performed by the prisoner. The jury acquitted Sasun of the charge of murder but found him guilty of manslaughter, and he was sentenced to ten years' penal servitude. In the Court of Criminal Appeal on May 17th, before the Lord Chief Justice, Mr. Justice Avory, and Mr. Justice Roche, Sasun applied for leave to appeal against his conviction and sentence, and also for leave to call further evidence. The Lord Chief Justice in giving judgement, as reported in *The Times*, said that the court was seised of the case, and neither the comments nor the additional evidence of a doctor could assist it. The case against the appellant was that he had performed an operation with intent to procure abortion, and that the woman died of shock from the operation. Regarding the contention that the operation was not proved to be the cause of death, his lordship observed that the woman undoubtedly visited Sasun on the day before she was found dead. There was considerable mystery about what happened in the surgery and after she had left it, but there was evidence that the woman had died in the surgery, and that she had been carried by the appellant to an archway and left there. The main case for the appellant was that he had not done an operation on the woman. Dr. Spilsbury's evidence for the prosecution established that the woman's death was due to the insertion of an instrument used upon her, and that she had died within two or three minutes from shock following the operation. Death very rarely ensued in that way, but Dr. Spilsbury said he had known other cases. Apart from such cause there was no indication of a cause of death. In a bag found on the body of the woman there was a bottle of chloral, and in her stomach 7½ grains of chloral were found; but it was clear from the medical evidence that chloral was not the cause of death. Three obstetric physicians had been called for the defence, but all that they could say was that in the course of their normal and legitimate experience in cases in which all care had been taken they had not had a similar case. In dismissing the application his Lordship said that all the facts had been fully presented to the jury, who on a proper direction by the judge found that Sasun had committed manslaughter, and had killed the woman by performing an illegal operation upon her. The jury might well have found a verdict of murder, but had taken a more merciful course. Having regard to the fact that the appellant was found to be a professional abortionist, the sentence was not too severe.

Universities and Colleges.

UNIVERSITY OF LONDON.

OFFER OF A SITE.

PRESENTATION DAY at the University of London this year was made memorable by the simultaneous publication of an offer by the Government of a large site in Bloomsbury made through the Chancellor, Lord Rosebery. The site comprises 11½ acres, and lies immediately to the north-west of the British Museum; it extends from the west side of Russell Square to the back of Gower Street, and from the British Museum to the south side of Gordon Square. The site is at present covered by houses, but the leases of many of them expire before 1924, of others in 1928, and of most of the remainder in 1939. The ground is offered as a site for the head quarters of the University, and for colleges and institutions connected with it, including King's College, whose premises in the Strand are now inadequate for its needs. The Government has reluctantly decided that while it is prepared to make such provision as will secure the University from loss in respect of maintenance charges on the new University head quarters, the state of the national finances does not justify it in providing the cost of the buildings themselves from public funds. It believes that the University may look with confidence to the generosity and public spirit which has always marked the citizens of London.

The presentation ceremony took place in the Albert Hall on May 19th. The Principal Officer, Sir Cooper Perry, said that the resources of the University were strained to the utmost. The admissions amounted to 6,295 as compared with 3,852 in 1913–14, and the total number of candidates for all examinations to 18,352 as against 11,920 in 1913–14.

In the evening a graduation dinner took place in the Guildhall, when the Vice-Chancellor of the University, Dr. S. Russell Wells, presided. After dinner the Lord Chancellor said he rejoiced to be able to pay a tribute in his presence to Lord Haldane for the part he had taken in building up the army which won the war. The Minister of Education (Mr. Fisher) claimed that the present Government had shown no lack of interest in educational improvements. The war had made the country alive to the value of education, and the universities of

the country were fuller than ever before. To the University of London the war had given a great opportunity, for the German universities were under a cloud, the Dominions were anxious to take advantage of the seats of learning in this country, America was ready to send thousands of students, and the allied countries were more alive than ever before to the resources of English learning and the elasticity of English genius. The Government, he said, had no desire to force on the Senate the gift of the site, but hoped that the citizens of London would realize that the opportunity thus offered to them would make the University of London the central seat of the higher learning and research of the whole empire. The site was part of a larger area which might by degrees be acquired as university needs developed.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on May 13th.

Issue of Diplomas.—Diplomas of membership were granted to seventy candidates found qualified at the recent examinations. Diplomas in Public Health were granted jointly with the Royal College of Physicians to nine candidates. Diplomas in Tropical Medicine and Hygiene were granted to thirteen candidates.

Anatomical Nomenclature. — A report from the Court of Examiners expressing agreement with the Anatomical Society of Great Britain and Ireland in recommending that the old nomenclature should not be departed from in anatomical text-books or by medical men in general, was adopted by the Council.

Diplomas in Psychological Medicine and in Ophthalmic Medicine and Surgery.—The Council agreed to the regulations for diplomas in Psychological Medicine (D.P.M., R.C.P. and S.Eng.), and in ophthalmic medicine and surgery (D.O.M.S., R.C.P. and S.Eng.), details of which were given in the report of the meeting of the Royal College of Physicians on April 29th (BRITISH MEDICAL JOURNAL, May 8th, p. 658).

Examinations for these diplomas will commence on June 28th and July 26th respectively. Full particulars can be obtained from the secretary, Examination Hall, 8, Queen Square, Bloomsbury, W.C.1.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following, after examination, have been admitted Fellows:

J. S. Arkle, C. V. Baigent, H. Banks, M. R. Boe, A. L. Buchanan, C. H. Corbett, P. C. Datta, J. N. F. Ferguson, F. C. Greig, E. W. Hall, A. D. Haydon, A. E. Herman, W. H. Johnston, G. J. Joubert, C. N. Laver, A. P. Lawrence, C. R. Merrillees, R. K. Merson, R. P. Nash, J. M. Pringle, F. H. Robbins, H. F. Seymour, F. M. Spencer, R. Stevenson, C. B. Tudehope, C. A. Verge, R. G. Walker, A. Walbrugh, N. J. Watt, H. Williamson, G. S. Woodman.

The Bathgate Memorial Prize, consisting of bronze medal and set of books, has, after a competitive examination in materia medica, been awarded to John Herbert Appleyard.

The Ivison Macadam Memorial Prize in chemistry, consisting of bronze medal and set of books, has, after competitive examination, been awarded to Leonard Alexander Watson.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.

THE following have been admitted Fellows: James Devon, Alexander Morton, Edward J. Primrose.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been admitted diplomates in Public Health:

M. E. Willcock, S. Honeyman, G. King, I. C. Mackay, R. J. Tait, Margaret A. Alexander, T. M. Anderson, P. C. Livingston, J. W. K. Bruce, H. F. W. Adams, E. F. Fisher, Jessie A. MacLaren, T. P. Herriot, A. Bremner, A. G. Carment.

The Services.

HONOURS.

MENTIONED IN DISPATCHES.

A SPECIAL Supplement to the *London Gazette*, dated May 18th, includes the following in a list of names brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the military operations in the area indicated during the period April 1st, 1917, to May 31st, 1918.

North-West Frontier of India: Colonels W. E. Hardy, I.M.S., and A. E. Tate, A.M.S. (R.P.); Major W. T. McCowen, I.M.S., and Muhammad Raza Khan, 1st Class Sub-Assistant Surgeon, I.M.D.

East Persia: Assistant Surgeon W. J. Marshall and Sub-Assistant Surgeon Lambodar Misra, I.M.D.

South Persia: Lieut.-Colonel (temporary Colonel) H. Burden, C.I.E., I.M.S.; Captain (temporary Lieut.-Colonel) H. R. B. Gibson, I.M.S., and Jemadar Mumtaz Ali, I.M.D.

The following are included in a list of officers and others mentioned by General Sir G. F. Milne for continuous distinguished and devoted service during the evacuation of the Caucasus: Temporary Colonel A. G. Phear, A.M.S. Temporary Captains: G. G. Bruce, (acting Major) A. Dick, J. Elder, (acting Major) J. D. Gunn, and G. B. Wild, of the R.A.M.C. Captains: R. Chevassut, F. B. Jago, G. E. Tilsley, and W. A. Weatherhead, of the R.A.M.C.(S.R.); Captain (acting Major) G. Y. Thomson, I.M.S., and Assistant Surgeon De Noronha, of the I.M.D.

Surgeon Commander D. W. Hewitt, C.M.G., R.N., S.M.O., in charge of medical arrangements on Dwina River, has been mentioned for services in a dispatch, dated January 1st, 1920, from Rear Admiral J. F. E. Green, late senior naval officer, White Sea.

Captain (acting Major) J. M. Weddell, R.A.M.C., has been mentioned for valuable services in connexion with the military operations in Kurdistan and Persia.

Medical News.

MR. ARTHUR EVANS, surgeon to the Westminster Hospital, will open a discussion on alcohol and alcoholism in relation to venereal disease, at a meeting of the Society for the Study of Inebriety, 11, Chandos Street, W., on Tuesday, July 13th, at 4 p.m.

The Section of the Study of Disease in Children of the Royal Society of Medicine will hold a meeting at Manchester on June 18th and 19th. The time of the meeting will be chiefly given up to visits to hospitals and medical, surgical, and pathological demonstrations, but papers will be read on Friday afternoon, June 18th. On Saturday visits will be paid to the Children's Hospital, Pendlebury, the Swinton Schools for Crippled Children, the Sandlebridge Colony for the Feeble-minded, the Soss Moss Schools for Epileptic Children, and the Schools for the Deaf, Old Trafford.

THE National Council for Combating Venereal Diseases will hold its fifth annual meeting on June 7th, at the Royal Society of Medicine, 1, Wimpole Street, W.1, at 5 p.m. The meeting will be addressed by the Right. Hon. Viscount Astor, Parliamentary Secretary to the Ministry of Health.

THE King of the Belgians has awarded the Médaille du Roi Albert to Dr. A. C. Magian of Manchester, who had previously received the Médaille de la Reconnaissance Française in silver and the Associate's medal of the Order of St. John of Jerusalem, for services rendered to the Allies during the war. Last year the Belgian community in Manchester gave him a testimonial, and he has received a presentation from medical colleagues associated with the Manchester French Hospital, of which he is founder and honorary director.

A COURSE of twelve practical demonstrations on the management and feeding of infants and young children will be given by Dr. Eric Pritchard at the St. Marylebone Dispensary, 77, Welbeck Street, W.1, on Tuesdays and Thursdays at 10.30 a.m. and 3 p.m. respectively, commencing on June 1st. The fee for the course is 2 guineas.

AT the annual general meeting of the Society for Relief of Widows and Orphans of Medical Men, when Sir Alfred Pearce Gould was in the chair, Sir Malcolm Morris and Dr. Needham were elected vice-presidents, and eight new directors were chosen to fill vacancies in the court. Since the last report nineteen new members have been elected and fifteen have been lost by death or resignation. The society consists at present of 1 honorary, 160 life, and 135 ordinary members. The total number of members has remained practically stationary during the past twenty-five years. The invested capital has increased from £95,700 in 1895 to £144,250 in 1920, owing mainly to a large legacy received from the late Mr. Brickwell. The annual grants have increased from £3,280 to £4,937. The total income in 1920 was £4,927 and the working expenses £285. At the present time the widow of any member who has an income of £100 a year or under receives a grant of, on the average, £50 a year, and each orphan £43 a year up to the age of 16. Grants, however, can be paid from special funds to orphans over the age of 16 and to widows. Membership of the society is open to any registered medical practitioner who, at the time of his election, is resident within a radius of twenty miles of Charing Cross; the annual subscription for a member under 40 years of age at the time of his election is 2 guineas.

THE Chinese Red Cross Society, founded in 1904, has now 26,000 members and 30 district committees.

THE Mexican Board of Health has decided to place in quarantine all ships coming from Havana, where there is an epidemic of meningitis.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

TREATMENT OF PSORIASIS.

DR. J. ALDREN WRIGHT (Cambridge) writes, in reply to "F. B. E.": I have given a course of "606" substitutes to several patients suffering at the same time from syphilis and psoriasis—without any apparent effect on the psoriasis.

DR. LEONARD J. KIDD (London, N.W.3) refers "F. B. E." to a paper by Léopold-Lévi in the *Comptes Rendus de la Société de Biologie*, 1913, lxxiv, p. 1156, on the value of testis powder (0.20 gram in a cachet daily) in severe pruriginous psoriasis. Brisson found that the testis is rich in sulphur and has a marked action on the skin. Long ago Brown-Séquard found that testicular extract was as active therapeutically in women as in men.

INCOME TAX.

R. J. F. inquires as to the limit of income above which allowances for wife and children cease.

*** Under the proposals of the Finance Bill for 1920 there is no limit, the allowances in question being extended to everybody, irrespective of the amount of their incomes. The forms now being issued by the Revenue authorities were no doubt printed some months ago. We advise our correspondent to complete the declarations in respect of wife and children, on page 4 of the form, disregarding the stated limit of £800—it will presumably avoid the necessity which he would otherwise be under of making supplementary claims later in the year.

W. O. W. disposed of his panel practice on December 31st, 1919, retaining a small amount of private practice and a life assurance examinership. What is his position as regards the years 1919–20 and 1920–21?

*** In our opinion W. O. W. is entitled to treat his panel practice as a separable section or branch of his practice, and as from December 31st, 1919, to exclude from the average on which he is chargeable the profits—not, of course, the gross receipts—derived therefrom. His successor in that practice stands in the converse position. We suggest that he makes his return for 1920–21 on that basis, stating the facts, and that he requests the local inspector of taxes to adjust the tax for the last quarter of 1919–20 accordingly. The claim for an income falling by 10 per cent. can be made for 1919–20, but that cannot be depended on for 1920–21.

V. V. V. feels that he has grounds of complaint as to the degree of care exercised in the office of the local inspector of taxes with regard to confidential returns. He is assessed by the Special Commissioners, and since an error on the part of the inspector's staff was pointed out he has been continually requested for details of income and expenditure. What is his best course of action?

*** We are inclined to suggest that perhaps some personal conversation with the inspector might result in an amicable settlement of the matter, but we realize that our correspondent may reasonably feel disinclined to adopt that course. Returns for assessment by the Special Commissioners properly pass through the inspector's hands; in fact, the form contains a direction to send it to him in the first place, but the responsibility for the assessment rests with the Commissioners themselves. V. V. V. would be adopting a correct legal course in appealing to them, and attending their appeal meeting with his books when requested to do so.

LETTERS, NOTES, ETC.

MODE OF QUININE ADMINISTRATION.

WE have had a number of further letters on this subject, from which we print the following extracts:

Dr. R. VAN SOMEREN (Muswell Hill) writes: After fifteen years' tropical experience in various parts of Uganda I am convinced that it is not wise to dogmatize about the best methods of administering quinine and its correct dosage—so widely do the common clinical manifestations of malaria vary in different regions. In one station, where the subtertian cases were mild, and not usually accompanied by vomiting, I used the oral method; sixty miles away severe vomiting was frequent, and there I used nothing but intramuscular or intravenous injections. So great was the relief that the patients used to beg for them. After the attack I gave gr. v of the bihydrochlorate night and morning for a fortnight, then at night for a fortnight, then every other night for a fortnight, and then every Sunday for six weeks. My assistants and I never found that injections were followed by necrosis, the occurrence of which I attribute to faulty technique. Quinine injections did not aggravate haemoglobinuria in blackwater fever.

Dr. S. SOLIS COHEN (Philadelphia) writes: Since 1884 I have used quinine and urea hydrochloride, given intravenously, for the treatment of malaria and pneumonia. Although necrosis and sloughing occurred in a few of the earlier cases we soon learned how to avoid it; since then, although in about 4 cases in 1,000 one does meet with slight mishaps (ranging from persistent induration to superficial or even deep ulceration) serious accidents have never been seen. For oral administration the best salt to use is the dihydrobromide; for intravenous use the dihydrobromide, the dihydrochloride, or quinine and urea hydrochloride (1 to 10 per cent. in physiological saline solution). For intramuscular injection quinine and urea hydrochloride is preferable on account of its greater solubility.

Dr. W. M. HEWETSON (Sinoia, South Rhodesia) writes: The fundamental difference between the administration of quinine by the mouth or rectum on the one hand and intravenously or intramuscularly on the other, is that in the former case the quinine must pass through the portal system before reaching the systemic circulation, whereas in the latter method the systemic circulation is reached directly. In malarial attacks the spleen is acutely affected, and I have seen its lower margin descend two inches in sixteen hours as a consequence of an attack. In the liver chronic changes are known to occur, and severe bilious vomiting and stoppage of digestive function are characteristic of acute attacks. The acute stages of malaria show that there is much disturbance of the liver and spleen. If muscular tissue undergoes necrosis from contact with quinine may not damage occur from the action of the latter on the delicate liver cells? I have always found intramuscular injection to be very powerfully effective—more so than oral administration. I have found among the laity a general desire for, and belief in, intramuscular injections. I have never had an abscess after intramuscular injection.

DICKENS ON THE TREATMENT OF MALARIA.

DR. J. H. ELMES (Lusikisiki, Pondoland) writes: With reference to Dr. Robertson's and Major Law's letters of February 7th and 21st, on the treatment of malaria, it is curious to note that in a review of *The Narrative of the Expedition to the Niger in 1841*, written by Charles Dickens in 1848, the following passage occurs: "It appears to yield to calomel in the first instance and strong doses of quinine afterwards more than to any other remedies." History repeats itself.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 34, 35, and 36.

THE following appointments of certifying factory surgeons are vacant: Frome (Somerset), Garstang (Lancaster), Redditch (Worcester), Tooting (London), Uttoxeter (Derby and Stafford).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Clinical Observations

ON

JEJUNO-COLIC FISTULA FOLLOWING GASTRO-JEJUNOSTOMY.

BY

CHARLES BOLTON, C.B.E., M.D., F.R.S.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL;

AND

WILFRED TROTTER, M.S., F.R.C.S.,

SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

THAT the operation of gastro-jejunostomy is occasionally followed by the formation of a jejunal ulcer is a well established fact. The frequency with which this serious after-result occurs is unknown, but it has been estimated at from 1 to 2 per cent. of operations. The ulcer forms at the anastomosis, from which it commonly spreads in the jejunum, sometimes in the stomach, occasionally in both; or it arises primarily in the jejunum near the anastomosis, but sometimes at a greater or lesser distance from it in the efferent limb. A little over 10 per cent. of jejunal ulcers become adherent to the transverse colon and perforate into it, thus establishing a jejuno-colic fistula, or much less commonly a gastro-colic or a gastro-jejuno-colic fistula. Four such cases have recently come under our observation, and a reference to the literature shows that there are already twenty-seven cases on record. Most of the cases have naturally been published as isolated observations, but a paper or two have been written on the analysis of such cases, which clearly show that the condition possesses a definite and characteristic, though variable, clinical picture, which is worthy of closer study, particularly as this complication of gastro-jejunostomy has hitherto attracted very little attention in England.

HISTORICAL.

The first case on record was a *gastro*-colic fistula, which was operated upon by Czerny[1] and published in 1903. An ulcer on the anterior wall of the stomach originating at the edge of the gastro-jejunostomy opening had perforated into the transverse colon, which had become adherent to the base of the ulcer. In 1905 von Herczel[2] published the first operation on a *jejuno*-colic fistula formed by the perforation of a jejunal ulcer situated in the efferent limb opposite the anastomosis into the transverse colon. In the following year Kaufmann[3] described a case of his, which was operated on by Gérster and in which there were two fistulae, one between the stomach and colon, and a second between the jejunum and colon. Gosset's[4] first case was published in the same year, and in 1909 Lion and Moreau[5] wrote a paper on this subject based on the above-mentioned cases and two additional ones, which were operated on by Nélaton and Gosset (second case) respectively. They appear to have overlooked a case reported by Port and Reitzenstein[6] in 1907, in which the fistula connected the colon with the stomach and jejunum.

In a paper on jejunal ulcer Paterson,[7] in 1909, quotes four of the above cases, and in addition a *post-mortem* examination by Cackovic, in which an unexpected jejuno-colic fistula was found opposite the anastomosis. In the following year Van Roojen[8] also published a communication on jejunal ulcer, and found that of the cases he had collected nine had perforated into the colon. He quoted four cases which have not been mentioned above, namely, those of Van Stockum, Koch, Wickershausen, and von Herczel (second case). In 1913 Polya[9] described a case and summarized the knowledge obtained up to date on this subject, and quoted the additional cases of Pinner, Sesin, Spassokukozki, Gosset (third case), and two of von Eiselsberg. Since this year a further eight cases have been published. In 1915 Hamann[10] described the case of a medical man in whom a jejuno-colic fistula was operated on four years after the gastro-enterostomy was performed. Barling,[11] in 1917, published the case of a man in whom a jejuno-colic fistula was diagnosed three years after gastro-enterostomy. The patient died five months later of general peritonitis due to the perforation of a second jejunal ulcer. At the New York Surgical Society on April 10th, 1918, Downes[12] read a paper on the case of a man who first had the appendix removed without benefit, and then a gastro-enterostomy performed five months later. The following month a second operation was done for closure of the stoma. Eleven months later an anastomotic ulcer was excised and gastro-enterostomy again done. During the following year he had three haemorrhages from the bowel, and was treated medically. Two years later symptoms of fistula appeared, and after two months the fistula was closed and the gastro-enterostomy opening enlarged. The patient was reported well three months later. At the discussion which followed the reading of this paper Erdmann related the case of a male patient of his on whom he had successfully operated for jejuno-colic fistula a year previously.

Carnot, Froussard, and De Martel[13] in 1918 gave a very full and interesting account of their observations on a case which showed definite symptoms of fistula two years after gastro-enterostomy. The parts were resected and end-to-end anastomosis of the large and small intestine with closure of the gastro-enterostomy stoma performed. Clairmont[14] in 1918 showed three cases at the Medical Society of Vienna on whom he had done extensive resections for jejuno-colic fistula. The details of these operations are given in a later paper.[15]

Two further papers, by Mathiew[16] and Urrutia[17] respectively, have been published on this subject, but we have been unable to obtain copies of them in London. Thus 27 cases at least have been recorded, and the addition of our 4 cases brings up the total to 31. No doubt many unpublished cases exist.[18] We shall now give reports of these 4 cases, which were primarily patients of one of us (C. B.). The first three were operated on by the other of us (W. T.), and the fourth case died after a laparotomy by another surgeon had failed to find the cause of the faecal vomiting.

CASE I.—*Perforated Duodenal Ulcer: Gastro-jejunostomy (1915): later Vomiting and Diarrhoea: Operation (1919) for Jejuno-colic Fistula: Temporary Caecostomy: Recovery.*

T. G., male, aged 37, railway attendant, was admitted to University College Hospital on March 14th, 1919.

History.

The symptoms began in 1901 with pain in the right part of the epigastrium under the costal margin, two hours after meals and relieved by food. Sometimes it was a "doubling up" pain, at other times milder. There was fullness in the epigastrium, and eructations of wind and acid fluid; vomiting was rare. These symptoms recurred at intervals in attacks which lasted a few months. In the intervals the patient was quite well. In 1915 the ulcer, which was duodenal, perforated. He was operated on at University College Hospital; the opening was stitched up and posterior gastro-jejunostomy performed at the same time. The patient recovered, but almost at once began to suffer from griping pain in the lower part of the abdomen, which had continued intermittently ever since, though for the last twelve months it had been less marked, and had recently disappeared. The bowels were regular.

Six months before admission the old pain under the right ribs reappeared. It came on, as before, two hours after meals, and was relieved by food, but was not so severe and griping, although otherwise of the same character. There were also fullness and eructations of wind. Two months before admission the patient began to notice that very offensive gas and fluid were eructated; and a fortnight later he suddenly vomited over a pint of light-coloured very offensive material. A second attack of vomiting occurred two weeks before admission, and was preceded by a sensation of constriction in the upper part of the abdomen. The material was of the same nature as before, but smaller in amount. A third attack occurred the day before admission. The vomit was light coloured and offensive as before, but less than a pint in amount. There was no vomiting in the intervals between these three attacks, but offensive gas and fluid were eructated.

Diarrhoea commenced just before the first attack of vomiting two months ago, the bowels having been quite normal previously. The diarrhoea having once started continued more or less incessantly, occurring any time in the day or night. The stools were light-coloured and contained a little mucus but no blood. They were very similar to the vomited material. During the last two months pain was also felt in the left hypochondrium and down the left side. The pain in the epigastrium was dull and aching and radiated downwards over the whole abdomen. It was more or less constant, coming on at any time, and being relieved by food for a time and also by the vomiting. Patient had a severe attack of intestinal colic two weeks before admission. Wasting began with the first attack of vomiting; and during the two months he lost 10 lb. The appetite was moderate and sleep poor. Patient stated that he felt better when the bowels were confined.

Condition on Admission.

The patient was pale and thin, weighing 8 st. 5 lb. 12 oz. He vomited on two occasions, bringing up about 6 oz. of light-brown coloured liquid material of faecal odour and not containing any solid masses. His symptoms were as described above.

Diarrhoea did not occur on every day, an enema simplex being necessary on two occasions. The stool was light-brown and soupy, did not contain any amount of solid material, and was in appearance like the vomit. It contained 85 per cent. water. The total fats were 18.8 grams per cent. dry weight, the fatty acids and neutral fats being each 9.4 per cent. There were some undigested muscle fibres, but no evidence of either trypsin or starch digesting ferment. There was no lienteric diarrhoea.

A test meal showed a total acidity of 0.1095 gram per cent. There was no free HCl, no lactic acid; the protein HCl was 0.1095 gram per cent. Albumoses were present, and the digested power of the fluid was 52 per cent.

Physical examination of the abdomen showed a median epigastric scar. There was a tender spot under the right costal margin, but no marked rigidity of the recti muscles, and no cutaneous hyperaesthesia. The stomach was distended with gas, the resulting swelling was confined to the epigastrium, but no peristalsis was seen and no distension of the colon could be made out. The urine was normal; the temperature rose to 100° F. on one occasion, but was otherwise normal.

X-ray Examination.—The lowest point of the stomach was situated 2½ in. below the umbilicus; it emptied rapidly, and in two hours there was a large shadow in the caecum and lower part of the small intestine. A doubtful shadow was seen in the descending colon, but it was possibly in the small intestine. In four hours the caecum was empty and the transverse colon filled. A considerable amount collected in the small intestine, which probably ran through the fistula. The stomach did not fill up. The examination was thus inconclusive. A faecal fistula was diagnosed without further investigation.

Operation (W. T.).

An incision was made through the left rectus. There were many firm adhesions in the region of the anastomosis and involving the stomach, transverse colon, and spleen. When these had been separated the anterior aspect of the jejunum at the anastomosis was found to be firmly united to the posterior aspect of the transverse colon over an area about ¾ in. in diameter. There was obviously a communication between the two organs at this point. The colon and jejunum were now dissected apart, the fistula being thereby opened. It was found possible to separate the two organs freely without encroaching on either unduly. The resulting openings in the colon and jejunum were stitched up, the gastro-jejunostomy being left intact. A temporary caecostomy opening was made through a short incision in the right iliac fossa.

The operation was difficult on account of the adhesions. Although these were separated with great care, a laceration of the spleen was produced, which bled profusely until it was closed by sutures.

Subsequent Course.

The case ran a normal course and the patient left the hospital in three weeks. For the first ten days he passed a motion each day, which was light coloured as before the operation; then the motions became darker and were practically normal when the patient left the hospital; in fact he required an occasional aperient. There was no pain or other symptom. He was seen again in February, 1920, and stated that he had been very well until two months previously. He then developed pain one hour after meals in the left hypochondrium, with a feeling of distension. There had been no vomiting nor diarrhoea. He now and then experienced the old ulcer pain. His weight was 9 st. 12 lb.

CASE II.—*Gastro-jejunostomy (January, 1918): Constriction of Jejunum and Second Operation (ten days later): Later Diarrhoea and Intestinal Pains: Two Operations for Jejuno-colic Fistula (November, 1918, and March, 1919, with Temporary Caecostomy): Recovery.*

L. M., male, aged 42, was first seen in October, 1918.

History.

He began to suffer from "indigestion" at the age of 18 years, and definite duodenal pain commenced five years later. He had recurrent attacks of pain at varying intervals, and was treated by many medical men from this time till January, 1918, when he was operated upon and a posterior gastro-jejunostomy performed. "The stomach was dilated and hypertrophied, and the gall bladder was adherent to a large scarred ulcer extending over the whole of the anterior surface of the duodenum. In addition there had at some time been a small ulcer on its posterior surface. There was considerable induration of the head of the pancreas. The appendix was also removed and showed traces of old inflammatory trouble." The patient went on well for ten days, and then felt nausea and vomited a considerable quantity of "bile." This recurred a day or two later, and a second operation was therefore performed. "The jejunum at the centre of the anastomosis was constricted by a band of adhesions, which passed from the mesocolon to the mesentery of the jejunum. The band was intimately adherent to the intestine and could not be freed. A longitudinal incision was therefore made through this part, which was then sutured vertically." Three weeks after the operation a sharp pain occurred under the left ribs, more at the back than the front, but this passed off in a few days, and the patient was sent into the country on March 1st, 1918. Towards the end of April he began to have slight pain in the intestines, particularly low down on the right side, otherwise he was fairly well, and had a very good appetite. Early in May the pain increased, and he suffered from diarrhoea constantly. There was no griping pain or sudden call to defaecate, but the patient could pass a liquid and pale stool two or three times a day. As the diarrhoea increased the intestinal pain decreased. About this time he complained of eructations of foul-smelling gas and nausea, but never had any vomiting. On May 12th he suddenly vomited half a large basinful of brown liquid having a bad odour. He thought this was "bile." He was put into a nursing home and had his stomach washed out once or twice, and in a few days the nausea and diarrhoea ceased. After this for about six weeks he was considerably better, but the foul flatulence troubled him, and he had some pain. He used to often wash out his stomach in the early morning by drinking a solution of sodium bicarbonate and making himself vomit; a small amount of dark and bad-smelling fluid came up and pieces of stuff like brown paint; occasionally at night he used to feel as if the stomach had not emptied, and on making himself vomit a pint or more of brown material came up. He increased in weight from 8 st. 13 lb. to 9 st. 5 lb. in August. The abdominal pain now began to increase, and he had very bad nights and was kept awake by pain and diarrhoea. The pain was always worse and came on sooner when he was lying down or sitting in a chair, but in the upright position he was much more free from pain. The diarrhoea was practically continuous, and he began to lose weight. He had a good appetite and ate a liberal diet. The foul flavour was more frequent, and on several occasions he made himself vomit and brought up a large amount of brown bad-smelling material. He only vomited involuntarily once or twice during the whole period. In addition to the acute intestinal pain in the lower part of the abdomen he also described pain and distension in the upper part, but the pain seemed to spread over the whole abdomen. An examination of the faeces in September showed them to be acid in reaction; no bile pigments, blood, or mucus were present. The total fats were 38 per cent. Microscopically large numbers of muscle fibres, fat globules, and bacteria were seen.

Present State.

When he came under observation (October, 1918) he was thin and under his ordinary weight. The pain he complained of was a severe griping in the region of the caecum and transverse colon, with some pain in the left hypochondrium, and also general distension and pain in the whole abdomen. There were occasional eructations of foul gas. The appetite was excellent. Physical examination revealed nothing of importance.

A test meal was administered and the amount withdrawn was only 1 oz., so that the stomach emptied rapidly. It was yellowish in colour but was not foul in smell, and on analysis showed:

Total acidity	0.144 per cent.
Protein HCl...	0 108 ,,
Free HCl	0.036 ,,

Subsequently four specimens of vomit were obtained by the patient making himself sick when he felt his stomach distended.

Specimen 1.—A pint or more of thick brown, semi-fluid material of an obvious faecal odour. This was the only occasion on which faecal material was observed.

Specimen 2.—

Total acidity	0.365 per cent.
Protein HCl...	0.146 ,,
No free HCl	
Organic acids	0.18 ,,

Bile absent. Stercobilin absent. Starch and fat-splitting ferments present in large amounts. There was a large amount of undigested muscle fibre.

Specimen 3.—Dirty yellowish in colour, containing a fair amount of undigested food and some flakes of mucus, also some small masses of soft completely digested material.

Reaction: Acid to phenolphthalein.

Total acidity	0.146 per cent.
Acidity due to HCl	0 1095 ,,
Acidity due to organic acids	0.0365 ,,

Stercobilin was isolated from the vomit and gave the typical bands spectroscopically. Indol was obtained by distillation. The vomit contained a fat and a starch-splitting ferment.

Specimen 4.—The vomit separated into three layers, a lower layer and an upper layer of soft yellowish-white pultaceous material, which contained a lot of fat and was quite structureless and completely digested. Extraction gave evidence of stercobilin. Otherwise like result of Specimen 3.

Examination of the faeces showed them to consist of a liquid brownish-white material, with small hard whitish masses. There was no blood or mucus. Microscopically there was no undigested muscle or vegetable fibre. No free undigested starch. The stool contained 80 per cent. water.

Total fats, dry weight	29.72 grams per cent.
Fatty acids and soaps	20 96 ,, ,,
Neutral fats	8.76 ,, ,,

It seemed plain from these results that faeces were intermittently entering the stomach and a jejuno-colic fistula was diagnosed. The stomach emptied itself quite well at times, but the regurgitation into it of faeces and duodenal contents simulated retention of food. It was also clear that the direction of flow was from the colon into the stomach, and not vice versa,

as no undigested food or excess of fat was present in the faeces. In spite of the presence of faeces in the stomach the appetite was unimpaired, the secretion of HCl was what is usually found after a gastro-enterostomy, and there was practically no vomiting. The passage of the colonic contents along the small intestine no doubt was responsible for the diarrhoea.

An x-ray examination of the alimentary canal did not help much. The stomach showed nothing abnormal and emptied through the stoma within two hours, a small quantity passing through the pylorus and duodenum. Five and a half hours after ingestion only a small quantity of the meal was in the lower coils of the ileum, the bulk being in the colon, extending into the ascending part of the organ. The passage through the small intestine was thus abnormally rapid. The whole of the meal had been evacuated after twenty-five hours. An opaque enema flavoured with peppermint was administered. A shadow was seen to distend the descending colon and splenic flexure and to pass along the course of the transverse colon. No gas flavoured with peppermint was eructated.

A faint shadow appeared above the level of the transverse colon, but it was not definite enough to lead one to infer that the enema had passed into the stomach. The *x*-ray examination thus merely demonstrated the rapid emptying of the stomach and the great irritability of the intestine.

First Operation, November 28th, 1918 (W. T.).

There were many adhesions and much distortion of the parts. The fistula was in the same position as that described in the previous case, and was opened up by dissecting the colon away from the jejunum. On account of the very severe inanition of the patient, which did not seem to permit of a prolonged operation, the separation of the colon and jejunum was carried only just far enough to define the openings which had contributed to the fistula and allow of them being sutured. Even so the operation had been a prolonged one through the difficulties presented by adhesions.

For the first week or ten days after the operation there was very pronounced distension of the caecum and ascending colon, which could be felt in the right side of the abdomen as a firm resonant swelling. It was feared at one time that the condition would pass into one of complete obstruction. Gradually, however, it subsided, though for several weeks the caecum remained unduly prominent, and showed visible and palpable peristalsis.

Subsequent Course.

The patient gradually put on weight and by the end of February, 1919, was able to walk out. He passed three or four light and loose motions a day for a time. An examination of a stool on December 31st, 1918. Whitish and containing a lot of viscid mucus. Acid to phenolphthalein, the acidity being 0.073 gram per cent. and due to fatty acids. It contained a fair amount of undigested starch and a very little muscle fibre. *B. coli*, streptococci, and a fair number of anaërobes were present.

Chemical examination:
Water 80 per cent.
Total fats = 14.382 grams per cent. dry weight.
Fatty acids = 14.1, and neutral fats 0 282 per cent.
Stercobilin but no bile present. No digestive ferments present.

This looseness was controlled by chalk and Dover's powder, and finally he passed one light coloured solid motion a day. He had no severe pain as before, but had distension of the gut on and off, giving rise to slight pain. On March 6th, 1919, he vomited up voluntarily a large quantity of material with obvious faecal odour, and it was quite evident that the fistula had become re-established.

Second Operation, March 10th, 1919 (W. T.).

The difficulties of defining the parts involved were greater than at the foregoing operation. Doubtless as the result of the prolonged distension of the caecum and ascending colon the affected organs had been displaced far into the left hypochondriac region and had become fixed there. Full definition was, however, at length obtained, and showed that the fistula had re-established itself apparently by the formation of a small abscess between the line of suture in the jejunum and that in the colon. There was, moreover, in the jejunum, just below the level of the fistula, a stricture which made it plain that a resection of this segment would be necessary, and a stricture in the colon above the fistula which reduced the lumen of the bowel to the size of the little finger. A resection of the colon was therefore also necessary. The segment of the stomach wall containing the gastro-jejunostomy opening was cut out and the stomach wall closed, thus abolishing the anastomosis. A length of jejunum of three or four inches, including the anastomosis, the fistula, and the stricture, was removed, and the bowel joined end to end. A length of colon about five inches, including the fistula and the stricture, was then removed and the gap closed by end-to-end suture. Finally, a temporary caecostomy opening was made.

Subsequent Course.

The caecostomy wound closed in a few days. The patient gradually put on flesh and recovered much more quickly than from the first operation. He had slight distension and discomfort, but no pain or trouble with the bowels. He passed one motion a day, which was formed and gradually became darker in colour. At one time he was a little constipated. When seen last, in December, 1919, he was in a good condition, and had no pain, but only slight distension occasionally.

CASE III.—*Posterior Gastro-enterostomy (December, 1910): Constipation and Intestinal Pain for Five Years: then Diarrhoea and Vomiting: Operation for Jejuno-colic Fistula (July, 1916); Improvement: Recurrence of Symptoms.*

A medical practitioner, aged 49, came under observation on October 25th, 1910.

History.

He had suffered from indigestion for fifteen years, and for the past seven years pain under the right costal margin, occurring two to three hours after a meal and having all the characters of that due to a duodenal ulcer. There was never any bleeding. He had lost flesh. There was a tender point about the tip of the ninth right rib cartilage. The total HCl secreted was 0.29 per cent., and an *x*-ray examination showed that the stomach was dilated, but emptied itself within four hours. He was treated in bed on a graduated diet, and was much better in every way, but he still had occasional pain.

Gastro-enterostomy.

An operation was recommended, and this was performed on December 12th, 1910. A duodenal ulcer was found which had considerably narrowed the duodenum. There were no adhesions to the liver or gall bladder. The stomach was considerably dilated and there was some obliteration of the lesser sac towards the pyloric end of the stomach. Posterior gastro-enterostomy was performed, and the day after the operation the patient vomited a considerable quantity of blood.

After-History.

He recovered and went away to Cornwall, and in February, 1911, wrote that "the least attempt to eat to full satisfaction was always followed by much discomfort." His diet was of the simplest. His pain under the right costal margin had disappeared, and continued absent for four or five years, when it commenced again, but was not so severe or constant as formerly. Soon after the operation the bowels became very constipated, and the patient suffered from colicky pains in the lower part of the abdomen on and off. He would sometimes have three or four attacks in the day, and they often came on two to three hours after food. Till June, 1916, the patient suffered now and then from these pains and constipation, and, in addition, the old pain had also been present for a year or more. At the end of June, 1916, diarrhoea commenced, and one day there was "constant nausea and a horrible taste in the mouth." In the evening of that day he vomited up a large quantity of material with faecal smell and became quite collapsed. The vomiting recurred on several succeeding days, and a faecal fistula was diagnosed.

Operation for Jejuno-colic Fistula.

Operation on the fifteenth day after the vomiting commenced (W. T.). A fistula similar to that present in the cases already described was found. The transverse colon and jejunum were dissected apart, and the resulting openings were closed by suture. This was effected without encroaching on the anastomosis or unduly limiting the lumen of either of the segments of gut.

Subsequent Course.

The faecal vomiting was at once arrested and the patient's general condition, which had been extremely bad at the time of the operation, began to improve forthwith. The patient remained comparatively well till March, 1917, when the old pain returned and melaena occurred. In January, 1918, another attack of the old pain occurred, and amounted to a hunger pain, being relieved by food and alkalis; also a paroxysmal pain, about or below the umbilicus, appeared, and was associated with constipation. These pains continued on and off till May, 1918, when melaena recurred. Since this time he has had several attacks of pain.

CASE IV.—*Posterior Retro-colic Gastro-jejunostomy (June, 1914): Haematemesis followed by Diarrhoea: Faecal Vomiting; Laparotomy (March, 1916): Death.*

G. I., male, aged 33 years, was first seen on May 7th, 1914.

History.

He gave a history of five years' illness. He had a boring pain situated in the abdomen, just above the umbilicus and extending outwards to the sides and round the back; at times it would extend up over the front of the chest and shoulders. It came on one hour after food and woke him in the night. It had become more constant and continuous for the last two years, the only relief being for about four months in the summer. There was no vomiting, unless voluntarily induced, when it relieved the pain. There was never any bleeding. He had a feeling of fullness, but there were no eructations. His appetite was bad; the bowels were regular. He had lost flesh, but was still fairly well nourished. There was no tenderness. The stomach was dilated and a marked splash was obtained, but no visible peristalsis.

A test meal showed:

Total acidity	...	...	...	...	0.401 per cent.
Free HCl	...	...	...	...	0 292 ,,
Protein HCl	...	...	...	...	0.109 ,,
Total HCl	...	...	...	...	0.401 ,,

An *x*-ray examination confirmed the dilatation of the stomach, and showed that the organ emptied itself in four hours. No irregularity suggesting ulcer was seen.

Posterior Retro-colic Gastro-jejunostomy.

The patient was operated upon in June. The stomach was dilated. A hard mass was situated at the pylorus and fixed posteriorly, the gall bladder being adherent. A posterior retro-colic gastro-jejunostomy was performed.

Symptoms of Jejuno-colic Fistula: Laparotomy; Death.

The patient came under observation again in March, 1916. He had kept well for four months after the operation and then the same pain had started again, and he had vomited blood twice in large quantities. The blood was clotted and coffee-coloured. The pain continued off and on till eight months ago, when it ceased with the onset of diarrhoea. The diarrhoea had continued to the present time. He passed ten or twelve motions a day at the beginning, but at present only three or four. The motions were light in colour. There was a good deal of eructation of wind. The appetite was poor and the patient was wasted. Vomiting had commenced three weeks before; it occurred one hour after food, and was said to consist of a bad-smelling brown liquid. An examination of the vomit showed that it was faecal.

A laparotomy was performed, but the cause of the vomiting was not discovered, and the patient died the next day.

Necropsy.

The transverse colon was adherent to the stomach and the jejunum, the three being matted together in the region of the gastro-jejunostomy stoma. The stoma was 1¼ in. in diameter and its edges quite smooth. The fistulous opening between the jejunum and the colon was ¾ in. in diameter and situated about ¼ in. from the stoma; it was lower in level than the stoma and a little to the left of it. There was a stricture of the transverse colon situated at the right edge of the fistula, and the colon was a little dilated behind the stricture. The edges of the fistula were quite smooth and healed. This portion of the jejunum was to some extent dilated. (See diagram.)

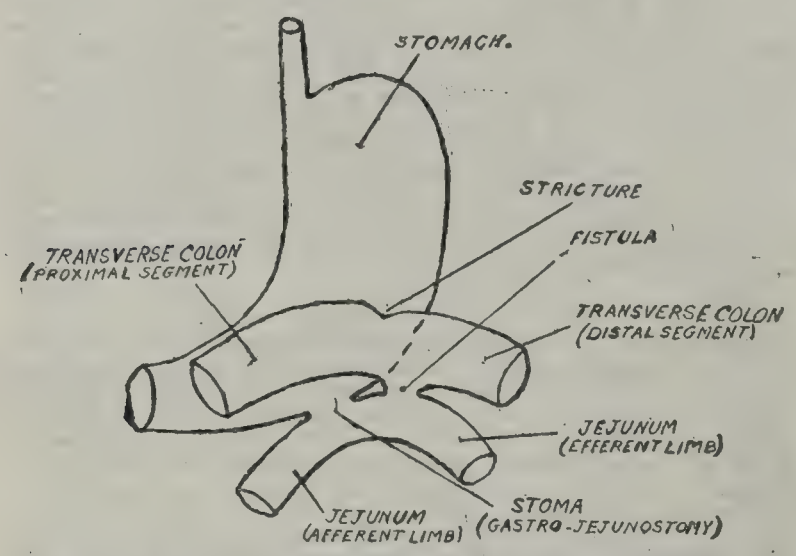


Diagram to illustrate the position of the fistula in Case IV. (The colon is pulled upwards to expose its junction with the jejunum.)

PATHOLOGY.

The condition present in these cases is nearly always a fistulous communication between the jejunum and the transverse colon, the fistula being situated quite close to gastro-jejunostomy stoma and below it. The colon is situated in front and above the jejunum. This was the condition in our four cases. The descriptions of the exact anatomy of the parts is not always quite clear, but it appears to be uncommon for the stomach itself, through a new aperture or through the stoma, to communicate directly with the colon. Both the stomach and the jejunum may, however, open into the colon in the same case. The fistula may in rare cases be situated a few centimetres lower down the efferent limb. Multiple jejunal ulcers may be present sometimes, and these may either bleed or perforate. The edges of the fistula are smooth and healed, and the gastro-enterostomy stoma may be closed. The ulceration has probably been more widespread than appears to be the case, since both closure of the stoma and narrowing of the colon are due to the healing of ulceration. A localized perforation into the anterior abdominal wall may have occurred with the formation of an inflammatory swelling. In most cases, as is evident from a consideration of the anatomy of the parts, the usual result is regurgitation of the contents of the colon into the jejunum, and a minimal passage only of jejunal contents into the colon. This accounts for the absence of undigested food in the stools in most cases. The degree of regurgitation into the jejunum obviously depends also upon the condition of the contents of the colon; the more liquid they are the more likely are they to regurgitate; and, in fact, at this position in the colon the contents are normally considerably inspissated, hence these patients may only suffer from considerable regurgitation when they have diarrhoea. Thus the regurgitation is intermittent, and the patient feels better when he is constipated. When regurgitation occurs into the jejunum the fluid no doubt passes in considerable quantity down the efferent limb into the small intestine, and in smaller amount into the duodenum and through the stoma into the stomach itself; hence vomiting may be absent or occur at rare intervals only, and the functions of the stomach, both with regard to secretion and motion, be comparatively uninterfered with. The vomit may have different compositions at different times. The circulation of the colonic contents through the small intestine no doubt infects it, and is responsible for keeping up the diarrhoea. Foul gas is more commonly eructated, as the escape of this into the jejunum does not depend on the fluidity of the faeces. How often stricture of the colon results is uncertain, but when it does it is the cause of faecal stasis in the caecum and parts proximal to the fistula, with colic in this portion of the bowel. The nutrition of the patient is frequently fairly maintained for a time owing to the absence of vomiting and the retention of appetite, but wasting gradually supervenes, and progresses more or less rapidly. If the stomach directly communicates with the colon—and also sometimes in jejunal fistula—the gastric contents directly pass into the colon, and lienteric diarrhoea supervenes.

SYMPTOMATOLOGY.

The fact that all the recorded cases are of the male sex need cause no surprise when it is remembered that about 80 per cent. of jejunal ulcers occur in men.

The symptoms of fistula may be preceded for a longer or shorter time by those of jejunal ulcer—namely, pain, vomiting, or bleeding, or even those of local peritonitis—but such symptoms may be entirely absent, and the fistula appear to occur in the midst of good health. An unsuspected fistula may be found at an operation undertaken for the relief of recurrent symptoms following gastro-jejunostomy.

The time between the performance of the gastro-jejunostomy and the development of symptoms of fistula varies from a few weeks to nine and a half years.

Onset.

Perhaps the earliest symptom in most cases is diarrhoea, usually with intestinal colic, which may begin quite suddenly, and is gradually followed by wasting and occasional vomiting. In a minority of cases the malady frankly declares itself at once by a sudden and profuse attack of faecal vomiting followed by diarrhoea.

Diarrhoea.

Diarrhoea does not appear to be as a rule continuous but rather occurs in attacks. It is not a watery diarrhoea, neither are very frequent motions passed as a rule. There is no blood nor mucus separate from the motion. The motion is pale and grumous, and undigested food is usually absent: if a few muscle fibres are found this is rather due to the condition of diarrhoea than to direct passage from the stomach. Neither is the fat usually increased, the proportion of split and neutral fat being about normal. Now and then lienteric diarrhoea is observed and a high percentage of fat. In the intervals formed motions are passed, and at such times the patient appears better in all respects.

Vomiting.

Although vomiting may be one of the earliest symptoms, and may regularly occur with the diarrhoea, it may be absent or only occasional, or simply induced voluntarily to procure relief. Such cases are very liable to be overlooked, inasmuch as the vomited matter may not be available for inspection, and, if it is, it may not be faeculent at the time. The vomited matter may be quite similar to that passed by the bowel and have a typical faecal odour, but at other times the vomit simply has a sour smell, and contains bile and pancreatic ferments. In such cases the vomit should be examined for stercobilin and indol due to admixture with small amounts of faecal material.

Gas.

Eructation of foul-smelling gas appears to be an early and fairly constant symptom, but it would be a mistake to suppose that large quantities of gas are present in the stomach as in some cases of gastro-colic fistula; such is not the case.

Pain.

Pain of intestinal origin is a symptom of the disease. It is more or less general in distribution, and due to colic of both small and large intestines, but pain below the umbilicus due to colic in the colon is more especially seen, and particularly on the right side. It is probable that in such cases there is more or less narrowing of the transverse colon. Two of our cases had a great deal of pain in the left hypochondrium. The pain may be relieved when diarrhoea appears.

Appetite.

The appetite is often lost, but it is remarkable that sometimes it is quite good and even increased. In one of our cases the patient after vomiting would become quite hungry and eat a good meal. Wasting is a constant symptom, and the patient tends to go slowly downhill.

Physical Examination.

Nothing characteristic of the disease is revealed by physical examination of the abdomen. There may be some distension, particularly on the right side. Peristalsis of the proximal portion of the colon may be seen. In one case an inflammatory swelling occurred, due to a local perforation of the jejunal ulcer.

Gastric Contents.

After a test meal the gastric contents show the presence of hydrochloric acid, usually diminished in percentage, as is usual after a gastro-jejunostomy. Free HCl may be present.

X-ray Examination.

X-ray examination may or may not be of value. In our cases it was inconclusive. In the case of Carnot two examinations were made: at the first the bismuth enema was arrested at the centre of the transverse colon and then passed, little by little, towards the hepatic flexure, whilst at the point of arrest the shadow of the stomach gradually appeared and was separated by an air bubble from the colon. At the second examination there was no gastric reflux to be seen. In the case of Downes the bismuth was seen to pass in both directions. Other observers obtained negative results and others again positive.

Other Methods of Examination.

Similarly in the case of other methods which have been used for the recognition of gastro-colic fistula, a positive result may or may not occur; such methods as have been employed are:

1. The giving of substances by the mouth which shortly afterwards may be recognized in the faeces (for example, charcoal or poppy seeds.)
2. The recovery of a coloured fluid by tubage of the stomach which has been injected as an enema.
3. The direct passage of air into the stomach on insufflation of the rectum, and vice versa.

It is not astonishing that these methods have yielded different results, when one considers that the cases differ considerably in the exact position and size of the fistula and probably in the fact that the opening may be in some cases valvular.

DIAGNOSIS.

The diagnosis is made by finding faecal material in the vomit or gastric contents of the patient. This may be very difficult when the leak is intermittent, but when the other symptoms suggest a fistula the attempt should be repeatedly made. If faecal material is present, the only condition likely to be confounded with fistula is intestinal obstruction, which might be suggested by the visible peristalsis which is seen in some cases of fistula, but the persistent diarrhoea and the fact that when constipated the patient is obviously better should prevent confusion. It is so easy to miss these cases that they should always be kept in mind and every case of vomiting and diarrhoea after gastro-jejunostomy thoroughly investigated. The special methods of investigation mentioned above are not likely to prove of value when faecal material is persistently absent from the vomit, but when foul gas is eructated and there is no vomiting the stomach contents should be investigated and these methods systematically employed. The presence of lienteric diarrhoea, if it happens, is by no means conclusive, as this may occur in intestinal catarrh.

PROGNOSIS.

The immediate prognosis is good if the case is operated upon. Probably it is always eventually fatal if not operated upon. Of the 31 cases recorded 4 were not operated on and all died, one of perforation of another jejunal ulcer, one of haemorrhage, and two of inanition. Of the 27 cases operated on 21 recovered and 6 died. Of the 6 deaths, in 2 a laparotomy was performed, but the fistula was not touched. Of the cases which recovered, 3 were operated on twice and one three times. The further history of these cases remains to be recorded.

TREATMENT.

The only treatment of any avail when a jejuno-colic fistula is established is by operation. The aim should, however, be to prevent the occurrence of jejunal ulcer, which is the cause of the fistula.

PROPHYLAXIS.

Whether the jejunal ulcer commences at the anastomosis and is the result of the injury inflicted by the operation, or whether it occurs in the jejunum at a distance from the stoma and involves another etiological factor, there is no doubt that the free HCl of the gastric contents plays the same part during the process of the formation, of the spread, and of the healing of the ulcer, as it does in the case of ulcer of the stomach. The experiments of one of us (C. B.[19]) have demonstrated what are the precise effects of this acid at each of the above mentioned stages. The HCl acts as a protoplasmic poison in strengths such as may be found in the condition of hyperacidity; it possesses irritant properties, and causes gastritis and follicular ulceration; it also possesses necrotic properties, and in strengths which are of themselves inert it can add its devitalizing power to that of another agent, and thus initiate self-digestion. Thus the formation and spread of an ulcer are greatly facilitated or even initiated, and the healing is delayed owing to necrosis of the connective tissue base of the ulcer, so that the epithelium has no stroma over which to grow.

After the operation of gastro-jejunostomy the percentage of HCl in the gastric contents is, as shown by Paterson[20] and Willcox,[21] diminished, and it is sometimes absent, but several observers have shown that in jejunal ulcer hyperacidity is commonly present, and Paterson,[22] who strongly supports the importance of this action of HCl, has shown that in such a case the acidity fell on a milk diet, and remained down after operation, but that later, with a recurrence of the pain, hyperacidity again appeared.

The work of Pavlov[23] has shown that certain foods call forth but little secretion of gastric juice, whilst others produce a maximum secretion. We have thus a method whereby we can control the amount of gastric juice secreted, and if after the operation of gastro-jejunostomy we put these physiological principles into practice, and carefully diet our patients, we shall be doing our best to remove one of the causes of jejunal ulcer. At the same time, the administration of alkalis will materially assist towards this end.

REMARKS ON SURGICAL TREATMENT (W. T.).

It is obvious that the three cases that have come under my care do not afford material for any very wide general conclusions. It would seem that in general the obliteration of the fistula without interference with the gastro-jejunal anastomosis is the best procedure to carry out if it is possible and there is no contraindication such as active ulceration or the presence of a stricture.

To secure satisfactory closure of the openings which have constituted the fistula it is essential that the colon and jejunum should be freely separated from one another, and it is desirable that a piece of omentum should be put between them.

If it is not possible to get the colon and jejunum well separated without encroaching on the anastomosis, then the latter must be sacrificed and the piece of stomach wall

containing it excised. If a stricture is actually present or suture of the opening is likely to narrow too much the lumen of jejunum or colon, an appropriate resection will be necessary.

In any case the establishment of a temporary caecostomy is of the greatest value. The sole purpose of such an opening is to prevent the accumulation of flatus in the colon above the suture line. By it the sutures are relieved from any strain and the patient is entirely spared the discomfort and danger of post-operative distension.

If the pylorus is still obstructed and it is necessary to obliterate the anastomosis, a fresh gastro-enterostomy must be done or an extensive resection of the stomach, such as described by Clairmont.

REFERENCES.

[1] Czerny: *Beit. z. klin. Chir.*, 39, 1903, Supplement, p. 99. [2] v. Herczel: *Cong. de la Soc. Internat. de Chir.*, Brussels, 1905, p. 350. [3] Kaufmann: *Mitteil. a. d. Grenzgeb. der Med. und Chir.*, 19.6, Bd. 15, p. 151. [4] Gosset: *Revue de Chir.*, 1906. B. 33, S. 59. [5] Lion et Moreau: *Revue de Chir.*, 1909, 39, p. 887–891. [6] Port and Reitzenstein: *Mitteil. a. d. Grenzgeb. der Med. und Chir.*, 1907, Bd. 17, S. 590. [7] Paterson: *Proc. Roy. Soc. Med.*, vol. ii, Pt. 3, Surgical Section, p. 238. [8] v. Roojen: *Arch. f. klin. Chir.*, 1910, 91, p. 380. [9] Polya: *Deut. Zeit. f. Chirurg.*, 121, 1913, p. 101. [10] Hamann: *Trans. Amer. Surgical Assoc.*, vol. xxxiii. 1915, p. 358. [11] Barling: *British Journal of Surgery*, 1917, v, 343–345, [12] Downes: *Annals of Surgery*, 68, July-December, 1918, p. 95. [13] Carnot, etc.: *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, 1918, S. 3, xlii, 1173–1180. [14] Clairmont: *Wien. klin. Woch.*, 1918, xxxi, 285. [15] Clairmont: *Muench. med. Woch.*, 1918, lxv, 1067–1071. [16] Mathiew: *Arch. de mal. de l'appar. digest.*, Paris, 1918, ix, 448, 453. [17] Urrutia: *Arch. de mal. de l'appar. digest.*, Paris, 1912, vi, 33–35, and *Rev. Chir. de Madrid*, 1911, vi, 361–365. [18] Sherren: After our paper was written Sherren quoted five cases in his Hunterian Lectures in February, 1920. [19] Bolton: *Journ. Path. and Bact.*, 1915, vol. xx, p. 133. [20] Paterson: *Gastric Surgery*, London, 1906, p. 20. [21] Willcox: *Quart. Journ. of Med.*, 1909, vol. iii, p. 93. [22] Paterson: *Proc. Roy. Soc. Med.*, vol. ii, pt. 3, Surgical Sect., p. 238. [23] Pavlov: *The Work of the Digestive Glands*, 1910.

SOME NOTES ON MILITARY ORTHOPAEDICS.

BY

R. W. SUTHERLAND, M.B., CH.B.,
MAJOR R.A.M.C.,
LATE SURGEON SPECIALIST AND OFFICER IN CHARGE SURGICAL DIVISION, — MILITARY HOSPITAL;

AND

J. M. CHRISTIE, M.B., CH.B., F.R.C.S.EDIN.,
CAPTAIN R.A.M.C.,
LATE SURGEON SPECIALIST AND OFFICER IN CHARGE ORTHOPAEDIC DEPARTMENT, — MILITARY HOSPITAL; SURGICAL SPECIALIST, MINISTRY OF PENSIONS.

IN this article, which is based upon experience gained in the orthopaedic department of a central military hospital, we desire to draw attention to certain principles which are not so widely known to the profession generally as they ought to be, and to give some few illustrative details. We do not claim to have made original discoveries, but we have had ample opportunity of applying and learning the value of those made by others, and of working out methods of treatment best suited to the multiplicity of complicated lesions with which we have had to deal.

Our work was under the ultimate supervision of Colonel Carless, C.B.E., A.M.S., Consulting Surgeon to the Eastern Command, whose kindly criticism and unsparing help, and commendation when earned, made it possible.

The accumulation in England of chronic cases showing gross deformity and loss of function, the result of severe gunshot wounds, made it necessary to collect them in centres where they could be studied in detail and collectively, and where treatment could be instituted to restore the maximum function possible.

It was early seen that an authoritative statement of military orthopaedic principles, based on an exact knowledge of anatomy, physiology, and pathology, was necessary. The principles of treatment were established, and in this matter our country has been fortunate in possessing as Director of Military Orthopaedics one who has been described in America as the greatest orthopaedic surgeon in the world—Sir Robert Jones.

It was abundantly clear to those of us responsible for surgical cases in military hospitals that no one man could carry out satisfactorily the complicated investigation and detailed treatment required. No haphazard method would suffice, but a system must be instituted. Team work in the widest sense was necessary to achieve the best results, with the greatest economy of effort.

Team Work.

Each case was examined by the various men who specialized in some branch of investigation, and when the notes were completed, with photographs, stereoscopic radiographs, pathologists' reports, reports on electrical examination, results of dental examination, etc., the case was reviewed as a whole. The sequence of treatment, operative and otherwise, was considered, with the ultimate result to be hoped for. Each specialist carried out his share, and the head of the department reviewed the cases weekly. The individuals engaged in this work, by exchange of views and discussion of cases, gained a wider knowledge and a broader view than was possible singly. We all felt that by this means we were achieving results which justified our methods.

Those of us who served in the army abroad and had to deal with the severest primary lesions, and who on pension boards are now considering the ultimate results of such cases, are astonished at the wonderful functional recoveries which come before us. When it is remembered that the country has undertaken financial responsibility for these lesions, assessed on the existing degree of disability, it at once becomes apparent how well worth while this work has been to the nation, apart from the increased productive capacity and happiness of the wounded.

In noting these results it is hardly to be wondered at that Sir Robert Jones, whose principles have formed the foundation of military orthopaedic surgery, wishes to hand on to the civilian population the benefits now conferred on the soldier. The question is a national one, and comparison of expenditure and results to be obtained will show such a plan to be a national economy through the resulting increase in productive capacity.

In no field of medicine is the necessity for exact observation and clear thinking so necessary. A limb which at first sight appears hopeless may, as investigation is carried into each detail of its function, finally give a ray of hope, which persistent treatment justifies. Again, have we not often heard of useless massage, patiently carried out, for a joint with bony ankylosis? Examples could be multiplied.

Repair: Principles and Details.

In dealing with chronic sepsis and repair, the questions of phthisis, nephritis, syphilis, dental caries, secondary anaemia, and intestinal toxaemia are of the greatest importance. In the matter of "fresh air" we were able to make an interesting experiment. Our hospital was by the sea. Our surgical wards, built for that purpose, were of brick, large and airy, and we think would have been pronounced excellent by the greatest purist; but we moved our worst cases to temporary huts by the beach, where their beds could be carried out to the sea front, and where they remained all day. The effect was excellent. As the sun and wind bronzed them, so it seemed their appetites increased, they put on weight, sepsis diminished, and wounds healed. As they watched the bathers in the sea and the children on the beach their whole outlook on life changed, their neurasthenia diminished, and they too were on holiday and wanted to be up and doing again. Employment, amusement, surroundings, fresh air, and sleep—everything helped. The diet was varied and generous, and, when possible, adapted to suit particular tastes.

Anaesthesia.

In the giving of anaesthetics we found a useful field for ether by the rectum, with morphine and atropine. This was specially valuable in head, neck, and chest cases, and in patients who had been gassed or were bronchitic. An enema was given on the day preceding operation; rectal lavage with saline on the morning of operation, and a moderate breakfast. Morphine gr. $\frac{1}{4}$ with atropine gr. $\frac{1}{100}$ was given, and half an hour later 6 oz. of ether to 2 oz. of olive oil were very slowly run into the rectum by gravitation; this took twenty minutes to administer. Absolute quiet and suggestion of sleep were employed. When the patient appeared to be sleeping soundly he was carried from the ward to the theatre. Immediately the operation was over a flatus tube was introduced and the anaesthetic evacuated. The rectum was washed out several times with saline, and 2 oz. of pure olive oil introduced. The anaesthesia was light, without post-operative shock, and we had neither sequelae nor complications.

Vaccines.

Our experience of autogenous vaccines led us to believe that they undoubtedly assisted in the combating of sepsis, and that they were a safeguard against the "flare up" of a chronic lesion when an operation had to be performed.

Operation.

We early learned the value of as perfect an aseptic technique as we could practise. An already chronically infected wound gave added reason for the avoidance of a superadded sepsis in a debilitated patient.

We placed great importance on the line of approach to the focus we proposed excising, planning our incision and operation on anatomical principles. Sinuses very frequently lie in close proximity to important structures, and the scar tissue, moreover, tends to drag those structures out of their normal position. It is therefore unwise to follow a sinus as a matter of routine. Kocher's principles regarding incisions, which carefully avoid all nerves, were our guide. When possible muscle planes were followed. The ultimate scar of the operation and any limitation of movement which it might cause had also to be considered.

We may cite an illustrative case:

An officer was admitted with a sinus in the axilla, running through a dense mass of scar tissue to the scapula at the origin of the long head of the triceps. Several attempts had been made to reach the focus without success. Finally we approached it by detaching the infraspinatus from its scapular origin, thus exposing with ease the axillary border of the scapula. A considerable sequestrum was readily removed and unhealthy bone excised. The flap was replaced and the axillary sinus healed rapidly. With the recognized after-treatment the functional result was excellent.

In the young soldier the importance of the epiphysis must not be overlooked.

An apparently minor point, but one of very great importance, is that of fascial planes, spaces, and sheaths. An impressive example of this is to be found in lesions of the hand and wrist. It is most unfortunate that the surgery of this region is generally regarded as "minor," and practised so casually; it resolves itself into that of planes.

Sepsis in Bone.

The excision of infected wounds whenever possible, which was practised in primary wounds as a routine with such success in the later days of the war, proved to be of equal value in chronic cases. The curetting of sinuses leading to infected bone was a useless procedure. Bone cavities with chronic osteo-myelitis, and with or without sequestra, called for complete excision and the removal of overhanging edges. The cavity was left wide open and packed with gauze. We believe it mattered little what antiseptic was used if the operation was properly performed, and no antiseptic could make up for an incomplete operation. In our hands dichloramine-T in eucalyptol, etc., gave the most rapid results, producing healthy red granulations in a few days. The cavity was secondarily closed or covered in by sliding, pedicle, or Thiersch grafts, each method having its own indications.

The avoidance of unnecessary trauma was of primary importance if a severe reaction was to be averted. We used stonemason's chisels, made of hardened steel with very sharp edges. The chronic discharging sinuses of many months, and even years, were securely healed, and the function of the limb could now secure undivided attention.

Reamputations.

The principle that no plastic operation may be safely performed in the presence of sepsis is universally accepted. That reamputation is a plastic operation was early forced upon us in going into the history of patients who had undergone amputation; many showed repeated reamputations and reinfections—a little bit more of the limb had been lopped off on each occasion. Ill-considered surgery had increased the disability it had set out to cure.

In several cases of short thigh stumps with the scar adherent to the end of bone, we were able to turn a muscle flap over the bone end and so secure a good stump without further shortening.

Skin-grafts.

Many patients were disabled owing to weak scars, especially if adherent to bone, muscle, or tendon. The raising of such scars, with the introduction of fat grafts between them and the deeper structures, was not successful. The scar tissue sloughed—no doubt from interference with its blood supply. The only satisfactory procedure was to excise the scar and fill the gap, if primary suture were impossible, by a sliding graft of skin taken from over soft tissues in the neighbourhood — Thiersch grafting the denuded area, if necessary. It was important to remember that such grafts contracted, and must therefore be cut larger than at first sight appeared necessary. In some cases the condition of the limb did not permit of a sliding graft and pedicled grafts from a distant area were used. The operation was in three stages—(1) the fashioning of the pedicle; (2) the transference of the graft to the area to be filled; (3) the severance of the pedicle and its replacement. Some surgeons have reported unfavourably on this operation, but our experience was good. Possibly undue haste in performing the successive stages may account for failures. We allowed a fortnight to three weeks between each.

Muscles, Tendons, and Nerves.

The lesions of muscles, tendons, and nerves are closely associated. Our experience of muscles has been that of investigation and remedial treatment by means other than operative. The wasting, contracture, or lengthening in neglected cases was most difficult to overcome, and required patient treatment by massage, electrical stimulation, posture, contrast douching, and active exercises.

Where tendons were limited in movement by adhesions we employed a fat graft, after division of the limiting bands, with satisfactory results. At a later date, and especially in the secondary suture of severed tendons, we replaced the fat graft by a piece of aponeurosis removed from the front of the leg immediately above the ankle joint. This we wrapped round the traumatized tendon and suture line, with the deep (smooth) surface outwards (Mayer). In transplantation of tendons we made use of the minimum number consistent with fair function and the natural balance of antagonistic muscles. We realized the importance of correct alignment of the muscles and tendons and posture to approximate their origin and insertion. We found it equally important to avoid overcorrection. Whenever possible, following the researches of Mayer and Biesalski, we made use of the sheath of the paralysed or damaged tendon. Every effort was made to secure implantation into bone which undoubtedly gave the best functional results.

Nerve lesions present a multiplicity of phenomena, some of an associated functional and organic syndrome which the investigations of Tinel, Dejerine, and others have done so much to elucidate. Here again we employed fat grafts after suture of divided ends when the junction lay in the midst of much fibrous tissue. In severed nerves end-to-end suture was the only method which gave favourable results in our hands. In regeneration of nerves Tinel's test of formication on percussion is undoubtedly the finest at our service.

Joints.

No lesion of joints are more common than ankylosis following injury or the injury of structures affecting them. No conditions require more careful consideration before interference. The established practice of putting a joint through its complete range of movement under an anaesthetic in cases of adhesions following disuse and certain non-pyogenic infections is rarely applicable to the conditions so frequently existing in war wounds. Massive adhesions may preclude movement by reason of the risk of fracture, or the production of considerable trauma by forcible movement may result in the same degree of limitation as before treatment. The gradual stretching of intractable adhesions by the various forms of rack splint yields much more favourable results. In many cases, especially when complicated by nerve lesions with long-standing paralysis or severe scarring with loss of muscle, it was felt best to leave the joint severely alone if in or near the optimum position.

In malposition we practised excision of the joint, in some cases with a view to ankylosis, in others—for example, the elbow—to obtain as much active movement as possible. It was surprising to find how great a range of useful movement could be secured, especially at elbow and

shoulder, after excision. It was our practice to sacrifice diseased or doubtful bone quite freely, following rigidly the subperiosteal method of Ollier. We commenced passive movements on the day following operation, and encouraged attempts at active movement as soon as the swelling or reaction had subsided. We used splints which enabled patients to get up as soon as the effects of the operation had passed off.

Bone.

We have already referred to our experience in dealing with sepsis in bone, and will only mention the subject of mal-union and non-union. In mal-union, where the conditions interfered with the function of the limb, we believed it wise to avoid the lately infected area if there had been extensive or deep sepsis, and to do an osteotomy in a healthy area. In non-union, often with a considerable gap, we employed lateral grafts or medullary pegs. We preferred the medullary peg, taking it from the tibia. This enabled a portion of healthy bone to be placed in firm contact with a vascular area in the affected bone, whereas in a sliding graft bone is being dealt with which is often rarefied by disuse or porous by previous infection. Transplantation of a massive lateral graft, including medulla, gave good results, but it was very difficult to secure a firm apposition. The medullary peg has the advantage of stability.

This paper has mainly dealt with certain points, in investigation and operative treatment, which have appealed to us. We would give a wrong impression of the work did we not mention in conclusion that the after-care of the patient occupied the bulk of our time. In the massage and electrical departments, in the gymnasium and workshops, in organized exercises, sports and amusements, the gradual re-education of function was attempted. It may be interesting to mention that little special equipment was obtained for this work; the adaptation of the material to be found in any hospital met most of our requirements.

The enthusiasm and organizing ability of Lieut.-Colonel C. R. Sylvester Bradley, R.A.M.C., overcame all difficulties, and to him we are indebted for permission to publish this article, based on the practical work in the hospital under his command.

PHYSIOPATHIC PARALYSIS OF THE HAND, AND ITS CAUSATION.

By R. G. ABERCROMBIE, M.D.,

ASSISTANT PHYSICIAN, SHEFFIELD ROYAL HOSPITAL; MEDICAL DIRECTOR, EDGAR ALLEN INSTITUTE, SHEFFIELD.

BABINSKI,[1] who first clearly described the condition, suggested the name of "physiopathic paralysis" for certain anomalous cases of paralysis and contracture of the hand following upon wounds of the upper extremity. The cases are of special neurological interest in that their general characteristics point to a psychological origin, yet, unlike other forms of functional paralysis, they exhibit well-marked organic changes in the tissues.

Clinical Features.

A large number of cases amongst soldiers and war pensioners, recently under my care, have provided material for the following observations, which are chiefly concerned with those features which serve to elucidate the pathology.

Without apparent adequate cause, a wound of the upper limb is followed by loss of power in the hand of the affected side. Neither the situation nor character of the wound bears any relation to the grade of the subsequent paresis; none of the symptoms correspond to the territory of any particular nerve.

The short muscles of the hand and the long flexors are chiefly affected. The muscles are sometimes limp, more often spasmodically contracted, so that the hand assumes various postures; frequently the palm is hollowed and the fingers imbricated one over the other, to form the so-called "accoucheur's hand." The paralysis is usually not complete; feeble movements can be performed in a tremulous or "waggling" manner. The thumb often escapes, so that the hand can meet the needs of a hospital patient or pensioner, though inadequate for any useful purpose.

The sensory symptoms are limited to an uncertain and varying hypo-aesthesia and contortions of apparent pain on the performance of passive movements. The patients are unduly apprehensive of pain, and are devoid of the normal impulse towards recovery.

The affected muscles waste, often extremely; they exhibit mechanical hyperexcitability; slight electrical changes occur, but the reaction of degeneration is not present. The skin, subcutaneous tissue, and bones share in the atrophy, so that the whole hand appears attenuated and smaller than its fellow. The skin is salmon-pink or cherry-red in colour, with a satin-like sheen around the roots of the nails. Trophic sores do not occur. The nails are curved and longitudinally grooved, sometimes greatly deformed; beneath their free margin a small fold of skin is often visible.

Profuse sweating of the palm is a common and striking feature; and it is of special interest that this symptom is directly influenced by emotion. If the affected hand be unexpectedly seized and examined, the palm may be found normal or slightly moist; if now the hand be made the subject of discourse to bystanders, beads of sweat form upon its palmar surface, until finally a sheet of moisture is formed over the whole palm. The palm of the opposite hand may also become moist, but not to anything like the same extent; meanwhile the rest of the body shows no abnormal sweating. Localized flushing of the affected hand may sometimes be similarly produced.

Cases are sometimes left in massage departments without adequate psychological treatment, so that the natural evolution of the symptoms is undisturbed. Such cases in process of time enter a clearly marked late or secondary stage, in which the profuse sweating, the congestion, and the idio-muscular reflex have disappeared, but the wasting and the paresis persist; the latter is often accentuated by adhesions, and in severe cases by actual distortion of the joints.

The foot may be affected, but this is rare. I have seen five such cases with well-marked trophic changes during the last year. The inverted and hollowed sole and tense tendo Achillis appear to exercise a great attraction for surgeons; three of the five cases, from different parts of the country, had been submitted to tenotomy. In each case operation rendered the condition worse.

Pathology.

Babinski has suggested that the symptoms are reflex phenomena, the peripheral wound supplying an irritative stimulus to a centre in the cord, from which centrifugal impulses pass to the affected member. This view has not, however, been widely accepted in this country; the general features, and especially the rapid and striking improvement which often follows appropriate psychological treatment, have led to the general belief that the symptoms are essentially of psychological origin. The paralysis is thus regarded as hysterical and the trophic changes as merely the result of disuse.[2]

This explanation, completely adequate for the motor symptoms, is quite insufficient for the trophic changes which constitute the essential distinction between these cases and those of ordinary hysteria. In the first place, many long-standing cases of hysterical paralysis of the hand occur in which the disuse causes no trophic changes at all, or at the most a slight general wasting of the muscles; whereas in physiopathic cases severe trophic changes may occur with considerable rapidity. Again, were it true that the trophic changes were merely the result of disuse, they would become more accentuated the longer the disuse lasted. But this does not occur; on the contrary, in long-standing cases, as mentioned above, the profuse sweating, congestion, and idio-muscular reflex tend to disappear, notwithstanding the persistence of the paralysis. Finally, the physiopathic condition is essentially a war phenomenon; Weir Mitchell noticed similar cases during the American Civil War.[3] In civilian hysterical paralysis localized sweating sometimes occurs, and may be regarded as a minor physiopathic manifestation; but severe trophic changes are exceedingly rare.

Some additional factor must therefore be imported by the effects of war, capable of superadding trophic changes in cases of functional paralysis.

Certain general symptoms, occasionally observed in unwounded men during medical inspection behind the line, throw light on the nature of this additional factor. Excessive sweating of a truly remarkable grade was sometimes to be noticed; even in cold weather the sweat

streamed down the upper arm from the axilla, and fell in rapid drops from the elbow to the ground; while the hairy scalp smoked from the warm moisture. Men showing this phenomenon were usually wasted, and a light tap on the pectorals provoked a strong idio-muscular contraction. These symptoms were seen in men going forwards, prepared to do their duty; the higher faculties still retained control of the machine, although the emotional strain of war had clearly produced a disturbance of the sympathetic system with its associated perversion of the internal secretions. The sweating, wasting, and muscular mechanical hyperexcitability thus produced are precisely the prominent symptoms in physiopathic paralysis.

Explanation of Symptoms.

The emotional strain of war induces an increased suggestibility (of which the exact process, conscious or subconscious, is outside the scope of this paper), so that a wound of the upper extremity is readily followed by hysterical paralysis of the hand. If the emotional strain has also brought about the profound disturbance of the sympathetic and internal secretions described above, these will specially affect the paralysed member, the nutrition of which is already lowered by immobilization. Further, since local sweating of the affected hand may be produced by emotion, it is reasonable to assume that other sympathetic impulses governing nutrition may be similarly affected.

In neurasthenia, morbid emotional states are generally credited with the power of causing functional disorders which may ultimately result in organic changes, as for example, in the abdomen. In physiopathic paralysis this process may be watched; and it is of special interest to observe its localization in the member towards which the patient's attention is directed, and which is the focal point of his emotions.

The physiopathic condition may thus be regarded as forming a link between hysteria and neurasthenia. The frequency of its occurrence in war is well explained by the depth of the emotional disturbance which war produces.

Relation to Nerve Lesions.

An irritative nerve lesion, owing to the pain and discomfort it causes, is not infrequently the provoking agent of a physiopathic condition; thus different areas of the same hand may show physiopathic changes side by side with the results of an organic nerve lesion. Such cases are often misunderstood; careful examination, however, readily discriminates the two conditions, the organic irritative lesion being distinguished by such features as the position of the wound, group-wasting, muscular tenderness, trophic sores and desquamation. The colour of the skin in the two areas is also often different. On examining such a hand I have often noticed the physiopathic area profusely bedewed with sweat, whereas the organically affected area remained dry, doubtless owing to the obstruction of the sympathetic impulses.

Treatment.

Psychological treatment by means of explanation, strong encouragement and re-education is the essence of success in dealing with these cases. The removal of the morbid mental state cures the paralysis and simultaneously eliminates the source of the perverted sympathetic impulses which are the cause of the trophic changes, the disappearance of the latter being greatly facilitated by movement and physical therapeutics. Recovery is almost invariable, and relapse is rare. Treatment is rendered noticeably easier by the patient's demobilization from the army.

Conclusion.

The emotional strain of war causes an increased suggestibility, with consequent liability to hysterical paralysis; the same emotional strain may also induce a disturbance of the sympathetic, the circulatory and trophic effects of which show themselves specially in the tissues of the paralysed member, partly on account of its immobility and partly owing to the localizing influence of the patient's emotions. This two-fold effect of hysterical paralysis with severe trophic changes constitutes the physiopathic condition.

REFERENCES.

[1] Babinski and Froment: *Hysteria or Pithiatism.* [2] Hurst: *Archives of Neurology*, November, 1919. [3] S. Weir Mitchell: *Injuries of Nerves and their Consequences* (quoted by Babinski).

SOME REMARKS UPON SYPHILIS, MORE ESPECIALLY INHERITED SYPHILIS.

BY

FREDERIC H. HAYNES, M.D. LOND., F.R.C.P.,

CONSULTING PHYSICIAN TO THE WARNEFORD HOSPITAL, LEAMINGTON SPA.

SIR JONATHAN HUTCHINSON said that "thousands of men marry at or about the end of two years after having had primary syphilis, and many at much shorter periods, yet the instances of communication to their wives or children are but infrequent." With this statement I cannot agree. I have for many years watched the children of men whom I have known to have had syphilis, and in almost every case a serious defect of some kind has shown itself in their children; this is true in cases where the parents were carefully treated, some for as long as five years, and more than one by Sir Jonathan Hutchinson himself. The usual manifestations of inherited syphilis are well known, but I wish to make special mention of certain diseases which are not generally recognized as due to this cause.

Nervous Diseases.—I think the large majority of cases of epilepsy occurring in the young are due to syphilis either in the parent or in the grandparent. Epilepsy occurs most commonly in infancy and at puberty. Recurring "convulsions" in infants are usually epileptic and may be cured by a course of mercury; I usually rely on hyd. cum creta (gr. $\frac{1}{2}$ to 1 ter die), or inunction with ung. hydrargyri fort. Epilepsy beginning later is curable, provided the disease be at once treated with mercury; but when such cases are left untreated for a few years cure is less certain and treatment has often to be carried out for two years or more. For adults, and even for older children, I nearly always prescribe mercury perchloride, which I prefer to the green or red iodide, because, in contrast with the iodides, I have never known it to produce salivation, although continued for many months, or even years.

As an illustration I mention the case of a girl of 15, who suffered from large lymphadenomata on both sides of the neck, that on the left side beginning later in spite of a course of treatment by potassium iodide in large doses. This patient was given mercury perchloride gr. $\frac{1}{20}$ ter die, increased gradually to gr. $\frac{1}{8}$ ter die. The treatment lasted for over seven years without intermission, and there was never the slightest sign of salivation; the tumours almost completely disappeared. In this case the father denied having had syphilis, but he died at the age of 84 in an asylum, and had Argyll Robertson pupils. This girl at 42 is still well and has had no recurrence.

For epilepsy occurring in later life similar treatment is invaluable. The following case is instructive:

A man of 65 began to have epileptic fits, which occurred during a period of some weeks. He admitted having had syphilis when 23 years old. He was treated with mercury perchloride, and his fits soon disappeared. He died from spastic paraplegia at the age of 77.

I am acquainted with many cases in which one or more children of syphilitic fathers developed epilepsy at puberty, and were cured by courses of treatment by mercury. I know of two or three cases of optic neuritis occurring in adults whose fathers were syphilitic.

One of these was treated by an eminent oculist, but did not receive mercury. His father sent him to Pagenstecker, who took him into his house for a few weeks and cured him by rubbing in mercurial ointment.

Another youth, who had well-marked syphilitic teeth, otitis media, and interstitial keratitis, was treated by oculists for nearly two years, being given potassium iodide and ten drops of liq. hydrargyri perchloridi (that is, gr. $\frac{1}{180}$ ter die). Pagenstecker cured him in a month by mercurial inunction.

The following is a remarkable case, showing, I believe, the effects of syphilis on the third generation.

A girl of 24 consulted me for spastic paraplegia with weakness of the arms and affection of the eyesight. Her grandfather and grandmother died between 50 and 60 years of age from tabes dorsalis and apoplexy respectively. Her father, who denied having contracted syphilis, was nervous and short-sighted; he had had an attack of unconsciousness lasting for a week (he died from carcinoma of the caecum subsequently to his daughter's illness). Treatment of the patient by mercuric perchloride led to very striking recovery of the eyesight and arms; the legs did not improve.

I have traced the cause of several cases of enuresis to hereditary syphilis, and have cured them by a course of mercury.

Skin Diseases.

I have treated several cases of severe psoriasis with mercury. My first case came under observation at an early age, and showed an excellent result:

A boy of 12 or 13 had widespread psoriasis with abundant rash. Treatment with Fowler's solution in large doses caused improvement, but there were three relapses. I treated him with mercury perchloride and he made a good recovery, having no relapse during the many years in which I continued to come into contact with him. Subsequently his father consulted me for paresis of the right arm, and admitted having had a Hunterian chancre before the boy was born.

Tuberculosis of various types is not uncommon in syphilitics and their children; I mention two cases:

A lady suffered from fibroid phthisis, and died at the age of 39. Subsequently her father consulted me for severe headache, and acknowledged having had a Hunterian sore before his marriage.

A man of 35 suffered from haemoptysis, and tubercle bacilli had been found in the sputum. He admitted having had syphilis; I gave him treatment by mercuric perchloride. He took a voyage to the Cape and has remained well for ten years.

A careful study of family histories has convinced me that there is a want of stability about children of syphilitics. Among such cases I know of two who fell down dead when engaged in a paper chase, another who shot himself, and two who were rusticated from college. Of the latter, one died of phthisis and the other has a chronic suppurating sinus. I believe, also, that there is a much nearer relation between syphilis and cancer than is usually believed, and more especially between contracted syphilis in the parent and cancer in the offspring. I know of six syphilitics (acquired) who died from cancer of the gullet.

Of the wives of men who have had syphilis, I find that some seem to be unaffected and live to a good age, but a certain number die young. I can recall four or five instances of such women who have died from so-called puerperal fever, and several cases who have suffered from albuminuria, convulsions, or iliac thrombosis during or after pregnancy. I am acquainted with a case of Graves's disease cured by mercury, which occurred in the wife of a syphilitic; also with a similar one in the daughter of a syphilitic. A man I know had syphilis; his first wife had one child, and died from alcoholism; his second wife died from puerperal convulsions following albuminuria and dropsy. Other instances which I have observed of diseases occurring in those whom I have known to be affected with syphilis are: Dupuytren's contracture (several cases), so-called tuberculous glands of the neck, and ulcerative keratitis. I believe that Bright's disease is usually syphilitic, and recall the striking case of a medical man who had a digital chancre, and died at the age of 44 from Bright's disease.

It is often stated that congenital syphilitics may have healthy children. With this I agree, but I believe it partly depends upon whether one or both parents are congenitally syphilitic. I am acquainted with one case in which the son of a syphilitic married the daughter of a syphilitic; they had three children, but all died young. I knew the children of a healthy mother and a father who was congenitally syphilitic; one child died suffering from marasmus and an eruption; the others were apparently healthy.

I have a strong suspicion that many chronic diseases are due to a syphilitic taint. These cases, however, are very difficult to prove, and as one meets only one or two in a lifetime I make this remark that others may be induced to follow up clues. I have been designated a "syphilophobic," but I claim to have found evidence of many unrecognized cases of this disease. It is extremely important first to inquire most carefully regarding the family history, and, secondly, to examine the teeth. In many cases of congenital syphilis, although the typical teeth as described by Sir Jonathan Hutchinson may not be present, the teeth are irregular and the lateral incisors are often small or absent. Early decay is frequent. Some hereditary syphilitics have good teeth, but are affected in other ways.

TRANSFUSION OF BLOOD IN NEPHRITIS.

BY

JEFFREY RAMSAY, M.D., CAPTAIN R.A.M.C.,T.F.,

BLACKBURN.

IN view of the interest which will be aroused by Dr. W. Blair Bell's article in the BRITISH MEDICAL JOURNAL of May 8th on the treatment of eclampsia by transfusion of blood, it may not be out of place to record the notes, made at the time, of the following case, which was admitted under my care to No. 64 Casualty Clearing Station in France during the summer of 1918.

The comparative incompleteness of the notes must be excused by the fact that the casualty clearing station was extremely busy at the moment.

A private, aged 22, who had previously been healthy, suffered from headache and vague generalized pains for ten days. On admission he was slightly drowsy and had a coated tongue; the systolic pressure was 100 mm. of mercury, the diastolic 60. The urine was acid, specific gravity 1010, with much albumin present, but no sugar; the centrifuged deposit showed the presence of many casts (chiefly granular), but no blood cells were noted on this nor any subsequent occasion. Respiratory, circulatory, and other organs appeared to be normal. His vomiting continued, and he could not retain anything given per rectum. During the first and second days he passed 10½ oz. and 2 oz. of urine respectively, and on the second his blood pressure fell to 90 mm. systolic, 40 mm. diastolic; suppression of urine seemed imminent and his condition was very grave. It was decided to try the effect of blood transfusion, and I injected intravenously 1,140 c.cm. of fresh blood from a donor of the same group (IV) as the patient; the blood pressure subsequently rose to 100 mm. systolic and 50 mm. diastolic. Next day the diastolic pressure rose to 70 mm. of mercury; vomiting became much less frequent and in the ensuing twenty-four hours he excreted 24 oz. of urine. He was able to retain "rectal salines" and was given hot packs, as well as 1 c.cm. of pituitrin six-hourly. Captain J. W. McLeod, R.A.M.C., kindly examined a specimen of blood and reported marked deficiency of fixed alkali, as estimated by Sellard's method.

Next day, in spite of retention of the "salines" and diminution of vomiting, urinary excretion fell to 16½ oz.; he was given intravenously one pint of a 2 per cent. solution of sodium bicarbonate, and during the next twenty-four hours he only vomited once and passed 22 oz. of urine. A pint and a half of sodium bicarbonate solution was given intravenously next day; vomiting ceased, and he passed 27½ oz. of urine in the twenty-four hours. He was now able to retain fluids given by the mouth, and 20 grains of sodium bicarbonate were given two-hourly. The excretion of urine rose to 54, 56½, and 61 oz. during the next three days respectively; the urine still remaining acid, the dose of sodium bicarbonate was increased to 30 grains, and he was given in addition 15 grains of potassium citrate three times a day, whereupon he passed alkaline urine to the amount of 61 to 81 oz. per diem during the next five days. By this time his general condition had become excellent, and the fixed alkali in the blood, as determined by Sellard's method, was normal. He was evacuted to the base on the sixteenth day; a last specimen of urine examined contained a faint cloud of albumin, and epithelial and granular casts were still present.

From a review of this case it seems clear that the transfusion of blood, performed when the patient was so ill that recovery seemed almost impossible, was the turning point in the course of the disease. We are still in a large measure ignorant of the metabolic changes associated with nephritis; the disease may depend on a deficiency of some chemical substance in the blood or tissues, or it may be due to an infective process the nature of which has not yet been determined. In either case, and in view of the low blood pressure, to introduce blood from a healthy donor of the same group appeared a rational procedure. It is important to point out, however, that there is no evidence that a solution of sodium bicarbonate given in the first instance would not have produced an equally satisfactory result; in the next similar case which comes under my care I shall give the bicarbonate first and the blood afterwards, if necessary. Everyone who has kept a careful record of blood pressure in nephritis will agree that the prognosis is worse on the whole in cases having a low systolic pressure; in such cases the above method of treatment seems to offer a hope of success. It would interest me to know if this was the first time that transfusion of blood was used in the treatment of nephritis.

THE physicians and surgeons of Madrid have adopted a resolution expressing determination to refuse to serve in hospitals unless well-to-do persons are forbidden to take advantage of free consultations. They declare their readiness to treat the poor without fee at hospital and dispensary consultations.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

BRONCHIECTASIS.

DR. JEX-BLAKE'S admirable lecture on bronchiectasis reported in the BRITISH MEDICAL JOURNAL on May 1st, 1920, serves to recall some interesting features of cases of this malady seen by me recently.

A man, aged 48, died from bronchiectasis of pneumonic origin after fourteen years. He suffered from recurrent severe haemoptysis, and from profuse purulent expectoration which would be suddenly ejected in considerable quantity, filling his mouth and nose. Chronic rhinitis resulted by direct infection from the pus, and both maxillary antra were in turn affected and drained for empyema. Another prominent symptom was severe frontal headache, which was undoubtedly due to a chronic inflammatory state of the frontal sinus, although no pus was at any time made out by radiographic examination. It is noteworthy that in this case, despite severe local lesions, general vigour was well preserved for many years.

A second case, aged 57, has suffered from bronchiectasis of simple origin for eight years, and his general state, despite multiple lesions, including nephritis, is still well maintained. The interesting features are (1) the tongue is enlarged, deeply fissured, and looks unhealthy generally, which condition is probably due to direct infection from the expectorated pus, for the more usual causes of glossitis are not present.

These direct effects of contact with the purulent exudate suggest a frequent use of mouth-washes, and also of nasal antiseptic fluids in suitable cases.

The second case for a year at least has suffered from chronic nephritis with albuminuria to the extent of 4 parts per 1,000 (Esbach). In the absence of other antecedent causes the nephritis is probably due to lardaceous disease, for the spleen is palpable, but no hepatic enlargement is present. There is no polyuria or other urinary changes usually associated with lardaceous disease.

The variability of the physical signs described by Dr. Jex-Blake can usually be shown at the time of examination, as it is not difficult to secure the expulsion of an ounce or more of pus.

IVOR J. DAVIES, M.D., M.R.C.P.,
Physician with charge of Out-patients, King Edward Hospital, Cardiff.

SPONTANEOUS RUPTURE OF MALARIAL SPLEEN.

SIR JOSEPH SKEVINGTON'S note on spontaneous rupture of a malarial spleen (April 24th, p. 571) leads me to relate two cases of this rare accident which I saw about fifteen months ago in Macedonia. I can only speak from memory, for I have no notes.

The first was an English soldier admitted for malaria late one night to a hospital reserved for medical cases. He had come a long distance over rough roads with a large convoy. On admission nothing special was noted. In the morning he complained of abdominal pain, but his symptoms were not sufficient to arouse anxiety till evening, when it was thought, according to various opinions, that he had perforated gastric ulcer or acute appendicitis. As there was no surgeon in this hospital I was sent for from a neighbouring one to see him. He was very pale, which I thought might be accounted for by the anaemia of malaria; his pulse was rapid and feeble; the whole abdomen tender, rigid, and distended. He was cold sweating, and appeared to be *in extremis*. He gave a history that would well fit with a chronic gastric ulcer. I agreed with the diagnosis of perforated gastric ulcer, and arranged for immediate operation. Open ether was given and saline infusion started; then a median incision was made, and to my surprise I found the belly full of blood. As the spleen seemed to be the most probable source, I cut across the left rectus and excised the spleen as quickly as possible. There were adhesions between the spleen and the diaphragm. At the end of the operation he was so nearly dead that we never expected to get him off the table alive; he, however, reacted to strenuous measures of resuscitation, and made a steady recovery to the point when his stitches—through-and-through all layers—were taken out; then he burst, but was reclosed and got on all right after that.

The other case was a Russian; the spleen ruptured whilst he was sitting up in bed. He was operated on at a neighbouring hospital, and transferred to my division about a week later. The stitches tore out, the wound gaped. Further attempts to sew it up were fruitless. He died.

It seems from these cases that the healing powers are so reduced by the cachexia of malaria and loss of blood that the tissues possess little healing power and should therefore be sewn up as carefully as the condition of the patient permits, and that deep stitches should be left in much longer than usual.

The spleen which I removed was about six times the normal bulk; there were adhesions to the diaphragm and a large subcapsular haematoma, with a small rent in the capsule. My idea is that during the jolting of the journey the capsule adherent to the diaphragm had torn away from the pulp and so started haemorrhage, and that some time next morning the capsule had given way, allowing haemorrhage to continue.—I am, etc.,

Guildford. E. W. SHEAF, M.C.Cantab.

Reports of Societies.

PUERPERAL SUPPRESSION OF URINE.

AT a meeting of the Edinburgh Obstetrical Society, held on May 12th, with Dr. WILLIAM FORDYCE, President, in the chair, Professor ROBERT JARDINE and Dr. A. M. KENNEDY read a paper on suppression of urine in pregnancy and the puerperium, and its relation to symmetrical necrosis of the kidney. The histories of eleven cases were reported and the pathological findings were described except in the one case which recovered.

The patients were all towards the end of pregnancy, except one in whom the condition developed at four and a half months. Suppression in one case lasted eight days. Unlike typical eclampsia, fits were not characteristic. The condition corresponded more to an eclamptic state in which the bulk of the mischief fell on the kidneys. The cases showed that where the suppression was completely established the condition was hopeless. In the case which recovered the suppression was only partial. The damage to the kidneys was, in a completely established case, so extreme that decapsulation was of no avail. The kidneys showed more or less uniform necrosis of the outer two-thirds of the cortex, which were separated from the living inner third by a haemorrhagic zone. At intervals from this zone of congestion numerous strands of congestion passed out to the surface, which had a mottled appearance. The necrosed area also involved the inter-pyramidal cortex. The kidneys were symmetrically involved. On microscopic examination the kidneys usually showed no evidence of antecedent disease. Rarely signs of preceding chronic nephritis might be present. The degree of necrosis corresponded with the duration of the suppression of urine. In the early stage the necrosis was of a patchy character and in the neighbourhood of the patches there was intense congestion. There was extensive thrombosis of the cortical blood vessels, which did not extend beyond the margin of the necrotic area nor involve the vascular arches; it was more widespread in the oldest cases. In the earliest case thrombosis was infrequent. The explanation of the changes was somewhat difficult. One of the cases had symptoms of Raynaud's disease, and the question arose as to whether the condition was dependent upon spasm of the smaller renal arteries, with consequent thrombosis and anaemic infarction. This interpretation was ruled out as evidence of arterial spasm was present in only one case of the series. It seemed more likely that the changes were due to the direct action of the toxin, which damaged the endothelium, thus causing thrombosis and then necrosis. The changes in the liver were similar to those found in eclampsia.

Professor LORRAIN SMITH agreed that the condition suggested the presence of a toxin which led to such universal damage to the blood vessels that it eliminated the function of the kidney even before it had passed through to the tubular structures. He referred to the very special way in which the poison attacked the renal vessels.

Sir DAVID WALLACE was struck by the fact that in these cases the suppression seemed to kill the patient very quickly. In surgical cases of suppression the patients lived very much longer, sometimes as long as fourteen days. He agreed that decapsulation seemed to be of little value in these cases.

Dr. MILLER had frequently been struck by the toxic condition of the kidneys in pregnant women who had died from intercurrent disease. It seemed to him that in eclampsia one must look for an exaggeration of the same poison which was always present.

Dr. BERRY HART congratulated Professor Jardine and Dr. Kennedy on the persistence with which they pursued their investigations from year to year. With reference to the question of how long a patient could live with complete suppression of urine he referred to a case in which a horse-shoe kidney was removed by the surgeon in mistake for an abdominal tumour. The patient lived eleven days.

Dr. HAIG FERGUSON referred to the advantage of antenatal care of the pregnant woman. In the Lauriston Home in Edinburgh for unmarried girls pregnant for the first time, which admitted an average of seventy cases a year, there had been no case of eclampsia over a period of nineteen years. He believed that the toxin was derived from the placenta, and in a case where the cervix was closed and there was no attempt at labour he strongly advised Caesarean section.

Dr. JAMES YOUNG noted that in three of Professor Jardine's cases there was evidence of haemorrhage before the birth of the child; one was accidental haemorrhage, the others were placenta prævia. The point arose as to whether the toxic state was not secondary to a degeneration in the placenta subsequent to its detachment from the uterine wall.

The PRESIDENT said he had repeatedly seen cases of suppression of urine recover, though he had never had a case of complete suppression.

FOR AND AGAINST CIRCUMCISION.

AT a meeting, held on March 12th, of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, the President, Dr. HASTINGS TWEEDY, in the chair, Dr. SPENCER SHEILL read a paper on circumcision as an ancient rite and as a surgical procedure, in which he dealt with the antiquity of the rite among the Mohammedans, Copts, Memons, Boris, the New South Wales and Amazonian tribes, and the Semitic races. He pointed out that the Jewish operation had not the result of reducing sexual desire; the inner layer of the foreskin, which carried most of the sensory nerves, was not amputated. Dr. Sheill showed that fertility in the female was directly aided by circumcision. He condemned non-use of anaesthesia in ritual circumcision as inflicting unnecessary pain on the infant. Circumcision should be advised as a real help to the weakest spot in the human character.

Dr. SOLOMONS said that the subject was contentious and very important. Most educated people asked to have their sons circumcised; he thought it an excellent thing to do; it helped to prevent hernia due to straining, and later it helped in preventing masturbation. The ordinary schoolboy was not taught to keep himself clean, and if he were taught he thought too much about the matter. No anaesthetic was necessary when circumcising infants—in fact it was harmful. According to statistics by Breitenstein, syphilis was five times greater in the uncircumcised.

The MASTER OF THE ROTUNDA said that when consulted on the subject he advised the operation. He had seen it done very dexterously as a Jewish rite, and had adopted that method. He thought the uncircumcised more likely to contract syphilis.

Dr. TWEEDY had never satisfied himself that the craze for circumcision was justifiable. According to the laws of evolution the foreskin must have been greatly needed by the human race or it would not have persisted. The statistics quoted by Dr. Solomons had little value. He knew of three fatal cases, one from chloroform. There was often alarming haemorrhage.

COLONIC ETHER ANAESTHESIA.

AT a meeting, held on April 9th, of the Section of Surgery of the Royal Academy of Medicine in Ireland, the President, Mr. J. B. STORY, in the chair, Dr. A. E. BOYD read a paper on oil ether colonic anaesthesia. After a description of Gwathmey's technique, in which an ounce of 75 per cent. ether in olive oil is injected for every 20 lb. body weight of the adult patient, he described his own method of using a 50 per cent. solution of ether in oil. He believed that control was greater and the margin of safety wider with the weaker mixture, of which the effect could be supplemented by a little ether on an open mask. The danger of colonic irritation was also lessened; only one of his cases had had any irritation at all. He described a number of difficult cases successfully anaesthetized by this method. One only had given cause for anxiety which could be attributed to the anaesthetic. The method was invaluable for operations on the head and neck, and especially when it was desirable to avoid the factor of psychic shock, since the patient was unaware of the nature of the colonic injection.

Dr. MELDON asked whether this method was contraindicated in cases in which the cautery had to be used in the neighbourhood of the mouth. Excretion by the lungs went on for hours after colonic etherization.

Sir W. I. DE C. WHEELER had to record a fatality under rectal anaesthesia in a pensioner, a robust man who had a hole in his skull the result of injury.

The technique was that recommended by Gwathmey, a 5-grain capsule of chloretone being inserted into the rectum. The bowel was washed out the night before and on the morning of the operation; six ounces of ether and two ounces olive oil were given per rectum an hour before. Open ether was also given by the mouth. Anaesthesia was very light. The bowel was carefully washed out at the end of the operation, which lasted one hour. An hour afterwards there was an accumulation of mucus in the man's throat; he was very cyanosed, but did not wake up sufficiently to get rid of the mucus himself. He died four hours after operation.

This death the speaker attributed to anaesthesia.

Mr. MCCONNELL said that this method in practice was quite simple. He had seen a good many of the cases to which Dr. Boyd referred; he was greatly struck by the lack of congestion about the face. One case of malignant glands in the neck in an old, feeble patient was fatal after seventy-two hours, death being due to hypostatic pneumonia, which did not start at once, but twenty-four hours after operation. He had used the actual cautery in the mouth for up to twenty minutes at a time.

Dr. BOYD, in reply, said that secretion of mucus was increased, but not so much as with ordinary ether anaesthesia. The anaesthesia was, in fact, fairly dry, but this was probably due to the use of atropine. If 75 per cent. ether were used, it might be inflammable. Though 65 per cent. solutions gave a deeper anaesthesia, he never used more than 50 per cent., which was much more easily controlled. The danger of the actual cautery should always be borne in mind.

Arthroplasty of the Knee-joint.

Sir W. I DE C. WHEELER showed a case of arthroplasty of the knee-joint, with radiograms taken before and after operation.

The patient, a little girl, had osteo-myelitis six years ago, resulting in a double ankylosis, the left knee being flexed and the right extended. The right, operated on four weeks previously, was in plaster. The left arthroplasty was of four months' standing. Using lateral incisions he had remodelled the femoral and tibial condyles, and had interposed lateral flaps of the soft tissues. The articulating surfaces should be as wide as possible to anticipate lateral instability. The child demonstrated the excellence of the result by flexing and extending the right knee through more than a right angle, and by hopping across the room on the left foot, the left knee being unsupported by apparatus.

Mr. PRINGLE said that he had done a similar operation some years ago, but the result was not nearly so good; the man had a movable joint, but it was painful, and it was necessary to excise it six months later.

Mr. A. K. HENRY showed a case of loose bodies after gunshot wound of the knee-joint.

When he first saw the man, six months previously, there were lumps over the external condyle forming a mass the size of two hazel nuts, which had been diagnosed as exostoses. On examination these were found to be movable, and a skiagram showed that the fragments corresponded to a defect in the external condyle. It was remarkable that these loose bony fragments had remained uninfected. In six months they had diminished considerably in size, and had become more movable.

Early Symptoms of Cancer of the Colon.

Mr. SETON PRINGLE, who read a paper on early symptoms of cancer of the colon, said that patients came, as a rule, too late to operation for good results to be secured, in spite of the fact that the growth remained localized for a long period.

In 70 per cent. of those cases in his series not accompanied by obstruction, the diagnosis was made by discovering a tumour; but in 80 per cent. of the cases where no obstruction was

present, the growth was in the pelvic colon, and was frequently not palpable. In 33 per cent. of his series colostomy for obstruction had preceded resection, and 40 per cent. had recurrence within two years. These figures showed the need for revising the criteria of the disease.

He believed that the presence of blood, mucus, and pus, with an increase in the number of daily evacuations, together with a sensation of dissatisfaction after defaecation, constituted a syndrome characteristic of early colonic stricture associated with ulceration. Since the commonest cause of these conditions was cancer, laparotomy was justified in the presence either of pus, etc., or of the symptom of dissatisfaction. He distrusted negative findings by the *x* ray or sigmoidoscope. "Faecal impaction" was, he believed, rare *per se*, ending usually in colotomy and the discovery of a malignant stricture.

Sir W. I. DE C. WHEELER said that in these cases he took the *x*-ray findings with a grain of salt. Exploratory laparotomy in these cases was a difficult thing to advise, and the advice was not usually well received. The sigmoidoscope might easily miss the growth, going either too high or not high enough to enable it to be seen.

Mr. PEARSON thought the use of *x* rays was very limited; he had had a patient with cancer of the colon who had been told by a careful radiologist that he had not cancer. Examination under an anaesthetic was very useful before doing an exploratory laparotomy.

Mr. SETON PRINGLE, in reply, said that he read his paper because many medical men did not seem to think of cancer in these cases. In a patient who had been treated for nine months for mucous colitis he had diagnosed and found at operation cancer of the colon. Examination under anaesthesia was too seldom practised.

THE NERVOUS SYSTEM AND THE ENDOCRINE GLANDS.

AT a meeting of the London Association of the Medical Women's Federation, held on May 18th, with the President, Mrs. E. E. FLEMMING, M.D., in the chair, Dr. SIBYL I. WELSH read a paper on the nervous system and the endocrine glands. She said that Hughlings Jackson had described the development of the nervous system in man as taking place at three levels—the vegetative or autonomic, the sensori-motor, and the psychic.

On the psychic level (continued Dr. Welsh) the receptors through which man receives impressions are the sense organs of sight, hearing, taste, and smell, and it is through these that he comes into relation with the external world. By association fibres in the cerebral lobes he gains the power of balancing knowledge with emotion and intuition with instinct, knowledge and intuition tending to be individual as compared with emotion and instinct, which are racial and shared by his kind. At this level he becomes an individual member of a herd. On the sensori-motor level the body has acquired the power of balance and progression through space, coming into contact with externals through the skin receptors of touch, pain, heat, and cold, and acquiring self-control through its proprioreceptive system, whose centres are in the labyrinth, and through the cerebellum, which receives and co-ordinates all the impulses of sense of position and movement. At this level he becomes an individual and is able to move about. On both the psychic and sensori-motor levels the controlling nervous mechanism is a centralized one, and control is conscious as well as subconscious. On the autonomic level centralized control is no longer essential. This level governs the most primitive reactions of nutrition, reproduction, and self-defence; at this point the organism is a mere existence without individuality or sociability. In man this level is represented by the mutually antagonistic sympathetic and para-sympathetic nervous systems, and their working is unconscious. Developmentally, this nervous system is not centralized, and in the lowest vertebrates the place of the sympathetic cells is taken by masses of chromaffin cells. In many these cells are chiefly found in the suprarenal medulla, and are derived developmentally from the same mass of cells that gives rise to the sympathetic ganglion. This shows how an organ which deals with the chemical type of stimulus progresses into one producing the higher type of nervous stimulus, and that, below the level of the most simple type of nervous control, there is a set of systems of chemical control—a set, in fact, of endocrine glands. There is thus a digestive system of chemical control affecting the secreting glands, a reproductive system bringing into functional co-operation the remote sexual glands, and a system influencing growth and development. The active principles of the endocrine glands are comparatively simple and identical for all animals.

Dr. Welsh described the distribution and functions of the two divisions of the sympathetic nervous system, stimulation of the sympathetic producing means of defence, and stimulation of the parasympathetic promoting nutrition. She referred to the treatment of deficiency diseases by gland extracts, and to the increase in exophthalmic goitre since the war. It was suggested that as there was anatomical evidence of a double control, chemical and nervous, of the endocrine glands, there might be a possibility of a double form of treatment, one being the restoration of nervous control by psycho-therapeutic measures.

Reviews.

ROSE AND CARLESS'S MANUAL OF SURGERY.

AN interval of three years has ordinarily been regarded as long enough between editions of modern textbooks, the changes being sufficiently numerous within that period of time to warrant a new issue. The world-shaking events of recent years compelled a lengthening to five years of the intervening period from the ninth to the present, the tenth, edition of Rose and Carless's *Manual of Surgery*.[1]

A considerable amount of new material has been added, consisting mainly of descriptions of methods found valuable in war surgery, the treatment of infected wounds, the mechanical handling of compound fractures of the long bones, and the ingenious reparative operations of plastic surgery. These new sections are thorough and complete and present to the reader a very good survey of all that we have learnt from recent experience, most of it bitter enough. It is with special commendation we note the high esteem in which Mr. CARLESS holds the Thomas splint in its various slight modifications, and those of us who used it for so many cases know that with this splint and a Balkan frame most excellent functional results and easy nursing were the uniform experience. It is strange that only with a European war should the Thomas splint and many of the "orthopaedic" ideas of the Liverpool school reach an almost universal acceptance.

Mr. Carless expresses regret—though we venture to think that no such expression is called for—that the book is necessarily larger, and he expects that possibly some of the newer war-originated material may be dispensed with in future editions. Possibly so, but we hope that the newer generations of students will for many years continue to learn the principles and methods of antisepsis and to appreciate the application of mechanical ingenuity which war surgery has forced upon us. A textbook cannot, of course, be allowed to grow out of manageable proportions, and some things must in time find their way to the scrap-heap; perhaps it would be no great loss if in future editions we found that references to taxis in strangulated hernia and many amputations of the foot and knee, and the present nomenclature of the cancers, had been relegated to the scrap-heap—there is no reason why, for example, "scirrhus" should be preserved, when it only means "hard," and "encephaloid," when it means really "brain-like" and is used to mean "soft." Another milder anachronism is disclosed in a remark on the surgical damage a "hansom cab" may do (p. 1172).

We are satisfied that the new "Rose and Carless" will still preserve its high place in the affections of the student and the practitioner. Its teaching is essentially the surgery of the British school, which is the soundest in the world. Carless travelled far in his war experience and met many men to whom his name and his book stood for all that is best in the memory of hospital and student days at home, and all hearts would open to him. Incidentally we remark that this mingling with the army has perhaps permitted a little more free use of some expressions such as "asking for trouble" (p. 1234). No one will object to more picturesqueness of language and homeliness—even colloquialness—of phrase in textbooks, but the ephemeral language of slang, even of the army sort, may not be generally understood. There are remarkably few errors of proof-reading; two will be found on pages 614 and 616. A commendable feature is that the *x*-ray pictures are printed on art paper and collected at the end.

[1] *Manual of Surgery* (Rose and Carless). For Students and Practitioners. By Albert Carless, C.B.E., M.B., M.S.Lond., F.R.C.S. Tenth edition, University Series. London: Baillière, Tindall, and Cox. 1920. (Demy 8vo, pp. xii + 1562; 614 figures, 33 plates (16 coloured). 30s. net.)

RADIOLOGY.

THE second edition of Dr. ALBERT-WEIL'S manual entitled *Éléments de Radiologie*[2] is a comprehensive publication which deals with the whole subject of the uses of *x* rays in diagnosis and treatment. The author is the well-known French radiologist, chief of the staff of the *x*-ray department of the Hôpital Trousseau, and his book is one of the most important written by a French author. The first edition gained the Itard prize of the Académie de Médecine. The present edition, whilst on the same plan as the first, has been brought up to date, most of the chapters having been rewritten, the illustrations increased in number, and a full description of the Coolidge tube added. Of the three sections into which it is divided the first consists of a description of instruments, the second covers the whole ground of *x*-ray diagnosis, and the third is given up to therapeutics. The text is illustrated by 552 reproductions of radiographs and numerous diagrams, which serve to make the author's meaning clear. The radiographs suffer to a certain extent from being reproduced on the same paper as the letterpress, but serve their purpose as demonstrating morbid conditions. The book can be recommended to those who wish to become well acquainted with *x*-ray work as practised by the best French workers.

In his *Aids to Electro-therapeutics*,[3] Mr. J. M. REDDING, F.R.C.S., has added another to the already long list of small books which, under the title of the Students' Aids Series, are designed to assist students in grouping and committing to memory the subjects upon which they are to be examined. Looked at from this point of view, the present volume seems to fulfil its purpose. After a short introductory chapter there follow thirteen others dealing concisely with the various forms of electricity and electrical apparatus used for therapeutic purposes, and amongst other things are included galvanism, faradism, ionization, diathermy, and high frequency. A rather more elaborate chapter then deals with *x* rays, and it is somewhat remarkable what an enormous amount of information, both technical and practical, the author has managed to condense into relatively few words. Nothing of importance appears to have been omitted concerning apparatus and its uses, and the advantages and disadvantages of different pieces of apparatus are well set forth. In concluding this chapter short references are made to all the usual conditions in which *x*-ray treatment is indicated, and the lines on which it should be carried out. Radium therapy is then dealt with rather shortly, and perhaps this chapter might with advantage have been somewhat extended. Finally, after an account of the electro-diagnosis of nerve lesions and myopathies, there is an index of treatment in which diseases are arranged alphabetically, and the indications for their treatment by one or other methods stated. As a concise aid to the memory a book of this kind should be useful to medical students.

Many expert radiographers will find the small monograph by WENDELL, entitled *The Systematic Development of X-ray Plates and Films*,[4] useful for reference. All photographic assistants in *x*-ray departments would be saved endless trouble if they were well acquainted with the fundamental principles of the development of plates here so well, so plainly, and so lucidly set forth. There is practically nothing to criticize unfavourably in the book. It states in plain, easily understood English all the important points in the treatment of an exposed *x*-ray plate in order to obtain the best possible photographic result. Perhaps the author is a little too enthusiastic as to tank development, and a little too severe in his strictures on the more usual method of tray, or visual inspection, development; but as a very old amateur photographer and *x*-ray worker the reviewer has a great deal of sympathy with him, and it is really remarkable how little some of the very best *x*-ray workers know of the technical side of producing the best photographic results. We can strongly recommend this book as eminently practical and brimful of useful information; the principles of development of a negative are admirably portrayed in simple and easily understood language; the reasons for each chemical used in a developer are clearly stated; and finally, the illustrations are well chosen and convincing.

To those interested in the Coolidge tube the translation of H. PILON'S essay on it[5] will be instructive. Its first section deals with the tube itself, describes its construction and the various models, the methods of heating the filament, and the starting and regulation of the tube. The second describes the properties of and the radiations emitted by a Coolidge tube. The concluding part discusses certain criticisms, for the most part groundless, which have from time to time been made concerning the working of these tubes; the author criticizes severely the assertion often made that the Coolidge tube is dangerous. Admitting that it is dangerous in the sense of the power it possesses, he maintains that it permits of very simple methods of protection which not only allow of complete control of direct radiations, but also eliminate all secondary radiations, and that therefore it is really a very safe tube. The opinion is expressed that in the near future every works laboratory will possess a radio-metallographic installation. Amongst other interesting illustrations there is one of a radiograph in which the shadows of lead figures are shown through a steel gauge 45 mm. in thickness.

GYNAECOLOGY.

A SECOND edition of *A Guide to Gynaecology in General Practice*,[6] by Mr. COMYNS BERKELEY and Mr. VICTOR BONNEY, was only to be expected, for, as we pointed out on its first appearance, it has many features which make it a book of unique value to the section of the profession for which it is designed. The whole text, it is said, has been revised, and in regard to its substance this is no doubt the case. There still remain, however, several slips which ought not to have escaped the attention either of the authors or of the printer's reader. Amongst these are one or two to which, if our recollection is correct, we drew attention in our notice of the first edition. The very valuable section on the medico-legal aspects of gynaecology has undergone a special revision with the assistance of Mr. C. F. Lowenthal, and in particular the discussion of the attitude of the practitioner in regard to a case of criminal abortion is treated in such a way as to make it the most valuable and practical guidance upon this subject known to us. New sections dealing with *x* rays and radium have been added, which provide the practitioner with all the pros and cons to be considered by him and to be placed before his patient in regard to the treatment of fibroids and cancer by these means. Unfortunately the experience of the authors does not make them enthusiastic over the curative powers of these rays, but the discussion is very fair and well balanced. The new edition maintains the admirable specificity of the book. It is written throughout with the one idea of helping the general practitioner in his gynaecological cases, and every other aspect of the subject is rigidly and wisely excluded.

The call for a second edition of EDEN and LOCKYER'S *Gynaecology*[7] within four years of its first appearance is satisfactory evidence that it has met with the approval which we predicted for it. Some thirty pages appear to have been added, containing both new matter and fresh illustrations, and including a brief appendix on the transfusion of blood by Mr. Rendle Short. Whether this last is really in place in a textbook of special surgery is at least debatable. We are glad to note that the authors have discarded the use of the term capsular haemorrhage, to which we objected in the first edition, in favour of the simpler term tubal haemorrhage. Would that they had also seen their way to a more euphonious classification of

---

[2] *Éléments de Radiologie.* By Dr. E. Albert-Weil. Paris: Félix Alcan. 1920. (Roy. 8vo, pp. 883; 552 figures. (40 francs net.)

[3] *Aids to Electro-therapeutics.* By J. Magnus Redding, F.R.C.S. London: Baillière, Tindall, and Cox. 1920. (Fcap. 8vo, pp. 204; 16 figures. 5s. net.)

[4] *The Systematic Development of X-ray Plates and Films.* By Lehman Wendell, B.S., D.D.S., Chief of the Photographic Work, University of Minnesota. London: Henry Kimpton. 1920. (Med. 8vo, pp. 78; 33 figures. 12s. net.)

[5] *The Coolidge Tube: Its Scientific Applications, Medical and Industrial.* By H. Pilon. Authorized translation. London: Baillière, Tindall, and Cox. 1920. (Cr. 8vo, pp. 104; 59 figures. 7s. 6d. net.)

[6] *A Guide to Gynaecology in General Practice.* By Comyns Berkeley, M.A., M.D., M.C., F.R.C.P., and Victor Bonney, M.S., M.D., B.Sc., F.R.C.S.Eng. London: Henry Frowde, and Hodder and Stoughton. 1919. (Cr. 4to, pp. xxiii + 467; 168 figures. 31s. 6d. net.)

[7] *Gynaecology for Students and Practitioners.* By Thomas Watts Eden, M.D., F.R.C.S.Edin., F.R.C.P., and Cuthbert Lockyer, M.D., B.S., F.R.C.S., F.R.C.P. London: J. and A. Churchill. 1920. (Roy. 8vo, pp. xvi + 928; 513 figures, 24 coloured plates. 38s. net.)

endometritis! The reader turns with interest to that great and ever-pressing problem of gynaecology, the treatment of cervical carcinoma. The writers are very guarded in their statements as to the prospects of radium and *x* rays either as direct curative agents or as adjuvants to operation, and are satisfied that as yet the only hope of cure lies in the free excision of the whole diseased area. For this purpose the abdominal route, it is said, is still the most promising; in the first place it enables a larger number of cases to be included as operable than does the vaginal route, even although the primary mortality still hovers about 20 per cent. Wertheim was able to claim 41 per cent. of cures on a five years basis, while for the vaginal operation De Ott claims from 34 to 37 per cent. on the same basis. Fortunately the condition of the patient who has had her uterus removed and subsequently becomes the victim of recurrence of carcinoma is, as regards local symptoms, much less distressing than that of the woman whose case is inoperable or not operated upon. In every way the new edition maintains the high standard of its predecessor, and it will continue to rank as probably the most satisfactory all-round textbook of moderate size on the subject published in this country.

NOTES ON BOOKS.

IN his book on *Psychology from the Standpoint of a Behaviorist*[8] Professor WATSON describes psychology as a science of behaviour. Its eleven chapters contain a clear account of the methods, mechanisms, and results of psychological study approached from the author's special point of view. Beyond all things, Professor Watson is informal, averse to abstraction; his book should prove attractive to elementary students of the subject.

In the fourth edition of *The Sexual Disabilities of Man*,[9] by Mr. ARTHUR COOPER, many changes have been effected. The text has been brought up to date, and two new chapters on hygiene and continence have been added. This little book has undoubtedly helped to fill a gap in the knowledge of the average student of medicine, and the new chapters make it more complete. The question of sexual continence has been much debated in recent months, and the author's examination of the subject shows restraint and discrimination.

In *Half-past Twelve*,[10] Mr. G. W. GOUGH puts the outlines of practical economics before the reader in the form of six-and-twenty short chapters or "dinner hour studies for the odd half-hours." This short and well written introduction to political economy may be warmly recommended to readers of every class. Mr. Gough's point of view is strictly non-political and his exposition lucidity itself.

In the May number of the *Fortnightly Review* Mr. Edward Clodd asserts that "the extent to which occultism has spread, and is spreading in these latter days, will, in vulgar phrase, be an 'eye-opener' to many who have dismissed this matter as the passing freak of a handful of cranks." It is a like opinion, no doubt, that has induced Surgeon Captain C. MARSH BEADNELL, R.N., to publish a pamphlet entitled *The Reality or Unreality of Spiritualistic Phenomena*.[11] To deal with all the divagations of so-called spiritualists—although, indeed, they better deserve the term "materialists"—would be a very lengthy business, and the author has confined himself to a criticism of certain writings of Mr. W. J. Crawford, D.Sc., who seems to have been a willing victim and to be ready to find explanations for every dubious manifestation. The value of the pamphlet lies in the detailed examination of Dr. Crawford's statements, and this cannot be shown by quotation. It should be read as a whole.

The fourth edition of Professor BIRK'S *Säuglingskrankheiten*[12] provides students and practitioners of medicine with a practical account of the signs, symptoms, diagnosis, and treatment of the diseases of infancy as met with and looked after in Germany. The author as a pupil of Czerny, has much to say about spasmophilia; in spasm of the pylorus he mentions operative treatment as the *ultima ratio*. The book is full and clearly written, not unduly weighted on the scientific side.

[8] *Psychology from the Standpoint of a Behaviorist*. By John B. Watson, Professor of Psychology, the Johns Hopkins University. Philadelphia and London: J. B. Lippincott Company. 1920. (Demy 8vo, pp. xi + 429; 66 figures. 10s. 6d. net.)

[9] *The Sexual Disabilities of Man and their Treatment and Prevention*. By Arthur Cooper. Fourth Edition, revised and enlarged. London: H. K. Lewis and Co., Ltd. 1920. (Cr. 8vo, pp. 274, 2 plates; 7s. 6d. net.)

[10] *Half-past Twelve*. Dinner Hour Studies for the Odd Half-hours. By George W. Gough. London: Sells, Ltd., and Methuen and Co. New York: G. P. Putnam's Sons. 1920. (Demy 8vo, pp. 77. 1s.)

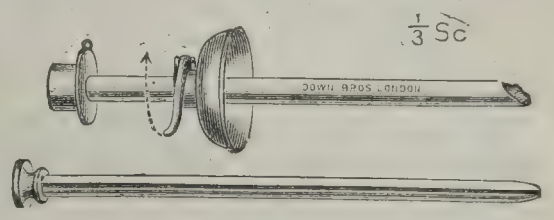
[11] London: Watts and Co. 1s. net.

[12] *Säuglingskrankheiten*. By Dr. Walter Birk, Professor der Kinderheilkunde Vorstand der Universitäts-Kinderklinik zu Tübingen. Fourth edition. Bonn: A. Marcus and E. Webers Verlag. 1920. (Med. 8vo, pp. 276; 25 figures. M 15, bound M.18.60.)

APPLIANCES AND PREPARATIONS.

A Urethroscopic Tube.

MR. NORMAN LUMB (London, W.) writes: In the course of urethroscopic work I have often felt the need, both in treatment and demonstration, for a device which would retain a particular field in view. The movable-cup tube illustrated here answers the purpose. The tube is inserted in the ordinary way, and, when the affected area is in the field, the cup is moved down to the glans and locked in position by means of the short lever. The weight of the urethroscope is thus balanced, and no difficulty is experienced in keeping it steady. As the tube is withdrawn during the examination the cup may be allowed to remain in contact with the glans, when it can be locked at any stage by simply pressing on the lever. The cups are made in the usual sizes. The device is especially useful when used in conjunction with Wyndham Powell's new cauterizing tube (BRITISH MEDICAL JOURNAL, August 9th, 1919), in the incision of peri-urethral abscesses, or for endoscopic treatment of the anterior or posterior urethra. The instrument is made by Messrs. Down Bros.



THE MEDICAL DEFENCE UNION.

AT a special general meeting of the Medical Defence Union, held at the house of the Medical Society of London on May 20th, the following resolutions were carried *nem. con.*:

1. That on and after January 1st, 1921, the annual subscription to the Medical Defence Union shall be £1, which payment shall provide each member with indemnity against damages and costs awarded against him, to the extent of £2,500, in any case which is undertaken on behalf of the member by the Medical Defence Union, and that a member elected on or after July 1st in any year shall pay half the current subscription for that year.
2. That the fee for life membership shall remain at £25, which payment shall include all the benefits of the indemnity mentioned in the foregoing resolution, on and after January 1st, 1921. Life members who have compounded for a less sum and are still in practice shall be asked to pay a subscription to the Medical Defence Union of 5s. per annum, to cover the indemnity before mentioned, if they wish to secure the benefits thereof.
3. That newly registered medical practitioners shall be admitted to membership of the Medical Defence Union, on and after January 1st, 1921, without payment of an entrance fee, provided that they join the Medical Defence Union within one year of the date of their registration.

AT a general meeting of the United Services Medical Society held at the Royal Army Medical College on May 28th, 1920, it was resolved to amalgamate with the War Section of the Royal Society of Medicine on the condition that the late members of former society are accepted without entrance fee to the War Section, but subject to an annual fee of one guinea. The United Services Medical Society decided to hand over to the Royal Society of Medicine the balance of cash as shown on January 1st, 1915, the remainder to be divided amongst the subscribers since that date. To permit of this adjustment it is requested that those subscribers will forward their present addresses to the Secretary, Major E. M. Middleton, at the College.

THE following appointments to the Order of the British Empire are announced in recognition of war work:—*K.B.E.*: Dr. John O'Conor, head of British Hospital, Buenos Aires. *O.B.E.*: Mrs. C. M. Astley Maer, civil surgeon, attached R.A.M.C. *M.B.E.*: Dr. H. A. Macdonald, medical officer, Alverstoke Auxiliary Hospital.

IN Java last March there were 936 cases of plague, all of them, it is significantly added, fatal

EIGHTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association,

CAMBRIDGE, 1920.

THE PRESENT MEDICAL SCHOOL

SIR CLIFFORD ALLBUTT tells us that when he was an undergraduate, about 1855, the number of medical students at Cambridge was only 6; to-day the number is about 500. The last official figures (Michaelmas term, 1919) were as follows

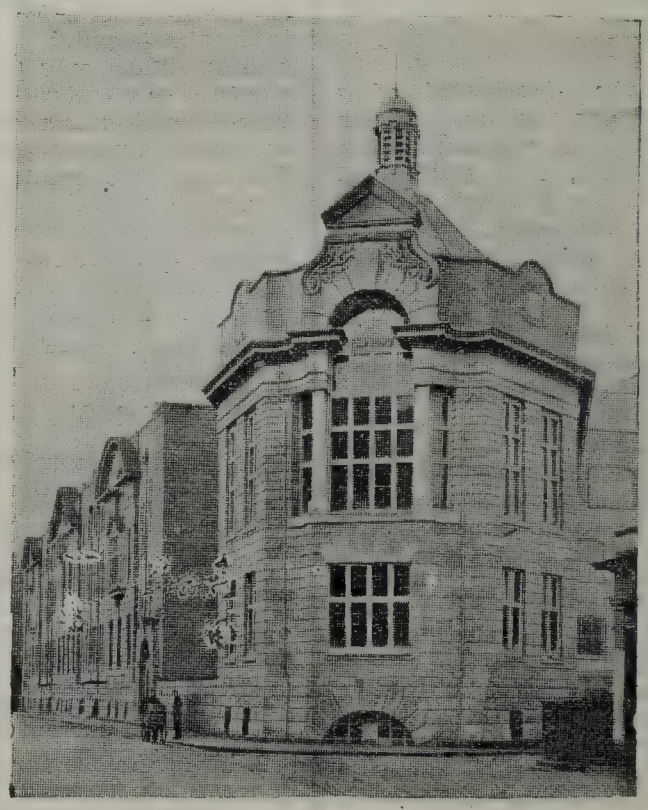
First year	186
Second year	209
Third year	54
Fourth year	13
Fifth and later	26

The thin years represent the reduced entries during the war.

Of these students, 30 are from British Colonies, 6 from India, and one each from Greece, Rumania, China. Persia, Sumatra, Egypt, Argentina, and the United States.

The laboratories and museums of nearly all the natural science departments of the University are conveniently near together and centrally situated. They occupy sites on both sides of Pembroke Street and its continuation as Downing Street. The site on the north side of these streets was formerly the Botanic Garden presented to the University by Richard Walker, D.D., in 1760, and some centuries earlier had been occupied by the Augustinian Friary. The site on the south side of the same streets was purchased by the University from Downing College.

The new building in which the departments of medicine and surgery are housed occupies nearly half the frontage of the Botanic Garden site, the remainder of the frontage being occupied by the chemical laboratory. Behind these are the buildings of the departments of zoology, human anatomy, biochemistry, engineering (mechanical and electrical), mineralogy, and physics. Behind these again are the Arts School and the examination rooms.



MEDICAL SCHOOL: HUMPHRY MUSEUM AND SOUTH FRONT.

The street front of the Downing College site is occupied by the Museum of Archaeology and Ethnology, the Law School, and the Geological Museum. Behind these are the laboratories of the botanical, agricultural, physiological, psychological, and forestry departments.

Such a group of buildings has provided a great opportunity for the architects of the last sixty years, but it cannot be said that they have made the best use of it. Some of the buildings are plain, some handsome, but they do not show that relation between form and function which characterized mediaeval buildings. They present a mixture of the pretentious ornament of city offices, the plainness of a factory or warehouse, and the picturesqueness of a seventeenth century château, but not much suggestion of their functions as laboratories and museums. Above all, they have no local character—no relationship, either in detail or in material, with the Cambridge buildings of the olden time, so natural and so pleasing. Perhaps the most appropriate of the new buildings is the Botanical Laboratory, whose architectural features are a fair expression of its function, meaningless ornament being almost—would that it were quite—dispensed with.

The Cavendish Physical Laboratory, presented in 1874 by the Duke of Devonshire, Chancellor of the University, has a moderately successful exterior in which Tudor details are used. Its interior has the advantage of unplastered brick walls, which are more pleasing in appearance than plaster, and are at the same time better adapted for wear and tear. The internal arrangements of these science buildings are generally more commendable than the external, the Chemical Laboratory being notable in this respect, but some of the earlier buildings have been so often altered since they were first built that their internal topography is almost labyrinthine.

It should be understood that the object of the Cambridge science schools is research and instruction—not display. The museums are not public exhibitions; the valuable collections are distributed in a number of buildings of moderate size, and great quantities of specimens are stored in cupboards and drawers. Among the best displayed collections are those of Zoology, Pathological Anatomy, and Geology. When the new Medical Buildings were erected, nearly twenty years ago, a special wing called "the Humphry Museum" was built to receive the Pathological Anatomy collection; this building stands partly on the site of the former Rotunda, than which it is more commodious, if hardly less ugly. The most finely displayed of all the collections is the Geological, occupying a sumptuous building which masquerades externally as a seventeenth-century German "Schloss." In the medical and surgical building are laboratories for Pathology, Pharmacology, Public Health, and Medical Biology, in addition to the rooms used by the Professors of Medicine and Surgery.

The most recent and one of the best equipped laboratories is the Physiological, for which the University is indebted to the munificence of the Worshipful Company of Drapers. Forming an annexe to this is the Psychological laboratory, presented by the family of Dr. C. S. Myers.

Addenbrooke's Hospital is very pleasantly situated in Trumpington Street, a residential neighbourhood. Since its first building in 1766, it has been frequently enlarged. As remodelled by Sir M. Digby Wyatt in 1864–5, it was a building of very appropriate design, and with its spacious lawn and fine trees it gave the impression of a very comfortable home for the sick and suffering. But recent additions to the building, especially a shapeless out-patient department in the foreground, have stultified Wyatt's design and made an *ensemble* of quite ingenious ugliness.

The hospital has 192 beds for ordinary cases, also isolation wards. The out-patient building contains ophthalmic and other special departments, and an instalment of *x*-ray and other electric apparatus. The pathological wing contains, beside the morbid anatomy department, a fully equipped clinical laboratory.

Attendance at this hospital is recognized by all licensing bodies, and it is an excellent place for the initiation of students in clinical work.

About two miles south of Cambridge, on the Hills Road, is a small research hospital for the systematic study of disease. It is situated on high ground, with a good garden and a pleasing view of the Gog-Magog Hills, and patients whose maladies require special clinical investigation find the hospital a very comfortable place for a sojourn. It has a well-equipped clinical laboratory, including a complete *x*-ray installation. Visitors to Cambridge who go to the golf links must pass this hospital, and they would do well to halt for a few minutes to inspect it.

The Botanic Garden, on the Trumpington Road, south of the town, replaces the Walker Botanic Garden. It was laid out in 1846 and following years, Walker's site being at the same time appropriated for the building of science museums and laboratories. The present garden covers

* Previous articles in this series of descriptive and historical notes on the University and town of Cambridge have appeared in the issues of January 3rd, January 24th, March 13th, April 10th, and May 8th, 1920.

20 acres, and a further area of 17 acres is available for future enlargement. The grounds are laid out in various ways, with aquatic and marsh plants, rock plants, xerophytes, systematic groups, etc. In addition there are extensive modern hot and cool houses, a laboratory, a library, and a reading room. Some of the landscape



SAXON TOWER, ST. BENET'S CHURCH.

effects are good, and the garden forms a pleasant place for intellectual recreation.

SOME EMINENT CAMBRIDGE SCIENTISTS.

It has been said that Oxford has produced England's great movements, and Cambridge her great men. The truth of the latter proposition is evident when we consider that Cambridge has produced Milton, Wordsworth, Byron, and Tennyson, also Harvey, Newton, Thomas Young, and Darwin. These are only the most outstanding instances; other eminent Cambridge men are numerous enough; our readers will think of many of them, especially of the great physicists, Cavendish, Stokes, Kelvin, Clerk Maxwell, and Rayleigh. Francis Bacon must be referred to as holding a peculiar position. Primarily a literary man, he acquired a reputation as a natural philosopher by studying and expounding the writings of his namesake Roger Bacon, who was an Oxonian.

The scientists who took part in the development of the school of science and medicine in Cambridge have been already mentioned in these articles—such as Nigel de Thornton, Caius, Glisson, Ray, Newton, Hales, Addenbrooke, Heberden, Harwood, Clark, George Paget, and Humphry. Besides these there were several who were educated at Cambridge, but pursued their life-work elsewhere; the chief of these were as follows, but it is to be noted that some of them belonged to Oxford as well as Cambridge.[1]

[1] For the particulars which we quote we are largely indebted to the *Dictionary of National Biography*, to which the reader is recommended for further information.

William Gilbert, 1540–1603. Born at Colchester. Fellow of St. John's College 1561, M.D. 1569, F.R.C.P. 1573. A pioneer in the study of magnetism; the first to describe the earth as a magnet, in a work entitled *De Magnete, Magneticisque Corporibus, et de Magno Magnete Tellure, Physiologia Nova.*

William Harvey, 1578–1657. Born at Folkestone. Entered Gonville and Caius College 1593. Proceeded to Padua in 1598, where he graduated M.D. in 1602. Returning to England, he was admitted M.D. by incorporation at Cambridge, and settled in London, where his great researches in anatomy and physiology were carried out. He always retained an affection for Gonville and Caius College, and bequeathed to it the house of his birth at Folkestone.

Thomas Wharton, 1614–73. Entered Pembroke College in 1638; afterwards moved to Oxford. M.D.Oxon. 1647, M.D. Cambridge 1652 by incorporation, F.R.C.P. 1650. Best known for his original work on glands, entitled *Adenographia, sive Glandularum totius Corporis Descriptio*, in which he described for the first time the duct of the submaxillary gland, since named after him. "He did not trust much to theory but a great deal to dissection and experiment."[2]

George Joyliffe, 1621–58. Born at East Stower, Dorset. Entered Wadham College, Oxford, in 1637. Came to Clare College, Cambridge, as fellow commoner in 1650. M.D. Cambridge 1652. Discovered the lymphatic system and described the discovery to Glisson in 1652, but did not publish it. A year or two later he was forestalled in publication by Rudbeck and Bartholinus, who had made the discovery independently.

Clopton Havers. Born between 1650 and 1660 died 1702. Entered St. Catharine's College, but took no degree. M.D. Utrecht 1685. F.R.S. 1686. Famous for his work on the bones, entitled *Osteologia Nova*, in which he gave the first description of the vascular canals, which are now known by his name.

John Woodward, 1665–1728. Entered Pembroke College 1695. Admitted M.D. same year. F.R.C.P. 1702–3. One of the founders of the science of geology. Bequeathed his



SAXON ARCH, ST. BENET'S CHURCH.

collection of specimens to the University, and founded the Professorship of Geology. Was also a botanist, and carried out experimental researches on plant physiology.

James Jurin, 1684–1750. Born in London. Entered Trinity College 1702, became Fellow 1706, M.D. 1716, F.R.C.P. 1719, Pres. R.C.P. 1750, F.R.S. 1717–18, Sec. R.S.

[2] *Dictionary of National Biography.*

1721. Pupil of Newton and advocate of his theories. Published researches on the ascent and suspension of water in capillary tubes, the motion of running water, the force of bodies in motion, the specific gravity of human blood, and the power of the heart.

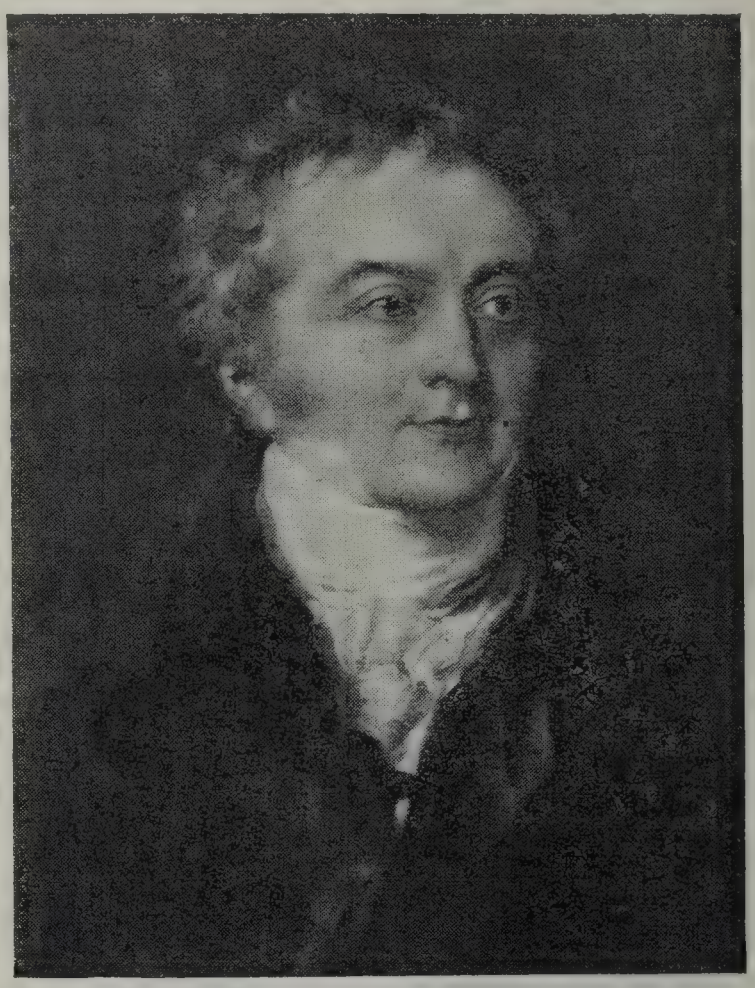
William Hyde Wollaston, 1766–1828. Born at East Dereham, Norfolk. Entered Caius College 1782, M.D. 1793, F.R.C.P. 1795. Relinquished medical practice in favour of experimental science. "Published 56 papers on pathology, physiology, chemistry, optics, mineralogy, crystallography, astronomy, electricity, mechanics, and botany; and almost every paper marks a distinct advance in the particular science concerned."[1]

Thomas Young, 1773–1829. Born at Milverton, Somerset. Studied medicine first in London, then at Göttingen. M.D. Göttingen 1796. Entered Emmanuel College, Cambridge, as fellow commoner, 1797 M.D. Cambridge 1808, F.R.C.P. 1809. Found Cambridge life congenial and formed many friendships here, as among scientific and artistic men elsewhere.

Thomas Young was not only a scientist of the first rank, but also an exceptionally accomplished linguist, a skilled musician, and a connoisseur of other fine arts. He was proficient in the following languages: Latin, Greek, Hebrew, Chaldee, Arabic, Syriac, Persian, French, Italian, Spanish, German, and turned his philological skill to account by finding the key to the interpretation of Egyptian hieroglyphics. He was the first to demonstrate that accommodation of the eye is effected by a change of convexity of the crystalline lens. He demonstrated the phenomena of interference of vibrations in sound and light, and thereby established the wave theory of light. He propounded the three-primary-sensations theory of colour vision. He investigated the hydraulics of the circulation, and the theory of tides. He was the first to use the terms "energy" and "labour expended" in their present-day sense, and introduced the term "modulus of elasticity." As a physician he appears to have been in advance of his time, but he did not really like medical practice, and relinquished it as soon as he was in a position to do so. Unlike too many men of very active intellect, he was of good physique, and fond of bodily exercise, including dancing and singing. He was also of genial disposition and fond of society. Sir Humphry Davy described him as

> "a most amiable and good-tempered man . . . of universal erudition and almost universal accomplishments . . . he knew so much that it was difficult to say what he did not know."

Surely his was the most expansive intellect of which we have record. The nearest approach was that of Leonardo da Vinci, which however did not cover so wide a range. It is noteworthy that Young's county, Somerset, also produced two other men who had immense influence on science and philosophy, namely, Roger Bacon and John Locke; while Christopher Wren, another man of wonderfully expansive intellect, was born in Wiltshire, at East Knoyle, near the Somerset boundary. The other great intellect comparable with Wren and Young, less expansive but more profound, namely Isaac Newton, was produced far away in Lincolnshire.



THOMAS YOUNG, M.D., F.R.S.
(After the portrait by Sir Thomas Lawrence.)

[1] *Dictionary of National Biography.*

PSYCHOLOGY AND MENTAL PATHOLOGY.

M. PIERRE JANET, Professor of Psychology at the Collège de France, gave a course of three lectures for the University of London last month. They were delivered at the Royal Society of Medicine, when Dr. HENRY HEAD, F.R.S., was in the chair.

Professor JANET stated that two methods of psychological investigation are available in the study of mental pathology—we may study the mental states of our patients by endeavouring to obtain introspective information from them and by inference from our own subjective states, or we may concentrate our attention on the objective disorders of conduct. When we adopt the former method the study of the psychopathic individual presents in some degree the same difficulties that we encounter when we seek to understand the psychology of animals by inference from our own self-consciousness. Animal psychology has only made progress since psychologists have abandoned any attempt to inquire into the subjective states of the animal, and have concentrated their attention on behaviour. Medical psychology should likewise devote itself exclusively to the study of conduct. It can as yet hope for little aid from physiological psychology. The bodily reactions accompanying emotional states have been to some extent described, but they cannot as yet be interpreted in terms of conscious sensation.

The key to the scientific study of conduct is found in the fact that all psychical processes are movements. Movement may be exteriorized by action and speech, but thought is also movement or internal speech. The descriptive psychology of medicine is therefore not qualitative but quantitative. It endeavours to estimate the dynamic value of the response of the organism to psychical stimuli and the adequacy of the response or its adaptation to its environment. The evaluation of a psychical response in term of energy may be justified by the foregoing conception of thought as movement. The same idea is implicit in the language of daily life when a character is described as weak or strong. It is possible in dynamic phraseology to characterize a psychical response by its intensity, its duration, and its latency. The principle of the economy of psychical energy is the fundamental law governing all mental activity. Speech is an economy of energy replacing gesture. Thought is internal speech replacing actual experimental action, and as speech involves an expenditure of energy. The modes of psychical activity may be arranged in an ascending scale—at the bottom stands the purely animal reflex, at the apex the altruism of the moral man and the creative power of the artist.

Belief can be regarded as a potential promise of movement; thus when we express our belief in certain conditions we assert that the conditions are such that if we act at all it will be in a certain manner. Our test of the truth of a belief is the coincidence of the movement predicted by our belief with that called forth by the actual conditions. We thus arrive at reality by a process of trial and error.

Reasoning in terms of energy is a process of autodiscussion manifested by the movements which constitute our internal language or thought. Memory again is a process of narration or the movements of internal speech. Consciousness is social in origin and appears when the social relations of the self to the external world exercise an influence on movements which were originally called forth as responses to stimuli affecting the self alone. A reserve

store of potential energy is attached to the higher directive planes of psychical activity and is mobilized as an inhibitory force when the response of the lower centres would be inimical to higher ethical or rational considerations.

If mind be regarded thus from a dynamic standpoint, the neuroses manifest themselves as disturbances of the law of economy of psychical energy. Such disturbances may take the form of the excessive mobilization of the lower planes of psychical energy to meet a strain the nature of which is not appreciated by the higher intellectual faculties, and this state of things constitutes the anxiety neurosis. The higher faculties may fail to inhibit the irrational output of the lower, as in mania; they may fail to arouse an adequate response, as in dementia praecox; or they may themselves become atrophied, leaving the psychical dynamic system free to act at a lower plane, as in the various forms of dementia. Minor disturbances of the economy of dynamic force are of daily occurrence in the mental life of the normal individual. When the highest faculties alone are affected the situation is one for ethical and possibly juridical treatment; when the change is pronounced and affects the lower faculties in the intellectual hierarchy the cases come before the alienist. In each case the problem is the same—as far as possible to restore the balance of the economy of psychical energy.

VITAL STATISTICS OF ENGLAND AND WALES.

THE annual report of the Registrar-General for England and Wales, for the year 1918, has been issued, with the usual detailed review of the vital statistics for the year by Dr. T. H. C. Stevenson, Superintendent of Statistics. The salient features of the year were that the marriage rate had recovered from the depression of the previous year, and was about the same as the rate before the war. The birth rate (17.7) was the lowest on record, being 0.1 below that for 1917, and 6.1 below that for 1914. The death rate was 17.6, being 3.2 above the rate in the preceding year. Infant mortality was 97 per 1,000 births, which was 1 per 1,000 above the rate in the preceding year, but 10 per 1,000 below the average of the ten years 1908–1917.

POPULATION.

The total civilian population was estimated by addition to the census population of 1911 of births, migrations, and discharges from the services, and by deduction from that population of deaths, emigrations, and men known to have joined the services. In this way totals of 13,777,100 civilian males and 19,697,600 females were reached. The several age groups, as in the two previous years, were estimated, as far as possible, by calculating civilian survivors in each group from the estimated number of those aged 1 year younger in 1917; in the absence of a record of numbers enlisted from each age group, it was necessary in this mode of estimation to treat males of 15 to 45 as a single group. The civilian populations of separate localities were derived from two independent sources—the National Register count of the second quarter of 1918 and the reports made under the food rationing scheme. Neither of these enumerations is wholly satisfactory from a statistical point of view, but reliance was chiefly placed for 1918 on the food reports, which are believed to have improved with successive issues of coupons.

TUBERCULOSIS.

The deaths assigned to tuberculous infections of all kinds in 1918 numbered 58,073 (31,027 males and 27,046 females), or 2,139 more than in the previous year. Of the deaths 1,369 occurred among non-civilians. The mortality in the civilian population was equal to 1,694 per million, which was in excess of the mortality recorded for any year since 1904. Dr. Stevenson, however, thinks that the position is less unfavourable than these figures would suggest, the increase in mortality being probably attributable to the epidemic of influenza. In the first two quarters of 1918 the tubercle rate was 8 and 9 per cent. respectively below that for the corresponding quarters in 1917; the third quarter of 1918, in which the first influenza epidemic occurred, brought an increase of 8 per cent., and the fourth, in which the main outbreak took place, of no less than 31 per cent. The conclusion is held to be confirmed by the fact that in 1918 the seasonal occurrence differed from that of the seven preceding years, inasmuch as there were few deaths in the first and second quarters, and many in the third and fourth. Dr. Stevenson considers that the progress of tubercle mortality during 1918 can only be judged from its behaviour in the first six months, and that owing to the absence of males in the fighting services the conclusions must be based on the female sex alone. Judged in this way he thinks that the record of 1918 shows a considerable improvement upon 1917, but compares disadvantageously with that of each of the six preceding years. He also states that the increase in 1918 was limited to phthisis, other forms of tubercle showing a slight reduction, even during the quarter of the great epidemic wave of influenza. Dr. Stevenson considers that the explanation of the facts he has accumulated is that the increase of tubercle mortality was due to deaths from influenza amongst the population suffering from pulmonary tuberculosis, but that influenza did not bring about any corresponding increase of mortality in the population suffering from non-pulmonary tuberculosis. The serious increase in tuberculosis was limited to later childhood and early adult life. There was a decline in the mortality in the first two years of life, but after that the rate was higher at every age up to 45–55. The decline in tubercle in the first two years is to be noted both in respect of tuberculous meningitis and tubercle of the peritoneum and intestines.

Attention is again drawn to the high mortality from tubercle in lunatic asylums; in 1918 the deaths numbered 5,605, as against 4,189 in 1917, and an average of just over 1,800 in the three years 1912–14. The increase occurred in spite of a decrease in the number of inmates of lunatic asylums. As the total increase in tubercle deaths over 1912–14, when mortality from this cause reached its lowest point, was in 1918 about 8,000, it follows, Dr. Stevenson observes, that nearly half of the total increase has occurred among this small section of the population, consisting of just under 100,000 persons. He does not think that the explanations offered by the Board of Control—inferior quantity and quality of food, and overcrowding—suffice to explain the great increase in deaths from tuberculosis in asylums. On the other hand, the fact that the increase was considerably greater among male inmates than female, is held to support the view that deficiencies in the staff may have had something to do with the increased prevalence of the disease.

CLINICAL UNITS IN MEDICAL SCHOOLS.

THE University Grants Committee has issued the following memorandum, dated April, 1920:

1. The case for the establishment of Clinical Units in Medical Schools of University standard has its origin some distance back in the past. The origin is twofold—namely, the advance of medicine itself and the evolution of the form of medical education. Medicine itself was of course revolutionized in Western Europe first by the renaissance and the revival of learning, and then in our own times by the advance of biology in the middle of last century, and the discovery of the etiology of infective disease in the last half of the century. These things gave a new content to medicine and formed the basis of profound changes in the science and art of medicine. Then in the second place there has been an evolution in the education of the medical man. A century ago he became a practitioner by apprenticeship; this was followed in due course by what may be called the hospital system—in other words, an application of the apprenticeship system on a large scale in the wards of a hospital; and lastly, there came the more systematic education of the medical student in the preliminary sciences and the intermediate subjects before he was trained on the clinical side. It is important to recognize that the Clinical Unit, in principle and philosophy, is not a sudden offshoot or "outcrop," but a further stage in a long process of evolution.

2. The relationship of the State to this evolution began with various Medical Acts for Registration, Qualification, etc., the formation of the General Medical Council, and more recently the subsidizing of medical education by the

Government. In 1912 Mr. Abraham Flexner's Report on "Medical Education in Europe" was published, and *inter alia* it advocated a development of medical teaching by the formation of Clinical Units. In 1913 the Report of the Royal Commission on University Education in London summarized the whole question as it affected London and crystallized further the case for the formation of Clinical Units there. Finally, in 1918, the President of the Board of Education called for a report from Sir George Newman, in his capacity as Medical Assessor to the Board, on the general working of the grant aid which had been given by the Board in aid of medical schools in England and Wales during the previous ten years.[1] In this last mentioned document the case for the establishment of clinical units is discussed at length.

3. Confining attention for a moment to the virtues and defects of the British system of Clinical teaching we may say briefly that it is a system of applied apprenticeship by means of clerking and dressing, which has at least four great advantages:

(i) The student himself became an observer and a practitioner.
(ii) A close personal relationship was established between the student and patient.
(iii) The art of medicine was taught by practice.
(iv) The student was, in fact, holding a responsible office and cultivating his sense of responsibility.

These four points have proved invaluable and have resulted in producing a good standard of practitioner, perhaps indeed the best in the world. But there are disadvantages, and three may be named:

(i) The student's work tends to become empirical and not sufficiently inspired by the science of medicine.
(ii) The student is in the main brought into association with the end-results of disease, and is insufficiently equipped to deal with disease at its beginnings.
(iii) The instruction in his clinical work tends to become discontinuous and unsystematic; his studies in biology and chemistry, in anatomy, physiology, and pathology, are systematized and organized on a scientific basis; his clinical instruction is, on the contrary, in a large degree unorganized.

4. It will be admitted that while these virtues are great the defects are serious, and their seriousness becomes the more grave in view of the large and increasing responsibilities placed upon the practitioner by the advance of medicine, by the social requirements of the time, and by the new duties imposed upon him by the State. There arises, therefore, a demand for substantial reform—though not revolution—in the system of clinical teaching at the Universities. The situation, though existent in all medical schools, is particularly acute in the metropolis. If in London there were a unified University—as, for example, in Edinburgh—the position would be the same as in other University centres which have had for many years the germ, and indeed almost the essentials, of Clinical Units.

5. The conclusion seems, then, to be this:

(i) That a University Medical Education requires that the latest advances in sciences which affect medicine, chemistry and physics, anatomy and physiology, pathology and pharmacology, should be continually brought into the teaching of the clinical subjects and applied to the observation and treatment of disease.
(ii) That in order that education may be of this scientific standard, and that students may come into direct contact with knowledge at its growing point, there is needed a system of instruction by teachers who are actively engaged in scientific research.
(iii) That such teachers must be provided with proper equipment, adequate staff, and sufficient time if their work is to be comparable with the best scientific and practical teaching of, say, the Professor of Physiology.

The system of Clinical Units is designed to secure these ends.

6. The essentials of this clinical system consists of three parts or units which should be interrelated and separable, dealing with medicine, surgery, and obstetrics (including gynaecology) respectively. In each of these subjects a Clinical Unit should include—

A Professor or Director who would devote the greater part of his time to teaching, treatment, and research, competent above everything else to teach, of sound scientific training, and possessing scientific imagination, who shall have—

(*a*) An adequate whole-time and part-time staff.
(*b*) The control of wards (50–100 beds).
(*c*) A proper and effective out-patient department.
(*d*) Ample laboratory accommodation for research and pathological work.
(*e*) Adequate scientific equipment for effective clinical teaching.
(*f*) A *post-mortem* service.

Such units should work along with and supplement the ordinary ward services in which practical teaching will still be carried on as before. But while the ordinary services are organized only for the immediate needs of the patient and the practical training of students, the Clinical Unit will, in addition, be especially equipped for scientific instruction and scientific research.

The purpose of the Clinical Unit system is therefore (*a*) to provide improved practical and systematic teaching for *all* the students in a Medical School in their clinical years of study (it is important that the advantages should not be restricted to selected students), and (*b*) to co-ordinate the Preliminary Science subjects with the Intermediate subjects, and both with the clinical work. In order to secure these desirable ends it is necessary that the terms of appointment and employment of Professors and their assistants should be appropriate. As the Final Report of the Royal Commission on University Education in London, 1913, stated:

"Experience has shown that the University cannot be certain of securing suitable conditions for the teachers when they are paid for by bodies over which it has no financial control. The first necessity is therefore that the University should provide its own teaching, by which we mean that it should appoint, pay, pension, and dismiss its teachers, and not leave these primary duties in the hands of independent corporations. With this control in its hands the University may be trusted—
"(i) to choose its staff for individual excellence from the widest possible field;
"(ii) to give them such remuneration, including superannuation, and such conditions of tenure as will free them from the pressure of material anxiety;
"(iii) to arrange that their teaching duties leave ample time for their own individual work;
"(iv) to arrange that the libraries, laboratories, and other means of assistance provided for them are such as to permit of advanced work and research; and
"(v) to give them a voice in the selection of their colleagues."

Whether the Head of the Unit be occupied in his professional duties whole-time or the major part of his time, whether he be allowed private practice or not, by what methods he integrates the intermediate subjects with clinical teaching—these and many other points are relatively matters of detail if he be paid an adequate salary and be put into a position in regard both to staff and equipment to carry out his functions effectually.

A complete and well organized Medical School should thoroughly co-ordinate the work of the Units themselves and associate them closely with that of the various and necessary special departments.

7. Further essentials for the successful development of the system described appear to be—

(1) That the training which the students receive in the preliminary scientific and intermediate subjects is satisfactory;
(2) That the hospital and school are effectually associated and suitably equipped; and that there is appropriate accommodation for the unit teaching, namely, wards, out-patient department and laboratories conveniently arranged in relation to each other;
(3) That appropriate and competent persons are available for the various posts in the unit.

[1] *Some Notes on Medical Education in England.* London: H.M. Stationery Office. 9d. net. [Cd. 9124.]

PRINCIPAL S. H. GAIGER of the Glasgow Veterinary College, in the course of the investigation of a very fatal form of dysentery in lambs, isolated an organism under conditions which make it probable that it is the cause of the disease. It is of the type of *B. coli*, and belongs to the group of which Friedländer's bacillus is the type. When inoculated subcutaneously it produces fatal enteritis in young rabbits. The disease attacks only lambs up to about 3 weeks' old, and an antiserum is being prepared which it is recommended should be used as soon after birth as possible.

British Medical Journal.

SATURDAY, JUNE 5TH, 1920.

HELMINTHS IN CANCER.

In the recent communication by Fibiger of Copenhagen on the production of cancer of the stomach in rats fed on the larvae of the nematode *Spiroptera neoplastica*, on which we commented in our issue of May 15th, it was mentioned that the experimenter had in a few cases produced cancer of the rat's tongue. Further particulars regarding this are now available.[1] The study was conducted on 217 rats, including not only those of his laboratory strain but other strains of piebald rats and cross-breeds between piebald and the wild rat. The nematode had been transmitted to them on one or several occasions by feeding them on infected cockroaches or by causing them to ingest the larvae of the spiroptera. Of 132 rats which survived for 89 days or more, counting from the first or only ingestion, 64 were found to have glossitis and 2 definite carcinoma of the tongue. Of 85 rats which died after a period of from 90 to 180 days at least after ingestion, only 4 had glossitis, whilst in 3 cases cancer of the tongue was discovered.

The lower frequency of glossitis in rats of longer survival is considered to be due to the fact that the spiroptera in these rats disappeared from the tongue, and the glossitis had ceased before the fatal issue brought about by the lesions in the stomach or from some other affection. In a certain number of cases it was possible to study the beginning, progress, and disappearance of this glossitis. As a general rule it started a few days after the ingestion of the spiroptera, and in the great majority of cases it was spontaneously cured in two and a half to six months; cases of longer duration were rare. The glossitis attacked all parts of the tongue; but usually it was most marked at the base, where the thickened, swollen, and desquamating epithelium contained spiroptera. Microscopically, evidence of considerable inflammation was seen, with intense thickening and proliferation of the epithelium, which penetrated into the underlying tissue. The condition resembled that regularly found in lesions produced by spiroptera in the stomach. That these changes may progress so far as to constitute indubitable cancer of the tongue is shown by the figures quoted—five rats which had survived for 52 to 201 days after the first (in two cases the only) ingestion of the spiroptera. Fibiger says that the carcinoma of the tongue of his rats was absolutely similar, macroscopically and microscopically, to that found in the tongue of man, and especially the epithelioma of the papillary type. The microscope showed a destructive carcinoma of deep growth, invading the muscles of the tongue. In two cases there was permeation of the perineural lymphatics of the organ. In the first three rats that died the tongue showed, in addition to the carcinoma, glossitis and nematodes; in the other two carcinoma alone was found. In all these the gastric cul-de-sac was the seat of an intense spiropteral inflammation accompanied in four by carcinoma.

Thus the *Spiroptera neoplastica* (also called *Gongylonema neoplasticum*) may induce in rats a rapidly developing glossitis which, in the great majority of cases, diminishes as the nematodes disappear from the tongue, but in some cases it may be accompanied by carcinoma, which will persist after the disappearance of the nematodes and of the glossitis. The development of spiropteral carcinoma in the tongue of the rat thus offers a complete analogy with human lingual carcinoma, which also may accompany or follow desquamative glossitis (leucoplakia). Fibiger refers to the development of epithelioma of the lip in two cases of chronic trichinosis in man, and of epithelioma of the tongue in two other cases; in all of these the trichina was demonstrated in the immediate neighbourhood of the tumour.

It must not be assumed that spontaneous tumours of rats and mice are commonly caused by the ingestion of food containing the *Spiroptera neoplastica*, still less that cancers of higher animals and man are produced by a similar, or indeed by any, parasite. The observations are of laboratory interest in the study of the origin of malignant growths, and are instances of ono particular form of irritation presiding at the inception of a neoplastic process. How this irritation brings about malignant development of the cells, what property it supplies to or excites in the cells, or what restraining influence it removes to allow of unceasing and destructive proliferation, can only be matters of speculation in view of our present knowledge.

Fourteen years ago Borrel published some observations on the relation between cysticercus and sarcoma development in the rat. Since then numerous communications have appeared showing that it is no uncommon thing to find primary sarcoma of the liver or other organs of the rat invaded by the cysticercus. These sarcomata are of different types; in many cases they formed metastases; and, indeed, transplantation experiments with the tumour tissue have succeeded. Eiken[2] states that in the *post-mortem* examinations of upwards of 2,500 rats in the Pathological Institute of Copenhagen University only a single animal showed cysticercus sarcoma. This was one of Fibiger's rats which had been fed on cockroaches infected with the *Spiroptera neoplastica*. Between the coils of intestine there was found a yellowish-white ovoid tumour (4 by 3 by 3 cm.), in the centre of which lay a *Cysticercus fasciolaris*, of typical appearance, measuring 5 cm. in length. Other cysticerci were noted about the liver unaccompanied by tumour formation. Microscopically the tumour was a round-cell sarcoma, with many polynucleated cells. No metastases were found. The wall of the cul-de-sac of the stomach was markedly thickened, and contained numerous spiropterae. Microscopic examination revealed a small typical epithelioma penetrating the submucous tissue.

It was calculated that the latter tumour was about three weeks old, and probably was considerably younger than the more advanced sarcoma. As the cysticercus present in the latter was in perfect preservation, it was concluded that the development of the sarcoma did not depend on the death and absorption of the parasite. What is of especial interest is the production by two different worms, parasitic in the same animal, of two different malignant tumours, and the fact that neither the parasitism of the cysticercus nor the consequent development of a sarcoma necessarily prevented development of a carcinoma subsequently produced by the spiroptera. Borrel considered that the power which such parasites had of bringing about tumour formation consisted in some unknown virus which they transmitted; Fibiger and others believed that the production of such tumours was due to toxic substances formed by the parasite.

[1] *Comptes rendus de la Société de Biologie*, vol. lxxxiii, No. 16.

[2] *Comptes rendus de la Société de Biologie*, vol. lxxxiii, No. 16.

With the latter view Eiken agrees. He regards the observation as showing that in the same animal two different neoplasms may be produced by the toxic secretions of two worms of different species, and that the secretions of one worm do not necessarily exclude the production of tumours by the toxic substances of another worm.

The following facts may serve to prevent hasty conclusions regarding the part played by the cysticercus. Of the reported cases of malignant disease of rats, sarcomata by far outnumber carcinomata; more than half the sarcomata occur in the liver, and of these hepatic sarcomata at least 90 per cent. contain the cysticercus. The cysticercus is a common parasite of the liver of rats. On the other hand, it is as frequently found in the livers of mice, and yet, out of the hundreds of thousands of malignant tumours of mice that have been met with, there is not a single case of hepatic sarcoma on record.

SMALL-POX: ITS TYPES AND PREVENTION.

COLONEL W. G. KING, C.I.E., I.M.S., has published, in the *Transactions* of the Society of Tropical Medicine and Hygiene,[1] an interesting epidemiological study of small-pox. He set himself the task of elucidating the types and strains of small-pox throughout the world, and to that end prepared a map upon which he entered the fatality rates of the disease as indicated by the most reliable statistics he could gather.

Colonel King classifies small-pox as follows: (1) The most virulent form occurs east of long. 40° E. and between lat. 40° N. and 6° S. The fatality ranges in the vaccinated from 30 to 60 per cent., and in the unvaccinated from 60 to 80 per cent. This may be termed "the Eastern Type." (2) West of long. 40° E. virulence is diminished and a strain is found capable on rare occasions of reverting to the primitive form. The general fatality in pre-vaccination days was from 18 to 25 per cent.; since that time, rarely more than 7 per cent. in vaccinated, but from 19.3 per cent. to 47 per cent. in unvaccinated persons. (3) In certain west European countries, mostly those which enforce vaccination, the fatality is sufficiently reduced to justify a subclassification and to permit one to speak of the "western substrain" of low fatality. (4) In South Africa there exists a second type of small-pox distinguishable both from the eastern type and its western strain, or substrain, by the mildness of the constitutional symptoms notwithstanding a considerable skin disturbance. The general fatality is not more than 4.3 per cent. From this source may have been evolved the strain of low virulence which has exhibited itself in races of European origin in America, Canada, and Australia.

Colonel King suggests that "if human beings in a state of low vitality—resulting, say, from ill feeding—be placed in overcrowded and filthy dwellings, and amongst them a strain of small-pox be introduced, in the course of transmission there will result an alteration of its characteristics in the direction of virulence if the strain at the time of introduction be mild, or it will simply retain its mild or virulent properties as introduced if the conditions to which it is submitted be those under which it has hitherto maintained its vitality." Attention is also directed to the fact that territories within the sphere of influence of a virulent type, but where use is made of vaccination, seem to suffer a lower fatality rate. Instances are Baghdad, contrasted with other districts inhabited by Turks and Arabs, and Algiers compared with Tunisia.

[1] Vol. xiiiNo. 6. pp. 95–116.

The paper deserves careful study. It is no doubt true that such a statistical comparison as Colonel King has made is open to criticism, inasmuch as the fatality rates, particularly those derived from hospital statistics, must be affected by factors other than the type of disease prevalent. In semi-civilized countries with few hospitals it is hardly possible to accept the hospital fatality rates as proper measures of the general severity of the disease. It is also perhaps questionable whether the author has carried his comparisons sufficiently far back to justify the inferences that either in the east or west the types have not varied. Thus Rhazes asserted that small-pox was less dangerous than the disease "Hasbah," which came to be translated "morbilli" and then "measles," perhaps being, as Haeser thought, scarlet fever—an opinion partly endorsed by Richter. Creighton's evidence of a change of type in small-pox before the days of either inoculation or vaccination is also too strong to be ignored.

But the practical lesson Colonel King seeks to instil is not weakened, is indeed strengthened by these criticisms. This generation has witnessed a remarkable change of type in two directions. Scarlet fever has declined in severity and fallen to a lowly place amongst the destructive diseases. Influenza has risen to the front rank of enemies of mankind, not merely as a vexatious but as a deadly foe. It is surely to risk the disillusionment which awaited the physicians of a hundred years ago when they proclaimed scarlet fever a conquered enemy if we now make similar assertions with regard to small-pox. In our opinion, Dr. McVail and Colonel King are fully justified in asserting that the rigorous enforcement of vaccination and revaccination of the whole of the population is the plain duty of a civilized state.

Several correspondents have asked for information about "alastrim," which was mentioned in the review, published on May 1st, of Dr. McVail's *Half a Century of Small-pox and Vaccination*. The term "alastrim" has been used to designate certain epidemics of an infectious eruptive disease which has been variously held to be different from, or to be a mild form of, small-pox. The word appears to have been used locally to designate a disease which was, and is, prevalent in Brazil; possibly it is derived from the Portuguese *alastrar*, which, according to Vieyra's dictionary, means "to strew" or "to cover all over." According to Dr. C. J. Martin,[2] Dr. Ribas, chief sanitary medical officer of the State of São Paulo, and subsequently, in 1911, Dr. Aragão gave an account of this disease.[3] During a few years 250,000 cases of "alastrim" occurred in five or six of the states of Brazil. Dr. Ribas came to the conclusion that the Brazilian disease was not small-pox, but identical with the South African milk-pox, or amaas, for the following reasons: "(1) Its low mortality (0.5 per cent.), whereas the usual mortality from small-pox under similar conditions is 30 to 60 per cent.; (2) the absence of secondary fever; (3) absence of a characteristic smell of small-pox; (4) non-occurrence of deep scars; and (5) the short duration of the immunity against vaccinia, it being possible to vaccinate the larger proportion of persons who have suffered from the disease within six months of their recovery." At the same meeting of the Epidemiological Section of the Royal Society of Medicine, Dr. W. G. Armstrong, senior medical officer of public health, New South Wales, described an outbreak of over 1,000 cases of small-pox occurring in Sydney in 1913, with one death (that of a parturient patient

[2] *Proceedings of the Royal Society of Medicine*, vol. viii, Part II, p. 33, 1914.
[3] *Memorias do Instituto Oswaldo Cruz.*

who died two and a half hours after delivery); he concluded that the epidemic was identical with the epidemic infectious disease variously known as "alastrim," "Spanish measles," "milk-pox," etc., which had prevailed during recent years in various parts of the Americas. Dr. Armstrong's account of the clinical characters of the epidemic agrees with the description of alastrim in Brazil as regards the low mortality, absence of secondary fever, and non-occurrence of deep scars, but in the Australian outbreak the typical variolous odour was noticed in the severer cases; the epidemic was too small for observation to be made of the duration of the subsequent immunity to vaccinia. The Sydney outbreak showed the same incubation period and symptomatology as small-pox, but, even in the confluent cases, after the disappearance of the eruption the patients had no fever and felt well; similar cases have occurred in subsequent years. Dr. Copeman,[1] in a communication to the Royal Society of Medicine, pointed out that the Sydney outbreak resembled an epidemic which he had investigated at Cambridge some years ago, and which was first regarded as chicken-pox, but proved later to be small-pox of low infectivity and mild character. Nearly all those who took part in the discussion expressed the opinion that the Sydney "alastrim" was a mild form of true small-pox. Dr. Copeman has since investigated an outbreak of mild varioloid disease occurring in East Anglia, and expressed the opinion that it was closely related to "alastrim."

SIR CLIFFORD ALLBUTT.

THE Association of American Physicians has for the first time elected honorary members who live outside the United States, and the first honorary member elected was Sir Clifford Allbutt. Subsequently M. Roux, until recently director of the Pasteur Institute, Paris, Professor Heger of Brussels, and Professor Marchiafava of Rome, were also elected honorary members. Sir William Osler, who was an honorary member, was one of the founders of the association and was elected when still resident at Baltimore. So once more these two names—Osler and Allbutt—are associated in the possession of no ordinary distinction. The compliment thus paid to Sir Clifford Allbutt will give great pleasure to all members of the profession in this country, for by all he is regarded with respect and affection. Time does not change nor custom stale his infinite variety, and we are all looking forward to the presidential address which, on the evening of Tuesday, June 29th, he will give to the Annual Meeting of the British Medical Association in Cambridge.

INTERNATIONAL GOOD-FELLOWSHIP.

THERE are, as we have frequently ventured to say, great possibilities in the Fellowship of Medicine. The idea by which its founders were inspired was the promotion of closer relations between the members of the medical profession of the allied and friendly nations. It proposed to do this primarily by affording better opportunities to members of the profession within and beyond the seven seas to become personally acquainted, and to understand that the British profession was ready and anxious to welcome them as fellow-workers and personal friends. It was really as an after-thought—to meet the emergency at the end of 1918, when the armistice brought so many medical officers of the Dominion and United States forces to this country—that it established the post-graduate courses by which it is perhaps best known to the medical public. By its amalgamation with the Post-Graduate Medical Association an important step was taken towards placing graduate medical instruction in London on a more secure basis, and one which we greatly hope may presently be made permanent. It was natural that the Fellowship should be centred in London, and it at present enjoys the hospitality of the Royal Society of Medicine for its office work; but the amalgamated body is not a London institution, it seeks to encourage and organize post-graduate instruction in all parts of Great Britain. Recently, further opportunities for extension have been opened up, and there is an immediate prospect of the establishment of local centres of the Fellowship in the Dominions and in the United States. France, also, has shown a desire to co-operate, and the Fellowship has been invited to consider the formation of a branch in Paris for English-speaking students. We have already mentioned that the profession in Bath have arranged a course in hydrology for members of the profession in this and other countries; it begins on June 7th. We now learn that a course (in English) will be held also at Vichy, beginning on June 15th. It will be conducted by M. Monod-Walter, M.D.Paris, M.R.C.P.Lond., physician to the Vichy Thermal Hospital, and will include lectures on dyspepsia and dyspeptics (gastric pains, dilatation of the stomach and visceroptosis, aërophagia, dieting) and practical hydrology at the bathing establishment. Special terms for accommodation will be arranged. Additional information can be obtained from the Secretary to the Fellowship, 1, Wimpole Street, W.1. A programme of work in Paris will be published later.

THE AMERICAN HOSPITAL IN LONDON.

WE announced a short time ago that the London Committee of the American Hospital it is proposed to establish in London intended to entertain Dr. Charles W. Mayo of Rochester, Minnesota, at dinner in July. Dr. Charles Mayo is a member of the Medical Committee in America, along with his brother Dr. William Mayo; among other members are Dr. Crile, Dr. Ochsner, and Dr. Franklin Martin of Chicago, and Dr. Matas of New Orleans. The resolution by which the American Hospital was founded defined one of its most important aims to be "to act as a link in binding together the two nations for the advancement of medical science as affecting the welfare of humanity." The Medical Committee in this country will be anxious to do all in its power to further this most admirable object, and through the projected hospital and the Fellowship of Medicine to provide for American graduates the facilities in London and other parts of Great Britain which they used formerly to seek in Berlin or Vienna. As already announced, ex-President Taft is the president of the General Committee in America, and Mr. J. P. Morgan has recently become vice-president. As soon as the institution has become incorporated according to the laws of the State of New York, this committee will set to work to raise an endowment fund of several million dollars. It is not proposed at present to erect a new building in London, but the committee here believes that it will shortly be in a position to open a temporary building for the reception of patients and as a centre for American graduates visiting this country. The invitations to the dinner, which is to take place at Claridge's Hotel, Brook Street, London, on July 6th, are issued by the Earl of Reading (president of the committee in this country), Viscount Bryce (vice-president), the American Ambassador, and the Board of Governors of the hospital.

JAMESON.

ON May 22nd the body of Leander Starr Jameson found its last resting place in the Matopo Hills, close to the tomb of his friend Cecil Rhodes. Jameson was a very remarkable man. General Smuts, as Premier of South Africa, did justice to his great qualities in a telegram to the Rhodesian Administration on May 21st, when he described him as a great South African whose human

[1] *Proc. Roy. Soc. Med.*, vol. viii, Part II, p. 33, 1914.

qualities endeared him to all who knew him. "With the exception of Rhodes," General Smuts continued, "no man had a better right to be called the founder of Rhodesia. His work at the National Convention entitles him to the further distinction of being one of the makers of the new South Africa. In this solemn hour, when his dust is made for ever an integral part of British South Africa, we, of whatever race and speech, unite in remembering his great services and doing honour to his memory. On behalf of the Government and people of the Union, in whose public life he occupied so great a place, I express to you and the people of Rhodesia reverence for the dead and sympathy and fellow-feeling in our common loss." Jameson was a student of University College Hospital in the seventies. He graduated M.B. in 1875 and M.D. in 1877 in the University of London, and was resident medical officer of the hospital when an offer to join a practice in Kimberley appealed to his impecuniosity and love of adventure. It was in Kimberley that he met Cecil Rhodes, and it has been said that there were times when Jameson and his partners were the only people who had any ready money in Kimberley. However this may be, there is no doubt that Jameson became deeply involved in the speculation then so nearly allied to the politics of that part of South Africa. But he cared less for money than power; from 1891 to 1895 he was administrator of Rhodesia for the British South Africa Company. Devoted friend as he was of Rhodes it was he who "upset the apple cart" by the raid on the Transvaal in the last days of 1895. He was taken prisoner by the Boers and was tried in London and condemned, but shortly afterwards released. He served during the South African war in 1899–1900. He entered politics in 1900 as member for Kimberley in the Cape Legislative Assembly, and four years later was Premier of Cape Colony. The shifting sands of South African politics brought his political career there to an end in 1908, and he came to London, where he had always had one foot. He was sworn of the Privy Council in 1907, and created a baronet in 1911. During the later years of his life he was president of the British South Africa Company, but when he died in London on November 26th, 1917, he left no great fortune. The final funeral was an impressive ceremony. The body, which was accompanied by Sir Thomas Smartt, K.C.M.G., the leader of the Unionist Party in South Africa, was received at Bulawayo by a guard of honour. The service was attended by pioneers from all parts of Rhodesia, by the administrators of both provinces, by many members of the Legislative Council, and by representatives of the Chartered Company.

A UNIVERSITY QUARTER FOR LONDON.

THE offer of the Government, made through the Minister of Education, to provide a site of 11½ acres on the north of the British Museum for the head quarters of the University of London and for other university purposes, is a revival of a scheme first mooted at the beginning of 1912. The Royal Commission on University Education in London had published at the end of 1911 an interim report expressing the unanimous opinion that the University of London should be recognized as a great public institution, and that it "should have for its head quarters permanent buildings appropriate in design to its dignity and importance, adequate in extent, and specially constructed for its purposes, situated conveniently for the work it has to do, bearing its name, and under its own control." In February, 1912, it was announced that certain friends of the University had obtained an option on four plots of land lying immediately north of the British Museum. It was stated that the price asked for the site was £375,000, that this price might be reduced, and that promises of contributions amounting to £355,000 had been received. The proposal did not at that time meet with a cordial reception from the senate of the university, and nothing more was heard about it until Mr. Fisher's letter to the Chancellor of the University the other day. The Government is prepared to give the land as a site for the new head quarters of the university and the colleges and institutions connected with it—including King's College, now in very cramped quarters in the Strand—and is prepared also to secure the university from loss in respect of maintenance charges on the new university head quarters. The erection of the buildings would be left to public munificence. Mr. Fisher pointed out the advantages which might be expected to follow the concentration of the head quarters of the university and its two incorporated colleges on a single site in a quiet residential quarter close to the national library and museum, and yet capable of expansion in the future should need arise. The offer, will not, we feel sure, be lightly refused by the Senate; it is now under the consideration of a committee of that body. It is true that the financial position of the University of London is such that it has to live from hand to mouth, and that aspect of the question must no doubt have very full consideration, but if it reject the offer the Senate will incur a very serious responsibility. The University of London is now a lodger in the Imperial Institute; there is no university quarter in London, and university life suffers in consequence.

SIR JOHN BLAND-SUTTON.

IT was announced at the quarterly meeting last week of the Governors of the Middlesex Hospital that Sir John Bland-Sutton was retiring from the active staff. He became a student of the Middlesex Hospital in 1878, and was successively demonstrator and lecturer on anatomy; during this time he was also prosector to the Zoological Society, and old members of the Pathological Society will remember the numerous specimens he brought before it from the zoological laboratories during the presidency of Sir James Paget, who took many occasions of drawing the moral that the field of pathology was not limited to man. In these early days, too, he displayed an understanding of the influence which the theory of evolution must have on medicine and pathology, and in 1890 he published a book on *Evolution and Disease*. The Bland-Sutton Institute of Pathology which he established and endowed at the Middlesex Hospital was a practical application of the doctrine he has always maintained that the practice of medicine and surgery must rest on physiology and pathology, and can progress only as they advance. Readers of medical literature know his mastery of happy phrase and apt illustration, and, taking the last word literally, we may note that he is one of the few who have sustained the art of woodcutting in this time of its neglect. The pictures his papers contain prove that engraving on wood can present pathological appearances far better than the mechanical reproduction of photographs. He is a vice-president of the Royal College of Surgeons of England, and we had occasion only the other day to report that his brother surgeons had done him the distinguished honour of electing him the first president of the Association of Surgeons of Great Britain and Ireland.

CHAIR OF ANATOMY AT CAMBRIDGE.

PROFESSOR JAMES T. WILSON, at present incumbent of the Challis Chair of Anatomy in the University of Sydney, has been appointed Professor of Anatomy in the University of Cambridge, in succession to the late Professor Alexander Macalister, who died in September last. Professor Wilson was born in Dumfriesshire in 1861, and educated at Edinburgh, where he graduated M.B., C.M. in 1883. Like so many more of the leading British anatomists of this generation, he was demonstrator of anatomy in the University of Edinburgh under Sir William Turner. His contributions to science have been concerned chiefly with embryology, but also with comparative anatomy generally. He was elected a Fellow of the Royal Society in 1909. He has held the chair in Sydney since 1890.

PROFESSOR VAN BENEDEN OF LIÉGE.

A LIFE-SIZED bronze statue of Van Beneden, professor of zoology in the University of Liége, who died four years ago, was unveiled on May 24th. The statue stands at the entrance to the Zoological Institute where Van Beneden worked and taught for over thirty years. The ceremony was attended by a large number of his old colleagues, by representatives of other Belgian universities and scientific societies, and by delegates from British universities. Both King Albert and the Belgian Parliament were represented. The representatives of the British universities were Professor Sarolea (Edinburgh), Sir Leslie Mackenzie of the Local Government Board of Scotland (Aberdeen), and Professor Sir Thomas Oliver (Durham). Professor R. W. Hegner represented the Johns Hopkins University, Baltimore. When fully mustered the company marched in procession to the class-room where Van Beneden had taught and in which was gathered a large number of old and present students and his widow and relatives. The Rector was in the chair. Dr. Nolf, Professor of Pathology in the University, delivered a memorial address, during which a beautifully executed bronze mural tablet, pronounced to be an excellent likeness, was unveiled. Professor Gravis (botany), M. Lameere (President of the Belgian Royal Academy of Science), Professor Van der Stricht (Ghent), Professor Sarolea (Edinburgh), and Professor Ditmas, successor to the late professor, delivered addresses containing references to the epoch-making researches of the great embryologist and his work upon fecundation and cell reproduction. The speaker who drew the greatest applause was Van der Stricht, who, while pleading for the University of Ghent, insisted upon it retaining its French character as opposed to a purely Flemish institution. When he had finished his address the Rector, rising amidst the applause of the audience, kissed the distinguished Fleming upon both cheeks. Afterwards the audience proceeded to the front entrance, where the full-sized statue in bronze was unveiled. A luncheon, attended by several of the delegates and the Rector of the University, followed.

MORRISON OF PEKING.

DR. G. E. MORRISON of Peking died at Sidmouth on May 30th, after a long illness, which he faced with his accustomed courage. He was a patriot of the larger mould, and as *The Times*, whose correspondent in Peking he was for many years, has said, "his passion was that Great Britain might play her part in China's development." He was born in 1862 at Geelong, Victoria, where his father, a Scot, was principal of the college. While still a student at Melbourne he began his travels. His idea of travelling, whether in Australia or China, was to go on foot, for in this way he saw most of the country and of the people. While in charge of a small pioneer expedition to New Guinea he was wounded and left for dead with two spearheads in his body; for treatment he went to Professor Cheyne in Edinburgh and there graduated M.D., C.M. in 1887. He walked from Shanghai to Rangoon in 1894 and in the following year published his delightful book, *An Australian in China: Being the Narrative of a Quiet Journey across China to Burmah*. It was in that year that he became special correspondent to *The Times* in Peking, and proved himself one of the most accomplished journalists of the day. It was his intimate knowledge of China and the Chinese that gave him the great influence he had, and at one time or another he had visited every province in China except Tibet. In 1912 he resigned his connexion with *The Times* in order to accept the invitation of the first President of the new Chinese Republic to become his political adviser. He formed a very large Chinese library, and when his books were sold a short time ago sinologues gathered from all countries. When the list is made of members of the medical profession who have achieved great distinction in other spheres of activity, Morrison's name will not be omitted.

FUTURE PROVISION OF MEDICAL SERVICES IN WALES.

REPORT OF THE CONSULTATIVE COUNCIL.

THE Welsh Consultative Council is not a medical body, although it contains medical members; the chairman is Sir Edgar R. Jones, M.P., and among the members are representatives of nurses, friendly societies, county and rural district councils, Insurance Committees, and of labour organizations. The medical members are Professor D. Hepburn, C.M.G. (Cardiff), Dr. Rocyn-Jones (county M.O.H., Monmouthshire), Dr. Hugh Jones (Dolgelly), Dr. Ewen J. Maclean (Cardiff), Dr. E. Ll. Parry-Edwards (county medical officer, Carnarvonshire), and Dr. W. E. Thomas (chairman of the Glamorgan Panel Committee).

The first report of the Council was formally laid on the table of the House of Commons on May 19th, but has not yet been published. Its substance, however, can be stated. In the introduction to the scheme submitted by the Council the principle is laid down that the object to be sought is to maintain the people in good health, and that such maintenance should begin before birth and be actively promoted throughout life. It is laid down that a family doctor should be available for every household and that he should be kept in effective touch with the household through the scheme.

Health Visitors.

The first matter dealt with is the adequate supply of health visitors, but the new type of health visitors recommended is not to be taken as meaning merely extended service for those now employed by local authorities. The scheme of proposed duties is as follows:

Male Health Visitors.—To render (i) Nursing aid for men in early nerve cases threatening to become mental. (ii) Necessary help at clinics for children. (iii) Attendance at male venereal diseases clinics or ablution stations. (iv) Incidental assistance in general sanitary work and removal of infectious cases, if and when required. (v) Services under the Children's Act. (vi) Services under the Juvenile Employment Act. (vii) Services under the Mental Deficiency Act—when necessary.

Female Health Visitors.—(i) Domiciliary visits for (*a*) ante-natal work; (*b*) work arising out of notification of births; (*c*) visitation of schools, and following up school cases of defects; (*d*) tuberculosis cases from institute or visiting station; (*e*) mental deficiency cases which are under supervision or observation. (ii) Clinic work in connexion with (*a*) maternity (ante-natal and post-natal work) and infant welfare; (*b*) treatment of school children found defective; (*c*) tuberculosis cases at visiting station; (*d*) to notify the evidence of venereal diseases and give advice.

Special Health Visiting.—(i) Fever nursing—epidemic or fever nursing by way of domiciliary visits and help. (ii) District nursing. (iii) Whole-time nursing for special cases.

The minimum number of qualified female health visitors for carrying out enlarged duties in connexion with infant welfare work and school medical inspection should be 1 per 1,000 houses in the larger centres and 1 per 500 to 750 houses in the smaller towns and rural districts.

Dental Service.

The Council holds it of urgent and paramount importance that properly qualified dental treatment should be available for all, with priority for young children and expectant mothers. Attention is directed to the serious inadequacy of qualified dentists in Wales and to the mischief wrought by unqualified persons. A minimum provision of qualified dentists, if available, would probably be 1 to 4,000 of the population. The Council urges immediate action.

Medical Service.

Acting with the assistance of the various officers whose duties had thus been outlined, one doctor should, as a general rule, the report suggests, be available for 400 homes in urban communities and for 300 in rural. The unequal distribution of the population complicates the problem of specialists and consultants, which, it is said, should be approached on national rather than on purely local lines; a full report on the subject is to be prepared.

The Council holds that all health institutions, including voluntary hospitals, should form part of the future public services, but considers that until the general question of health administration in Wales has been fully considered the formulation of proposals as to the highest grade of institutions should be postponed. Subject to this, the

various institutions to be included in the national scheme would be:

(i) Central institutes for general medical and surgical purposes; local institutes (on a smaller scale) for the same purposes; subsidiary hospitals; various kinds and grades of clinics; provision for invalid cooking.

(ii) Asylums and mental deficiency homes, with suitable subsidiary institutions for cases showing early signs of mental trouble.

(iii) Fever, small-pox, plague, cholera, and dysentery hospitals; isolation hospitals with appropriate provision for dealing with contacts; seaport quarantine stations.

(iv) Tuberculosis sanatoriums and hospitals.

(v) Various kinds and grades of rest (or holiday) homes, convalescent homes, health centres, open-air schools, health colonies for children.

(vi) Institutions for the blind and deaf, epileptics, and cripples.

Motor Transport.

The success of the whole scheme for health visitors, home helps, midwives, registered nurses, doctors, dentists, and institutions will depend for efficient administration upon a large systematic motor transport service. Telephonic communication for all concerned is also insisted upon as highly necessary.

Application to Industrial and Rural Areas.

The Council gives reports from three of its committees who visited typical areas.

Industrial.

The Aberdare committee estimates the requirements for an industrial and urban area, in presenting the needs for this district, as follows:

The General Hospital at Aberdare, as the principal local centre, should comprise—

(*a*) 100 beds for general medical and surgical conditions.
(*b*) A maternity and child welfare department and clinic, affording 40 additional beds, with a proportion for pre-natal cases and isolation.
(*c*) A school clinic with a lien on, say, 15 further beds.
(*d*) A fully equipped radiological section, including apparatus for electrical treatment and massage.
(*e*) Various clinics—for example, dental, tuberculosis, venereal, pediatric, psychiatric, etc.
(*f*) A fully equipped out-patient department both for casualties and the usual departments.
(*g*) A separate block in close proximity containing 50 beds to which cases requiring after-care and supervision might go, thus relieving the primary beds.
(*h*) An essential requirement would be a medical institute and laboratory, including a library and facilities for dealing statistically with health records of the area.

At Mountain Ash, a similar centre on half scale would be required, omitting the medical institute and laboratory.

A Mixed Area.

East Carmarthenshire was taken as typical of both an industrial and rural area. The Council suggests that Swansea should, as at present, be regarded as the centre for a large and fully equipped institution, and that at Llanelly also there should be a central institute to serve as a hospital for the south-eastern portion of the area, with subsidiary hospitals at Ammanford and Pontyberem respectively. The establishment of a hospital at Ammanford subsidiary to that of Llanelly would depend largely on the construction of an arterial road. After mentioning that there should be a fever hospital for the whole area, the Council advises that provision should be made in the area for public baths, pithead baths, and douche baths in connexion with factories and works. It is held that open-air schools should be established in every district, not only for defective children but for normal children also.

A Rural Area.

Merionethshire is reported upon as the type of a purely rural area. The Committee is of opinion that such a county, with a scattered population of only 50,000, should have its needs met by the provision of central institutions in association with other areas and not for this county alone, and by the provision of local institutions to serve local needs. They advise that large hospitals or institutes be provided at three central places—for example, at Bangor, Wrexham, and some other place—to serve parts of Merionethshire, Montgomeryshire, and parts of mid-Wales.

Minister's Comment.

Dr. Addison has pointed out that the recommendations must be considered in relation to the whole scheme of health services to be submitted to Parliament for the different parts of the United Kingdom—or at any rate of Great Britain. This observation is necessary in view of the financial changes the scheme would involve, to whatever degree the aid of the general practitioner be sought—the employment of so many other persons being contemplated.

England and Wales.

TREATMENT OF TUBERCULOSIS IN LONDON.

AT the meeting of the London Insurance Committee on May 27th a report on sanatorium benefit in 1919 was presented. The new cases placed under institutional treatment by the Committee numbered 3,839; of this total 1,930 were cases of ex-service men, in all of whom the tuberculosis was held by the Ministry of Pensions to be connected with war service. Of the remaining cases 921 were males and 988 females. The number of civilian male cases was the smallest for any year since sanatorium benefit came into operation in 1912, although included in the figures were a number of patients who were on active service during the war, but in whose cases no connexion had been established between the disease and army service. In 25.9 per cent. of the total cases the period of institutional treatment was from one to two months; in 24.2 per cent. from two to three months, and in 19.2 per cent. from three to four months. At the end of the year 2,276 cases were in institutions, and 84 were on the waiting list. The number of patients who received domiciliary treatment during 1919 (treatment by the insurance doctor, with or without extra nourishment) was 8,364, and those receiving dispensary treatment 190. The medical adviser reported that the average length of residence in sanatoriums had increased. Roughly, 50 per cent. of all male patients discharged themselves; the remainder were almost all discharged on the recommendation of the medical superintendents, the usual ground for the recommendation being the improbability of further improvement. It was found that 47 per cent. of the ex-service men, 43 per cent. of the civilian males, and 39 per cent. of the females were unfit for any work after discharge, and that the proportion fit for full work only represented 8, 15, and 8 per cent. respectively in the three categories. The balance were discharged as fit for light work, which in practice meant that patients were unfit to follow their usual occupations. The number of patients recommended for sanatorium treatment who were sent for a preliminary period of observation to three consumption hospitals had increased; a considerable proportion were found unsuited for sanatoriums and were recommended for domiciliary treatment.

BOARDING-OUT OF CHILDREN.

It appears from a circular issued by the Ministry of Health that in January, 1919, about 3,500, and in January, 1920, about 3,100 children more than 3 years old were living in Poor Law institutions. As it is necessary to reduce this number it has been decided that the boarding-out fee may now be fixed by the guardians instead of by the central authority, and that in certain circumstances the sending of a child to a foster-parent whose creed is different from that of the parents may be sanctioned. A list of certified schools and institutions which have spare accommodation for children is appended to the circular.

Scotland.

SMALL-POX IN SCOTLAND.

CASES of small-pox have continued to occur in Glasgow during the last fortnight. On May 30th there were 156 cases under treatment in hospital; 34 cases had been admitted during the four preceding days and 14 recovered patients discharged. Two deaths occurred at the end of last week—one male unvaccinated and one woman vaccinated in infancy. The cases appear to be most numerous in the Bridgeton and Parkhead districts, but are occurring in many other parts of the city. Precautions are being taken all over Scotland, and free vaccination is being offered in most districts. In Edinburgh twelve centres for vaccination have been established; they are to be open from 6 to 9 every evening, and a special staff of doctors has been engaged to attend for a fee of a guinea an evening. Three cases have occurred in Dundee but no fresh cases are reported in Edinburgh.

OBSTRUCTION OF A DOCTOR'S CAR.

For negligently interrupting the passage of a motor car in which Dr. Young, of West Calder, and his assistant were being driven along the Edinburgh-Ayr road to an urgent case, a motor lorry driver has been fined £2 in Edinburgh Sheriff Court. Dr. Young said in his evidence that the driver of the car sounded his horn continually, but the driver of the motor lorry paid no attention, and kept his vehicle in the middle of the road. The obstruction continued for a distance of two miles until the doctor's car had reached its destination. The accused said that, having been made aware by a pedestrian that a car was trying to pass him, he allowed the doctor's car to pass at the first moment when he thought it safe to do so.

Ireland.

MEETING OF COUNTY WEXFORD PRACTITIONERS.

THE medical practitioners of county Wexford, at a recent meeting held at Enniscorthy, recorded their belief

that a settlement of the Irish medical question satisfactory to the profession and the public cannot be effected without legislation, which must provide for such radical medical reforms as will secure that the present cumbersome and ineffective administration is replaced by more up-to-date and uniform methods, both as regards preventive and curative medicine.

The meeting resolved that the inadequate salaries of Poor Law medical officers ought to be increased, with retrospective effect, and passed a number of detailed resolutions regarding increases in rates of salary and scales of fees for professional services. Among these were resolutions that fees for attendance on private patients should be increased by 50 per cent., and that the rate of payment for contract practice be increased by 25 per cent. A vote of thanks was passed to Drs. T. J. Kelly, C. R. Boyce, S. V. O'Connor, and James Ryan, M.P., for the able manner in which they put the case of the doctors in relation to the roads question before the Wexford County Council.

THE PROPOSED SANATORIUM AT CRAIGAVON, BELFAST.

The Down County Council has received from the Local Government Board a letter stating that the application for sanction to borrow £27,000 for the purchase of Craigavon as a sanatorium for consumptives has been refused. The reasons for this are stated as follows:

In the Board's view, the main issue raised in the inquiry turns on the conflict of public interest—on the one hand of the need of the County Down patients for tuberculosis treatment and on the other of the welfare of Belfast.

Seeing that the Belfast Corporation, as the local authority, have publicly, and on grounds which were not refuted, represented the scheme of the Down County Council as injurious to the development and progress of the County Borough, the Board can only come to the conclusion, though with some regret, that the proposition is not one to which they should afford facilities by consenting to the application for a loan.

THE ULSTER MEDICAL SOCIETY.

The annual meeting of the Ulster Medical Society was held on May 27th, when the president, Mr. Andrew Fullerton, C.B., C.M.G., F.R.C.S.I., was in the chair. The reports of the honorary secretary, treasurer, and librarian were presented, discussed, and adopted. A debit balance of £39 was shown, but otherwise the reports showed a session of great activity and much professional interest, upon which the office-bearers were congratulated. The following office-bearers were elected for the ensuing year:

President: Dr. Thomas Houston, Belfast.
Vice-Presidents: Dr. James Agnew, Lurgan; Dr. J. E. MacIlwaine, Belfast.
Honorary Treasurer: Dr. S. I. Tarkington, Belfast.
Honorary Librarian: Dr. W. L. Storey, Belfast.
Honorary Secretary: Dr. W. W. D. Thompson, Belfast.
Assistant Editing Secretary: Dr. Robert Marshall.
Council: Dr. C. G. Lowry, Mr. H. Stevenson, Mr. S. T. Irwin, Dr. Wm. Burns, Dr. V. G. L. Fielden, Dr. S. B. Boyd Campbell.

IN reply to a question on June 1st, when the House of Commons resumed after the Whitsun recess, Dr. Addison repeated his statement that the Government did not intend to take over voluntary hospitals, adding that within the limits of a reply he was unable to discuss the exact relation of voluntary institutions to the general scheme of health services, but hoped to be able to make a satisfactory statement before long.

Correspondence.

FUTURE PROVISION OF MEDICAL SERVICES.

The Primary Centres.

SIR,—To appreciate fully the scheme put forward by the Consultative Council[1] it is necessary to understand the conditions for which it is to be the remedy. Of these there are three main ones:

1. The doctors in their practice being isolated, and with but a limited resource in regard to methods, are not able to give their patients the benefit of those methods which the progress of medicine has provided. The equipment of the primary health centres will afford the doctor the opportunity of giving every patient these benefits.

2. Every thoughtful general practitioner has found on entering practice that his education had been woefully deficient, in that he was unable to recognize the complaints of the vast majority of his patients, and that he had to begin a re-education of himself. Until the teaching at the schools is improved, these primary health centres, where he will meet his more experienced brethren, will greatly help him in this respect.

3. It has been realized that there is a great lack of medical knowledge in regard to the early stages of disease. Research and education have been mainly concerned with the advanced stages of those diseases which are common amongst the people, and it was not understood how this lack of knowledge of the early stages could be made good. It has only lately been recognized that for this kind of research the general practitioner was the only individual who had the opportunity, but hitherto the means for undertaking this kind of work have been denied him. This state of affairs will be remedied by the establishment of the primary health centres.

The scheme is a bold one, designed to deal with an urgent need, and its magnitude may well cause doubts as to its wisdom. The more the condition of medicine is considered the greater will be found the necessity for some such drastic revolution. The one fear is that it may be entered upon too hastily, before the doctors who will carry it on are sufficiently experienced. If this be recognized, and a careful inquiry be made as to the best methods to be employed, and then a few centres started under doctors with some experience, a workable scheme will without doubt be discovered.

The cost of the scheme may at first sight appear too large, but if the various medical services are co-ordinated, and as far as possible carried on in one building, with one set of laboratories, the cost need not be so great.

The secondary health centres need not be established at first, for when the possibilities of the primary health centres are fully realized, the kind of secondary health centre needed will be better understood, or it may be found not to be required. I am confident that with the efficient carrying out of the primary health centre, the attitude towards hospitals and medical schools will be profoundly modified.

The Consultative Council are to be congratulated on having produced a very wise and practicable scheme, which, if properly carried out, will have a far-reaching and beneficial effect in the whole field of medical knowledge and practice.—I am, etc.,

J. MACKENZIE.

The Clinical Institute, St. Andrews, Fife,
May 29th.

Provision of Private Wards in Health Centres.

SIR,—The report of the Consultative Council proposes to meet the needs of the very large class of patients who are only able to afford a moderate inclusive fee for nursing home accommodation and expert medical treatment by the provision of private and self-supporting wards as part of the fabric of health centres. The essential services in the public and private wards would be identical.

[1] The Interim Report of the Consultative Council on Medical and Allied Services is published by H.M. Stationery Office, and may be purchased through any bookseller, price 1s. Messrs. Eyre and Spottiswoode, East Harding Street, Fetter Lane, E.C.4, will supply a copy post free on receipt of a postal order for 1s. 3½d. (under the new postage rates.)

The proposal, occupying less than a dozen lines of the report, rather suggests a desire on the part of the Council to create a niche in a homogeneous ideal medical service for an awkward class of patient than a carefully considered plan to meet the urgent need there is in every large centre of population for the provision on an adequate and efficient scale for patients able to pay the full cost of maintenance (including nursing and all charges apart from medical fees) and a moderate fee for medical attendance. It is the inclusive cost that dominates the situation: cheap nursing-home accommodation alone is useless. In the report there is no suggestion as to how, or by whom, the medical charges are to be determined.

Provided that the patient can pay the economic cost of maintenance, nursing, etc., in a large private institution (which at present is about £6 6s. a week), the need can be met by the application of ordinary business principles, and the problem solved without resort to charitable or public funds. It is, however, essential that the medical profession in each large centre should take the initiative in establishing a hospital for paying patients on sound ethical lines, and should retain control over all matters affecting the admission of patients, the assessment of inclusive fees, and the personnel of the medical staff. That a hospital of this kind can be successfully established St. Chad's Hospital, Birmingham,[1] has demonstrated; upwards of 1,000 in-patients are now being treated there. What Birmingham has done other cities can equally well do and do quickly.

The proposals of the Consultative Council, admirable as they are in theory, involve such extensive reorganization and such vast expenditure of public funds, that much time must necessarily elapse before they can fully materialize. Any alternative which will satisfy quickly part of the requirements of their suggested complete medical service without interfering with the scheme as a whole, and without making any demands upon the public purse, should be welcomed on these grounds alone. Whether the provision of self-supporting wards as part of the hospital accommodation of secondary health centres would prove altogether satisfactory is open to doubt. Many difficulties in connexion with such a scheme present themselves to one's mind. Destructive criticism is, however, of little value unless a better alternative can be devised, and this, I firmly believe, would be the establishment in each large centre of private institutions run on the lines of St. Chad's, in which there is a combined desire on the part of the shareholders and the medical staff to bring the whole cost of expert medical treatment within the reach of people of moderate means without resort to charity or outside assistance of any kind.—I am, etc.,

WILLIAM BILLINGTON, M.S.Lond., F.R.C.S.

Birmingham, June 1st.

The Position of General Practitioners.

SIR,—Your sketch of this important and long-looked-for report is most welcome, and should encourage every medical and dental practitioner to invest the sixteen pence necessary in order to obtain the document and to give it the fullest detailed consideration. There are, however, three questions which seem to jump at once to the eye, and will prove probably to be fundamental.

1. The medical profession in 1910 decided by about 80 per cent. vote not to approve placing any domiciliary or institutional clinical service under the control of the county or county borough medical officer of health. Is it of a different opinion now?
2. What inducements or facilities are offered to the general practitioner to make the part-time State service one for preventive treatment, and not, as heretofore, one for curative treatment only?
3. Seeing that a general practitioner service is said to be the foundation on which to build an institutional service, how is it proposed to draw in those practitioners (50 per cent. of the profession) who disapprove of the State Insurance and Poor Law medical services, and who, consequently, will keep their patients away from any contact with the same?

For obvious reasons I sign myself—

May 31st. GENERAL PRACTITIONER.

CIVIL MOTOR AMBULANCE SERVICE.

SIR,—The report issued by the Consultative Council of the Ministry of Health embodies recommendations which will necessarily entail a considerable increase in the work of transport of the sick and injured in this country, and the Council draw special attention to the necessity for an ambulance service.

I am happy to say that the Joint Council of the British Red Cross Society and the Order of St. John has been able to anticipate this demand, and has during the past twelve months established over 300 motor ambulance stations throughout the country. That the need existed for an efficient ambulance service even before the establishment of the system of linked hospitals foreshadowed in the report, is shown by the fact that though a large proportion of the ambulances have been in service for only a few months, they have already been the means of transporting over 12,000 cases.

The administration of our ambulances has been delegated through county directors to local organizations or public health authorities as circumstances dictated, but central control of the service is maintained at head quarters, and we are thus in a position to develop and extend the scheme on such lines as may prove most desirable to meet the needs of a co-ordinated health service.—I am, etc.,

ARTHUR STANLEY, Chairman.

Joint Council British Red Cross and Order of St. John,
19, Berkeley Street, W. 1, May 29th.

THE GENERAL PRACTITIONER AND THE HEALTH SERVICES.

SIR,—I have read with surprise the letter under the above heading written by Mr. William Paterson, M.B., Ch.B.Edin. The tenor of his letter is decidedly unfortunate. Everything that has been done towards ameliorating the health of the community appears to be wrong, presumably because he does not agree with it. Is this attitude brought about by a subconscious fear that the "so-called health services" have proved of greater utility, and have done their work more thoroughly, than the average general practitioner, and that the ruling powers recognize this and their growing strength?

Perhaps it is symptomatic that a medical man should call a fellow practitioner—who, incidentally, has had an extended and specialized training—a scavenger. I cannot fathom why the whole-time medical man in the health service should be the butt for the enmity of a certain type of man in another branch of the profession. He is already called upon to bear more than his share of the kicks and considerably less than his share of the halfpence. (I judge upon the average life and earnings of a panel practitioner.) Even though they be scavengers, they are nevertheless hard-worked whole-time practitioners in the service of their country's government and working for that country's good. From humble beginnings they have raised the "so-called health services" into a living, complicated, and efficient organization. Can the same be said of the panel system, and if it can, why the present agitation for greater efficiency? Be it noted that this agitation has had no reference to the established public health services, but to the services rendered under the Insurance Act.

If the general practitioners had, as a body, worked with the health authorities, rather than against them, relations would have been more harmonious, proceedings more effective, and the profession would have gained much needed dignity and cohesion. Health work should undoubtedly be a part of a private practitioner's duty. It is easier for him to advise and to see that advice is followed than it is for the administrative official. How many of them put the easy theory into hard practice?

A letter such as that alluded to is pernicious. Particularly is it so when appearing in the official organ of the British Medical Association. The prominence given to the letter is suggestive of the Association's attitude towards the whole-time medical—or should I say scavenging?—services.

The cordial co-operation between private practitioners and whole-time public health service men is a consummation devoutly to be desired. It is for the majority to show the way, but the way is not that taken by the Honorary Secretary of the Willesden Branch.—I am, etc.,

OSCAR M. HOLDEN, M.D., D.P.H.,
Medical Officer of Health, County Borough of Dewsbury.

May 31st.

*** The universal custom of the press would, we should have thought, have made it unnecessary to state that the opinions expressed in a letter published in the BRITISH

[1] BRITISH MEDICAL JOURNAL, February 21st, 1920, p. 263.

MEDICAL JOURNAL are those of the writer, and do not in any way commit either the Association or the JOURNAL. The correspondence columns of the JOURNAL are intended, so far as space permits, to be a forum for discussion and free expression of individual opinions.

THE PERMEABILITY OF THE MENINGES TO ARSENIC.

SIR, — Intraspinal injections of atoxyl (Magalhéas, Congrès International de Médecin, Lisbon, 1906, Part II, p. 304) and neo-kharsivan (Marshall, BRITISH MEDICAL JOURNAL, May 22nd, 1920, p. 702) have been recommended in the treatment of sleeping sickness, presumably on the assumption that organic arsenic compounds do not permeate the meninges. I therefore wish to state that I found arsenic in the cerebro-spinal fluids of experimental donkeys after treatment with atoxyl (*Ann. Trop. Med. and Parasit.*, 1908, vol. ii, p. 327). Out of eight donkeys examined, seven contained arsenic in the cerebro-spinal fluid in approximately the same concentration as in the blood serum.—I am, etc.,

M. NIERENSTEIN, D.Sc., Ph.D.,
University of Bristol, May 29th. Lecturer in Biochemistry.

SMALL-POX IN SCOTLAND.

SIR,—In your issue of May 22nd, page 721, it is stated that over 4,000 persons accepted the offer of free vaccination in 1901. The correct number should have been over 400,000. I personally revaccinated over 2,000 at that time.

Practically one-half of the population of Glasgow was revaccinated, and in the second epidemic not a single case of small-pox occurred amongst the 400,000 who had been revaccinated. It was an experiment on a large scale.—I am, etc.,

Erdington, Birmingham, May 30th. R. ANDERSON, M.D.

MEMORIAL TO SIR VICTOR HORSLEY.

SIR,—I am very glad to be able to announce that the scheme for providing a memorial of Sir Victor Horsley has now been given a definite start The nucleus of a committee has been formed, with Sir Charles Ballance as chairman, Sir Frederick Mott and Dr. H. H. Tooth will act as honorary treasurers *pro tem.*, and Sir Arbuthnot Lane will act as joint secretary with myself. Lady Horsley has withdrawn any objection she had previously expressed, and it is hoped to found a lectureship bearing Sir Victor Horsley's name, probably under the auspices of the University of London, but all details have yet to be formulated by the much larger committee which is in course of formation. I need only add that the names of any persons associated with any branch of work in which Sir Victor Horsley was interested who wish to take part may be sent to me or Sir Arbuthnot Lane.

In view of the many appeals now before the medical profession and the public it is not intended to ask for any very large subscriptions, but it is hoped that the number of subscribers will be otherwise large enough to provide the sum required.—I am, etc.,

EDWARD J. DOMVILLE.
Symondsbury, Bridport, Dorset, May 28th.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 21st the following medical degrees were conferred:

M.B., B.CH.—F. J. Bennett, J. V. Bates, R. A. Woodhouse.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

THIRD M.B., B.S.—*G. B. Dowling, †G. E. Elkington, §G. P. B. Huddy, ‡§M. Marcus, ‡§J. P. Ross (University Medal), *G. M. J. Slot, I. M. Abd-El-Said, B. W. Armstrong, E. M. Atkinson, Marjorie Back, C. F. Beyers, J. A. Birrell, W. R. Blore, T. G. D. Bonar, Ella M. Britten, W. W. K. Brown, E. E. Carter, D. G. Churcher, W. H. Coldwell, H. C. Cox, R. Coyte, Joyce E. Craggs, E. I. Davies, Sarah H. Davies, H. A. De Morgan, C. Y. Eccles, A. Eidinow, T. L. Ellis, A. Evans, J. Fanning, Kathleen Field, Alice M. Griffiths, E. F. Guy, H. L. Heimann, C. E. E. Herington, C. L. Hewer, N. H. Hill, G. O. Hume, D. Hunter, E. F. Kerby, G. E. Kidman, J. V. Landau, S. S. Lindsay, N. P. L. Lumb, H. M. C. Macaulay, P. G. McEvedy, S. F. Mahmood, Ida C. Mann, J. P. Padshah, Dorothy Pantin, W. W. Payne, N. A. M. Peterson, Norah D. Pinkerton, Beatrice D. Pullinger, A. L. H. Rackham, H. E. Reburn, Frances E. Rendel, Esther Rickards, H. C. Rook, T. C. Russell, E. J. Samuel, P. D. Scott, J. V. A. Simpson, J. B. Thackeray, J. A. van Heerden, A. S. Wakely, R. L. Walker, M. J. T. Wallis, L. H. W. Williams, F. E. S. Willis, Jane E. Wood, W. Yeoman.

Distinguished in * Medicine, † Pathology, ‡ Forensic, § Surgery.

UNIVERSITY OF ST. ANDREWS.

Honorary Degrees.

AMONG the honorary degrees to be conferred at the public graduation ceremony on July 2nd are the degree of LL.D. on Dr. Leon Fredericq, for nearly forty years Professor of Pathology in the University of Liége, Belgium; Mr. W. J. Matheson, president of the biological laboratory at Brooklyn, and scientific adviser in chemistry to the Board of Health for the city of New York, and Dr. Norman Walker, His Majesty's inspector of anatomy for Scotland and direct representative of the profession in Scotland on the General Medical Council.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY MEETING of the Royal College of Physicians of Edinburgh was held on May 4th, Sir Robert Philip, President, in the chair.

Dr. Andrew Graham Ritchie was elected a Fellow, and Dr. George Sandison Brock, M.B.E., Dr. Chung Yik Wang, and Dr. Thomas Frederick Corkill were elected members.

The Lister Fellowship for Original Research was awarded to Dr. G. W. Marshall Findlay.

The subject of the essay for the next competition for the prize founded by the late Dr. John Parkin is "On the curative effects of carbonic acid gas or other forms of carbon in cholera, for different forms of fever and other diseases." Essays must be received not later than December 31st, 1920, by the Secretary of the College, from whom full particulars can be obtained. The prize is of the value of £100, and is open to competitors of all nations, but the essay must be written in English.

Medical News.

DR. J. G. ADAMI, C.B.E., F.R.S., Vice-Chancellor of the University of Liverpool, and lately Strathcona Professor of Pathology and Bacteriology in McGill University, Montreal, has been elected to an honorary Fellowship at Christ's College, Cambridge, of which he was formerly a scholar.

THE Minister of Health has appointed Mr. Llewelyn Williams, M.C., F.R.C.S., D.P.H., to be Medical Member of the Welsh Board of Health with the status of a Senior Medical Officer of the Ministry of Health. Dr. Meredith Richards, who has been acting temporarily as Medical Member of the Welsh Board of Health, has been appointed to the head quarters establishment of the Ministry of Health.

MR. H. LLOYD WILLIAMS, M.R.C.S., L.D.S., has been appointed a justice of the peace for the county of Middlesex.

DR. A. F. HURST will deliver the Croonian Lectures before the Royal College of Physicians this month. The first lecture will be given on June 10th at 5 p.m. The subject is the psychology of the special senses and their hysterical disorders.

AT a meeting of the Royal Sanitary Institute at Lincoln, on the evening of June 11th, a discussion on the development of maternity and child welfare work in a small county borough will be opened by Dr. J. C. Cole, M.O.H. Lincoln.

DR. WILLIAM M. PARSONS, of Manchester, New Hampshire, the oldest medical practitioner in New England, has celebrated his 94th birthday; during the day he attended as usual to patients coming to consult him.

DR. W. BRAMLEY TAYLOR, J.P., honorary librarian to the Society of Apothecaries of London, has received from the King of the Belgians the Médaille du Roi Albert for continuous services rendered to Belgian refugees in Weybridge during the five years of the war.

THE Bromley Division of the British Medical Association arranged a golf tournament for doctors living in the Division. The meeting was held at Langley Park Golf Club by kind permission of the committee on Thursday, May 27th. The competition was a handicap round against bogey. The result was: First, Dr. Soper (6), 1 down; second, Drs. Hawke (13) and Stilwell (12), 3 down. Drs. Tennyson Smith, Wynne Thomas, Randell M. Curtis, Umney, Clements, Ilott, Colyer, Blake, Henshaw, Bailey, Cogswell, Michael, Giddings, and Colonel Smith, R.A.M.C., also played.

AFTER a meeting of the Faculty of Medicine of the University of Brussels on May 22nd, the Vice-Chancellor publicly presented the Medal of Honour of the University to Lord Dawson, Sir Leslie Mackenzie, and Sir W. Smith, in recognition of their distinguished services to preventive medicine.

THE Florence Nightingale Medal was instituted by the International Red Cross Committee in Geneva in 1912 in memory of the work of Florence Nightingale, to be distributed annually to six trained nurses who, in the opinion of the committee, have rendered exceptional service in connexion with nursing. During the war no distribution was made, but shortly after the signing of peace, it was decided to award fifty of these medals, and all National Red Cross Societies were requested to submit recommendations for consideration by the Committee; forty-two medals have been awarded. The recipients are nine British nurses, including one each from Canada, New Zealand, and South Africa, eight nurses of France, six of the United States, five of Italy, three of Japan, two of Belgium, two of Czecho-Slovakia, one of Greece, and one of Rumania. The medal is also awarded to one Danish nurse who worked in France, and to two Austrian and two Hungarian nurses.

THE American and Canadian Section of the International Association of Medical Museums held its thirteenth annual meeting at Cornell University on April 1st. Professor O. Klotz of Pittsburg, who was in the chair, and Dr. Maude E. Abbott gave addresses on the pathological collections and the activities on behalf of the Medical Museum and the Museums Association of the late Sir William Osler. A resolution was adopted authorizing the council to take steps to raise a fund to bring into working order the Central Bureau for North America for the preservation of microscopic results of medical research, which some years ago it was resolved to establish. Two demonstrations were given from the Canadian National War Museum, one on facial injuries, by Major E. F. Risden of Toronto, and the other on the Canadian army medical arrangements at the front, by Major G. A. Campbell of Ottawa. Major F. B. Gurd of Montreal exhibited specimens showing infections of gunshot wounds by *B. aërogenes;* Professor James Ewing of Cornell showed a large series of tumours of bone, including some unusual forms, and Professor Klotz spoke on the teaching value of the small museum specimen. A number of papers on preservation of specimens were read, including one by Dr. Homer Swift of New York, on the preservation of stock cultures of bacteria. A meeting of the Association of Pathologists and Bacteriologists was held at the same time, and for the advantage of both an exhibition was arranged. Dr. W. M. L. Coplin of Philadelphia was elected president for the ensuing year.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

AS, owing to printing difficulties, the JOURNAL must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

INCOME TAX.

W. G. bought a new car (No. 1) in 1914 for £310 and sold it in 1917 for £250; in February, 1920, he bought another new car (No. 2) for £505. What is the proper allowance for the "cost of renewal" of the old car?

*** As the new car is no better than the original one we consider that our correspondent should be allowed £505 less £250, that is, £255 and not the £310 less £250, that is, £60—the amount lost on No. 1 which is the view apparently taken by the Revenue authorities. Logically that view seems to imply that a new set of tyres to replace old ones is not purely a revenue expense if they cost more than the original tyres cost, which is almost a *reductio ad absurdum.* But in the long run it may not make much difference; if depreciation is allowed to professional men using motor cars—as the Royal Commission on Income Tax recommended—our correspondent will be able to claim depreciation on £505 if he is now allowed only £60, but only on £310 if he is allowed £255, and even if this change in the law should not be effected the increased allowance now would operate to reduce the future allowance when No. 2 is replaced. We consider that our correspondent should have the allowance now, but it is worth while to take this view of the matter into account before he embarks on the trouble of an appeal against the practice of the Revenue authorities.

LETTERS, NOTES, ETC.

THE issue of *Evans' Analytical Notes*, the annual publication of which has been suspended since 1914, has been resumed. The account given by Messrs. Evans Sons, Lescher, and Webb of the analyses conducted in their laboratories contains much interesting pharmaceutical information. Copies may be obtained by medical practitioners on application to 56, Hanover Street, Liverpool.

REGISTRABLE FOREIGN DEGREES.

IN a note on the issue of the *Medical Register* for 1920, published in the JOURNAL of April 10th, it was inadvertently said that the degrees of nineteen foreign universities in Europe and eight in the United States of America were registrable in this country. It ought to have been said that the degrees of such universities, if obtained before June 25th, 1886, were registrable as additional titles by practitioners previously registered. The Medical Act of 1886 provided that an Order in Council might be issued applying Part II of the Medical Act to any foreign country which affords to the registered medical practitioners of the United Kingdom reciprocal privileges of practising. Under this provision, the Act was extended to Italy in 1901, and to Japan in 1905. Belgian degrees were made registrable in the Foreign List in 1915 under the special circumstances of that time. Foreign degrees or diplomas entitling a foreign practitioner to have his name entered on the Foreign List must be those approved by the General Medical Council. The number of names on the Foreign List of the *Medical Register* for 1920 was 165.

AN OPPORTUNITY FOR INVALIDS.

DR. H. F. LECHMERE TAYLOR (Secretary and Superintendent of the Edinburgh Medical Missionary Society) writes: To those cut off by bodily weakness from the wider activities of life the Invalids Auxiliary of this society offers an interesting opening. The auxiliary was founded some fifty years ago, and has as its aim to give invalids an opportunity of helping fellow sufferers in other lands. A sale is held about the end of the year, in Edinburgh, of work contributed by members of the auxiliary, the proceeds being apportioned amongst various medical missions. Contributors are kept informed as to the destination of their gifts, and an endeavour is made to establish a living link of sympathy between those who give and those who get. To many invalids in past years the auxiliary has brought an added interest in life and a congenial means of useful service. The committee will welcome new contributors, and would suggest to doctors and nurses who have the care of invalids to bring this form of activity to the notice of their patients, who would benefit by being interested in helping other sufferers. Further particulars will gladly be furnished by Miss Clark, 16, Coates Gardens, Edinburgh, or Miss Annie Walker, Assistant Secretary, Edinburgh Medical Missionary Society, 56, George Square, Edinburgh.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 38, 39, 40, 41, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 36, 37, and 38.

THE following appointments of certifying factory surgeons are vacant: Braintree (Essex), Johnstone (Renfrew).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE CORRELATION OF FUNCTION:

WITH SPECIAL REFERENCE TO THE ORGANS OF INTERNAL SECRETION AND THE REPRODUCTIVE SYSTEM.

A BRITISH MEDICAL ASSOCIATION LECTURE DELIVERED BEFORE THE PRESTON DIVISION ON MAY 21ST, 1920.

BY

W. BLAIR BELL, B.S., M.D.LOND.,

GYNAECOLOGICAL SURGEON TO THE ROYAL INFIRMARY AND LECTURER ON CLINICAL GYNAECOLOGY IN THE UNIVERSITY, LIVERPOOL.

FIFTY years ago specialists were composed of a body of men who had been carried by their scientific bias to limit their practical work, as far as possible, but rarely completely, to medicine, surgery, or midwifery; and I venture to think that men who shot over the rough before attempting to bring down driven partridges and rocketing pheasants made specialists who had a wider outlook and greater power of practical deduction than would have been the case had they been fed on high game from the cradle. Yet, with the tremendous and rapidly accumulating knowledge that came like an avalanche at the end of the Victorian era, and has continued ever since, it became inevitable that, unless the brain of the practitioner of medicine expanded proportionately, some must devote themselves to narrow issues in order to advance knowledge along special lines and to render themselves available for consultation on certain points. But there has been one evil in the tendency to the ultra-specialism of to-day—a tendency which I am glad to believe is not likely to go further—and it is that, driven by the force of circumstances, and also no doubt in obedience to the dictates of professional etiquette, men have attached themselves too rigorously to their own little bit of anatomical territory, and have not dared to take into consideration what may be called the Correlation of Function. That an eye is an eye, and a tooth is a tooth, is not the whole truth, though the refinements of specialism have almost made it appear so. An eye functions on behalf of the body; a tooth, likewise, serves and is served by the whole organism.

I hope I have expressed myself clearly; if so, it will be understood how it has come about that some of us have been forced to look beyond the narrow confines of our special region for a solution of our many difficulties, and I do not think I am wrong in advising everybody, whether he be a general practitioner or specialist, to remember that not only the structure but also the function of every part of the body is in close correlation with the rest. I believe, if this truth be held in the forefront, our work becomes more interesting and more capable of improvement, for it must be clear to all general practitioners, with the splendid example of men like Sir James Mackenzie in front of them, that to each a scientific career of discovery lies at hand, especially, as that great physician has said, in regard to beginnings of disease. And this is essentially true in regard to the subject of the ductless glands: the shadow of their influence is over all; every patient you see has her metabolism reflected in her system of ductless glands.

It may be asked how I, a surgeon, came to be specially interested in the organs of internal secretion. May I now justify what I dare say some have considered nothing more than a useful hobby, and at the same time say that all surgeons should be as conversant with physiology as with anatomy?

It is hard to understand the difficulties that others have faced, but I feel sure my own difficulties represent a common picture. Had I been orthodox I should have kept my eyes on the pelvis and not have looked outside for an explanation of the function of menstruation and other difficult problems with which my speciality has so long been burdened. Nevertheless I have often been handicapped, partly for the want of certain knowledge that would bear on the subject, but even more because I have felt that what was still looked upon as a primary process might really be secondary, could we go back to the beginning. It is still a debatable point, for instance, whether in many definite cases of mental disease, such as dementia praecox, the primary lesion is in the brain, or whether it is a lesion in the genitalia or elsewhere that produces the mental disturbance. Who is to decide if it be not the man who sees the early phases of these complicated conditions?

Once we grasp the fact that, as Weismann, Ray Lankester, and others have insisted, the individual exists to perpetuate the species, it is not difficult to realize that the metabolic factors concerned in reproduction are the same as those related to the individual metabolism. In other words, as I have stated elsewhere, the individual metabolism is the reproductive metabolism. It follows, therefore, that the ductless glands which regulate the individual metabolism concern equally the reproductive. So it is that we must seek in the metabolism of the mother—or hostess as we may call her—and in the regulation of her own metabolism, the factors that are most closely concerned in the preparation for and performance of reproduction. Moreover, closely linked to the individual and reproductive processes is the mind of the hostess; its normality is dependent on the integrity of the internal secretory organs and the metabolism; and what obtains physiologically is emphasized pathologically.

The ductless glands are concerned, then, not only in such gross manifestations as disorders of the reproductive system and of the characteristics of sex, but also in the more elusive disorders of the emotions—that is, of the mind. There is a wide field of study for those who see the beginnings of these disturbances, and it will make the study more interesting and more instructive, and certainly more complete, if it be remembered that the beginning of a disorder of an organ of internal secretion is shown in triplicate, as it were—in the mind, in the body, and in the reproductive system, all inseparably linked together.

What, then, do we know of the connexion between the ductless glands and the reproductive system? There is much left for us to discover. Most of our information is based on the results of animal experiments and on pathological investigations; and I propose to relate some of the more important facts obtained in the laboratories, and then indicate how these facts may be turned to use in practice.

WHAT IS A WOMAN, AND WHY IS SHE NOT A MAN?

This is the first point of interest that presents itself in a consideration of the genital functions. We ask ourselves whether the organs of internal secretion have any influence in this respect, and in reaching our present physiological knowledge on the subject we have worked backwards: we have discovered certain facts in regard to pathological conditions, and we now know that what is seen as an abnormality represents a disturbance of normal physiological processes.

Further advances in our knowledge have made it more and more clear that sex differences are pronounced. I dare say a good many of you know that I hold strong views in regard to the functions of woman, and that I look upon any divergence, sociological or otherwise, as abnormal.

I have spoken of the triplication of effects, and in considering the question of the differences between a man and a woman we find that these differences exist in the ductless glands, in the metabolism, and in the mental processes. I do not propose to consider the matter in detail, for I have often done so in other publications; but I will call attention to those remarkable instances in which a woman is or becomes masculine in her secondary characteristics, and males feminine. This is seen in the congenital abnormality known as partial hermaphroditism, and in acquired lesions of the pituitary and suprarenal glands.

Partial hermaphroditism is a very curious and interesting state. I have been fortunate enough to have under my close observation one of the three or four authentic cases of so-called "true hermaphroditism." There is no such thing in the higher animals as true hermaphroditism, although this is seen low down in the scale of evolution. But in the few cases of this type of hermaphroditism, so called, in Man, better known as partial glandular hermaphroditism, we have found what are known as ovitestes—that is to say, the gonads are composed of both ovarian and testicular elements. In my case the patient commenced life as a girl, and menstruated for a year or two regularly. Then menstruation stopped, she grew a moustache and much hair in other parts of the body, and the voice became bass. Removal of the genital organs caused a return to femininity, with slight symptoms of the artificial menopause. The other form of partial hermaphroditism, known as tubular partial hermaphroditism,

is not uncommon. In these cases the gonads are usually testicular in structure, whereas the secondary characteristics are invariably those of the opposite sex, and the external genitals most commonly conform with the secondary characteristics. I have seen a beautiful girl, as was thought, whose gonads were testes.

In passing I must make allusion to the practical side of these conditions. It has usually been taught that, owing to the frequency with which the gonad is testicular, the subject from childhood should be brought up as a boy. With the best will in the world it is impossible to suspect or to know in a majority of these cases the nature of the gonad, unless an operation be performed and part of the genital gland removed. As a result, most partial hermaphrodites reach adult life as girls, and look the part. I have known a case in which a hermaphrodite of this type was married. Legally, that marriage could have been annulled, and I am waiting with interest for the time when one of these abnormal individuals will be entitled, in accordance with the structure of the gonad, to be considered the heir as the eldest son. I am prepared to argue that the structure of the gonad is not necessarily the criterion of sex. I believe it would be better at once to put the question on a proper legal footing. I call your attention to this important matter because any one may come across such a case at any time.

The most outstanding of the acquired lesions producing masculinity in women are hyperplasia or neoplasia of the suprarenal cortex. I can best describe the changes which occur in previously normal women by repeating the description of a French writer: The voice, which was previously soprano, became like that of a lieutenant, and the woman, previously gentle and amenable, became rough and aggressive. Practically all these persons develop excellent beards, and no doubt in the days gone by the bearded woman of the country fair was one who had a lesion in her suprarenal cortex. If further confirmatory pathological evidence were required, we have it in the cases of so-called infant Hercules—boys with suprarenal tumours who are often fully-grown men at the age of five or six; that is to say, excessive masculinity is produced in males suffering with lesions in this and certain other organs. My friend and colleague, Professor Ernest Glynn, has written a classical paper on the pathological aspect of such lesions in the suprarenals.

Again, if a woman have acromegaly, which we believe is the result of hyperplasia or neoplasia in the anterior lobe of the pituitary, she shows well marked masculine traits. Her voice becomes deep, her skin coarse, and her metabolism, especially in regard to the deposition of calcareous salts, closely akin to that of man. In these women there is amenorrhoea, simply and solely because they have become masculine, and not because of the lesion in the pituitary as such; indeed, hyperplasia in the anterior lobe should, if it did not produce masculinity, stimulate activity in the genitalia. It is these facts which give rise to the apparent paradox that destructive lesions, as well as hyperplastic lesions in the anterior lobe of the pituitary, produce amenorrhoea. It is interesting to note that acromegaly in the male is often associated with increased sexuality, whereas destructive lesions in the same region in men produce impotence and a change towards femininity as far as possible in the male—that is to say, the skin becomes soft, hair on the face falls out, and the fingers become fine and tapering.

Another interesting sex-characteristic or distinction in regard to the pituitary is of considerable medico-legal importance, although I do not think it has yet found its way into the textbooks on jurisprudence. It is that once a woman has a child the pituitary becomes and remains larger than normal; indeed the average size of the pituitary of multiparous women is considerably greater than the average size of that of men. Moreover, the staining reactions of the cells of the pars anterior are much altered, so much so that an expert in the histology of the pituitary gland cannot fail to recognise the effect and cause.

The subject of the sex-characteristics and the ductless glands is so extensive, being related not only to the glands mentioned but also to the pineal, the thyroid and to some extent to the gonads, that I fear I cannot discuss it further. I have brought forward these details to show that my bias on the subject of the differences in the two sexes is produced by weight of scientific evidence.

ASSOCIATED DISTURBANCES IN THE DUCTLESS GLANDS AND GENITAL ORGANS.

We come now to the gynaecological disturbances due to the correlations of internal secretions and their disorders.

The Ovaries.

In the first place, what have we learned from experiments on animals regarding the place of the ovary in the system of ductless glands? My deductions lead me to look on the ovary as a connecting link in the chain—a link that is only temporarily employed during the reproductive period; that is to say, the metabolism of boys and girls is probably not greatly different, nor is that of women after the menopause much different from that of men in late life. During the reproductive period, however, a woman is called upon for great metabolic effort in order that she may be able to nourish her child in the womb, and, after parturition, at the breast; consequently, the ovary is concerned in keeping the other organs of internal secretion and the resultant metabolism in touch with the genital system and its needs. In my mind menstruation represents merely the monthly excretion of substances that would be concerned in the building up of a child were the woman pregnant. For this reason a woman usually has amenorrhoea for, at any rate, five months of lactation, and should she nurse for more than nine months her metabolism is apt to be drained if she be menstruating at the same time; she suffers, in other words, with the symptoms of superlactation.

What, then, happens at the menopause? Nature is gentle in her methods, and woman is usually let down, so to speak, by degrees. A majority of women suffer with flushes and other disturbances, many of them due to instability in the vasomotor system.

Experiments on animals have shown that if the ovaries be removed changes are produced in the other ductless glands, especially in the pituitary and thyroid. It appears, therefore, that the menopausal disturbances are due to an upheaval of the internal secretory system. The symptoms usually indicate the line of treatment. Many women after the menopause show an unusual degree of atrophy in the thyroid, coincidental with ovarian atrophy, with the result well known to all; not only are the reproductive organs concerned, but also the ductless gland system, and the mind—the patient becomes depressed and melancholy. The obvious treatment is the administration of thyroid extract. This specific example is interesting, for it shows clearly not only the triplication of effects, but also how these effects are produced by an easily recognizable lesion. It has been shown recently by Mott that in all such cases the cells of the brain and nervous system undergo definite changes.

Before leaving the problems connected with the ovaries, I wish to call attention to a matter that, in this country at any rate, has been strangely neglected: I refer to the transplantation of ovarian tissue, a procedure based on physiological experiments. All who have studied the question in animals have found that if the ovaries be removed and some ovarian tissue transplanted the uterus, a section of which is taken at the time when the ovaries are removed, does not undergo atrophy as is the case when the ovaries are removed and no graft is made. We know, too, that in rodents it is the interstitial cells and not the follicles that are important in respect to the integrity of the uterus. The ovaries of rodents, in contrast with the human ovary, contain much of this interstitial tissue, and this is probably the reason why transplantation is almost invariably successful in the lower animals and not constantly so in women. After an ovarian graft has been made, the uterus is an important indicator, for if this organ remains normal no changes are to be observed in the other organs of internal secretion, such as occur after oöphorectomy alone; in other words, an autogenous ovarian graft may be as effective as undisturbed normal ovarian tissue, except, of course, in regard to reproduction. It is, however, important to remember that the best—indeed, the only satisfactory—results are obtained with autogenous grafts, and that a graft taken from one woman's ovary and placed in the muscles of another woman rarely grows. We are only now learning how remarkably individual people are in regard to their blood and other tissues. I have not time to discuss this interesting subject which may account for selective sterility and many other hitherto obscure phenomena.

Unfortunately, as I think, many gynaecologists in this

and in other countries have not much respect for the ovaries in the presence of other pelvic lesions; should they be operating for pyosalpinges, for instance, they invariably remove all the ovarian tissue. I know of a sad case of a young girl who had both ovaries removed for dysmenorrhoea. I can hardly control my words in stating what I think of such an unscientific procedure. This girl has been in an asylum for more than twenty years. No doubt she had a neuropathic tendency. But I doubt if she would ever have broken down if her ovarian tissue had been left alone. There is no reason for removing the whole of the ovarian tissue in any woman, unless the lesion be malignant. In malignant disease the lesser evil is chosen, in view of the fact that we have therapeutical measures which can lessen to some extent the symptoms of the artificial menopause, and probably prevent such a disaster as that of which I have just spoken.

I never leave an ovary in the pelvis if infection be present. I remove all the diseased structures, and, as the ovary can play no further part in reproduction because the tubes have been destroyed so far as their function is concerned, I transplant a piece of healthy, or even infected ovarian tissue, into the muscles of the abdominal wall or some other vascular site. I think I have cause to be satisfied with this procedure, for many of the patients have menstruated, although part of the uterus has been removed in most of the cases; so far as I know at present, no patient has complained of pronounced menopausal symptoms. There may be difficulty in deciding this point. We must not pay attention to agreement with a leading question; but, if the patient volunteers the statement that she is sorely troubled with hot flushes, I would immediately consider that she had menopausal symptoms. Nevertheless, even this is not an absolute indication that the ovarian transplantation has failed. I have in mind at the moment the cases of two private patients, from both of whom I removed double ovarian abscesses with pyosalpinges, and in whom I implanted infected ovarian grafts. Some two or three months subsequently to the operation they complained of discomfort and flushing, yet both of them menstruated shortly afterwards with fair regularity, and the disturbing symptoms ceased. In these cases, as in all in which complaint of such symptoms is made, I administer ovarian and thyroid extracts, which are discontinued when the patient recommences to menstruate.

There are other uses for ovarian transplantation of which I have had satisfactory experiences, but time will not allow of my giving the facts in detail. Transplantation of ovarian tissue is no doubt a complicated surgical problem, and deserves much further consideration. I hope one day to make use of an opportunity such as the present to bring forward a collection of these cases of ovarian transplantation, with which I and those who assist me always endeavour to keep in touch.

I now come to the consideration of primary disorders of the ductless glands which affect the genital functions.

Through the courtesy of many friends I have had an unusual opportunity of seeing a large number of these cases. Generally the patient has complained of amenorrhoea and sterility. It is interesting to speculate as to what happened to all these patients in the days gone by. I notice that in the textbooks of twenty years ago, even in some of those of to-day, obesity, without qualification, occupies a considerable importance in regard to amenorrhoea. I do not say that amenorrhoea and sterility cannot be produced in animals by overfeeding, but, after all, obesity in these circumstances is probably a reflection in the organs of internal secretion of some disturbance in metabolism. It is interesting to note that the two disorders associated with obesity and amenorrhoea, that are seen every day in practice, are connected with the pituitary and thyroid glands. With any considerable insufficiency in these organs the carbohydrate tolerance increases, and the patient becomes obese, as not infrequently happens after the menopause.

I shall now consider these derangements as primary lesions in the ductless gland concerned. I have already considered the other side of the picture.

The Pituitary.

This wonderful little organ, about which so much has been written of recent years, has, as we have already seen, an important influence on sex-characterization and on the reproductive functions. I wish now to discuss the question of insufficiency of its secretion or secretions, and in so doing I shall first call attention to certain important physiological observations which have helped us greatly in forming clinical conclusions; and in these observations you will recognize at once the difference between scientific deduction and guessing.

In animals and birds periodic variations in pituitary activity are normal, even as we have seen variations are normal in connexion with reproduction in women. As I have said, in such cases it is usual to find adiposity when the pituitary is inactive; I shall mention certain apparent exceptions directly.

It has been shown, and I myself have observed, that during hibernation in animals the pituitary gland undergoes remarkable retrogression, which cannot be mistaken by those conversant with the normal active organ. In the hedgehog, which I have studied, there is a remarkable deposition of fat throughout the tissues of the body, most evident perhaps in the subcutaneous tissues. In such circumstances this small animal has a coat of fat as much as one and a half inches in thickness. No doubt this protects the creature from the winter cold and provides nutriment. Associated with this, as I have said, is atrophy of the pituitary.

Fat deposition and somnolence, so well seen in the hibernating animals, are the chief characteristics of acquired insufficiency in the pituitary. It has been suggested, and is indeed probable, that the other organs of internal secretion also undergo some retrogression in hibernation. I have found, too, that the pituitary of the broody hen shows similar changes, but in this case fat does not appear usually to be deposited, perhaps because food is still to be obtained.

Now what is normal in animals may be pathological in Man. I shall not refer here to the wonderful clinical results which have been obtained with the extract of the posterior lobe of the pituitary. They are well known; the subject is one in which I have been specially interested, and it is summarized in my book on the pituitary.

Experiments on animals, apart from the histological investigations to which reference has just been made, have afforded information of the highest importance in regard to the interpretation to be placed on corresponding clinical signs and symptoms. Unfortunately, but few successful series of cases have been published in which operations on the pituitaries of animals have been performed. To Paulesco belongs the credit of being the pioneer in this matter, although he was by no means the first to attempt such experiments. I shall briefly summarize the results of lesions experimentally produced on the pituitary, which are now accepted as being correct; and I may say the conclusions formed from the experiments of Paulesco, Cushing, and myself differ in only one or two important respects.

It is known that extirpation of the whole pituitary is inconsistent with life. The removal of large portions of the pars anterior may lead to the death of the animal, but if it does not do so, intense genital atrophy ensues, and in young animals general stunting. Cushing and Paulesco also observed obesity in these circumstances, but, on the other hand, I did not observe this result of carbohydrate tolerance. Removal of the posterior lobe causes no symptoms. There is a divergence of opinion concerning the results of compression of the stalk of the pituitary: Paulesco considered this to be a fatal operation; Cushing believed it produced effects similar to those following removal of the whole pituitary with immediate transplantation.

In my experiments the operation of compression of the stalk, whereby the blood supply to the pituitary is cut off, was found to lead to the syndrome of dystrophia adiposogenitalis—somnolence, obesity, and total atrophy of the genitalia—an exact counterpart of the disease in Man. I may add that Cushing has privately conceded the correctness of my experiments and deductions, as opposed to his own and those of Paulesco. Cushing is only concerned with the truth, and his work on the various aspects of the pituitary activity is an imperishable monument to his genius.

I have conducted a few experiments whereby an artificial tumour was introduced into the cranial cavity in the neighbourhood of the pituitary. When there was pressure on the stalk symptoms of dystrophia adiposogenitalis were

produced; when irritation from the proximity of the tumour was caused there was glycosuria and emaciation.

We occasionally see in Man congenital insufficiency of the pituitary, in which there is genital inactivity, often associated with poor somatic development. I have seen several cases of this sort. When there is general somatic underdevelopment, that in the pituitary may simply be part of universal insufficiency; but in other cases the patient may be finely developed, yet have inactive functions. I remember an interesting example of this. The patient was about 18 years of age and had not menstruated. She was beautifully developed, but had an infantile uterus. A radiograph showed the sella turcica to be one-third of the normal average size. She was fed on pituitary extract for a long time, and at the age of 22 years, sometime after discontinuing treatment, she commenced to menstruate regularly and freely.

In acquired lesions of the pituitary there is usually enlargement of the sella turcica, and I have mentioned radiography of this region. This is valuable when carried out by a skilled radiographer, and I am indebted to my colleague, Mr. Thurstan Holland, for the trouble he has so often taken and the skill with which he has helped me in many difficult cases. It must not be forgotten that hemianopia, which may go on to complete blindness, occurs with enlargements of the pituitary fossa, and headache may be persistent and severe. But it will be remembered that pressure on the stalk can be experimentally produced, and that this lesion causes dystrophia adiposogenitalis. It is interesting, therefore, to note that in Man all the symptoms of dystrophia adiposogenitalis, without expansion of the sella turcica, may be caused by a suprasellar tumour. In such cases a definite diagnosis can be made by the symptoms and the absence of enlargement of the sella turcica on radiographic examination.

There are other methods of investigation which may help. I have spoken of carbohydrate tolerance, by which is meant the power to retain carbohydrates and deposit fat in the tissues instead of the ability to excrete carbohydrates in excess of the usual limit. The normal person is able to take about 110 grams of dextrose without the appearance of glycosuria. The power to retain more than about 150 grams may be considered pathological. The carbohydrate tolerance, then, of a patient may be measured, and it will be found to be raised in cases of pituitary insufficiency. I have known a patient swallow—with difficulty be it admitted—500 grams of sugar without subsequently passing sugar in the urine.

Then, again, we have what is known as the "thermic reaction." All cases of severe pituitary insufficiency show a subnormal temperature, which may be raised by the intramuscular injection of an extract of the anterior lobe. I cannot affirm, however, that this reaction is always striking. Moreover, the blood pressure is often very low, but can be raised with an extract of the posterior lobe—that is, by infundibulin injected intramuscularly. But, of course, this alone is not a specific test, as infundibulin administered intramuscularly will always raise a reduced blood pressure.

With regard to serious lesions of the pituitary and their effects on the genitalia, treatment is not always satisfactory. If there be a cyst in the pars anterior it may be safely evacuated, and the patient may recover completely. In other cases, feeding with whole-gland pituitary extract may give good results, especially if associated with operation.

Our knowledge of the minor disorders of the pituitary is less definite, because the conditions do not lend themselves so well to experimentation as do the grosser lesions. We have, however, the important facts of the physiological states of hibernation in animals and brooding in birds to help us, for we see in them a temporary phase of insufficiency, and we are led to realize that similar conditions may be found in Man. I have already mentioned that the opposite state—that of hyperplasia—occurs in women during gestation. Furthermore, experiment has shown that changes occur in the pituitary as the result of inoculations with bacteria. I would call special attention to this point in regard to the pituitary, without considering the coincidental changes that are seen in the suprarenals and elsewhere in the ductless gland system, for I feel sure many of the minor insufficiencies seen in practice may be the immediate sequel of bacterial infections. The lesions may be slight and curable. It is not always possible, however, to get a definite history, but "a cold" is frequently mentioned as the starting point of secondary amenorrhoea.

When the fact that the organ chiefly at fault is the pituitary can be established, then treatment is, I believe, fairly satisfactory. I have seen patients in whom regular menstruation has been induced by pituitary feeding.

The Thyroid.

As intimate as the relation of the pituitary to the genital functions is the association between the thyroid gland and the genitalia. Here again we are to a great extent indebted to experimental research, but no less to pathological investigations; moreover, clinical observers have had a good chance to advance our knowledge of the thyroid, for this organ is accessible to ordinary physical examination.

A matter of considerable interest has come to light as the result of experimental extirpation of the thyroid; in rodents, such as the rabbit, removal of this gland is not only compatible with continued existence, but appears hardly to disturb the animal. Three reasons may be suggested for this comparative immunity to the effect of thyroidectomy, as opposed to the disastrous effects of the same operation in carnivora. First, it is known that a meat diet makes a greater call than a purely herbivorous on the activity of the thyroid. Second, in herbivorous animals the parathyroids usually escape removal with the thyroid itself, whereas in carnivorous animals it is not always possible to conserve all the parathyroids, which are closely adherent to the thyroid. Third, the thyroid is not so active in herbivorous animals as in carnivorous animals, perhaps primarily because of the diet, but also because the ovarian interstitial tissue in these mammals is more in evidence than in the carnivores.

Man being omnivorous should come half way between the two orders in regard to thyroid activity, if it were purely a question of diet; but I do not think it is. In Man we have seen there is little interstitial ovarian tissue, which, from a genital point of view, means a very active thyroid. Extirpation of the thyroid in animals is followed by a considerable degree of atrophy of the uterus, but strangely enough ovarian retrogression is not seen.

As with the removal of the ovaries and also with partial removal of the pituitary, thyroidectomy is followed by definite changes in the other ductless glands, and these changes are particularly noticeable in the pituitary, which undergoes hyperplasia in all parts.

It is a too common observation in the experience of every one for me to do more than recall the curious enlargement often seen in girls during menstruation; but I believe that it is important to bear in mind that this enlargement may exist in two forms. It is either a primary lesion in the thyroid which persists between the monthly periods, in which case menstruation is profuse; or it may be due to a temporary state of hyperplasia, when the ovaries are not very active and supplementary action is required to establish menstruation. In the last-named circumstances menstruation is usually scanty and painful.

The treatment, of course, is obvious; in the first type of case attempts must be made to reduce thyroid activity, if symptoms are sufficient to warrant interference, because I believe exophthalmic goitre may supervene. Radiations of *x*-rays carefully managed appear to be a valuable method of treatment. I have also found intramuscular injections of infundibulin and the administration of calcium salts efficient in many cases. In the second type there is an attempt, as I have said, on the part of the thyroid to supplement ovarian insufficiency; consequently, we must treat the case by the administration of thyroid and ovarian extracts. I believe ovarian extract alone is useless, and this, I think, is the general experience of most clinicians; but I have seen excellent results when whole ovary extract is given in conjunction with thyroid extract. We must remember that in the blood stream the internal secretions meet and activate, or inhibit.

In myxoedema the most wonderful results are obtained with the administration of thyroid extract. A melancholic, obese, non-menstruating sterile woman, becomes happy, is reduced in weight, menstruates and may even conceive. An illustration again of the triplication of effects. But it is, after all, the minor degrees of insufficiency in organs of internal secretion that escape notice while they are still easy to treat, and I beg you to

be on the look-out for the protean signs and symptoms that are discernible very early.

I have not time to deal with insufficiencies of the other ductless glands; nor have I time to mention some of these glands at all. You will find in my book, *The Sex Complex*, especially in the new edition about to be issued, a more complete picture. I shall be amply satisfied if I have been lucid in this hasty sketch with which I have sought to attract your attention to the triplication of effects—in the mind, in the soma, and in the reproductive organs—which forms such striking evidence of what I have called the Correlation of Function.

THE COMMONER COMPLICATIONS OF BACILLARY DYSENTERY IN MILITARY PRACTICE.

BY

PHILIP MANSON-BAHR, D.S.O., M.D., M.R.C.P.,

ASSISTANT PHYSICIAN, HOSPITAL FOR TROPICAL DISEASES, ENDSLEIGH GARDENS, AND ALBERT DOCK HOSPITAL; LECTURER, LONDON SCHOOL OF TROPICAL MEDICINE.

THE complications of bacillary dysentery have received scant attention from medical writers in the past, but since the recent campaigns in the East many symptoms, apparently due to the absorption of the toxins of the *Bacillus dysenteriae*, have occurred with considerable frequency in military practice.

Arthritis in Bacillary Dysentery.

Of these complications, monarthritis, or more generally polyarthritis, have been frequently noted during the Egyptian and Palestine campaigns.

That such an arthritis may supervene during the course of a bacillary dysentery, even of a mild type and untreated by any specific serum, and that the joint disintegration so produced may persist for a long time—even a year or more—and may result in permanent disability, has long been recognized, though in many epidemics in India and elsewhere such occurrences have been rare. Davidson,[1] who wrote mainly from Indian experiences, remarked upon the tolerable frequency of arthritis in dysentery unaccompanied by any involvement of the endocardium. This, he noted, may be ushered in by pyrexia, either during the acute stage of the disease, or when, apparently, the bowel condition has once more become normal. In the Döberitz epidemic in Germany, in 1900, arthritis supervened in 3.75 per cent. of all cases, and the condition persisted from four days to four months. It is significant that, writing in 1913, Sir Leonard Rogers[2] mentions only a single case of arthritis of an obstinate character as having occurred to his knowledge during the course of such an epidemic in India.

In a bacillary epidemic of a more virulent character, which visited the Fiji Islands in 1897, I was informed by Daniels that fully 10 per cent. of the patients developed arthritis, whilst in 1910, during a study of 300 cases in the same colony, I did not see a single one.

During the war on the eastern European front 7 cases of arthritis out of a series of 600 have been reported. A streptococcus is said to have been isolated from the blood of one case, and the joint symptoms were regarded therefore as a result of streptococcal septicaemia secondary to the bacillary infection.

Arthritis occurring in the course of amoebic dysentery appears to be very rare. I have only been able to find a record of one case.

During the first nine months of 1916 a number of cases of arthritis occurred amongst patients suffering from bacillary dysentery in Egypt. The bacillus responsible was the Shiga bacillus in all cases which could be properly investigated, and it is noteworthy that no cases of arthritis were observed at the same time in Flexner-Y infections. Though the latter bacillus was commonly met with amongst the numerous cases of bacillary dysentery in Turks at the Prisoners of War Hospital, Heliopolis, Cairo, yet no instances of joint involvement were noted amongst these patients.

Arthritis in Cases Untreated by Serum.

The majority of the cases of arthritis encountered during the course of bacillary dysentery have been those previously injected with antidysenteric serum, though arthritis was observed twice in cases untreated by serum of any kind.

In one such case the right knee alone was affected, and there was a large effusion into the subcrural pouch, which was very gradually absorbed. In the other cases all joints were affected, including the temporo-maxillary and the interphalangeal; there was also a uniform swelling of the right parotid gland. Arthritic symptoms in both instances supervened during convalescence from dysentery and while the stools were completely facculent.

Arthritis occurring Subsequent to the Administration of Antidysenteric Serum.

According to my personal observation, arthritis occurring in a patient subsequent to the administration of antidysenteric serum, either by the subcutaneous or the intravenous route, can be classified under two headings:

(*a*) Fugitive polyarthritis, with or without joint effusions, occurring during the course of "serum sickness."

(*b*) Intractable polyarthritis, with effusion into joints and wasting of adjoining muscles, apparently due to absorption of dysenteric toxins.

(*a*) *The Fugitive Form.*—Eleven out of 29 acute cases of bacillary dysentery injected intravenously with doses of from 30 to 40 c.cm. of antidysenteric serum developed a fugitive polyarthritis seven to twelve days after the injection; that is to say, the arthritis was ushered in with pyrexia, urticaria, general malaise, and hyperaesthesia of the muscles. This condition lasted as a general rule for two to three days and then cleared up, and might possibly be ascribed to the elimination of foreign proteins originally contained in the serum injected.

(*b*) *The Intractable Form.*—Eight out of 29 cases (or 27 per cent.) developed joint symptoms, often of a very intractable nature, with intra-articular effusions. This came on generally from the sixth to the tenth day after injection of serum. This is a much higher percentage of incidence of arthritis than in the series from France and Mesopotamia recently described by Klein[3] and Waller[4]; the latter reported 12.4 per cent. of arthritis as occurring in his cases treated by serum.

The effusions in my cases took place with surprising rapidity, accompanied by acute pain and a rise of temperature to 102° to 103° F., especially when the knee-joint was involved. The one death in this series was preceded by profuse watery diarrhoea with a septic pyrexia ending finally in collapse.

In the knee-joint the effusion took place into the subcrural pouch and, in less than twenty-four hours from the commencement, the joint cavities were distended to their utmost capacity and the superjacent skin was stretched and shiny. There were no signs of local inflammation such as hyperaemia of the adjacent tissues. In the interphalangeal joints the swelling occurred into the tissues immediately surrounding the articulations, thus giving the spindle-shaped appearance of rheumatoid arthritis.

In one case large sterile effusions took place into the substance of the gluteus maximus and latissimus dorsi muscles, and subsided very slowly so that the patient was incapacitated for six months. The stage of the disease at which the arthritis supervenes is of importance; in all the cases I observed, the arthritic symptoms commenced at a time when the intestinal condition had considerably improved—even, in some cases, when the stools had been apparently normal for a week or more. The effusion was straw-coloured and slightly viscid, sterile on culture and containing a considerable number of polymorph cells. According to Klein this fluid agglutinates the specific bacilli in high dilutions.

In all cases observed, and especially in several cases not included in the series quoted above, intermittent pyrexia persisted as long as the joint symptoms were in evidence. Another characteristic seems to be that the pain, or, in some cases, a sense of stiffness, appears to be more marked at night time or in the early mornings.

As bearing on the etiology it is important to note that in two cases previous arthritis of rheumatic or traumatic origin had occurred a year or more before the onset of dysentery; it therefore seems probable that previous joint injury may exert a very definite predisposing influence on the supervention of joint symptoms in a subject subsequently attacked by a bacillary dysentery.

The question now arises whether the brand of the serum employed played any active part in the causation of this particularly intractable form of polyarthritis. I think there can be no question that polyarthritis may occur during the course of bacillary dysentery, quite independently of any serum treatment, but may it not be that some substance in the brand of antidysenteric serum employed, such as a large proportion of toxic proteins, can exert a deciding influence on the production of joint effusions? There would appear to be, from the figures at my disposal, some grounds for such a supposition; for amongst my series of cases a polyarthritis occurred in 8 out of 29 injected with a certain brand of serum (that is, 27 per cent.), whereas in 335 convalescent and slight bacillary cases admitted to hospital during the same period, and who were not treated with serum of any kind, only one case of arthritis occurred.

In addition to this evidence, through the kindness of Lieut.-Colonel C. J. Martin, C.M.G., D.S.O., F.R.S., I have been able to obtain his statistics from an Australian General Hospital for comparison with my figures. The Australian statistics show the remarkable fact that 358 cases, from nearly all of whose stools the specific bacillus was isolated, were treated with large intravenous injections (100 c.cm. or more) of Lister Institute antidysenteric serum with apparently favourable results, and without the supervention of a single case of arthritis. Similarly, in 1910 I gave over one hundred consecutive intravenous injections of Lister Institute antidysenteric serum without the supervention of a single complication of this nature.

Infrequent Complications.

Iridocyclitis and *parotitis*, which have recently been noted.

The *iridocyclitis* occurred in two cases six weeks after the initial dysenteric attack; one patient suffered from arthritic symptoms, whilst the other did not.

Parotitis was observed in three cases presenting no obvious signs of oral sepsis. In one there was a unilateral and in the other two a uniform bilateral swelling of the parotid gland which appeared suddenly and disappeared almost as suddenly. In both cases the swelling of the parotid coincided with the development of the concomitant arthritis.

SUMMARY.

It is reasonable to suppose that there exists an idiopathic dysenteric arthritis due to the absorption of specific dysenteric toxins from the bowel wall and their excretion (as is known to be the case during the absorption of toxins of septic and gonorrhoeal origin) into the joint cavities.

In the same manner the arthritic symptoms occurring during the course of serum sickness may be justly regarded as representing an effort on the part of the organism to rid itself of toxins peculiar to horse serum; and it is possible that a particularly high percentage of these toxins, even when introduced in moderate doses into a subject already suffering from dysentery in which *per se* arthritis is not an infrequent complication, may not only determine the onset of the condition, but also the amount of disintegration of the joint thus produced.

REFERENCES.

[1] *Hygiene and Diseases of Warm Climates*, 1893. [2] *The Dysenteries*, p. 382. [3] *Lancet*, November 1st, 1919, pp. 775–778. [4] Ibid., pp. 778–780.

INSTINCT AND HYSTERIA.

BY

V. T. CARRUTHERS, M.B., F.R.C.S.EDIN.,

MAJOR R.A.M.C.

THE springs of conduct are obscure and not to be discovered at a glance, but it seems likely that our actions can be traced back to a basis of psycho-physical dispositions, more or less modified by outside influences and by interaction between such dispositions themselves. The innate dispositions, when considered in their simplest manifestations, are known as the primary instincts. On analysis an instinct is found to consist of three elements—the cognitive or afferent, the affective or central, and the conative or efferent. McDougall describes a number of primary instincts, to each of which he assigns a primary emotion, which is the affective element of the instinct. He describes others in which the emotion, though doubtless present, has no name. From his list we select the following as having a bearing on our subject:

(*a*) The instinct of flight and the emotion of fear.
(*b*) The instinct of curiosity and the emotion of wonder.
(*c*) The instinct of pugnacity and the emotion of anger.
(*d*) The instincts of self-abasement or subjection, and self-assertion or display; of which the affective sides are the emotions of subjection and elation, or negative and positive self-feeling.
(*e*) The parental instinct and the tender emotion.
(*f*) The sex instinct.

When we watch the play of instincts we notice that their conative activity is directed to the attainment of pleasure, the elimination of painful feeling, and to the good of the individual or species; in other words, that the conation arising in the activity of an instinct is of a teleological or purposive nature. But this is not the same as to say that it is a conscious endeavour towards a foreseen end; for example, the salmon, surmounting the waterfall by a supreme effort, has not directly in view the good of its progeny. And many a man who all his life has held strong political views, imagining them to be founded on the dictates of pure reason, would be offended if it could be shown that his opinions are founded (as is often the case) on his instinct of pugnacity and the emotion of anger against those who hold opposite views. The action of running away under the impulse of fear might seem to be a consciously directed endeavour; but the other motor activities, such as rapidity of the heart's action and respiration, are equally part of the flight instinct, and are obviously not consciously directed.

Instinctive behaviour is sometimes extremely simple, at other times complicated to a high degree. The simpler forms are commonest among the lower animals, and the highest complications are found in man. As an example, the instinct of pugnacity when aroused may result in an attempt to hurt an opponent by a blow, or in the complex and long-lasting efforts involved in a lawsuit. An observer who was unacquainted with civilized man might find some difficulty in classifying under the same heading the conduct of the cock that flies at his enemy's head at sight, and that of the prosecutor in a lawsuit sitting for weeks in a court listening to speeches, conferring with counsel, and taking notes. A savage, also, whose notion of the sex instinct was limited to the sexual act, would be puzzled to account for the civilized young man writing verses "To Chloe, on finding her fan." But though man shows the highest degrees of complicated instinctive behaviour, in animals also the conative aspect of an instinct may be exceedingly complex. This is seen in the case of bees, spiders, birds, etc., in whom the parental instinct is greatly modified and complicated. Differences between the modifications of the instinctive behaviour of animals and man lie in the fact that the complicated conative disposition of animals is the same in different individuals and is transmitted unchanged to their descendants; whereas no two men act exactly in the same way under the influence of fear, anger, wonder, elation, and the rest, and complications are not transmitted as such. Though we can observe instinctive behaviour modified and complicated almost out of all recognition in both man and animals, the factors producing these modifications are somewhat obscure. That the intelligence may play a large part in the case of man is seen in such an instinct as curiosity, which is the mainspring of scientific research; but how birds were moved to build nests by the parental instinct, or how certain species of rats, moved by their flight instinct, adopted an aquatic life, and why these complications of originally simple conations were transmitted to their offspring, we do not know.

In the study of the etiology of certain functional disorders it has seemed that some advantage might be derived from considering the primary instincts. As is well known, mutism, paraplegias, paraesthesias, blindness, deafness, amnesia, etc., are common during the strain of battle. All these are disorders which incapacitate a man from service and cause his removal from a dangerous area to hospital and safety; in this way they serve the instinct of flight, which, like other instincts, is teleological or purposive in its conative aspects. It is surely not more remarkable that the flight instinct should make a man paraplegic than that the parental instinct should cause a bird to build a nest; or that the sex instinct should lead

Orlando to pin verses on to trees. At the first glance all these activities seem equally remote from the primitive, efferent function of the instinct; but they have in common the one fact that they advance the purpose of the instinct. This does not necessarily imply conscious endeavour to a foreseen end. When such endeavour is present we may (apart from malingering) get the phenomenon of the self-inflicted wound, which is an example of the intelligence usurping the entire conative functions of the instinct of flight.

This parallelism of the activities of the reasoned and unreasoned conations, producing in each case the same result (namely, illness), is a point that seems interesting to note, and can be matched in the play of other instincts besides that of flight.

In the study of the most common functional or "hysterical" troubles outside military life the instincts of self-abasement and self-assertion should be recalled.

Self-abasement, with its emotion of negative self-feeling or subjection, is evoked by failure in the primitive human occupations—war, love, reproduction—and by pain and fear. Its conative activity consists in crouching, cringing, or slinking attitudes of body, or (in the civilized) of mind. Its object seems to be the propitiation of a superior power or the eliciting of sympathy or pity; it is well seen in the whipped dog. An interesting human example was seen by the writer in the case of a Tamil marker who, being accidentally shot on the range by a soldier, fell on his knees and salaamed repeatedly to the man who had shot him. One does not often witness the bodily exhibition of the instinct among civilized people, though the mental equivalent is very common. If the instinct of self-abasement is successful in gaining the sympathy or consideration which is its object, it is liable to change in a curious way into the instinct of self-display. If the cringing dog is given a few words of encouragement it immediately starts exaggerated gambols and friskiness, and becomes animated by impulses directly opposed to those that at first kept it cringing and shivering at its master's feet. The case of over-servile persons will readily occur to the mind as an instance of the same thing in the mental sphere. The instinct of self-display or self-assertion is chiefly evoked by success in the primary human activities, such as war and sport, love and reproduction. Its affective side, positive self-feeling or elation, is pleasurable; but its conative side, which consists simply in conduct known to boys as "showing off," does not seem to be of any great service to the individual or species. The point that should be noticed in both the instinct of self-display and self-abasement is the frequency with which they operate in close association with the sex instinct. This perhaps explains the original purpose of self-display.

Returning to the etiology of "hysterical" manifestations, we find that the symptoms (aphonia, monoplegia, analgesia, or what not) are commonly found to follow an incident such as an unfortunate love affair, the discovery of a disease of the reproductive system, or a terrifying and painful occurrence. Here we have those factors which evoke the instinct of self-abasement—failure in love or reproduction, fear and pain. The goal of the instinct is to elicit pity, sympathy, or attention from other people. In modern civilized life the best way to do this is to be ill; for the primitive conative activities of crouching, wailing, rending of garments, putting dust on the head, etc., no longer impress the public as of old, and may even excite ridicule. Accordingly the patient exhibits symptoms that often go with organic disease, and can sometimes hardly be distinguished from the latter even by an expert. That such phenomena can be seen apart from any voluntary origin, is shown by the fact that the symptoms are very often of a kind that are not under voluntary control at all, such as excessive borborygmi, local vasomotor disturbances, spasm of the oesophagus, and the other visceral manifestations of hysteria. These activities of the instinct of self-abasement are often seen to awaken (when successful) the instinct of self-display and the manifestations of positive self-feeling, in the manner alluded to above in the case of the dog. In other words, the patient, from being humbly miserable, comes, under the influence of wondering and sympathetic friends, and perhaps of the zealous physician, to take a pride in her symptoms and to derive undoubted gratification from showing them off and developing new ones. Hence the value of isolation treatment.

As, when surveying the involuntary disorders arising under the instinct of flight, we saw in self-inflicted wounds a parallel phenomenon guided by the intelligence, so in the "hysterical" class we observe conditions such as dermatitis artefacta, apparent fasting, alleged anuria, etc., which are all instigated by purposive intelligent conation.

The scope of suggestion in the production of functional troubles has not, so far, been mentioned. Some authorities, notably Babinski, attach extreme importance to it. There is no doubt that it often determines the type of symptom that arises. For instance, a slight injury to a limb may be followed by a monoplegia. A difficulty in swallowing during painful emotion, especially when accompanied by weeping, may initiate the globus hystericus. But it is here suggested that as imitation and suggestion play such a very large part in the causation of normal conduct, we should admit that they may have the same part in producing hysterical behaviour, without being the original causes of it.

In conclusion, how does the theory put forward in the preceding observations agree with the Freudian hypothesis? The school of Freud appears to explain morbid functional disturbances by supposing that the natural conative activity of an instinct (always the sexual) is liable to repression by the censorship of the moral nature or of education. The normal conation being thus in abeyance, the energy of the affect is transferred to an abnormal conative disposition, and functional disease follows. In this connexion it is interesting to turn again to the animal world. There we find beetles which, instead of running away when frightened, sham death; and birds which, under the influence of the parental instinct, develop a functional paralysis of a wing. What in these cases is the censor that represses the normal conative activity of the instincts, and what determines the exceedingly useful conative disposition that shall become linked to the affect; and could such repression of the conation and transfer of affective energy be transmitted to offspring as intact dispositions? The difficulty of answering these questions has led to the hypothesis advanced in these notes.

Summary.

1. Men and animals alike are swayed by a purposive impulse in their fundamental activities, and this impulse, or teleological striving, can be studied in the conative aspect of the instincts. In many animals instinctive behaviour consists in quite simple reactions, but we also find animals, especially insects, in which the behaviour is extremely complicated. We do not know in the least how this complexity of animal behaviour is produced, but there is reason to believe it is due to something different from human intelligence.

2. In man the complexity of his instinctive behaviour is due partly to intelligence and partly to the same cause that modifies the primitive responses of the animal.

3. It is here suggested that certain functional diseases often represent the modified conative activity of primary instincts—especially of flight, self-abasement and self-display; and that "hysteria" is an example in man of the complications which conations, originally simple, are known to undergo in animals.

THE USE OF X RAYS AS IMMUNITY-RAISING AGENTS BEFORE AND AFTER OPERATION FOR CANCER.

BY

FRANCIS HERNAMAN-JOHNSON, M.D.,

RADIOLOGIST TO THE FRENCH HOSPITAL; PHYSICIAN TO THE X-RAY DEPARTMENT, THE MARGARET STREET HOSPITAL FOR CONSUMPTION.

POST-OPERATIVE *x*-ray treatment in breast cancer is generally regarded as right and proper, but it appears necessary to emphasize the fact that before operation a peculiarly favourable opportunity is presented for treatment by radiation. The knife may be a means of disseminating stray cancer cells, but if, before the possibility of such dissemination occurs, we can bring about either (1) the

weakening of the malignant cells or (2) an increase in the resistance of the body tissues as a whole—or, better still, both of these desirable results—then the chance of successful colony formation by the parent growth will be much reduced. There is very good reason to believe that these favourable pre-operative conditions may be established by means of suitable *x*-ray preparation.

It has been shown experimentally that mouse cancer which has been exposed to radium or *x* rays is grafted with difficulty, or not at all, into fresh tracts, and that an animal which has been suitably irradiated is resistant to cancer grafts. There is also some clinical evidence which suggests that *x* rays have a helpful action in cancer, no matter to what part of the body they are applied. Such action can scarcely be exercised otherwise than through the blood. Morley Roberts would have us believe that cancer is the result of abnormal growth due to disturbed hormone balance; which disturbance is reflected in the composition of the blood. Certainly we know, on the one hand, that a few cases of cancer of the breast appear to have cleared up under thyroid administration; also that *x* rays powerfully affect the ductless glands, and have an influence on the cellular elements of the blood, and possibly on its plasma.

Such speculations, however, carry us beyond the intended scope of this article. The important point is that *x* rays act as much by their stimulating or regulating action upon the body, locally or generally, as by direct depression of cancer cells. Radiation undoubtedly has a deleterious effect upon embryonic cells, and in so far as cancer cells approach this type they are injured by it before normal cells. To this extent the action is "specific" in the same sense as quinine is a "specific" against the malaria parasite—that is, the parasite is injured by doses which have little or no effect on the cells of the body. So with mercury and salvarsan in syphilis.

But, apart from the treatment of rodent ulcer, which does not tend to metastasize, the general stimulating and regulating action of *x* rays is of more value than its "specific" local effect upon pseudo-embryonic cells. We may speak of the process in general terms as "raising the resistance" to cancer. That the general resistance can be so raised has been conclusively proved so far as mouse cancer is concerned. W. S. Bainbridge[1] quotes Murphy and Norton, of the Rockefeller Institute, as follows:

> They found that the chief characteristic of a failing heteroplastic graft in the unsuitable host is a marked local accumulation of lymphocytes. The histological position was found to be identical with that noticed in a failing cancer graft in an immune animal of the same species. Synchronous with the establishment of the cancer immunity, and during the period in which the lymphocytes are accumulating round the cancer graft, there is a lymphocytic crisis in the circulating blood, this being observed in actively immunized animals as well as those possessing a natural immunity, but being totally absent in animals susceptible to the cancer graft. If this lymphocytic crisis be prevented in immune animals by previous destruction of the lymphoid elements by the *x* ray, the potentially immune animal is changed to a susceptible one. Leaving out of consideration the complicated question of the direct effect of *x* ray on cancer they studied this artificial method of producing a lymphocytosis in relation to the resistance of mice to their own spontaneous tumours.
>
> In order to do this they removed the cancer, and then subjected the animal to a stimulating dose of the *x* rays. A graft of the original tumour was then immediately replaced in the groin of the animal. The same procedure, with the omission of the *x* rays, was carried out in control animals. In others, as a further check to the experiments, the cancers were removed and exposed directly to the same amount of *x* ray that the animals of the first group had received, a graft of the tumour being then returned to its original host. An *x*-ray dose they found which produced a lymphocytosis when administered direct to the animal, was sufficient to render 50 per cent. of the mice so treated immune to a return graft of their own tumour; and, in the other 50 per cent., greatly to retard the return of the disease. A similar dose given to the cancer direct outside the body did not influence the subsequent growth of a graft of this tumour when returned to its original host.
>
> These observers considered that, if this pronounced result could be obtained with one stimulating dose, it is probable that a more pronounced effect might be obtained by a second exposure to *x* ray after a suitable interval.

In man the immunity produced by *x* rays is not, however, specific, as the same treatment will cause great improvement in the subjects of tuberculosis, or, for that matter, of various other sorts of microbic infection.

A consideration of these facts should lead to clear ideas of what may be and what ought not to be expected from *x* rays in cancer. In so far as their effect is a direct one upon a localized growth, they are an alternative to other local procedures, and each case must be judged upon its merits. Rodent ulcer practically always, and sarcoma sometimes, should be treated by radiation. The case as between *x* rays and radium must be decided by their local results, and these in turn must be judged against those of surgery, diathermy, etc.

But when we come to final issues we have the question of raising immunity—in other words, it is only in so far as we can aid the body to resist fresh invasions that we prolong life. The immunity produced by *x* rays is partial and non-specific, and it has yet to be proved that that induced by radium is any different in quality or quantity. Where a wide distribution of radiation is desirable, as in the treatment of breast cancer, the practical advantages of *x* rays over radium are generally admitted, even by those who believe that the latter would be preferable, were it to be had in abundance.

The local superiority of radium in cancer of the lip and of mucous membranes in general is undoubted, but unless the general increased resistance is of a different type from that produced by *x* rays, hopes based upon the employment of radium in large quantities would appear unlikely to be fulfilled. At the present moment we possess *x*-ray apparatus capable of giving a practically unlimited output of rays, but no great advantage accrues, as it is easy to push the dosage to a point at which the general resistance is actually lowered.

Even quite recently I have seen questions in the medical press as to the desirability of using an agent in the treatment of cancer which can actually induce the disease. The best answer to this is to be found in a consideration of such a drug as arsenic. Arsenic is of the utmost value as a tonic, and in certain diseases of the blood, the nervous system, and the skin, yet excessive or too prolonged dosage involves a risk of neuritis or dermatitis, or both. In *x*-ray therapy it is important not to exhaust the response of the system. "Staleness" to *x* rays may ensue even before the danger point is reached. Therefore, in my opinion, a single course should not exceed two months in length, nor should another be given until an equal interval of time has elapsed.

But although clinical experience teaches that a favourable response continues to be elicited by *x* rays for many weeks, this does not mean that the full period should be used in pre-operative raying. We must ask: What is the minimum time in which an appreciable effect can be produced in a breast cancer? My experience in this matter is derived from (1) cases of recurrence in the other breast, after operation; (2) tumours in old people when operation is refused or not indicated; (3) a few rare instances when cancer coincides with some condition such as cardiac trouble, where the risk to life of surgical measures is too great. I have no hesitation in saying that a definite effect can be produced in less than three weeks.

By this I mean that the lump is visibly smaller, and pain, if present, relieved. This result is accomplished by six to eight sittings spaced at intervals of two to three days. The doses are comparatively small, and no visible skin reaction is produced. The effect, in the writer's opinion, is rather of resistance-raising than of direct injury to the growth. This makes it all the more valuable, as we desire to render the body in so far as possible generally immune, so that the settlement of any cancer cells freed by the knife may be opposed, no matter where they may be carried by the blood stream. Also, no matter what the cause may be of the shrinkage of the tumour, there can be little doubt that its component cells will be less able to establish themselves in new surroundings than they were before this shrinkage began.

The fact that a case has received pre-operative treatment does not in any way modify the obligation to give post-operative irradiation. But this may be safely delayed for a month—that is, until the patient is about again.

What can be said against the procedure advocated? The visible good effects of *x* rays upon cancerous growths where operation is contraindicated are beyond doubt. There is no evidence that pre-operative raying in any way interferes with the healing of the wound. The sole argument against the procedure must therefore be that it delays operation for two to three weeks. But this argument, to be valid, implies a belief that the cancer, although improving to the eye—which cannot be denied—is never-

theless spreading in the depth. While this might be so with improper technique, as by limiting the rays to the tumour itself, it cannot happen during the "stage of response" provided that a wide cone of rays is used, so that practically the whole chest, neck, and upper abdomen are exposed. The rays must also be filtered through at least 3 mm. of aluminium, and be highly penetrating. Under these conditions a growth which has already spread to the mediastinum can often be beneficially affected, so that it is almost inconceivable that any deep spreading should occur in the circumstances under discussion.

Nothing which has been said here is to be taken as meaning that the growth would not ultimately spread, in spite of *x*-ray treatment, supposing no operation to be done. Why this should be so we do not understand. But it appears that after a time the tissue response fails, as it does to arsenic in pernicious anaemia. Hence the necessity for operative removal, whenever possible, before the crest of the wave of improvement under *x* rays has been reached.

It is obvious that if we can increase resistance to cancer by *x* rays, we should do so after operation as well as before. Although we do not know what is going to happen in any individual case, we know that in a large percentage of all cases operated on for cancer of the breast, recurrence—or, at any rate, further growth—will occur. The rate of recurrence is estimated at 40 per cent. by the optimists, up to as high as 80 per cent. by the more pessimistically inclined. But even if we side with the optimists, two out of every five cases are certain to go wrong. So little do we know where the recurrence will occur—whether in the breast, in the stomach, the liver, spine, or ovaries—that a local effect, even though widely spead beyond the original site of the disease, must in itself be insufficient in many cases to prevent disaster. But the production of a general immunity is well worth aiming at. It may soon be possible, by using blood tests as criteria, to gauge scientifically the dosage at each sitting, the number of sittings in a course with their spacing, and finally, the intervals between successive courses.

Meanwhile, so long as we are not dealing with actual recurrence, we must be very careful to give too little rather than too much. The present writer feels that the possession of powerful apparatus has of late years led to unduly heavy dosage for prophylactic purposes. The experimentally verified fact that small doses of *x* rays raise immunity to cancer, whereas large ones decrease or abolish it, will, if kept carefully in mind, at least safeguard the radiologist from transgressing that fundamental therapeutic precept, *nil nocere*.

REFERENCE.

[1] The Cancer Problem and the World War, *Practitioner*, xcviii, pp. 229-230; The Effect of *X* Rays on the Resistance to Cancer in Mice, *Science*, 1915, N.S., X, 411, 842.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

FATAL POISONING BY WATER DROPWORT (OENANTHE CROCATA).

THE following case of poisoning by *Oenanthe crocata* is of interest because of its rarity and rapid course:

A single man, aged about 40, had for many years shown slight mental abnormality; I had seen him eighteen days before his death, when he was despondent and believed that he had committed some unforgivable sin. When summoned to him at 3 p.m., on April 24th, I found him lying on the floor of his bedroom; his face was bloated and livid, the eyes fixed and staring, and the pupils were dilated, his breathing was laboured and stertorous, and the pulse feeble. Blood-stained froth escaped from his mouth, and he was totally insensible and violently convulsed. Lying under his bed were a large number of roots, which when broken emitted a nauseous somewhat mouse-like odour like that of hemlock. When the convulsion had ceased the teeth were prized open and the stomach was repeatedly washed out with tepid water; the washings contained particles of vegetable débris, and had also the characteristic odour of hemlock. Lavage was continued until he had another violent and prolonged convulsion; when this had ceased respiration and circulation rapidly became fainter, and stopped ten minutes after my arrival. It appeared that he had gathered the roots in the early forenoon. He went to bed at 1.30 and an hour later was noticed to be restless and twisting. This was the first convulsion; he had two others before my arrival and was unconscious during his remaining three-quarters of an hour of life.

Examination of the roots showed them to consist of a series of tubers, varying from two to ten in each plant, some of them oblong, smooth, and succulent, others thinner and more fibrous and tapering, like bunches of small parsnips, for which they are apt to be mistaken. Their colour was yellowish-white, and when cut across were found to be dotted over with little brown pin-head spots, the whole becoming yellow on exposure to the air. They were quite characteristic of the plant variously known as *Oenanthe crocata* (the classical name, from *oinos*, wine, and *anthos*, a flower—owing to the vinous scent of the flowers), "hemlock water dropwort," "horsebane," and "five finger root." It is also called "water hemlock," but this name is more accurately applied to an allied poisonous plant *Cicuta virosa*, or "cowbane." *Oenanthe crocata* is one of the most virulent of vegetable poisons, more deadly even than the more familiar *Conium maculatum*, or "spotted hemlock." It contains "oenanthotoxin," which causes convulsions by its action on the spinal medulla. The symptoms in this case were quite typical.

The plant is very common along the banks of ditches and small streams in this neighbourhood, where it is familiarly known as "hech-how." It has on several occasions in recent years caused the death of cattle, and a more remote instance is on record in which it proved fatal to a number of stranger seamen who partook of its roots under the impression that they were a harmless kind of parsnip.

T. HARVEY THOMSON, M.D., C.M., D.P.H.
Campbeltown, Argyll.

DIURNAL ENURESIS IN A CHILD: TREATMENT WITH GALVANISM.

A. A., aged 5 years, had suffered from frequency of micturition during the day only, and never at night A fortnight after an attack of measles she had great frequency of micturition, passing water every five minutes This was treated for a fortnight with increasing doses of belladonna, and then for a week with belladonna and lycopodium. The condition slightly improved; she then passed water about every twenty minutes, but no further improvement could be obtained. She was ordered small doses of iron, and galvanism was applied for ten minutes to the suprapubic region. After the first application the frequency was diminished to once an hour, and after the second application to once in two hours and a half. This was two months ago, and there has been no return. On each occasion two cells of the battery were used. The ampèrage was not measured, as my dynamometer is away for repairs.

STANLEY E. DENYER, C.M.G.,
M.D.Camb., F.R.C.S.Eng.,
Acting Honorary Physician, Hull Infirmary.

HEAT HYPERPYREXIA.

I SERVED with the Indian Expeditionary Force during the summer—May to August, 1916—at Nasireyeh on the Euphrates; as the troops were in tents and hospital reed huts we had not the luxury of electric fans or punkahs.

I was attached to a combined field ambulance as second in command, and had charge of the European cases coming into the field hospital.

The treatment that my commanding officer and I adopted was as follows: Our brigade was holding one bank of the river. We dug a trench 6 ft. long by 8 ft. broad and 4 ft. deep, and covered it with reeds. The majority of cases of hyperperexia came into hospital between 4 and 6 p.m. The rectal temperature was never less than 108° F. As these cases came in unconscious and cyanosed, on stretchers, they were placed across the trench and I injected $\frac{1}{15}$ grain of strychnine and then proceeded with artificial respiration and the lavage. I had relays of orderlies lent from the battalion, who poured water over them. The trench very quickly filled, so that the patients' bodies were immersed except their heads. The rectal temperatures fluctuated a good deal, so that it was never safe to stop the douching until the temperature remained fixed at, but never lower than, 101° F. An invariable sign of recovery was vomiting. After the patients had recovered consciousness they were immediately removed into one of the hospital reed huts, and thin calico sheets wrapped round them — heads and trunks. I posted orderlies who passed down the lines of patients and

poured water over them, thus keeping the sheets constantly wet. As soon as the sun went down they were brought out into the open and the same method repeated until there was a decided fall in the atmospheric temperature, which usually occurred after midnight. On the following day, before it began to get very hot, I gave each patient an intramuscular injection of 3 grains of quinine bihydrochloride; I had no case of gluteal abscess or sloughing. I was able to keep these patients under observation for eight to ten days before they could be evacuated. During the whole of this period and during the journey to the base wet sheets were used. No death occurred among 40 odd cases of this type of heat hyperpyrexia treated by this method.

In one case of the choleraic type, after transfusion with Rogers's hypertonic saline, the temperature from subnormal gradually rose in two days to 108° F., and, despite all efforts, the man died. I had one gastric case—an officer—who was treated with lavage and full doses of mercury perchloride, with opium and sips of champagne. He recovered. There was no opportunity of making blood examinations or chemical analysis of urine, nor could we use modern methods of treatment, but the result was a good testimony to our methods, though crude.

JOHN N. MCINTOSH, M.B., Ch.B.Edin.,
Captain R.A.M.C.(S.R.).
Sunderland.

AN ACUTE ATTACK OF ASTHMATIC DYSPNOEA CAUSED BY FILARIAL EMBRYOS.

I WAS called at 7.30 p.m. on February 24th, 1920, to a man, aged about 50, who since the previous night had been unable to sleep and had breathed with great difficulty. He was unable either to lie down or sit up, and maintained a semi-recumbent position; his face and lips were blue; respirations were 28, pulse 100, temperature 99°. He denied having had a similar attack before, but said he had had malaria some years ago. Sibilant and sonorous rhonchi and large and small râles were heard all over the chest. The diagnosis was made of an acute attack of asthma, brought on by exposure during the previous night.

An injection of 0.5 c.cm. adrenalin (1 in 1,000) was made, and a mixture of potassium iodide and potassium nitrate prescribed; a blood smear was also taken from a finger. On the morning of February 25th the dyspnoea was still worse; the patient had not slept and had vomited the mixture. For his feeling of constriction of the chest a mustard plaster was prescribed, but without effect. A hypodermic injection of morphine gr. ½ was given, and belladonna was added to the mixture; the diagnosis of true asthma was now regarded with some doubt. The blood smear was examined in the afternoon, when two filarial embryos were detected; a leucocyte count showed the following picture—namely, increase of polymorphs and eosinophiles: Polymorphs, 80 per cent.; large mononuclears, 10 per cent.; small mononuclears, 6 per cent.; eosinophiles, 4 per cent.

It was now clear that the asthma was due to the irritation caused by the filarial embryos in the pulmonary capillaries; the failure of adrenalin, potassium iodide, belladonna, and morphine was explained. The same evening the opinion was expressed that the attack would now subside without further treatment, as the filarial embryos would retire into the lymphatic vessels and glands of the posterior mediastinum. At 7 p.m. the patient had no more dyspnoea, as foretold, but a few rhonchi and râles were present. Another injection of morphine ½ grain was given, and he slept comfortably; breathing henceforward was easy.

On the morning of the 26th the patient complained of heaviness of the right arm, and was unable to raise it. There was no loss of sensation, nor paralysis, and the symptom was attributed to the presence of microfilariae in the lymphatics of the axilla, a condition which would pass off as the embryos retired into the deeper lymphatic system, there to remain until another exposure or chill caused swelling of an extremity, filarial fever, or another attack of asthma.

F. F. BANA, M.B., M.R.C.S., D.P.H.,
D.T.M. and H.
Bombay.

A COURSE of advanced lectures on diseases of the gastro-intestinal canal will be given at the Hôtel-Dieu, Paris, beginning on July 10th and ending on July 24th. The course will consist of lectures and demonstrations, and the fee is 150 francs. It is open to foreign as well as French doctors. At the end of the first week there will be a trip to Vichy and the spas of Auvergne.

Reports of Societies.

DIPHTHERIA BACILLI IN THE THROAT.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, on May 28th, the President, Dr. E. W. GOODALL, in the chair, Dr. P. HARTLEY and Professor C. J. MARTIN, F.R.S., read a paper on the apparent rate of disappearance of diphtheria bacilli from the throat. The authors had been able to study the apparent rate of disappearance of diphtheria bacilli from the throat under exceptionally favourable circumstances, as all the cases, 457 in number, occurred in soldiers in France, and treatment and methods of examination attained a degree of uniformity which is not likely to be met with in civil practice. The data, when subjected to statistical analysis, revealed some interesting features. When the numbers still carrying *B. diphtheriae* were plotted as ordinates, against periods of five days along the abscissa, it was found that after the first five days had elapsed the observations fell upon a regular curve. The numbers fall rapidly at first, and then more and more slowly. The form of the curve suggested a logarithmic relationship, and when the logarithms of the numbers remaining infective were plotted against time the points fell on a straight line. An equation to the curve enabled a series of calculated values to be arrived at, and these agreed in a remarkable way with the figures actually observed. The conclusion seemed justified that the rate at which a population frees itself from diphtheria bacilli can be represented by a simple expression which yields a constant (the constant being the tangent of the angle where the line cuts the abscissae). This constant expressed the velocity with which the carrier state apparently disappeared. Such a simple relationship suggested that the disappearance of bacilli from the throat was due to the operation of a number of small causes—that is, to chance—except in the relatively rare cases of persons with abnormal throats.

In the series under consideration the criterion of freedom from infection chosen was three successive negative examinations of the throat at weekly intervals. The standard adopted was a compromise, and it was not claimed that three successive negatives excluded the possibility of discharging some convalescents who still harboured diphtheria bacilli. Other workers had deemed two, or even one, negative finding sufficient. The authors then analysed their figures in order to determine what the apparent rate of disappearance would be if one, two, or three successive negative examinations respectively had been taken as the criterion of freedom. The value for the constant K was 0.0363, 0.0264, and 0.0218 respectively. In the authors' experience the rate of discharge from hospital, as presumably free from infection, was 4.9 per cent. per day when three successive negatives were demanded, 5.4 per cent. per day on a basis of two successive negatives, and 7.1 per cent. per day if only one negative examination were required. The percentage of carriers missed, even when three negatives were demanded, was probably considerable, but the number would have been increased by 9.3 per cent. and 29 per cent. respectively if two or only one negative examination had been the criterion adopted.

The authors compared their results with those of earlier workers (Park and Beebe, 1894; Scheller, 1906; Tjaden, 1907). The figures of Park and Beebe and Tjaden showed the same logarithmic relation; those of Scheller, whose observations were made on out-patients, many of whom were lost sight of, were irregular. The striking fact was the difference in the rate of disappearance. In Tjaden's cases it was six times as rapid as in the authors' series on the same basis—namely, one negative finding. The data collected by Woodhead from all the hospitals of the Metropolitan Asylums Board for the years 1895 and 1896, and those published by the Massachusetts State Board of Health for the years 1896 to 1905, was also studied and analysed. The rate of disappearance of bacilli in the Metropolitan Asylums Board figures was a little slower than in the authors' series, while in the case of the American series the rate was considerably quicker. The interval before the steady fall began was much greater in these two series of cases, which might be due to the

fact that in those early days the dose of antitoxin administered was much less, and the duration of illness longer in consequence.

The authors estimated that the average duration of stay in hospital in their series was forty-five days, twenty of which were taken up in procuring information regarding the absence of bacilli in the throat. During this latter period the patient might be, and often was, fit to leave. If two successive negative examinations had been required instead of three, the duration of stay in hospital would have been reduced to thirty-four days, while if only one negative examination had been demanded the period would have been further reduced to twenty-one days. As pointed out above, this economy in respect of stay in hospital was accompanied by a diminution of accuracy, and the risk of discharging patients still harbouring bacilli was increased. The authors encountered four convalescents with abnormally large tonsils with deep crypts, who proved to be stubborn carriers. They supported the opinion of Pegler (1905) and Sears (1919) that the best treatment in these cases was radical enucleation of the tonsils. This was done in their four cases, and the subsequent findings were uniformly negative.

The paper was discussed by Dr. BROWNLEE, Dr. TURNER, Dr. DUDFIELD, Dr. BRINCKER, Dr. HUNTER, Dr. BOND, Dr. BUTLER, Dr. GREENWOOD, and the PRESIDENT.

ENTEROPTOSIS.

AT a meeting of the Medico-Chirurgical Society of Edinburgh, on June 2nd, Emeritus Professor F. M. CAIRD presiding, Dr. HOPE FOWLER showed a series of slides demonstrating downward displacement of stomach and intestines, and also the frequently associated cardioptosis.

Dr. CHALMERS WATSON then opened a discussion on enteroptosis and associated conditions. The condition was very common in men and children, as well as in women, and in his series of 510 cases the proportion was 2 men to 3 women. After referring to the symptomatology, to the organic diseases in appendix, stomach, and duodenum simulated by it, to the frequency of bands and membranes which, in his view, were not congenital but secondary to the dragging on peritoneal folds and mesenteries, he dealt with the skeletal changes, especially with the virginal type where there was narrowing of the thorax and a downward slanting of the lower ribs, and the maternal type, where these thoracic changes were absent. In addition to the flabby abdominal wall there was often faulty action of the diaphragm, with important effects not only on the intestinal muscles, but also on the intestinal circulation. If microscopic lesions in the colon developed, and this was frequent, septic absorption took place and largely accounted for the symptoms of toxaemia. Evidence of this septic change and absorption was to be found in the motions and in the condition of the urine (bacteriuria and pyuria). This toxaemia explained such general conditions as arthritis, neuro-muscular changes and neurasthenia. A considerable degree of enteroptosis might exist without symptoms, but he believed that it was never present where there was a high grade of general health; and it frequently began quite early in life, being dependent in those cases on lack of breast-nursing, on constipation, on defective education in personal hygiene, on faulty respiration as produced by adenoids. The great variation in the symptoms was mainly accounted for by the varying activity of three factors—the degree of enteroptosis (mechanical), the amount of septic absorption (toxic), and the mental tone (psychical). He attached much importance to the psychical factor, both in pathology and in treatment. As to treatment, he insisted on the value of prophylactic and early measures, in the form of massage and selected exercises which maintained or restored the efficiency of the diaphragm and the abdominal muscles.

Professor A. ROBINSON said that in the dissecting-room visceroptosis, and bands and kinks were often present in old people without having produced symptoms during life; and that much of the evidence of visceroptosis produced by clinicians was faulty in being uncontrolled. In his belief visceroptosis, when associated with symptoms, was only part of a general incapacity, and this subnormal condition had existed from birth.

Professor Sir HAROLD STILES was convinced that the condition was developmental, and that heredity was a factor; enteroptosis was often associated with a long and slender frame. He was certain that many children were born with a degree of enteroptosis, this not producing symptoms unless aggravated in later life. Physical education in school children was therefore greatly needed to prevent the aggravated types of adult life. In addition, there might be some subtle sexual condition at work, which would account for the greater frequency of the condition in women. An abdominal support was of value, but only if prepared from a cast of the abdominal wall in the Trendelenburg position. In extreme cases he advised removal of the proximal half of the colon.

Professor MEAKINS said that there was not reliable evidence of toxaemia in enteroptosis unless there was also a dilated caecum, and that this was a superadded condition. A well fitted abdominal belt was of value. He did not approve of operation unless in a few selected cases. Mr. J. W. DOWDEN said that besides the acquired type of enteroptosis so frequent in modern women there was also a congenital variety. Intestinal kinks often produced no symptoms. Too much stress had been laid on laxity of the abdominal wall, while severe constipation might exist without toxic symptoms. Dr. H. RAINY summarized his experience of 800 *x*-ray examinations. He believed in a toxic absorption from the caecum and colon. Mr. D. P. D. WILKIE gave the results of 400 *post-mortem* examinations in adults and stillborn children. These supported the view that abnormal bands and membranes were congenital. He also suggested that duodenal dilatation might account for some of the symptoms of enteroptosis. Mr. J. W. STRUTHERS said that a normal standard was still lacking for the true appreciation of the *x*-ray appearances of enteroptosis. These patients were of congenitally poor physique. Dr. E. BRAMWELL emphasized the emotions as a factor in initiating the cycle, and spoke of the danger of the doctor producing an anxiety neurosis in these patients.

Dr. CHALMERS WATSON replied.

VENTILATION AND HEATING OF TUBERCULOSIS INSTITUTIONS.

A MEETING of the newly formed Society of Superintendents of Tuberculosis Institutions was held on May 17th at 122, Harley Street, Dr. JANE WALKER, President, being in the chair. Twenty-nine new ordinary members and nineteen associate members were elected. Dr. H. O. Blanford (Midhurst) and Dr. Vere Pearson (Mundesley) were elected to the Executive Committee.

Dr. LEONARD HILL, F.R.S., opened a discussion on the physiological principles involved in the ventilation and heating of tuberculosis institutions. The effects of bad ventilation were not, he said, produced by the excess of CO_2, nor by diminution of the percentage of oxygen in the air. Workers in submarines could easily tolerate without discomfort as much as 3 per cent. of CO_2; in the high Alps the oxygen might fall to 17 per cent. or less without affecting the health of the mountain dwellers. The view that obnoxious organic matter in exhaled air was at fault was no longer held. There was the clearest evidence that the physical properties of the atmosphere had a great influence on the physiology of the body, and the determining factors in good ventilation were the coolness, the movement, and the dryness of the air. The lecturer described his kata-thermometer, and showed how cool air of low humidity inspired through the nostrils is raised by means of the increased flow of arterial blood through the nasal mucosa to a constant temperature at the back of the nose. In addition, there was a greater flow of lymph, which evaporated. This might be increased as much as five or ten times by exercise in the open air. The drier the air (within limits) the better. The greater the vascular activity of the nose the greater was the power of resisting disease; hence the resistance of outdoor workers to respiratory diseases. Apart from influenza, our soldiers and sailors in the war were singularly free from respiratory diseases. Through its cooling power the skin controlled the metabolism of the body. Cooling of the skin by outdoor life might double the resting metabolism, which, with exercise, might be increased five or more times, with concomitant improvement in appetite, assimilation of food, and elimination of harmful waste products.

Dr. JANE WALKER, Dr. JAMES WATT, Dr. MARCUS PATERSON, Dr. W. C. FOWLER, Dr. NOEL BARDSWELL, Dr. P. W. EDWARDS, and Dr. H. O. BLANFORD contributed to the discussion. In reply to questions, Dr. HILL stated that people should wear as little clothing as possible. It was the absolute and not the relative humidity of the air which mattered. In wet mists it was preferable to keep patients indoors. The ideal condition of heating was the radiant heat of the sun. In ordinary dwellings steam pipes tended to heat the air at the ceiling and to leave the air near the floor as much as 10 degrees cooler. It was not harmful, however, to have different parts of the body under different conditions of temperature. Such differences kept up the nervous tone, avoided monotony, and acted as a stimulant. He commended the practice of many sanatoriums in shutting up and heating by radiators rooms not in use, and making use of the radiant heat stored in the walls when the rooms had to be opened up for patients. The practical questions of clothing and of heating in open-air institutions would be dealt with in a forthcoming publication of the Medical Research Council.

Dr. MARCUS PATERSON opened a discussion on the relative value of butter and margarine in the treatment of tuberculosis. He believed that in institutions where margarine was used the necessary supply of the fat-soluble A vitamine was quite well obtained from cod-liver oil or from milk, as well as from the animal fats of meat, bacon, and dripping. In most institutions 14 pints of milk were consumed per patient per week, and this quantity contained the equivalent of from 10 to 12 oz. of butter. On the whole, opinion in the subsequent discussion was strongly in favour of the use of margarine in place of the more expensive butter, in cases in which milk or cod-liver oil formed part of the dietary.

Reviews.

THE SURGERY OF THE TEMPORAL BONE.

SIR CHARLES BALLANCE has long been looked upon as the aural surgeon's most reliable guide through the difficulties of the diagnosis and treatment of the dangerous sequelae of suppurative disease of the middle ear—in other words, the highest authority on the *Surgery of the Temporal Bone*,[1] the title of the book he has now published in collaboration with Dr. C. D. GREEN. This bone forces itself on our attention from the earliest days of our studies in osteology till the end of our careers as general practitioners, surgeons, physicians, or specialists. Its diseases carry with them far more danger to health and life than those of the eye, a fact well known to Celsus, as is noted in the historical chapter in this book. In spite of this fact the tendency has been to place the study of ear disease in a much lower position than that of diseases of the eye in the medical curriculum, professional examinations, and hospital installations. Sir Charles Ballance makes a powerful and almost passionate protest against this incongruity. It is to be hoped that it will not fall on deaf ears, and that his plea for the establishment of otology in its rightful position as a princess and not as a Cinderella in the realm of medicine may receive the attention it deserves. The publication of the two impressive volumes of which this work consists should give pause to those who put spokes in the wheel of progress in otology as a branch of surgery, equal in importance with any other, and deserving of equal dignity.

The great characteristic of this book is its comprehensiveness as regards the work of the author himself, scattered through various transactions, journals, and lectures, and even more as regards that of other authors of all nationalities.

Those who were fortunate enough to have read Sir Charles Ballance's article, entitled "Some Ear Cases," in the first edition of Clifford Allbutt's *System of Medicine* at the time of its publication, had a concentrated gallery of illustration of the dangerous sequelae of suppurative disease in the temporal bone to which comparatively little has been added since. The elaboration of the principles there set forth and the methods of diagnosis and treatment founded on them may be said to form the foundation of the present work. The writings of other authors of all nations dealing with the subject are so fully quoted, epitomized, and analysed that we have before us a compendium of the literature in which scarcely any papers of importance escape reference. The anatomical, pathological, and clinical aspects are set out with a wealth of detail and a profusion of illustration such as have not before been offered. Many quotations are from works which have not hitherto been noticed by English writers, and those who are not familiar with foreign languages will thus find this treatise invaluable. As a minor illustration, Rudloff's drawings of the position of the sigmoid sinus and its surface anatomy in infancy and childhood would seem to have been overlooked by others, but they are here reproduced in their original form. Stiles's investigations as to the position of the facial nerve in infancy and childhood are not so well known as they deserve; they are given here in full detail. All that is of practical importance in regard to the recently developed labyrinthine tests and to operations on the labyrinth also finds a place.

In every respect these two handsome volumes contain practically all that can be said with regard to the surgery of the temporal bone in its widest sense. Aural specialists will find their views classified and widened by this presentation of the subject by a general surgeon who is also a specialist, and general surgeons will be grateful for the help here afforded them towards the elucidation of the "special" aspects of this important subject as a branch of surgery. Aurist and surgeon will be led by the study of this book to a better and fuller understanding of each other's point of view, to the advantage of both. The credit of British otology and surgery will be materially increased in all lands by the publication of this epoch-making work.

[1] *Essays on the Surgery of the Temporal Bone.* By Sir Charles A. Ballance, K.C.M.G., C.B., M.V.O., M.S., F.R.C.S., with the assistance of Charles David Green, M.D., F.R.C.S. Illustrated by 125 plates and 120 figures. In two volumes. London: Macmillan and Co., Ltd., 1919. (Med. 4to, pp. 612; 250 plates, 240 figures. £5 5s. net, two volumes.)

RADIOGRAPHY IN PULMONARY TUBERCULOSIS.

THE first volume of Dr. WALKER OVEREND'S book, *The Radiography of the Chest*,[2] is concerned with pulmonary tuberculosis. Great stress is laid upon the value of an *x*-ray examination. He maintains that in many instances radiography alone is absolutely diagnostic, but admits that it is always expedient to check and compare results by the usual means of investigation. This is, of course, the sane method to be adopted in the investigation of disease; no one method should be solely used when several are available, nor should it be expected from radiographers that an opinion should be given on an *x*-ray examination alone.

In the consideration of diseases of the chest it is obviously of importance to have a thorough knowledge of the normal, both as shown by a screen examination, and as shown on plates taken in the various standard positions, and the first chapter is restricted to a careful description of the normal shadows and their meaning. In discussing the pulmonary reticulum it is stated that the actual anatomical substratum to which the tracery is attributable is still a matter of discussion, but hardly sufficient reference is made to the valuable pioneer work of Dunham, whose experiments appear to prove beyond all doubt the manner in which these shadows are built up. The chapter on tuberculosis of the bronchial glands is illustrated by many effective radiographs, some of them all the more interesting and conclusive because the physical signs and history of the cases are related, and in some the *post-mortem* appearances are compared with the radiographic. In summing up this part of the subject the author expresses the opinion that there are no clinical criteria of any value, and that radiological examination is necessary for the diagnosis of tuberculosis of the bronchial glands.

The rest of the book deals with the various manifestations of tubercle of the lungs and their radiographic appearances. Perhaps too much is made of the different ways in which tubercle attacks the lung, and too great stress is laid upon the names designed to point out the different varieties. After all, tubercle is tubercle, and whether it invades and spreads from one focus or area or another is of no great importance from the radiographic

[2] *The Radiography of the Chest.* Vol. i, Pulmonary Tuberculosis. By Walker Overend, M.A., M.D., B.Sc. London: William Heinemann (Medical Books), Limited. 1920. (Demy 8vo, pp. 119; 99 radiograms, 9 diagrams. 17s. 6d. net.)

standpoint; it is the abnormal shadows which are seen on the plates and their correct interpretation which are of importance; whether, in the first place, the shadows are or are not likely to be caused by tubercle; and, in the second place, whether they are radiographically more likely to be caused by active, quiescent, or cured tubercle.

The chapters on bronchopneumonic and nodal types, on bronchopneumonic pseudo-lobar tubercle, on miner's phthisis, on fibroid phthisis, on pneumonic phthisis, on miliary tubercle, and on the complications of pulmonary tuberculosis, which follow are written on the same lines: a detailed description of the condition under discussion is followed by a review of the physical signs to be expected, the narration of the salient features of cases, the signs being contrasted with the radiographic findings, numerous typical illustrations are given, and then general remarks and conclusions are stated.

In the concluding chapter the author sums up the present position as to the radiological diagnosis of pulmonary phthisis, points out the advantages of a skilled *x*-ray investigation, and insists upon the co-operation between the clinician, pathologist, and radiologist which is necessary to increase the knowledge of the disease in its incipient stages and in its principal types, and to mature the methods of its treatment and control.

Well written, well and profusely illustrated, the case for radiography is admirably and graphically set forth.

PATON'S "PHYSIOLOGY."

THE fifth edition of Professor NOËL PATON'S *Essentials of Human Physiology*[3] offers the student a well informed and clearly written critical account of the subject, calculated to make the reader think, as well as learn by memory. The new edition is a hundred pages longer than the fourth and has forty more diagrams; the augmentation may be put down as legitimate growth rather than the beginnings of giantism, and the book certainly gives a satisfactorily complete account of its subjects. After a brief account of the growth of physiology, Professor Paton describes protoplasm, the cell, and the various tissues. The latter he puts in two classes, the "vegetative tissues," and the "master tissues" or nerve and muscle. The greater part of the volume is taken up with the nutrition of the tissues; it is interesting in these parlous days to find a physiologist who will put in a good word for alcohol. Professor Paton recognizes its value as a food and as a drug, adding that it may and does increase the pleasure of life, and that its great use is in extreme fatigue when the work is over; most people can fully oxidize about 2 oz. of it in the twenty-four hours.

Emphasis is laid on the importance of co-ordinating practical work with reading in the study of physiology, and constant references to the methods and results of experiment are made the keynote of the volume. Describing the glands with internal secretions, Professor Paton calls them the "endocrinetes"; it may be noted that the word *θυρος* on page 610 should be *θυρα*. The illustrations, for the most part diagrammatic, are well chosen, and full advantage of variations in the type is taken—a great help to the reader. To students preparing for examinations in physiology the book should prove of great service.

NOTES ON BOOKS.

PROGRESS in the teaching of surgery can never be furthered by the indiscriminate production of textbooks which are merely epitomes. Yet, as the author of *A Textbook of Surgery*,[4] Dr. W. Q. WOOD, points out, the student has scanty time to read through the longer manuals. In this work some five hundred pages are packed with facts, but there are no illustrations. The brevity of the sections on the pathology and treatment of the various surgical disorders was no doubt unavoidable, but it should have been possible to incorporate into the whole work the essential leaven of surgical principles. We can picture the student using this type of book and underlining statements which are either bare half-truths or errors—all to be committed to memory. Thus we quote at random from the section dealing with congenital stenosis of the pylorus: "If improvement does not quickly follow" (that is, medical treatment), "a gastro-jejunostomy may be performed, but the mortality is high." This sentence comprises all that we have observed to be said about surgical treatment of congenital pyloric stenosis in this textbook. It is to be doubted whether a book of this type is likely to be of much value to the undergraduate student.

[3] *Essentials of Human Physiology.* By D. Noël Paton, M.D., B.Sc., LL.D., F.R.S. Fifth edition, revised and enlarged. Edinburgh: W. Green and Son, Ltd. 1920. (Demy 8vo, pp. 698; 252 figures. 25s. net.)

[4] *A Textbook of Surgery.* By W. Q. Wood, M.D., F.R.C.S.Edin. Edinburgh: James Galloway. 1919. (Cr. 8vo, pp. viii + 554. 15s.)

Professor SAMAJA'S short book on von Recklinghausen's disease[5] contains a workmanlike summary of the extensive literature devoted to this affection of the skin and peripheral nerves, the first published case dating very possibly from the year 1793, though the disorder was not described by von Recklinghausen until 1832. The diagnosis from no less than fifteen other diseases that may resemble it has to be made, according to the author's enumeration; the treatment or treatments that may on occasion prove serviceable are shortly considered on the last two pages of the text. The book ends with an admirably sorted bibliography, and may be warmly recommended to the attention of the pathologist and of the specialist in diseases of the skin.

Miss BARBER'S pamphlet entitled *A British Nurse in Bolshevik Russia*[6] gives a brief general account of what she saw and did in Russia and Armenia between April, 1916, and December, 1919. The general impression left by this simple story is that the disordered state of Bolshevik Russia is not so happy as its upholders would have us believe, nor quite so hopeless as its critics aver. Of atrocities Miss Barber saw nothing herself; she thinks that they are committed by both sides, and do not in themselves justify the support of either party.

[5] *Il Morbo di Recklinghausen.* By Professor Dott. Nina Samaja, Libero docente di Patologia speciale nella R. Universita di Bologna. Milan: Societa Editrice Libraria. 1919. (Sup. roy. 8vo, pp. 85; 9 plates. 12 lire.)

[6] *A British Nurse in Bolshevik Russia.* By Margaret H. Barber. London: A. F. Fifield. 1920. (Cr. 8vo, pp. 64; 1 photograph. 1s. 6d. net.)

BIOMETRIC AND EUGENIC LABORATORIES AT UNIVERSITY COLLEGE.

THE new building given by Sir Herbert Bartlett, Bt., to the Department of Applied Statistics formed by the Drapers' Company and Galton Laboratories at University College, London, was opened on June 4th by the Minister of Health. The Drapers' Company Biometric Laboratory was instituted under the direction of Professor Karl Pearson in 1904; it is a research laboratory and training school in the modern mathematical theory of statistics. The Galton Laboratory for National Eugenics was instituted in 1905, and was, by Sir Francis Galton's wish, associated with the other. When Sir Francis Galton died in 1911 he bequeathed a large part of his estate to found the Galton professorship, and Professor Karl Pearson was appointed to the chair. At the same time the Senate of the University appealed for funds for building and equipment, and Sir Herbert Bartlett came forward with an offer to provide the building on a site at the north-west front of the college. During the war the new building was used as a military hospital, and only now has the Department been able to take full possession. On the ground floor of the building is a large museum for the illustration of heredity, statistical processes, and social problems, a lecture theatre, a room for the exhibition of Galton relics and apparatus, and an anthropometric laboratory. On the first floor there are laboratories, a library, and a common room, and on the second a photographic studio, a large room for biometric workers in craniometry, and rooms for archives and instruments. The apartments in all number over twenty, and it was announced that a site has been reserved for extension, which will include animal breeding accommodation.

The Vice-Chancellor of the University (Dr. RUSSELL WELLS), who presided over the opening ceremony, said that statistics, properly understood, was one of the most difficult and advanced of mathematical studies, but it was a dangerous weapon in the hands of the partially educated. Medicine in particular had suffered greatly from its misuse. The method introduced by Professor Karl Pearson would make it possible to arrive at the proof of many complicated medical problems. He himself had a paper in the BRITISH MEDICAL JOURNAL of May 29th in which he had

used the formula for correlation which Professor Karl Pearson had evolved. In sketching the history of the department, he reminded the audience of Florence Nightingale's well known interest in statistics, and of her desire to found a professorship of applied statistics at University College, for which, however, her means were not sufficient. It was not until the generous provision of the Drapers' Company was made that a start became possible. Incidentally, the munificence of the City companies in educational matters had been such that the universities should be the first to defend those ancient bodies against popular cynicism.

Dr. ADDISON gave an appreciation of the value of statistics which he had discovered when Minister of Munitions. There were few branches of public service with greater scope for the trained statistician than that of communal health, but here and in social science many statistics had been of a thoroughly incomplete and unsatisfactory nature. He commended to the support of the public the further appeal which University College was making to maintain and complete the equipment of the new building.

The Provost (Sir GREGORY FOSTER) expressed the thanks of those present to Dr. Addison. The thanks of the University to Sir Herbert Bartlett for his gift were expressed by the Vice-Chairman of the College Committee (Dr. J. BOURNE BENSON), who said that while a number of people were ready to endow a scholarship or a chair, few were ready to find the building in which it could have space. Professor KARL PEARSON said that one English monarch for whom he had a reverential regard was Henry VI. He saluted his statue whenever he crossed the lawn at King's College, Cambridge. In the fifteenth century it was possible to spend money on wars in France or on the founding of monasteries, but Henry chose to found King's College. And to encourage learning was still the surest way to secure that one's name was held in honour through grateful generations.

FUTURE PROVISION OF MEDICAL SERVICES.

LORD DAWSON ON THE CONSULTATIVE COUNCIL'S REPORT.

LORD DAWSON OF PENN, G.C.V.O., M.D., addressed the Stratford Division of the British Medical Association on June 3rd on the subject of the interim report of the Consultative Medical Council. The meeting was held in the Educational Offices at Stratford, with Dr. FRANK CHALLANS in the chair. About sixty members of the profession were present, and the greatest interest was manifested; in spite of the late hour at which the meeting terminated (11.30 p.m.), all but a very few remained to the end to hear Lord Dawson's reply.

Lord DAWSON, in acknowledging the Chairman's congratulations on his recent honour, said he regarded that honour not so much as a recognition of any services of his own, but as marking a desire on the part of the State to see the profession take a more prominent part in the affairs of the body politic. The individualistic attitude which the profession had taken in the past was very natural. Medicine was an exhausting profession, taxing the mental and physical resources to the utmost, and very little energy was left for other interests. By tradition and habit, therefore, the profession had been content to look at matters from the individualistic point of view. But it was now compelled to take the communal outlook. During the last fifteen or twenty years there had been a distinct tendency to set up communal organization for securing the health of the people. One result was to draw a line through the profession; on one side of the line were the men who continued to do their work in the old individualistic way, and on the other side were the men engaged in communal work, and the tendency was for one piece of work after another to be transferred from private practitioners to salaried officials of the State.

What had led to the investigation and report of the Consultative Council was, in the first place, the almost universal conviction that the *status quo* could not continue. However much men might disagree as to what changes in organization were required, there could be no difference of opinion as to the evident fact that the machine was outworn. The public was placing a higher value on health than formerly. The health of the citizen was now seen to be of supreme importance, and it was agreed that organized measures must be taken for securing it. A series of whole-time services had been set up one by one. The school service, for example, had become almost a detached service, with a certain number of doctors earning their living entirely as school medical officers. More recently there was set up a tuberculosis service, then a venereal service, and last, in point of time, a maternity service. The second evident fact was that medical men to-day were not in a position to do or give the best for their patients along purely individual lines. In his hospital days a man had every facility for following up his cases in the various departments; he could look at the *x*-ray image, he could see the testing of the secretions, and he could go into the operating theatre and the *post-mortem* room. He had the opportunity throughout of maintaining a high standard of intellectual interest. On going into practice, however, this man dropped suddenly down to the limited opportunities of a surgery in a private house, and when he went to the homes of the people the social surroundings were often such that he could not do his best. That drop got deeper and deeper as time went on, and the astonishment to him (Lord Dawson) was—and it was a great tribute to the clinical sense of the profession—that the men in practice kept up so high a standard as they did. It was clear, therefore, that the practice of medicine right through the community must have proper organization and provision.

These considerations led up to the reference to the Consultative Council. The Insurance Act was one endeavour to bring medical treatment within the reach of the people more completely than before, but if the best means for the treatment of the community were to be made available the range of benefit must not be restricted to insured persons. The State could not be asked to make those means available only for one section of the community. The reference to the Consultative Council was therefore to suggest ways whereby the medical services of the country could be so systematized as to provide what should be made reasonably available for all members of the community.

Lord Dawson then quoted from the report to show that the recommendations were designed to secure: (1) The provision of buildings and equipment; (2) services correlated and made available for all; (3) opportunity for practitioners to do their best work and further their knowledge; (4) co-ordination of preventive and curative medicine; and (5) freedom of action for doctor and patient. It was difficult to combine all these ideals. If the point of view of the administrator alone were considered, recourse would be to a whole-time service. But that was felt not to be the best thing in the interest of the health of the community. The correlation of preventive and curative medicine was most important, and at present the general practitioner was not identified closely enough with prevention and with the maintenance of communal health. He had yet to be brought into contact with the preventive services. The higher posts in such services must necessarily be in the hands of specialists, but the practitioner, nevertheless, must somehow be identified with preventive work. With the advance of knowledge, the line of demarcation between prevention and cure became increasingly blurred. A further principle upon which the Council had acted was that the work of a district should as far as possible be performed by the doctors of that district—(Hear, hear)—who should be paid on a part-time basis. This in itself would bring preventive medicine more under the ken of the general practitioner. Then it was realized also that the practitioners must have opportunities of following up cases and investigating disease from different standpoints. The work of medicine was becoming less the work of an individual, more the work of a team, and a team could only work together in the same harness. An increase of institutional provision was therefore indicated. Although domiciliary treatment of illness was and must remain the larger part of practice, it required supplementing by institutional provision, access to which should be afforded to the doctors of the district. It was fully realized that what was suggested was something new; there was no experience from any other country to guide them; indeed, other countries were

watching the experiment with a view to imitating it. The scheme could only be built up if the profession showed its warm approval, and, moreover, it could only be built up step by step, but the laying of the first stones was of importance; apart from any further erection they lent themselves immediately to good service in the locality, but they also provided the groundwork for the larger edifice presently to follow. (Applause.)

The term "health centre" was employed because something bigger and more embracing was desired than the term "hospital." The centre might be defined as an organization to bring together the curative and preventive services of a given district. In a typical instance it might contain fifty beds, with certain clinical accommodation where consultations might take place and patients be seen other than those in the beds; also a radiographic room, a laboratory and other departments, and a common room, where doctors could hold meetings. The essential thing about the primary health centre was that it should be staffed by the general practitioners of the district, and that when a patient left his home and went into the clinic he would be followed there by his own doctor. The primary health centres in a given area would be connected up with a secondary centre, which instead of being staffed by general practitioners, would be staffed by consultants, or by general practitioners acting in a consultative capacity. Then, to complete this ideal arrangement, the secondary centres would be linked up with a teaching hospital, which would be scheduled as a national institution with a "zone of influence" attaching to it. Primary health centres in Bedfordshire, for example, would be linked up with secondary centres at, say, Bedford and elsewhere, and these, somewhat loosely, with the teaching hospital at Cambridge.

The question of payment was, he admitted, an important and complicated one. It was impossible to proceed as though the Insurance Act were not in existence, with over 80 per cent. of the doctors serving under it. He imagined that the insured person would be provided for in the primary health centre, but the idea of the Council was that these institutions must be available to all, insured and non-insured. The complete upheaval of our social life as a consequence of the war had to be reckoned with, and the professional man with £800 a year and three children to keep and educate was a poor man to-day. Furthermore, it had to be remembered that every advance in medical science increased the cost of treatment. As medicine became more complex, it became more a matter of team work, and on t is account and on account of equipment, the cost went up. And with the increase of cost, the number of people in the community able completely to pay for it correspondingly diminished. At the present time the medical profession was working without adequate equipment, which should be set up and made available for all classes. The provision had to be made all-embracing, and the only way in which he saw that this could be done was by having standard rates. But this matter must be left vague for the present; it was undesirable to be in a hurry to go into details. In view of the difficulties which arose out of the desire to preserve freedom of relationship between doctor and patient, and the obvious argument of the administrator that it would be easier to set up a whole-time civil medical service and have done with it, the first thing to consider was whether the profession did desire to preserve the principle of freedom as between doctor and patient. The men detached from practice, he believed, were more likely to urge the alternative of whole-time State service than were the men in practice, but it was a question for discussion. A State medical service was at present coming into this country by stealth. Each time the State set up a new *ad hoc* salaried service it was lopping off something from the responsibilities and duties of the private doctor.

As for the proposed arrangement now put forward, he thought it would simplify matters if the subject was looked at from an extra-London point of view. To a large extent the report left London alone for the present. London had special difficulties arising partly out of its bulk and partly out of the complexity of its administration. If the difficulties in smaller places could first be solved it would be easier to apply the scheme to the great province of London. Further, he did not believe that any thinking person wanted the Ministry of Health to "run" the health of the community from Whitehall. The Ministry of Health should only be guide, philosopher, and friend, and, he hoped, benefactor. It was not for him to say at the present juncture what the composition of the local authority responsible for the arrangements should be; they did not want to be drawn, if they could help it, into controversies affecting local government. But any local authority charged with this duty had to fulfil certain conditions: It had to be the one authority for all matters concerning health; it had to be responsible for a considerable area so as to secure the best men and to get away from local politics; and it should admit also of interaction between town and country. The medical profession as such should be represented on the local authority, on the principle of vocational representation. On all such authorities there should be a co-opted minority consisting of the people who were specially expert in health matters.

Lord Dawson more than once in his exposition had offered to desist from speaking in order to allow fuller opportunity for discussion, but the meeting signified its desire that he should continue, and the lateness of the hour then precluded a formal debate. But a number of questions were asked from the audience and were answered by Lord Dawson at the close. Practically all those who made any remarks in the discussion declared emphatically against a whole-time State medical service.

Dr. ALFRED COX (the Medical Secretary) declared himself a hearty supporter of the Council's report. It embodied many ideas which the British Medical Association had been laying down for the last five or six years. He supported the report in the first place because it gave the public something very much better than the public had at present, and in the second place because it enabled the profession to stave off the demand made by academic people and others to nationalize the medical profession. He noticed that the press—with the very few exceptions which might have been anticipated—was heartily in favour of the report also. It seemed to be generally agreed that freedom of choice was a good thing to preserve. The report, however, must have popular force behind it, and as a beginning, on which the Stratford Division was to be congratulated, he wanted Lord Dawson to go away feeling that the general sense of that first meeting was thoroughly in favour of the report. (Applause.)

Dr. PERCY ROSE said that the meeting ought to have some practical outcome in the form of a resolution, and accordingly he moved:

> That the medical practitioners of the Stratford Division be asked to form committees in each sanitary area entering into the Division, with the following objects:
>
> 1. To ascertain in each area what are the facilities for preventive and curative medicine at present existing.
> 2. To recommend what steps might be taken to improve the medical services of each area on the lines laid down in the Interim Report of the Consultative Council on Medical and Allied Services, 1920.
> 3. To send a copy of their report on items 1 and 2 to the Honorary Secretary of the Division not later than October 31st of this year.

The resolution was seconded and unanimously adopted.

Dr. H. S. BEADLES criticized the primary health centre on the ground that a primary centre could hardly be one containing beds. He thought that a beginning might be made with something smaller than had been indicated.

One or two other speakers asked whether there would not be danger of the local authority imposing schemes upon the local medical profession.

Lord DAWSON, before replying to the questions, said that he thought the profession owed a great debt of gratitude to Dr. Addison for the liberality with which he had approached this subject. (Hear, hear.) Dr. Addison's suggestion that an interim report should be published showed how anxious he was to have the benefit of the collective wisdom of the profession in the steps which had to be taken. A good many of the comments which had been made could be met by the reply that this was an interim report, and that it was meant to show the trend of thought of the Council rather than to embody final conclusions. No one supposed that the institutions he had outlined were going to be set up at once. They might take years, but the important thing was to be aware of the direction. A big view must be taken and time given for the scheme to fructify. The clinics were not bound to be on rigid lines, and a collective surgery was within the four corners of the scheme. As for free choice of doctor, the desire for this was rooted in the English

people. There was no profession more individual than theirs, and none in which personal harmony between the professional man and his client was so necessary. The primary health centre had been criticized on the ground that it was too large, but it would not be possible to get the efficiency they wanted save in institutions above a certain size; moreover, they wanted something which would create a motive for bringing men together. In conclusion, he hoped that the profession would realize the importance of the present issue. Medicine had the opportunity to make its voice heard in the putting forward of a collective policy. A clear vision of the needs of the future was needed, and boldness and comprehensiveness in meeting those needs. The profession must stand united on essentials, and have no useless disputation over non-essentials; it must realize also that its strength and interests alike lay in the study of the public weal. The profession would then go on to ever-increasing influence and esteem. (Applause.)

A vote of thanks was accorded to Lord Dawson by acclamation.

VITAL STATISTICS OF ENGLAND AND WALES.

(*Continued from p. 775.*)

CANCER MORTALITY.

IN 1918 there were recorded 41,227 deaths from cancer—18,078 among males, including 443 in non-civilians, and 23,149 among females; for both sexes these figures imply the highest crude mortalities yet recorded. Of the 41,227 deaths, 27,080 were ascribed to carcinoma, 2,175 to sarcoma, and 11,972 to "cancer." The standardized mortality rates were 953 per million among male civilians, 986 among females, and 969 among all civilian persons, as compared with rates of 914, 994, and 955 respectively in the years 1911–14. Owing to the limitation in 1918 of the statistics for males to the civilian population, on the assumption that cancer mortality of males at 15–45 has remained as in 1911–14 (as it has, substantially, at higher ages), the standardized mortality of males is reduced to 912 in 1918. It may thus be stated that since 1914 cancer mortality has shown no increase for either sex. The principal features of the tables showing the parts of the body affected by fatal cancer, and the mortality rates at different ages from cancer of various organs remain much the same year after year; for instance, the mortality of females from cancer of the portion of the alimentary canal above the stomach is a small fraction only of that among males, but females suffer more from intestinal cancer. There were 3,669 cases of cancer of the stomach and 1,841 of cancer of the rectum in males, but only 3,185 and 1,456 respectively in females. Among females there were 392 fatal cases of skin cancer as compared with 647 (of which, however, 195 occurred in the penis and scrotum) among males. The excess of cancer mortality in the female sex is dependent on diseases of the breast and generative organs; if such deaths are excluded among both sexes, deaths of females are reduced from 23,149 to 14,070, but those of males only from 18,078 to 17,242.

At the request of the Director of the Cancer Research Fund, and with the object of comparing institutional experience—in which in the majority of cases the causes of death have received *post-mortem* confirmation—with the certification of other cases of cancer in which this evidence has been lacking, separate tabular statements are given of deaths occurring in institutions. Dr. Stevenson remarks, however, that the institutional deaths cannot be assumed to be a fair sample of the whole; they are subject to some selection by age, and it is possible that there may be a greater relative frequency of cancer of certain sites among that section of the population which chiefly furnishes deaths reported from institutions.

TUMOURS NOT RETURNED AS MALIGNANT.

The deaths from tumours other than those ascribed to cancer or other malignant tumours are grouped together in a table which includes deaths from glioma, from uterine fibroid, fibromyoma and myoma, from ovarian cysts and cystadenoma, from laryngeal papilloma and from pancreatic cyst, as well as deaths ascribed to non-malignant tumours or tumours of unstated nature in any site; in all 2,032 deaths are included, of which 933 and 1,099 were returned as due to tumour of non-malignant and unascertained nature respectively.

Of the 1,099 cases of undetermined nature no less than 752 were cerebral tumours, regarding the nature of which it is difficult even in institutional practice to obtain precise information. An examination of the age distribution of the 347 tumours of undetermined nature affecting organs other than the brain showed that nearly 85 per cent. occurred after the age of 45, as compared with about 90 per cent. for cancer and 67 per cent. for benign tumours, so that a large proportion of this group may have been malignant. Of the 752 deaths from cerebral tumour of unstated nature, 434 occurred among persons below 35 years of age; many of these tumours may thus have been of non-malignant character. Deaths ascribed to non-malignant tumours were nearly thrice as numerous among females as among males. If, however, the large number of deaths from ovarian and uterine tumour be deducted, the male mortality in this group considerably exceeds the female; this is due to the frequency among males of fatal non-malignant tumours of the bladder and prostate. If every death ascribed to tumour of unascertained nature were assumed to be malignant, the cancer mortality figure would only be increased by 3 per cent.

VARIOLA AND VACCINIA.

The number of deaths from small-pox during 1918 was three, but the diagnosis was uncertain in two of them. One was a woman aged 50, whose death was attributed by a coroner's jury to fatty degeneration of the heart consequent upon toxic purpura, but the Local Government Board suspected haemorrhagic small-pox. In the one case in which there was no doubt, the patient was a girl aged 5 (a Belgian refugee), who apparently contracted the infection on a ship, as she developed the disease shortly after arrival in this country. The number of non-fatal cases of small-pox notified rose from 4 in 1917 to 63 in 1918.

Three deaths were assigned to vaccinia; two occurred in infancy, being associated in one instance with pneumonia, and in the other with bronchitis and cellulitis of the scrotum. A third death was of a male aged 18 years, returned as due to vaccinia of twenty-one days' and septicaemia of eight days' duration. In another case an infant aged 8 months, recently vaccinated, was certified as dying from erysipelas and pertussis. The death of one soldier from asthma after antityphoid inoculation was recorded but classed as asthma.

(To be continued.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the Committee, held on May 11th, 25 cases were considered and £218 8s. voted to 17 of the applicants. The following is a summary of some of the cases relieved:

Daughter, aged 60, of M.R.C.S.Eng. who died in 1875. Health very bad through overwork, which was voluntary, in an army canteen. She lives with a friend, and they share expenses. Applicant is a trained nurse. Income from shares £28, from property £25. Voted £12 in twelve instalments.

M.R.C.S.Eng., aged 79, widower, has two daughters, ages 43 and 41, living at home, the elder as housekeeper, the younger an artist, who earns a very precarious living; two other daughters are nurses, and contribute £32 each a year towards the home. Other income from investments £120, the capital of which cannot be used. Rent and rates £54 9s. Applicant in a very delicate state of health, as are the two daughters living at home. Voted £26 in twelve instalments.

Daughter, aged 68, of M.R.C.S.Eng. who died when applicant was a child. Had an accident a few years ago, and is now lame and unable to work. Only income an occasional gift from friends. Rent 7s. 6d. a week for one room. Relieved six times, £46. Voted £12 in twelve instalments.

Daughter, aged 35, of M.R.C.S.Eng. who died in 1906. Suffers from very bad health, and is now in a nursing home, and her sister has to pay all expenses, which she cannot afford to do. Applicant quite incapable to work. Relieved three times, £45. Voted £18 in twelve instalments.

Widow, aged 46, of M.B.Glas. who died in 1910. Has one son, aged 12, at school. Was left unprovided for, and is now making a living by letting rooms. Last year she received £168 by this. Rent and rates £68. Finds she cannot manage owing to the high cost of living. Relieved once, £10. Voted £10 in two instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square. London, W. 1.

British Medical Journal.

SATURDAY, JUNE 12TH, 1920.

THE GALTON CHAIR OF NATIONAL EUGENICS.

ELSEWHERE in this issue we describe the formal opening by the Minister of Health of the new institute of eugenics and applied statistics in the University of London. The new buildings are the outward and visible sign of a movement of scientific opinion which has already affected all the biological sciences in this country, medicine and sociology in particular, and will affect their development to an increasing degree in the future. The movement dates from 1895, when Professor Karl Pearson, then Professor of Applied Mathematics at University College, delivered a course on the mathematical theory of statistics. This was the beginning of the Biometric School in which he gathered about him a small band of workers, men and women who shared his enthusiasm. The doctrine to be spread was that statistics in one form or another are fundamental in nearly every branch of science in the same manner that mathematics are fundamental in astronomy and physics. Like all innovations, the new doctrine incurred opposition and even ridicule. This was not surprising, since it implied that inadequate and even erroneous processes were being employed in medicine, anthropology, and sociology, and that new and sounder technical methods must be learnt and used. Criticism was met by hard work, and ridicule with the rapier of fact. From the first the new school had the sympathy of a few, among whom Francis Galton and Weldon were the chief. Professor Pearson proved himself a first class fighting man; the courage and skill with which he defended the new doctrine proved the strength of his conviction, and must have weighed with the Drapers' Company of the City of London in giving its support by way of an annual grant, which has been devoted to defraying the cost of the publication of a long series of *Research Memoirs*. The Eugenics Laboratory has also published a series of memoirs and lectures, and *Biometrika*, a journal founded in 1900 with the assistance of Professor Weldon and Sir Francis Galton, affords scope for publication of current memoirs from both laboratories.

The importance of the study of eugenics to a nation just emerged from a catastrophic war is sufficiently evident, and, had Professor Karl Pearson done no more than develop the ideas of Francis Galton in this department of research, his claim upon our gratitude would have been great. But the influence of the Galton professor has been wider than this. In his presidential address to the British Medical Association last year,[1] Sir Clifford Allbutt pointed out that statistics, once a byword, were becoming powerful instruments of medical research. That this is so is due far more to Professor Pearson than to any of his contemporaries or predecessors. A majority of those now applying statistical methods to medical problems were his pupils and all have been inspired by his publications.

The reason for this widespread influence is instructive. There have been in the past statisticians as deeply versed in mathematical science as Professor Pearson; there may even have been—although we cannot recall any name save that of Farr—as zealous and prolific researchers; but Professor Pearson stands alone in his mastery of the art of combining theory with practice. We recall a modern textbook of mathematical statistics by an eminent German professor which contains hundreds of equations but not, from cover to cover, a single arithmetical example of the manner in which these equations can be applied to practice. Professor Pearson has put forth many abstruse mathematical arguments, but he has never failed to illustrate them with arithmetical examples. The consequence is that all his papers can be consulted with some advantage by those whose training does not suffice to allow them to follow a purely mathematical argument. That a great mathematician should impose upon himself the heavy additional labour of rendering his work intelligible to the non-specialist is a matter for comment. It is an example which might well be followed by many specialists within our own profession whose temptations to remain obscure are much less strong.

This is not the place to particularize the many discoveries of importance to scientific medicine which Professor Pearson has made; sometimes the conclusions at which he has arrived have not been acceptable to all, but they have invariably been supported by arguments of great force luminously expressed. We know that we give expression to the opinion of all medical men when we assure Professor Pearson that members of our profession take a national pride in the work which he has done during the past twenty years, and express the hope that the newly established institute will, under his direction, continue to contribute to the advancement of those sciences of which he has been so devoted a servant.

We have here dwelt on the importance of the work the institute can do for medicine and its allied sciences, but similar work is as urgently needed in sociology and in economics. That it is needed also in commerce and industry is evidenced by the fact that the giver of the new buildings, Sir Henry Bartlett, is engaged in a pursuit which involves both. The new buildings are admirably adapted to their purpose, but they are imperfectly equipped and inadequately manned. The University has therefore authorized an appeal for an additional income of £5,000 a year in the form either of capital endowment or of annual grants. The Drapers' Company has been so well rewarded for the help it has given to this new and very important department of science that it may well be encouraged to do more, and we hope that other city companies will be prepared to follow its example.

SECURITY OF TENURE FOR HEALTH OFFICERS.

IT is a long cry back to 1904, but on reference to the files relating to the subject it appears that in October of that year the President of the Local Government Board was asked by the British Medical Association to include provision for security of tenure for medical officers of health in any public health legislation it might be contemplated to bring before Parliament at an early date. Since that time the fruits of victory

[1] *Proceedings of the Special Clinical and Scientific Meeting.* London, April 8th to 11th, 1919. London: The British Medical Association. (Demy 8vo, pp. xvi + 405.) The volume is published at the price of 3s., but copies will be supplied to members of the Association free on application to the Financial Secretary of the Association, 429, Strand, London, W.C.2.

have more than once been almost within the grasp of the Association, but a change of Government or some unexpected event has snatched them away and a fresh start has had to be made.

A Public Health Bill was prepared by the Association in 1906, but a deputation which had been arranged fell through because the Government went out of office. Further efforts at legislation were made in 1907, but the Association's bill had to be dropped. In 1908 the bill obtained a first reading, but got no further. An effort was then made to get security of tenure by means of amendments in the Housing and Town Planning Bill in 1909, but these were ruled out of order. In 1912 a new bill was prepared, but parliamentary congestion prevented its introduction; in 1913 a bill was again read for the first time, but eventually dropped. Meanwhile, with the able assistance of Sir Philip Magnus, valuable spade-work was being done, and in June, 1914, a large and influential deputation, consisting of members of the Association, medical officers of health, sanitary inspectors, and members of the Housing and Town Planning Association, together with other influential persons, was received by the Chancellor of the Exchequer, the President of the Local Government Board, and the President of the Board of Education. This deputation was introduced by Sir Philip Magnus and Dr. Addison. Promises were then given which were considered entirely satisfactory, and an Order granting security of tenure was actually drafted when the war intervened, and again the clock was put back. Recently, however, the Association, feeling that public health affairs were returning to their normal state, wrote to the Minister of Health reminding him of the promises made to the deputation and asking when effect would be given to them. Sir Philip Magnus also took the matter in hand, and he has received from Dr. Addison the following letter, which seems to indicate that the long struggle has at last ended successfully: "I have looked into the question of giving security of tenure to medical officers of health who give their whole time to public work. I find that the Local Government Board had an Order prepared to give effect to the promise which was made to you in this matter, but that it was not issued, partly because of the disorganization of the medical services of local authorities due to the war and partly because of the doubt whether security of tenure could be given to existing officers who were appointed for limited periods. Now that the medical staff of local authorities is restored to its normal strength, I will have the Order proceeded with, and will go as far as I can in giving security to whole-time medical officers. I propose to include sanitary inspectors and inspectors of nuisances in the Order on the same terms."

Intimately wrapped up with security of tenure has been the question of superannuation for public health officers, and there are not wanting signs that this question will soon be settled on a satisfactory basis.

The thanks of the Association and of medical officers of health are due first of all to Dr. Herbert Jones of Hereford, who has been the pioneer of the movement, the chief draughtsman of most of the memorandums and petitions on the subject, and the chief spokesman on many occasions. He may well feel proud of his share in this achievement. Sir Philip Magnus's parliamentary work has been invaluable, and he has shown a persistence, a sympathetic interest in the subject, and a perception of the right time to act which have added greatly to the debt the medical profession already owed him. Dr. Addison's action will be gratefully recognized by the profession. As an unofficial member of Parliament he did all he could to further this reform. Now, when in a position to do so, he gives effect to it.

THE COMPOSITION OF SALVARSAN.

THE position of salvarsan is in some ways unique. Represented as an organic compound of definite structure, it yet exhibits, in different samples, variations of toxicity so considerable that a rigid biological control of the properties of every batch is essential. Although these variations are the result of inappreciable and uncontrollable differences in the process of manufacture, their basis must ultimately be chemical, even though they may be due not so much to the presence of impurities which are toxic in themselves, as to small changes in the physical properties of the product, which small fluctuations in the proportion of certain by-products entail. Any further light on the chemistry of salvarsan, as prepared on the large scale and issued for therapeutic use, is therefore greatly to be welcomed. The important paper by Fargher and Pyman,[1] which was recently issued from the Wellcome Laboratories, probably contains, in condensed form, the most extensive account hitherto published of the chemistry of the commercial product, and of the directions in which it differs from the substance represented by the theoretical formula.

The most interesting and illuminating section of the paper is that dealing with the sulphur content of salvarsan. Ehrlich and Bertheim had mentioned the formation of toxic impurities during the reduction by hyposulphite, in which sulphur was attached to the arsenic of the molecule, and had prescribed the addition of magnesium chloride to the reduction bath to prevent this; the recommendation has always been obscure, and is not here dealt with. Fargher and Pyman, however, seem to have been the first to recognize that all specimens of salvarsan prepared by the hyposulphite process contain sulphur in varying proportions. This observation they had privately communicated to the Salvarsan Committee,[2] and it had been independently noted by American workers since then. They are now able to describe the separation from commercial salvarsan of a small proportion of a definite compound, in which the sulphur is attached to one of the amino groups as a sulphamic acid. The remainder of the sulphur they suppose, with Ehrlich and Bertheim, to be attached to the arsenic, though they suggest that some may be in merely physical association with salvarsan.

It would seem, then, that salvarsan as ordinarily made by reducing nitro-hydroxy-arsenobenzene with hyposulphite, includes small but varying proportions of at least two sulphur-containing compounds, which are not represented in the familiar formula. It should be added that there is no clear evidence that these by-products increase the toxicity of the preparation; on the contrary, as mentioned in the Salvarsan Committee's report above quoted, a sample of very pure "606," prepared by Dr. Pyman with the aid of hypophosphorous acid as reducing agent, and therefore quite free from sulphur, was deficient in solubility and more toxic than the ordinary less pure product. But whether such by-products are harmful, or, as seems possible, have in certain proportions a beneficial effect on the properties of the product, a clearer definition of their nature and the isolation of one of them mark an important advance in our knowledge of this wonderful remedy.

[1] *Transactions of the Chemical Society*, 1920 (vol. 117, p. 370).
[2] Medical Research Committee Special Reports, No. 44.

BIRTHDAY HONOURS.

PERHAPS the most interesting statement in the birthday honours list is that the honour of knighthood to Professor Frederick William Andrewes is bestowed "for valuable work in medical research." Never was the reason for giving an honour more succinctly and truly stated, for Professor Andrewes, whether as an observer, experimenter, or critic, wields a great influence in the study and teaching of pathology in this country. The K.B.E. is conferred on Dr. J. Dundas Grant, president of the special aural board at the Ministry of Pensions, and well known otherwise as an aural surgeon; on Mr. Arnold Lawson, ophthalmic surgeon to the Middlesex Hospital, in recognition of his work as ophthalmic surgeon to St. Dunstan's Hostel for the Blind; and on Colonel William Taylor, C.B., A.M.S., who became consulting surgeon to the forces in Ireland in 1916, and is an ex-president of the Royal College of Surgeons in Ireland. The honour of knighthood is conferred on Dr. S. R. Alexander, mayor of Faversham 1908–19, for his public and municipal services; on Dr. Sydney Beauchamp, who was resident medical officer to the British delegation during nearly the whole of the peace conference in Paris; on Alderman Charles O'Brien Harding, L.R.C.P., mayor of Eastbourne in 1903 and from 1906–19; and on Colonel H. E. Banatvala, C.S.I., I.M.S., late Inspector-General, Civil Hospitals, Assam. The Kaisar-i-Hind medal for public services in India has been received by Dr. D. H. Mehta, medical officer Patao Hospital, Baroda, and Dr. S. R. Moolgavkar, principal medical officer Bikaner State, Rajputana.

PSYCHOLOGY AND MENTAL PATHOLOGY.

THE notes of the three lectures on psychology Professor Janet delivered in London for the University of London (published in the JOURNAL of June 5th) will have been sufficient to show that he is an apostle of behaviourism in its most extreme aspect. He adopts the view that our body is an instrument which receives movement from the outside and restores it to the external world. The brain differs from other parts of the body in that it does not always reproduce the energy it receives immediately in movement, but may store it up for ulterior movements. The body and brain together are an instrument of movement and nothing else; and in movement we must not look for anything else than what is observable. If the brain is diseased, it is only its movement and nothing else that is affected. So far the dynamic view of Janet follows the views of Bergson, but Bergson parts company when Janet denies that material movements can produce psychical or conscious life. So long as it is recognized that a consistent physical view such as that advocated by Janet is a methodological abstraction there is little to be urged against it. It is in agreement with the view of Münsterberg, who also is of opinion that the whole of psychology is a temporary stopgap by which we eke out our defective physiology, and that sooner or later it must cease to be of use and therefore cease to exist as physiology advances. Nor does it lay itself open to the reproaches that Avernarius has heaped on the "introjectionist" transformation of the naïvely realistic standpoint. It may well be that for the purposes of the physician the study of movements or behaviour afford the only safe data for the elucidation of mental disease. We must, however, be prepared to pay a price—teleological unity of interest or purpose must be ruthlessly banished from the study of psychology. The ethical appreciation of human conduct and the historical interpretation of it in terms of ends and ideals becomes impossible, for they can only be expressed in teleological terms, and we suspect the same limitations will be found to apply to aesthetics. We can hardly quarrel with the tendency of the English and Scottish school which resolutely refuses to thus limit its terms of reference. A methodological survey of the scope of medical psychology is of urgent importance; Professor Janet has clearly defined his attitude, and we would welcome some similar pronouncement on the part of our own teachers of psychotherapy.

OPERATION FOR ARTERIAL EMBOLISM.

THE treatment of arterial embolism by operation and removal of the embolus appears to have been first attempted in 1895, by Ssabanjeff, in the femoral artery; so far as the lesser circulation is concerned, the extraction of a pulmonary embolus was first attempted in 1907 by Trendelenburg. In neither instance was the operation successful. Dr. H. Sundberg[1] has collected from the literature twenty cases of operation on arteries for embolism, with six successes, four of them, including his own case, achieved by Swedish surgeons. His patient was a landholder aged 63, admitted to hospital with heart-failure; the heart's action was completely irregular, no murmur was identified, the blood pressure was 145 mm. Hg, the arteries were sclerosed, and digitalis and diuretin were given. Nine days later symptoms and signs of embolism of the left femoral artery suddenly appeared, and Sundberg concluded that the obstruction was at the point where the profunda femoris branches off from the femoral artery. He operated twelve hours after the onset, under local anaesthesia and one-fifth of a grain of morphine, exposing the arteries above and below their junction. The femoral artery was found to be filled with a solid mass extending 2 cm. above this point; an incision 2 cm. long was made into it opposite the origin of the profunda, and the proximal piece of clot was carefully withdrawn after clamping the free artery above. The profunda bled freely, and was clamped. Relaxation of the clamp on the femoral artery was followed immediately by free haemorrhage. The distal portion of the clot was then grasped with forceps and carefully withdrawn. It proved to be 86 cm. (almost 34 in.) in length, smooth, with a single short branch at about the bifurcation of the popliteal into the anterior and posterior tibial arteries; its distal end was even and smooth. Removal of this clot was followed by a gush of blood, and the vessel was clamped. The opening in the femoral artery was then sewn up, great care being taken to pass the needle through the external and middle coats only, and to leave the arterial intima untouched; very fine silk soaked in paraffin was used for the sutures. The three clamps were removed, no bleeding followed. Catgut subcutaneous sutures were inserted, and the wound closed. Five days later signs of thrombophlebitis appeared in the left calf, but this settled down in a fortnight. The patient was up and about six weeks after the operation, and presently returned to his home, writing thence two months later to say that he was well, and his left leg free from unpleasant feelings. Sundberg does not specify the nature of the embolus in his case; with regard to the clot, he remarks that it was of the same length as the patient's leg from the opening in the artery to the sole of the foot, and he quotes cases operated on fourteen and ten hours after the embolism, in which the clots found on operation were 12 and 3 cm. long respectively.

AN OUTBREAK OF PELLAGRA IN A REFUGEE CAMP.

THE Public Health Department of the Egyptian Ministry of the Interior has published a report by Dr. R. G. White, Deputy Director of the Public Health Laboratories, Cairo, on an outbreak of pellagra which occurred during 1916–17 in the Armenian refugee camp near Port Said. Armenians to the number of 4,058, including 700 adult males, were driven by the Turks from hillside villages near Antioch, and arrived in a debilitated and exhausted condition at the camp in September, 1915. The camp had an admirable water supply from the Port Said system and efficient

[1] *Hygiea*, Stockholm, 1920, lxxxii, 1.

sanitation. In February, 1916, the first manifestations of pellagra appeared in the form of gastro-enteritis, stomatitis, and gingivitis; parotid swelling was uncommon. Two months later dermatitis was noted, and early in May the outbreak was recognized to be pellagra. The skin lesions noticed were symmetrical erythematous dermatitis of the hands, feet, face, and neck; the demarcation lines showed a raised edge. In severe cases anaemia, cachexia, and nervous symptoms supervened; the mortality was about 4.7 per cent. of those affected. Bacteriological examination of the skin lesions, buccal secretions, and excreta showed nothing of importance, and *Simulidae*, or other blood-sucking insects, were not found near the camp. Blood examinations showed slight neutrophilia, with a small relative increase of myelocytes, metamyelocytes, and rod-nucleated cells. The refugees came from a district where pellagra is unknown, and Dr. White regrets that, owing to the insufficiency of the medical staff, it was not possible to make fuller investigations of the origin of the epidemic. It is clear, however, from the report that the disease was primarily due to a faulty dietary. During the first six months after the arrival of the refugees the ration issued was far from sufficient, and their means of adding to it were unsatisfactory; it was at the end of this time that pellagrous symptoms were noted. During a period when the men received employment outside the camp and were able to supplement the official rations a great improvement became evident, and the number of new cases was diminished. When this employment ceased and the refugees had to depend on the official dietary, the disease recurred in a more severe form. In February, 1917, a full ration was issued to all occupants of the camp irrespective of any additions they might themselves be able to make; a special ration was issued to those showing any signs of pellagra, and special meals were served to the children. As a consequence of these measures no new case of pellagra was seen after June, 1917. It was not found possible to establish with any precision the existence of dietetic factors to the presence or deficiency of which the outbreak could be attributed. It was concluded that the consumption of maize—which in the early months formed 25 per cent. of the flour used—could only have been a factor in the causation of the outbreak in so far as it was responsible for some deficiency in the diet; it had no direct causal relation to the disease. The composition of the daily diet of the adult male in the period preceding the epidemic was: Protein 47.6 grams, biological value 23 grams (approximately 95 per cent. from vegetable sources); fat, 26 grams; carbohydrates, 449 grams; heat value, 2,280 kilo-calories. It is possible that the very low fat value of this diet was of importance in the causation of the outbreak. Dr. W. H. Wilson points out that the lesions of pellagra appear in tissues such as the skin and nervous system, where fats are specially important. 83 per cent. of the fat of the diet was derived from vegetable sources; it included 28 per cent. of cottonseed oil, which the Armenians (who had been accustomed to olive oil) disliked. It is interesting to note that at Alexandria, in an encampment of Jewish refugees from Palestine, who did not exhibit such a dislike and partook freely of the same oil, no pellagra occurred. But this observation does not throw much light on the matter, for their bread was not mixed with maize, and they were able to supplement their official ration by purchases made from their earnings.

ADVANCED CANCER OF THE CERVIX RENDERED OPERABLE BY RADIUM THERAPY.

IT is a matter of common experience that the great majority of cases of cancer of the cervix uteri when first seen by the surgeon have already reached the inoperable stage. Occasionally this may be attributable to the omission of the medical attendant, before prescribing treatment for cases of irregular haemorrhage or discharge, to make a local examination; usually, however, it is due to the neglect of the patient to seek medical advice at the time of the appearance of the earliest symptoms. Many reports have been made of the palliative application of radium in inoperable cases;[1] as a rule there has resulted a shrinkage of the growth and its extensions, together with abatement or disappearance of the chief symptoms; although recurrences or relapses have usually followed, the patients have gained at least twelve months' extension of life. Few instances, however, have been reported of radium therapy used with the purpose of making it possible subsequently to perform hysterectomy by Wertheim's method; particular interest, therefore, attaches to the experience recorded by Dr. Fletcher Shaw and Dr. Arthur Burrows, of Manchester, at the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, on June 3rd. Dr. Fletcher Shaw attempted to perform wide hysterectomy in fourteen cases in which radium had been applied two months previously, at a time when the cancerous condition appeared to be inoperable. In six of these cases operation had to be abandoned on account of the presence of scar tissue, of cartilaginous consistency, which was found to adhere to the ureters or bladder, and to prevent the dissection which is a necessary preliminary to wide hysterectomy. Of the remaining eight cases, one died two days after operation, as a consequence of intestinal obstruction; two exhibited recurrence within eighteen months; and five had remained well—six years, two and three-quarter years, one and three-quarter years, fourteen months, and ten months respectively after the operation. Formerly in inoperable cases, when the patient was opposed to radical measures, the combined treatment was not pressed; as a result of his experience, however, Dr. Fletcher Shaw now feels justified in speaking much more favourably of the results of radium therapy employed as a preparatory measure before operation. It is to be noted that of the patients in whom the combined treatment was completed all but one had passed the menopause. Dr. Burrows recommends the insertion for twenty-four hours of five or more $\frac{3}{10}$ mm. pointed platinum tubes; a larger central silver tube is introduced into the cervical canal. Not less than 240 mg. of radium bromide, corresponding to about 120 mg. of radium metal, or 120 millicuries of emanation, are used at one, two, or rarely three sittings. Among 150 cases of inoperable cancer of the cervix treated by radium up to 1917 he found that twenty-eight, or 20 per cent., became operable. Of his cases treated during the last two and a half years, 20 per cent. were well at the end of one year, and had nearly all become operable. Many other surgeons in operating after the application of radium have encountered difficulties, due to the presence—near the ureters especially—of dense, unyielding scar tissue, which, as a result of the action of radium emanations, has replaced neoplastic and inflammatory material. Dr. Fletcher Shaw and Dr. Burrows, as well as other gynaecologists who contributed to the discussion at the Royal Society of Medicine, proposed to consider the advisability of operating on the second day after the completion of the exposure to radium—that is to say, at a time when the destructive action of the emanation on the malignant cells has been completed and the hard hyaline fibrous tissue, which at operation makes dissection so difficult, has not yet been formed. In contemplating such a procedure, however, the risk of postoperative sloughing has to be taken into account. According to Dr. Burrows, the use of radium therapy is not advisable if the tumour be very voluminous, or if a large excavated ulcer is surrounded by a thin shell of damaged tissue; in such cases there is risk of extensive sloughing and formation of fistulous communications. Several surgeons have reported the formation, after application of radium, of fistulas between the vagina and the rectum, urethra, or bladder. Dr. Burrows believes that if excessiv

[1] See the article on the report of work of the Radium Institute for 1919, BRITISH MEDICAL JOURNAL, May 8th, 1920, p. 642.

dosage is avoided and unsuitable cases are excluded from radium therapy these results occur in at least as small a proportion of treated as of untreated cases.

THE BATHS OF OLD LONDON.

THE spas, baths, and wells of old London were made the subject of an interesting antiquarian study by Dr. Sunderland a few years ago,[1] and more recently he has written an account[2] of the baths that were established in the metropolis in times long past. The oldest of these, and by a happy chance one of the very few survivors, is the old Roman spring bath or plunge bath in Strand Lane, near King's College. Thought to have been built in the time of Titus or Vespasian, it preserves what appears to be Roman masonry in its walls, and is supplied with a runnel of clear water coming from springs at Hampstead. In the year 1502 baths fed from the St. Agnes-le-Clair spring near St. Luke's Hospital were established; they fell into disuse in the middle of last century, and their site is now occupied by St. Agnes Terrace between City Road and Hoxton. The Templars' Bath, adjoining the Roman bath from which it obtained its water supply, was built by the Earl of Essex in 1588, and was used for three centuries by residents in the Temple; it was closed in 1893, and its site is now occupied by the larder of the Norfolk Hotel. Queen Elizabeth's bath in the King's Mews, near Charing Cross, thought to date from the fifteenth century, was destroyed only ninety years ago in the creation of Trafalgar Square. In addition to these four older baths, several other bathing pools were established in the seventeenth century, with varying fortune. Among these may be mentioned Peerless Pool, behind and north-west of St. Luke's Hospital, in the City Road, drained in 1850; the Cold Bath, at the north-west end of Tottenham Court Road; the Cold Bath, Clerkenwell, off Farringdon Street and near the river Fleet; a bath at Shadwell Spa, Wapping, recommended in 1745 for scorbutic and cutaneous disorders; Queen Anne's bath, fed by a chalybeate spring, at the back of what is now No. 35, Endell Street, Long Acre; and the Grotto Cold Bath in Marylebone, near the present Grotto Passage. The river Thames sported two floating baths as late as 1868, no doubt much like those now visible on the Seine in Paris, and Pepys makes mention of such a bath in 1688. Dr. Sunderland also catalogues a number of the "sweating baths" so common in the London of the later middle ages and subsequently; after a period of disuse they reappeared towards the end of the seventeenth century under the Italian name "Bagnio," to pursue a chequered and often scandalous career, ending in suppression. He adds a note to the effect that baths and washhouses for the working classes originated in 1844, thanks to the labours of an association for promoting cleanliness among the poor.

THE SERVICES OF THE ARMY MEDICAL DEPARTMENT.

WHAT the Earl of Midleton described as a public ovation—the only instance since the armistice of such a tribute to a particular branch of the army—was given in honour of the Royal Army Medical Department and its associated civilians on June 8th. The appreciation took the form of a dinner at the Connaught Rooms, when the single toast (apart from the loyal toast) was "The Royal Army Medical Department and the eminent civilians attached to it during the war." About 180 sat down at the tables, and the thirty hosts included many eminent administrators, both military and civil. Lord Midleton occupied the chair because, with the exception of Lord Lansdowne—one of the hosts, who was unable to be present—he was the senior in point of date of those who had held the office of Secretary of State for War. On his left hand was Mr. Winston Churchill, the present War Secretary, on his right the guest of the evening, Sir Alfred Keogh, and next to him Field-Marshal Earl Haig. Among those at the principal table were the Marquis of Salisbury, the Earl of Donoughmore, Earl Fitzwilliam, Viscount Burnham, Lord Dawson, Lord Horne, Lord Methuen, Lord Rawlinson, Sir William Babtie, Sir Anthony Bowlby, Sir John Goodwin, Sir Arbuthnot Lane, Sir George Makins, and Sir Arthur Sloggett; while among those presiding over the smaller tables were Lords Knutsford, Desborough, Somerleyton, Harris, Lee of Fareham, and Wavertree, Lord Edmund Talbot, Sir Arthur Stanley, Sir Herbert Creedy, Sir Ivor Philipps, and the secretary of the dinner committee, Sir Edward Ward. A message was read from the Duke of Connaught, expressing his pride at being colonel-in-chief of a corps which had rendered such great service to army and country, and there were other messages from Lord Derby (one of the hosts), Viscount French, and Lord Islington. The toast of the evening had three proposers—the Chairman, Mr. Churchill, and Lord Haig—and Sir Alfred Keogh, Sir John Goodwin, and Sir George Makins replied. A report of the speeches will appear in our next issue. During a visit to the Military Hospital at Millbank on June 8th the King inspected the memorial tablets placed in the recreation room. The tablets show the removal of a wounded man from a front line trench, a regimental aid post, a main dressing station, and a hospital train. The memorial inscription runs as follows: "This room was remodelled and the sculptures erected in appreciation of the devotion to duty of the R.A.M.C. and of their sufferings in the relief of suffering in the great war. The cost was defrayed out of a fund generously placed at the disposal of King George V by Major W. Keefer of Toronto—1914–1919." The King also visited the nursing home for senior officers at the hospital and invested General Gorgas, P.M.O. of the American army, with the insignia of K.C.M.G., in recognition of his services to the British Empire and to the commercial world, especially through the work he did as Chief Health Officer during the construction of the Panama Canal. We regret to learn that General Gorgas is a patient in the hospital, and hope for his speedy recovery.

NAVAL MEDICINE AT THE IMPERIAL WAR MUSEUM.

IN the Naval Medical Section of the Imperial War Museum, opened by His Majesty the King at the Crystal Palace on June 9th, the opportunity is afforded of learning something of medical treatment as carried out in specially difficult conditions of naval warfare. The naval section of the museum contains models, schematic sections, and photographs of hospital ships; a picture of such a ship at night, with abundant illumination, including a prominent red cross, is of interest when the fate of several British hospital ships is remembered. The disposition and treatment of the wounded within the combatant vessels are well illustrated in a series of noteworthy pictures by Jan Gordon and by Oswald Moser. Specimens are shown of the light-tight scuttle ventilators devised by Surgeon Commander M. H. Knapp; these admit air freely to well-lighted sick quarters, but preserve invisibility. Transport of the wounded is a matter of special importance in naval warfare, and examples are shown of the cots, cages, slings, and stretchers employed, as well as photographs of the internal arrangements of the naval ambulance train, which was described in our issue of July 27th, 1918. Preventive methods are illustrated by models of the special helmets, gloves, and clothing worn for "anti-flame" and "anti-flash" protection during action. An interesting exhibit shows the development of the naval respirator, which can be worn in three or four different positions, and in order to prevent deviation of the compass is provided with a container of brass. The museum contains numerous examples of medical appliances used in the German navy. Among these are a life-saving jacket, with a compressed air cylinder and a purifying chamber, and an apparatus for

[1] See the BRITISH MEDICAL JOURNAL, 1915, ii, 869.
[2] *Transactions* and Eighth Annual Report of the London Dermatological Society. London: J. Bale, Sons and Danielsson, Ltd. 1920. (Demy vo, pp. 75. 2s. 6d. net.)

delivering oxygen to four individuals; both these appliances are for use in submarines. The German sick-bay cot consists of an iron cage suspended from two metal uprights, and is extremely heavy as compared with that used in the British fleet. Bandages and lint made of paper, as well as a tourniquet in which indiarubber is replaced by a spring, are examples of expedients devised by the Germans to make up for their lack of raw materials.

Medical Notes in Parliament.

Proposed New Site for the University of London.

NUMEROUS questions have been addressed to the Minister of Education and to the Chancellor of the Exchequer in the House of Commons concerning the offer of a site of eleven and a half acres north of the British Museum, made by Mr. Fisher on behalf of the Government to the Senate of the University of London. Mr. Fisher, in his letter to Lord Rosebery on May 20th, said that the Government had at one time hoped to be able to provide the building as well as the site. This was before the war, however, and they could not, he said, undertake that expenditure in the fresh conditions. But the Government was prepared to make such provision as would secure the University from loss in respect of maintenance charges on the new site. The University now occupies quarters at the Imperial Institute under a Treasury minute of 1899, which not only provides for maintenance but frees it of rates and taxes. According to an unauthoritative estimate, to provide accommodation equal to that afforded at South Kensington would cost £4,000,000, and the buildings now contemplated might mean a liability for rates and taxes of between £60,000 and £80,000 a year. King's College was built upon a site granted by the Government on a lease for 999 years. The building was erected by public subscription, and the question whether the Senate is at liberty to sell has been raised.

In the House of Commons, on June 1st, Mr. Fisher said that the matter was still under negotiation, and he was therefore not able to make any statement as to the price proposed to be paid to the Duke of Bedford. The Government, after full consideration, had decided that the Foundling Hospital site was less suitable. The Government was not attempting to force the University to accept the site. To the objection that so large an expenditure out of public funds should not be incurred at the present time, Mr. Fisher replied that there was the offset of the value of the site and buildings occupied in the Imperial Institute, and added that the buildings held by King's College would be liberated—which suggests that he assumed that the latter buildings were to be regarded as Government property.

On June 3rd Mr. Chamberlain told Sir W. Joynson-Hicks that when the two sites were considered before the war, it appeared that the cost of the Foundling Hospital site would be rather greater than that of the Bedford site. Sir W. Joynson-Hicks put it to the Chancellor that no suggestion had been made to the Foundling Hospital since the war, but Mr. Chamberlain responded that the Government had decided upon what it thought was the best site. He declined to answer an inquiry by Mr. Palmer as to whether the cost of the Bedford site was now a million sterling as compared with £367,000 before the war.

On June 7th Mr. Fisher, in reply to further questions, told the House of Commons that the Government had considered the possibilities of a number of sites, including the Foundling Hospital, a site south of the river between the new County Hall and Hungerford Bridge; another between Waterloo Bridge and Blackfriars Bridge, and also the feasibility of utilizing Somerset House, or of effecting an extension of the present university quarters in the Imperial Institute. Because the Government regarded the Bedford site as the most suitable, negotiations for properties less suitable were not opened. The site offered included four vacant plots, and as the majority of the leases would fall in at different periods after 1923, it would only come into occupation gradually, and it was not necessary therefore at this stage to attempt to estimate the number of persons who might eventually be displaced. The House would, he added, have an opportunity of discussing the matter when the Estimates for public works and buildings were taken.

Medical Practitioners and Motor Car Taxation.

Sir A. Sykes asked the Chancellor of the Exchequer, on June 3rd, whether he could see his way to make some rebate of the horse-power tax on motor cars in the case of medical practitioners, especially those who practise in rural areas, in view of the fact that their work necessitated the use of cars of considerable power, and left only a small margin of profit. Mr. Neal, Parliamentary Secretary to the Ministry of Transport, said the point had been very carefully considered, but, for the reasons stated in paragraph 23 of the Report of the Departmental Committee on the Taxation of Road Vehicles, the Minister of Transport was unable to recommend a rebate of the proposed taxation of motor vehicles in the case of those used by medical practitioners.

Medical Staff of Ministry of Health.—Mr. Spoor asked the Minister of Pensions, on June 3rd, whether his attention had been called to an advertisement issued by the Minister of Health, inviting medical men to apply for appointments in the Ministry of Health at salaries of £1,000, rising to £1,400 per annum, with pension rights, etc.; whether these appointments were calculated to draw medical officers from the Ministry of Pensions; and whether he could see his way to giving similar salaries and advantages to the medical staff employed by the Ministry of Pensions. Mr. Macpherson replied that his attention had been drawn to the advertisement, which related to certain appointments of a permanent character requiring special scientific qualifications. It was, of course, open to the medical members of his own staff to become candidates. He could not undertake to revise the scales of remuneration of the temporary medical service of the Ministry of Pensions, which were settled so recently as January of the present year. It was not yet possible to forecast the permanent medical arrangements which would be necessary for the purposes of the Ministry. Major Nall asked whether Mr. Macpherson was taking any steps to place disabled medical men in appointments such as this. Mr. Macpherson replied that quite a large number of disabled medical men, certainly men who had served, were now on the staff.

Health Insurance Finance.—Dr. Addison, on June 3rd, in answer to Major Barnes, said that the moneys accumulated under the National Health Insurance Acts up to March 31st, 1920, were as follows:

Investments in the hands of approved societies, or invested on their behalf under Section 56 of the Act of 1911 in securities selected by them, cost £29,000,000.

Investments in the hands of the National Debt Commissioners under Section 54 of the Act of 1911, cost £47,500,000.

Balances of cash in the several National Health Insurance Funds, and in the hands of approved societies and of Insurance Committees, £1,500,000.

The estimated liability in respect of contributions and State grants arising under the National Health Insurance Act, 1920, for the period July, 1920, to July, 1921, was £36,692,000, of which £14,400,000 would be payable by insured persons, £15,350,000 by their employers, and the balance, £6,942,000 out of moneys provided by Parliament.

Asked what would be the increased annual cost if sickness, disablement, and maternity benefits were increased by 140 per cent. over those provided by the Act of 1911, Dr. Addison said that the corresponding cost on the present actuarial basis of the scheme would be increased by £17,950,000, of which £3,400,000 would fall on the Exchequer and the balance on insured persons and their employers. If the benefits for women were on such increased basis made equal to those for men, the total cost would be still further increased by £2,600,000, of which £700,000 would be payable by the State.

Air Raid Claims.—Asked by Mr. Blair, on June 3rd, if a soldier on leave who lost his right arm by enemy action during an air raid was deprived of pension on the ground that his injury was not due to war service, Mr. Macpherson said that was so. If, however, the injury sustained led to the soldier's discharge he might be eligible for a gratuity. Such a man would be considered for training by the Ministry of Labour.

Pensions and Pensioners.—The number of persons receiving pensions in the United Kingdom in respect of disability or death in the present war is approximately 1,700,000, and in addition nearly 1,800,000 wives, children, and other persons dependent on pensioners are receiving allowances, thus making the total number of beneficiaries approximately 3,500,000. The precise number of persons receiving similar pensions or allowances in France is not available, but is said to be in excess of three millions. The number of persons in the employ of the British Ministry of Pensions is 24,892. The corresponding figure for France is not available. The cost of war pensions for the financial year 1920–21 is estimated at £118,211,000. This includes the cost of treatment but excludes administrative expenses.

Rabies in Imported Dogs.—The Ministry of Agriculture reports that two undoubted cases of rabies have occurred among dogs landed from abroad and undergoing quarantine, and a third highly suspicious case is under investigation. In both the cases confirmed as rabies the dogs were landed in an apparently healthy condition. In one case the disease manifested itself after two and a half months' quarantine, and in the other after a period of four months. In the circumstances the Ministry hold the increase in the period of quarantine to be fully justified. No case of rabies has occurred in any animal liberated as healthy after undergoing the statutory period of quarantine.

Answers in Brief.

The number of administrative posts, including those strictly defined as executive, in the Ministry of Health, held by men with a salary of over £500 a year, is 103.

The number of soldiers in hospitals in the United Kingdom who are eligible for demobilization is about 5,000, and the daily cost £2,500. The War Office is satisfied that the hospital treatment is thoroughly adequate.

The total amount of income subject to tax before the deduction of the various personal reliefs and allowances was for the year 1913–14 about £950,000,000; for the year 1920–21 it is estimated that the amount will be in the neighbourhood of £2,200,000,000. Owing to changes in the law relating to income tax the basis of the estimates for the two years differs materially.

England and Wales.

FUTURE PROVISION OF MEDICAL SERVICES IN WALES.

THE report[1] of the Welsh Consultative Council on the provision of medical and allied services in Wales has now been issued. We were able last week (p. 781) to give an outline of the report and of its principal recommendations, to which little can be added except with regard to the recommendations for North Wales, which is largely a rural area. The Council recommends that the whole of North Wales, with the northern portions of Brecon, Cardigan, and Radnor, should be regarded as a single area, with large hospitals or institutes at three central places, of which Bangor and Wrexham are specified. There should also be available for the area a large asylum or mental home providing 1,000 beds, a mental deficiency home providing 300 or 400 beds on a site away from the asylum, a central tuberculosis sanatorium, with an adequate number of beds for North Wales, convalescent homes and rest or holiday homes to meet, in particular, the needs of mothers after confinement, provision for the blind and deaf, and for cripples, separate provision for epileptics, a fever hospital in or easily reached from each county, as well as a small-pox, plague, cholera, and dysentery hospital for North Wales. With regard to the local institutions in the various areas of North Wales, it is recommended that each should include, say, 20 beds for medical and surgical cases, a maternity ward, a school clinic, various clinics—for example, dental, tuberculosis, venereal, pediatric, psychiatric—a fully equipped outpatient department, and a hostel for nurses. "The staff of such an institution should include a fully qualified medical officer who, in addition to being the house-surgeon and house-physician, would also be in charge of the various clinics. The cases admitted to these hospitals would, however, be followed through by the general practitioners concerned." Such an institution might serve contiguous areas in the neighbouring counties. It is also recommended that further school and other clinics should be provided in such parts of a county as may not be conveniently served by the proposed local institutes; at these clinics the nurse or nurses in the district should reside and at least two beds should be available for such cases as can properly be dealt with at such institutions. In the selection of centres for these local clinics regard should be had to the character of the locality and not merely to the size of the population.

WELSH BOARD OF HEALTH.

The Welsh Board of Health is at present constituted as follows: Sir Thomas Hughes (Chairman), Dr. D. Llewelyn Williams (Medical Member); Mr. John Rowland, C.B.E., M.V.O. (Deputy Controller of Insurance for Wales); Mr. A. Lloyd Thomas (Housing Commissioner); with Mr. Percy E. Watkins (Secretary, Administrative Officer for Public Health and *ex officio* Member of the Board).

ADVERTISEMENTS FOR MEDICAL OFFICERS.

The Colchester Town Council on June 2nd discussed the salary of the new assistant medical officer of health and assistant school medical officer. The Education Committee recommended that a salary of £500 be offered for the post, but Councillor Jarmin proposed that this recommendation be sent back to the Education Committee for further consideration. He said the retiring assistant medical officer (Dr. Vercoe), who had served them well, had been receiving £375 and £25 war bonus, and there was no explanation, reason, or justification for increasing the salary by £100 beyond the fact that medical journals had refused to insert the advertisement unless £500 were offered. He thought there should have been a more weighty reason than that. Under their medical officer he thought a junior medical man would have been sufficient for the position, and there was no reason at all why a presumably young man should be offered £100 more than their retiring assistant medical officer. While they were turning down applications for increases in all directions, he thought that, as a matter of sheer consistency, they could not offer for a new appointment a salary of £100 more than a very able officer had been satisfied with. He moved that the recommendation be referred back with the observation that £400, including bonus, was sufficient commencing salary. Councillor Harris seconded. Alderman Blaxill (Chairman of the Education Committee), after paying a tribute to the services of the retiring assistant medical officer, said it was a fact that medical journals had declined to insert the advertisement for an assistant medical officer at a lesser salary than £500. Other authorities, however, had had difficulty in getting replies to advertisements offering £450, and the Committee felt, although they did not like the attitude of the BRITISH MEDICAL JOURNAL or other papers, that there was now more reason for the minimum salary suggested by those journals than on the last occasion. The medical union was perhaps the strongest trade union in the country. Many authorities were offering assistant medical officers considerably in excess of £500. Dr. Vercoe had himself obtained a post as one of six assistants at Willesden at a salary of £710, rising to £840; therefore, £500 did not seem an excessive figure. Councillor Jarmin maintained that they were not necessarily beaten because another authority had failed. He objected to dictation by a medical union as by any other union. The amendment was lost by 15 votes to 9, and the recommendation that £500 be offered was carried and adopted.

[1] [Cmd. 703.] H.M. Stationery Office. Through any bookseller. Price 9d. net.

SCHOOLS AND INSTITUTIONS FOR THE PHYSICALLY AND MENTALLY DEFECTIVE.

The Board of Education has issued a list[1] of certified schools and institutions for blind, deaf, defective, and epileptic children and young persons in England and Wales. In England there are thirty-three day schools for blind children—of which twenty-one are in London—and twenty-five residential schools. There are twenty-nine day and twenty residential schools for deaf children. London has eighty-four day schools and one residential school for mentally defective children, compared with eighty-eight day and nineteen residential schools in the rest of England. For crippled children there are fifty-seven day and thirteen residential schools, thirty-six of the former being in London. The smallness of the provision hitherto made for delicate children and those suffering from tuberculosis is indicated in Section V; there are only twenty-seven day open-air schools in England and Wales; of these London has six. There are in England six residential schools for epileptic children and two for children suffering from ophthalmia. Wales has only seven day and two residential schools—all situated in Glamorganshire—for the above mentioned classes of children. Twenty-eight institutions in England and one in Wales provide full-time courses of instruction and preparation for a trade for cripples, epileptics, or the blind. One institution—the Worcester College for the Blind, at Whittington—is recognized by the Board of Education for the higher education of the blind. Five schools and classes for blind students, thirteen for deaf students, and two for physically defective students, are recognized under the regulations for technical schools. A list is also given of approved boarding-out committees for blind, deaf, defective, and epileptic children.

Scotland.

EDINBURGH ROYAL MATERNITY AND SIMPSON MEMORIAL HOSPITAL.

AT their meeting on Friday, May 28th, the directors of the Edinburgh Royal Maternity Hospital confirmed the appointment of Dr. R. W. Johnstone, Dr. James Young, and Dr. Hugh S. Davidson to be assistant physicians to the hospital. These are the first appointments made under the new arrangement concluded with the University of Edinburgh for closer relations, especially for teaching purposes. The following are some of the clauses of the agreement which has been reached by the two bodies:

The clinical medical staff shall include the professor of midwifery *ex officio*, three physicians, an extra physician, and four assistant physicians. These physicians and assistant physicians shall be university lecturers. The professor of pathology shall, *ex officio*, be pathologist to the hospital. The

[1] List 42. H.M. Stationery Office, 1920 (6d. net).

consulting physician, consulting surgeon, consulting obstetricians, and the consulting ophthalmic surgeon remain as before members of the Medical Board, but are not included in the clinical medical staff; there are also extern assistant physicians appointed in connexion with certain associated dispensaries.

The professor of midwifery shall, up to the age of 65, hold his appointment during his tenure of the chair and shall be a director of the institution.

As vacancies occur among the assistant physicians they shall be duly advertised and the applications of candidates shall be considered by a nomination board composed of four members appointed by the directors of the Royal Maternity Hospital and three members of the Faculty of Medicine of the University. The names selected shall be submitted to the directors of the Maternity Hospital for approval and appointment. Each physician and assistant physician shall be appointed for five years. The renewal of an appointment shall not be automatic, but only take place after due consideration by the directors. No physician or assistant physician shall hold office after the age of 65.

The professor of midwifery shall be chairman of the clinical medical staff, and all proposals in regard to teaching arrangements in the hospital shall be submitted by them through him for approval to the Faculty of Medicine and the directors of the Maternity Hospital.

The clinics to students shall be limited as to numbers, and shall be compulsory and recognized as an integral part of the university course of midwifery. The clinics shall be open to all registered medical students on payment of such fees as may be fixed by the directors after consultation with the University Court.

The professor of midwifery, besides having the general direction of the hospital and being responsible for the teaching in the first quarter, shall have the right of teaching in any of the other three quarters, the details to be arranged in consultation with the clinical medical staff.

The names of suitable candidates for the post of house-surgeon shall be selected by the clinical medical staff and submitted to the directors for approval and appointment.

It will be noted that the system by which each physician and assistant physician was in charge of the hospital for one quarter of the year is in the main retained in the new scheme of working the institution; the extra physician, however, who is in charge of the antenatal and venereal diseases departments is on duty all the year round. It may be added that the position of house-surgeon to the antenatal department and to the extension of the hospital is now open to women medical graduates and is at the present time held by one.

"LIBERTON."

The Court of the University of Edinburgh at its meeting on May 17th determined to give the name "Liberton" to the site of 115 acres it has recently acquired to the south of the city. It is understood that whilst it is intended to transfer to the buildings to be erected at Liberton the teaching of advanced chemistry, it has not yet been decided what other subjects (scientific and medical) may be dealt with there; nor has a name been settled on for the buildings themselves, although the fact that His Majesty the King has consented to lay the foundation stone next month seems to suggest possibilities of nomenclature. The Liberton site lies under the lee of Blackford Hill, with the Craigmillar Park golf course looking upon it. It has West Mains Road as a northern and Braid Burn as a southern boundary, and the Braid Hills lie to the west of it. Further to the south is Liberton Tower and Upper Liberton, whilst to the east are the hamlets of Liberton Dams and Nether Liberton, with South Edinburgh reaching out towards and passing between them. To the south-east is Liberton itself, and the lands of Gracemount and St. Catherine's with its famous "balm well."

The new site formed part of the Barony of Liberton, which, in the sixteenth century, belonged to Mr. Clement Little, who, by his gift in 1580 of some three hundred volumes (not an inconsiderable number in those days), founded the library of the university, soon afterwards to be enriched by the collection of the poet, William Drummond, of Hawthornden. This same Clement, "Commissary of Edinburgh," was instrumental in stirring up the town council to begin erecting the college buildings on the site provided for the purpose (Kirk-of-Field) in 1582. So the old buildings and these newest ones at Liberton are linked together by him. There was also William Little, a kinsman of Clement, who was Provost of Edinburgh in 1591; he, too, assisted at the birth of the young university. He was Laird of Over-Liberton, and the family tomb in Greyfriars Churchyard (within a stone's throw of the medical part of the university) is a rather remarkable structure. It is, writes James Grant in his *Old and New Edinburgh* (vol. ii, p. 382):

> a mausoleum composed of a recumbent female figure, with a pillar-supported canopy above her, on which stand four female figures at the several corners; the popular story is that the lady [perhaps the Provost's wife] was poisoned by her four daughters, whose statues were placed over her in eternal remembrance of their wickedness; but the effigies are in reality those of Justice, Charity, Faith, etc. . . . and the object in placing them there was merely ornamental.

The tomb was erected by a great-grandchild in 1683, perhaps because that year marked the first centenary of the university which the Littles had done so much to found. Littles and Little-Gilmours continued at Liberton till recent times, and in one of Kay's *Portraits* (No. xxvi)—that of Dr. John Brown, author of the Brunonian system of medicine—there is a miniature scene in the background representing Mr. John Lamont, surgeon, Lord Bellenden ("playing on the fiddle"), Dr. William Cullen, Dr. Alexander Hamilton, Professor of Midwifery, James Graham (of the Temple of Health and Hymen, Pall Mall), and "Mr. Little of Libberton." This must have been etched about the close of the eighteenth century.

Liberton village was originally Lepertown, and its situation on rising ground, about two and a half miles south-east of the centre of Edinburgh, probably made it a convenient place at which to segregate the sufferers from the dreaded leprosy of the Middle Ages. Possibly also the lepers may have got treatment at the Balm Well of St. Catherine. The late Mr. Charles Green, the medical and law publisher, was much interested in this well, which was situated in his property, and readily welcomed physicians and others desirous of seeing its black oily contents. Hector Boece in his Latin *History of Scotland* (1526) described the well, and John Bellenden (who himself spelled his name also Ballantyne or Ballentyne) translated the description:

> Nocht two milis fra Edinburgh is ane fontane, dedicat to Sanct Katrine, quhair sternis of oulie springis ithandlie with sic aboundance, that, howbeit the samin be gaderit away, it springis incontinent with gret aboundance. This oulie hes ane singulare virtew aganis all maner of cankir and skawis.

There is a most interesting pamphlet on *The Oyly Well* by Matthew Mackail, an apothecary in Edinburgh and afterwards an M.D. of Aberdeen, which was published in 1664. In his "Topographico Spagyricall Description of the Oyly Well, at St. Catharines-Chappel, in the Paroch of Libberton," Mackail says:

> Its profundity equalleth the length of a pike, and is alwaies replet with water; and at the bottom of it there remaineth a great quantity of black oyl in some veins of the earth. . . . His Majesty King James the Sixth, the first Monarch of Great Britain, of blessed memory, had such a great estimation of this rare Well, that when he returned from England, to visit this His ancient Kingdom of Scotland, in anno 1617, he went in person to see it, and ordered that it should be built with stones from the bottom to the top, and that a door and a pair of stairs should be made for it, that men might have the more easie access unto its bottom, for getting of the Oyl. This royal command being obeyed, the Well was adorned and preserved untill the year 1650, when that execrable Regicide and Usurper, Oliver Cromwell, with his rebellious and sacrilegious complices, did invade this Kingdom; and not only deface such rare and ancient monuments of Nature's handwork, but also the Synagogues of the God of Nature.

Mackail has much to say of wells in general and of the "black fatness or Oyl" of St. Catherine's in particular; but the modern reader will scarcely peruse his pamphlet with patience, although he may note that he traced the oil to Parret coal, "being frequent in these parts." Russel Walker, in the *Proceedings of the Society of Antiquaries of Scotland*, in more recent times described *Holy Wells in Scotland*, including, of course, St. Catherine's, and the *Scottish Field* for November, 1918, brought its story quite up to date. "As a balsam or aperient the oil has lost its virtue"; and, as for its origin, "in these matter-of-fact days the appearance of the miraculous oil is attributed to the fact that the well is sunk on the edge of the rich shale field which was operated on by the Clippens Oil Company at Straiton." There is a legend that James IV bathed in the wonder working "oyl" before marching south to Flodden; but if so the balm failed to work wonders for him.

New South Wales.

THE LATE PROFESSOR SIR THOMAS ANDERSON STUART.

SIR THOMAS ANDERSON STUART, Professor of Physiology and Dean of the Faculty of Medicine in the University of Sydney for the last thirty-seven years, and Chairman of the Board of Directors of the Royal Prince Alfred Hospital, Sydney, died on February 29th in his sixty-fifth year. He was born in Dumfries, Scotland, and entered the University of Edinburgh as a student of medicine at the age of 19 years. After a brilliant career he gained the Ettles Scholarship on graduation as M.B., M.Ch., and two years later the university gold medal for his thesis for the degree of M.D. While he was at Edinburgh he was president of the Royal Medical Society, and was also demonstrator and assistant to the professor of physiology. When it was decided to establish a school of medicine at the University of Sydney, Dr. Anderson Stuart was chosen as professor of physiology and anatomy. He arrived in Sydney in the year 1883, and was at once appointed dean of the faculty of medicine; in virtue of that office he was a member of the Senate of the University, and continued to retain that position, being the oldest member of that body at the time of his death. When Professor Stuart arrived the medical school had four students. He designed the present buildings for the medical school, which at the time they were opened (in 1891) were thought to be far in excess of the requirements of the school; they proved to be not large enough for the increasing number of students; additions have been made, and more will be required in the near future. Later Professor Stuart founded the Dental School, and he was responsible for the foundation and erection of the University Dental Hospital. He subsequently took a prominent part in the foundation of the United Dental Hospital, and was its first president.

By virtue of his position as Dean of the Faculty of Medicine Professor Stuart became an *ex officio* member of the Board of Directors of the Royal Prince Alfred Hospital, a position he continued to hold up to the time of his death. He was appointed honorary secretary to the hospital in 1900, and a few months later, on the death of Sir Edward Knox, he became chairman. It is chiefly due to his initiative and wonderful organizing powers that this hospital has developed into the largest general hospital in Australasia. He had a large share in the extension of the nurses' home, the pathological department, and other buildings. He was for a period of four years President of the Board of Health and medical adviser to the Government; he designed the offices and laboratories of the Board of Health, and was the author of important health legislation. He continued to be a member of the Board of Health till his death. In the year 1891 while on a visit to Europe he was appointed by the Governments of New South Wales, South Australia, and New Zealand to proceed to Berlin to investigate and report upon Dr. Koch's work in connexion with the treatment of tuberculosis by tuberculin.

For many years Professor Stuart was associated with the Royal Society of New South Wales, as member of the council, as honorary secretary, as chairman of the medical section, and as president of the society for two years. He also took an active part in public in other directions, such as the Industrial Blind Institution, the Highland Society, and the Zoological Society. He was the first to take steps towards organizing a school for tropical medicine in Australia. This ultimately merged into the Australian Institute of Tropical Medicine. It was largely in connexion with this and other public and philanthropic movements that he received the honour of knighthood in 1914.

Sir Thomas was well known as a man of most active mind and of great force of character, but probably few, if any, realized how fully these characteristics would be manifested during this past year. Some twelve months ago he was found, quite unexpectedly, to be suffering from extensive malignant disease of the peritoneum, and it was not expected that he would live more than a few months. Still he never slackened his work in any direction and continued his lectures at the university up to the end of the last term of 1919. At the end of the session, as it was well known that he would not be able again to meet his students in lectures, he was given a true students' "send off." He still continued to direct the work of the hospital and attended the meetings of the board almost up to the time of his death. One of his closest friends remarked, "His indomitable spirit was simply marvellous—he was a Scotsman in every fibre of his being." He leaves a widow and four sons, two of whom are students in medicine at the university.

The funeral was one of the largest ever seen in Sydney. The hearse was preceded by a long procession of medical students in academic dress, and a very large number of citizens of all classes surrounded the grave in the little cemetery at South Head at the entrance to Sydney Harbour. The service at the graveside was conducted by his old friend the Rev. John Ferguson of St. Stephen's Presbyterian Church, Sydney. The Masonic service followed.

The Senate of the University of Sydney met on March 1st, and after having passed the following resolution, adjourned to March 8th as a mark of respect to the memory of the late Sir Thomas Anderson Stuart:

> The Senate desires to place on record an expression of the sense of the loss sustained by the University through the death of Sir Thomas Anderson Stuart, M.D., LL.D., D.Sc. From the inception of the medical school in 1883—a period of thirty-seven years—he rendered eminent service to the university and to the cause of medical education by his great gifts as a teacher in the chair of physiology, to which anatomy was at first attached, and by his capacity for organization as Dean of the Faculty of Medicine and as a Fellow of the Senate, as a director and president of the Royal Prince Alfred Hospital, and in other public activities.

A similar resolution was passed by the Faculty of Medicine at its meeting on March 22nd.

EXTENSION OF THE RED CROSS FIELDS OF LABOUR.

The Executive Committee of the Red Cross Society in New South Wales has issued a circular setting out the aims of the following objectives of the future activities of the society.

The first is the extension of the voluntary aid detachment movement throughout Australia, and the second is the maintenance and extension of all Red Cross schemes for the benefit of disabled soldiers, sailors, and military nurses. The third object sought is help in providing nurses for soldiers' settlements, which include a large proportion of invalid soldiers. The fourth is to promote national health and mitigate suffering. It is suggested that the attention of the Red Cross country branches might well be directed towards assisting the nearest district or cottage hospital, or, should there be none, any other medical institution, and in giving help to the local bush nurse.

An important point emphasized is that the Red Cross funds at present to the credit of branches, being raised for the benefit of sick and wounded soldiers, sailors, and military nurses, can only be used for this purpose. Funds raised in the future might be devoted to local civilian hospital purposes, with the provision that soldiers and their dependants would have the first claim on Red Cross care and attention.

REFORMATIVE TREATMENT OF SOLDIER PRISONERS.

The State Government of New South Wales has decided not to submit returned soldiers convicted of criminal offences to ordinary methods of gaol punishment. An effort is to be made to restore them to both physical and mental health by a process of segregation and open-air treatment. The Minister of Justice is interesting himself specially in this matter; he recognizes that there are many cases in which offences proved against returned soldiers have, on investigation, been shown to be the direct result of wounds, shell shock or "war neuroses." Such cases of course require to be treated with the greatest possible sympathy, and arrangements are now being made for their segregation in suitable surroundings, and for a treatment which will conduce to their restoration to a normal condition of life. Special attention is to be paid to the physical health of these men, and open-air treatment will be applied in all cases.

Correspondence.

FUTURE PROVISION OF MEDICAL SERVICES.

SIR,—That the medical press has not instantly been inundated by correspondence for or against the recommendations of the Interim Report of the Consultative Council is merely an indication that the profession, taught by experience, is considering the situation. It may be said to be at gaze with the politician who, in the name of philanthropy, is again about to attack both its professional freedom and economic interests.

Remembering the origin of the Medical Benefit Section of the National Insurance Act, few will be surprised at this further extension in the direction of a nationalization of medicine. That it has been long, perhaps always, contemplated, and the means for its accomplishment considered, appears to be shown by the engaging candour of the noble Chairman of the Consultative Council, in his address at the Brussels Congress, reported in the BRITISH MEDICAL JOURNAL of May 29th (p. 743). The State medical service by instalments, almost by stealth, has, to use his own words, taken another step forwards: "As the provision of medical service extends, the Ministry of Health will have increasing control over medical policy, and therefore over the medical profession, and this influence will be enhanced by the power of the purse." Lord Dawson of Penn, foreseeing this result, and unequivocally indicating the means by which it is to be brought about, is, nevertheless, averse to "the centre of gravity of a learned profession" being in a Government department, and believes "vocational representation" will safeguard a profession which, like a nation, he is good enough to say, has need of self-determination. But it seems that the direct election by all qualified practitioners of their representatives to such a committee would not secure a good team whose function it would be to work in harmony with the Minister responsible, and therefore a team of harmonious character must be selected by other means. What a conception of the freedom of a liberal profession! As two souls are said to struggle in the human breast by John Arbuthnot in his *Gnothi Seauton*, two emotions affect one in perusing Lord Dawson's address—amusement and indignation. I verily predict the triumph of amusement, and believe this precious scheme will die, as it deserves to die, amid the laughter of the profession it is intended to harness for its execution.

The medical profession, let it be said without circumlocution, if a useful and beneficent calling, occupying a definite status in a social system, is not organized solely for philanthropic effort on terms disadvantageous to itself. Its members neither claim nor receive any exceptional leniency from those instrumentalities whose function it is to keep the coffers of the State full. They naturally claim the right to make their own terms for their services. That these are arranged, in the vast majority of cases, with every consideration for the patient, will not be denied by any who know the actual facts of the case. The economic position of the profession which was attacked in the Medical Benefit Section of the Insurance Act, although reluctantly improved by the originators on the demand of those who took service under the Act, is still further attacked by the measures contemplated in the scheme sketched by the Consultative Council.

At the recent gathering of an approved society in now classical Leamington, the president referred regretfully to the good old days when the doctor seemed to live for going about and doing good, whereas now, alas! how often does he seem to be influenced by sordid motives! Need I recall the magnanimity with which the proletariat treated their medical servitors in the heyday of power of the benefit societies! For the action taken by the British Medical Association towards those would-be philanthropists, the profession owes it a lasting debt of gratitude. May that debt be renewed and increased in the near future, if it again speaks and acts in defence of the profession as its chief organ, with the more powerful forces with which it is now confronted.

I think I am in accord with what is or was the general policy of the Association when I remark that State medical service, apart from the proper functions of a Public Health Office in surveying and preventing disease, should have as its care the so-called "necessitous classes," however that term be defined and whatever wage limit or income be connoted by it. If this be so, may we not look to it to protect the profession against the further encroachments upon its economic interests now contemplated? We cannot, like Canute, sit on the seashore and order the sea back, but we may unitedly build a breakwater which will add picturesqueness to the impotent if somewhat annoyed ocean, without unduly wetting our own feet. It is to the building of this breakwater that the profession must now devote itself.

The scientific questions, preventive and curative, involved in the exercise of our calling, to which so much attention has been drawn, with, at times, a certain esoteric solemnity by some, have not, in very many cases, the complexity, inscrutability, and urgency which is averred. We have all to study our cult and learn our craft. We have done so in the past, do so now, and shall do so in the future, in the light of corresponding periods. But the picture of a common surgery (a notion now abandoned) or primary collaborative centres, where patients may study not only one another's diseases but also one another's doctors, is one of the amusing and impracticable features in the scheme of the Council.

The scheme itself seems to have been inspired by the ordinary practice of any general hospital. A patient of a certain and admissible social type is referred by a practitioner to a medical or surgical officer at a hospital. He, in his turn, may find it necessary to refer him to a special department, and the patient may even in some cases run the whole gamut of institutional investigation and treatment before he returns to the "periphery" and his own doctor. Such a process is doubtless beyond the financial capacity of many (and for these, arrangements convenient for them can always be made), therefore all citizens, whatever their means, must be brought under the scheme, or, to use the words of the Council, treatment must be made available for all citizens. Practitioners, presumably members of a liberal profession, a moiety of whom may find higher work, are thus to disport themselves with general observation at the "periphery," such as ante-natal and other domestic attentions of a not very exacting order, for the primary centre is not likely to materialize. Their efficiency is therefore certain to decay with a limitation of their responsibility and of the scope of their exertions, and the last state of the visiting apothecary under this scheme promises to be worse than the first, from which, by his own efforts, he had emerged prior to the intrusion of the politician as philanthropist into medicine. The profession, therefore, is scarcely likely to accept the scheme, and it is improbable that even the threat of whole-time officers, so effectual in cowing the practitioner in 1913, will be equally successful in 1920, or at any later date.—I am, etc.,

ALEXANDER BLACKHALL-MORISON.

London, W., June 7th.

AIR-WAY INFECTIONS.

SIR,—Mr. Benians's article on air-way infections, in your issue of May 15th, p. 668, in which stress is laid on the means already provided by the body to prevent the inroads of bacteria, is extremely suggestive. He does not go so far as to suggest in what ways we might improve, or as he says "exploit," these factors, but it is sufficiently clear that we cannot substitute others without due care and consideration. This brings to issue the question whether or not it is advisable to wash out the nasal cavities. In suitable cases, and under proper supervision, for a time at least, this is no doubt advisable, but since the recent outbreaks of influenza this process has become almost epidemic, supported as it has been by semi-official proclamations, and by over-zealous journalism. It requires neither knowledge nor effort of imagination to discover that the nasal cavities are not adapted to the aqueous ablutions used to cleanse the external parts of the body.

I feel confident, from my experience with private patients, that this process of repeatedly washing out the nose often leads to very harmful results. I constantly see cases of chronic mucosal inflammation of the nasal cavities, often associated with severe infective conditions of the sinuses and infective complications of the ears. I ask as a matter of routine whether the patient makes a practice of washing out the nose, and am told, "Oh, yes, once every day." This has happened so frequently of late as to make me feel that this tampering with the nasal cavities has actually

interfered with the normal protective capacities of the nasal mucosa and has led directly to infection. In the light of Mr. Benians's paper, the value of washing out the nose, even when prophylactic measures are urgently indicated, requires very careful consideration. To wash out the nose from the inside by an increase of the normal secretions would no doubt be the ideal method, but even if we cannot do that effectively, surely to remove the normal protective secretions already present is a dangerous proceeding. I should be very much surprised to hear that my experience as regards these nasal and sinus infections is an isolated one.—I am, etc.,

C. H. HAYTON, F.R.C.S.Edin.,
Surgeon in charge Nose Throat and Ear Department, Prince of Wales Hospital, Tottenham.

May 18th.

"VAGASTHENIA."

SIR,—Is Major Watts right in saying that the tachycardia, etc., which follow fright or shock have always been supposed to be due to suppression of vagus control? If so, the supposition seems to have been wrong. Study of the irritable hearts and irritable tempers of war strained and shocked pensioners suggests that the irritability is due, not to a lazy vagus, but to an unusually energetic sympathetic. For what do we find? Rapid pulse, precordial pain, unstable temper, general jumpiness, tremor, and raised blood pressure. The men are in a condition of hypertension, not of hypotension. Often they are difficult patients to handle because of their general jumpiness. Usually they have suffered prolonged strain or terrifying experiences, or both, and more often than not they repeat their experiences night after night in their dreams.

Ingenious physiologists have shown most convincingly that emotions—particularly emotions of fear and rage—are accompanied by increased activity of the suprarenals, with consequent bucking up of the sympathetic nervous system; and observation of the habits of pensioners with D.A.H. suggests that their trouble is due to constant overactivity of the suprarenals.

Three days ago I examined casually in my out-patient room four pensioners with D.A.H., with the following result:

A.	Pulse-rate...	... 144	S.B.P....	...	180
B.	,, ,, ...	... 120	,, ...	...	148
C.	,, ,, ...	... 88	,, ...	...	160
D.	,, ,, ...	... 120	,, ...	...	180

They were all young men, and all were very sorry for themselves—with reason.

The term "vagasthenia" is exceedingly ugly, and so should be turned down. Further, it has been coined without any convincing excuse. D.A.H. is a convenient term, and it does convey a certain amount of truth—that the heart is disordered in its action.

Major Watts's suggestion that the unfortunate men with D.A.H. shall be thrown to the psycho-analysts, must be jumped on hard. They deserve well of their country. They have done nothing that justifies us in driving them into the laboratories of those who would tear their souls into small pieces.—I am, etc.,

Walsall, May 22nd. FRANK G. LAYTON.

Obituary.

WE regret to announce the death of Dr. ROBERT EDWARDS, of Carlisle, which took place after a brief illness, on May 26th. Dr. Edwards was a native of Edinburgh, where he graduated M.B. and Ch.B. in 1907. After acting as house-surgeon at the Cumberland Infirmary, the Royal Sea Bathing Hospital at Margate, and the Hospital for Sick Children in Great Ormond Street, he began to practise in Carlisle, where, in 1912, he was appointed honorary radiographer to the infirmary. At the outbreak of war Dr. Edwards replaced Dr. Norman Maclaren and did much useful work as acting assistant surgeon to the institution; subsequently he joined the army and served abroad. He had to return to England in consequence of the failure of his health, and for some time did military orthopaedic work at Liverpool. He was appointed surgeon (with the rank of major) to the hospital at Fusehill, and also acted as orthopaedic surgeon at the Gretna Hospital. It will be remembered that at the Gretna Green railway disaster five years ago Dr. Edwards crept beneath the débris of a burning troop train and, although exposed to grave personal risk, amputated the legs of two soldiers who were pinned beneath one of the burning coaches. Dr. Edwards, who was only 35 years of age, was an accomplished surgeon and was very popular with his professional brethren, his patients, and his many friends. He leaves a widow and two children, with whom deep sympathy is felt.

IT is with feelings of deep regret that we record the death of Dr. WALTER JOSEPH SCHULLER, which occurred suddenly whilst on a visit to an old fellow student at Windlesham. He was just 49 years of age. He received his medical education at the London Hospital, and took the diplomas of L.R.C.P. and M.R.C.S. in 1898; he was a most popular student. Quiet, unassuming, sympathetic, with a fund of dry humour, he possessed all the qualities that go to make the successful practitioner. On the outbreak of the South African war he joined as civil surgeon, and after the war entered on general practice in Cape Town. He returned to England some years later for an operation, necessitated by blood poisoning contracted from a patient. His health was never robust after this, so that he was unable to undertake the responsibilities of a practice of his own, but spent the greater part of his life as locumtenent to his old friends, who knew that Schuller would look after their interests as well as any, and often better than they could themselves.

DR. WILLIAM SAUNDERS, who died suddenly on April 19th, was the son of the late Dr. James Warnes Saunders, and was born in 1853. He was educated at University College, London, taking the M.R.C.S.Eng. and L.S.A.Lond. in 1878. Subsequently he studied at King's College, London, at Birmingham, and at Newcastle-upon-Tyne. He practised at Stockton-on-Tees, Dudley, Wellingborough, and finally at Backworth, Newcastle-on-Tyne, where he was in partnership with his son, Dr. W. E. Roper Saunders. At Dudley he was resident medical officer to the dispensary. He was for many years a member of the British Medical Association. His principal recreations were music and Freemasonry. During the war he served on recruiting and pensions boards, and, although he had been in ill health for about two years, continued his work until January, 1920. He took a keen interest in public health matters.

THE premature death—he was only 43 years old—of Dr. LEONARD DONCASTER, professor of zoology in the University of Liverpool, is a serious loss to science. He was a scholar of King's College, Cambridge, was in the first class of the natural science tripos, Part I, in 1898, and in the second part in 1900 was distinguished in zoology. He took the degree of Sc.D. in 1913. In 1915, when he was superintendent of the University Museum of Zoology, Cambridge, his researches into the Mendelian hypothesis led to his election as F.R.S. From 1906 to 1910 he was lecturer in zoology in the University of Birmingham.

The Services.

INDIAN MEDICAL SERVICE.

REVISED RATES OF PENSION.

A COMMUNIQUÉ issued to the press by the Secretary of State for India announces revised scales of pension for officers of the Indian Army and of the Indian Medical Service. It contains the following references to the Indian Medical Service (except where otherwise stated "rank" means substantive rank):

Revised rates of pension for the Indian Medical Service have also been approved at the following rates: £400 a year after seventeen years' service, and thereafter for successive years £430, £460, £500, £540, £580, £620, £660, £700, £750, and £300.* The maximum (£800) will be admissible after twenty-seven years' service. The additional pensions for administrative officers of the Indian Medical Service will be continued at the existing rates—namely, £125 for a colonel after two years' active service as such

* The rates hereby replaced were: After seventeen years' service £300, and thereafter for successive years £320, £360, £400, £420, £440 £460, £480, £500, £540, £580.

and £250 after four years; £300 for a major-general after one and a half years' active service as such and £350 after three years.

The revised rates will be payable as from April 1st, 1919, to all regular officers who, being otherwise entitled, have rendered satisfactory paid military service during the Great War, including officers who have retired on pension before the war, have been re-employed as officers during the war, and have thereafter reverted to retirement. The pension of the latter officers will be re-assessed on their service prior to original retirement, except in the case of officers serving for increased pension under Indian Army Circulars, 1893, Clause 99. The new rates of pension will not be drawn by officers for any period during which they were re-employed. Unemployed service up to June 30th, but not beyond, will reckon for pension under these rules.

Temporary rank held during the Great War, followed by substantive promotion to that rank, will count as service in the rank towards pension. Service in the temporary rank of Brigadier-General or higher rank will count as service in the rank of Colonel or lower substantive rank held by the officer on retirement. The rules for the grant of Good Service Pensions are not affected by the revision.

Forms of application for revision of pension under the foregoing rules will be sent out as soon as possible. Any officer who comes within the terms specified, who does not receive a form of application within a fortnight of the present date [June 3rd] should address the Secretary, Military Department, Room 157, India Office, S.W.1, on the subject.

The revised rates of pension herein set forth will be subject to alteration, either upwards or downwards, after July 1st, 1924, to an extent not exceeding 20 per cent., according as the cost of living rises or falls, and after July 1st, 1924, a further revision may take place every three years, but in the case of an officer who entered the Indian Army before July 1st, 1920, the pension will not in any case be reduced below that which he would have received under the old scale, service for pension being calculated under the new rules.

Revised rates of leave pay, pay while on duty in Europe, and unemployed pay will be announced shortly. Officers will be free to elect the revised rules or to remain under existing rules, but they must be finally accepted as a whole, that is, it will not be permissible for an officer to elect the existing rates of unemployed pay and the new scale of pensions, or vice versa.

ANNUAL DINNER IN LONDON.

The annual dinner in London of the Indian Medical Service took place on the evening of June 8th, when Major-General G. F. A. Harris, C.S.I., formerly Surgeon-General, Bengal, was in the chair. The officers present were:

Major-Generals: Sir R. Havelock Charles, G.C.V.O., T. Grainger, C.B., P. Hehir, C.B., C.M.G., C.I.E.

Colonels: C. W. Carr-Calthrop, C.B.E., J. Crimmin, V.C., C.B., C.I.E., Sir P. J. Freyer, K.C.B., C. M. Goodbody, C.I.E., D.S.O., D. E. Hughes, G. B. Irvine, C.B., W. H. Ogilvie, C.M.G., J. J. Pratt.

Lieutenant-Colonels: A. Alcock, C.I.E., W. G. P. Alpin, O.B.E., J. Anderson, C.I.E., W. R. Battye, D.S.O., A. T. Bown, R. Bryson, J. T. Calvert, C.I.E., R. H. Castor, D. G. Crawford, C. Duer, R. H. Elliot, F. F. Elwes, S. C. Evans, A. B. Fry, C.I.E., D.S.O., G. H. D. Gimlette, C.I.E., T. A. Granger, C.M.G., H. Greany, A. W. M. Harvey, J. G. Hulbert, C. H. James, C.I.E., S. P. James, J. Lloyd Jones, J. G. Jordan, R. W. Knox, D.S.O., Clayton Lane, S. Little, T. R. Mulroney, R. A. Needham, C.I.E., D.S.O., A. H. Nott, S. Browning Smith, C.M.G., R. F. Standage, R. Steen, T. H. Symons, O.B.E., W. H. Thornhill, J. H. Tull Walsh, Ellacott L. Ward, C.B.E., J. W. Watson, C.I.E., H. G. L. Wortabet, H. R. Woolbert, A. C. Younan.

Majors: W. M. Anderson, C.I.E., A. Cameron, S. Chuckerbutty, R. G. G. Croly, J. Forrest, C. A. Godson, M.C., E. T. Harris, D.S.O., A. H. Napier, E. S. Phipson, M. Purvis, J. J. Robb, W. C. Ross, W. R. J. Scroggie, C.I.E., F. E. Wilson.

Captains: U. J. Bourke, W. B. Keyworth, N. N. G. C. McVean, J. G. B. Shand, H. Stott, O.B.E.

The guests were the Editors of the *British Medical Journal* and of the *Lancet*.

ROYAL NAVAL MEDICAL CLUB.

THE annual dinner of the Royal Navy Medical Club took place at the Trocadero Restaurant on May 28th, 1920, when the Medical Director-General of the Navy, Surgeon Rear Admiral Sir Robert Hill, K.C.M.G., C.B., C.V.O., was in the chair. The guests were Sir George Lenthal Cheatle, K.C.B., C.V.O., and Surgeon Commander E. J. Steegman, O.B.E., R.N.V.R. The following members were present: Surgeon Captain O. W. Andrews, C.B.E., Surgeon Commander E. L. Atkinson, D.S.O., Surgeon Commander A. R. Bankart, C.V.O., K.H.P., Surgeon Rear Admiral P. W. Bassett-Smith, C.B., C.M.G., Surgeon Commander G. D. Bateman, Surgeon Commander C. T. Baxter, Surgeon Captain C. M. Beadnell, Surgeon Commander K. D. Bell, Surgeon Rear Admiral W. Bett, M.V.O., Surgeon Commander R. St. G. S. Bond, Surgeon Rear Admiral J. Chambers, C.M.G., Surgeon Commander C. J. E. Cock, Surgeon Captain E. C. Cridland, Surgeon Commander F. J. A. Dalton, C.M.G., Surgeon Rear Admiral G. A. Dreaper, Surgeon Commander J. S. Dudding, Surgeon Commander J. H. Fergusson, Surgeon Commander A. F. Fleming, D.S.O., Surgeon Commander A. Gaskell, C.B., O.B.E., Surgeon Captain J. F. Hall, C.M.G., Surgeon Rear Admiral D. T. Hoskyn, Surgeon Commander R. Hughes, Surgeon Commander W. W. Keir, C.M.G., Surgeon Commander H. A. Kellond-Knight, Surgeon Commander M. H. Knapp, Surgeon Commander R. H. McGiffin, O.B.E., Surgeon Rear Admiral Sir D. J. P. McNabb, K.B.E., C.B., Surgeon Lieutenant Commander J. H. B. Martin, Surgeon Commander P. M. May, Surgeon Commander N. S. Meiklejohn, D.S.O., Surgeon Commander J. O'Hea, Surgeon Captain F. W. Parker, O.B.E., Surgeon Commander J. H. Pead, Surgeon Captain E. A. Penfold, D.S.O., Surgeon Commander B. P. Pick, Surgeon Commander S. Roach, Surgeon Commander M. L. B. Rodd, O.B.E., Surgeon Commander R. A. Ross, Surgeon Lieutenant Commander F. L. Smith, Surgeon Captain W. H. S. Stalkartt, Surgeon Lieutenant Commander H. E. R. Stephens, O.B.E., Surgeon Commander J. Stoddart, Surgeon Commander E. Sutton, C.M.G., Surgeon Commander J. A. Thompson, Surgeon Commander A. J. Wernet.

ARMY FEES FOR CIVILIAN DOCTORS.

AN Army Council Instruction lays down that civilian medical practitioners giving professional attendance to soldiers will now be paid day fees ranging from 3s. 9d. to 7s. 9d., according as the distances travelled vary from under one mile to under five miles. Night fees for similar distances will range from 5s. 3d. to 13s. 3d. Extra fees will be allowed for distances over five miles, but the limit for an ordinary visit will be £1.

HONOURS.

FOREIGN DECORATIONS.

THE following decorations have been conferred in recognition of valuable and distinguished services rendered during the war:

By the President of the French Republic.

Order of the Legion of Honour.—Chevalier: Dr. Septimus P. Sunderland. *Médaille d'Honneur avec glaves "en Vermeil":* Colonel Arthur D. Ducat, D.S.O., T.D., A.M.S.(T.F.), Captain Matthew Wallace Paterson, O.B.E., M.C., R.A.M.C.(S.R.), and Captains Richard Payne Pollard, M.C., and David Jobson Scott, O.B.E., M.C., R.A.M.C.(T.F.). *Médaille des Epidémies "en Argent":* Temporary Captain (acting Major) James Robertson Anderson, R.A.M.C.

By the King of Rumania.

Order of the Star of Rumania (with Swords).—Chevalier: Captain Duncan Campbell Lloyd Fitzwilliams, C.M.G., R.A.M.C.(T.F.).

Sir W. R. Smith, M.D., ex-Sheriff of the City of London, has been appointed by the King of the Hellenes a Commander of the Order of George I, and has received from the President of the Chinese Republic the decoration of Second Class, with Grand Cordon, of the Order of the Excellent Crop.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

DIPLOMA OF PSYCHOLOGICAL MEDICINE.

THE dates for the next examination have been fixed as follows: For Part I, October 13th, 14th, and 15th; for Part II, December 1st, 2nd, and 3rd. The examination for Part I will be held in Cambridge; that for Part II in London.

Course of Instruction for the Diploma.

Courses of instruction for both parts will be held in Cambridge from July 19th to August 21st. For Part I Dr. Thacker, Anatomy and Physiology of the Nervous System; Dr. Lowson, Psychology. For Part II Dr. Prideaux, Psychopathology; Dr. Archdale, Diagnosis, Prognosis and Treatment of Mental Disorders.

The fee for the full course is 10 guineas; the course for either part may be taken separately at a fee of 5 guineas.

Entries should be sent to Dr. E. D. Adrian, Trinity College, Cambridge, from whom further information may be obtained.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated:

SURGERY.—†G. S. Ashby, *†J. G. Barrie, *M. L. Barst, †C. C. Bennett, †W. H. Cellier, *†M. J. Erdberg, *†A. Keilin, *†J. Kendall, *W. A. O'Connor, *W. H. Summerskill, *†G. V. L. Van Acker.

MEDICINE.—*†L. Burvill Holmes, *†A. R. Crane, *†M. J. Erdberg, †A. G. B. Fenwick, †A. Furniss.

FORENSIC MEDICINE.—L. Burvill Holmes, M. J. Erdberg, H. D. L. Jones.

MIDWIFERY.—M. J. Erdberg, P. N. Gray, G. V. L. Van Acker.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. G. S. Ashby, J. G. Barrie, C. C. Bennett, M. J. Erdberg, A. G. B. Fenwick, A. Furniss, A. Keilin, and J. Kendall.

Medical News.

A SUM of £165,000 from the bequest of the late Sir William Dunn has been given to the University of Cambridge for the endowment of the institute of biochemistry.

THE Section of Laryngology of the Royal Society of Medicine will hold its second annual summer congress at the house of the society on June 24th and 25th. On the first day a series of papers on cancer of the throat will be read. A collection of pathological specimens and drawings will be on view, and also an exhibition of surgical instruments and drugs. There will be a dinner at the Café Royal on the evening of June 24th.

A MEETING of Old Epsomians interested in the College War Memorial will be held at the offices of the school, 49, Bedford Square, W.C.1, on Thursday, June 24th, at 5 p.m., (1) to discuss the immediate erection of a tablet of commemoration, as it is not possible to begin the chapel rebuilding for some time; (2) to meet the committee specially appointed to collect subscriptions and donations; and (3) to decide on the form which the tablet is to take.

THE Cavendish Lecture and Conversazione of the West London Medico-Chirurgical Society will be held at the Kensington Town Hall on Friday, June 25th. Members desiring tickets for guests are requested to communicate at once with the senior honorary secretary, Dr. J. F. Halls Dally, M.D., M.R.C.P., 93, Harley Street, W.1. Professor Sherrington has chosen "Posture" as the subject of his Cavendish Lecture.

THE first annual dinner of the 48th General Hospital will take place at the Piccadilly Hotel (Adams's Room), London, on June 24th, at 7.30 p.m. Dinner 21s., exclusive of wines. Those who intend to be present are asked to communicate with Dr. B. Holroyd Slater, St. Luke's Hospital, Bradford.

THE Cambridge Medical Graduates' Club will hold its summer dinner at Oddenino's Imperial Restaurant, Regent Street, W., on June 24th, at 7.30 o'clock. The honorary secretary is Mr. R. Davies-Colley, C.M.G., M.Ch., 10, Devonshire Place, W.1.

LECTURES open to students and graduates will be given in the Surgical Unit at the London Hospital Medical College as follows:—On June 16th and 17th Mr. Robert Milne: Bone grafting; on June 23rd, 25th, and 30th Mr. Russell Howard: The acute abdomen; and on July 14th and 21st Mr. Frank Kidd: *B. coli* infection of the kidney.

A COURSE of operative surgery, specially adapted to the needs of general practitioners, will be held at the London School of Clinical Medicine, the Seamen's Hospital, Greenwich, on Mondays, Tuesdays, and Wednesdays, at 2.30 p.m., from June 21st to July 28th. The fee for the course is 10 guineas. Further particulars can be obtained from the Dean, at the Seamen's Hospital, Greenwich.

FLECHSIG celebrated on May 23rd the fiftieth anniversary of his doctorate. The son of a pastor of Zwickau, he was born in 1847 and studied medicine in the University of Leipzig, where he became assistant to the Physiological Institute under Ludwig. In 1882 he took charge of the Leipzig Nervenklinik, of which he is still the head. His reputation as a neurologist is well known, and in celebration of his jubilee is being published the first volume of a new work on the anatomy of the brain and spinal cord.

THE Ministry of Health has issued a circular (96, May 18th, 1920) to which is appended a list of the treatment centres for venereal diseases so far approved by the Ministry under the Public Health (Venereal Diseases) Regulations, 1916. Information is given as to the days and hours of the out-patient clinics, and the days and hours for irrigation of cases of gonorrhoea during the intervals between the clinics. The list should be of particular service in the case of patients who remove from one area to another and need further treatment. There are now, it appears, 157 treatment centres in England and Wales, distributed throughout the cities and principal towns. In London there are 35 centres; Liverpool and Manchester each have 5; Sheffield 4; Birmingham 3, Cardiff, Bristol, and Southampton have 2 each. With the exception of a few special institutions each clinic has accommodation for the treatment of both males and females.

THE Executive Committee of the Women Sanitary Inspectors' and Health Visitors' Association, having affirmed the principle of equal pay for men and women officials working side by side in Public Health Departments, has adopted the following scale of salaries: (*a*) Assistant women inspectors or assistant health visitors £250, rising by £10 per year to £350. (*b*) Women sanitary inspectors, women inspectors of nuisances or health visitors, £350 minimum, rising by £15 per year to £500. (*c*) Chief women inspectors or chief health visitors, £500 minimum. This scale is identical with that adopted by the General Council of the Sanitary Inspectors' Association. In an explanatory memorandum it is claimed that the duties performed by women public health officials are highly specialized, arduous, and exacting; that for their due performance a long and highly technical training is required; and that they are in no way of less value to the community than are those performed by men sanitary inspectors. These claims, it is added, have already been recognized in four London boroughs, where equal salaries are now being paid.

THE Harrogate Corporation has issued a pamphlet giving much interesting information concerning Harrogate and its surroundings, and the Harrogate medicinal baths and waters. New and very full analyses have been made by Professor A. Smithells, F.R.S., of the mineral waters of Harrogate, and a summary of his results is included. An account of Harrogate Spa was given in our issue of July 19th, 1919, p. 78. Grove House, one of the largest residences in the town, is now being converted into a home for clinical investigation, under the auspices of the Harrogate Medical Society.

ACCORDING to the fourteenth annual report of the Trinidad Association for the Prevention and Treatment of Tuberculosis, the mortality from tuberculosis in the island has diminished progressively since 1905; the average annual death rate was 155 per 100,000 during the period 1912–18, as compared with 221 during the previous seven years. In 1918 there were 545 deaths (compared with 505 in 1917) among a population of 379,000; Port of Spain, with only 68,000 inhabitants, contributed 262 deaths. The association earnestly advocates the provision of a sanatorium for treatment of early cases; it also asks for funds to be applied to the home relief of necessitous consumptives in all stages of the disease.

THE Department of Industrial Administration of the College of Technology, Manchester, is publishing through the Manchester University Press a series of pamphlets on economic questions of the day. Those so far issued are reprints of lectures given last autumn, one by Professor J. B. Baillie on *Industrial Unrest*, another by Mr. G. D. H. Cole, M.A., on *Democracy in Industry*, and a third by Mr. Percy Alden, honorary secretary of the British Institute of Social Science, on *Unemployment*. The lectures deal rather with general principles than detail. The causes of trouble and possible remedies are concisely discussed. Mr. Alden's remedies are the regularization of industry to reduce cyclical fluctuations, the creation of fresh industries, the establishment of garden cities, and the enforcement of a universal compulsory scheme of insurance against unemployment.

THE Committee of the Armenian Red Cross and Refugee Fund ask for continued aid by the old subscribers and assistance from new sources. Fresh inroads made by the Turks have compelled many more refugees to leave their temporary resting places and flee to already overcrowded territory at Erivan, where infectious diseases are causing a very heavy mortality. The acceptance of relief is said to be abhorrent to the independent spirit of the Armenian people. As an instance, an American relief worker at Jerusalem reports that all the local communities are receiving doles from the military authorities, helped by private charity; "the exception is the Armenians, every single able-bodied one of whom has found work to do and has become self-supporting." The gross amount received by the fund in the past quarter was £4,564; to each pound a Treasury grant of the same amount is added. £5,000 worth of stores were given for Armenian relief by the British Red Cross Society and the Order of St. John of Jerusalem. The secretary of the fund is Miss Emily J. Robinson, of 35A, Elsham Road, W. 14.

ACCORDING to a tabular statement issued by the Public Health Department of the Ministry of the Interior, there were in Egypt during 1919, among Egyptians 833 cases of plague with 445 deaths, and among foreigners 44 cases with 28 deaths. In Cairo and Alexandria there were only 5 cases. Cases admitted to hospital comprised 569 cases of bubonic, 13 of septicaemic, and 51 of pneumonic plague. The percentage mortality among hospital cases was 40.06, as compared with 32.22 and 40.64, in 1918 and 1917 respectively.

MR. WILLIAM HEINEMANN will shortly publish *Venereal Diseases: their Clinical Aspect and Treatment*, by Mr. J. E. R. McDonagh.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

AS, owing to printing difficulties, the JOURNAL must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

INCOME TAX.

RETIRED PAY inquires as to how his income will be assessed for 1920–21; the income is as follows: Army pension £765, investment income £110, leasehold house £68, an uncertain sum for work under the Pensions Ministry, say £100 after deducting expenses; total £1,043.

*** The earned income, after deduction of the 10 per cent. allowance, amounts to £778 10s.—that is, £765+£100−£86 10s.—and the investment income to £110+£68, therefore the total assessable income is £956 10s. From this he is entitled to deduct £225, allowance for self and wife, leaving chargeable to tax £731 10s., of which £225 will be chargeable at 3s. and the balance, £506 10s., at 6s.; the allowance for life assurance at 3s. or 4s. 6d., according to the date of the policy, provides a deduction from the tax so calculated.

C. H. S. purchased a practice in 1919, paying for it in two instalments. Can he deduct as an expense the second instalment, which, of course, was paid after C. H. S. had commenced his practice work.

*** No; the second instalment, like the first, is a payment of a capital nature for the purchase of the practice, and is not an expense incurred in conducting the practice. The payment is not assessable as income in the hands of the recipient or deductible as a payment in the accounts of the payer.

C. F. M. inquires as to the different rates of income tax for the R.A.M.C. and the ordinary civilian rates.

*** A whole-time medical practitioner is entitled to the special service rate only on that portion of his income which he receives for distinctively military work. The actual rates would depend on the amount of total income; if that amount is between £1,000 and £1,500 the rates for 1919–20 would be 2s. 3d. and 3s. 9d. for military and civil earnings respectively.

LETTERS, NOTES, ETC.

RATS AND PLAGUE.

LIEUT.-COLONEL R. COBB, I.M.S. (ret.), sends us a note with reference to the passages in the Book of Samuel, where models of swellings and golden images of rats are described, as it is believed, in relation to plague. Sir James Cantlie is reported to have said in a recent lecture, that when he was at Hong Kong six-and-twenty years ago a clergyman drew his attention to the passages, and suggested that rats were the cause of plague. Colonel Cobb states that on Sunday, April 19th, 1896, he heard 1 Samuel, chapter vi, read as the first lesson in Calcutta Cathedral; his attention was arrested by the mention of the great destruction caused by "emrods," which was then translated in the margin of the Bible as "haemmorrhoids," but it is now given as "tumours." A further study of the history of the plague in other countries supplied several examples of the association of rats and plague, which was especially interesting later, when plague appeared in Calcutta. "In October, 1896," Lieut.-Colonel Cobb continues, "I was asked by Dr. Simpson to see a case in consultation which proved to be plague. On leaving the patient's room I saw, on the stairs, a sickly, mangy and dazed looking rat. My mind being full of the connexion between rats and the plague, I suggested to Dr. Simpson to take the animal to his Municipal Laboratory. Dr. Simpson not only demonstrated the presence of plague diplo-bacteria in its body, but subsequently made successful cultures of the organism. Dr. Simpson informed me that rats had been found dead in large numbers in Calcutta, especially in the vicinity of the grain shops. Measures were then taken to destroy the rats, which were now proved to be carriers of the disease, and since then rat destruction has been the main factor in the prevention of the spread of plague."

INFECTION IN PNEUMONIA.

DR. J. M. DUNCAN SCOTT (Cambridge) writes, in reply to "H. G.," April 17th (p. 550), who asked for authenticated examples, dating before 1914, of several persons under one roof contracting pneumonia in the manner which has recently become common:

I cannot give specific cases, as the records are inaccessible, but such examples as he desires were fairly frequent in the native compounds on the Rand before the year he mentions. The cases of pneumonia coming from these native compounds were even then regarded, certainly by some authorities, as probably for the most part infectious. The infectious nature of the disease was then so far recognized that instructions were in force, certainly on one group of mines, that where several cases occurred in one room in a compound, that room was to be closed until disinfection had been carried out, and in the hospitals pneumonia cases were as far as possible isolated in separate wards. The type of disease closely resembled influenzal pneumonia.

VALUE OF LEGUMES IN BERI-BERI.

DR. E. F. WILLS (London Mission Hospital and Leper Home, Siaokan, C. China) writes: In 1917 I was M.O. on a boat carrying 1,700 Chinese coolies to France. The journey took three months. The food was supplied from Hong Kong, and consisted of white polished rice from Saigon, various dried fish, potatoes, and sometimes gourds, when obtainable at ports. When we reached Colombo about the end of May—over three weeks' journey—forty-six coolies showed signs of beri-beri, and were landed. The ship was delayed there two weeks for raiders, and twenty-six were fit to resume the journey. The white rice was changed for red coolie rice, lentils were added to the daily diet, and yeast given to recently recovered cases. The course taken was round the Cape, and Sierra Leone was reached on July 14th. By that time the red rice and lentils were finished, and once more about thirty to forty men showed signs of beri-beri. Arrived at Sierra Leone, I was told that date of arrival at Plymouth was very uncertain because of submarines. Owing to the kindness of a clerk in Messrs. Elder Dempster's, and backed by the General-in-Command, I secured 8,000 lb. of dried legumes in the stores. They were from America. For the next two weeks we had to continue white rice, but added peas, or beans, or lentils at every meal. When Plymouth was reached on July 30th there was no sign left of beri-beri. A previous ship that did the same journey but failed to secure legumes registered over 20 deaths from beri-beri; a second boat had 17, I think. The legumes we used were simply boiled and served in gravy.

FOOD AND DISEASE.

DR. JOHN HADDON (Denholm, Hawick) writes: Mr. Rowlands's lecture on gall stones is to me most interesting and instructive and clears up many cases that I met with in practice long ago; but what I would like to call attention to is the fact that Case I is that of a medical man who kept a note of his symptoms. If that practice were followed by all medical men, what progress would be made! It was by watching my own symptoms and trying to find out their primary cause that I discovered that food is the chief cause of disease. It is the most difficult subject I ever tackled; there are so many conjunct causes, as Sydenham knew. But let any doctor who has any chronic ailment watch his symptoms and note his food and he will soon become convinced of the truth of my statement.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 31, 34, 35, 36, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 32, 33, and 34.

THE appointment of certifying factory surgeon at Liverpool, Central (Lancaster) is vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

THE PASSIVE MECHANICAL FACTOR IN HEART DISEASE:

*ITS INFLUENCE AND MANAGEMENT.**

BY

ALEXANDER BLACKHALL-MORISON, M.D.,
F.R.C.P.LOND. AND EDIN.,
CONSULTING PHYSICIAN TO THE GREAT NORTHERN CENTRAL HOSPITAL; CARDIOLOGIST TO MOUNT VERNON HOSPITAL.

(With Special Plate.)

By the "'passive mechanical factor in heart disease" I understand the conditions which promote or impede the effective exercise of the active factor—the cardiac muscle. The matter so defined is, obviously, both physiological and pathological, and its adequate treatment might well occupy several lectures instead of one, but I shall endeavour so to deal with it that its practical importance may be apparent without claiming for it more than its due weight.

In his interesting Linacre Lecture on the "Law of the Heart," delivered in 1915, Dr. Starling has endeavoured to show the great adaptability of the heart in dealing with a wide variation in the quantity of blood it receives, in spite of much difference in the arterial pressure it has to overcome, and he experimentally tries also to demonstrate that the physiological law applies in disease when, in addition to variations of arterial resistance, mechanical disabilities, such as destruction of the aortic valves, is brought about. The output of the ventricle, within certain wide limits, remains the same provided the inflow be constant. Although under these circumstances altering the arterial pressure has no influence, a great effect is produced by varying the inflow. Increased inflow is associated with increased outflow, and there is no damming up of blood on the venous side. These conditions Dr. Starling illustrates by an ingenious heart-lung preparation, as he terms it, which he described in his lecture.

It must, however, be noted that, although Starling's detached or eviscerated heart disposes of large or small amounts of blood, with the same *sang-froid*, its *rate* is in no ways varied. It slogs at the same monotonous pace whatever work it has to do. This is not so *in corpore*. While, therefore, the heart may show, by some augmentation of total chemical changes, that it does more active work the larger the amount of blood it has to dispose of, there is evidently a passive factor in the situation which must be recognized.

Hill and Barnard, whose work on gravitation in the circulation is well known, maintain that the principle of the siphon is not applicable to the vascular system, as the arteries on the one hand and the veins on the other are of such different distensibility and elasticity.[1]

But does this conclusion, even if correct, apply to the lesser or pulmonary circulation? Hill[2] presses the analogy of the "rheochord" to the siphon as affecting, in any case, the systemic circulation, on account of the innervation of the vascular system. In the case of the cerebral circulation, however, even after the demonstration of its rich innervation, which I gave in 1898,[3] he maintained the Monro doctrine, and, so far as I know, does so still. Bradford has also shown that the pulmonary circulation responds to nervous stimulation, but there is little doubt that both the pulmonic and cerebral circulation have, for physical reasons, a large passive element in their conduction.

In an exhaustive consideration of asphyxia neonatorum which was published in the *Lancet* of 1894, like Dr. Starling, I also constructed a heart-lung apparatus, but with the dead heart of a sheep, a system of tubes, and a lung bottle, which convinced me of the important rôle of the passive force of gravitation in the circulation as distinguished from the active forces of aspiration and propulsion. Still earlier, in 1878,[4] an anatomical comparison of the heart and vascular system of the quadruped and man appeared to me to argue the greater ease in the conduction of the erect as compared with the horizontal circulation.

But the investigation of the conditions of the pulmonary circulation is one of the most difficult tasks the physiologist can set himself, as is acknowledged in Tigerstedt's exhaustive article on the subject.[5] It has nevertheless been reasonably concluded that the pressure variation in the pulmonary circuit is much less than in the systemic circulation and the velocity of the blood greater.[6]

In the supply from the right to the left heart a passive siphonage appears to play a large part, and, while a chemical estimation of cardiac energy may show, as I have stated, greater work on the part of the heart, the passive force referred to probably makes the efficiency of that organ under the circumstances possible. What, however, the experimental physiologist, with all his ingenuity and skill, fails to accomplish is at times brought about by what I have termed the vivisection of disease. In an address given to the Æsculapian Society of London, on cardiac motion as revealed by the vivisection of disease,[7] I gave full particulars of the clinical history and necropsy of a case of sarcoma of the heart, which placed the right auricle and ventricle out of action, and in which the circulation was for long maintained by the left side of the heart alone. The patient ultimately died without giving any evidence of the anasarca or effusion into serous cavities which so limited an amount of cardiac activity would *a priori* have suggested as probable. The only portions of the right ventricle which could by any conception be regarded as effective were the right ventricular aspect of the septum ventriculorum and a small portion of the posterior wall.

That the circulation was effectively carried on thus for a considerable period is evident from the degree in which the heart was involved in the morbid process. It was not merely pushed aside by or adherent to the growth, as frequently happens, but was involved in it and replaced by it, a process requiring time. The aspiratory and propulsive aid of the right chambers of the heart may, therefore, be regarded as having been extinguished, and the process of their extinction was clinically marked by the gradual silencing of a rough tricuspid bruit—a bruit of tricuspid fixation—which was a marked feature of the case in its first period. The *cadaver* showed no oedema of limb or excess of fluid in the peritoneal cavity; 13 oz. of blood-stained fluid found in the right pleural sac could be accounted for by local conditions. Both lungs were adherent to the ribs and the base of the left to the diaphragm. No more striking evidence, in my opinion, of the passive force in the transmission of the blood from the right to the left heart could be conceived, and sections of the growth show that both the conus arteriosus and the aorta were held by it as in a vice, encroached upon but, of course, not occluded.

In this connexion I may also mention the conditions of the fetal circulation and of cases of dextro-cardiac malformation which survive in some cases to middle and even old age, and in others are so malformed as to render any length of life impossible. Communication with the left heart may be free, but active propulsion remains the rôle of the right heart. The passive siphon of the pulmonary circulation fails to be established or to be only inadequately established, and the length of life of the bearer of the lesion is in proportion to the dextro-cardiac activity thus imposed, although the most cardiacally malformed fetus, under the hydraulics of its circulation *in utero*, may come into the world well nourished and generally well developed. The maternal circulation, while anatomically distinct from that of the fetus, is so related to it, through placental pressure, as to transmit to it not only oxygen, but also nutriment and hydraulic force. In this case, whether the placenta be at a higher level than the fetal heart or below it, the passive pressure from a higher source remains, and the circulation is well maintained until pulmonic siphonage becomes due.

It has frequently been stated that there is a marked difference between the development of the dextral chambers in the fetal heart before and after birth, but at term the relative muscularity of the right and of the left chambers of the heart is very much that which it is in extrauterine life. I show a specimen to demonstrate this fact, obtained from a child 7 days old, who died of atelectasis pulmonum, and in whom the heart was normal.

[3103]

* Delivered before the Edinburgh Branch of the Association on February 27th, 1920.

The fetal communications will be seen to be still pervious. On this subject Dr. George Alexander Gibson wrote interestingly, and it is a pleasure to me to recall his genial personality and his valuable work.[8]

The Oliver-Sharpey lecturer of 1911 and the Lumleian lecturer of 1917 both made merry in their orations over what they were pleased to consider "back pressure," an ancient and erroneous conception as a cause of cardiac failure discarded by the greater acumen of that new cardiology, of which they regarded themselves as exponents. The back pressure which they triumphantly demolished was, however, a creation of their own imagination. For no one ever called in question loss of power in cardiac muscle as being the cause of its failure. That waning power is, however, unquestionably the outcome in many cases of the additional work imposed upon it by mechanical passive defects. The Lumleian lecturer, however, remarked, "We do not fully understand the underlying causes of oliguria in cardiac cases, any more than we know the exact mechanism of cardiac oedema," and, unless the principle of the passive force in the lesser circulation be grasped and that of stagnation or back pressure be appreciated, it will be difficult, in my opinion, for anyone to find a satisfactory solution to these questions. By its aid the matter becomes clear.

One of the earliest signs of failure in the easy current from the right to the left heart is the occurrence of a reversible crepitation at the base, usually in the first instance, of the left lung. There are sufficient anatomical reasons, as I long ago pointed out,[9] for the selection of this site. The patient manifesting it on left or right decubitus, as the case may be, by a single revolution on his own axis loses it in the uppermost lung.[10]

The French with their customary happiness of expression have termed this sign "*oedème à bascule*," a see-saw oedema. It is the first evidence of stagnation in the left horn of the pulmonic siphon. Normally this siphon carries the blood to the left ventricle, where, like a well-judged leg hit, the haemic ball is easily lifted into the far field of the arterial stream. But when the cricketer, the left ventricle, is fatigued, there is a degree of impotence in the stroke which declares failure, and the evidence of this is noted by the sign in question. It is the first stage in a stagnation which gradually extends or may extend to the whole venous inflow as ventricular effort wanes, and may, as we shall presently learn, even develop into a powerful retropulsion into the superior caval venous system and also into the abdominal venous cistern, of which the inferior cava is the mouth. Both the cardiac lung and the cardiac kidney are explicable by a recognition of lessened arterial impulse and increased venous sluggishness.

The heart, suspended in the thorax within its pericardial sac, has a certain relation to lungs, diaphragm, and thoracic parietes. Under normal circumstances these relations are perfectly adapted to allow, without friction, the limited changes in position and dimensions which occur in systole and diastole. These perfect relations may be disturbed by the genesis of states in which the normal territory of the heart is invaded or encroached upon or in which the heart itself oversteps its boundaries. By such encroachment or excursion the free and unhampered systole and diastole in the upper and lower chambers of the heart are interfered with, and, to use an engineer's phrase, which has also been used in this connexion by that master of the English language, our President, Sir Clifford Allbutt, the "sweet run" of the mechanism is replaced by friction, effort, impediment, and disadvantage. Even the beneficial action of agents which would otherwise prove successful in removing disability may from such passive causes be rendered nugatory.

The *exocardial* conditions which aid or interfere with this sweet run of the machinery, may be conditions of negative or positive pressure within the chest, intrathoracic inflammations of various kinds and in various phases, neoplasms, distortions of the cage in which the heart is contained and works, and certain developmental states, in which the viscera are transposed.

Hypermyosis, excessive hypertrophy or *cor bovinum*, is usually of endocardiac origin or of this combined with exocardial tethering, but, as *cor bovinum*, its bulk alone in relation to the thoracic contents and wall may be regarded as an exocardial excursion beyond the normal boundaries of the heart. From mere bulk it may be one of the factors deranging the smooth working of the organ and provoking signs of cardiac difficulty or distress.

Intrathoracic pressure under normal circumstances is always negative, but is at its maximum in inspiration and at its minimum in expiration. Inspiration is aspiratory from the venous cistern into the chest, and expiration is propulsive towards the left heart. The greater the inspiration the more the retention of blood in the chest by the thoracic vacuum, and, in dyspnoeic conditions, inspiration gains the upper hand, tending to dilate the auricles and to a less extent the ventricles, but the thin-walled upper chambers naturally feel this force most. This is well shown on a model devised by Herman.[11]

The asthmatic, with his prolonged expiratory snore or wheeze, acquires a fixity of chest which impedes the venous inflow, and experience teaches us that this condition may be most promptly dealt with by a rhythmical compression of the chest in the expiratory phase of respiration. In some cases I have prescribed nothing else, when the chest has retained resiliency.[12]

What we may at any time demonstrate in the dyspnoea of the asthmatic we also see in that of the cardiopath, and here, when lung and heart are fixed by adhesions, impeding the rhythmical play of the former and the contraction or systole of the latter, we have to deal with conditions which induce in many cases a hypertrophy of heart which causes that organ, by its mere increase in muscle and its greater blood content, still farther to disturb the balance between the respiratory and circulatory pumps.

In these circumstances we may struggle in vain to relieve the burdened and tethered heart by cardiac tonics or by any other means, but may, by affording the organ more room to act in, transform in some cases a hopeless condition of embarrassed circulation into one of comfort and convalescence by cardiolysis or thoracotomy. To this point I wish to draw particular attention because of its great practical importance.

Brauer of Heidelberg first practised cardiolysis for symphysis cordis in 1902,[13] and I used the same method for hypermyosis without symphysis in 1907.[14] I have now had considerable experience in precordial thoracotomy, but a detailed discussion of the measure is not possible in this place. I wish, however, to state with all the emphasis in my power that the surgeon may here at times, under the guidance of the physician, very effectively come to the aid of the latter, and shall relate one experience on this point which will speak for itself.

Just as the indication for most fruitful venesection is a degree of venous turgidity which is associated with cyanosis, so the best guide to precordial thoracotomy is an amount of systolic movement in the costal or sterno-costal thorax which is the necessary consequence of an enlarged and usually adherent heart. For obvious reasons this is best seen in the young, in whom also a permanent precordial bulging may indicate the adaptation of a mouldable cage to its enlarged cardiac content. With such adaptation there may be an absence of signs warranting thoracotomy. The *modus operandi* of the measure is simply the relief of intrathoracic pressure resulting in greater mobility of heart and improved siphonage, the more resilient the chest the better the result as a rule, which is not, however, without exceptions.

The question of an anaesthetic has given me much concern in these cases, and I have known one to die on the table under general anaesthesia before operation could be undertaken. But that anxiety is now a matter of the past, for I have found that local anaesthesia serves every purpose and is safe. In the following case the measure indicated definitely saved life.

F. P., aged 10 years, was admitted under my care to the Great Northern Central Hospital on February 11th, 1919, with a history of having suffered six weeks previously from rheumatic fever, and of having been confined to bed since. On admission he merely complained of pain in his arms and legs, but his face had begun to swell. The temperature varied from 98° in the morning to 99° in the evening; the respirations ranged from 24 to 26, and the pulse from 96 to 120. It had evidently not been his first attack of rheumatism. The area of cardiac dullness was large, and he had a well developed apical systolic bruit. The lungs were, however, clear, and the urine free from albumin. There was visible and palpable pulsation from the fourth to the sixth interspace, and the cardiac impulse heaved the thorax. A rough systolic bruit was audible at the apex, traceable to the left and heard in the back. The second sound was accentuated in the area of the pulmonary arterial cusps,

and in the aortic area was closed. He improved under treatment, and a month later was sent to a relief hospital in connexion with the Great Northern Central, but was readmitted on April 23rd, 1919, with a history of having exhibited swelling of the face and abdomen two weeks previously. He then showed enlargement of the liver with effusion into the peritoneal cavity, and crepitation and rhonchi on auscultation at both pulmonary bases.

By radiography the cardiac area was seen to be much enlarged (Plate, Fig. 1) and free fluid was removed from the abdomen by paracentesis on April 24th. The patient, who was all this time confined to bed, was taking digitalis and continued to do so, fruitlessly, for the following month. During this time his condition became steadily worse and his legs and body generally anasarcous, the liver enlarged in size, the peritoneal effusion reaccumulated; there was effusion also in the left pleural cavity, the urine became albuminous, and I regarded the condition of the patient as hopeless.

Believing I had to deal with an enlarged and adherent heart, I advised cardiolysis as the only hope of altering the situation, but expressed a cautious prognosis as to even temporary benefit, stating that, so far as I could judge, death was otherwise inevitable. After some days' reflection the parents consented to operation, and I asked my colleague, Mr. Barrington-Ward, to remove ribs and cartilages in the area of maximum impulse to the left of the sternum. I stipulated, however, that the operation should be performed under local anaesthesia, as I did not consider that the patient could survive a general anaesthetic.

Operation.

On May 23rd, 1919, portions of the sixth and seventh ribs with their cartilages were removed. The periosteum was not peeled off the pleura, but was divided to relieve tension. The left pleural cavity was accidentally punctured and fluid escaped, air at the same time being sucked in on inspiration. The puncture was closed by suture. The patient cried a good deal during the operation, but confessed afterwards that he had been more frightened than hurt. I confess that, even after the operation, I was not sanguine of any striking benefit, and was, consequently, astonished by the result, which was chronicled, to my dictation, in the notes of my house-surgeon, Captain Huxtable, M.C., as follows:—"29/5/19 (that is, six days after the operation): pulse 108, regular; respirations 36; anasarca entirely disappeared; no free fluid in peritoneum; no swelling of face; subjectively quite comfortable; sleeps quietly, which was not the case previously."

The use of digitalis was continued after the operation and later abandoned. When it had been left off for a time there was some return of peritoneal effusion, the liver remaining enlarged. The fluid was drawn off, the digitalis resumed, and the effusion did not recur. The pulse throughout was regular, but of rather high rate (112–120). The patient was later removed to Mount Vernon Hospital, to be under my care, and is there now, more as a convalescent than as a patient (Figs. 4 and 5). He travelled to London recently for the purpose of radiography, and I exhibit the radiograms made. The chief

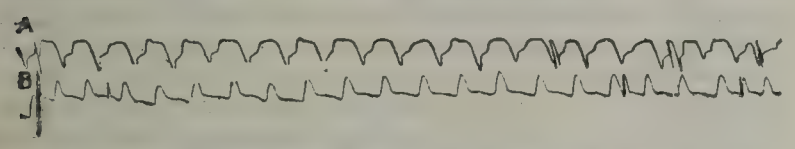


FIG. 5.—A, Cardiogram. This case having been a low thoracotomy (sixth and seventh ribs) and the periosteum not having been removed, the systolic excursion of the ventricular systole is not so pronounced as in a higher thoracotomy. B, Radial pulse of low tension.

difference these exhibit is in the diminished distension of the right heart and a clearer distinction between it and the diaphragm on the right side in those taken after the operation as compared with the skiagram taken before operation, in which an inclined plane runs from the right heart directly into the liver shadow (Plate, Figs. 2 and 3).

Present Condition.—He has gained 9 lb. in weight since admission; pulse regular, rate 84 and of good force. There is heaving pulsation in the precordium, including the lower half of the sternum. The area of cardiac dullness is 5 in. by 7 in., the right border of dullness extending 2 in. to the right of the mid-sternal line. The apex beat is in the fifth space 3¾ in. from mid-sternum. A systolic bruit of musical pitch is traceable to the left posterior axillary line and as far as mid-sternum to the right. The bruit is audible also in the back and loudest in the left paravertebral groove. The second sound is accentuated over the pulmonary arterial valves and is normal in the aortic area, the sigmoid valves closing. The respiratory rate is 30, the pulmonary auscultatory signs are quite normal, as are the dimensions of the liver. There is no abnormal effusion into any tissue or cavity. The systolic blood pressure is 95 to 100 mm. of mercury and the diastolic 65 to 70 mm. He takes moderate exercise without any discomfort.

Nothing further need be said of the other *exocardial* conditions mentioned than that their effect is to crowd intrathoracic space and disturb the balance of pressure within the thorax, as well as to hamper the action of the heart, and deprive the blood stream of the full force of the passive element in its transit which we have discussed, and incidentally to render more difficult the chemical interchanges of the respiratory function. The removal or diminution of such positive intrathoracic pressure when possible is obviously indicated, and it is usually possible, except in developmental states, by well-recognized means which need not be further considered.

The *endocardial* passive factor in heart disease is mainly valvular. In the period immediately prior to the war a certain school of thought, already referred to, covered with scorn both the undue importance attributed by some to valvular aid in the circulation, and the old and well known conception of what was and is termed "compensation" in the cardiac mechanism, for conditions rendering the circulation more difficult. In itself the term, properly understood, offers no serious objection. To the establishment of compensation the slow onset of difficulty is necessary. The physiologist may destroy valves in the laboratory, and, notwithstanding, for a time register a satisfactory arterial pressure, in such an apparatus as that of Starling already mentioned, but the clinician knows that rupture of a valve in man—a rare event—is frequently very rapidly fatal even in the right heart. The organ has not time afforded it to establish what is quite intelligibly termed compensation, that is, sufficient muscular force behind the suddenly disabled valve to enable the circulation to be efficiently maintained.

I know no more striking proof of the value of the passive valvular factor than is afforded by observation of the circulation in the heart and vessels before the valves have come into being. This is best observed in the transparent embryo of the fish, in which the powerful ventricle void of valve may be seen to be associated at the aortic end with propulsion in the systolic phase and with reflux in the diastolic, and at the sinal end with reflux in the systolic and heart-ward aspiration in the diastolic phase. In the dorsal aorta the blood stream may also be seen to be not steadily progressive but swinging to and fro in a see-saw manner, in obedience to the systole and diastole of the ventricle. In short, in the embryo fish may be seen the best demonstration possible of the Corrigan pulse of well-marked aortic insufficiency. After the formation of the valves and increase of rate in the heart's action the stream becomes purely progressive, and in high rates of heart-beat as continuous as the venous inflow.

In this connexion I may be permitted a few words on methods of examination for the purpose of diagnosis, prognosis, and treatment. While recognizing the general interest, in some cases the utility and in others the necessity for examining a patient by graphic methods mechanical and electrical, and adding radiospection to the employment of our eyes and fingers, it will not surprise you if I express the hope that there may be no abatement in the assiduous cultivation of the old and classical methods. Every method must be used to determine not only the condition of the cardiac muscle, but also which of and to what extent the passive mechanical factors are involved in any given case.

In practice the *degree*, moreover, of the valvular deficiency or obstruction in any case is important. As I have endeavoured to show, the largely passive siphonage from the right to the left heart is effective up to the left ventricle. The featureless left auricle with the undefended pulmonary veins show how much is expected from the powerful mitral valve, and here also the *degree* in which the auricle is defended is important, as also is the ease with which the entrance of the blood into the ventricle is secured.

The depreciation of the importance of the passive valvular factor before the war, under the influence of the school of thought mentioned, was responsible for the passing into the army of a good many men who, from valvular defect, were incapable of standing the strain of war conditions. The lesson drawn from experience in the war was the revision on the part of these optimists of their views, certainly as regards the influence of aortic and mitral stenotic lesions; but they still retain some impenitence as regards mitral reflux. It is their last ditch, and they fight valiantly in it.[15]

But it may be said, cases of both aortic and mitral disease may be adduced which passed through the strenuous experience of war without disability. Such certainly occur, but not frequently, and here again the

degree of defect is as important as the nature of it. How can this be gauged? He would be a bold, not to say an imprudent, man who claimed precision in his estimate of this condition—in the answer, that is, to this question. But it may be affirmed with reason that the determination of the systolic and diastolic blood pressure by the sphygmomanometer is an aid not to be despised. The low diastolic figures of aortic regurgitant disease frequently reveal a considerable degree of this lesion, even when auditory and other signs would lead to a more favourable estimate, and the value of the aortic platform is nowhere better shown than in the normal ventricle behind a large aneurysm of the aorta when the valves are perfect, and the hypertrophied chamber behind valves which leak under these circumstances.

Similarly the height of the systolic blood pressure and the size of the pulse form a useful gauge of the freedom of entry of blood into the left ventricle through a stenosed mitral orifice. With pronounced muscular failure stenosis of the aortic orifice may reach such a degree as to render the radial pulses imperceptible and the diagnosis of any valvular lesion whatever impossible. This was so in a case from which I show a specimen.

On the other hand, obstruction at the mitral orifice may so engorge the right heart as to cause the right ventricle to throw a powerful systolic wave upwards into the superior caval venous system, and downwards into the inferior cava and hepatic sinuses. This may be seen in cases both with and without associated auricular fibrillation. It must be remembered that right ventricular systole occurs during right auricular diastole, and that the auricle may contract for a time more or less efficiently during the subsequent ventricular diastole, even when right ventricular retropulsion through a defective tricuspid valve has for some time been well marked. In one case, the heart from which is shown—that of severe mitral stenosis—there was present at the same time heart-block, probably of the left limb of the auriculo-ventricular bundle, according to electro-cardiography, for I postponed the anatomical investigation of the point until I had shown the specimen here, so as not to damage the aortic orifice.* In another case, the heart from which is also shown—that of aortic valvular disease and stenosis both of the mitral and tricuspid orifices, and all due to rheumatic endocarditis—the powerful right ventricular retropulsion, as exhibited in the phlebogram shown, and which was grossly visible to the naked eye, was associated with a regular pulse, indicating the absence of auricular fibrillation. At a later period, however, after a severe attack of paroxysmal tachycardia lasting for some days, a persistent irregularity of heart's action (auricular fibrillation) became established. This was also the sequence in a case of persistent *foramen primum* with hypertrophied right cardiac chambers, of which I recently published an account.[16]

But paroxysmal tachycardia may be followed by ventricular failure with the development of well-marked mitral reflux and death, but without any auricular fibrillation. In such a case observed by myself, the paroxysmal tachycardia was sudden in onset and as sudden in cessation, and of about twenty-four hours' duration. As, however, is often observed, such tachycardias may recur with some frequency, without entailing either auricular fibrillation or ventricular failure as a consequence. This condition was wont to be regarded as a cardiac neurosis, a term less discredited now than it was prior to the demonstration of the full innervation of the excitatory system of the heart.[17]

In these attacks we have also to remember, as Martius[18] and others have pointed out, that auricular repletion and distension is a late, not early, condition in a valvularly sound heart. The tachycardial ventricle, unequal to sufficient output, accumulates blood which gradually distends and disables the auricle, which may collapse in fine tremor and systolic impotence—conditions synonymous with fibrillation of that chamber.

Similarly, there is no doubt that the ventricle, accelerated by exertion or emotion, or by both these states combined, may likewise distend and disable the auricle, even when the general condition of its musculature is healthy. This is especially prone to occur if there be at the same time some local passive mechanical impediment to easy blood flow through the heart. I show a specimen from such a case which occurred in a youth during a football match, in whom *post-mortem* examination, some years later, showed only a slight degree of mitral stenosis. In this case thoracotomy had been performed, and I show a photograph and some tracings. I have observed the same sequence in another case, in which an active workman who helped to extinguish a fire broke down in auricular fibrillation immediately afterwards. In him also, some years later, I found a definitely stenosed mitral valve, due, so far as could be ascertained, to an almost forgotten chorea in very early life. Why, then, is auricular fibrillation not more frequently observed in cases of cardiac failure with aortic valvular disease? Of the failure in such a case I show an instructive series of tracings, together with a photograph of the heart and an exhibition of the effect upon it of sufficient doses of digitalis. The comparative rarity of auricular fibrillation in aortic valvular failure, as well as the rarity of dropsies in such cases, is, I believe, mainly due to the protection of the pulmonary circulation by the powerful mitral valve and the delaying of that much criticized back pressure or venous stagnation which is favoured by an undefended or obstructed left auricle. It is a matter of experience that few aortic valvular cases die waterlogged. As Dr. George Balfour states, "It is only rarely that dropsy and other secondary diseases of a serious character are established in such cases."[19]

It might, indeed, be argued in a case such as that to which I have referred, in which a degree of heart-block was present in association with auricular fibrillation, that the blockage was advantageous, rather than otherwise, by reducing the ventricular rate independently of the normal relation between the lower and upper chambers of the heart. This case is at once an example of that vivisection by disease to which I have already referred, and of that series of interstitial passive and pathological factors which it is impossible within the limits of our time to discuss to-day. It also showed a positive Wassermann reaction and had a cirrhotic liver, which I exhibit, and died waterlogged, but very slowly. This liver, as well as that from another case with powerful venous retropulsion, which I also show, demonstrates, in the wide and gaping inferior caval entrance and dilated hepatic sinuses entering it, the effects of the powerful venous retropulsion which both exhibited and phlebograms of which I have shown.

Again, when we consider the *duration* of some cases of pronounced auricular fibrillation of the tachycardial type, compatible more or less with corporeal activity and often with little subjective discomfort, we may reasonably attribute this to the presence in such cases of a sound valvular apparatus. I show a radiogram from such a case of eleven years' standing, in which it will be observed that there is very little evidence of dilatation of any of the chambers of the heart.

I submit that the continuance for any length of time of auricular fibrillation, with ventricular action of high rate, in cases of valvular disease of the heart is a very rare event. In auricular fibrillation with tachycardia in these circumstances, either the rate must be reduced more or less promptly or the patient dies. No better evidence of the value of valvular integrity need be sought than this fact, which all who have had much clinical experience will, I feel certain, be in a position to confirm.

While, therefore, from the time of Harvey to the present moment, no one has disputed the pre-eminence of the muscular factor in maintaining the circulation of the blood, the importance, likewise, of valvular integrity and freedom in movement of the heart is undeniable.

The combination of exocardial and endocardial passive mechanical factors finds a place in many cases of heart disease—in some the one class and in others the other preponderating. The management, therefore, of the problems involved is, like the factors themselves, one which combines dealing with both. Thus the thoracotomy or other method used for the removal of exocardial impediment may be necessary to the successful treatment, by appropriate agents, of disorders due to or aggravated by defects of passive endocardial factors. In considering the passive exocardial factors, we found that to influence beneficially the action of the cardiac muscle we had to deal with impediments to its action outside the heart

* Anatomical examination since made showed that the branch of the bundle involved was the right, *not* the left. For confirmation I submitted sections to Professor Arthur Keith, who kindly examined them with me.—A. B.-M.

itself. In treating the endocardial passive factor we can only influence it by action upon the cardiac muscle and the blood content of the heart.

In the *management* of the passive mechanical factor in heart disease, a maintenance of efficient respiration is of the first importance. One of the earliest evidences of imperfect circulation through the heart, it has long been recognized, is some degree of embarrassment of respiration, of what has conventionally been called breathlessness and technically dyspnoea. It may be very slight, transient, and only evoked by circumstances which make an additional call on the heart by exertion, not only of the organ but of the organism. Or it may be more urgent and a consequence of failure of the organ itself to do its particular work, even when the organism as a whole is resting. In any case, the condition has to be dealt with on three lines—namely, by posture; in certain cases by rhythmical manual expiratory pressure and it may be also by manipulatory inspiration, in short, by artificial respiration; and thirdly, by strychnine.

Strychnine is to the distressed pulmonary function as needful as digitalis is to the disordered cardiac muscle. So much so is this the case that it has gained a deservedly high reputation as a cardiac tonic.

The laboratory experimentalist, and even some clinicians, are inclined to believe that strychnine has no effect on the heart. Experience, however, has shown incontestably that the dyspnoea of cardiac failure is relieved by the use of strychnine; and as such dyspnoea is a result of failure of the heart, the latter must be regarded as also eased by strychnine indirectly. This indirect benefit is due to improved respiration and a consequent promotion of better siphonage in the cardio-pulmonary circulation. The powerful action of strychnine on the respiratory centre and upon the spinal cord in raising its reflex irritability is not denied, even by the laboratory therapeutist.

The so-called Nauheim treatment owed, in my opinion, much of the good produced in the cases benefited by it as largely to the effect of the exercises practised on the respiratory function as it did to its effect upon the heart itself, or to the balneological element introduced. So, too, in so-called Oertelism, with its hill-climbing and its restricted imbibition of fluids, the improvement of respiratory capacity with the more free cardio-pulmonary siphonage resulting, played no small part in the general relief experienced in cases suitable for that mode of treatment. That some who were submitted to it died on the hillsides they climbed, was a regrettable detail.

As regards the blood content factor, no one can have removed a large clot from one of the chambers of the heart *post mortem*, and witnessed its immediate shrinkage from elasticity, without being struck with the importance of this mechanical factor in dealing with the engorged heart. This effect, naturally, is most evident in the thinner and more distensible auricle, in which the shrinkage reminds one of the contraction of the uterus after removal of the placenta or of blood clot.

With such cardiac dilatation during life valvular incompetency frequently occurs, although even this has been denied by some. Sir Charles Ballance, in his recent lectures on the surgery of the heart,[20] properly regards any direct cardio-puncture for this state as a "freak operation," and one not to be undertaken lightly, but quotes Dr. Sloan's well known case, in which life was saved by puncture of the heart. In this case the needle of an aspirator was plunged into the heart in the fourth space half an inch to the left of the sternum. It must, therefore, have entered the *left* ventricle, and while ten ounces of "pure blood" were withdrawn, it is probable that direct stimulation of the muscle must have played a part in restoring its activity.[21]

But while such an heroic measure may not be frequently justifiable, venesection, which our ancestors practised too indiscriminately, still has a place in the rational treatment of heart disease.

By the use of a model of the heart-lung type[22] it may be shown that any interruption to the venous inflow at once facilitates cardio-pulmonary siphonage and shrinkage of the dextral chambers of the heart. This limitation of inflow the distressed cardiopath seeks by the assumption of the orthopnoeic position, in which gravity retards dextro-cardiac repletion. Dr. George Balfour, whose memory is still green among Edinburgh men, laid much stress on securing recumbency in aortic valvular reflux, and advised the use even of an anaesthetic to lay the orthopnoeic flat.[23] But, according to the views expressed in this lecture regarding the passive factors in the circulation, the effect of gravity on the inferior caval column and the siphonage of the pulmonic circuit favoured by the posture in orthopnoea, call in question the desirability of changing the upright position for one in which, whatever its effect in diminishing aortic reflux, there is no question as to its favouring dextro-cardiac repletion and increasing pulmonary embarrassment. Were it indeed possible to compress the inferior vena cava without at the same time obstructing the aorta, which unfortunately it is not, such caval compression would have the same effect upon the cardio-pulmonary circulation as a free venesection and without the effusion of blood.

In the presence of cyanosis venesection is certainly indicated, and I have practised it myself with benefit under these circumstances. In aortic valvular cases Hodgkin[24] found bleeding of little service, and the reason for this is evident from the above remarks. To appreciate fully the benefit to be derived from venesection in suitable cases one must, however, consult the experience and practice of our predecessors of a past generation. Thus, we read that in a case of tricuspid and pulmonary obstruction Mr. Kinglake bled the patient during two years upon 312 occasions, to the average amount of 4 oz.—that is, to a heartful—and states that to describe the benefit gained by each bleeding would be to express the difference between the most affecting pain and comparative ease.[25]

Venesection, like cardiolysis, may be a necessary preliminary to the effective use of that agent, indispensable to the cardiologist for action upon the passive endocardial factor—namely, digitalis—concerning which he is prone to wax eloquent.

"Dotted all over our upland pastures," writes Dr. George Balfour, "there is no nobler plant of our indigenous flora than the *Digitalis purpurea*, and there is no more potent benefactor of mankind among the many constituents of our materia medica."[26] There are also few agents concerning the *modus operandi* of which there has been more controversy. To discuss this question in any detail would require a lecture to itself. What, however, every clinician has convinced himself of is that in digitalis he has a trusty means whereby he has on numberless occasions benefited a disordered heart and with which he has at times positively saved life.

If we believe that all cardiac muscle, excitatory and executive, is under the control of the inhibitory, accelerant, and augmentative nervous system, and we succeed by medicinal agents in inhibiting, accelerating, or augmenting cardiac action, it seems reasonable to assume that we do so by the effect of the agents in question upon the nervous system proper for the control or execution of these actions. The only alternative would be to suppose that the use of certain agents renders the cardiac muscle refractory or resistant to their action, or, on the other hand, impulsively obedient to them.

But, leaving speculative disquisition and betaking ourselves to the important field of clinical observation, we can take firm ground on certain facts of experience. If such an attitude be regarded as empirical, so be it. From our empiricism emerges benefit. The most striking results of digitalis are unquestionably observed in the control by it of the paroxysmal tachycardial irregularities of the heart's action found in association with mitral valvular disease, whether obstructive or regurgitant. The heart slows, the tumult is stilled, and quiet reigns. Older writers therefore regarded digitalis as the "opium of the heart," and one of the most recent[27] considers it hypnotic to that organ. But it is not only in tumult with irregularity, but in tumult—that is acceleration—with regular action, that this drug is found to still the storm. The regular failing aortic valvular heart may be succoured, as well as the irregular failing mitral heart, and the failing heart which is neither aortic nor mitral, but has a sound valvular apparatus. These facts are undeniable by clinicians of any experience, and the result is an improvement of the mechanical efficiency of the passive valvular factor when this is defective, and an entire restitution in some cases of its action when the valves are without organic disease.

Cardiac action has always been known to be auriculo-ventricular in sequence, from the upper to the lower chambers, but it is only in our own day that the channel

for this normal sequence has been discovered. We have, moreover, learnt still more recently that this channel, like all muscle throughout the body, is under nerve control. The retardant and accelerant nerves must therefore act through this channel in an important measure. In this connexion one of the cases I have mentioned appears to be instructive—namely, that in which there was at the same time auricular fibrillation and ventricular retardation. The auricular storm continued, but the ventricular action remained slow, though somewhat irregular, because the storm—for we may regard the quiver of fibrillation as storm—in the upper chamber could not spread to the lower on account of anatomical blockage. When digitalis lays the general auriculo-ventricular storm, it lays wholly or in great measure both the auricular and ventricular tumult. Which does it still first and how does it still it? It is conceivable that it may act by interrupting, as in pathological block, the passage of impulses from the auricle to the ventricle, so quieting the latter, and, with a subsidence of tumult in it, allowing the impotent quiver of the former to recover. This view would be favoured by Thomas Lewis, to whom we owe the view that auricular fibrillation is the cause of ventricular irregularity. Or, as Professor Cushny has suggested, digitalis may by some undefined direct action on the ventricle restore its tone, and with this, necessarily, a restoration of efficiency of the auriculo-ventricular valves would follow, and so protect the auricles from distension as to enable them to recover. Between the latter view and older conceptions of the restoration of ventricular elasticity or tone there does not appear to be much difference. In any case the slowed ventricle, with increased contractile power and restored elastic recoil, implies both better closure of the valvular apparatus and improved aspirative action, which promote an easier siphonage in the cardio-pulmonary circuit. What I have said of digitalis applies, of course, to the whole group in which it is *facile princeps*, strophanthus alone approaching it in power and reliability.

Did time permit, other agents, such as atropine, camphor, and ether, etc., might in this connexion be fruitfully considered from the clinician's point of view, but I must desist.

I have thus endeavoured to call attention afresh to the passive mechanical factors in heart disease, which have in recent years, in my opinion, been unduly and unwisely ignored or minimized, but I trust I have done so without claiming for them more than their due weight. I have also pointed out that the removal when possible of passive impediment to the heart's action, and the remedy or modification, also when possible, of defect in the action of the passive mechanism within the organ, as well as placing the patient in a position in which he may derive the greatest benefit from the passive as distinguished from the active forces in the blood flow through the heart, are essential to dealing successfully with ineffective action on the part of that all-important organ.

REFERENCES.

[1] *Journ. of Physiol.*, 1897, vol. xxi, p. 322. [2] *Journ. of Physiol.*, 1895. [3] *Edinburgh Med. Journ.* [4] Dextral Valvular Disease. *Edinburgh Med. Journ.* [5] *Ergebnisse d. Physiol.*, vol. ii, part 2, 1903. [6] Howell, *Textbook of Physiology*, ed. 1915, p. 518. [7] *Lancet*, January 9th, 1909. [8] *Edinburgh Med. Journ.*, 1892. [9] *Practitioner*, 1892. [10] *Lancet*, 1911, vol. i, p 1202. [11] *Physiology*, transl. by Gamgee, p. 160. [12] *Lancet*, November 25th, 1905. [13] *Arch. f. klin. Chir.*, vol. lxxi. [14] *Lancet*, 1907, vol. ii. [15] Medical Research Committee Report. [16] *Anatomical Journal*, vol. liv, part 1, October, 1919. [17] *Journ. of Anat. and Physiol.*, 1912. [18] *Die Tachycardie*, 1895. [19] *Diseases of the Heart*, p. 95. [20] *Lancet*, 1920, vol. i, p. 74. [21] *Trans. Med.-Chir. Soc. Edin.*, 1894-95. [22] *Lancet*, 1904, vol. i. [23] *Diseases of the Heart*, ed. 1898, p. 105. [24] *Lond. Med. Gaz.*, vol. iii, p. 442. [25] *Lond. Med. Journ.*, vol. x, part 4, 1789. [26] Op. cit., p. 359. [27] BRITISH MEDICAL JOURNAL, 1919, vol. ii, p. 621.

ACCORDING to the report of the South Travancore Medical Mission for 1919, the mission hospitals, by inducing larger numbers of well-to-do patients to pay for their treatment, have made further progress towards self-support. During the year 657 major and 6,165 minor operations were performed. The major operations included 37 gastro-enterostomies and 6 operations for amoebic abscess of the liver; the latter was treated by puncture by a large trocar and drainage by a tube subsequently introduced through the cannula. The medical mission, which is administered by the London Missionary Society, also has charge of homes for leprous men, women, and children. All the hospitals are greatly in need of linen and nursing appliances; gifts and subscriptions may be sent to Dr. S. H. Pugh, Neyoor Hospital, South Travancore.

DEFICIENCY DISEASE:

WITH SPECIAL REFERENCE TO GASTRO-INTESTINAL DISORDERS.

A BRITISH MEDICAL ASSOCIATION LECTURE DELIVERED TO THE SOUTH WALES AND MONMOUTHSHIRE BRANCH.

BY

ROBERT McCARRISON, M.D., D.Sc., LL.D.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS; BREVET LIEUTENANT-COLONEL, INDIAN MEDICAL SERVICE.

[*With Special Plate.*]

CUSTOM has sanctioned the application of the term "deficiency disease" to a group of maladies the chief causal factor of which is deficiency in the food of certain substances other than proteins, carbohydrates, fats, and salts. These substances are spoken of as "accessory food factors," or more commonly "vitamines";* they are not foods in the sense of tissue builders or producers of energy; they aid the body to utilize food material sufficiently and its cells to perform their functions. Their true nature is unknown, but probably they are of the nature of organized catalysts or enzymes. They are found in the germs and peripheral layers of such seeds as wheat and rice, and throughout the whole seed in peas, beans, and other pulses. They occur abundantly in the cells of yeast, the yolks of eggs, and in varying proportions in the different parts of plants and in the organs and tissues of the animal body. They are more plentiful in the brain, liver and kidney, than in the muscles. Animals derive them directly from the plants they eat, or indirectly from fresh animal foods. It does not appear that the animal body is capable of manufacturing them itself. Some are soluble in oils and fat, and are contained in the majority of animal fats. Lard is said to be an exception, but though this is no doubt true of stall-fed pigs, I doubt whether it is true of pigs living on raw vegetable foods. These fat-soluble or A-vitamines readily undergo decomposition; they do not exist, or but sparingly, in vegetable oils; consequently artificial substitutes for butter, when made from vegetable oils, do not contain them. They occur in abundance in the green leaves and growing parts of plants, but are deficient in roots and root vegetables. Butter made from the milk of cows fed on green fodder contains a substance which tends to prevent oedema in pigeons fed on autoclaved rice, while that made from the milk of cows fed on dry fodder does not do so to the same extent. There is reason to believe that the absence of these fat-soluble or A-vitamines from the dietary, or of vitamines allied to them, is the actual or predisposing cause of rickets. Other vitamines are soluble in water and are known as B-vitamines. The chief sources of them is grain, fruit, and egg yolk. As they are soluble in water they are liable to be dissolved out of grains and fruit in the process of boiling; as they are concentrated in the germs of seeds they are frequently removed in the milling process. They resist considerable degrees of heat. They are not destroyed by boiling for a short time, but exposure to temperatures up to 130° C. for an hour and a half destroys them. They are commonly referred to as "antineuritic vitamines," since their absence from the food is the actual or predisposing cause of beri-beri.

Vitamines of a third group, the "antiscorbutic" or C-factors, are also soluble in water; they are found in the green parts of plants and vegetables and in fruit. They are unstable, and are very susceptible to the action of heat and alkalis. They are thus readily destroyed in the process of cooking, especially—as often happens—when sodium bicarbonate is added to the water in which vegetables are cooked. Dry grain does not contain them; they develop when the seeds germinate. Tinned or dried vegetables and fruit may contain them, but in reduced quantity and quality, and not in such perfection as the fresh raw products. Experiment shows that among the food materials lemon juice and cabbage juice are richest in them; fresh milk contains them in small amount only.

* The terms "deficiency disease" and "vitamine" are used in this lecture because both are in current use, but neither is satisfactory. Professor H. E. Armstrong, F.R.S., has proposed to replace the term "vitamine" by "advitant," indicating that the substance is necessary to life.

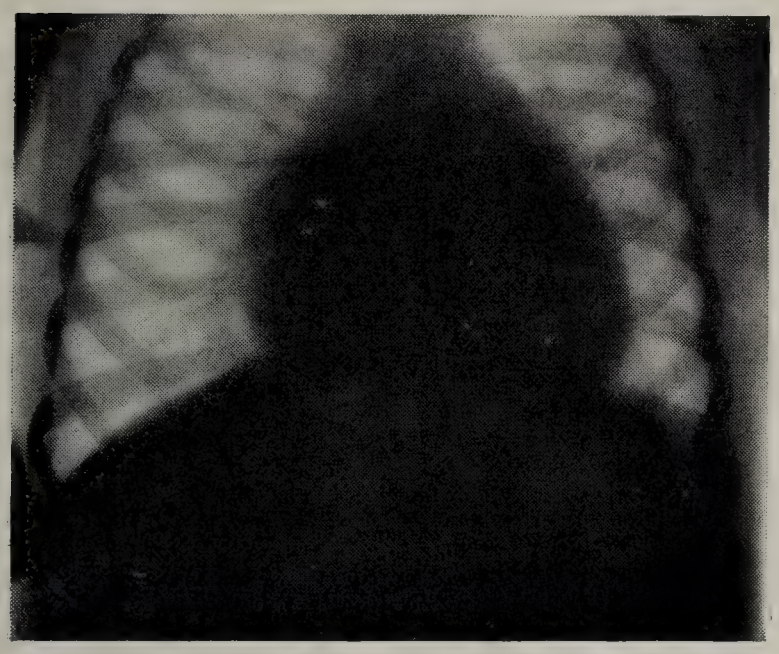


FIG. 1.—Before operation. April, 1919. Skiagraphed by Dr. John Morison. Obtuse right cardio-phrenic angle. Transverse measurement of thorax $2\frac{4}{5}$ in.; of heart $1\frac{4}{5}$ in.

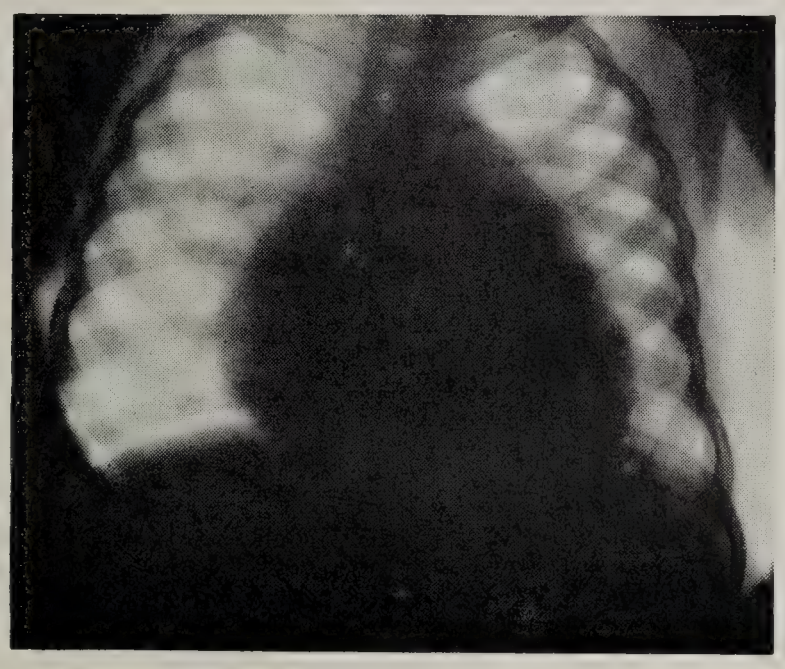


FIG. 2.—After operation. August, 1919. Skiagraphed by Dr. John Morison. Acute right cardio-phrenic angle. Transverse measurement of thorax $2\frac{4}{5}$ in.; of heart $1\frac{5}{5}$ in. Sixth and seventh left ribs seen deostated. Focus the same in both figures. Blood entering and leaving the heart more easily. Respiration improved. Note narrowing of cavo-aortic zone and increase of auriculo-ventricular diameter.

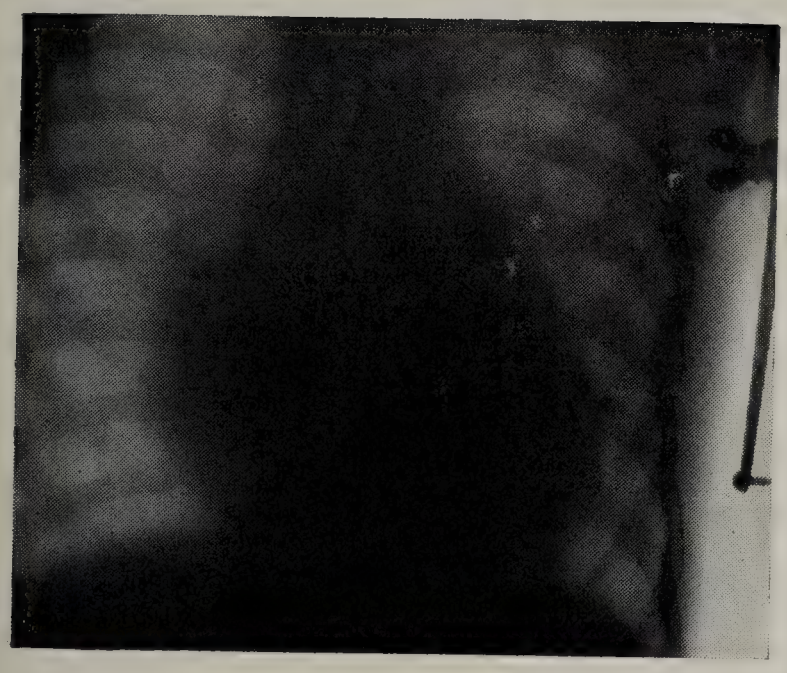


FIG. 3.—After operation. February, 1920. Skiagraphed by Dr. Martin Berry. Conditions the same as in Fig. 2. Focus longer. Object slightly more magnified.

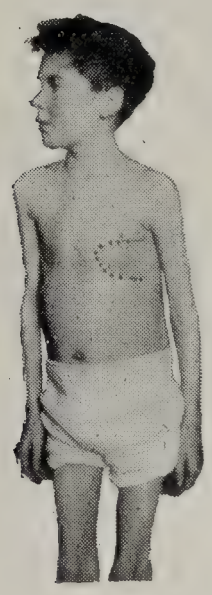


FIG. 4.—F. P., aged 11. Mitral regurgitation, with symphysis cordis and cardiac hypertrophy. The patient has now gained weight, and the enlargement of the liver has disappeared. In the photograph the liver is still enlarged. Note the total absence of all anasarca, which was marked when the case was operated upon. Note also the cicatrix of the wound over the site of the removed ribs and cartilages.



FIG. 1.—Gastro-intestinal tract of healthy adult monkey. Note size of empty stomach, normal appearance of small intestine, and the longitudinal muscular bands and rugae of the colon.



FIG. 2.—Gastro-intestinal tract of adult monkey fed on autoclaved food for ninety-eight days. Note dilatation of empty stomach, large ileal intussusception, great dilatation of colon and atrophy of its longitudinal muscular bands; also inert appearance of the colon.

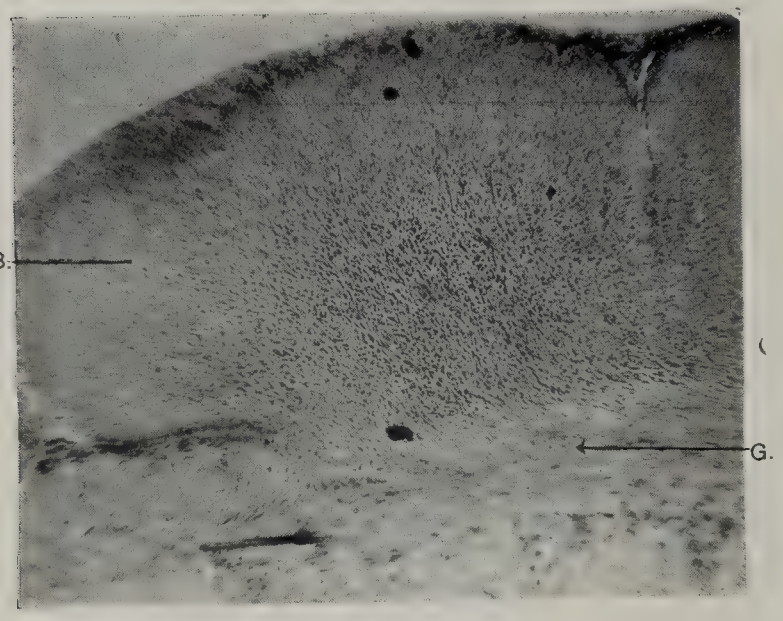


FIG. 3.—Section of wall of colon from healthy adult monkey, showing longitudinal muscular bands (L.M.B.); also ganglion of Auerbach, indicated by arrow (G).



FIG. 4.—Section of wall of colon from adult monkey fed on devitamized food. Note great atrophy of longitudinal muscular band (L.M.B.) and swelling and degeneration of the ganglia of Auerbach (G). Same magnification as Fig. 3.

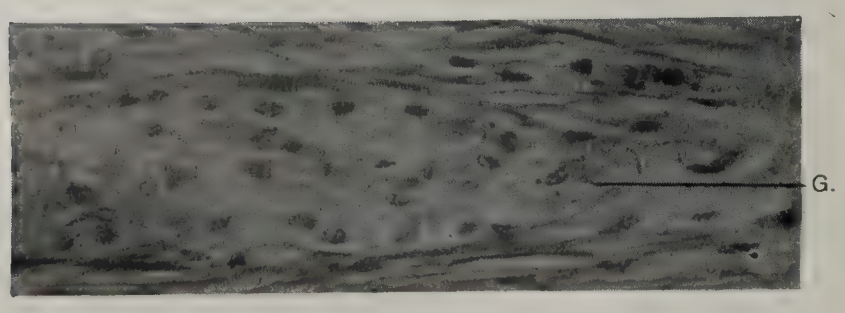


FIG. 5.—Section of ganglion of Auerbach from healthy adult monkey. × 255.

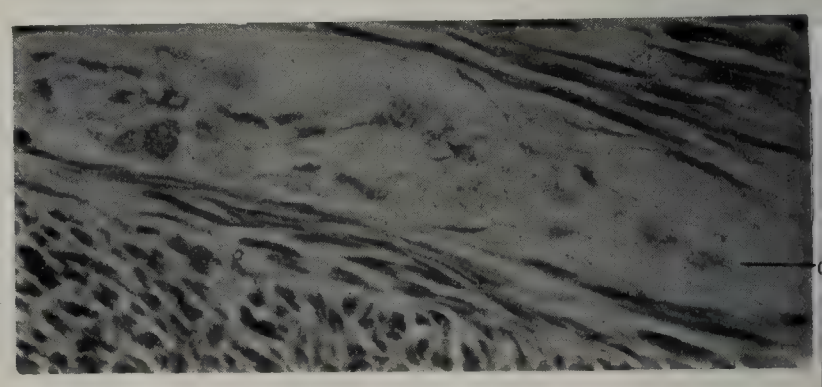


FIG. 6.—Section of ganglion of Auerbach from adult monkey fed on devitamized food. Note swelling and degeneration of its cells. × 265.

It is seen, therefore, that though vitamines are plentifully distributed in the raw materials which both man and animals instinctively use as food, they are very prone to be dangerously reduced in amount in their preparation for consumption. Thus boiled polished rice, which forms the staple food of many Eastern peoples, is often wholly devoid of them; so, too, is white flour, the staple food of so many in England.

A properly constituted food must contain vitamines in small but definite quantity, which varies with the species, the sex, the age and the individual idiosyncrasy of the animal. Without vitamines, the proximate principles of the food—proteins, carbohydrates, and fats—are in a sense dead foods which cannot sustain life. In their absence life may for a short time be sustained by the body utilizing its reserve stores of vitamines and sacrificing its less important tissues; but there is a limit beyond which such stores cannot be drawn upon and once this is reached the cells of higher function begin to lack vigour and depreciate in functional capacity, although the tissues may still hold considerable stores of vitamines. An instructive illustration of this cardinal effect is afforded by the nervous tissues of pigeons suffering from experimentally produced polyneuritis avium. In such cases, where the cerebellar type of the disorder is well marked, where astasia is complete and inco-ordination extreme, when convulsive seizures are occurring every few moments, the birds can be freed within six to twelve hours of all evidences of nervous disorder—with the exception of slight residual effects due to the death of nerve cells—by administering a vitaminic extract made from the yolk of eggs. The atrophic pancreas of animals fed on food deficient in these substances provides also striking evidence of the same depression of cellular function. In microscopic sections its cells are seen to be shrunken and devoid of the granular evidences of an efficient output of work. The important lesson to be learnt from such examples is not so much that the deficiency of vitamines causes the death and disintegration of a number of cells of higher function—for in the case of the nervous system this rarely exceeds 15 per cent. of the whole mass—but that it results in depreciation of function in a much larger number. The bodily engine stops not because a comparatively small proportion of its cellular elements have died, but because the greater mass have ceased to function. It is this conception of the action of vitamines which holds such wide promise in the cure of disease due to or favoured by deficiencies in the food, for with the limited knowledge we already possess, though we cannot restore to life cells already dead, we can restore to normal the depressed functional capacity of the general mass of the body's cells.

The conception that vitamines provide the cells of the body with the capacity—one might almost say the will—to work, has this great merit, that it furnishes a working hypothesis on which to found our treatment. For whatever be the accepted view of the causation of a particular disorder, it must be admitted that to recover from it the body must be provided with substances which excite the cells to effort as well as with those which furnish them with energy and building materials, and with a suitable medium in which to perform their tasks. We should not restrict our vision of deficiency disease to such ailments as beri-beri, rickets, and scurvy—conditions so obvious and so severe that we cannot well overlook them—we should consider every state of ill health from this point of view, so that we may be in a position to rectify nutritive errors and to provide the body cells with the requisite materials to enable them to fulfil their functions efficiently. I am, for example, impressed with the comparative frequency with which beri-beri symptoms may manifest themselves in sufferers from dysentery during the course of treatment in the East, where, as often happens, rice water is used as a food suitable for dysenterics. It is necessary to take care that our invalid foods shall not be deficient foods. The fear of introducing pathogenic agents into the digestive tract by way of the food has led to error, because sterilization of foods to the extent practised nowadays may deprive the cells of the body of those very substances which fit them to resist invasion by the pathogenic agent.

Although, in general, animals of the same species require about the same amount of vitamines, individuals may exhibit wide variations. Amongst the 400 odd pigeons which served in my investigations, about 5 to 10 per cent. survived an exclusive diet of the polished rice for over one hundred days, although the majority succumbed to its effect within forty days. When the supply of vitamines is diminished the time of onset of symptoms (certainly in pigeons) is in almost direct relation with the degree of the diminution. Thus, rice autoclaved in bulk at a temperature of 130° C. for an hour and a half will produce polyneuritis columbarum about twice as quickly as rice autoclaved in bulk at the same temperature for half the time. It is important to note that though when the vitaminic destruction is less complete the onset is longer delayed, the malady in both cases ultimately manifests itself; in practice it is not with complete vitaminic starvation that we have as a rule to deal, but with partial vitaminic starvation. The former means rapid dissolution and death, the latter slow dissolution and disease. Incomplete provision of vitamines for prolonged periods leads eventually to the same end, to the same manifestations of disease as their more complete deprivation for shorter periods.

Again the effects of vitaminic deficiency are modified by the age of the animal. Growing animals are more susceptible than mature; it would seem that they require more vitamines for the acceleration of the chemical reactions requisite for their growth. I have noted this frequently in pigeons which I bred for the purpose. It is almost impossible—as Dr. Mellanby tells us—to produce rickets in puppies more than 4 or 5 months old by the methods he has adopted.

Sex, too, has some influence. When, for example, pigeons are allowed to eat as they will of polished rice, males develop polyneuritis avium more rapidly on the average than females. This may be due to the fact that males eat more, for there is some reason to believe that the demand for vitamines is greater the greater the carbohydrate intake. But apart from this, sex has an influence in other directions which as yet is not understood. Thus, while the pituitary body enlarges in male pigeons and in male monkeys fed exclusively on autoclaved rice, it does not do so in females.

As individuals vary in their susceptibility to given vitaminic defects so also do different organs of the body, and the same organs in different individuals of the same species: in one the pancreas may become markedly atrophic, while in another it appears on naked-eye examination to be little affected. Further, not all organs of the body are affected in like manner by a deficiency of vitamines: the adrenals, the pituitary body, and the brain tend to increase in weight, while all other organs undergo atrophy, except the kidneys, which as a rule are little affected. A factor of great importance influencing the production of symptoms or their time of onset is the composition of the diet with respect to proximate principles. The effects of "vitaminic" deficiency are relatively less marked when the food is well balanced. In the case of monkeys, when the protein intake is adequate and in proper proportion to carbohydrates and fats, the onset of symptoms due to lack of vitamines is much longer delayed and the loss of weight is not excessive. Where, on the other hand, deficiency of vitamines is associated with great excess of carbohydrates, the onset of symptoms is more rapid and the loss of weight is great. The onset of symptoms is more rapid still and the loss of weight greater when to the defects above mentioned is added an excess of fats. In practice it is almost impossible to dissociate the effects of deficiency of B-vitamine from those of carbohydrate excess and deficiency of suitable protein; the two last frequently accompany the first.

Environment, too, plays an important part; lack of fresh air and sunlight hasten that functional depression of cells initiated by the vitaminic deficiency. The fortuitous occurrence of pathogenic agents in the body also plays a part. For example, healthy monkeys, carriers of cysts of *Entamoeba histolytica*, may develop amoebic dysentery when fed on devitamized food, while those fed on a well-balanced dietary, although confined in the same animal room and equally exposed to infection through the medium of flies, will, although they may be carriers of the cysts, escape this disease. Such, at least, is my experience in the case of thirty-six monkeys caught in the Madras jungles. Similarly organisms of the hog cholera group may, in an infected area, infect every pigeon fed exclusively on polished rice, while the majority of controls fed on a well-

proportioned diet escape. Rats also, when fed on food deficient in A-vitamine, will develop xerophthalmia with unfailing regularity, but not, as Miss Bulley has shown, if the conjunctival sacs are cleansed daily and the offending organisms removed. Thus pathogenic saprophytes find in the unhealth and lack of vigour of the cells a suitable soil for growth; or, as I prefer to say, the tissues of the body when properly nourished are highly resistant to the inroads of pathogenic organisms. Exercise, too, appears to hinder the onset of symptoms attributable to vitamine deficiency. Dr. Mellanby, in his experiments on dogs, noted the interesting fact that in animals which ate most bread and took least exercise the rachitic tendency was accentuated. The effect of exercise is probably, as Dr. Mellanby suggests, due to its action in stimulating the processes of metabolism, a suggestion which falls into line with the fact that small additions of thyroid substance to a dietary of polished rice delay the onset of polyneuritis avium.

As, then, the manifestations of deficiency disease are influenced by a number of factors apart from the actual deficiency itself, we may expect to find in human beings wide variations in the incidence, the time of onset, and the character of the symptoms, as well as considerable variations in the organs and tissues affected where the dietetic defect is apparently the same. Thus I recently saw a family of five children amongst whom mucous disease and acidosis occurred in alternate members. The mother had brought them all up from birth in the same way—the same proprietary foods, the same sterilized milk, the same excess of carbohydrates and deficiency of suitable protein, the same deficiency of fresh fruit and vegetables. It is a salutary reflection that while British surgery has in India gained the implicit confidence of her peoples, British medicine has not done so to the same extent, mainly because the Indian mind cannot understand our apparent neglect in treatment of dietetic measures. No such reflection can, however, be cast on our profession at the present time; the danger is rather that in a too restricted or "vitaminic" outlook we may forget the well established truths of dietetics. The study of "vitamines" cannot be wholly successful unless due attention is paid to the general principles of metabolism. When we know how many vitamines there are, and what are the specific functions of each, it may become possible to correct the defect and to relieve with certainty the specific symptoms, as we do now in the case of scurvy.

At present the problem before man is to obtain a satisfying meal. This he frequently does by loading the stomach two or three times a day, it may be with boiled polished rice, vegetable oils and spices, or with white bread, margarine, and jam; or in the case of infants, with almost vitamine-less proprietary foods, sterilized and diluted milk. Such meals are dangerously unbalanced and dangerously deficient in vitamines and in suitable protein and excessively rich in carbohydrates.

The clinical and pathological effects observed in monkeys whose food presents these defects are the combined result of four factors: (1) deficiency of vitamines, (2) deficiency of suitable protein, (3) excess of carbohydrate—combined in some cases, to which I shall make special reference, with excess of fats, and (4) pathogenic organisms, the presence of which in the animal body may be regarded as fortuitous.

The clinical effects as seen in monkeys are these: failure of appetite, loathing of food, loss of weight, progressive anaemia and asthenia, failing health of the skin, staring hair, loss of hair, eruptions and eczematous patches, low temperature, slow respiration, headache, vomiting occasionally, diarrhoea, dysentery, impaired sensation, great muscular weakness, inco-ordination, and paresis. Death occurs within a hundred days in the monkey (*Macacus sinicus*). It is greatly hastened when deficiency of vitamines and excess of carbohydrates is associated with an excess of fats in the food. In these circumstances the loss of weight is more rapid; the stools may have a sprue-like character, fatty acids are present in them in great excess; atrophy of the pancreas, of the thyroid, the heart, the lungs, the spleen, and the submaxillary glands is marked, while, on the other hand, the weight of the brain is one-seventh part greater than in healthy control monkeys. All these symptoms may not occur, or may not be equally severe in every animal, but they are the common clinical manifestations of the dietetic error in monkeys, and may be supposed to be the common clinical manifestations of the same dietetic errors in man.

However remarkable the production of these disorders in monkeys may appear to be, it is even more remarkable to note the rapidity with which they disappear when the deficient and ill-balanced dietary is replaced by one more perfectly proportioned and containing an adequate supply of vitamines. Colitis can be produced by a deficient diet with great regularity in monkeys, and can be cured by the provision of suitable food; so also can the anaemia and the dyspeptic disturbances. We know in a general way that in man digestive disturbances will cause anaemia, or that blood-destroying agents will do so; we know that dysenteric organisms may cause colitis; but, apart from the little that we know of these matters, I ask, What is the cause of the colitis which is so common and is not due to dysenteric organisms, or what is the cause of the dyspepsia that is so common and is not due to gross lesions of the stomach, or what is the cause of anaemia not due to blood-destroying organisms? I submit that a common cause of all of them is food deficient in vitamines and ill balanced with respect to proximate principles, and that by giving suitable simple vitamine-containing foods we can cure or greatly relieve them.

Diets thus defective lead not only to great muscular wasting, loss of fat and loss of weight, but to certain changes in the viscera. These are marked loss of weight of the thymus, the heart, the submaxillary glands, the pancreas, the spleen, the liver, the lungs, the thyroid, the testicles, and the digestive tube. The kidneys are often little affected. The atrophy affects most markedly those organs which are least essential to the life of the individual. To these must be added thinning of bone and diminution in numbers of the red cells of the blood. Increase in the weight and in the adrenalin-content of the adrenal glands also occurs (except when fresh butter is added to the deficient dietary, when the adrenalin-content is not increased), as does increase in weight of the brain (especially when the diet contains excess of fats), and of the pituitary body, especially in males. The most important changes observed *post mortem* are seen in the abdominal viscera. They comprise (see special plate) great loss of omental fat, enlargement of the mesenteric glands, especially those of the colon, dilatation of the stomach, thinning and ballooning of the walls of the small and large intestine, the frequent occurrence of intussusception, atrophy of the longitudinal muscular bands of the colon and loss in places of its characteristic rugae, congestion of the bowels, and subperitoneal ecchymoses (often intense), congestion of the mucous coat of the stomach and duodenum, and of the small intestine less often, and the almost invariable presence of colitis of more or less wide distribution. All these changes are not equally well marked, nor are all of them present in every case. It often happens that one part of the tract is more affected than another. Dilatation of the stomach, with great ballooning and thinning of the walls of the small intestine, "air-lock" and colitis are, for example, more marked if the diet is also excessively rich in carbohydrates. The pancreas, although almost invariably atrophied to some extent, may be markedly so in some, slightly in others, the atrophy being most marked when the deficiency of vitamines and protein is associated with an excess of carbohydrates and fats.

The histo-pathological changes in the digestive organs, some of which are shown by the microphotographs printed in the special plate, comprise (*a*) atrophic changes in the submaxillary glands, in the pancreas, and in all coats of the stomach, the small and great bowel; (*b*) congestive and inflammatory changes in the mucous and submucous coats of the stomach, duodenum, lower ileum, and colon; (*c*) degenerative changes in the gastric and pyloric glands, in the glands of Brunner, the glands of Lieberkühn, and the mucous glands of the colon; (*d*) atrophy and necrosis of the villi; (*e*) atrophy of the muscular coats of the bowel; (*f*) degenerative changes in the plexus of Auerbach; (*g*) colitis; (*h*) great loss of lymphoid elements throughout the tract; (*i*) invasion of the bowel walls by bacterial organisms which in some cases I have been able to trace through the thickness of the walls to the subperitoneal coat, and in fortunate sections actually into subperitoneal vessels; (*j*) infection of the mesenteric glands by bacteria, which can be cultivated from the enlarged and discoloured organs. Pathological changes of such severity as these may not often be encountered in

man; they are the end results of the deficient dietaries and of the nutritive errors we are dealing with, the goal towards which this form of malnutrition tends. But that they often exist in lesser degree in human beings who persistently use such dietaries there can be no reasonable doubt. Nor can it be doubted that they cause in the human subject grave depreciation of function of the digestive and absorptive organs and grave depreciation of their resources against infecting agents present as pathogenic saprophytes in the tract. The normal production of the gastro-intestinal, biliary, and pancreatic secretions is impeded, the cells available for protective duties are reduced in numbers and in energy, absorption of food materials is less perfect, and the absorption of toxic products more easy; the neuro-muscular control of bowel movements is likewise impaired. In this way the resources of the gastro-intestinal tract against infecting agents are reduced. The histo-pathological changes occurring in the stomach are such as would tend to lowered resistance, to hypoacidity, or even to achylia, and to gastric ulcer, which occurred in three out of ten monkeys fed on dietaries deficient in vitamines. It has recently been shown by Ivy that in dogs, if these conditions exist, chronic ulceration of the stomach may be produced by feeding them with streptococci. The origin of such ulceration thus falls into line with that of xerophthalmia, which, as we have seen, is induced by two factors—the lowered resistance of the tissues and the presence of the specific pathogenic agent. The condition does not arise without the presence of both, nor would it appear from Ivy's experiments that chronic ulcer of the stomach will arise in dogs without the presence of these two factors and the added one of hypoacidity.

Digestive disturbances and dilatation of the stomach are so constantly present in monkeys fed on these deficient dietaries that they may be regarded as cardinal signs of such deficiency. It is clear that no amount of gastric lavage could restore the stomach to normal function in the absence of an adequate supply of vitamines, while gastro-enterostomy would be likely to yield disappointing results. The provision of these substances in the food will restore this organ to normal activity in the human subject where the derangement is definitely due to the absence of vitamines. The following is a case in point which recently came under my care:

A man, aged 60, had for twenty years been a confirmed invalid. He was a martyr to dyspepsia and had a greatly dilated stomach, which he washed out three or more times a week—to his great exhaustion. He had not had a natural motion of the bowels for many years, but used a glycerin enema daily. He was very anaemic and of a colour which one associates with cancer of the pylorus. On examination I found a dilated stomach, a tender duodenum, "air-lock" in the small intestine, and a tender caecal region, but no evidences of cancer. For many years he had been subsisting on a diet excessively rich in carbohydrates, deficient in suitable proteins and in vitamines. He never ate fresh fruit and but rarely vegetables, and then overcooked. He complained of neuritic pains in the lower limbs and felt that he was losing the use of them. As his diet was very similar to that of my monkeys I resolved to treat him in the light of the results I had noted in those animals. He was put to bed, given a small quantity by the mouth of raw milk every two hours, and a solution of vitamines at night. Gradually the food was adjusted so as to contain an adequate supply of vitamines and of proximate principles in due proportion; it was made up mainly of eggs, cheese, fish, fresh fruit, wholemeal bread, and green vegetables. He was deprived of his stomach tube and glycerin enema syringe and given paraffin only. The vitaminic extract in solution was continued. He made rapid strides towards recovery; in two and a half months he gained 10 lb. in weight, was freed of all symptoms of dyspepsia, and the bowels—aided by the paraffin—acted normally.

I relate this case for two reasons: first, to emphasize the importance of a study of the "dietetic history" in every case of gastro-intestinal disorder, and secondly, to mention a lesson which this case taught me. It was this: When the patient had been taking the "vitaminic extract" for ten days or so he drew the attention of his medical attendant to the fact that his stools, which previously had been of a dirty white colour, offensive, and loaded with fatty acids, were now dark and well formed. So they remained until the supply of vitaminic extract with which he was provided from my laboratory ran out; then the stools again began to lose their dark colour and to return to a white offensive state. This observation can have but one explanation, namely, that the vitaminic extract promoted the flow of bile and of pancreatic juice. The experimental confirmation of this clinical observation and of my own histopathological studies in monkeys is provided by the work of Wegelin and Meyer, who have recently shown that intravenous injections of a vitaminic extract of brewer's yeast has the same effect in increasing the flow of biliary and pancreatic secretions as has secretin. The case is of importance also because it illustrates the need for the provision of vitamines in a readily absorbable form, for in this case the flow of the biliary and pancreatic juices was not sufficiently excited by the vitamines in the food, due no doubt to the fact that the processes of repair and regeneration of the digestive organs take place slowly. Pancreatic deficiency is, in my own experience, a comparatively common disorder. It may be recognized clinically with sufficient accuracy by the observation of the "oatmeal" fatty stools.

The very frequent occurrence of intussusception in monkeys fed on deficient food is of great interest. The majority of these intussusceptions were produced in the death agony, but a proportion presented appearances suggestive of an earlier onset. I have hesitated to attach much importance to their occurrence since intussusceptions are often met with in laboratory animals at necropsy; but the greatly increased incidence of intussusception amongst children in Germany during the very lean years of the late war has recently been commented on in the writings of German physicians. Without going too far, we may safely say that children who are properly fed will be less liable to suffer from intussusception. No doubt there is nothing new in such a statement, but I do not think we have realized hitherto that the neuro-muscular control of the bowel is dependent in great measure on the adequate provision of vitamines in the food.

Of other gastro intestinal disorders probably connected in their origin or in their continuance with dietetic deficiency and lack of balance of the food there are four which call for special reference. These are mucous disease of children, coeliac disease, intestinal toxaemia, and gastro-intestinal stasis. The first—mucous disease—is very common in India amongst European children. It is probably equally common in England. Its true nature is often not recognized unless the stools are examined as a routine measure. The pathological process underlying it is chronic gastro-intestinal catarrh, which is readily produced by a diet deficient in vitamines and suitable protein while excessively rich in carbohydrates. It is easily recognized clinically by the mucous stools, the attacks of diarrhoea, the peevishness, the night terrors, the pasty skin, the digestive disturbances, and above all by the dietetic history of the case. The child's food is made up of sterilized milk, proprietary foods, white bread, polished rice, poor butter, overcooked vegetable or fruit, and excessive quantities of starch and sugar, or of other aliments having the two main defects of carbohydrate excess and deficiency of vitamines. The malady is very amenable to treatment by the limitation of the carbohydrates, the provision of a more liberal supply of suitable protein in the form of a lightly boiled, poached, or raw egg, and of foods containing vitamines combined with the administration of a solvent of mucus and an evacuant such as grey powder. The histological results clearly indicate that the entry into the blood stream through the debilitated intestinal mucosa, not only of toxins but bacterial agents, is likely frequently to occur, so that deficient and ill balanced diets of the kind fed to my monkeys may be regarded as common causes of intestinal toxaemia in its widest sense. With regard to the chronic intestinal stasis I shall say only that if failure of the neuro-muscular control of the bowel is a factor in its causation or maintenance, deficiency of vitamines is the most ready means by which such failure may be produced.

As my own experience has not brought me into contact with "coeliac disease," I speak of it with reserve. It presents, however, many features suggestive of vitaminic deficiency, and the surmise arises that its origin may be connected with such deficiency, or that a number of its characteristics may be secondary to the imperfect assimilation of vitamines. These characteristics are: Its absence in breast-fed children; its onset between the age of nine months and two years; the cessation of growth; the diarrhoea which so frequently precedes it; the ill-formed, pale "oatmeal" fatty stools; the frequent association of scorbutic

symptoms; the abdominal distension; the diminished size of the liver; the occurrence of oedema; the thin bones; the muscular feebleness, and its afebrile nature. All have their counterpart in animals subjected to vitaminic deficiency under experimental conditions. It may be, therefore, that a study of the malady from the vitaminic point of view might throw further light on its causation and treatment.

In this lecture I have dealt only with deficient intake of vitamines as the cause of "deficiency disease." But it is possible that deficient assimilation of these substances—consequent on derangements of the digestive organs from whatever cause arising—may give rise to symptoms of deficiency disease. It has seemed to me that solutions of vitamines have improved cases of enfeebled digestion and of biliary and pancreatic insufficiency more certainly than have the natural foods from which the solutions of vitamines were prepared.

There is much that I have been compelled to omit in so brief a consideration of the subject as this: amenorrhoea, sterility, inability of women to suckle their children, the effects on breast-fed infants of human milk deficient in vitamines, dental caries, rickets, beri-beri, oedemas, and the special effects of vitaminic deficiency on the endocrine organs. All these and much more are deserving of the closest study in connexion with the great question of diet as a factor in the causation of disease and racial degeneration. There is, indeed, no more important problem before the country at the present moment than the proper provision to the people of a properly constituted food, and no more urgent necessity than their instruction in these matters. I hope, however, that I have said enough to excite interest in the wider aspects of "deficiency disease," for I am convinced that with our increasing mastery of these dietetic problems our mastery over disease will increase also.

POISONING BY ARSENIURETTED HYDROGEN.

BY

THOMAS H. WIGNALL, M.B., B.S.VICT.,

MANCHESTER.

TEXTBOOKS dealing with industrial processes in which metals in gaseous combination are involved generally do not give definite facts as to minimum quantities capable of causing rapid death by toxaemia. Of course such data cannot be concise because of individual idiosyncrasy and the varying strength of gas acting lethally. My experience, therefore, in dealing with a particular example of this class—namely, poisoning by arseniuretted hydrogen, AsH_3—may therefore be of interest.

This gas, which possesses by weight a considerable proportion of arsenic and is of an acid type (not actually corrosive but resembling H_2S), is chiefly met with by workers on processes in which nascent hydrogen is liberated, or in which hydrogen is used as a gas—by lead burners or for the inflation of balloons or airships. Where hydrogen is derived from the interaction of a metal and an acid or alkali, either one or both may contain large amounts of arsenic, and under these conditions the hydrogen is very liable to be contaminated by AsH_3. In the process of reducing certain benzene derivatives from one stage to another, zinc dust (or iron filings) is mixed with weak hydrochloric acid and ice in the presence of the body to be reduced; in another method zinc dust is heated with a caustic solution in tubs, vats, or pans. These materials frequently contain arsenic as an impurity, and this combining with the hydrogen produced is inhaled by the workmen. The same gas may also occur in drains or wells where chemical fluids can accumulate.

Dr. Alice Hamilton, of the Labour Bureau, New York, in her recent monograph, *Hygienic Control of the Aniline Dye Industry in Europe*, published as a result of a tour over many British and Continental chemical works, quotes the statement in Rambousek's well-known work on industrial poisoning, that the hundredth part of a milligram of As taken in the form of arseniuretted hydrogen is rapidly fatal to human beings. My experience, which has extended over two years, shows, on the contrary, that much more than this amount can be taken and although the result is serious, it is not necessarily fatal.

I have only met with one case in which death might actually be due to this cause.

This man was seen by me only a few days preceding death. There were obviously present some of the leading symptoms, such as icterus and a low typhoid type of delirium, but the urine was not available for analytical purposes.

Post mortem the macroscopic appearance of main organs had no distinctive features, but as the man had worked on a reducing process it was inferred that death was due to toxaemia. Specimens of viscera for analysis were obtained but not reported upon.

In subsequent cases which I saw from the onset, there were symptoms which at once directed attention to the causative agent. Where a haematuria of porter-like appearance occurred, a quantitative test of the urine for arsenic was immediately made; all the men working on or near the process were examined carefully and their urine was submitted to investigation. By this means a few men were found to be excreting arsenic in the urine while not appearing ill and continuing at work in the ordinary way. The possibility of these men having ingested the arsenic in food or on unclean hands was considered, but proved untenable.

Arseniuretted hydrogen when inhaled in toxic amounts rapidly produces haemolysis, with destruction of the red corpuscles and conversion of haemoglobin into methaemoglobin and oxyhaemoglobin; there is a destructive effect on renal tubules and epithelium, and haematuria results. The daily output of urine is not necessarily reduced, and such cases do not always during the first few days feel ill enough to stop work; thus they may present themselves already having an icteric appearance, complaining of languor and anorexia and having a rapid feeble pulse of tension below 100 mm. Hg. Such cases sent at once to hospital and notified as suffering from this gas toxaemia have invariably recovered, and the urine in the course of three to four weeks has ceased to contain more than what may be considered normal amounts of arsenic.

Not any of the workers on this process has to my knowledge developed nerve lesions, such as peripheral neuritis, known to follow the taking of excessive amounts of arsenic by the mouth, nor has any splenic abnormality, icterus, nor biliary obstruction of any type remained as a subsequent feature.

From the amount of arsenic excreted by the urine over the period of detention in hospital—say, three to four weeks—it is easy to conclude that a far greater amount of this gas may be taken by inhalation without causing death than has hitherto been believed possible. Naturally the factors of concentration or dilution of gas, in any given case, are unknown; in men examined every twenty-one days the period of absorption is limited to less than three weeks.

Case 1, working on reduction process, was seen at home on November 14th, 1918. He had been ill a few days, had marked icterus and was feeble; there was no delirium. The urine was of a dark porter colour, containing methaemoglobin, epithelial cells and tube casts, as well as 796 millimilligrams of As_2O_3 per 100 c.cm. On December 12th the urine contained epithelial cells, much oxalate of lime, traces of albumin and indican, no tube casts and less than 10 mmg. of As_2O_3 per 100 c.cm. This patient made an uninterrupted slow recovery and has not been ill since; there has been no nerve lesion.

Case 2 was seen on November 9th, 1918. He complained of malaise, and passed porter-coloured urine containing 35 mmg. As_2O_3 per 100 c.cm. No icterus was at any time evident; he stayed at home, and on December 20th his urine contained less than 10 mmg. As_2O_3 per 100 c.cm.

Case 3, who complained of haematuria, was seen on December 5th, 1918. When admitted to hospital his urine was black, specific gravity 1025, acid, and albuminous; it contained 200 mmg. As_2O_3 per 100 c.cm. His recovery was uninterrupted; on January 30th, 1919, his urine contained less than 10 mmg. of As_2O_3 per 100 c.cm. He has since been quite well.

Case 4, who complained of abdominal pain and vomiting, and whose skin, conjunctivae, and palate were faintly icteric, was seen on January 24th, 1919, and sent to hospital. His urine was of a deep-red burgundy colour, clear, specific gravity 1025, and acid. It contained much albumin. Methaemoglobin and oxyhaemoglobin were present, as well as 185 mmg. As_2O_3 per 100 c.cm. On February 26th his urine contained less than 10 mmg. As_2O_3 per 100 c.cm., and he made a perfect recovery.

Case 5, who had no pain and no icterus, was detected while discharging his duties in the usual routine of the reduction process. On February 13th, 1919, his urine was dark-brown in colour, acid, specific gravity 1009, and contained a good deal of albumin, a few vesical epithelial cells coloured brown, no tube casts, some fibrinous clots, some brownish granular masses, and 70 mmg. As_2O_3 per 100 c.cm. By February 27th, 1919, the arsenic

had been reduced to less than 10 mmg. per 100 c.cm., and he made an uninterrupted recovery.

I am indebted to Professor Delépine, of the Public Health Laboratory, Manchester, for the analytical reports submitted, and to Mr. Thomas Callan, M.Sc., Ph.D., for help in subsequent analyses.

RUPTURED MALARIAL SPLEEN: SPLENECTOMY: RECOVERY.

BY

CYRIL A. RAISON, M.B., CH.B.,

LATE ACTING MAJOR R.A.M.C. (T.),

OFFICER IN CHARGE SURGICAL DIVISION 33RD STATIONARY HOSPITAL.

BATTLE wrote: "The rupture of a malarial spleen may be compared with that of an aneurysm—the rupture of a normal spleen to that of a large artery," while Lieut.-Colonel Crawford, in the *Indian Medical Gazette*, summarizes his extensive experience in a statement that "Ruptured spleens not infrequently come under the notice of surgeons in India—not as a rule in hospital during life, but after death in the subject of a judicial *post-mortem* examination. The injury is always of grave importance and practically always fatal." The late Surgeon-General Coull-Mackenzie stated that 68.9 per cent. of cases of splenic rupture end fatally within half an hour. Captain Jamison published an interesting series of six cases in the BRITISH MEDICAL JOURNAL, September 14th, 1918, but in view of the fact that relatively few recoveries have been recorded, the following case may be of interest:

A Macedonian, 56 years old, was admitted on May 30th, 1918. He was very collapsed and complained of great abdominal pain, aggravated by movement or by coughing; his expression was extremely anxious and few words could be elicited from him. His skin was sallow, his lips were pale and slightly cyanotic. The pulse was 145, and the respirations were 44 per minute; they were shallow, and there were signs of diffuse bronchitis. The abdominal wall scarcely moved and was rigid and tender generally, but particularly in the left hypochondrium. The left part of the upper abdomen was distinctly prominent; the knees were flexed. The splenic dullness extended to the umbilicus, and both flanks were dull on percussion. There was no external sign of bruising.

Operation.—Under local anaesthesia by ½ per cent. novocain a median incision was made above the umbilicus. When the peritoneum was opened a large quantity of blood gushed forth. Morphine gr. ⅔ was given, and Captain A. C. Smith induced gas and oxygen anaesthesia. An oblique incision was made through the left rectus parallel to and one inch below the costal margin. The spleen was seen to be greatly enlarged, the anterior surface of its capsule was almost completely raised from the matrix, and showed an irregular tear about four inches long, through which blood was coming. In consequence of adhesions to the diaphragm it was impossible to bring the spleen up, and therefore (with considerable difficulty) the pedicle was clamped from the front. Intravenous injection of glucose and sodium bicarbonate was made throughout the remainder of the operation. The adhesions giving considerable trouble, they were divided between clamps and ligatured after the removal of the spleen. The abdominal cavity, which contained much blood, was irrigated with warm saline solution, and a certain amount being allowed to remain inside, the abdomen was closed.

The patient's condition was critical, but on the following day he was much improved, the pulse falling to 128 about twelve hours after the operation. He was given 10 grains of quinine four-hourly, and made steady progress, the evening pyrexia, which disappeared on the tenth day, being the only point of note. When last seen, in February, 1919, he said he had never felt better in his life; he certainly looked many years younger.

The spleen was found to be 13½ inches long, and 6½ inches wide, and to weigh 3 lb. 2 oz. In the upper end there was an irregular tear about four inches long, penetrating two inches into the substance; the capsule was raised in front. The blood, limited above by the diaphragmatic adhesions, had burrowed beneath the capsule, which had eventually given way, a tear being produced. The blood count made on June 6th (a week after operation) showed 3,520,000 erythrocytes, and 26,000 leucocytes (polynuclears 67 per cent., eosinophils 4 per cent., small lymphocytes 11 per cent., large lymphocytes 9 per cent., large hyalines 9 per cent.); many red cells showed polychromatophilia.

Three days subsequent to the operation the following history was obtained from the patient's wife, but doubt is cast on its accuracy: "He had had malaria for many years. Four or five days before his operation he had been kicked in the back by a donkey, but felt little the worse and continued his ordinary work. During the early hours of the morning prior to his admission he suddenly awoke with great pain in his left side and then in his abdomen. He vomited several times."

The interesting features of this case are that the rupture occurred in a man of 56, that the spleen was the largest I can trace as having been removed in a case which subsequently recovered, and that there were massive adhesions. According to Vanverts the presence of the latter in splenectomies for malarial hypertrophy without rupture raises the mortality from 5.7 per cent. to 72 per cent.

SYPHILIS INSONTIUM.

BY

J. C. McWALTER, M.D., LL.D., M.R.I.A.,

SOMETIME SPECIALIST SANITARY OFFICER R.A.M.C.

D'ARCY POWER teaches that syphilis is transmitted to the fetus only at conception or in the earlier months of pregnancy. Almost all the experts seem to hold the same view, and hence it may be worth while to record a case, at present under my care, which appears to prove conclusively that infection can take place in the eighth month of pregnancy.

It is also of great importance to have definite and scientific records of cases of syphilis insontium, because there is usually something short of conclusive proof that a case of syphilis was extragenital in origin.

My patient was a married woman in the earlier thirties with four healthy children and no history of abortion. She consulted me about an ulcer at the angle of the mouth; it was shallow and of greyish colour; at first I supposed it to be due to pyorrhoea. She expected her confinement in the following month. I prescribed some solution of iodine with glycerin, but when she returned the following week the ulcer was no better, the submaxillary glands had become inflamed, and the whole sore began to exhibit a typically chancroid appearance. I sent her to the Pathological Laboratory at Trinity College, Dublin, and it was reported that the sore was teeming with *Spirochaeta pallida*.

One is peculiarly prone to jump to rash conclusions in these cases, and I presumed that the woman's husband was responsible. I interviewed and examined him, but he had no trace of the disease. It then seemed probable that the woman herself was to blame, when further investigation showed that she had got the sore on her mouth from kissing a child who had an acutely virulent sore on its mouth.

On consultation, it was decided that salvarsan treatment might be risky, in view of the expected early confinement, and the patient was put on an ordinary course of mercury, cinchona, and iodides. The sore rapidly healed, and in four weeks she was delivered of a fine infant, which exhibited no signs of syphilis at birth, or for four weeks afterwards. The child had never a primary sore.

I had begun to conclude that the infant had escaped syphilis when the mother reported that it had commenced to look unwell, and when examined in the fifth week it showed slight but unmistakable signs of congenital syphilis. These cleared up so rapidly under mercurial treatment that it is with great difficulty the mother can be induced to continue the treatment for her child.

Does the *Spirochaeta pallida* pass directly from the maternal blood to the infant's? The patient would seem to prove the affirmative. This case proves, I think—

1. Infection of a mother with syphilis in the eighth month of her pregnancy results in infection of the child.
2. The syphilis in the child is of a milder form and develops later than ordinary congenital syphilis.
3. Infection of the mother with syphilis in the later months of pregnancy may have no deleterious effect on her confinement.
4. There are some cases of syphilis insontium capable of the most rigid proof.

PROFESSOR P. LEBEAU, of the School of Pharmacy of the University of Paris, will give two advanced lectures in chemistry at the end of this month at King's College, London. The first lecture, on June 28th, at 5 p.m., will deal with the ammonium metals in organic chemistry; in the second, on June 30th, the theoretical and practical results of the work of M. Moissan will be discussed.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF MALIGNANT PUSTULE IN WHICH THE INCUBATION PERIOD WAS KNOWN.

THE main points of interest in this case are that the patient, having contracted anthrax from a shaving brush, knew: (*a*) When he cut himself; (*b*) when the painful papule appeared at the site of the cut; (*c*) when the papule became a vesicle. It is also noteworthy that on admission to hospital, seven days after the onset of the disease, the patient had received no specific treatment and yet appeared to be well on the road to recovery.

A study of the literature shows that most cases of cutaneous anthrax have started as a papule; one, however, recorded by J. and C. Regan in the *American Journal of the Medical Sciences*, vol. 157, 1919, started from a cut, and here, as in the following case, thirty hours elapsed before the appearance of the papule.

A schoolmaster, aged 36, was admitted to St. Bartholomew's Hospital on January 25th, 1920, complaining of a pustule on the left side of his face which he believed to be anthrax.

History.—On January 4th he used for the first time a shaving brush which had been presented to him eighteen months before. On January 17th, at noon, he was shaving, and cut himself for the first time since using the new brush. On January 18th, at 6 p.m., the patient noticed a painful "pimple" at the site of the cut on the left side of his face; and on the morning of January 19th the "pimple" had become a "blister"; this history was confirmed by independent questioning of the patient's wife. The subsequent history was that the "blister" discharged, and that the left side of the neck became very "stiff" and swollen on the 21st. Next day he began to get better; the swelling began to go down, although glands swelled on the right side of his neck. A friend who worked amongst hides told him that he thought the condition was anthrax. On the 23rd—this being the first treatment—he applied fomentations; a thin yellow discharge exuded from the pustule. On the 24th he consulted a doctor, who advised him to go to hospital.

Condition on Admission, January 25th, 1920.

The patient did not look or feel very ill; there was a typical malignant pustule over the lower border of the left lower jaw about one-third of the way between the angle of the jaw and the symphysis menti. The cervical glands were enlarged. His temperature was 99.2°, his pulse was 104, and respirations were 24. There was no oedema of the face or neck and nothing abnormal was found elsewhere.

Treatment and Subsequent History.

On the day of admission the pustule with about one inch of skin round it was excised and the wound dressed with tincture of iodine; 50 c.cm. of Mulford anti-anthrax serum was injected into the left median basilic vein. The patient slept well, and did not complain of any pain. On the following day 30 c.cm. of Sclavo's serum was injected hypodermically. The patient continued to improve, and on January 30th was discharged, having a granulating wound and a few enlarged glands in both sides of the neck. On May 1st, 1920, the wound was completely healed and the cervical glands were no longer enlarged.

Pathological Reports by Dr. Mervyn Gordon.

"The pustule shows chiefly staphylococci, but on searching the film preparation made from the swab a few Gram-positive bacilli were found, some of which closely resembled anthrax in shape."

"A culture from the scab gave a majority of *Staphylococcus aureus* and two colonies of anthrax bacillus."

"An examination of the shaving brush was made, and a Gram-positive spore-bearing bacillus indistinguishable from *B. anthracis* was cultured from it. A guinea-pig, however, which was inoculated with a broth emulsion of the hairs of the shaving brush, was apparently unaffected."

It would seem, therefore, that if the micro-organism present in the shaving brush was anthrax, its virulence was attenuated.

For permission to publish this case I am obliged to Sir D'Arcy Power, into whose wards it was admitted.

London, E.C. H. J. MCCURRICH, M.R.C.S. L.R.C.P.

SUBCUTANEOUS INJECTIONS OF CAMPHOR.

UNDER Letters, Notes, etc., for March 13th, p. 388, the reply is given to a correspondent that heroic doses up to 30 grains of camphor have been given but are dangerous. It may be of interest to record that, in a certain large stationary hospital in France during the severe influenza epidemics, I gave, almost as a routine, intramuscular injections into the gluteal region of camphor in oil, gr. v in ♏ xv, every four hours without untoward results in a single instance. In selected cases—for example, in cases of influenzal pneumonia where the physical signs varied from day to day—I am convinced that the intramuscular injection of camphor in oil gr. v proved of the greatest value, and, in many cases where the toxaemia was not too intense and the heart required that little bit more of stimulation to pull the patient through the crisis, this method of treatment was the means of saving life.

In cases with definite signs of impending heart failure I have given gr. x in one injection, with marked beneficial results on the pulse both in tension and rate. Fifteen minutes to half an hour usually elapsed before the heart responded to the camphor, and the effects lasted from three and a half to four hours after injection. There is no other cardiac stimulant to my knowledge which can produce such marked and prolonged stimulation from one dose.

It is important to plunge the needle up to the hilt and inject very slowly, withdrawing very gradually at the same time, which usually avoids pain from pressure. The pain may be severe at the site of injection if this is given too quickly. Parke, Davis, and Co., and one or two other manufacturing chemists, have always had ampoules containing 1½ and 3 grains of camphor in sterile olive oil. It is easy to make one's own preparation by dissolving the camphor in ether before mixing with the sterile oil. Should the camphor not be dissolved first of all, it precipitates out when the oil cools.

Boulogne. A. D. GORMAN, Capt. R.A.M.C.(S.R.).

SEVERE ANGIO-NEUROTIC OEDEMA.

A BOY, aged 3 years and 10 months, complained, on April 25th, of pain in the left leg, which the mother noticed had become swollen.

When I saw him on the following day the limb was oedematous and painful from the toes to the lower third of the thigh. The boy was fretful and the temperature was 101° F. On April 27th the child was obviously ill—temperature 101.5°—and, in addition to the lower limb, the left forearm and hand were oedematous and also the lower part of the back. On April 28th the swelling had completely disappeared from the limbs, but the right side of the scalp was intensely oedematous, extending to the eyelids, which were completely closed. On attempting to open the lids a blood-stained fluid spurted out with some force; the conjunctiva was purplish in colour.

Next day the whole scalp was involved, and both eyes were closed and oozing sanious fluid; the swelling in the left forearm and hand had returned. During the following night there was a copious evacuation of bright blood from the rectum—about half a pint. Recovery now rapidly ensued; in two days the swelling had entirely disappeared, and the child appeared quite well.

The temperature throughout remained at 101° to 101.5° F.; the urine was scanty and loaded with urates; the tongue was dry and the condition was somewhat alarming, especially as he complained of some fullness in the throat. Had this type of oedema invaded the larynx, the condition would have become immediately dangerous.

Treatment consisted in the administration of calomel and salines, followed by calcium lactate, 10 grains every two hours. Recovery appeared to follow the use of the last-named drug in such a way as to suggest that it had an influence on the condition; and in future cases I should begin it at the outset. The possibility of laryngeal invasion was, of course, prepared for.

The child is of intensely nervous type, and reacts acutely to insect bites. Otherwise there is nothing in the history of interest, nor could any reason be suggested for the attack. Of interest was the distribution of the swelling, the fact that the right limbs and other parts were unaffected throughout suggesting a nervous origin.

Haywards Heath. REGINALD ALDERSON, M.D., B.S.Durh.

HERPES AND VARICELLA.

IN connexion with the suggested relation between these diseases the following cases merit record:

On April 10th A. L. came to Tunbridge Wells with his wife and son F. L. They stayed in small apartments, and, as the weather was wet, were pretty closely associated. On April 13th A. L., aged 49, complained to his wife of a sharp pain in the right groin and leg. Two days later a few vesicles appeared on the right buttock and were

followed by a gradually developing herpetic eruption, commencing in the inguinal region, and distributed over the inner side of the right thigh and calf. When I first saw him, on April 17th, the case was typical and it followed a normal course.

On May 1st F. L., aged 18, noticed a few small pearly spots on his forehead, and by May 3rd he was covered with hundreds of typical chicken-pox spots, distributed all over the body, accompanied by considerable fever and much constitutional disturbance. So far as can be ascertained he had not been near any case of chicken-pox.

Tunbridge Wells. CLAUDE WILSON, M.D.

Reports of Societies.

RUPTURE OF THE UTERUS.

AT a meeting, held on June 3rd, 1920, of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, Mr. J. D. MALCOLM, President, in the chair, Mr. PHILIP D. TURNER communicated an account of a case of traumatic rupture of the pedicle of a subperitoneal fibroid.

A lady, aged 47, fell 6 ft. while cycling and pitched on her left hip. The next day there were signs of intraperitoneal injury and effusion of blood; a hard calcified fibroid was to be felt rising out of the pelvis. The abdomen was opened twenty-four hours after the fall; the peritoneum was full of blood and clots, and blood was seen to be issuing from a longitudinal tear in the pedicle of the fibroid, which was calcified, pedunculated, and attached to the fundus uteri. The fibroid was removed and two small arteries which were found to be bleeding were underrun; the wound in the fundus was closed by deep stitches. Recovery was uninterrupted.

Dr. FORD ANDERSON read a short communication on a case of rupture of the uterus treated by gauze packing.

A 4-para of 33 was delivered elsewhere of a fetus of about four months, which presented by the feet; delivery was said to have been easy, although the accoucheur subsequently discovered a tear of the cervix extending outwards on the left side. He removed the placenta "with the fingers," and found intestinal coils within the uterus. Dr. Ford Anderson first saw the patient fourteen hours after delivery, when she was in a state of extreme collapse; blood was oozing from her, the uterus was relapsed, and the cervix was contracted. Examination under an anaesthetic showed a coil of (probably) large intestine in the uterus, the fundus of which was transversely torn for three or four inches. The tear of the cervix on the left side was quite independent of this. Operation was judged to be inadvisable, and under anaesthesia, in Sims's position, with raised pelvis, the prolapsed bowel was replaced, and contraction of the lax uterus being stimulated by pressure of the left hand on the fundus, the uterus was packed with sterilized gauze. Thirty hours afterwards the first packing was removed and replaced by a similar one; thirty hours later the gauze was finally removed. The patient, who was kept recumbent, also received pituitrin, morphine, saline solution per rectum, and douches of 1 to 320 lysol, as well as oxygen inhalations. From the first there were swelling and tenderness in the left iliac region, and during the first few days the temperature varied from 103° to 104°; the lochia were fetid. By the eighteenth day the cervical and uterine tears had healed and discharge had almost ceased; pyrexia and evidences of left pelvic cellulitis were still present, when, on the twenty-fifth day, the patient insisted on leaving hospital. Dr. Anderson learned that a pelvic abscess afterwards had to be opened, but that two months later she was completely well.

Convalescence would have been much speedier but for the consequences of the cervical tear. Probably the majority of medical men would hold that in such a case as this operation offered the best prospect of cure. In the present case operation was not considered possible on account of the extremely bad condition of the patient, and the procedure adopted was carried out with but little hope of success. As a result of the present case, and after reading Dr. Herbert Spencer's account in the *Obstetrical Transactions for 1900* (vol. xlii) of four such cases successfully treated by packing with iodoform gauze, the author was inclined to modify his views.

In the discussion that followed, Dr. AMAND ROUTH thought that packing should be reserved for cases ruptured into the broad ligament, or cases in which the laceration had not included the peritoneum. He congratulated Dr. Anderson on the result, but could not understand how the patient escaped peritoneal infection, after replacement of the intestines in an evidently septic case.

Dr. DRUMMOND ROBINSON said that twenty years ago he had a somewhat similar case, in which a mass of intestine protruded from the vulva; the cervix and body of the uterus were lacerated. The intestine was pushed back and the laceration plugged with gauze; the patient recovered and subsequently had two children.

In reply, Dr. FORD ANDERSON pointed out that the bowel, which had not prolapsed beyond the cervix, was replaced with all possible aseptic precautions.

He quoted a letter in which Dr. Herbert Spencer, after stating that packing was the best treatment for many cases, said that though many cases had been recorded as successfully treated by hysterectomy, many of these had been badly treated by version, etc., and should not have been ruptured at all. Dr. Spencer also wrote that "one Russian obstetrician had a long list of such cases, which were no guide to the treatment of the ordinary cases of rupture seen in a condition of profound shock."

Dr. W. FLETCHER SHAW and Dr. ARTHUR BURROWS read a paper on Wertheim's hysterectomy for advanced carcinoma of the cervix, made possible by the use of radium. [This communication was summarized in our issue of June 12th, p. 806.]

In the discussion which followed, Dr. R. A. GIBBONS stated that before the war the late Dr. Pozzi of Paris told him that he had been working on this subject for some time, and had operated on many cases which before the application of radium had been regarded as inoperable.

Dr. A. W. BOURNE related a case of spontaneous rupture of the uterus following pituitrin. The patient was a 12-para, whose previous labours had been easy.

The twelfth labour being slow, ½ c.cm. of pituitrin was administered hypodermically when the cervix was fully dilated, and the head in the perineum. An hour later the pains became extremely violent, and the patient suddenly collapsed; the head receded and the pains ceased. When admitted to St. Mary's Hospital she was in a condition of profound shock; the abdomen was soft, the fetal parts could be easily palpated through the abdominal wall, and there was dullness in both flanks. After an intravenous injection of gum solution and a hypodermic injection of ½ gr. of morphine, an attempt was made to deliver the patient. The head was removed by perforation and cutting through the neck, but before the rest of the child could be removed the patient again collapsed, and in spite of blood transfusion she died at 1 a.m. *Post mortem*, the child's trunk and the placenta lay free in the abdomen; there was a rent five inches long in the uterus, beginning in the lateral wall and lower segment and extending downwards and inwards to the cervix.

Dr. Bourne considered this case noteworthy on account of the rupture occurring in the absence of any obstruction, and after a sluggish and short labour when the head was in the act of being born.

Dr. WILLIAMSON said that he had seen a case of spontaneous rupture of the uterus following the administration of pituitrin before the cervix was fully dilated. He believed and he taught that the use of pituitrin before the birth of a child was a dangerous procedure.

Dr. FLETCHER SHAW was certain that a large number of cases of rupture occurred through the administration of pituitrin; he taught his students that it must never be given before the termination of the second stage, except in haemorrhage.

Dr. EARDLEY HOLLAND stated that in his opinion pituitrin might be a source of grave danger to the mother and fetus, and alluded to the dangerous effects produced by the so-called sensitization of the uterus by the administration of pituitrin preliminary to the introduction of bougies. In two cases of this he had seen tonic contraction of the uterus. Pituitrin was often responsible for the death of fetuses; he had performed *post-mortem* examinations on at least four with tears of the tentorium cerebelli and cerebral haemorrhage brought about by a precipitate second stage of labour following injection of pituitrin. Dr. FORD ANDERSON thought that pituitrin, if used at all before the birth of a child, should be employed with all the precautions which had always been enjoined for ergot of rye.

IN the first number of *The Handicapped Worker*, issued by the New York Institute for Crippled and Disabled Men, Miss Gertrude R. Stein summarizes the work which has been done in the United States for industrial cripples as distinguished from ex-soldier cripples. Organized training has been authorized by the Legislature of eleven States, in five of which the work has already been begun. In other States the provision of training and employment for the crippled is left to voluntary specialized employment agencies. Generally the aim has been to deal with the cases intensively, and it has been sought to deal thoroughly with few rather than superficially with many.

Reviews.

DISEASES OF THROAT, NOSE AND EAR.

THE third edition of PORTER'S *Diseases of the Throat, Nose, and Ear*[1] has been revised by his friends and colleagues under the editorship of Dr. LOGAN TURNER. The second edition was produced in 1916, but unfortunately the author, who had become Major Porter, D.S.O., was killed in France while serving with the Royal Artillery in the following year. The object of this book is to provide the practitioner and senior student with a volume of moderate size, containing sufficient information on the subject to be of practical value, without entering into the details of operative surgery. The book fulfils its purpose admirably and is kept within the intentionally limited scope. The new edition is brought well up to date, especially in the section which deals with diseases of the ear. There are, however, some portions in which the advice given as to treatment may reasonably be considered open to criticism, particularly when it is remembered into whose hands the book is intended to pass. Thus a much more active treatment for laryngeal tuberculosis is described than is now considered beneficial or even safe by those most experienced in the subject. Again, the siphon douche for the nose is described and there is even a figure of it in use, whilst its dangers are stated to have been exaggerated; they are, however, widely recognized and the method has been generally abandoned. The illustrations are, perhaps, rather limited, but include seven coloured plates containing forty-four illustrations. The value of such coloured plates is a little doubtful, and they are, of course, expensive to produce, so that it might have been better to have increased the number of illustrations in black and white instead. Nevertheless the coloured plates are good of their kind and form an attractive feature of the book. The book should continue to serve the good purpose which the success of the previous editions shows it has served in the past, and it may be recommended both for the convenience of its size and the excellence of the text. The editor and his collaborators are to be congratulated on the good taste they have shown in choosing this method of perpetuating the memory of their former colleague; they have carried out their task just as he might have desired could he have made his wishes known.

MR. TILLEY has rendered a notable service to British laryngology in producing a fourth edition of his well known book on *Diseases of the Nose and Throat*.[2] During the space of eleven years which has elapsed between the last two editions the progress of laryngology has been rapid, and as a result the latest edition exceeds the former in length by some 300 pages, but the use of thinner paper to some extent compensates the increase in bulk. It may be said at once that with the exception of the chapter dealing with asthma and hay fever, in which there is no reference to the modern views connecting these conditions with anaphylaxis, the reader will find the most recent information upon any subject about which he may seek enlightenment. Nor will he search in vain for any topic connected with laryngology, for all methods of bronchoscopy and oesophagoscopy are fully described. A chapter on diseases of the oesophagus and another on diseases of the trachea are to be found, as well as sections on intranasal dacryocystotomy and the removal of pituitary tumours. The author strongly advocates the intranasal operation for chronic empyema of the frontal sinus, and is of opinion that the dangers of the external operation, to which he himself so candidly drew attention some years ago, may be to a great extent eliminated by this means. The parts of the book dealing with operative surgery have been amplified with considerable judgement. The various methods of removing nasopharyngeal fibroma, for example are fully discussed in this edition, and there is an excellent description of laryngo-fissure illustrated with very clear drawings supplied by Dr. Irwin Moore. All through the book the drawings are admirable and the author has wisely refrained from introducing coloured plates. There are naturally blemishes and inequalities in a book of this size; for instance, it is difficult to understand how the operation of submucous resection can be performed through the incision which is both described and figured, and the subject of malignant disease of the pharynx is treated somewhat briefly. The work, however, is so comprehensive that it should be a valuable book of reference, whilst it is not too large to serve as an ordinary textbook. The most attractive and perhaps the most valuable feature of the book, which distinguishes it from a mere compilation, is the way in which the personality and observation of the author appear in his writing. Mr. Tilley draws freely upon the wide clinical knowledge he possesses in order to illustrate his points, without quoting tedious histories of cases, and the reader is made to feel that every piece of advice offered is the result of personal experience.

THE second French edition of Dr. GEORGES LAURENS'S *Oto-Rhino Laryngology*[3] has been translated by Mr. CLAYTON FOX, who has kept faithfully to the text; the translation, indeed, is apparently so literal that it has occasionally led to minor errors. The book is written for the student and practitioner, and contains a surprisingly detailed account of how to examine and treat patients, telling both what to do and what not to do. This detailed account of how to grapple with the elementary problems which beset the beginner forms the main theme of the book, and, carefully studied, it should prove of great value to anyone commencing to learn about the examination and care of patients in this department of medicine. It is the minor difficulties, which are often so bewildering and exasperating, that the author seeks to solve for his reader, and to render his points clear there is a profusion of simple line drawings which adorn practically every page. It must be understood, however, that it is French methods and opinions which will be gained from a study of this book, and that they do not in every way coincide with the accepted English practice. For some this may endow the book with a refreshing novelty and the change from the stereotyped English textbooks may make a successful appeal. Some of the views, however, might prove misleading if accepted without some practical knowledge. Thus, for removal of the tonsils the author says: "Never employ the guillotine." Cancer of the pharynx occupies just half a page, and the section ends "Treatment=0. Especially no surgery. Only palliatives, such as cocaine, morphine, and local applications of pure adrenalin." The work, however, fulfils its object and should prove helpful, especially by virtue of its carefully studied details and its wealth of illustrations.

CEREBRO-CRANIAL INJURIES

PROFESSOR DURET'S monumental work of fifteen hundred printed pages on cerebro-cranial injuries[4] is the outcome of patient labours extending over more than forty years. It was nearing completion when the German army entered Lille, and the Prussian authorities forebore their intention to destroy it, on the grounds of "humanity." So at least they told the author.

The subject truly is big so is the book, but it deals with etiology, the mechanism of production, and with localizing symptoms only. Some idea of the thoroughness of Professor Duret's method may be gained from the mention of separate sections upon the injuries caused by falls from ladders and those by tumbling downstairs. There are masses of facts; there are masses of case records; there is a massive index. It will hardly be possible for an intending contributor to current journals not to find here a parallel to his own "unique" case.

We do not recommend the book to the junior student.

[1] *Diseases of the Throat, Nose and Ear.* For Practitioners and Students. By W. G. Porter, M.B., B.Sc., F.R.C.S.Edin. Third edition, fully revised under the editorship of A. Logan Turner, M.D.Edin., F.R.C.S.Edin. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. Toronto: The Macmillan Co. of Canada, Ltd. 1919. (Demy 8vo, pp. xv + 300; 79 figures, 44 in colour. 12s. 6d. net.)

[2] *Diseases of the Nose and Throat.* By Herbert Tilley, B.S.Lond., F.R.C.S.Eng. Fourth edition. London: H. K. Lewis and Co., Ltd. 1919. (Demy 8vo, pp. xx + 844: 265 figures, 74 plates. 25s. net.)

[3] *Oto-Rhino-Laryngology.* For the Student and Practitioner. By Dr. Georges Laurens. Authorized English translation of the second revised French edition by H. Clayton Fox, F.R.C.S.Irel. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. Toronto: The Macmillan Co. of Canada, Ltd. 1919. (Demy 8vo, pp. x + 339; 592 figures. 17s. 6d. net.)

[4] *Traumatismes Cranio-Cérébraux. Méchanisme et Etiologie, Fractures de la Voute et de la Base, Symptomes Localisateurs.* By H. Duret. Paris: Félix Alcan. 1919. (Roy. 8vo, pp. xxx + 1502; 320 figures. Fr.75.)

It is surely intended for the reference library, and will indeed be the envy and despair of those voluminous writers whose fellow-countrymen withheld the hands that had already deliberately destroyed—Louvain.

MILITARY PHYSICAL ORTHOPAEDICS.

IN this country, owing to that unique organization comprising the Military Orthopaedic Centres—later thinly disguised under the ambiguous title of Special Surgical Centres—all the methods of treatment included in physiotherapy were rapidly standardized and the knowledge thus gained widely diffused. Lieut.-Colonel A. S. HERBERT, of the New Zealand Medical Corps, working during the war isolated from such opportunites, developed a hospital in New Zealand in which purely non-operative treatment was given. He has expressed his views on the physio-therapeutic treatment appropriate for the results of gunshot injuries of nerves in a small work—*Military Physical Orthopaedics* (*Part I, Gunshot Wound of Nerve*).[5] Written in 1917 but, owing to difficulties in printing, published in 1918, this little book has now lost some of its interest. In the chapters dealing with the examination of patients with nerve injuries and general physical methods of treatment, the author proceeds on conventional lines. A goodly proportion of the book is devoted to a consideration of the use of artificial muscles. It is claimed that an elastic band may act either as a passive support or as an active muscle, the latter only if it is attached to an opposing muscle which normally contracts simultaneously with the muscle which is paralysed in the particular case. This is the real thesis of the book and is claimed as original by the author. His reasoning is, however, unconvincing. His plea for simplicity in temporary apparatus is sound, and, in the conditions under which he worked, his employment of elastic supports designed to maintain relaxation of paralysed muscles showed considerable mechanical resource. He recommends the maintenance of full extension of the fingers in musculo-spiral paralysis, but no doubt since this was written he has had many chances of seeing the unfortunate results of this exaggeration of the principle of muscle relaxation. The book in its make-up suffers from the disadvantage of having all the illustrations grouped together at the end of the letterpress.

NOTES ON BOOKS.

THE book on practical urology,[6] by Dr. I. COHN of Berlin, is a straightforward pedestrian account of the subject for medical men who have to deal with diseases of the kidney, bladder, and urinary passages. It is also suitable for medical students with a knowledge of German. The author treats his subject throughout from the practical rather than the scientific point of view.

The *Tenth Annual Report of the Commissioner of Health for the Commonwealth of Pennsylvania*,[7] for the year 1915, dated 1918, is a large and well printed volume in which all sorts of matters connected with the public health of this extensive district are reported on in a style both statistical and discursive. It is clear that the sanitary organization in the Commonwealth has reached a high degree of complexity and shows great evidences of activity.

Salies-de-Béarn.

Situated in the Basses-Pyrénées, not far from Pau, Salies-de-Béarn is a mineral water station, some two hundred feet above sea level, with a warm climate, and most frequented in spring and late autumn, though open all the year round. Its mineral water, coming from the Bayâa spring, contains 25 per cent. of solid matter, mainly sodium chloride; in addition sulphates, bromides, iodides, and metals of the alkalis and alkaline earths are present, but the spring shows no radio-activity. The waters are for external application only and are yellowish in colour; they are employed pure or diluted, as baths or as douches. The mother liquor left behind after removal of most of the sodium chloride, comparatively rich in bromides and iodides, is also used for baths and for compresses. The establishment is fitted with 140 baths, and is well provided with apparatus for special bathing, douching, and treatment by hydrotherapy of all sorts. Dr. DAVID[8] describes the waters as beneficial in a great variety of disorders, including chorea, exophthalmic goitre, locomotor ataxy with lightning pains, muscular atrophies of many varieties, stiff joints, and phlebitis. There is also a special establishment for the treatment of gynaecological cases of all sorts, and another for the treatment of children with rickets and all forms of chronic tuberculosis of the glands, bones, joints, and peritoneum. Professor Reclus, it is said, obtained excellent results in tuberculous orchitis at Salies-de-Béarn.

[5] *Military Physical Orthopaedics. Part I, Gunshot Wound of Nerve.* By Arthur Stanley Herbert, M.D., B.S., Lieut.-Colonel New Zealand Medical Corps. P.M.O. of the Rotorua Orthopaedic Hospital, Government Balneologist. Wellington: Marcus F. Marks. 1918. (Demy 8vo, pp. 136; 62 figures. 6s net.)

[6] *Urologisches Praktikum.* Mit besonderer Berücksichtigung der instrumentellen Technik. Für Aerzte und Studierende. By Sanitätsrat Dr. I. Cohn, Berlin. Berlin and Vienna: Urban and Schwarzenberg. 1919. (Cr. 8vo, pp. x + 391; 79 figures, 3 plates. M. 16.)

[7] *Tenth Annual Report of the Commissioner of Health for the Commonwealth of Pennsylvania*, 1915. Part I. Harrisburg, Pa.: J. L. L. Kuhn. 1918. (Med. 8vo, pp. 1559; illustrated.)

[8] *Quelques précisions rapides sur Salies-de-Béarn et le rôle de ses Eaux en Chirurgie.* Par Docteur David, Ancien Professeur à l'Ecole de Médecine de Limoges, etc. Limoges: Imprimerie-Librairie Ducourtieux et Gôut. 1914. (Demy 8vo, pp. 22.)

THE ROYAL ARMY MEDICAL DEPARTMENT

APPRECIATION OF ITS SERVICES DURING THE WAR.

THE dinner in appreciation of the splendid services of the Royal Army Medical Department and the eminent civilians attached to it during the war, which was held at the Connaught Rooms on June 8th, was briefly reported in our last number at p. 807. Below we give some account of the impressive speeches made in proposing and responding to the toast of the evening.

The EARL OF MIDLETON, K.P., who presided, said that the medical record of the war just gloriously terminated was all the more inspiring when one reflected upon the chequered history of the medical service previously. In every former war the medical service had been hurried into the field although its peace time strength had been starved, its pay insufficient, and it had been denied leisure and opportunity for scientific training; it had suffered also from being secluded by a watertight partition from the great civil profession which was its only effective reserve, and it had had scant opportunity for practising modern surgery. In the field it invariably took a back seat; the last man to hear of any intended move was the senior medical officer. Lord Midleton dated the beginning of reform from Lord Wolseley's adjutant-generalship in the eighties. Under Wolseley and under Roberts the men who held commands in peace were so chosen as to hold commands in war, the equipment designed for peace was made the same as that designed for war, and the gap between civilian and professional soldiers was so bridged over that the professional service became capable of developing into a truly national force. In the Army Medical Department these principles were so applied in the years before the great war that the department was able to conciliate the support of the great civil profession, and the equipment was overhauled so that no change had been necessary in any of the campaigns since 1914. A new chapter began with the organization of a Sanitary Branch in 1908, and while typhus, that scourge of armies from time immemorial, had been kept wholly at bay, the low figures for enteric fever in the recent war, especially when compared with the ravages of enteric in South Africa, constituted the war's finest record. Had the incidence of cases of the typhoid group in the recent war reached the level of the South African war, the cases would have numbered nearly a million and a quarter, and the deaths 160,000. Instead of that, our records in France, Egypt, Salonica, Italy, and Mesopotamia showed but 15,800 cases and 766 deaths. (Applause.) The expansion of the R.A.M.C. was also a remarkable achievement. In July, 1914, the corps consisted of 800 officers and 9,000 other ranks; in 1919 it included 16,000 officers and 152,000 other ranks. By that time it exceeded in size the original Expeditionary Force which left these islands at the beginning of the war. Nor did these figures tell the whole story, for the vast amount of freely given service by busy civilian practitioners in attendance at the hospitals, not forgetting the V.A.D.'s and others, must be put on grateful record. It was the greatest of tributes to the successive heads of the Army Medical Department at home and abroad that this gigantic multiplication did not lead to hopeless confusion. The chief guest of that evening, Sir Alfred Keogh, typified the administrative genius, the executive efficiency, and the scientific skill which carried through this great adventure.

He it was who turned to account the reforms with which the names of Sir Frederick Treves, Sir Alfred Fripp, and Sir Cooper Perry would always be associated. During four fateful years Sir Alfred Keogh had wielded an autocracy which only an Irishman could appreciate, and which even an American President might envy. (Laughter.) He engaged 20,000 of the civilian practitioners of the country; he "cornered" the quinine of the world, and he was never at a loss whatever the emergency. His mantle had well fallen upon Sir John Goodwin, whose name also he coupled with the toast; yet another name to be added was that of Sir George Makins, who was a fit representative of the men to whom military rank could add no further eminence (Applause.)

Mr. WINSTON CHURCHILL, Secretary of State for War, associated himself with what Lord Midleton had said. Every form of national effort which produced the devices of destruction had had its tribute, but surely those also who, under conditions of equal hardship and danger, had been saving life while others had been taking it, healing wounds while others had been inflicting them, were entitled in fitting season to their meed of popular applause. This island nation with its Empire gathered about it had suddenly to embark upon a vast enterprise. Everything had to get forty times bigger than it was before. For the first year or so of the war the men who were right were the men who thought bigger than anyone else dared to think. In no instance was this multiplication more remarkable than in the Army Medical Department. Seven thousand beds were available for its use when the war began, and 700,000 when it ended. Judged from the standpoint of bulk and magnification alone, nothing was more wonderful, not even the multiplication of man-power generally or the production of artillery and explosives. But there was more than multiplication. The improvement in the methods of treating this great mass of human suffering—these shattered figures who were thrown back upon the healing science of the British nation—was as impressive as the multiplication itself. And how greatly did this matter to the hundreds of thousands of men who cast themselves on the mercy of the R.A.M.C. and never found that mercy lacking! No one knew anything about the war who had not been in a large casualty clearing station six or seven hours after a great battle had begun. A more terrible spectacle, a spectacle more calculated to imprint itself indelibly upon the mental retina, could not be. And the only comfort a sound and healthy man had when he saw the appalling misery which was poured from one automobile after another was that everything that a passionate humanity and sympathy could suggest and that science and professional skill could execute was at the disposal of those heroic beings who lay scattered in this sea of helplessness and pain, while the cannonade thundering in the distance gave promise of yet more to come. The R.A.M.C. achieved a better, a more humane, a more scientific, a more refined treatment than was arrived at by any other of the great nations who were engaged as deeply in the war. It would be wrong, Mr. Churchill concluded, to dwell upon the achievements of the R.A.M.C. without making the fullest acknowledgement of the immense services rendered so freely and generously by the eminent civilians. The R.A.M.C. could not have achieved what it did, either in the domain of medicine and surgery or in that of military hygiene, had it not received this immense reinforcement from the finest scientific brains in the country devoted to the healing of human suffering. (Applause.)

Field-Marshal Earl HAIG said that he knew he expressed the feeling of the commanders in the field when he thanked the R.A.M.C. and the eminent civilians for all that they did to help in winning the war It was impossible to exaggerate the debt. He recalled the work of the attached medical units when he commanded the First Army (1914–15) during the fighting on the Aisne. At that time the dressing and evacuating of the wounded was particularly difficult and exacting. It was their first experience of trench warfare, and the trenches were unlighted, and altogether very poor compared with those subsequently made The corps suffered heavy casualties, there were no motor ambulances available, and the conditions altogether were most trying. But the conduct of the medical units was perfectly splendid, so unselfish and devoted. (Applause.) Some leaders like himself, who realized that the success of the army depended very much on an efficient medical service, viewed with misgiving the difficulties consequent upon its great expansion, but as the army grew the medical service grew with it, and remained throughout its multiplication thoroughly efficient. The problem which the service had to deal with was huge, but everything worked smoothly. All ranks showed devotion and gallantry, alike the regimental medical services, the field ambulances, and the medical corps of the Dominions. That they all sustained heavy casualties demonstrated how zealously they did their duty. He would like to bear witness to the good feeling and confidence which existed between the fighting portion of the army and their medical comrades, and also to acknowledge his personal indebtedness to Sir Arthur Sloggett (to whom this good feeling and confidence was largely due) and Sir Charles Burtchaell, and their deputies, Sir William Macpherson and Sir H. N. Thompson. The untiring professional zeal of the civilians was also beyond all praise. He would mention the names of two senior consulting surgeons, Sir George Makins and Sir Anthony Bowlby, and of two consulting physicians, Lord Dawson and Sir John Rose Bradford Another name he must mention was that of Sir Wilmot Herringham, of whose devotion in a casualty clearing station on one occasion he had a vivid recollection. He concluded with a word of praise to the scientists who had helped to make the gas attacks innocuous. All alike had played the game as men. (Applause.)

There were three responses to the toast.

Sir ALFRED KEOGH, after making his personal acknowledgements of the wonderful tribute paid to the work of the Army Medical Service and to himself, said that the first great inspirer of the medical department was Lord Herbert of Lea, and there was always to be associated with this War Minister of the middle nineteenth century the name of Florence Nightingale. In latter days the army had had two statesmen who understood the Army Medical Department. The first was Lord Midleton and the second Lord Haldane. What Lord Haldane did could never have been accomplished but for the labours of his predecessor Lord Midleton gave them the opportunity of post-commission study, established the Royal Army Medical College and reconstituted their units Lord Haldane enabled them to come into organic union with their brethren of the civil part of the profession. There were not two professions, but only one, and there was no great difficulty therefore in joining together in the great Territorial service which Lord Haldane set up After paying a warm tribute to the Red Cross Society and emphasizing the need for its existence, Sir Alfred Keogh went on to refer to the cordiality of the general officers commanding in the field, without which it would have been impossible for the medical service to have done what it did This held good not only in the armies in France, but in Salonica, Palestine, the Dardanelles, and later on when the War Office took over the Mesopotamian campaign. Nothing could have been done in the Mediterranean area, for example, had it not been for the noble Field-Marshal then Commander-in-Chief at Malta (Lord Methuen), who was present that evening, and to whom he was eternally grateful. (Applause.)

Sir JOHN GOODWIN said that whatever success the R.A.M.C. had in the recent war was due to three main factors: the progress which had taken place in the medical services during the twelve years since the end of the South African war; the action of the civil profession who from the outbreak of the war came forward and placed everything at the disposal of the army; and the great change which had taken place in the direction of a better understanding between the army generally and the medical service. He believed that the British army had at present the best army medical service in the world, but it was capable of improvement, and he hoped that improvement would be forthcoming Social unrest in England would, he believed, now be much more pronounced were it not for the fact that every man who had served in the war knew, and his relatives also knew, that an honest endeavour was made throughout to prevent distress and relieve suffering. It was now no longer a question of the civil profession on the one side and the R.A.M.C. on the other. They had all served together, and together they had passed through trials and vicissitudes. A thing never to be forgotten also was the early co-operation of America in the matter of medical provision. He went over to the United States and interviewed General

Gorgas and others, and within a very few months more than 1,000 American doctors and 700 nurses, equipped, uniformed, and paid, were placed unreservedly at the disposal of the British armies. (Applause.) Speaking for himself, he said that he entered upon his present post with trepidation, but he had served under two Adjutant-Generals, and from them and from the members of the Army Council he had received every possible sympathy and kindness.

Sir GEORGE MAKINS said that of all civilians who took part in war service the men of his own profession were the most happy, for they were called upon to do work in connexion with the army which was the same work they had been accustomed to do all their lives. They had the satisfaction of feeling that they brought to the Army Medical Service a source of medical strength, and they also, many of them, were taken out of the ruts of a somewhat monotonous practice and saw new countries and made new friends. He himself was supposed to be responding for the senior civilian surgeons, but as much or more was due to the junior members of the profession who formed the rank and file. Moreover, great as were the triumphs of surgery in the war, the advance in medicine was equally impressive. The success of the Army Medical Service was due in no small part to the enlightened policy of the authorities of the War Office and the Army Council.

GRADUATE MEDICAL EDUCATION IN THE UNITED STATES.

BY

SIR HUMPHRY ROLLESTON, K.C.B., M.D., F.R.C.P.,

EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL; PRESIDENT OF THE ROYAL SOCIETY OF MEDICINE;

AND

H. J. WARING, M.S., F.R.C.S.,

SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

A RECENT visit to America, as representatives of the Royal Colleges of Physicians and Surgeons, in response to the invitation of the National Board of Medical Examiners to visit their examinations, afforded full opportunities of inspecting the chief medical schools. This experience has impressed upon our minds that graduate education is attracting much serious attention, that steps with this aim in view are being actively pushed forward, and, further, that the direction in which the most important developments are occurring is different from that in this country. In Great Britain graduate or post-graduate[1] teaching is mainly arranged for men in general practice who wish to keep up to date, and consists in revision or "refresher" courses of comparatively short duration, or in attendance on the clinical practice of their old schools. In the United States graduate education is divided into (1) short courses, much on the same lines as the post-graduate teaching as usually understood in this country, and (2) a form of advanced and intensive education lasting one to three years, and aiming, as its finished product, at rendering a man fully qualified to practise medicine or surgery in the highest or most specialized branches, or to undertake research or teaching. It is to this form of graduate education that some of the more progressive American schools are paying great attention, and it is for facilities of this kind that American graduates coming to this country may in the future be expected to make inquiry. As this does not appear to be generally recognized in this country it may be well briefly to describe this form of graduate education in America.

For this advanced and intensive graduate education, extending over one to three years, there is already very considerable demand, and it is rather surprising to learn from the recent Report of the Committee on Graduate Medical Education, appointed by the American Medical Association,[2] that during the year 1919–1920 there were probably four thousand applicants for this form of graduate teaching. The vast majority of these applicants were anxious to specialize in some branch of clinical practice, those aiming at a public health career, or at teaching posts, or at research work in the fundamental subjects of anatomy, physiology, biochemistry, bacteriology, or pharmacology, forming a very small minority. Thus out of 1,021 inquiries for graduate work at the Mayo Clinic, Rochester, since January 1st, 1919, four only were primarily for work in the fundamental branches, though 90 per cent. of the "fellows" taking clinical work as their "major" subject chose pathology as a "minor" subject.

To make the general ideal of this form of graduate education clearer the following extract may be quoted from the above mentioned Report of the Committee on Graduate Medical Education:

> Most of these men need opportunity to work alone, not in classes though under general supervision, for six months to a year in one or more of the fundamental branches. They then need clinical material and laboratory and library facilities for two or more years of intensive work in diagnosis and treatment. They need personal responsibility for patients, inspiration to investigation, keen criticism, and opportunity for fearless discussion with real leaders in their specialty. They need little, if any, formal teaching, of which most of them have already had too much. It is believed that these needs might be met in large measure by medical schools and hospitals if their present resources were more definitely organized with that end in view.

As regards the steps that have been taken in America to meet this want: although the American Committee consider that "opportunities by which graduate students may properly prepare themselves by long periods of work for scientific and skilful practice of clinical specialties are wofully lacking," a very substantial beginning has been made, especially by the Mayo Foundation, to which reference may now be made.

Prolonged Graduate Instruction.

The Mayo Foundation for Medical Education and Research was established by Drs. W. J. and C. H. Mayo on a permanent basis in February, 1915, and in the following June the University of Minnesota and the Mayo Foundation entered into an agreement by which the funds and income of the Mayo Foundation are devoted, under the direction of the Regents of the University, to the promotion of graduate work and research in medicine. In 1917 the funds and income of the Mayo Foundation were transferred entirely to the Board of Regents of the Minnesota University; and the staff, clinics, laboratories, library, and records at Rochester, Minnesota, were also put at the disposal of the University. The graduate school, which is thus extremely well endowed and equipped, is put on the same basis as those of the other faculties, and the graduate student is under the same conditions as a candidate for the degree of Ph.D., say, in chemistry. At the University of Minnesota a student takes seven years to obtain the M.D. degree, and then, if he is accepted as a graduate student, he may after three years' work gain the special degrees of Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) in Medicine, Surgery, Ophthalmology, Obstetrics, Pathology, and so forth. Entrance to the graduate school is not confined to graduates of the Minnesota University, for graduates from other universities are selected on the grounds of their work. For admission the graduates must have the bachelor's degree in arts or science or its equivalent, the doctorate of medicine from an acceptable institution (namely, those in Class A of the American Medical Association's classification) and a year's experience as an intern in an approved hospital or laboratory. This endowment provides fellowships and scholarships for a number of graduates; there are about 17 teaching fellowships of the value of 600, 750, and 1,000 dollars for the first, second, and third years respectively, the fellows doing a small amount of teaching and devoting the whole of the remainder of their time, except a yearly vacation of three weeks, to graduate work leading to a degree. There are also 86 non-teaching Mayo fellowships, of which 60 are in clinical and experimental surgery and 12 in clinical and experimental medicine. As a rule there is only one graduate student a year in each subject, but there is some elasticity in this respect. The competition is severe—thus out of more than 1,000 applicants since January, 1919, 42 fellows have been selected. There is a regular scale of fees. If a student does not promise well, he is got rid of, usually before the end of his second year.

[1] It might perhaps be convenient to follow the University of Minnesota in confining the adjective *post-graduate* to the revision or refresher courses taken some considerable time after graduation, and to use *graduate* for education received shortly after graduation and as a continuation of undergraduate study.

[2] Vide *Journ. Amer. Med. Assoc.*, Chicago, 1920, lxxiv, 1248.

Each student on admission selects a "minor" subject which is logically related to his "major" subject—for example, as pathology is to surgery—and is mainly carried on in a laboratory during the first year; in his second year he finishes his "minor" subject and passes an examination in it and in French and German, and devotes himself to his "major" subject; in the third year he does more responsible work; thus a surgeon works in the operating theatre and performs operations of all sorts, and is in charge of the junior assistants; he also writes his thesis for the graduate degree (Ph.D. or M.S.). The Ph.D. degree, which is the most highly prized degree in American universities, as it is not conferred as an honour or compliment, is given for theses of exceptional merit only, and so far only about 5 per cent. of the "fellows" have gained this blue ribbon. The work is done partly at Rochester and partly at Minneapolis, where the buildings of the University of Minnesota are situated, the students moving to and fro for different phases of their work.

In comparing these facilities with those available in this country it is obvious that no such completely organized scheme exists here. The laboratory work in the "minor" subject—for example, pathology or anatomy—could no doubt be arranged for, on the lines of the "advanced student's" work in other branches of science at the universities and elsewhere; but the third year's work, corresponding to that of chief assistant in a clinic, though open to men at their own hospital, would seldom be obtainable by graduate students from outside, and could hardly be open to American graduates unless they had taken some British qualification.

The organization of the Mayo Foundation and Minnesota University Graduate School is so complete that it has been described at some length, but the idea is being taken up by other universities. Thus the University of Pennsylvania is organizing a clinical graduate school on a considerable scale with opportunities of gaining a graduate degree or certificate. At Philadelphia the Medico-Chirurgical Hospital and the Polyclinic have become a part of the University of Pennsylvania, and form the clinical centre of a graduate medical school. This school, with separate administration offices in the University buildings and a separate dean, has associated with it or affiliated to it a considerable number of the special hospitals in Philadelphia. The central hospital has a service of 300 beds. The object of the University of Pennsylvania in establishing this graduate school in medicine is so to train the acceptable graduate in medicine that he shall be properly qualified to begin special medical practice or teaching, and be stimulated to "productive" medical research, and in addition to perform the public service of affording reputable physicians opportunities to keep in touch with medical advances by coming in contact with the newer things in medicine as exemplified by the practice of masters of the various fields of medical work. It is proposed to give courses of one and in certain subjects of two years' duration which, if satisfactorily followed, may lead to a degree or special certificate. There are also four-months' courses, which appear to be on the same lines as the revision classes for practitioners and may lead to a special certificate. It is intended to develop this graduate school so as ultimately to provide courses and instruction and special work in practically all the branches of medicine and its allied subjects. The special degrees to be given are Master in Medical Science and Doctor in Medical Science. The master's degree is to be confined exclusively to those candidates who have become qualified to begin the practice of a medical, surgical, or laboratory specialty, and the doctor's degree to those candidates who have done "productive research" or work of considerable merit. The Master in Medical Science does not, as in the Mayo-Minnesota graduate school, demand three years' work. The University of Harvard gives a certificate in Public Health in Industrial Hygiene after one year's work, the degree of Doctor in Public Health (Dr.P.H.) in Industrial Hygiene after two years' work, and the degree of Doctor of Philosophy in Industrial Hygiene after three years' work, but it does not offer a degree for graduate work in clinical medicine alone as in the Mayo-Minnesota scheme. This school in industrial medicine is a new development, for it is both a training school for medical men who intend to take up work in connexion with factories and a research institution, but it is not part of the graduate medical school of Harvard University, which is fully developed on lines more familiar in this country. Several other universities give the degrees of Master of Science or Doctor of Philosophy for research work in laboratories in the fundamental subjects (anatomy, physiology, biochemistry, bacteriology, and pathology), but not for clinical work.

Short Courses.

A few words may be added about the short courses of instruction to medical graduates in America, which are more on the lines of post-graduate education as understood here. These courses usually occupy from two weeks to four months; and it has been estimated that in the year 1919–20 there were probably 6,000 applicants for these courses. The applicants are—

(*a*) General practitioners, anxious to keep their knowledge up to date, who being established in practice cannot devote more than a short time to this object; the time thus afforded is indeed often inadequate, especially in the case of men whose training in the fundamental subjects (anatomy, physiology, bacteriology, and pathology) has always been deficient or has become so from lapse of time. Accordingly there is not time to obtain a proper knowledge of the fundamental data, and without this basis the full benefit to be derived from these short courses may be problematic. (*b*) A large proportion of the men applying for short courses are "partially prepared clinical specialists," and do so with the object of extending or perfecting their operative technique in general surgery or in some special line of practice.

Most of the applicants for short courses may therefore be regarded as really anxious to obtain a short cut to knowledge. While fully recognizing the difficulty of running these short graduate courses in connexion with undergraduate teaching, the American committee, though expressing their views with great caution, appear to be doubtful if the existing graduate and polyclinic schools, by the provision of lectures, clinical and laboratory demonstrations and training in technique, supply what is wanted; and they urge the university medical schools to give to the better prepared men applying for short courses opportunities for combining diagnosis with treatment. This has perhaps been most fully developed by the University of Harvard, where the medical school offers to graduates the opportunity of taking out courses of varying duration in most of the branches of medicine and surgery. These are termed "practitioners' courses," and mainly consist of classes, restricted to a small number of graduate students, commonly from four to ten. The organization of the graduate division of the medical school of Harvard University is under the direction of Dr. A. S. Begg, the assistant dean, in charge of graduate courses.

THE ROCKEFELLER FOUNDATION GIFTS TO UNIVERSITY COLLEGE AND MEDICAL SCHOOL.

THE purpose of the magnificent gifts, amounting together to £1,205,000, made by the Rockefeller Foundation to University College and University College Medical School, is to help in building up in London an ideal medical school, equipped in all departments on the most modern lines, to serve as a model for other schools. The Foundation has encouraged the Clinical Unit System in America, where it has made large grants for the purpose, but this is, so far as we are aware, the first occasion on which it has extended its propaganda to Europe in this very practical form.

The institution chosen as the recipient of these splendid gifts occupies a unique position. For over a century University College has set a high standard in all departments of learning and education in London. It did not lose hope in the worst times, and it is characteristic of its persistent policy of rising to every occasion that when the policy of the Government with regard to the parliamentary grants to university institutions was made known its Medical School at once accepted the plan of Clinical Units, and courageously established two—the one in

medicine and the other in surgery, both fulfilling the conditions laid down by the University Grants Committee as fully set out in the Memorandum published in our columns on June 5th, p. 775.

The Foundation decided to make this gift after full inquiry. Dr. Wickliff Rose, General Director of its International Health Board, and Dr. Pearce, its Adviser in Medical Education, when in London last year, made themselves acquainted with what had been done towards the establishment of clinical units and the difficulties, chiefly financial, which were hampering the full development of the movement. The other medical schools which had started clinical units, St. Bartholomew's and St. Thomas's, were visited, and the conclusion was reached that the medical school most likely to develop the scheme in the best way was that of University College Hospital. In coming to this opinion the two representatives of the Foundation were probably influenced by the fact that the close connexion of the Medical School with University College was a circumstance very favourable to the growth of an institution providing education in all three stages of the curriculum. They found the provision for the preliminary studies satisfactory, and that the Institutes of Physiology and Pharmacology wanted little. It had long been recognized that the third department of the Medical Faculty of the College—Anatomy—was inadequately provided, and that there was need for an Institute of Anatomy in which the Professor, Dr. Elliot Smith, could properly conduct teaching and research work. Part of the offer of the Rockefeller Foundation is to give to the College a sum of £370,000 for an Institute of Anatomy and for additions to the staff of that department, to that of Physiology, and to those of certain others. The sum is allocated as follows:

	£	£
Institute of Anatomy:		
Site and building	159,800	
Equipment and library	30,000	— 189,800
Capital sum for Maintenance Fund		... 180,000
		£369,800

This capital sum is for additional staff—namely:

Anatomy	£5,000 a year
Physiology	£2,500 ,,
Other departments	£1,500 ,,
	£9,000 ,,

The fulfilment of the third part of the plan—the establishment on a permanent basis of three Clinical Units in medicine, surgery, and obstetrics including gynaecology—involved many matters of detail which were finally settled by a conference in America between the Executive Committee of the Rockefeller Foundation of the one part, and the Dean of the Medical School (Dr. Blacker), the Director of the Medical Unit (Dr. T. R. Elliott), the Provost of the College (Sir Gregory Foster), and Professor Elliot Smith of the other. The Executive Committee evinced the greatest interest in the project and indicated that help given would be primarily in the interests of medical education and would extend to the hospital, not as a charity, but as a necessary factor in the teaching at the medical school. So far it had only been found possible to allot 30 or 40 beds apiece to the two directors, instead of the 50 or 100 desired, and provision could not be made for obstetrics. University College Hospital fills an island site, but there is a nursing wing which can be converted into wards for 100 to 120 beds with the necessary clinical laboratories. The plan now adopted is to build on another site a nurses' home, a house for resident officers, and an obstetric annexe for 60 beds. For a new department of biochemistry, and for other additional laboratory accommodation needed a site is available at the back of the present building of the medical school. For these purposes the Foundation has promised £400,000.

It was pointed out that the additional beds would increase the annual expenditure of the hospital and that the school would have to meet additional expenses for the unit, for salaries in the biochemistry department and for augmentation of salaries in the pathological department. The Foundation agreed to give a capital sum of £435,000 to yield an annual income of £21,700 towards meeting these expenses—namely, £1,000 to each unit, £3,100 for salaries, etc., in new laboratories, and £15,600 towards maintenance of new beds.

University College Hospital and Medical School.

	£	£
Building and Reconstruction:		
Obstetric Department	109,500	
Biochemical Department	50,750	
Reconstruction in Hospital	105,000	
Nurses' Home	103,000	
Residents' Quarters	31,000	— 400 250
Maintenance...		435,000
		835,250

The Rockefeller Foundation, in making grants of capital sums for maintenance, has in this instance departed from its customary policy, which is to make a block grant to begin with and annual grants for a certain number of years, the institution being then expected to continue its work through support received locally. That the Executive Committee was willing to make this departure from practice is evidence of its readiness fully to consider the particular conditions, and of the desire—displayed all through the discussions—to meet needs in a generous spirit. The committee indicated, however, that it did not depart from its policy of looking to the institution benefited to supplement the grants to a considerable extent. It appears that the additional annual expenditure to be met by the Hospital and Medical School when the whole scheme is working will be from £14,000 to £18,000.

At a meeting of the staff and students of University College on June 11th the Provost announced the terms of the offer and read extracts from a report to the Senate of the University, with whom, at its meeting on June 23rd, final acceptance lies. Professor Elliot Smith moved a resolution expressing appreciation of this munificent and spontaneous gift. By endowing the work of the anatomical department, the Rockefeller Foundation would ensure that the requisite facilities for anatomical teaching and research, in close conjunction with those in physiology and pharmacology, would be provided in accordance with the scientific requirements of the time. It had been, he said, the settled policy of University College to restore anatomy to the position which it should occupy, not only in the medical curriculum, but in the field of research. The general scheme of anatomical teaching in this country was curious; there was no equipment for the study of histology in the anatomy department and no facilities for embryological research or teaching, nor for studying the factors which determined the form of the body. Professor J. P. Hill, Vice-Dean of the Faculty of Medical Science and Jodrell Professor of Zoology in University College, said that the new anatomical institute would lead to a great revival of anatomical teaching and research in this country, and he looked forward to the establishment of a corresponding institute of comparative anatomy.

VENEREAL DISEASES.

National Council for Combating Venereal Diseases.

THE fifth annual meeting of the National Council for Combating Venereal Diseases was held at the house of the Royal Society of Medicine on June 7th, with Lord SYDENHAM in the chair, when there was a large attendance. The Chairman announced his retirement from the post of President by reason of advancing years. The Council, he said, had to deal not only with difficult problems in physiology and psychology but with the opposition of ignorance and prejudice. Nevertheless, the movement had never been so vigorous nor so progressive as now. If the Council's teaching were adopted everywhere much would be done to stamp these diseases out of the country. The rural areas presented special difficulties for the overcoming of which the general practitioner's aid was needed. Much money had been spent on clinics in towns, but the results could not be regarded with entire satisfaction, for nearly half of the 175,000 people who attended left before the treatment was completed.

LORD ASTOR said that the importance to the nation of a clean bill of health was increased by our war losses. During the war there was a constant appeal to the imagination; it was needed to stimulate patriotism and to cause the nation to accept irritating control. Imagination had made people realize the ravages of venereal diseases, though it had led to some rash and exaggerated statements. There were no official

figures giving the incidence of these diseases; but there was a far larger attendance for treatment, which would result in reducing the disease. He was not disturbed at the increase in attendances at clinics; he was relieved that the efforts of the Ministry of Health caused people to come to be treated. Deaths from syphilis were not increasing, nor deaths from general paralysis of the insane and locomotor ataxy. But this did not mean that the extent of the disease was not serious, or that it was not a menace. There was much talk of compulsion, of detention, of notification, and of treatment. Before compulsion was even discussed there must be enough facilities for diagnosis and treatment for those affected. The provision was inadequate now. Nor must it be forgotten that compulsion would lead to much concealment and a consequent failure to apply for treatment. Half the people who talked of compulsion had not realized the special difficulties of this disease, and had not studied previous failures. During the war venereal disease was reduced more by women police and drink control than by the D.O.R.A. Regulations 40 D. and 13 A. Flexner had exposed the so-called success achieved on the Continent through their system of inspected houses, which had neither wiped out venereal disease nor produced peoples cleaner in body and mind. Nor must the lack of success of the Contagious Diseases Acts in England be forgotten; venereal disease increased in the army during their operation, and decreased when they were abolished. He had dwelt on past experience because methods had been advocated lately based on the same sort of fallacies as those put forward by the advocates of inspected houses and of the Contagious Diseases Acts. It had been urged that the use of packets should either be officially recommended or at least quietly encouraged. Now, the results achieved by the use of packets in the forces were carefully examined a year ago, and the Ministry of Health decided that the case for packets had not been proved, and that the risk to health and welfare by encouraging their use would be serious. Even if packets had proved an unqualified success in the army it would not necessarily involve their success among the civil population, which was not subject to regular examination, treatment, punishment, and control. Packets would give a false sense of security, and would encourage people to take risk, thereby increasing the very disease they were intended to prevent. Experience showed that the instances of their failure were numerous. The Report of the Interdepartmental Committee, which condemned the official encouragement of packets, had been very well received throughout the country. As to policy, they wanted to stimulate medical education. It was essential to bring the general practitioners more into touch with modern science. They proposed to work through the medical schools and through the V.D. clinics. There were now 172 clinics; this was not enough. Rural areas offered special difficulties, and greater facilities were needed for diagnosis and treatment, with special reference to the needs of pregnant women and of seamen. The Council's propaganda, both for adults and for adolescents, must be continued and increased. But while improving the organizations at home they must not forget the propinquity of nations, the extent of modern travelling, and the special temptations of the seafaring population. He hoped the League of Nations, through its Health Section, would help to solve this as well as many other world problems.

Lord Gorell succeeds Lord Sydenham as President of the National Council.

Society for the Prevention of Venereal Disease.

The first annual general meeting of the Society for the Prevention of Venereal Disease took place at the house of the Royal Society of Medicine on June 3rd with the President, Lord WILLOUGHBY DE BROKE in the chair. In his report the honorary secretary, Dr. H. WANSEY BAYLY, M.C., reviewed the progress made during the seven months of the society's existence and reported a considerable increase in membership. Two public meetings were held in London; a Malay Peninsular branch of the society had been established at Malacca, and requests had been received to open branches in many of the chief provincial towns. The views of the society had been communicated by a deputation to nearly fifty members of the House of Commons, who agreed to form themselves into a Parliamentary Committee to further the aims of the society. Branches of trade unions had shown a keen desire to hear lectures on the prevention of venereal disease, and Dr. Bayly had given many lectures to intelligent and appreciative audiences. The medical officers of health of counties and county boroughs throughout Great Britain were thrice circularized, with the result that twelve councils had endorsed the Committee's policy and had recommended that the male inhabitants of their boroughs should be given the opportunity of acquiring knowledge of efficient and immediate self-disinfection.

Lord WILLOUGHBY DE BROKE, in his presidential address, said that the origin of the Society was a White Paper, published by the Government some months ago, setting forth the official view with regard to prophylaxis in the treatment of venereal disease. The Government report and the whole complexion and attitude of the official view was against the policy of self-disinfection as a prophylaxis against venereal disease. It was a self-evident proposition that to avoid contagion one should avoid contact; but it was equally true that, in spite of all the exhortation and lecturing, more particularly in the army, with regard to the dangers of promiscuous intercourse, venereal infection was still proceeding at an alarming rate. Thus, moral prevention, although an excellent thing as far as it went, had hitherto failed to achieve the object of stamping out or even lessening the disease. Dr. SALEEBY expressed astonishment that those who now opposed the Society's policy had themselves connived at the confusion between prevention and treatment which the Society desired to make explicit and put an end to. Sir JAMES CRICHTON-BROWNE appealed for the support of the public, and more particularly of employers of labour. Sir FREDERICK MOTT declared that it would be of the greatest value to the Government, both from the point of view of health and of economics, to support the Society's propaganda. Sir W. ARBUTHNOT LANE and Dr. SEQUEIRA also spoke.

VITAL STATISTICS OF ENGLAND AND WALES.

(*Continued from p. 802.*)

PNEUMONIA.

THE total number of deaths assigned to pneumonia in its various forms during 1918 was 59,666 (33,451 males, and 26,215 females), corresponding to a rate of 2,115 per million of male civilians, 1,330 per million of females, and 1,654 per million of both sexes. These numbers and rates are much in excess of all previous experience, even if the comparison is carried back so far as 1854; they were most nearly approached in 1891, when also influenza was prevalent, and the mortality per million persons was 1,471. The sudden increase in 1918 was due to the great epidemic of influenza. Dr. Stevenson points out that this may be well demonstrated by analysis of the quarterly mortality among females, for whom the figures are scarcely modified by diminution of the civilian population. During the first two quarters of 1918 the mortality from pneumonia conformed very closely to that of the seven preceding quarters, but the third and fourth quarters of 1918 brought increases of 66 per cent. and 169 per cent. respectively. Citing figures from the special report on influenza, Dr. Stevenson estimates that 8,146 deaths of males, and 8,962 of females allocated to pneumonia in 1918, were in reality due to the epidemic of influenza; these increases resemble the increase in influenza in that they were greatest in early adult life, and were practically non-existent in old age. Among females, in addition to these estimated deaths, there were, from June 23rd, 1918, to the end of the year, 41,500 deaths to which both influenza and pneumonia were stated to have contributed. By ascertaining the age distribution of these deaths and comparing it with that of the excess pneumonia deaths of 1918 (that is, the excess of pneumonia deaths during that year over the corrected average of the five preceding years), Dr. Stevenson draws the inference that much of the mortality ascribed to pneumonia in children under 15, and particularly in children under 5, was really of influenzal origin. In normal years pneumonia mortality decreases generally from north to south, and shows a considerable decrease in accordance with decreasing urbanization; these features were not materially modified in 1918, when the influenza epidemic affected all areas with almost equal severity.

DIPHTHERIA AND CROUP.

The 4,801 deaths of civilians in 1918 from diphtheria and croup, of which all but 34 were allocated to diphtheria, correspond to a death rate of 143 per million civilian population, which is a little higher than in 1917, but lower than in the first two years of the war. For children under 15 years of age the mortality rate was 418 per million,

as compared with rates of from 373 to 504 during the preceding eight years. The mortality rate per million living at all ages was 169 in London, 151 in the county boroughs, 150 in other urban districts, and 106 in rural areas. In the north proportionately fewer cases of the disease were notified, but their fatality was very much higher than in the south; in London, on the other hand, the high mortality appears to have been due entirely to the wide prevalence of the disease, its fatality there being lower than in all other areas (82 deaths per 1,000 cases in London, as compared with 118 in the county boroughs, 120 in other urban districts, 107 in rural areas, and 110 in all areas). The distribution of diphtheria mortality among the county boroughs resembles that of scarlet fever in showing exceptional severity in certain Lancashire towns in the neighbourhood of Liverpool.

MEASLES.

During 1918 measles caused 9,787 deaths (including 114 of non-civilians) as compared with 10,538 in 1917. Civilian deaths were 289 per million of the civilian population at all ages, and 867 per million at ages under 15. The mortality was higher in the north and in urban districts. Among the administrative counties the West Riding returned the greatest proportion of deaths, Norfolk, Pembroke, Glamorgan, and London coming next in the order named. The four highest county borough rates occurred in Barnsley, Norwich, Wakefield, and Hull. The Barnsley mortality was extraordinarily high—namely, 4.9 deaths per 1,000 population—a figure which has not been even remotely approached by any county or county borough for at least eight years. At Barnsley all the 233 deaths occurred under the age of 15 years and formed one-third of the total deaths at this age; the majority of the deaths at 2 to 5 years of age were due to measles.

SCARLET FEVER.

Deaths allocated to this disease during 1918 numbered 1,020, including 54 of non-civilians. Civilian deaths corresponded to a rate of 29 per million civilian population at all ages, and of 80 per million at ages under 15; with the exception of those of 1917 both these rates are the lowest recorded in this country. The slight increase for 1918 was entirely due to a rather severe outbreak in and around Liverpool. The mortality from scarlet fever per million living at less than 15 years of age rose from 60 in 1917 to 80 in 1918; the lowest rates previously recorded were 110 in 1916 and 158 in 1911. The mortality is now trifling compared with that prevalent a generation ago; the slight rise above the phenomenally low rate in 1917 is due to the increased severity of the cases, for the number notified fell from 50,061 in 1917 to 49,637 in 1918, the deaths during these years per 1,000 cases notified having been 15.3 and 20.5 respectively per thousand.

WHOOPING-COUGH.

The number of deaths attributed to whooping-cough was 9,892 (4,391 males, and 5,501 females); the corresponding rates of mortality are 296 per million living at all ages, and 893 at ages under 15 years. These rates are the highest for about ten years past, but Dr. Stevenson points out that no rates so low even as these were ever attained during the nineteenth century.

MALARIA.

Deaths from malaria became much more numerous during the latter part of the war, and in 1918 amounted to 197 as against an average of 58 in 1911–14, and 65, 62, and 126 in the three succeeding years respectively. There is good reason to believe that the increase is due almost entirely to deaths in this country of men infected during foreign service. It is reasonable to believe that if the increased mortality were caused in any degree by indigenous infection it would affect both sexes to an approximately equal extent; but of 197 deaths from malaria in 1918, 9 only occurred in females. Confirmatory evidence is obtained by reference to the sex distribution of mortality during periods when malaria acquired in this country still contributed to the English death-rate; deaths from 1881 to 1885 were equally numerous among men and women, but from 1901 to 1910 there were five to ten times as many deaths among men as among women. During the decade 1871–80, 43 per cent. of those dying from "ague" were females, as compared with 4.5 per cent. in 1918. It is noted also that there is no concentration (such as occurred in the partly indigenous malaria of 1871–1890) of the increased mortality to particular counties. Dr. Stevenson states that notwithstanding the recent occurrence of home-bred malaria in some of its old centres—notably Kent—the sharp increase of deaths recorded in late years need occasion no alarm, unless this mortality is found to be concentrated in geographical and diffused in sex incidence. Happily each of these tests yields a negative result. Of the 197 deaths in 1918, 99 were of non-civilian males, and of 89 civilian males 30 were ex-service men and 20 were mariners. Of the 9 females who died from malaria, three were sick nurses, one was the wife of a soldier, two were married to a missionary and a West Coast official respectively, and one was recorded to have suffered from malaria for thirty years.

DYSENTERY.

Deaths attributed to dysentery in 1918 numbered 838 (485 males, and 353 females); in addition, 33 asylum cases were notified as "ulceration of the intestines," and were probably due to dysentery. The 790 cases occurring among civilians yield a death rate of 24 per million (males 32, females 18); these rates are about four times as high as those prevalent before the war. At first sight the possibility is suggested of spread of infection by men returned from foreign service; but this supposition is negatived by the fact that of the total registered deaths no less than 81 per cent. occurred in lunatic asylums, which since 1911 have furnished more than half the deaths from dysentery. In the past the deaths of females in asylums have always exceeded those of males, but in 1918 the deaths of males were rather more numerous. This change corresponds with that described for tuberculosis, and, together with the very large increase in the number of asylum deaths from about 150 per annum before the war to 680 in 1918, confirms the surmise[1] that the increase in mortality has been due largely to staff difficulties, which would chiefly affect the male sides of these institutions, though evidently both have suffered. The remaining portion of the increase of deaths from dysentery is traceable to deaths in hospitals; outside asylums and other institutions deaths from this cause were no more abundant than before the war.

(To be continued.)

[1] BRITISH MEDICAL JOURNAL, June 5th, 1920, p. 775.

A MEDICAL school directed by Alexiensky, of Moscow, has been established at Ekaterinodar in the Caucasus, near the American Red Cross Hospital. The teaching staff consists of professors from the Universities of Petrograd and Moscow who were unwilling to comply with the demands of the new régime.

J. PARISOT (*Rev. méd. de l'Est*, March 1st, 1920) of Nancy, who was consultant to the French Army of Occupation for six months, states that in Germany, and especially in the Rhine provinces, the mortality from tuberculosis before the war was progressively diminishing, and in 1914 did not exceed, and in many cases did not reach, 20 per 10,000 in towns and 15 per 10,000 in country districts. In 1914 the number of deaths from tuberculosis was approximately half of what it was in 1900. On the other hand, the influence of the war on the mortality from tuberculosis was shown by a progressive increase in the death rate, greater and more rapid in the urban than in the rural population. In large towns, such as Mayence and Frankfort, the tuberculosis mortality in 1918–19 was approximately double what it was in 1914. The mortality from tuberculosis diminished in infants of one year and under (a fact explained by the fall in the birth rate) remained stationary in those aged from 1 to 5 years, and showed a slight increase from 5 to 15 years. The mortality was more than doubled for persons aged from 15 to 30 (327 deaths in 1918 as compared with 144 in 1914 for a population of 400,000), amounted to 534 as compared with 323 in 1914 in those from 30 to 60, and was exactly double (114 as compared with 57) in those above 60. The mortality from tuberculosis was a little higher in men than in women, which is explained by the absence of men on military service, these statistics applying exclusively to the civilian population.

British Medical Journal.

SATURDAY, JUNE 19TH, 1920.

THE ROCKEFELLER FOUNDATION GIFTS.

THERE are several points of particular interest about the Rockefeller gifts to University College, London, and its Medical School. In the first place, it is an act of international courtesy and solidarity very deeply appreciated in this country. Professor Elliot Smith told the meeting of the staff and students of University College on June 11th that the members of the Foundation had impressed upon the representatives of University College who went to New York that the fundamental factor which lay behind the offer was a desire to promote friendly intercourse between their country and ours, and a desire to do something that would bring together the two countries in promoting education throughout the world at large.

Perhaps the most important aspect of the great gift, is the scale it sets and the lesson it reads to the Government and the rich men of this country. When last year Parliament agreed to vote £1,000,000 for universities and colleges in the United Kingdom those of us who remembered what it had been in the habit of doing were almost too surprised to rejoice. Now we have an American endowed fund, knowing very well what it is about since it has had experience in the matter, and after expert inquiry on the spot and full discussion, giving a single medical school more than the House of Commons votes for all the universities and colleges. If we subtract the amount allotted for maintenance—as is proper, since the Parliamentary grant is to be annual—we yet find the Foundation giving £590,000 for construction, so that the units may have buildings sufficiently large and sufficiently well equipped for the work they are to do. The House of Commons last year voted £500,000 to be divided among all universities and colleges to help them to recover time and money and men lost during the war.

The way in which the gift came to be made is interesting. The Rockefeller Foundation considers that the Clinical Unit System is at the present day the best for medicine and medical education, and has encouraged its establishment in universities in the United States. The movement for the establishment of such units in this country dates back to the recommendations made by the Royal Commission on University Education in London in 1913. The fundamental idea is set out in the memorandum of the University Grants Committee published in full in our issue of June 5th (p. 775). It is held necessary for university medical education that the latest advances in the sciences which affect medicine should be continually brought into the teaching of the clinical subjects and applied to the observation and treatment of disease. The second proposition is that, in order to ensure that medical education shall be of this scientific standard, and that students shall come into direct contact with knowledge at its growing point, there is needed a system of instruction by teachers who are actively engaged in scientific research and provided with proper equipment, adequate staff, and sufficient time. The unit system supplements but does not supersede the British system of clinical teaching, the virtues of which were sung in the memorandum of the University Grants Committee; and clinical instruction will be given as heretofore by other members of the hospital staff who are engaged in private consulting practice and to whom general practitioners are in the habit of referring cases of interest and difficulty.

The essential of the Clinical Unit System is that each university medical school should have at least three units, inter-related and inseparable, dealing respectively with medicine, surgery, and obstetrics (including gynaecology). This does not rule out other units, as for instance neurology. For each unit there should be a professor or director, devoting the greater part of his time to teaching, treatment, and research—one competent to teach, of sound scientific training, and possessing scientific imagination. The director must have an adequate whole-time and part-time staff, the control of wards containing fifty to one hundred beds, a proper out-patient department, ample laboratory accommodation for research and pathological work, and adequate scientific equipment for effective clinical teaching. Representatives of the Rockefeller Foundation, during a visit to London last year, found that these principles were accepted and in part applied at three of the great schools in London, and formed the opinion that it would be proper for the Rockefeller Foundation to provide funds for the development of the system in one school. After due inquiry they came to the conclusion that the school most likely to make the best use of the gift was that of University College Hospital. The recommendation was accepted by the Executive Committee of the Foundation in America, and after consultation there with representatives of the Medical School it was decided to make a gift of £835,000, a part for construction and a part for maintenance, in the manner indicated in the article published this week at p. 834. At the same time the inquiry showed that the Anatomical Department of University College was established on too narrow a basis and ill equipped. Accordingly the Foundation resolved to make a gift of £189,800 for the erection and equipment of an Institute of Anatomy, and of a capital sum of £180,000 to yield an income of £9,000 a year to provide additional staff for the anatomical, the physiological, and certain other departments.

Another point of significance is that in making the gifts to University College the Executive Committee of the Foundation disclaimed any desire to dictate methods to the staff or to lay on the College any other condition than that the proceeds of the endowment should not be used to relieve existing expenditure on medical education and research. The same policy has been pursued with regard to the gif to the Medical School. It is made in order to establish a complete set of clinical units in one medical school in this country to serve as a model for others. The Medical School of University College Hospital had not been able to give to the directors of the medical and surgical units it established a sufficient number of beds, nor to establish a biochemical laboratory, nor to institute an obstetric unit. The Foundation has come forward to supply these deficiencies in the manner indicated at page 835. But while giving large sums for the erection of an obstetrical department and for a new nurses' home and residents' quarter, to liberate part of the existing hospital, as well as a capital sum to yield £21,700 a year, for increases of the staffs of the units and towards the maintenance of the additional beds in the new obstetric department, its purpose has been to assist medical education. and not to maintain hospital

beds; it has therefore considered that the responsibility for making up the deficit on the annual income (some £15,000 or £20,000 a year) may properly be left to this country.

ANTIANAPHYLAXIS IN THE TREATMENT OF CHRONIC DISORDERS.

In a highly interesting and suggestive essay on the origin, evolution, and treatment of certain non-contagious chronic disorders, Dr. Danysz[1] has propounded a theory of immunity, anaphylaxis, and antianaphylaxis, which is deserving of more than passing attention, for it attempts to throw new light upon both the etiology and the treatment of a number of obscure if commonplace diseases, and gives form and substance to an inchoate mass of opinion. He supports his theory by reports of nearly forty illustrative cases in which the treatment indicated by theory proved successful in practice. He also states that 260 patients have now been treated, on similar lines and with satisfactory results, for a great variety of ailments, such as urticaria, eczema, psoriasis, asthma, neurasthenia, dysmenorrhoea and troubles of the menopause, gastro-intestinal complaints of many varieties, arthritis, rheumatism, albuminuria, not to mention other disorders.

At first sight it may seem that such varied diseases could hardly have a common etiology. But such, nevertheless, is the conclusion drawn by Danysz from the observed fact that they are all capable of cure or amelioration by a single method of treatment. What is the method of treatment? It consists in vaccination with saline suspensions of four or five varieties of bacteria cultivated from the stools, and sterilized by heating to 70° C. for one hour; the particular bacteria selected for use were *B. coli*, enterococci, indeterminate diplococci, very small streptococci, and in some instances also an anaërobe. The mixed vaccine was usually given subcutaneously in doses containing a fraction of a milligram of dried bacterial substance. As a rule numerous doses, at intervals of a few days, were necessary; success seems to have followed the use of either autogenous or heterogenous vaccines. In some cases the vaccine was with success exhibited by the mouth, but in larger doses.

The explanation of how it comes about that so apparently irrelevant a method of treatment as this should cure such a varied collection of diseases is said to lie in the theories of immunity, anaphylaxis, and antianaphylaxis. The diseases are taken to be manifestations of anaphylaxis, or anaphylactic poisoning; the treatment consists of antianaphylaxis by the injection of the poisonous substances (or antigens) responsible for the production of the diseases, and the assumption is made that these poisonous substances are produced by the bacteria growing in the patients' intestines. Before going further, it may be well to offer an explanation of some of the obscure terms used above. An antigen is a poisonous substance, or variety of toxin, that has the property of leading to the production of a specific antibody by the tissues of an experimental animal into which it is injected; the function of the antibody is to neutralize or throw out of action the antigen responsible for its production.[2] At the end of last century it was found that many antigens when mixed *in vivo* or *in vitro* with their corresponding antibodies gave rise to the formation of a precipitate; and that when this happened, the antigen suddenly became very much more toxic to the organism producing the antibody, than it was originally. Investigations in this direction led Richet and Portier in 1902 to invent the term anaphylaxis or negation of protection, the opposite of prophylaxis, to indicate the condition of hypersensitiveness to antigens produced in certain phases after their injection. As a typical case of anaphylaxis or anaphylactic shock may be quoted the sudden collapse that sometimes follows immediately and may even prove fatal on the subcutaneous injection of a second dose of some antiserum. Such shock is attributable to the formation of a precipitate in the circulating fluids of the body, the second injection of the antigen—in this instance an antiserum—precipitating the excess of antibody formed in consequence of the first injection of the antigen and still circulating in the blood. Avoidance of these cases of anaphylactic shock is, of course, of the highest importance in institutions where antiserums are commonly employed, and is often compassed by the method of antianaphylaxis recommended by Besredka. This consists in giving a minute preliminary injection of the antigen a short time before the main bulk of the second injection of antigen is made. The preliminary injection is too small to give rise to any harmful precipitation in the blood stream, but large enough to neutralize the antibody circulating in it and so to prevent any precipitation by the main bulk of the antigen when it is injected a little later.

Danysz describes bacterial vaccine therapy as depending upon antianaphylaxis for its success. The bacterial vaccine is an antigen, and acts by neutralizing the excess of antibody in the patient's system. "In acute infectious disorders," he says, "the appearance of the symptoms actually coincides with that of the excess of antibodies, and the injection of a suitable dose of the infecting microbes, sterilized or attenuated, results in neutralizing this excess of antibody. At the same time the symptoms of the disease disappear." From this it is to be concluded, as has before been surmised, that the pathological manifestations of the disease are anaphylactic in nature, and not provoked merely by the direct action of a bacterial toxin. Danysz quotes a number of instances to show that antigens are not necessarily specific, but may immunize against many other antigens besides themselves. All antigens are chemically complex substances, and from the physical point of view are to be classed as heterogeneous colloids; none are crystalloids. Antigens given by the mouth are destroyed by the normal processes of digestion, and no more seen or heard of. But if an antigen is introduced into the tissues, whether by experimental injection or by the pathological growth of bacteria there, the organism can get rid of it only by the aid of an antibody produced in the living body *ad hoc*. The antigen and antibody combine together, and this combination is to be regarded as the first phase in a series of reactions ending in its digestion and elimination in crystalloid form. Salts and crystalloids do not act as antigens because the organism can assimilate or eliminate them directly without a previous digestion on the above lines.

So much for theory. To sum up, it may be said that the state of anaphylaxis is one of immunity, guaranteed by the presence in the system of an excess of antibody produced by the cells of some or other tissues in the body. But these cells and tissues may be expected to suffer for their abnormal production of antibody; and, indeed, it is known that experimental animals highly immunized by successive injections of foreign proteins or bacterial growths later are prone

[1] *Origine, Évolution et Traitement des Maladies Chroniques non Contagieuses.* Par J. Danysz. Paris: J. B. Baillière et Fils. 1920. (Demy 8vo, pp. 130. Fr. 5 net.)

[2] BRITISH MEDICAL JOURNAL, 1920, i, 266.

to develop chronic disorders of all sorts. Thus they may show pareses, skin diseases, alopecia, rheumatic affections, progressive wasting, and a lack of resistance to intercurrent infections; their viscera and blood vessels, examined after death, always show grave histological changes. It is argued that the constitutions of such animals have been ruined, not by the toxic substances injected into them, but by the excessive activity of their own cells, which are thereby stimulated to produce antibodies to enable them to deal with such substances. Following Metchnikoff, Danysz holds that all sorts of chronic maladies in human beings have their *fons et origo* in intestinal intoxication. He also indulges in some interesting speculations as to the part that may be played by the central nervous system in the curative actions of bacterial therapy and also therapy by use of the actual cautery. He goes further than Metchnikoff in the development of the antibody theory of disease outlined above; and in his treatment he joins those who believe in the non-specificity of much vaccine therapy. His essay is clearly written and closely argued, and will appeal to the speculative physician, pathologist, and physiologist.

THE ARMY MEDICAL SERVICE IN THE WAR.

ON many matters relating to the war the verdict of history cannot be anticipated; the object of yesterday's or to-day's praise may incur the blame of to-morrow, and vice versa. But if there is one verdict less likely than any other to be reversed by the Court of Historical Appeal it is that which, in popular language, declares that "the R.A.M.C. made good in the war." This phrase is never used in any narrow sense; it means, in the mouths of plain Englishmen, that the doctors as a whole who served in the war deserved more than well of their country, and that the medical service of the armies of Great Britain and her daughter nations played a worthy part in the terrible drama enacted in five theatres of war during almost as many years.

The Medical Department of the War Office has had many critics, and we have been among them; but we know, and have often said, that the Army Medical Department, like the service it administers, came with flying colours through the terrific ordeal of the war. While mistakes, of course, were made, the seeds of reform planted long before bore fruit in the Great War, and for the first time in its history the Army Medical Service won a success not surpassed, if indeed equalled, by any other branch of the army. That success, as we said some two years ago, was due partly to skilful administration, but chiefly to the application of scientific methods to the prevention of disease and the surgical treatment of the wounded. The great merit, we continued, of Sir Alfred Keogh and of Sir Arthur Sloggett, his colleague in France, was that from the first they recognized that their true policy was to give as free a hand as seemed to them possible to the civilian surgeons, physicians, and pathologists who came forward to help the army.

We recorded last week that a dinner was given on June 8th to mark the appreciation felt by statesmen and administrators for the services of the Royal Army Medical Department and of the civilians attached to it during the war. A report appears in another column this week of the memorable speeches made by the chairman, Lord Midleton, by Mr. Winston Churchill, and by Lord Haig, in praise of the services rendered by medicine and by the individual doctor. "The manner of doing things," said Lord Chesterfield in one of his Letters, "is often more important than the things themselves; and the very same thing may become either pleasing, or offensive, by the manner of saying or doing it." The public tribute paid to the Army Medical Service last week could not have been happier or more graceful. The chairman, speaking with knowledge of the dark past and of the uphill struggle towards the light, eulogized the work of the medical service and its civilian colleagues. He described Sir Alfred Keogh as typifying the administrative genius, the executive efficiency, and the scientific skill which enabled the guests of the evening, not merely to do immense service to the Empire, but to win for Great Britain her position in military medical science. This was no empty compliment, nor was Lord Midleton's surmise that if a review were held of the departments of the army and the award of excellence were given solely for progress since 1900, the King in ordering the parade would place the Army Medical Department on the right of the line. The R.A.M.C., declared the present Secretary of State for War, achieved a better, more humane, more scientific, and more refined treatment than was arrived at by any of the other great nations engaged as deeply in the war. But, he added with equal truth, this could not have been done had the Corps not received an immense reinforcement from the finest scientific brains in the civilian profession. Lord Haig, in words of obvious sincerity, commended the devotion and gallantry of the medical units under his command, the efficiency of the medical administration, and the happy relations that were maintained between the fighting forces and their medical comrades—Regular, Territorial and Temporary alike.

Sir Alfred Keogh, in acknowledging the signal honour done to himself and the medical service, said he regarded the occasion as a triumph for the Army Medical Department after more than sixty years of endeavour to make itself efficient. He insisted, as he has before, on the one-ness of the medical profession, and said that the regular R.A.M.C. officers in past days had always craved for close contact with their civilian brethren. This attitude, so important for the future of British military medicine, is, we need scarcely add, shared by Sir John Goodwin, the present Director-General. He summed up the matter in his own way by saying that it was no longer a question of the civilian profession on the one side and the R.A.M.C. on the other, for all had served together, and had together passed through trials and vicissitudes.

Much has been done; much still remains to do. Reforms are in progress, and the enlightened policy of the Army Medical Department to-day will, we have little doubt, bring forth further measures of reform. It is a great encouragement for those who have at heart the honour and efficiency of the R.A.M.C. to find generous yet discriminating public acknowledgement of what was done by army and civilian doctors working together during the war, and to know that the value of this co-operation is felt not only by the heads of the Army Medical Service, but by public men in high positions.

HONORARY DEGREES AT THE ANNUAL MEETING.

IN connexion with the forthcoming annual meeting of the British Medical Association in Cambridge, the Council of the University Senate propose for the degree of LL.D. *honoris causa* the following distinguished members of the medical profession: Sir T. Clifford Allbutt, K.C.B., Fellow of Gonville and Caius College, Regius Professor of Physic; Dr. Jules Bordet, President of the Faculty of Medicine and

Director of the Pasteur Institute, Brussels; Dr. A. Calmette, Director of the Pasteur Institute, Lille; Dr. Harvey Cushing, Professor of Surgery, Harvard University; Dr. Simon Flexner, Director of Laboratories, Rockefeller Institute for Medical Research; Dr. P. Giacosa, Professor of Materia Medica and Experimental Pharmacology, University of Turin; Major-General William C. Gorgas, President of the American Medical Association and of the American Society of Tropical Medicine; Sir G. H. Makins, G.C.M.G., President of the Royal College of Surgeons of England; Sir Patrick Manson, G.C.M.G.; Sir Norman Moore, Bt., President of the Royal College of Physicians of London, and Honorary Fellow of St. Catharine's College. The degrees will be conferred at a Congregation in the Senate House on Tuesday, June 29th, at 3.30 p.m.

BIOCHEMISTRY IN THE UNIVERSITIES.

THE University of Cambridge has received from the Commercial Union Assurance Company—acting as trustees for the estate of Sir William Dunn—a sum of £165,000 for the establishment of an institute of biochemistry. The university has provided the site, and of the gift it is proposed to spend £60,000 on the erection of suitable buildings and laboratories; for the endowment of the chair £25,000 will be set apart, and £10,000 is to be invested to provide a salary for the second in command. This, it is hoped, will leave something like £3,000 a year for research. It is certain that the best possible use will be made of the gift, for Cambridge has in Dr. Gowland Hopkins a professor of biochemistry who has done perhaps more than any one man to put this new department of science on a sound basis through his own contributions and through the work he has stimulated in others. His aim will be to get together groups of workers, trained each year, so as to cover the whole ground of research in metabolism. The intention is to begin with bacteria, yeasts and other micro-organisms, and to go on through the plants and vertebrates to the chemical physiology of the vertebrates. It is hoped at once to start a course of biochemistry distinct from the ordinary course of chemical physiology now given to medical students, but without in any way interfering with it. It was only the other day that Mr. Edward Whitley gave £10,000 towards the endowment of a chair of biochemistry in the University of Oxford, and it has just been announced that, on the donor's nomination, Dr. Benjamin Moore has been appointed the first professor. Dr. Moore, who is a Belfast graduate, was at one time professor of physiology at Yale, afterwards professor of biochemistry at Liverpool, and, until he accepted this new appointment, a member of the staff of the Department of Applied Physiology of the Medical Research Council. The gift of the Rockefeller Foundation will provide the University of London with a biochemical laboratory at University College Hospital Medical School, since it includes a sum of £50,000 for site and buildings, and a capital sum to provide £15,000 a year in salaries. The scheme which Professor Hopkins has in mind is sufficient to show that the new study is still in the early stage; with the means now provided it is reasonable to hope that the progress to be made will before long bring results of increasing value to human physiology and pathology.

MEDICAL REGISTER: CHANGE OF ADDRESS.

WE desire to call the attention of every medical practitioner to the necessity, in his own interest, of notifying the General Medical Council of any change of permanent address; otherwise his name may be erased from the *Medical Register*, and he will be put to considerable trouble in getting it restored, and be required to pay a fee of £1—trouble and expense that may easily be avoided by prompt notification to the Registrar. Section 14 of the Medical Act (1858) is quite clear; under it the onus of keeping his address correct rests upon the practitioner, and the Registrar is empowered to write a letter to any registered person, addressed to him according to his address on the *Register*, to inquire whether he has ceased to practise or has changed his address. If no answer is returned within six months the Registrar may remove the name from the *Register*. It is recognized that during the war, when so many practitioners left their homes at very short notice to serve their country, an oversight was easy, and special efforts have been made this year to get into communication with practitioners who may have forgotten to notify a change of address to the Council. These efforts have been so far successful that though the number of letters returned through the Dead Letter Office in connexion with the last election of direct representatives was 1,800 in England and Wales alone, communication has been re-established with the majority of them. There remain 500 persons whose last known address was in England or Wales, but with whom all efforts to communicate have so far failed. In addition to this, there are nearly as many more registered in Scotland or Ireland from whom no reply has been received. Any medical practitioner who is in doubt as to the accuracy of his address should send a communication at once, giving his full name, in BLOCK LETTERS, *and* his usual signature, to the office at which he originally registered. The addresses are as follows: The Registrar of the General Medical Council, 44, Hallam Street, Portland Place, London, W.1; The Registrar of the Scottish Branch Council, 20, Queen Street, Edinburgh; The Registrar of the Irish Branch Council, 35, Dawson Street, Dublin.

MILITARY MEDICINE AT THE IMPERIAL WAR MUSEUM.

ON June 9th the Imperial War Museum at the Crystal Palace was opened by the King. The collection comprises upwards of 100,000 exhibits illustrating the military, naval, aërial, and civil labours of men and women throughout the Empire during the war. It is conceived not as a monument of military glory, but as a record of toil and sacrifice, a place of study for the technician and the historian; this intention was strongly emphasized by the King in his sympathetic reply. The greater part of the exhibition, of course, illustrates the combatant services, but a considerable portion is devoted to the Army Medical Section, in which are displayed nearly a thousand pictures illustrating various branches of medical activity in all zones of the war; a large number of these have been given by the Joint Committee of the Red Cross Society and the Order of St. John of Jerusalem. Among the artists whose work is represented are George Pirie, Hadyn R. Mackey, Edward Martin, Austin D. Spare, Sir John Lavery, and Guy Lipscombe. Special mention should be made of J. Hodgson Lobley's "Loading Wounded at Boulogne," and Mackey's "In the Wake of the Advance." There are also a noteworthy series of water colours and crayon drawings by David A. Baxter, whose "Dawn: Passchendaele" is grimly interesting, and vivid crayon drawings by Muirhead Bone and Claude Shepperson. The Joint Committee has presented several small statuary groups by Benjamin Clemens. The conditions under which the work of the R.A.M.C. was carried out in France are well illustrated in a number of models of regimental aid posts, advanced dressing stations, divisional baths, incinerators, and "disinfestors." A series of photographs and models shows the methods and results of plastic facial surgery. There are also to be seen samples of the provisional limbs provided by the Joint Committee, and exhibits by manufacturers of artificial legs which combine strength with extreme lightness. There is a very large collection of appliances, bandages, instruments, and dental equipment captured from the Germans, Austrians, and Turks; pewter syringes, lead catheters, and a cotton-wool substitute composed of fine wood shavings may be presumed to illustrate the enemy's shortage of war materials. Transport in all

theatres of war is well illustrated by models and photographs, and there are examples of the camel cacolet, the sand sledge, and the wire sand shoes used in Egypt. The Women's Section includes memorials of work in France and Serbia, together with a large display of hospital exhibits of all kinds. Of the Naval Medical Section we gave an account in our issue of last week (p. 807).

THE JENNER SOCIETY.

THE late Dr. Francis J. Bond of Gloucester, who was most energetic and successful in his efforts to defend vaccination, founded the Jenner Society, whose objects were "to collect, diffuse, and popularize knowledge in regard to the history of small-pox and the value of vaccination as a protection against it; to promote the practice of vaccination in a safe and efficient manner; and to further generally the adoption of those modes of preventing and treating disease which rest upon the foundation of Jenner's inquiry." At a time when few medical men thought it was necessary to defend vaccination against the frequent attacks of organized antivaccinists Dr. Bond fearlessly entered the arena. He knew every weak point in the enemy's "argument," and engaged the writers in the press with striking answers drawn from his enormous stock of accumulated evidence. In writing or editing defensive leaflets and pamphlets Dr. Bond displayed conspicuous ability, and the literature he produced is by no means out of date; it is still being widely circulated. Before his death at an advanced age he was assisted in this work by Dr. Drury of Halifax, to whom, in 1913, the affairs of the society were handed over. Since then Dr. Drury has been carrying on the work almost without assistance, and, like Dr. Bond, has taken care that the case for vaccination shall not go by default when, as so often happens, antivaccinists air their mistaken views in the newspapers and before public bodies. He had already won his spurs by his controversy with Mr. Bernard Shaw in the *Daily News* and with Mr. Arnold Lupton, when M.P. for Sleaford, in the *Yorkshire Post*. Again, in 1914 he gave evidence before the Legislative Council of the Isle of Man in opposition to Dr. Hadwen, the antivaccinist. The result was the unanimous rejection of the conscience clause, so that in this respect the Isle of Man is in advance of England. It had been the intention all along to widen the sphere of influence and activity of the society, but the war and other circumstances delayed the accomplishment of this object. It is now, however, announced that the Jenner Society is in due form affiliated with the Medical Research Society, whose honorary secretary, Mr. Stephen Paget, has been an ardent advocate of the fusion; for the purpose of continuing the work Dr. Drury has been elected a member of the committee of the society. The present recrudescence of small-pox in various parts of the country has brought about an increase in the demand for literature and information on the subject of vaccination. Inquiries should be addressed to Dr. Arthur Drury, Landon House, Halifax.

THE MEDICAL INSURANCE AGENCY.

THE report on the work of the Medical Insurance Agency during 1919, made by the chairman, Dr. G. E. Haslip, to a meeting of the Committee of Management on May 27th, showed that it had again been in a position to make grants, amounting to over £1,000, to medical charities. The financial statement indicated that the business done by the Agency continued to grow steadily. The profit earned by the Agency is divided into two nearly equal parts. The one is disbursed in making rebates on the premiums for insurances effected through it; the amount so returned in 1919 was £960, being £280 more than in 1918. The sums thus returned represent a direct saving to the medical profession and have amounted since the foundation of the Agency to a total of over £7,000. The other moiety of the profits is distributed annually in grants to medical charities, in accordance with the policy laid down when the Agency was founded in 1907. The suggestion to establish a medical insurance agency arose out of the provisions of the Workmen's Compensation Act which had become law at the end of the previous year. It imposed liabilities on medical men as employers, and it was felt that facilities to insure against the new risks ought to be afforded. From the first, however, the Agency undertook to carry through insurances of all kinds for members of the profession. The Agency transacts business only with first-class offices, and is in a position to advise on the best form of policy to meet the needs of the particular circumstances and as to the company with which it can most advantageously be effected. The sums distributed to medical charities amount to £5,877 10s. The grants made in 1919 were to the Royal Medical Benevolent Fund and the Royal Medical Benevolent Fund Guild, £325 each; to Epsom College Benevolent Fund, £318 5s.; to the Royal Medical Benevolent Fund Society of Ireland, £25; and to the Birmingham Medical Benevolent Society, £25. The balance sheet for 1919, audited by Messrs. Price, Waterhouse and Co., showed marked progress in the amounts received from the three principal sources of business—life, motor car, and accident insurances. Progress was specially evident in the life assurance business, the number of new policies completed during the year having risen to 63, as compared with 25 and 15 in the two previous years. Owing to the increase in the cost of repairs and in the amount of claims for third-party risks, the companies engaged in motor car insurance business have from January 1st this year increased the premiums by 40 to 50 per cent. over rates that prevailed before the war. The expenses of the Agency during 1919 were larger than in previous years. This is due to various causes, among others to increases in salaries and in the cost of printing, stationery, and postage. Although the Agency has made steady progress it might easily be in a position to do more for medical charities if the number of practitioners who do their insurance through it were to increase. They would be benefiting themselves and at the same time the widows and orphans of brethren who have died prematurely. In the hope of stimulating interest a pamphlet setting out the terms and advantages of various forms of life insurance and endowment policies, as well as other kinds of insurance, has been prepared, and will be forwarded on application to the Clerk to the Medical Insurance Agency, 429 Strand, London, W.C.2.

THE NEXT CENSUS.

THE Census Bill, introduced in the House of Lords by Viscount Astor, was read a second time on June 10th. Its proposals indicate a desire on the part of the Ministry of Health to give effect to recommendations made in the past by medical officers of health and others. Although it is safe to assume that a census will be taken in Great Britain at the end of March, 1921, the bill does not specifically provide for this. What it does is to enable an Order in Council to be made directing that a census shall be taken. The Order must prescribe the date on which the census is to be taken, though the intervals between any two enumerations must be at least five years. This possibility, and we trust certainty, of a quinquennial census in the future is satisfactory, and in these days of rapid industrial developments is increasingly needed. A census may, however, be taken at any time for a particular area at the request and at the cost of a county council, a county borough council, or an urban district council. The particulars to be contained in the enumeration returns must include name, sex, age, occupation, nationality, and residence, as well as information with regard to education, infirmity, and condition as to marriage. They may also include, presumably at the discretion of the Ministry of Health, "any other matters with respect to which it is desirable

to obtain statistical information with a view to ascertaining the social or civil condition of the population." The bill will have the approval not alone of statisticians and public health administrators but of all social reformers, for it is drafted on thoroughly democratic lines, and through its local option clause it will be possible for much more detailed local information to be obtained than has hitherto been possible.

CAMBRIDGE.

WE print this week at page 845 the seventh and concluding article of the series of descriptive and historical notes on the University and town of Cambridge, which began in our issue of January 3rd. We desire here to acknowledge our indebtedness to Dr. F. J. Allen, honorary secretary of the Cambridge Antiquarian Society, and formerly professor of physiology in Mason's University College, Birmingham, for the very large share he has had in the preparation of the series. Dr. Allen has not only written the text of all the articles, at great cost of time and labour, but many of the beautiful photographs—for instance, those of St. Benet's Church, reproduced a fortnight ago, and the remarkable interior of the Round Church—are from his camera. The learned author has made due acknowledgement to those authorities, living and dead, whom he has consulted, and it only remains for us to thank Dr. Arnold Chaplin for his ready permission to make copies of the portraits of Harvey, Newton, and Young in his collection. We venture to believe that Dr. Allen's notes on Cambridge, representing so much knowledge and research, are not only of interest to the members of the British Medical Association and their guests who are about to visit the university town this month, but will remain of permanent value.

THE Anatomical Society of Great Britain and Ireland has arranged to hold its annual summer meeting at Cambridge on the afternoon of Friday, July 2nd, and on Saturday, July 3rd. The dates have been chosen so as not to clash with the proceedings of the Sections at the Annual Meeting of the British Medical Association. The chief subject for discussion will be the morphology and development of the central nervous system, but papers will be read also on the structure of the earliest land vertebrates, on partial transposition of the mesogastric viscera, and on avian structure as bearing upon problems of bird migration. Further particulars can be obtained from Professor Barclay-Smith, at King's College, Strand, W.C.2.

DR. THOMAS R. BROWN, one of the officers of the League of Red Cross Societies at Geneva, will attend the annual meeting of the British Medical Association as a delegate of that body.

Medical Notes in Parliament.

An Autumn Session is now held by the Government to be "inevitable," and the intention is to adjourn Parliament as near the end of July as possible.

General Medical Council Bill.

The Direct Representatives of the General Medical Council Bill, of which particulars were given in our columns of May 15th, p. 685, was read a second time in the House of Commons on June 14th, and referred to a Standing Committee.

Medicine and Mining Administration.

Our Lobby Correspondent states that the Cabinet had under serious consideration last week a proposal to establish a separate Ministry for Coal Mines. This, however, was rejected on the score of expense and in view of the general feeling against an increase of the bureaucracy. It was then decided to make a Department in the Board of Trade, and that the Bill to be submitted to Sir Robert Horne should provide for an additional Parliamentary Secretary. The intention is that this junior Minister shall deal with all the negotiations and answer for the office in the House of Commons, subject, of course, to decisions on policy by his chief and by the Cabinet. It is further proposed that the new Department shall have the assistance of an advisory council, to include not only representatives of employers and employed and of consumers, but also one or more scientists and one medical man. When the bill is printed it will be found to contain powers for the transfer to the Department of the various medical services in regard to mining which are at present dependent on the Home Office. As the Coal Control Agreement and the Coal Mines Emergency Act lapse on August 31st, legislation is necessary before the summer adjournment of Parliament if the new policy of joint administration is to be adopted.

Dangerous Drugs Bill.

On June 10th, in moving the second reading of the Dangerous Drugs Bill, the purpose of which was fully explained in an article published on May 22nd (p. 714), Major Baird said that it gave effect to the International Opium Convention signed at the Hague on January 23rd, 1912. The purpose of the Convention was to bring under control throughout the world the traffic in opium and cocaine, and the preparations derived from them, restricting their use to medical and other legitimate purposes. The Convention was signed on behalf of all the Powers represented except Turkey and Serbia. Some of the countries, including Germany, failed to ratify the Convention before the outbreak of war, and thus it was not brought into operation. During the war Great Britain found it necessary to act on her own account, owing, first, to the spread of the cocaine habit, and, secondly, to the extensive smuggling of opium carried on in the East; a regulation was made under the Defence of the Realm Act for the control of the manufacture, sale, and distribution of cocaine, and the importation of cocaine and opium was prohibited save under licence of the Secretary of State. These measures were not altogether successful; it was difficult to stop smuggling in the case of an article which could be carried in such small quantities and so easily sold as was opium. The only effective control could come from international co-operation. The Allied Powers attached so much importance to this question that the ratification of the Convention was made one of the conditions of peace: the Convention to be brought into force by legislation without delay, and in any case within twelve months of the treaty coming into force. It was doubly important to pass the bill because of the impending abrogation of the Defence of the Realm Regulations. The bill was limited to carrying out the Convention except in one respect; powers were asked to extend the provision, not only to the derivatives of morphine and cocaine, but to any other alkaloid of opium, and any other drug of any kind which was likely to produce the same injurious effects, and this was contemplated, as might be seen by Article 14 of the Convention. Another reason why the Government was anxious for the powers contained in the bill was that British representatives in China and Japan had referred repeatedly to the disastrous effect of the traffic which was being carried on with China in morphine and cocaine; both China and Japan were signatories to the Convention. Of course, a big measure of this kind affected the interests of large bodies of people at home. Representations had been made by the Pharmaceutical Society and by wholesale dealers, and it was hoped to be able to meet them.

Dr. Murray, after congratulating the Home Secretary on the part he had taken in this matter, and expressing general approval of the bill, said that very often the excuse given by people who were victims of the drug habit was that a doctor had prescribed it, and that after the immediate need for it had passed, the patient had continued the drug until he became a victim. He presumed that what was meant by one of the clauses giving power to the Home Secretary for "regulating the issue by medical practitioners of prescriptions containing any such drug, and the dispensing of any such drugs," was that a chemist who dispensed the prescription containing any of these drugs would not be allowed to dispense it without a renewed prescription from the doctor. He did not know how many times a doctor might allow it to be dispensed without the renewed authority, but there should be some limit. He wished that the Home Secretary had taken power to abolish medicated wine, as in his opinion there was nothing that produced more drinking among women than medicated wines, which were a camouflaged method of

introducing drinking habits. He hoped that any regulation as to keeping books of all drugs sent out would be framed in consultation with the representatives of the medical and pharmaceutical professions. For an offence against this Act a fine of £200 could be imposed. Many thousands of deaths occurred every year from alcoholic poisoning. Deaths also resulted indirectly from it, inasmuch as people were drowned while under the influence of alcohol. The man who sold alcoholic poison which had been the means of killing somebody went free. That was an unfair discrimination against medical men and chemists, who were liable to heavy penalties under the present bill for selling something which was used by victims of the drug habit. The question of penalty needed to be very carefully considered.

Mr. Woolcock, who said that with the exception of the member for South-West Norfolk he was the only M.P. holding a pharmaceutical certificate, raised the question how far the proposal in the bill to allow the sale of specified drugs only by licence would take away the authority given to chemists and druggists under the Poisons and Pharmacy Act. Though they were speaking loosely at the moment of opium, morphine, cocaine, ecgonine, and heroin, they were also dealing with an enormous number of substitutes. He asked for a promise that a pharmacist carrying on business as a chemist should have the right to dispense and retail substances provided for under this Act. The powers to be given to the Home Office should be used only in very serious cases, and anyone found guilty of a breach of the Act or the regulations should have the right of appeal to some court.

Captain Elliot said that the fact that such a bill was necessary was a very striking commentary on the trend of some of our legislation. In America, where they had gone in for prohibition, the drug habit had developed to an extent altogether unknown in our own country. All medical men in the House and the country would like to draw the attention of the Government to the necessity for dealing with patent medicines. Before the war a powerful committee of the House investigated the question thoroughly, and drew up a well thought out and moderate report which, by an unlucky mischance, was presented to the House on the day of the outbreak of the war. Now the war was over he begged the Home Office to confer with the Ministry of Health and introduce legislation along the lines recommended. Very great evils had arisen from people using drugs under conditions in which no medical man or chemist would dare to prescribe them. He hoped the bill was only the beginning of international work for dealing with health problems as a whole; the microbe knew no frontier.

The measure was read a second time and referred to a Standing Committee.

London Hospitals.—Sir Clement Kinloch-Cooke asked the Minister of Health on June 10th if he was aware that the National Hospital for the Paralysed and Epileptic, Queen Square, London, the principal school for the study of nervous diseases, had had to close its doors owing to want of funds, and whether, in view of the urgent public need of keeping open the hospital and the serious loss to medical science involved, the Minister could now make his promised statement with regard to Government assistance to hospitals. Dr. Addison replied: I am not yet in a position to make any general statement, but in the meantime I understand that the King Edward Hospital Fund are prepared to consider the application from this hospital for an immediate emergency grant, an application which reached them this morning, no previous intimation having been given to the Fund that there was any intention of closing the hospital.

Motor Taxation.—In reply to a question, on June 9th, Mr. Neal, Parliamentary Secretary for the Ministry of Transport, said that as the Minister could not recommend a rebate of the proposed taxation on motor vehicles in favour of medical practitioners, no concession could be made to coroners.

The Dentists Bill.—Asked, on June 9th, when legislation would be introduced to carry out the recommendations of the Select Committee on the Dentists Act, 1878, Dr. Addison said that owing to the pressure of other legislation the draft of this bill was not yet complete, and he was unable to say when it would be introduced, though he hoped it would be ready shortly. The question whether it could be carried this session would depend upon whether it was a matter of controversy.

Veterinary Surgeons.—The Veterinary Surgeons Act (1881) Amendment Bill, as amended in the Standing Committee, was read a third time in the House of Commons on June 11th. It provides that every member of the Royal College of Veterinary Surgeons shall pay an annual fee of one guinea to the College, and authorizes the College to conduct examinations, prosecutions and inquiries, and to carry out such other objects as may be considered beneficial to the veterinary profession and necessary for the promotion of the art and science of veterinary surgery. An amendment to leave out the word "prosecution" was resisted by the Parliamentary Secretary to the Ministry of Agriculture, who said that the College had given an undertaking that it did not desire to interfere with the work of unregistered persons in the performance of operations on or the treatment of animals, provided they did not represent themselves to be qualified veterinary surgeons. It was added that there was nothing in the Bill to give such power. Lieut.-Colonel F. E. Fremantle, while recognizing that the supply of qualified veterinary surgeons was defective, urged that the word "prosecution" should be retained, and the amendment was withdrawn. A clause providing that anything which would be an offence if committed by an individual shall be an offence if committed by a company registered under the Companies Act, was adopted, with the addition moved by Mr. Cautley of the words "or a society registered under the Industrial and Parliamentary Societies Act." In the course of the discussion on the motion for the third reading Captain Elliot said that there was no doubt that from the study of animal pathology much might be learned which would subsequently be of use in human pathology. The investigations into the epidemiology of foot and mouth disease might, he hoped, be of the greatest use in future investigations into influenza. The great institute at Aberdeen for the study of animal diseases had attracted very liberal support from Scottish citizens, and had drawn a professor of physiology from the University of London. Further, many diseases of herds had a bearing on the prosperity of the people. Animal pathology was practically an unexplored science; the fact, for instance, that rickets was of common occurrence amongst sheep and growing pigs showed that if diseases of animals could be investigated by men of scientific training, facts of the utmost importance to children might be discovered. Dental caries was very closely related to diet, and could be studied in animals. Mr. Cautley, speaking on behalf of the promoters, said that its principal features were to give a legal status to the College of Veterinary Surgeons whereby it could set up a teaching school, exercise disciplinary powers over its members, and reserve to these members the title of duly qualified veterinary surgeons. Certain exemptions were made in favour of holders of veterinary certificates of the Highland and Agricultural Society and of others who might be admitted on special terms.

Women and Children Employment Bill.—Major Baird, on behalf of the Home Office, obtained, on June 10th, second reading for the Women, Young Persons and Children (Employment) Bill, which is designed to give effect to an international agreement reached at the recent International Labour Conference in Washington. The operative parts are contained in the schedule, which comprises three conventions. The first fixes 14 years as the minimum age for the admission of children to industrial employment other than that in which only members of the same family are employed. The second convention deals with the night work of young persons employed in industry, and prohibits those under 18 doing night work, save in certain specified undertakings, in which the age is lowered to 16. The third convention deals with the night work of women employed in industry, prohibiting it except in certain specified cases. The definitions of industrial work are given in the schedule, but there is a reservation whereby a competent authority in each country is to settle the line of division which separates industry from commerce and agriculture. There was some little discussion on a qualifying clause in the bill, which lays down that nothing in the Act shall prevent the employment of a child lawfully so employed at present. This has been introduced to meet the case more especially of the Eastern countries, which have not yet sufficient machinery to adopt the two-shift system. Lieut.-Colonel Fremantle took strong objection to Clause II, which would enable women and young persons to be employed in shifts between 6 in the morning and 10 in the evening on any weekday other than Saturday, and said that he hoped, in the interest of public health, the Government would withdraw this clause.

Answers in Brief

The Minister of Health hopes at an early date to lay before Parliament proposals for enabling local authorities to require the immediate utilization of unoccupied dwellings.

The estimated increased cost of giving old age pensions of 10s. weekly to all British citizens of 70 years of age in the United Kingdom, irrespective of their means, would be £15,100,000 a year.

Dr. Macnamara anticipates that, owing to the recent increase in the prices of coal and sugar, the index figure of the cost of living (food, rent, clothing, fuel, light, etc.) will show an advance of 150 per cent. as compared with the level of July, 1914. He mentioned that the figures for December 1st, 1919, showed an advance of 125 per cent., and those for May 1st an increase of 141 per cent.

Sir A. Griffith-Boscawen has stated that in the week ended March 13th, 116 cwt. (1,276 gallons) of fresh milk were received at Harwich from Denmark. There was no official information as to the hygienic conditions in which the milk is produced.

At the outbreak of war three areas had, on representations made by medical officers of health, been declared by the Local Government Board to be insanitary. They comprised 890 houses, occupied by 4,387 persons. In two cases proceedings were deferred owing to the war. A scheme in regard to one has now been submitted, and one for the second of the areas has been promised. In the third a scheme has been made and confirmed.

EIGHTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association,

CAMBRIDGE, 1920.

PICTURESQUE CAMBRIDGE.*



KING'S COLLEGE CHAPEL.

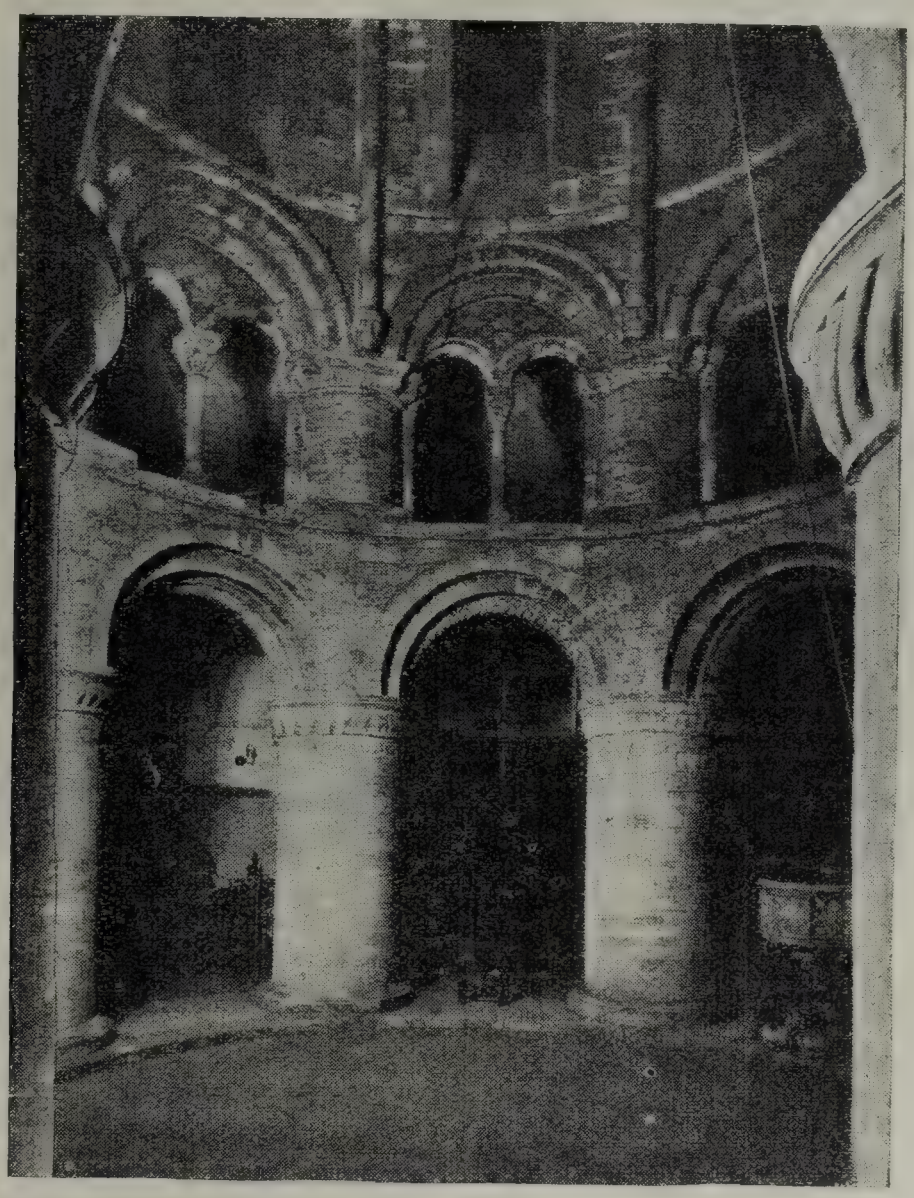
OF those who know Oxford and Cambridge, few will deny that these are the two most picturesque towns in England—that is, in the matter of man-made picturesqueness resulting from building and planting, for hundreds of towns are more picturesquely situated.

The two towns resemble each other in so far as their beauty depends on fine buildings and luxuriant gardens; but each town has its individual characteristics. Oxford gives the impression of a city, Cambridge of a rambling country town. In one's memory of the two places the stately High Street at Oxford, and the river with the College Backs at Cambridge, will probably leave the most vivid impressions.

Members attending the Cambridge meeting will naturally wish to make the best of their opportunity to see the local attractions. It has been arranged to give to each member a copy of the excellent and authoritative *Concise Guide* written by the distinguished local antiquary, J. W. Clark. Those who follow its directions will see Cambridge thoroughly; but many visitors will have only time to see a portion of it, and for those in particular, if not for all visitors, we give the following notes on the most salient features.

Cambridge is the "garden city" of England. Besides the many gardens (for nearly every college has gardens attached to it) there are nearly 300 acres of common land forming open spaces *within* the town as well as *outside* it. All these gardens and playgrounds divide the town into detachments, so that it has no density anywhere, and covers an enormous area for its population, its diameter in any direction being at least four miles.

The College Grounds are open to the public from early morning until dusk, and visitors may walk freely in them, except in those parts which are obviously reserved for private use. It is contrary to rule to take meals in the grounds, or to set up a photographic camera without permission. For obtaining such permission the porter at the main entrance will give the necessary information. As a rule no objection is made to the unobtrusive use of a hand camera.



THE ROUND CHURCH, CAMBRIDGE.

THE BACKS.

The most attractive feature of Cambridge is the "Backs." Six of the colleges—namely, Queens', King's, Clare, Trinity Hall, Trinity College and St. John's—are situated on the river bank, so that their fronts are towards the streets and their *backs* towards the river, hence the name. Their grounds occupy both sides of the river, and adjoin each other so as to form a continuous garden or park. The combination of river, flowers, trees, many bridges, and college buildings has no parallel anywhere. Visitors will be tempted to take a boat and row through the Backs, but a warning is necessary: pleasant as a row in the Backs may be, their beauty cannot be even imagined in a boat, for the high banks cut off the view on each side. To see the Backs one must walk in the College Grounds and note the view from each of the bridges, especially Garret Hostel Bridge. The so-called "Bridge of Sighs" at St. John's must be seen from St. John's Old Bridge; this is an important hint, for too many visitors cross the Bridge of Sighs and never see it. This bridge was built 1825–30 from a design by Hutchinson, partner of Rickman, the originator of the architectural terms *Early English*, *Decorated*, and *Perpendicular*. The Old Bridge at St. John's, built 1696, is attributed to Wren. These two bridges and that of Clare are the most notable of the college bridges. While in the Backs the visitor should notice the fine wrought-iron work (seventeenth and eighteenth century) of the entrance gates, of which Trinity College has one, St. John's three, and Clare three.

COLLEGE BUILDINGS.

Of the college buildings, King's Chapel will be the first to arrest attention, forming as it does the central feature of Cambridge, so situated as to be seen to full advantage either from the street, the Backs, or the surrounding country. Its dimensions are of cathedral scale, and it is a product of the most original period of English architecture, the latter half of the sixteenth century, which also produced St. George's Chapel at Windsor Castle and the towers of Merton and Magdalen Colleges, Oxford. The late Francis Bond, a leading authority on the history of architecture, described King's Chapel as "the crowning glory of English art."

Among the other features which no one should omit to see the following are the most important:

At Queens' College the cloister court, with the beautiful half-timbered house which forms the President's Lodge; also the view of the College and the Lodge from Erasmus's Walk.

At Caius College the gateways built by John Caius, especially the Gate of Honour.

The Senate House, the interior of which is rich in woodwork of the Grinling Gibbons school.

At Trinity College, the Hall, exterior and interior, and

* The previous articles of this series appeared in the JOURNALS of January 3rd, January 24th, March 13th, April 10th, May 8th, and June 5th, 1920.

the Library, the interior of which is one of Wren's most successful achievements. It contains much fine carving by Gibbons. The chapel is a late building, whose chief beauty is in its woodwork, which, like that of the Library, is of the Grinling Gibbons school.

At St. John's, the street front and the interiors of the Hall, Combination Room, and Library. These are the finest mediaeval interiors in Cambridge. The Hall has a fine hammer-beam roof and oak-pannelled walls. The Combination Room was formerly the "long gallery," a feature found in several old manor-houses. It may be compared with the long gallery at Aston Hall, Birmingham, which is its contemporary and chief rival. The Library is a wonderful specimen of pseudo-Gothic work of the seventeenth century, with book-cases and roof of richly carved oak.

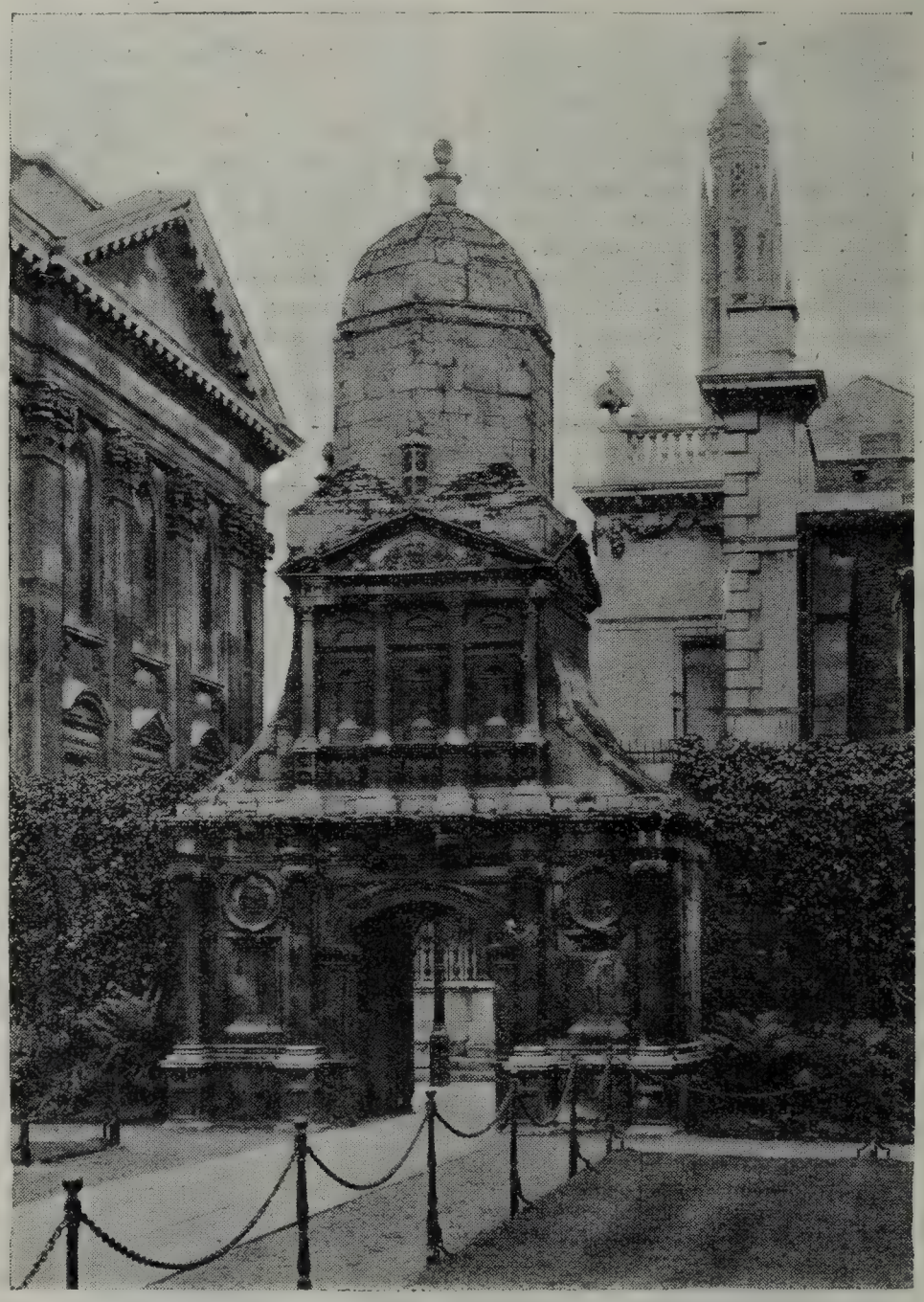
St. John's Chapel is about the finest work of Sir Gilbert Scott. In spite of the usual defects of modern imitative Gothic work, it is an impressive building, at least internally, and remarkable for its wealth of marble columns. It contains also some good woodwork and monuments transferred from the former chapel.

At Jesus College the Chapel, which is the oldest and, in some respects, the most beautiful chapel in Cambridge, dating from the late twelfth and early thirteenth centuries. It was the church of the nunnery of St. Radegund, the buildings of which were adapted by Bishop Alcock when he founded the college. Other remnants of the nunnery are the doorway of the Chapter House and the Refectory, now used as the Hall. The entrance gateway built by Alcock is one of the finest in Cambridge. Jesus College is farther from the centre of the town than any other college, but the beauty of its buildings makes a visit to it worth a great effort.

At Magdalene, another of the outlying colleges, the Pepysian Library is of interest, both for its books and the beauty of the building in which they are housed

At Christ's College, which is very centrally situated, the entrance gateway should be noticed, also the Fellows' Buildings, a fine specimen of middle seventeenth century architecture.

Cambridge is notable, in contrast to Oxford, in possessing many brick buildings. They are usually beautiful in design, and present considerable variety. The best instances are St. John's College, Queens' College, Jesus College, and St. Catharine's College.



GATE OF HONOUR, CAIUS COLLEGE; WITH PARTS OF SENATE HOUSE, UNIVERSITY LIBRARY, AND KING'S COLLEGE CHAPEL.

CAMBRIDGE CHURCHES.

The older part of the town contains many churches, usually within a stone's throw of each other; but the busy visitor need only see three of them which are of peculiar interest: these are St. Benet's, the Round Church, and Great St. Mary's.

St. Benet's has a Saxon tower of unknown date, but probably about the year 1000. It is one of the best Saxon towers in England, and was doubtless still better when it had four gables and a high pyramidal roof, which have been removed. Internally the tower is supported by a Saxon arch, which is quite impressive in its massive simplicity.

The Round Church is the oldest of the four similar churches still in use in England. The walls or foundations of seven others are also in existence. These churches were built during the Crusades, as reminiscences of the Church of the Holy Sepulchre at Jerusalem. The Cambridge church dates from about 1120. It was much altered in later mediaeval times, and then restored nearly to its original form in 1841. In spite of over-restoration it is a beautiful little building. Its interior is so dark that one cannot appreciate it until the eye becomes accustomed to the gloom.

Great St. Mary's, or the University Church, has a plain exterior, but the interior, though encumbered with great galleries, is a fine and rather ornate specimen of late Perpendicular work.

THE SURROUNDING COUNTRY.

In the immediate neighbourhood of Cambridge the prettiest scenery is at Madingley and on the upper Cam near Grantchester. Madingley is situated on the slope of a wooded hill, and has a mediaeval mansion in a beautiful park. It would be beautiful in any part of England, and may surprise those who expect to find Cambridgeshire a flat country

The Cam above Cambridge is a narrow but very pretty river, and all who can find time should have a row as far as Grantchester. Below Cambridge the river is wider. Its prettiest stretch is that by Fen Ditton, where the boat races are held. Below Ditton the river flows through a flat country, which looks its best as seen from the river. This part of the country, being highly cultivated, has none of the charm of the wild fen, except a small portion, Wicken Fen, which is reserved in its natural state, and forms a happy hunting ground for the botanist and entomologist.

A remarkable feature of the lowlands of Cambridgeshire is the great dykes constructed by the ancient inhabitants for the defence of their territories. They are more wonderful than picturesque, but will give much pleasure to the antiquarian members of the British Medical Association who join the excursion which is being arranged for visiting them.[1]

[1] The programme of excursions, etc., is printed in the SUPPLEMENT this week.

The village churches of Cambridgeshire are of much interest, and are remarkable for the prevalence of fourteenth century work, which is scarce in most other parts of England. The churches of Trumpington, Grantchester, and Cherry Hinton, all very near Cambridge, should be visited by those who are interested in architecture

ELY.

It is hardly necessary to dilate on the attractions of Ely. The town is picturesquely situated on a low hill commanding the fens, and the cathedral is second to none in England for its architecture and the charm of its surroundings. The interior may justly claim to be the finest in England. The remains of accessory buildings, portions of the former abbey, add to the interest of the place. One hint concerning Ely is of great importance. The visitor arriving at the railway station should not follow the main road to the cathedral, but should take the turning to the right at the foot of the hill, and afterwards take the footpath to the left, leading across the park. If he fail to do this, he will miss the most beautiful view of the Cathedral—in fact, one of the choicest cathedral views to be found anywhere.



Scott and Wilkinson] Photo, Cambridge.

BOAT RACING ON THE CAM: VIEW FROM DITTON CORNER.

The Honorary Local Secretaries of the Meeting are Dr. J. F. Gaskell, The Uplands, Great Shelford, near Cambridge, and Dr. G. S. Haynes, 58, Lensfield Road, Cambridge. Communications should be addressed to them at the Medical Schools, Cambridge.

England and Wales.

MATERNITY HOMES AND HOSPITALS.

THE Minister of Health considers it desirable that he should be furnished with annual reports,[1] in respect of maternity homes and hospitals established primarily for normal confinements, showing:

1. The number of cases admitted, with their average duration of stay.
2. The number of cases delivered by midwives and doctors respectively, as well as the number of cases in which the midwife sought medical assistance for special reasons.
3. The number of cases notified as puerperal sepsis, with the results of treatment.
4. The number of cases in which the temperature rose above 100.4° for twenty four hours, with a rise of pulse rate.
5. The number of notified cases of ophthalmia neonatorum and of "inflammation of the eyes, however slight."
6. The number of infants not entirely breast-fed, with the reasons for this.
7. The number and causes of maternal deaths.
8. The number of cases of fetal stillbirths and deaths.

The authorities of these institutions are asked to keep a register with the purpose of compiling this information. Immediate information is to be sent to the Ministry of every case of maternal mortality and of notified puerperal fever.

SCHOOL MEDICAL OFFICERS' SALARIES.

At a meeting of the Devon Education Committee on June 3rd, at Exeter, the Medical Officer (Dr. Adkins) reported that Dr. C. G. Mathews, who at the last meeting was appointed to fill the vacancy for the Barnstaple district, at a commencing salary of £400 a year, rising by annual increments of £25 to £500, with £175 a year travelling expenses, had sent a telegram the day after his appointment declining to take it up (see BRITISH MEDICAL JOURNAL, May 15th, 1920, p. 686). A temporary arrangement was made whereby Dr. Scott was appointed at 10 guineas a week, with the travelling allowance. The Chairman said the question was whether the Committee would sanction the steps taken. The Medical Officer said that Dr. Mathews was appointed at a salary less than that agreed to by the British Medical Association. To the question whether when the vacancy was advertised women as well as men were invited to become candidates, he replied that he did not think either sex was mentioned. They could not expect women to go about the rural parts of Devonshire in all weathers.

Dr. Mackenzie moved that the Committee ask Dr. Scott to continue the duties at £500 a year. The Medical Officer said the minimum sanctioned by the British Medical Association was £500 a year rising to £650, while the present scale in Devon was £400 rising to £500. In regard to travelling expenses, all the medical men were out of pocket with the present allowance of £175 a year in Devonshire. He considered the scale of expenses should be £200 a year. Mr. Windeatt said it seemed to him that it was a fight between the British Medical Association and the Devon Education Committee, and that eventually the Committee would have to give way. He suggested the appointment of Dr. Scott at the increased scale, adding that when the five other district medical men applied to be treated in the same manner—as they would—the Committee should consider the possibility of working the county with a decreased number of doctors. Dr. Mackenzie said it was quite impossible for a man and his wife and family to live and keep up the position required on such a salary as £400 a year. The Medical Officer pointed out that it was not the British Medical Association alone which had intervened in this salary trouble; the Committee had also received communications on the subject from the Ministry of Health, which it had allowed to lie on the table. Dr. Mackenzie said the Committee was not standing by the Medical Officer, but was trying to get him an incapable staff and adding to his other worries. Mr. Stevens urged that the Committee should stand firm and refuse to be dictated to. Mr. Young expressed the view that if "the unions" were to dictate as to what was to be done an Education Committee was a mere sham. It was no use discussing and deciding matters when it was left to their masters to declare what should be done. The proposal was eventually adopted to pay Dr. Scott the same salary as the other district medical officers were receiving. The Medical Officer remarked that that was no good, because it would not be accepted.

PRESENTATION TO DR. BRACKENBURY.

At the monthly meeting of the Middlesex Panel Committee on June 10th Dr. Brackenbury, who has been chairman of the Committee since its inception in 1914, was presented by the members with a silver coffee-pot and sugar-bowl and cream-jug. Before the presentation Drs. Ingram, Cohen, and Shanks commended the skill, diligence, and wisdom Dr. Brackenbury had always displayed in the discharge of his office. The presentation was made by Dr. C. F. T. Scott, Vice-Chairman of the Committee, in a felicitous speech. He attributed the success of the Committee to the able chairmanship of Dr. Brackenbury,

[1] Memo. 19/M.C.W., Ministry of Health, May, 1920.

and dwelt upon Dr. Brackenbury's service to the whole profession, describing him as an example of true statesmanship. History would record that he had obtained an assured place in the esteem of the profession. Dr. Brackenbury, who was enthusiastically received, in expressing his thanks said that in all his work for the profession he had been governed by a single desire to serve the best interests of his fellow insurance practitioners and to promote the public welfare. In so doing he had not only satisfied his sense of duty but had won a great deal of pleasure. Reference was made in the course of the proceedings to the fact that Dr. Brackenbury has been chosen as Liberal candidate for East Walthamstow.

"Safety First."

A lecture given by Mr. Gerald Bellhouse, C.B.E., His Majesty's Deputy Chief Inspector of Factories, has been printed by the Manchester University Press. Mr. Bellhouse quotes Home Office figures, which show that 1,384 fatal accidents occurred during 1919; 40,056 accidents were due to machinery and 84,582 to other causes. These figures are slightly lower than usual; accidents which kept the worker away from his work less than one day were not included in the case of machinery accidents or less than seven days in the case of non-machinery accidents. It is calculated that, however well machinery is guarded, not more than a 10 per cent. reduction by this means of the accident rate can be expected; this corresponds very closely with American estimates. Mr. Bellhouse believes that a very large diminution of accidents arising in the course of industrial employment may be expected to follow the organization of a "safety first" movement, such as has been promoted in America during the last six years by a voluntary co-operative association of employers and others. In a steel factory at St. Louis, employing 2,500 men, the number injured was reduced from 769 in 1916, to 124 in 1918; a similar reduction of 60 per cent. was recorded in mines, machine shops, and factories. In one large soap works in England a safety inspector was appointed three years ago, and accidents have been reduced by 60 per cent.; this was accomplished in a works where safety had long been studied, and where the accident rate was already very low. Mr. Bellhouse believes that if success is to be attained by a "safety" organization, five things are essential: (1) Efficient organization in the staff, beginning at the top; the employer or manager must be a thorough believer in "safety first"; (2) the appointment of a part or whole-time safety inspector; (3) willing co-operation of the foremen; (4) a safety committee, with representatives of the management and the workers, meeting regularly at frequent intervals; (5) pictures and stories which show what the workman can do to protect himself should be posted on a "bulletin board." Mr. Bellhouse also recognizes that the accident rate is influenced by lighting, temperature, speed of production and fatigue of the workers, and makes allusion to the inquiry conducted by Dr. Vernon on behalf of the Health of Munition Workers' Committee.[1]

Scotland.

Small-pox in Scotland.

Cases of small-pox continue to occur almost daily in Glasgow, but the number of patients under treatment in the Belvidere Hospital had fallen to 125 on June 11th. Dr. Maxwell Williamson, M.O.H., reports that the public in Edinburgh is responding well to the offer of free vaccination and that between 40,000 and 50,000 persons had been vaccinated recently, including the heads of families formerly conscientious objectors. A beginning had, he said, been made with vaccination at the schools, and it was expected that 500 pupils would, with their parents' written consent, be vaccinated daily.

Highlands and Islands Medical Service.

The Highlands and Islands Subcommittee met representatives of the Board of Health on June 10th, and discussed with them the representations put forward by the former for improvements in conditions of service of practitioners serving under the Highlands and Islands scheme. The points dealt with included the following:

(1) Increase of the guaranteed net income in single practice areas.
(2) Increase of the present mileage rate.
(3) Increase in the scale of maximum fees payable by patients.
(4) Special fees for special services.
(5) Provision of locumtenents; and
(6) A pension scheme.

With regard to (1), it was intimated that the Board is in sympathetic agreement with the request for an increase on the original minimum of £300 net, and that advances have actually been made within the limit of the present grant, but that further increases are subject to Treasury sanction, and exceptions may have to be made in the case of small communities which, under no circumstances, could require the full-time services of a doctor. Considerable discussion took place on (2), and the representatives of the Board intimated that they were not in a position to give a final answer, but they accepted the principle that a revision of the terms should be made in the light of the altered conditions of Lowlands insurance service, and that the payment should include an allowance for time as well as cost of travel. On (3) doubts were expressed as to the effect of any substantial increase in the direction of restricting the usefulness of the service, and the subcommittee contended that patients themselves frequently expressed surprise at the smallness of the fee charged, and pressed for increase, especially in the midwifery fee. On (4) it was agreed that the question should be examined in the light of the scales fixed in the various distribution schemes under the new Medical Benefit Regulations. With regard to the question of locumtenents (5), it was intimated that arrangements were being made, and that twenty-two doctors in single practice areas had been offered relief this year. The question of further provision was dependent on the available supply of locumtenents. The Board is not prepared at the present stage to consider a pensions scheme.

Hospital and Nursing Services.

A report by the Scottish Insurance Commission on Hospital and Nursing Services has been presented to Parliament. The report is based upon inquiries made in 1917, and is therefore somewhat out of date. It points out that specialist skill and large general and special hospitals are disposed asymmetrically to the less thickly populated areas dependent upon them. Inaccessibility is the problem of the Highlands and Islands, and in a less degree of the southern uplands. In the former simple treatment, involving little more than appropriate surroundings and nursing care, is often inaccessible, though the institutions providing it are in many cases more than adequate to the calls upon them. The lack of accommodation in voluntary hospitals is mainly on the surgical side, but it extends also to convalescent treatment, neurasthenia, paralysis, epilepsy, chronic affections of the heart and lungs, and incurable diseases generally. No convincing evidence is found that the flow of income to voluntary hospitals has diminished, but it does not grow and the war has aggravated normal difficulties. The fact that the large general and special hospitals work independently of the others and of the rural hospitals is noted, and the opinion expressed that some arrangement might be devised for the classification and admission of patients in order of urgency, taking each large centre with its dependent area as a unit. The fact that the State has made itself responsible for the treatment of pensioners is considered to make possible the growth of a demand for State subventions for others. With regard to nurses, it is said that a revision of the nursing service must be undertaken, but the report does not suggest how this should be carried out.

Ireland.

Presentation to Dr. Stanley B. Coates.

The retirement of Dr. Stanley B. Coates from the Belfast Dispensary Medical Service, with which he has been associated for forty-two years, was the occasion of the

[1] Cmd. 9046, 1918, or see this JOURNAL, May 18th, 1918, p. 569.

gathering together on May 19th of a large number of his professional brethren. Dr. H. S. Osborne, senior medical officer of the Belfast Union district, who presided, recalled his long association and friendship with Dr. Coates, and dwelt specially upon the kindly interest that Dr. Coates had always shown in the welfare of his brother medical officers; he alluded also to Dr. Coates's long-continued efforts on their behalf and on that of the profession in Ireland in his capacity as representative on the Council of the Irish Medical Association. On behalf of his late colleagues in the Dispensary Medical Service a silver rose bowl of Celtic design, suitably inscribed, was then presented to Dr. Coates. In making the presentation Dr. C. J. Milligan expressed the hope that both Dr. and Mrs. Coates would have a long life of further happiness and continued good health. Dr. Coates replied in suitable terms, and added a few words of advice regarding the prospects of the profession in the future. Complimentary speeches followed from Dr. William Burns, Dr. Irvine, Dr. Munn, and Dr. Longbridge.

Presentation to Dr. James Taylor of Tandragee, Armagh.

A presentation was made recently to Dr. James Taylor, J.P., M.O.H. Tandragee Urban and Rural Districts and M.O. to Dispensary Districts. It consisted of an illuminated album containing an address from some two hundred friends and patients in Tandragee and surrounding districts, with facsimiles of their signatures, and a wallet of notes. The address referred in terms of great respect and affection to Dr. Taylor's long service of forty-five years and expressed high appreciation of his personal and professional qualities. The album is bound in blue leather, with Italian ornament, and little water-colour views of the neighbourhood and places in the North of Ireland, painted by the doctor himself, are inlet into the illuminated border. The whole forms a rare and beautiful work of art, and a souvenir to one who has spent his life in the service of his fellows. The profession joins in hearty wishes for many years of further activity and much happiness to one of their most honoured brethren in the North of Ireland.

India.

Recruiting for the Indian Medical Service.

The Secretary of State for India announced last August that 204 medical men were urgently required to fill vacancies in the Indian Medical Service, and it was added that of these two-thirds (136) would be Europeans and the remainder Indians. The appointment of European candidates is to be made by nomination, on the recommendation of a selection committee in England. The Director-General I.M.S. in a recent speech to the Legislative Council said that there was a proposal, in order to facilitate the entry of Indians, to give scholarships or nominations to the most promising Indian medical students who wished to enter the Service. In the former case they would proceed to England to complete their curriculum, and then compete for the Indian Medical Service; in the latter case they would proceed to England only for a further course of instruction. The Indian Medical Service, he said, had been a great asset to India in the past, and had attracted the best intellects from the British medical schools; it would now, he hoped, attract the best from the schools of India as well. Until recent years the Indian Medical Service had never contained more than 7 per cent. of Indians. A Board of Selection has been appointed in India for the recruitment of permanent officers for the I.M.S. in the manner indicated above. The Board consists of the Director-General I.M.S. (president), the Director of Medical Services in India, and an Indian officer I.M.S.; Colonel Sir H. E. Banatvala, C.S.I., is acting in that capacity. Candidates who may be summoned by the board for interview will, if considered suitable for appointment, be placed in one of two classes—first, those who received their medical education chiefly in England; and secondly, those who do not come within this category. The final recommendation as to the former will be made by the Selection Board in England, while the recommendations as to the latter will be sent direct from India to the Secretary of State, who will make appointments to fill the vacancies. The Selection Committee in England, in addition to considering applications from India of candidates who have mainly received their education in England, will review those of the candidates in the United Kingdom, but not the recommendations of the Indian Committee in regard to candidates educated in that country.

Medical Inspection by Women.

The first appointment from among the members of the Women's Medical Service of an assistant to the Inspector-General of Civil Hospitals was made in the Punjab in 1914; a similar appointment was made in the United Provinces in 1918. The regular inspection of women's medical institutions by a woman provincial officer is an advantage both to the Government that aids them and to the institutions and staffs concerned. The medical woman inspector is able to organize schemes for maternity relief, and to bring the urgent need for these and other measures to the notice of the inspector-general.

Plague in the United Provinces during 1918–19.

It appears from the annual report of Colonel C. Mactaggart, I.M.S., Inspector-General of Civil Hospitals in the United Provinces, that in the year ending June 30th, 1919, the number of deaths from plague—namely, 17,633—was less than in any previous year since 1903, with the exception of 1908–9, when the number recorded was 14,252. In cities with more than 50,000 inhabitants there were only 21 deaths. The total number of deaths in 1917–18 was 206,190. The mildness of the epidemic of 1918–19 is attributed partly to the existence of "conditions approaching famine," with consequent depletion of the rat population; and partly to the failure of the rains, with decreased atmospheric humidity and consequent diminution in the number of rat fleas. Systematic rat destruction was confined to the district of Azamgarh, where 38,000 rats were killed by a gang of coolies acting under medical supervision. During the severe epidemic of the previous year it was noticed that towns where organized rat destruction had been carried out enjoyed a comparative immunity from plague. Forty thousand protective inoculations were performed, as compared with 140,000 during 1917–18; experience proved that inoculation was only accepted by the people in the actual presence of plague. In one village of a thousand inhabitants in the Mirzapur district half were inoculated and half not; there were no deaths among the former group, but forty-five among the latter. The eighty-seven permanent and twenty-three temporary travelling dispensaries, which had been in use during the previous year, were maintained; they proved a most effective agency for dealing with outbreaks of epidemic disease and have come to be regarded as established institutions in these provinces. Their staff was able to treat 1,200,000 patients and to perform 23,000 operations; through them a large amount of literature dealing with the prevention of epidemic diseases was distributed. It is proposed to use travelling dispensaries in epidemics not only of plague but also of influenza and other diseases. The plague staff consisted of the chief officer (Mr. B. N. Vyas, Rai Bahadur, M.B.), a temporary staff of ten special health officers, the subassistant surgeon in charge of the central plague godown, and the travelling dispensaries.

In connexion with the Baby Week celebration, conferences of the National Association for the Prevention of Infant Mortality and the Baby Week Council will be held at Leeds on June 30th, at Manchester on July 1st, at Brighton on July 2nd, at Bradford on July 6th, at Wrexham on July 7th, and at Crewe on September 10th. Among the subjects to be discussed are "The care of young children in the home as compared with their care in institutions," "Infant welfare work," and "The decay of parenthood and its menace to the race." After the morning and afternoon sessions a public meeting will be held (in most of the towns) in the evening. The Ministry of Health has sanctioned reasonable expenditure by local authorities in sending delegates to these conferences; the attendance is also invited of delegates of voluntary organizations and of members of the public who are interested in the subjects under discussion. Application for tickets may be addressed to Miss Halford, 4 and 5, Tavistock Square, W.C.1.

Correspondence.

THE TREATMENT OF CANCER OF THE CERVIX UTERI.

SIR,—It is a matter of regret to me that I was unable to be present to hear the interesting communication of Dr. Fletcher Shaw and Dr. Burrows to which you refer in an article in your issue of June 12th.

We are all anxious to learn anything that will help to make cancer of the cervix more curable and more easy to extirpate. At the Liverpool Royal Infirmary we have been fortunate to have a certain amount of radium for some years. At first we applied the tubes to many inoperable cases; but whether our technique was incorrect (we have no facilities for emanations, but have two platinum tubes containing 50 and 30 mg. respectively of radium bromide) or there was some other unknown cause, the results were not satisfactory. I therefore abandoned preliminary applications and, instead, adopted the method of performing a radical operation—the so-called Wertheim technique—in a large majority of all cases (with, as was inevitable in such circumstances, a somewhat large primary mortality) and of laying a container of radium encased in fine rubber tubing on either side of the pelvis at the end of the operation. These tubes are now withdrawn through the vagina at the end of twenty-four hours, for sloughing occurred in several cases when the radium had been left undisturbed for forty-eight hours. I have hoped by this means to destroy cancer cells which might be hidden in the lymphatics and left behind, for it seemed probable that after a radical operation the radium would have the best chance of dealing with outlying cancer cells that might have been left in the tissues. The first time this procedure was carried out was on August 6th, 1916, in a case in which the disease was very advanced. This patient was seen a short while ago, when she was quite well and had put on much flesh. Since this date many other cases have been treated in the same way with, I believe, an improvement in the end-results.

Possibly preliminary emanations followed by operation seven days later with the insertion of radium in the pelvis at the end of the operation may be found to give better results than by either method alone.

There is one more point in the treatment of these patients by which I set considerable store. It is well known, since the work of Benjamin Moore and others in the University of Liverpool, that in all cases of cancer, wherever the disease is situated, the acid secretion of the stomach is absent or deficient. I consider it necessary, therefore, that all patients, after a radical operation for cancer, should take dilute hydrochloric acid three times a day for the rest of their lives. I have been able to demonstrate that in so long a period as ten years after operation hydrochloric acid has still been absent from the stomach.

Until, if ever, we have a specific cure for cancer I think that we should utilize in every case all measures which offer a prospect of benefit in this terrible disease.—I am, etc.,

Liverpool, June 13th. W. BLAIR BELL.

EXPERIMENTAL INDUCTION OF CANCER.

SIR,—Very interesting indeed and of far-reaching import are the researches of Fibiger on the experimental production of cancer as reported in your issues of May 15th and June 5th. How far these researches will throw light on the origin of cancer the future alone can decide, but it seems to me that they may lend themselves to solving some crucial and much debated points as to the true origin of the cancer cell.

One very important stepping stone in our knowledge of cancer would be reached if we could definitely answer the question: "Can the highly specialized epithelial cell, wherever situated, alone and unaided, be stimulated by a toxin to a state of increased cell division as part of a purely inflammatory process, and then without any qualitative change in the process become cancerous; or does the toxin, by stimulating the reproductive power of the cell beyond endurance, exhaust its energy of cell division and so bring about a state whereby a positive chemiotaxis (a disguised surface energy phenomenon) for original undifferentiated germinal idioplasm is set up, and that it is the union of these two distinct cytological elements that constitutes the cancer cell?" Undifferentiated germ plasm, which, according to Weismann, is alone supposed to possess potential immortality, is located in the sexual organs—that is, ovary or testis—and is the basic tissue out of which the germ or sperm cells are eventually developed.

Now that the experimental production of cancer is practicable, no doubt the investigation will be taken up in this country, and I would suggest as a crucial experiment to settle this important point some such experiment as the following: Young male rats of a susceptible strain might be fed on the larvae of the *Spiroptera neoplastica*, and an equal number of the same subjected to the same feeding after extirpation of the sexual organs, assuming, of course, that efficient castration is a practical operation. A comparison of the results might determine whether the specialized somatic cell is of itself capable of becoming malignant or not—a point of very great importance; at the same time it might sweep from the lumber room of science some well-worn theories connected with Weismann and his germ plasm.—I am, etc.,

F. B. SKERRETT, M.B., B.Sc.Lond.

London, E., June 11th.

FUTURE PROVISION OF MEDICAL SERVICES.

SIR,—I have been waiting for the last two weeks in the hope that some general practitioner would initiate a correspondence expressing his views on the Report of the Medical Consultative Council. The proposals are so very important and far-reaching that the opinions of all sides of the profession should be sought for and discussed. I have no doubt, however, that the proposed scheme appears to members of the profession so gigantic and all-embracing that they have not yet had time to study and digest it. In the meantime I may be allowed to offer a few comments on some of the points included in the Report, but before doing so it may be said at once that to the ordinary man in the street it appears that the proposed scheme, owing to its vastness and the consequent expense involved, will court destruction if action is persevered in at the present time or the near future.

The Report is based on the assumption that all its provisions are necessary and vital to the public. It is assuming that all, or nearly all, the ailments and diseases of the well-to-do, the working man, and the poor require the attention of the elaborate primary and secondary centres for their treatment. Is that so? I should estimate that something like 80 to 95 per cent. of the illnesses occurring among the public are amply and carefully attended to by general practitioners, and that at most 20 per cent. of the public need the services of consultants and specialists over and above.

If that estimate is near the truth, why should the country be burdened with the enormous expense of the centres for the few? Surely some means could be devised and adopted of a less expensive nature to meet the needs of that part of the public who require, and rightly so, the advantages which are supplied by *x* rays, baths, massage, electricity, physical culture, etc., of the primary centres, and consultations in medical, surgical, and special cases at the secondary centres. The difficulty might be solved by merging the proposed primary centres, which are unnecessary, in the secondary centres, which could be called consultation centres. Such a method would reduce their number and avoid the multiplication of buildings and staffs, which appears to be inevitable under the scheme of the Council.

Personally I endorse the general principle laid down in the Report, that medical treatment must be both individual and communal—communal treatment being restricted to pre-natal and maternity care, child welfare, school children inspection, dental treatment, and the like; but I do not agree with the proposal to establish at primary centres common consulting rooms for the public, irrespective of their status. Besides, a very large percentage of the public would never consent to such a method of treatment. The primary centre, as shadowed forth by the Consultative Council, may be the ideal one, but human nature being as it is, it is impracticable.

I also heartily approve of domiciliary nursing being available for all illnesses when the doctor deems it necessary. I am sure that every doctor would welcome such assistance—a whole-time nurse when the mother is

ill, and a part-time service to assist and guide the mother when other members of the family are laid aside.

Regarding consultations supplied by the secondary centres, I am afraid that as soon as it is realized that any one can demand a consultation in comparatively ordinary illnesses, the relations between the doctor and the patient would be considerably strained, and I can fancy the feelings and thoughts of the consultant in such cases.

It is to be noted that while consultants would be paid on a part-time basis, with extra fees for special visits, no provision is made for the payment of general practitioners.

"The standard rate of payment at a primary centre would include residence, food, and nursing, but not medical attendance. At the secondary centre the charge would include medical attendance and would be defrayed by moneys allotted to such services. It is suggested that the charges for medical attendance would usually be met by some method of insurance."

There is nothing definite, and the procedure is quite in keeping with that adopted under the Insurance Act.

It is cheering to notice that the Consultative Council is decidedly against the establishment of a salaried State medical service, for good reasons.—I am, etc.,

Edinburgh, June 13th. MICHAEL DEWAR.

THE TREATMENT OF MENTAL DISORDER.

SIR,—In the Report of the Medical Consultative Council for England (BRITISH MEDICAL JOURNAL, May 29th, 1920, p. 741) it is stated, among other proposals bearing on the future provision of medical services for the whole country, that certain institutional services should be correlated with both primary and secondary health centres—for example, sanatoriums for tuberculosis, convalescent centres, hospitals for curable and incurable mental diseases, institutions for the feeble-minded, for epileptics, etc. May I call attention to a wording which seems to me to be both misleading and unscientific—namely, the classification of mental illness into "curable and incurable"? In the department of mental instability, more, perhaps, than in any other branch of medicine, such a distinction seems inadmissible. The curability of much mental disorder is dependent upon the circumstances surrounding the patient and the nature of the treatment applied, to a degree which is scarcely equalled in any other class of illness. Moreover, the recent advances in therapeutic science seem to make it quite possible that within the lifetime of one generation the "incurable" of to-day may become the "curable" of to-morrow.

Are not the really practical terms for the classification of the various forms of mental illness to divide them into those which require restraint and those for which it is unnecessary, or in which it may even act as an irritant—namely, into the "certifiable" and the "uncertifiable"? For both it is our privilege to provide every possible remedial condition.

Looked at from the institutional point of view, the former belong to the province of the Lunacy Board, and for them our asylums are provided, while for the latter chiefest among remedial agents is an atmosphere of encouragement, reassurance, and hope. This is best given by keeping them absolutely separate from the certifiable lunatic. For such there ought to be hospitals or homes of recovery which they can enter of their own free will, with a full certainty that these are in no way connected with lunacy regulations; and the more definitely they are separate from these the more likely are patients to be willing to come to be treated while their troubles are really curable. In the most excellent *Outline of Preventive Medicine*, issued by Sir George Newman on behalf of the Health Ministry, the greatest stress is laid upon the preventability of illness if treated in natural and appropriate fashion. And this applies *par excellence* to mental cases.

More especially is it desirable that homes of a cheerful nature, with occupational facilities, should be found for the large numbers of invalided soldiers whose nerves have been temporarily unstrung through the severity and stress of war. Most of these, given a fair chance, make short and complete recoveries, and ought not to have their futures clouded by the stigma of having been placed, as they so often are, in institutions connected with certifiable lunacy.—I am, etc.,

London, S.W.1, June 13th. HELEN WEBB.

VACCINAL CONDITION OF SMALL-POX CARRIERS.

SIR,—In your issue for May 29th, under "Medical Notes in Parliament," you report Dr. Addison's reply to a question by Mr. R. Young as to the vaccinal condition of the various small-pox "carriers" in England and Wales during 1919, and this aspect of the vaccination question has hitherto scarcely received adequate attention. The vaccinal condition of the unfortunate persons who contract small-pox in any outbreak is usually reported, but too often but little attention is paid or drawn to the vaccinal condition of the person ("carrier") who is responsible for the outbreak. Yet I venture to assert that this is a very important matter. It will be found that in the vast majority of outbreaks which have occurred in modern times the individual "carrier" responsible for originating an outbreak has been an unrecognized or overlooked case occurring in a vaccinated subject. Moreover, the usual experience is that the "carrier" case has been overlooked because it was of a very mild and modified type. Frequently the case has had but little eruption, and that of a character differing greatly from that usually seen in unmodified small-pox.

The important point I wish to emphasize is that these highly modified easily overlooked "carrier" cases almost invariably occur in vaccinated persons—not recently vaccinated, but vaccinated many years before—and because they had been so vaccinated. When this fact is more generally appreciated than it is at present I think it will be realized that our present system of infantile vaccination which is not followed by systematic revaccination is to a not inconsiderable extent responsible for the spread of small-pox. This may seem a revolutionary suggestion to some, but I submit that if we are to arrive at a just appreciation of the precise advantages to the community of our present system of vaccination we must take the consideration I have referred to into our reckoning.—I am, etc.,

Leicester, June 10th. C. KILLICK MILLARD.

"A PLEA FOR THE TONSILS."

SIR,—Under this heading the BRITISH MEDICAL JOURNAL (November 1st, 1919, p. 562) reviewed Professor Digby's *Immunity in Health*, and therein confused lymphoid tissue with vestiges. The review has brought from Professor Berry (February 7th, 1920, p. 199) his oft repeated claim that he has discovered that lymphoid tissue did compel the evolution of the vermiform appendix. We are thus confronted with comparisons between the throat and the appendix, an attempt to hide the vestigial nature of the latter, and an endeavour to confer on lymphoid cells a power they do not possess.

Because the throat is in full functional activity surgery is so restricted in its treatment of its associated lymph structures that no surgeon has yet advocated its amputation for tonsillitis, and because the appendix has lost its caecal function the treatment of inflammation of its lymphoid tissues is obliteration. It is as reasonable to think that the tonsils evolved the throat as that lymphoid tissue evolved the appendix, and if thought be permitted on this plan it may be assumed that the red cells of blood coursing through the scapula evolved those vestiges of the coracoid bone—the coracoid processes—for it is certain that the function of lymphoid tissue is as distinct from that of the caecum as the red blood cell from bone.

A plea for the tonsils is based on the service that lymphoid cells render the human organism. Such cells are globular, and the shape they form in mass is that of a ball, except when the shape of the mass is altered by the pressure of other tissues. As amphibians have lymph hearts, and as the human spleen contains muscular tissue, it may be conceded that lymphoid tissue has the power of calling muscular tissue into being, in the same way heart muscle may be evolved to serve the blood. This assumption does not, however, permit us to think that the muscular coats of the gut have been evolved as lymph pumps. Such must be the case if Professor Berry's theory be true.

The implied plea for the appendix rests on the conservation of follicular glands—lymphoid tissue. Professor Berry tells us that "lymphoid tissue is the characteristic feature of the caecal apex." This erroneous statement arose from the rabbit and hare having an enormous collection of lymphoid tissue at the ends of their caeca, and to Sir Richard Owen writing of "the slender termination of the

hare's caecum, which is glandular like the vermiform appendix of man." Whilst much has been made of lymphoid tissue at the end of the rabbit's caecum, the corresponding mass that it contains about the ileo-caecal valve has been ignored and nothing has been said about the comparative absence of lymphoid tissue at the caecal apex of the rat. Right through the mammals—and it applies with equal force to the primates—lymphoid tissue is not the characteristic feature of the caecal apex. Its relationship to that place is casual. The only animal outside the primates that has a vermiform appendix is the marsupial wombat, and its vestige of its ancestral caecum is singularly free from lymphoid tissue. To describe the fully functioning caecum of the rabbit as possessing a vermiform appendix is to deny both form and function.

Professor Berry tells us "as the vertebrate scale is ascended this lymphoid tissue tends to be collected into a specially differentiated portion of the intestinal canal—the vermiform appendix." As the amount of lymphoid tissue in the rabbit's caecal apex is a thousand-fold greater than that in the human or any other vermiform appendix, it is necessary to put the pestiferous and all too prolific rabbit at the top of the vertebrate scale, as he draws it.

To convince one of the vestigial nature of the vermiform appendix it is only necessary to study Treves's four types of human caecum, and to follow the history of man's food. The process is so simple that by the aid of rubber bags and some rubber bands the recession of the caecum can be demonstrated. Few men have had the opportunity as I have had at the courtesy of Mr. Le Souef, director of the Melbourne Zoo, of examining all the dead from a large collection of animals to determine their caecal structure. In this work I became fascinated with the meaning of splits and bands in the digestive tract, and there can be no doubt that in the external muscular coat of the vermiform appendix its history is plain. The vermiform appendix is nothing but a vestige of a large ancestral caecum, and its contained lymphoid tissue in no way affects its vestigial nature.

Professor Berry, after denying that the appendix is a vestige, claims it as a specialized part of the alimentary canal. If this be conceded, we must say that Scarpa's triangle was specially evolved to accommodate lymph glands, that the ileum was evolved for Peyer's patch, that the parotid salivary gland was evolved to contain its lymph gland, and the vertebrae exist to support the thoracic duct. No argument can do away with the fact that the vermiform appendix is typical gut, and until its structure can be denied the lymphoid theory must remain a theory which cannot be permitted to modify surgical practice.—I am, etc.,

WALTER STAPLEY, M.D., D.V.Sc., M.R.C.V.S.

Cambridge, N.Z., May 4th.

Obituary.

DAVID BERRY HART, M.D., F.R.C.P.EDIN.,

Edinburgh.

BRITISH obstetrics and gynaecology would surely have been impoverished had David Berry Hart turned, as he might well have done, to anatomy or to surgery at his graduation as M.B. and C.M. in 1877; but the attention of the late Sir Alexander Simpson was directed to the promising young doctor, and secured him for midwifery by appointing him to be his assistant in that department in the University of Edinburgh, so giving him the opportunity for doing the life work which he so brilliantly accomplished. He carried over into obstetrics and gynaecology the exactness of the anatomist, and in 1880 gained with the M.D. degree a gold medal and the Syme Surgical Fellowship for his thesis on "The structural anatomy of the female pelvic floor." Later in life he added to his anatomical bent the scientifically directed curiosity of the biologist, and explored the early beginnings of vital activity in the ovum and embryo.

Dr. Berry Hart's death took place at his home in Edinburgh on June 10th almost at the very hour when the Library Committee, of which he was convener, was meeting in the Royal College of Physicians. During the winter months he suffered from influenza, and to the sequelae of that disease he attributed the weakness which forced him to cease his lectures at Surgeons' Hall on May 24th. It was anticipated that a few days' rest would enable him to resume his greatly loved teaching, but signs of more serious trouble became manifest to his doctors, and he passed away in his sixty-ninth year. He was born in Edinburgh, and from his maternal grandfather, Mr. David Berry, builder, came the part of his name which was to distinguish it from others who bore the Hart cognomen.

Dr. Berry Hart received his medical education at the University of Edinburgh between the years 1872 and 1877, displaying then the same originality of thought and enthusiasm of application which marked him in later life. He visited Vienna soon after graduation in 1877, and then settled down to the work of teaching midwifery tutorially in Edinburgh in connexion with Professor Simpson's classes. He was appointed assistant physician to the Royal Maternity Hospital in 1884, and assistant gynaecologist to the Royal Infirmary in 1886, moving on to the senior posts in these two institutions in 1889 and 1901 respectively. In the early nineties he also acted as gynaecologist to Leith Hospital. At the time of his death he was consultant to all these three hospitals. In 1883 Dr. Hart commenced systematic lecturing in the School of Medicine of the Royal Colleges, and gave courses of lectures on midwifery and gynaecology there till within a few weeks of the end. He also collected a large museum of specimens, and gave to their investigation and preservation many hours of his already full life. He was all the while teaching clinically in the various hospitals, was engaged first in a general and later in a specialist practice, and was preparing and publishing many important books and papers. From outside Edinburgh recognition came to him, and he was made an honorary Fellow of the American Gynaecological Society, of the Berlin Obstetrical Society, and a Corresponding Fellow of the Leipzig Obstetrical Society. He opened a debate on placenta praevia at Brussels at the international medical meeting there, and on several occasions he was similarly honoured at the annual gatherings of the British Medical Association. He was secretary of the Edinburgh Obstetrical Society from 1879 to 1883, and became president in 1890. He was examiner in midwifery in the universities of Edinburgh, Oxford, Birmingham, and Liverpool; and he held other appointments of honour and responsibility, such as that of librarian to the Royal College of Physicians of Edinburgh.

Whilst this was the setting, so to say, of Berry Hart's life, there were three directions in which his activities were particularly fruitful—in scientific research, in medical literature, and in teaching; in each of these he revealed the note of distinction and showed the hand of a master. The clinical side of his life was far from featureless; indeed, he performed for the first time in Scotland successfully the operations of Caesarean section for ruptured tubal gestation, and for advanced broad ligament pregnancy; but he was at heart an anatomist, a research scholar, and an inspiring teacher rather than a full-time clinician.

With regard to scientific research, Berry Hart was the first in Scotland to employ the method of frozen sections in anatomical studies, and by this means to throw a flood of light upon the structure of the female pelvic floor and its behaviour in labour, in prolapsus uteri ("sacro-pubic hernia"), in the genu-pectoral position, and during the passage of the Sims speculum. A by-product of Hart's work, although carried out by other hands, was the development of cystoscopy in its modern form. Further, those who in Edinburgh followed him in the Midwifery Department applied, always with fruitful results, the frozen sectional method to the investigation of the anatomy of labour, of the fetus and new-born infant, and of the puerperium; he himself carried it into the study of ectopic pregnancy.

These, however, by no means exhausted the range and scope of Hart's researches; they were, in very truth, only the beginnings. He dealt in turn, and always originally and suggestively, with the mechanism of labour, with the mode of separation of the placenta in the third stage, with the nomenclature of transverse presentations and positions, with the tuberose fleshy mole, with the morphology and development of the genito-urinary tract, with hermaphrodism, with the theory of enzygotic twins, and with the kyphotic pelvis. To prove their worth it may be noted that hardly one of these pieces of research failed to arouse

discussion, and some of them excited so much controversy as to give birth to several other researches by Hart himself and by his antagonists. In his later work Dr. Berry Hart roamed almost solitarily (so far as obstetricians were concerned) in the mazes of Mendelism, a subject which, especially in its mathematical aspects, had a strange fascination for him. To explain the various forms of hermaphrodism, to introduce an entirely novel nomenclature, to prove that after all the "free-martin" was not a cow; and to do all this with the help of Mendelian principles was an invigorating exercise to Hart, although to others it seemed nothing less than a *tour de force* of dubious utility. He was head and shoulders above the little thinkers on these matters, and he enjoyed these speculations with his whole soul. Almost his most recent work, an article in the new edition of the *Encyclopaedia Medica* on hermaphrodism in man, illustrates these features of his later work admirably.

Dr. Berry Hart was the writer of nine books and of more than seventy papers, and would therefore demand attention even if the work were not of the high standard it has just been shown to be. He was a literary man. In the first place, his articles, with whatsoever subject they dealt, were invariably written in strong readable English, terse, clear, arresting, forcible. In the second place, he scored two distinct successes with textbooks; the *Manual of Gynaecology* (written in collaboration with Freeland Barbour) has passed through many editions and has been translated into several European languages; and his *Guide to Midwifery* has appealed to the best minds amongst his colleagues and has been already fruitful in many directions. The *Manual* is now, after nearly forty years, quietly accepted as a textbook like many others; but in the year of its publication it stood out alone as a pioneer work establishing gynaecology as a true, self-contained, and scientifically founded speciality. But, in the third place, Hart was successful as the writer of what may justly be termed medical *belles-lettres*. His fascinating book called *Some Phases of Evolution and Heredity* came as a delightful surprise even to many who knew him well. He revealed in it literary grace, a power of epigrammatic description, delicate fancy, brilliant critical instinct, and genuine humour; yet on every page of it real facts of vital importance were being set forth. Take, for instance, his pregnant phrase, "man and woman are equipotential but not equivalent," or his summing up of eugenics, "it is not Nature's way," or his reflection, "in time Cupid, before he shoots, will look up the lovers' dossier," and read his chapter on men (such as Pepys) who have revealed themselves. The whole work teems with what may be called sportive marginalia on the scientific and semi-scientific books and beliefs of the time.

The third direction in which Berry Hart's work was fruitful beyond the average was that of teaching. In part his teaching was through his books and papers, and it was never of the coaching kind, attracting the student whose horizon was coterminous with the walls of the examination hall; but his oral and clinical teaching showed even more the absence of anything approaching the popular style. It appealed rather to the post-graduate or to the under-graduate with the post-graduate mind, who appreciated it to the full, even if for the time being he could not follow out the avenues of thought which were being opened up. The fact that an important but novel matter was not likely to be asked in an examination paper did not deter Hart from giving a whole lecture to it if he thought it deserved it. The desire to teach in this sort of fashion went with Hart to a medical society meeting and gave a sharpness to his criticism of papers read there which some were inclined to resent; but such comments from his tongue were rather to be regarded as compliments than as condemnations. The poor paper he left uncriticized, but for the one that had a spark of originality or of merit in it Hart had a word or two which showed how the spark might be converted into a flame, and he took the author (if he were willing) into the circle of those whom he delighted to engage in combat and measure swords with. It was considerations such as some of these referred to which no doubt led the College of Physicians to bestow upon Dr. Hart in 1918 the Cullen Prize, awarded every four years "for the greatest benefit done to practical medicine," and with that distinction one may suitably close this sketch of his life.

Sides to his life have been left untouched, amongst them his kindly relations with his patients, his devotion to Liberalism in politics and to his church (the United Free) in religion; but in the main the man, David Berry Hart, was such an one as has been indicated. He has left a widow and four children, two sons and two daughters.

WE regret to record the death of Dr. CLAUDE JOHNSON, which took place from pneumonia on May 15th at King's Heath. Dr. Johnson, who was the second son of Dr. C. J. B. Johnson of King's Heath, near Birmingham, was educated at Birmingham University, where he held office as secretary of the University Medical Society. After graduating M.B., Ch.B.Birmingham, and M.R.C.S., L.R.C.P. Lond. in 1906 he acted as resident medical officer at the Birmingham General Hospital, as assistant obstetric officer at Queen's Hospital, and as house-surgeon to the Moseley Hall Convalescent Hospital for Children. He took the diploma of D.P.H. in 1909. At the outbreak of war he was mobilized as a member of the Special Reserve, and served with the first Expeditionary Force during the retreat from Mons. Subsequently he left his field ambulance to act as sanitary officer in France, and during the latter part of the war he was stationed in India, where he contracted dysentery. After his return to England he joined his father in practice at King's Heath. His death, at the age of 36, is deplored by a wide circle of friends and patients. Great sympathy is felt for his widow, to whom he was married only twelve months ago.

SURGEON-MAJOR RALPH ROBERT SCOTT, R.A.M.C. (retired), died at Bath on June 1st, aged 88. He was born at Kiltegan, county Wicklow, on February 5th, 1832, took the L.R.C.S.I. in 1853, and entered the army as assistant surgeon in the 46th Foot on July 28th, 1854—sixty-six years ago. He became surgeon-major on March 1st, 1873, went on half-pay on July 28th of the same year, and commuted his half-pay three years later. In 1861 he took the L.K.Q.C.P., and the membership of the same college in 1879, after his retirement. He had a varied experience of the army, having served in four regiments—the 46th, 93rd, and 80th Foot, and the 8th Dragoons—as well as four spells on the staff. He served with the 46th Foot in the Crimea from November 8th, 1854, and was present throughout the siege and at the capture of Sebastopol, including the attacks of June 18th and September 8th, receiving the medal with clasp and the Turkish medal. In the Indian Mutiny he served with F Battery, Royal Horse Artillery, at the final capture of Lucknow in 1858, and with the 6th Dragoon Guards (Carabineers), in Sir Hope Grant's column, and in the Trans-Gogra campaign, receiving the mutiny medal with clasp for Lucknow.

THE *Pioneer Mail* reports the death at Lucknow on May 16th of Dr. MOHENDRA NATH OHDEDAR, one of the best known medical men in the North-West, now the United Provinces of India. He was 65 years of age, and had served for thirty years in the Provincial Civil Medical Service, holding the post of assistant surgeon of Allahabad for many years, and until he was promoted to the medical charge of a district he served as civil surgeon of Bara Banki, in Oudh. When he retired, about five years ago, he settled at Lucknow, where he speedily acquired a large practice. He was the first Indian to hold a commission in the Volunteers, serving as medical officer of the Allahabad Volunteer Rifles. He received the Indian title of Rai Bahadur for his services in 1892. His death was due to cerebral haemorrhage.

THE first Pan-Hellenic Congress of Hygiene and Demography will be held at Athens from April 25th to April 30th, 1921, under the presidency of Professor Phocas, simultaneously with the celebration of the centenary of Greek independence. There will be six sections represented: Public health, individual hygiene, military and naval hygiene, demography, infantile hygiene, and prophylactic hygiene. An international exhibition of hygiene and medical industry will be opened at the same time as the congress and will continue until June 25th. Further information concerning the congress and exhibition may be obtained from Dr. P. Rondopoulo, 14, Rue Nikiforon, Athens.

Universities and Colleges.

UNIVERSITY OF OXFORD.

DURING Commemoration it will be proposed to confer the honorary degree of D.Sc. upon Lieut.-General Sir Alfred Keogh, G.C.B., Rector of the Imperial College of Science and Technology, and upon his successor in the office of Director-General A.M.S., Lieut.-General Sir John Goodwin, K.C.B.

Captain Philip Walker and Captain Cecil Walker have offered some £2,000 to be added to the balance of the benefaction of the late Philip Francis Walker, and applied by the trustees towards the establishment and maintenance of a studentship in pathology.

The honorary degree of Doctor of Letters has been conferred upon Dr. Temistocle Zammit, C.M.G., professor of chemistry in the University of Malta and curator of the Valetta Museum, in recognition of his great services to the island of Malta by the discovery of antiquities and in the detection of the local causes of fever. Dr. Zammit is a member of the council of the Malta Branch of the British Medical Association.

UNIVERSITY OF CAMBRIDGE.

AT a Congregation held on June 12th the recommendation of the General Board of Studies for a University Lectureship in Medical Radiology and Electrology was approved.

The following medical degrees were conferred:

M.D.—A. N. Hodges.
M.B., B.CH.—J. L. Davies.
M.B.—E. Forrester-Paton, S. H. M. Johns, H. W. Scott, J. H. E. Moore.

The names of those medical men upon whom it is proposed to confer the honorary degree of LL.D. on June 29th are given in another column.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THE following have after examination been admitted Fellows of Faculty:

N. S. Bruce, J. A. Conway, J. N. Cruickshank, J. Gracie, S. P. Meighan, J. H. Patterson, D. M'K. Reid, W. R. Snodgrass, I. D. Suttie, G. Young.

UNIVERSITY OF LONDON.

AT a meeting of the Senate on May 18th a diploma of psychological medicine open to all registered medical practitioners was instituted. The standard will be approximately that of the University of Cambridge for the corresponding diploma.

Dr. G. Newton Pitt has been appointed representative on the Senate of the City and Guilds of London Institute.

Mr. W. Foster Cross was recognized as a teacher of anaesthetics at St. Bartholomew's Hospital, and Mr. Gwynne E. O. Williams as a teacher of surgery at University College Hospital Medical School.

Dr. V. J. Woolley was appointed a member of the Board of Examiners in Pharmacology for the second examination for medical degrees, Part II.

The following were appointed examiners for the first and second examinations for medical degrees in the session 1920–21, the chairman being indicated by an asterisk:

Chemistry: *Dr. W. B. Tuck and Mr. H. C. H. Candy, or, failing him, Dr. H. R. Le Suer, together with the external examiners, Dr. H. R. Le Suer and Professor J. M. Thomson.

General Biology: *Dr. H. W. M. Tims and Dr. F. Drabble, together with the external examiners, Mr. A. Eastwood and Mr. J. T. Cunningham.

Physics: *Mr. W. H. White and Mr. F. Womack, together with the external examiners, Mr. A. Wood and Dr. F. L. Hopwood.

Anatomy: Professor J. E. S. Frazer and Professor W. Wright, together with the external examiners, Dr. W. L. H. Duckworth and Professor G. Elliot Smith.

Pharmacology: Dr. P. Hamill and Dr. V. J. Woolley, together with the external examiners, Professor H. J. Campbell and *Dr. Ransom.

Physiology: Professor J. Mellanby and Professor F. A. Bainbridge, together with the external examiners, Professor M. S. Pembrey and Professor J. S. Macdonald.

Applications for the University Chair of Physiology, tenable at King's College for Women, Household, and Social Science Department (salary of £800 a year), must be received by the Academic Registrar by June 30th, from whom further particulars can be obtained.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN Ordinary Council was held on June 10th, when Sir George Makins, President, was in the chair.

Results of Examinations.

Thirty-eight candidates admitted under the special war conditions passed the examination in anatomy and physiology for the Fellowship, and thirty-six were admitted under the ordinary conditions:

A. L. Abel, H. H. Bailey, J. A. Berry, O. Brenner, R. St. L. Brockman, D. J. Browne, A. G. Bryce, W. F. Christie, E. A. Coldrey, S. H. Cookson, V. M. Coppleson, H. Corsi, R. K. Dadachanji, R. M. Dannatt, W. M. Dickson, T. F. M. Dilworth, C. F. T. East, J. A. W. Ebden, D. J. Evans, G. I. Evans, W. C. Faull, A. W. Fawcett, L. R. Fifield, W. D. Galloway, A. T. Gibb, J. W. Gilbert, P. K. Gilroy, V. B. Gokhale, E. Grey, A. R. Gunne, S. G. Harrison, F. H. Healey, S. L. Higgs, J. P. Hosford, R. W. P. Hosford, F. Hudson, J. B. Hunter, I. B. Jose, N. J. Judah, G. L. Keynes, J. LeM. Kneebone, E. A. Linell, S. D. Lodge, J. Love, W. M. H. McCullagh, A. C. Maconie, N. S. Macpherson, W. C. B. Meyer, P. J. Moir, O. G. Morgan, D. F. A. Neilson, R. L. Newell, H. G. Oliver, L. F. O'Shaughnessy, S. T. Parker, E. J. Partridge, D. H. Patey, C. V. Patrick, P. P. Pughe, F. H. Scotson, S. C. Shanks, E. S. S. Smalpage, J. F. H. Stallman, C. Sturton, C. H. Terry, C. P. Thomas, J. W. T. Thomas, A. H. C. Visick, E. Watson-Williams, H. P. W. White, H. A. B. Whitelocke, O. H. Williams, A. D. Wright, H. B. Yates.

Diplomas of Fellowship were granted to thirty-nine candidates, of whom Mr. W. E. Le Gros Clark had passed the examination in November, 1919, before attaining the required age of 25 years. The other successful candidates were:

S. Forsdike, N. F. Sinclair, J. W. Adams, G. Gushue-Taylor, B. S. Simmonds, L. N. Reece, W. H. Ogilvie, A. N. Hooper, C. S. L. Roberts, K. H. McMillan, F. A. Williamson, A. C. Perry, H. W. S. Wright, J. R. Griffith, W. T. Warwick, N. J. Wigram, F. C. Mason, J. B. Hume, L. G. Higgins, Muriel E. Landau, J. Joffe, J. Whittingdale, J. Gilmour, W. E. M. Wardill, M. A. W. Mooro, R. M. Handfield-Jones, A. L. Buchanan, N. Cantlie, J. H. Col , H. R. Dew, R. Fowler, J. F. Gill, J. N. J. Hartley, R. A. Kerr, T. P. Noble, C. N. Smith, T. L. L. Sandes, M. H. Whiting.

Diplomas for the Licence in Dental Surgery were granted to twenty-one candidates.

Election of Examiners.

The following appointments were made:

FOR THE FELLOWSHIP.—*Anatomy*: J. Ernest Frazer, W. F. Haslam, Gordon Taylor, A. Ralph Thompson. *Physiology*: F. A. Bainbridge, J. B. Leathes, H. W. Lyle, A. R. Short.

CONJOINT EXAMINATION.—*Elementary Biology*: J. P. Hill, T. W. Shore. *Anatomy*: David Hepburn, F. G. Parsons, Arthur Thompson. *Physiology*: G. A. Buckmaster, H. E. Roaf. *Midwifery*: J. S. Fairbairn, Cuthbert Lockyer, G. D. Robinson, G. F. Darwall Smith. *Public Health*—Part I: Sir Frederick Andrewes. Part II: F. N. Kay Menzies. *Tropical Medicine and Hygiene*: G. C. Low, H. B. G. Newham.

Presentation of Diplomas to Honorary Fellows.

The President reported that the five surgeons who were elected Honorary Fellows of the College on February 12th last would attend to receive their diplomas on Thursday, July 8th, and that the diplomas would be presented to them at 7.30 p.m. on that day, after which they would be entertained to dinner in the College by the Council. The Honorary Fellows are Dr. A. Depage (Brussels), Dr. Gosset (Paris), Dr. P. Duval (Paris), Dr. Finney (Baltimore), Dr. C. Mayo (Rochester, U.S.A.).

The Services.

HONOURS.

C.B.E.

Temporary Lieut.-Colonel Ernest William White, R.A.M.C., has been appointed C.B.E. (Military Division) in substitution for the award of O.B.E. (Military Division) announced in the Supplement to the *London Gazette* of June 3rd, 1919.

Mentioned in Dispatches.

The name of Captain R. C. Clifford, D.S.O., M.C., I.M.S., attached 24th Punjabis, I.A., has been brought to the notice of the Secretary of State for War for gallant and distinguished conduct in the field (dated January 1st, 1919).

A fifth Supplement to the *London Gazette* of June 8th, published on June 11th, contains further lists of mentions for distinguished and gallant services and devotion to duty in the fields of operations indicated. The lists contain the following members of the medical profession:

France.—Temporary Lieut.-Colonel C. S. Myers, C.B.E., F.R.S., R.A.M.C. Captains C. S. O'Neill, O.B.E., R.A.M.C., and R. W. A. Salmon, O.B.E., R.A.M.C., T.F.

East Africa.—Lieut.-Colonel R. Milner-Smyth, O.B.E., S.A.M.C. Temporary Lieut.-Colonel J. Grinsell, O.B.E., S.A.M.C. Major (temporary Lieut.-Colonel) W. V. Field, O.B.E., S.A.M.C. Captains (acting Major) S. J. V. Furlong, O.B.E., R.A.M.C., S.R., (acting Lieut.-Colonel) J. D. Kidd, O.B.E., M.C., R.A.M.C., and H. L. Duke, O.B.E., Uganda Medical Service.

India.—Lieut.-Colonels P. St. C. More, O.B.E., I.M.S., and J. J. W. Prescott, D.S.O., O.B.E., R.A.M.C. Temporary Lieut.-Colonel Raghabendra Row, O.B.E., I.M.S. Major and Brevet Lieut-Colonel (temporary Colonel) F. A. F. Barnado, C.I.E., C.B.E., I.M.S. Majors (temporary Lieut.-Colonel) J. K. S. Fleming, O.B.E., I.M.S., G. D. Franklin, O.B.E., I.M.S., A. T. Frost, O.B.E., R.A.M.C., D. P. Johnstone, O.B.E., R.A.M.C., T. W. Minty, O.B.E., I.M.S., R. B. Nicholson, O.B.E., M.C., I.M.S., and H. W. Pierpoint, O.B.E., I.M.S. Captains (temporary Major) A. F. Babonau, O.B.E., I.M.S., (temporary Major) F. R. Coppinger, O.B.E., R.A.M.C., W. A. Frost, O.B.E., R.A.M.C., T. B. Heaton, O.B.E., R.A.M.C. (S.R.), C. H. Smith, O.B.E., I.M.S., (temporary Major) J. R. D. Webb, O.B.E., I.M.S. Temporary Captains J. Cairns, O.B.E., R.A.M.C., and S. K. Engineer, O.B.E., I.M.S.

North Russia.—Lieut.-Colonel T. McDermott, O.B.E., R.A.M.C. Captains (acting Major) W. N. W. Kennedy, O.B.E., R.A.M.C. (T.F.), and J. Renwick, O.B.E., R.A.M.C.

Salonica.—Captain (acting Major) B. L. Davis, O.B.E., R.A.M.C. (T.F.). Temporary Captain (acting Major) F. R. Brown, O.B.E., R.A.M.C. Drs. (Miss) E. B. Hollway, O.B.E., and (Mrs.) A. M. Livingstone-Learmonth, C.B.E., M.B., attached to R.A.M.C.

Siberia.—Major F. J. Collings, O.B.E., C.A.M.C.

Amendments.—In a list of amendments to mentions in dispatches the following are correctly described, and not as printed in the *London Gazette* of the dates indicated: *France*, temporary Lieutenant E. W. Carrington, R.A.M.C. (February 17th, 1915). *Italy*, temporary Captain S. J. Darke, M.C., R.A.M.C. (May 30th, 1918). *Salonica*, Captain T. Carnwath, R.A.M.C.(T.F.) (July 21st, 1917); temporary Captain G. Hardwicke, R.A.M.C., attached 3rd (H.C.) Field Ambulance R.A.M.C.(T.F.) (January 12th, 1920).

FOREIGN DECORATIONS.

The following decorations have been conferred in recognition of valuable and distinguished services rendered during the war:

By the King of Italy.

Order of the Crown of Italy.—Commander: Dr. Alexander Granville, C.M.G., British Red Cross Commissioner, Alexandria.

By the King of the Belgians.

Order of Leopold II.—Commander: Professor G. H. F. Nuttall, M.D., F.R.S. *Médaille du Roi Albert:* Colonel George Abraham Moore, C.M.G., D.S.O.

R.A.M.C. REGULAR OFFICERS' GRATUITY.

A NEW Royal Warrant lays down that Captains of the R.A.M.C. who are given permanent commissions in the corps subsequent to May 25th, 1920, must complete eight and a half years' total commissioned service in order to qualify for the gratuity of £1,000 payable under Article 597 of the Royal Pay Warrant to officers permitted to retire.

DEATHS IN THE SERVICES.

LIEUT.-COLONEL ALFRED ERNEST ROBERTS (retired) died in Guy's Hospital on May 20th, aged 60. He was born on December 3rd, 1859, the son of the late Mr. Andrew Thom Roberts, master printer, of Hackney. He was educated at Aberdeen, where he graduated M.B. and C.M. with honours in 1884, and at the London Hospital. He took the diploma of M.R.C.S. in 1887, and the D.P.H. at Cambridge in 1898. He entered the I.M.S. as surgeon on October 1st, 1887, passing first into and out of the Army Medical School at Netley; he retired as lieutenant-colonel on April 21st, 1908. After four years' military duty he went into civil employ in the North-West, now the United Provinces, in 1891; in May, 1899, he was appointed special health officer of Simla; in April, 1904, statistical officer to the Government of India in the sanitary and medical departments; and in September, 1904, secretary to the Director-General, a post which he held till his retirement. He served on the North-West frontier of India in the Hazara campaign of 1898, receiving the frontier medal with a clasp. He was the author of a short work on *Sanitation in India* (1891), and of a monograph on *Enteric Fever in India* (1906).

Brigade Surgeon Joseph Francis Barter, Madras Medical Service (retired), died at Ealing on June 1st, aged 87. He was the son of William Barter, of Fort William, co. Cork, was born in June, 1832, took the L.R.C.S.Edin. in 1858, and entered the I.M.S. as assistant surgeon on July 27th, 1859, attaining the rank of Brigade Surgeon in 1886, and retired on April 21st, 1890.

Inspector-General George MacLean, R.N.(ret.), died at Hampstead on May 31st. He was educated at Aberdeen, where he graduated M.A. in 1859 and M.B. and C.M. in 1862. Entering the navy soon after, he attained the rank of Inspector-General of Hospitals and Fleet on April 5th, 1898. He had received the Sir Gilbert Blane medal.

Medical News.

THE annual general meeting of the Research Defence Society will be held at the house of the Medical Society of London (11, Chandos Street, Cavendish Square) on Wednesday next at 3.45 p.m. The president, Lord Lamington, will be in the chair, and Lieut.-Colonel R. McCarrison, I.M.S., whose British Medical Association Lecture is published at page 822, will give a short address on vitamines and their relation to health. The attendance of persons interested is invited.

THE Incorporated Society of Trained Masseuses will hold a conference in London on June 24th, 25th, and 26th. The proceedings will be opened by an address on "The art of healing" by Professor Arthur Keith. Sir Charles Ballance will give a lantern demonstration on the healing process in nerves; Mr. H. Chapple, F.R.C.S., will discuss massage and exercises in the puerperium; and Mr. E. B. Clayton, M.B., will give a demonstration on crawling exercises for scoliosis. Particulars can be obtained from the secretary of the society, 157, Great Portland Street, W.1.

THE draft statutory regulations of the Board of Education, dated March 19th, dealing with medical inspections and treatment in secondary schools and other institutions for higher education, have been confirmed. Their chief provisions were summarized in our issue of April 24th (p. 581).

THE annual meeting for the election of officers and council of the Royal Society of Medicine will be held on Wednesday, July 7th. The council has nominated Sir John Bland-Sutton as president, and Dr. A. M. H. Gray, C.B.E., and Mr. W. Girling Ball as honorary secretaries.

THE Society of Tropical Medicine and Hygiene was founded in 1907, with Sir Patrick Manson as president and Sir Ronald Ross as vice-president. The King has now commanded that it shall be known as the Royal Society of Tropical Medicine and Hygiene. The society is not confined to medical men, and there are many veterinary practitioners among its Fellows, who now number 660. The president is Professor W. J. Simpson. The subscription has been raised to £1 11s. 6d. All particulars can be obtained from the Secretary, 11, Chandos Street, W.1.

DR. DAWSON TURNER has been reappointed extra medical electrician (for radium cases) to the Edinburgh Royal Infirmary for a further period to October, 1922.

THE Rubber Growers' Association offers a number of prizes (the first of £1,000) for the best ideas and suggestions for extending the present uses or encouraging new uses of rubber. Particulars can be obtained from the Secretary, at 38, Eastcheap, London, E.C.3.

THE Ministry of Food and the Ministry of Health announce that on and after June 13th an extra ration of sugar for a child under 2 years of age may be obtained by forwarding to the local food office a medical certificate stating that an extra ration is necessary. Formerly extra sugar could be obtained for such children only as were attending a child welfare centre; it is now available for others, and the certificates may be signed by the medical officer of the centre or by any other duly qualified practitioner.

A VACATION post-graduate course will be held at the North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.15) from Monday, July 19th, to Saturday, July 31st, inclusive. It will comprise demonstrations on clinical methods, including laboratory methods of the examination of cases in the mornings, and in the afternoons demonstrations on groups of illustrative cases, general hospital practice in the various departments, and clinical lectures and consultations. On Saturday mornings clinical demonstrations will be given in affiliated special hospitals. The fee for the course is three guineas, or two guineas for either week. Further particulars may be obtained from the Dean at the hospital, or at 19A, Cavendish Square, W.1.

A LECTURE given by Mr. F. L. Hoffman, LL.D., Statistician to the Prudential Assurance Company of America, at a meeting of the American Medical Association, of which he is an associate fellow, has been reprinted under the title *Is Leprosy Increasing?* As the result of a statistical inquiry Dr. Hoffman concludes that in the United States at the present time there are at least 250 cases, and possibly between 400 and 500. This estimate is smaller than the previous ones, but the available evidence seems to justify the conclusion that the disease is very slowly increasing, and that new foci of leprosy are being formed, and constitute a serious menace; during the last four years nearly 250 cases have been reported. Provision has been made by Congress for the erection of a "leprosarium" in Florida, but Dr. Hoffman believes that at least three new institutions are required. It is suggested that the time is opportune for holding another leprosy conference in continuation of the international meetings held at Berlin in 1897, and in Bergen in 1909. In appendices are collated the most recent statistics of leprosy in India, Cuba, Porto Rico, Brazil, Venezuela, Hawaii, and the Panama Canal zone.

A GENERAL meeting of the Tuberculosis Society of Great Britain and Ireland will be held at Cardiff on Saturday, June 26th, when papers will be read by Dr. J. Brownlee, Dr. H. de Carle Woodcock (president), Dr. H. Eilis, and Dr. A. Sandison. There will be a dinner in the evening at which the English members attending will be guests. On the following day members will have an opportunity of visiting the Talgarth Sanatorium, Breconshire, or the Glan Ely Hospital, Cardiff, as may be more convenient. Full particulars can be obtained from Dr. F. J. C. Blackmore, 39, Woodland Terrace, Old Charlton, S.E.7.

A VIOLENT outbreak of plague has occurred at Czernovitz, and many hundred deaths have been reported.

PROFESSOR GIUSEPPE GUICCIARDI of Reggio Emilia has assumed the editorship of the well known journal of psychiatry, *Rivista Sperimentale de Freniatria*, which had been edited for nearly fifty years by the late Professor Augusto Tamburini.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

AS, owing to printing difficulties, the JOURNAL must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin:* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"F. W." asks for experience of the use of motor scooters for general practice.

TREATMENT OF SCIATICA.

A CORRESPONDENT has been stimulated by reading Dr. Wilfred Harris's lecture (BRITISH MEDICAL JOURNAL, May 22nd, p. 693) on the treatment of trigeminal neuralgia by the injection of alcohol, to ask whether sciatica could be treated by an injection of alcohol or distilled water into the sciatic nerve.

*** We referred the question to Dr. Harris, who has been good enough to reply as follows: Alcohol must never be used for injection into the sciatic nerve for sciatica, owing to the severe paralysis of all the leg muscles below the knee that it would cause. I sometimes use Lange's method of massive saline injections into the nerve in the neighbourhood of the notch. The saline acts only as a mechanical agent in separating the nerve bundles and breaking down adhesions. 2 per cent. novocain is first injected into the nerve in order to reduce the pain of the saline injection.

INCOME TAX.

W. B. became a director of a limited company in May, 1919, at a fee of £65 a year. He received £65 in May, 1920, and this sum has been assessed to income tax as for the year to April, 1920, and reckoned as part of his income for that year. Is this correct?

*** Such fees are assessable according to the amount receivable for the year of assessment, and that would be determined by the resolution under which "W. B." received his appointment. For instance, if it provided that he should be appointed as from May 5th, 1919, at a fee of £65 per annum, then the amount of income assessable for the year commencing April 5th, 1919, would be eleven-twelfths of £65—say £60; if the result be to raise the total income above any particular limit, the legal effect is to justify further assessments to adjust the original ones made before the additional income was dealt with by the authorities. "W. B." is liable to include the £65 in his statement of income for 1920–21, but is entitled to have any future assessment restricted to the appropriate proportion of the year if and when he should give up the directorship.

LETTERS, NOTES, ETC.

RATS AND PLAGUE.

WE are indebted to Sir John Tweedy for the following note:—With reference to Lieut.-Colonel R. Cobb's note in the BRITISH MEDICAL JOURNAL of June 12th, your readers may be interested to know that in a delightful little book entitled *The Land of the Two Rivers*, by Mr. Edwyn Bevan, published two or three years ago, there is the following reference of the destruction of Sennacherib's army:

"On the borders of the desert between Palestine and Egypt the Assyrian army was mowed down by a sudden pestilence. The remnant had to take the homeward road as best it could. Long after, in Egypt, Herodotus was told the story how Sennacherib had come against Egypt, and how Pharaoh prayed to the god Ptah, and a horde of rats had attacked the Assyrian army and gnawed through their straps and bowstrings, so that they had to flee home. He was shown a statue of the Ethiopian Pharaoh holding a rat in his hand. The sculptor may have intended it as a symbol of plague."

In a footnote Mr. Bevan adds: "Apollo Smintheus, the sender of plague, is represented with his foot upon a rat (*Pausanias*, x, 12). When the Philistine cities are visited by the bubonic plague they pacify Yahweh by offering golden rats and golden bubos (I Samuel, vi)."

THE VALUE OF COUNTER-IRRITATION.

DR. W. J. MIDELTON (Bournemouth), in the course of a note on this subject, writes: In support of my view that counter-irritation of the skin promotes destruction and elimination of germs I append notes of the following case: A woman of 44, whose father and two sisters had rheumatic fever and whose mother was consumptive, and who was the fourteenth child of eighteen, was as a girl physically and mentally weak, and did not walk until the age of ten. From infancy the left leg was shorter and weaker than the right, and she had pain in the left hip and knee. After her parents' death she earned her living as a dressmaker, and for five years was treated as an out-patient for (she said) "nervous and bilious attacks." In 1919 the left leg became much weaker, and she could only walk a short distance aided by sticks. She had "nerve storms" and "neuritis," and was wont to cry for hours at a time. When I first saw her on October 20th, 1919, she was thin, pale, and edentulous, with prominent eyes; the left leg was shorter and smaller than the right. The left hip and knee exhibited chronic osteo-arthritis, but were fairly movable. There were no definite physical signs in the lungs, but there was a well-marked systolic murmur. I treated her by making small dots (a few at first, increasing to thirty twice weekly) on the back over and at the sides of the vertebrae. She improved steadily in every way and can now walk two miles without a stick, she sleeps better, the pain and swelling in her knee are nearly gone, and she is able to do her work.

In my small book, *Continuous Counter-irritation in the Treatment of Nervous and other Diseases*, I called attention to the fact that a patient's troubles are by no means over when all the teeth have been removed. There are in the system thousands of small foci impossible to deal with except by general measures. In continuous counter-irritation I have satisfied myself that I have found a very potent means of reaching them. My patient was shown at a meeting of the local medical society on April 14th, 1920.

TREATMENT OF PSOROPTIC MANGE.

DR. J. S. MATTHEWS (Cape Town) writes: May I offer a protest against the unreasonably complicated laboratory method of dealing with the *Psoroptes cuniculi* occurring in rabbits' ears, detailed by Mr. J. E. Mellor on p. 316 of your issue of February 28th? All that is really necessary to effect a complete, painless, and speedy cure is to remove the flakes with forceps and swab thoroughly with 1 per cent. potassium permanganate. This is usually sufficient, as everything will be dead. Inspect a day or two later and remove any flakes which may remain, and reswab merely as a precaution. A third application was never required and the disease never recurred in the same stock. The hutches were disinfected, of course.

DRIED EGGS.

DR. ALETHIA J. BOLTON (Nottingham) writes: In my experience there has been a great increase in the number and severity of cases of indigestion in general practice during the last two or three years. This is attributed by patients to "war bread or margarine, low meat ration," etc.—in my opinion quite erroneously, as the reduced diet has on the whole benefited health. There must, however, be some cause, and I am anxious to know whether the "liquid eggs" so largely used in the manufacture of shop cakes, etc., should be blamed. I understand that the "dried eggs" are not toxic, but should like to know definitely, as I believe it to be a matter of grave importance.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 41, 42, 43, 44 and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 38, 39, and 40.

THE following appointments of certifying factory surgeons are vacant: Buckhaven (Fife), Dulais Valley (Glamorgan), Forkhill (Armagh).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Lecture

ON THE

EARLY SYMPTOMS AND DIAGNOSIS OF DISEASES OF THE SPINAL CORD.

DELIVERED BEFORE THE PLYMOUTH DIVISION OF THE BRITISH MEDICAL ASSOCIATION, MAY 1ST, 1920,

BY

SIR F. W. MOTT, K.B.E., M.D., F.R.S.

WHEN the Plymouth Division of the British Medical Association did me the honour of asking me to give an address on the early symptoms and diagnosis of diseases of the spinal cord I readily accepted; but when I came to consider how I could best occupy the time permissible for such an address, I found considerable difficulty—not with what I *could* say on such a very important and extensive neurological subject, but what I could leave out. I will therefore be guided chiefly in the treatment of the subject by the difficulties I have experienced in differentiating early organic from functional disease, especially in the large number of cases which have passed through my hands during the last six years at the War Neurological Clearing Hospital in London.

The cases which presented the greatest difficulty were those in which the patients came under notice for subjective sensory phenomena, many of whom presented no objective signs.

SUBJECTIVE SENSORY SYMPTOMS.

The two subjective sensory symptoms which are the earliest evidence of disease of the spinal cord are pain and paraesthesia or dysaesthesia. They may be the sole symptoms, at first, of severe spinal cord disease, and it should be recognized that a patient who comes to a doctor complaining of localized pain or numbness, tingling, pins and needles, formication, or other abnormal sensations, presents the possibility of early signs of spinal cord disease.

Pain an Early Symptom of Spinal Cord Disease.

Pain is one of the most constant signs of all forms of disease; it is protective, and therefore constitutes an early symptom. When a patient comes complaining of pain in a part, the natural thing to do is to see whether there are any objective signs to account for the cause of the pain in the region where it appears. There may or there may not be signs. For example, a pain in the spine is a very frequent occurrence in the war psychoneuroses. Indeed, in my experience, only a very small percentage of cases complaining of pain in the spine suffered with disease of the spinal cord; and that is true in civil life as well as in military life.

A man may give a history of being blown up or of having fallen and sustained an injury of the back. He complains of pain and tenderness in the spine, which has caused him to lose the use of his legs or to walk with a bent back. Such cases came often under my notice. I will cite one in particular. A conscript had lost the use of his legs and suffered pain in the back following a fall; I examined his spine and told him to tell me exactly *the* spot where he felt the pain, percussing each spine as I went down. I marked with blue pencil the tender point; at the same time I remarked aloud that this was too low to affect the spinal cord, and he obliged me, when I percussed the spine again, by shifting it higher. Again I suggested that it was too low, and again he shifted it higher. I then tested his reflexes, and finding them normal, suggested that he should get up and walk, which he did.

Nevertheless, although the great majority of cases coming with pain in the spine and tenderness may be functional, occasionally cases occur in which there is organic disease. Thus a good soldier, a sergeant, who had been blown up and buried for three days, complained of pain on pressure over the fifth cervical vertebra on the left side. He had been regarded as a functional case of mild paraplegia. I found, however, a well marked extensor response of the big toe on the left side, absence of the abdominal reflex on that side; and an *x*-ray examination showed a fracture of the transverse process. I diagnosed a resulting pachymeningitis. This has since spread, until now he has complete spastic paraplegia. Well, in this case, had his papers been filled up as "functional," he would not have received a gratuity nor an adequate pension.

Localized tenderness on pressure and pain of the spine which cannot be shifted by suggestion, should always be carefully investigated, even in the absence of any deformity and although a neuropathic tendency is obvious. Evidence of pain on movement of the spine in the various directions possible should not be neglected. The exact situation of the tenderness should be noted and the character and localization of the pains or abnormal sensations should be investigated—for this will give important information regarding the anatomical diagnosis. Pain and tenderness on pressure, combined with a localization of pain or paraesthesia in a skin area, corresponding to a segment or segments of the spinal cord, are of great diagnostic importance in caries and new growth of the spine, tumours, aneurysm eroding the spine, and extramedullary tumours affecting posterior roots. An *x*-ray examination will help to confirm the diagnosis, localize the disease, and indicate the treatment.

Pain in disease of the spinal cord is especially a sign of irritation of the spinal ganglia or sensory roots as they pass through the intervertebral foramina to the cord by a localized or general meningitis.

The Character of the Pain.

The pain due to early spinal cord disease is of a neuralgic character. It varies in severity and from time to time, according to the temperament and general health of the individual. It may be described by the patient as lancinating, boring, cutting, tearing, burning, and so severe may it be as to cause the patient to cry out. It may be continuous, dull, and contusive, with paroxysmal crises of acute pain. It is differentiated from true neuralgia and neuritis by its segmental topographical distribution. In neuralgia there are anatomical points, compression of which gives rise to pain. These neuralgic points are also the seat of pain in the nerve, and seem to be the point of departure of the paroxysms constituting the crises. Pains of a neuralgic type and especially severe, however, arise as a result of compression or irritation of the spinal roots or of the brachial, lumbar, or sacral plexuses. These pains are called *pseudo-neuralgic*, and are met with at the commencement of cases of compression of the spinal cord in caries of the spine, aneurysm of the descending aorta, in the paraplegia dolorosa of cancer, and in cases of irritation of the spinal roots from localized and general meningitis.

The pain of general or local meningitis is frequently associated with general or local muscular spasm and rigidity. This is very obvious when the cervical region is involved. In cervical caries there is local tenderness and rigidity, and if we see a patient supporting his head with both hands owing to pain in the neck, this is almost a sure indication that he is suffering from disease of the cervical vertebrae.

Sooner or later these root pains will be associated with objective sensory disturbances disposed in bands on the trunk and long strips on the limbs. The reason for this is seen in the distribution of the fibres of the posterior spinal ganglion.

Whereas pressure on nerve trunks in peripheral neuritis causes lively pains, this is not so obvious when a nerve is pressed in radiculitis (spinal root inflammation). But severe pain may be caused by sneezing, coughing, blowing the nose, or defaecation. The cause of root pain is a local or general meningitis affecting the posterior sensory roots in some part of their course from the intervertebral foramina to the spinal cord. Not infrequently, especially in syphilis, a diffuse meningitis is associated with the primary local condition, and that this exists is shown by a lymphocytosis of the cerebro-spinal fluid.

Syphilitic Meningitis a Frequent Cause of Root Irritation.

In the greater number of cases of spinal cord disease commencing with symptoms of local root irritation followed by a generalized spinal meningitis (often cerebro-spinal meningitis) syphilis is the cause, and in addition to an abundant lymphocytosis of the cerebro-spinal fluid, a

positive Wassermann reaction of the blood and fluid is obtainable.

The lumbo-sacral region is a frequent seat of root pain, but it may occur in the dorsal or cervical region in syphilis.

The initial lesion of tabes is marked by root pains of a lightning, stabbing, burning character, which are in all probability due to irritation of the rootlets of the posterior spinal ganglion at their entry into the cord. This irritation is probably set up by an inflammatory process in the membranes at the point of entry.

Segmental Pain and Herpes Zoster.

Severe neuralgic pain with a spinal segmental distribution does not always result in symptoms pointing to disease of the spinal cord, and the inflammatory process may affect only the posterior spinal ganglion. When this structure is acutely inflamed, "herpes zoster" appears in the area of distribution of the sensory nerve fibres issuing from the ganglion. The appearance of the eruption is usually followed by a cessation of pain. Intercostal neuralgia and pleurodynia are frequently diagnosed in early rachialgia due to organic disease affecting spinal roots.

Pain in Peripheral Neuritis.

Severe shooting pains in the limbs, especially the lower limbs, followed by objective signs of sensory disturbances, such as hyperaesthesia upon pressure of the calves, associated with anaesthesia to light touch and analgesia, occur in peripheral neuritis, but the history of the case and the distribution of the sensory disturbance will enable a differentiation between this and spinal cord disease to be made.

It must be remembered that in some cases the pains in peripheral neuritis may be of a lightning character and thereby simulate tabes, especially if there are ataxic symptoms and absence of the knee and Achilles jerks, but there is usually an associated motor affection in the form of paresis or paralysis, associated with wasting of the muscles. The pupils are normal, and the Wassermann reaction is negative.

Lightning Pains and Early Symptoms of Tabes.

It is noteworthy that in the pre-ataxic stage of tabes lightning pains occur, and yet Romberg's symptom may be absent and the knee jerks and Achilles jerks present. Hence these pains are often thought by the doctor to be due to rheumatism, muscular rheumatism, or neuritis. I have seen cases of tabes in the pre-ataxic stage where the deep reflexes have disappeared, first on one side and then on the other, after crises of pains. Lightning pains are rarely absent in ataxic patients; they constitute the earliest symptom. Often these pains are for a long time believed by the patient, and even sometimes by the doctor, to be rheumatic or neuritic in origin. It is rare that there is not some pupillary affection in this disease. Unequal pupils, irregular pupils inactive or sluggish to light and active to accommodation—the Argyll Robertson pupil—in conjunction with shooting pains in the limbs, are sufficient evidence to diagnose locomotor ataxy in the pre-ataxic stage. Cases of tabes occur where the knee jerks are present but the Achilles jerks are absent. These cases often show loss of bone sensibility to the vibrations of a tuning-fork.

Painful Visceral Disturbances an Early Symptom in Tabes.

Next to lightning pains bladder troubles are among the earliest and most constant symptoms of tabes; they are not severe, and, according to my experience, the patient does not usually seek the advice of a doctor for this reason. It is only as the result of inquiry, as a rule, that the patient in relating his symptoms mentions difficulties in starting micturition or holding his water.

Bladder crises have been described. They consist of violent pains which occur in the lower part of the belly, radiating to the inner side of the thigh. The patients have an urgent desire to micturate, but are unable; they experience the most severe burning and cutting pains in the urethra. These crises may last a few or many hours. Renal crises have also been described. These crises may simulate passage of a stone or gravel in a patient.

Gastric crises again are not infrequently the earliest symptom of the disease, and the attacks of pain and vomiting may be the cause for which the patient seeks advice. I have seen cases of visceral crises in which the surgeon has been called in with a view to operation for intestinal obstruction, and I have seen two patients, early cases of tabes with visceral crises, upon whom abdominal section had been performed. One patient had pus in the urine, probably owing to cystitis, but the surgeon found the kidneys healthy. Visceral crises may be the sole complaint in tabes of which the patient is conscious.

One patient of mine remained in the pre-ataxic stage twenty years, the sole symptom of the disease of which he was conscious being attacks of severe pain which extended both vertically and transversely between the shoulder blades and over the whole back; as soon as the pain became acute, vomiting would take place and relief would come. He had, however, Argyll Robertson pupils and thoracic anaesthesia to light touch.

Rectal and intestinal crises may also occur and are among the early symptoms of tabes. The patients complain of tenesmus and urgent desire to go to stool, of severe pain in the back passage, like the introduction of a hot iron; sometimes this is accompanied by tenesmus and straining. Laryngeal crises are a rare early symptom and the attacks are not so frequent as visceral crises.

The association of thoracic anaesthesia with visceral crises gives an anatomical explanation of their causation; the afferent visceral sympathetic nerves terminate in the posterior cornua of the spinal cord segments corresponding to the seat of the pain in the skin and the anaesthesia, the irritative inflammatory process that affects the posterior sensory roots innervating the skin irritates the afferent visceral fibres.

Again, painless spontaneous dislocation or fracture may be the first event to bring the patient under medical or surgical observation. Upon inquiry it will generally be found that these patients have had lightning pains which they attributed to rheumatism.

Impotence or satyriasis may be an early symptom of tabes.

The visceral as well as the somatic symptoms depend upon the anatomical seat of the irritative and destructive morbid process.

In all these early manifestations of tabes which bring the patient to the doctor, other signs or symptoms will be revealed by careful examination, the most frequent and important diagnostic clinical sign being the pupil phenomena. The Argyll Robertson pupil shows that a patient has tabes or is a candidate for it, and to me it is as sure a sign of syphilis as the chancre or the secondary eruption.

Girdle Pain an Early Symptom of Chronic Meningo-myelitis.

A girdle pain is common in tabes, but it is also an early symptom of a focal meningitis or meningo-myelitis of slow and progressive evolution, and marks the commencement of the affection.

This early symptom of root affection is very common in syphilitic disease of the spinal cord. The recognition of inflammatory root symptoms—namely, paraesthesia and girdle pains in syphilitic disease of the spinal cord—is a matter of great importance as regards early active treatment being successfully carried out before the inflammation has had time to spread to the spinal cord itself, producing thereby a transverse myelitis, which destroys the nervous structures and leads to ascending and descending degeneration of the tracts conveying sensory and motor impulses to and from the brain. Once this degeneration has occurred a permanent spastic paraplegia is installed, and no amount of specific treatment can restore the destroyed nerve fibres. I have recently seen an ex-service man who had all these warning symptoms, and yet no endeavour had been made to discover by a Wassermann reaction and examination of his fluid the cause of his symptoms and their progress until he became completely paralysed, when he came under my observation.

Syphilitic meningo-myelitis is the most frequent cause of paraplegia in young male adults, and root pains and dysaesthesia are the earliest warning symptoms. If treated in the early stage the results are surprisingly satisfactory. An idea unfortunately still lingers in the profession that affections of the nervous system are a late

tertiary manifestation of syphilis, in spite of the fact that Fournier long ago showed that the severest and largest number of cases of cerebro-spinal syphilis occurred within the first year after infection and diminished in severity and frequency with each successive year. Again, Jonathan Hutchinson pointed out that one-half of the cases of syphilitic paraplegia occurred within the first eighteen months after infection. These facts show how valuable is an examination of the cerebro-spinal fluid as an aid to diagnosis and subsequent treatment in all cases presenting possible symptoms of spinal cord disease. Thus a leucocytosis and discovery of the *Meningococcus intracellularis* is a positive proof of epidemic cerebro-spinal meningitis. A lymphocytosis points to either syphilis or tubercle, but a differential diagnosis is easily effected in a doubtful case by the results of a Wassermann reaction of the blood and fluid and attention to the history of the case, the clinical evidence, and the result of antisyphilitic treatment. I may mention that a lymphocytosis is present in practically every case of untreated syphilis or tabes, but the fluid does not always give a Wassermann reaction, although it may appear after a provocative dose of salvarsan.

Dysaesthesia.

Dysaesthesia is a very early symptom of spinal cord disease. Abnormal sensations, such as heaviness of the limbs, numbness, tingling, pins and needles, sensations of heat and cold in some part of the body, especially of the limbs, may bring the patient to the doctor. He may find him a neurasthenic, who has suffered with this symptom on and off for some time, or that it has recently commenced; in any case he should make a careful investigation to ascertain the cause.

The Conditions which Cause Dysaesthesia.

We are all familiar with the unpleasant effects of sitting for some time on a hard seat, thereby compressing the sciatic nerve: upon rising the leg feels heavy, there is a numb feeling associated with pins and needles. This is due to a temporary interruption, by the compression of the nerve, of the normal sensations which are continually contributing subconscious evidence of that part of our personality.

A number of morbid conditions besides compression of a nerve may cause dysaesthesia. They are:

1. Local transitory modifications of the circulation such as are met with in Raynaud's disease and erythromelalgia, due to vasomotor spasm. Also arterial circulatory disturbances in the limbs occasioned by atheroma, arteriosclerosis, and endarteritis.
2. Reaction to cold.
3. Neuritis of traumatic, toxic, or infective origin.
4. Symptoms of dysaesthesia or, as these objective symptoms are also called, paraesthesia, especially of the extremities (acroparasthesia), are met with in neurasthenics. According to my experience subjective sensory symptoms of numbness and tingling of the extremities is a frequent symptom complained of by neurasthenics.

Having given the causes of dysaesthesia which may occur in other conditions than spinal cord disease, I will now pass on to the subject of dysaesthesia as an early symptom of spinal cord disease.

Dysaesthesia as an Early Symptom of Spinal Cord Disease.

Many of the conditions which give rise to neuralgic pains give rise to abnormal sensations of numbness, tingling, pins and needles—that is, in the prodromal periods of vertebral disease, intramedullary and extramedullary tumour, dysaesthesia may even precede the pain in these affections.

Again, dysaesthesia may be the first symptom in chronic spinal meningitis, acute or chronic myelitis, anterior poliomyelitis, myelomalacia, or thrombotic softening of the spinal cord, transverse syphilitic meningomyelitis, and disseminated sclerosis. Therefore, when this symptom is complained of, even in the absence of objective signs of disease, it is imperative carefully to investigate the probable causation, look for objective sensory disturbances, examine the condition of the reflexes, and note if there is any evidence of motor weakness.

Objective Disorders of Sensibility.

Total anaesthesia in disease of the spinal cord only occurs in cases where there is a complete transverse lesion, such as occurs in fracture dislocation, bullet wound, or severe meningo-myelitis caused by compression or disease; the prognosis is always grave. In meningo-myelitis the subjective sensory symptoms previously described and hyperaesthesia precede the anaesthesia in all cases arising from focal myelitis, or radiculitis, or diffuse myelitis.

Dissociated anaesthesia is more frequent and more important as a diagnostic sign than total anaesthesia in the localization of lesions. By dissociation I mean that all modes of sensation are not affected, or not affected to an equal degree. Superficial sensibility to a light touch with a wisp of cotton-wool, to pricking, and to heat and cold may coexist with unimpaired deep sensibility. An anaesthesia to light touch may be associated with the preservation of pain sensibility, and even so exaggerated that touch sensations are only recognizable as painful (anaesthesia dolorosa). This sensory dissociation may be met with in peripheral neuritis and in cases of compression and irritation of roots. In syringomyelia and haematomyelia, where the grey matter is disorganized, pain, heat and cold sensations are not felt but tactile sensations are.

Diseases of Spinal Cord in which Sensory Phenomena are Transitory or Absent.

There are certain diseases of the spinal cord in which sensory phenomena are transitory or absent.

Anterior poliomyelitis, an infective disease with an acute onset, is ushered in by fever, malaise (frequently vomiting), associated with numbness, tingling, and pins and needles in the limbs, followed in a few hours by a flaccid paralysis of the muscles, proceeding to wasting, with reaction of degeneration and permanent atrophy of some groups. The anatomical lesion is an inflammation affecting especially the anterior horns; the spinal motor neurons are damaged or destroyed, consequently the motor fibres degenerate and with them the muscles they innervate. The posterior spinal ganglia—the trophic centre of the sensory fibres—is not involved; consequently they do not degenerate, and the sensory symptoms are therefore only transitory.

In progressive muscular atrophy there is a progressive and insidious decay and destruction of the spinal motor neurones, and as they degenerate and die, the muscle fibres, which they innervate, degenerate and undergo atrophy. The characteristic fibrillary twitchings in the degenerating muscles is evidence of the increased irritability of the degenerating fibres. There is no sensory disturbance of function in this disease, as the sensory neurones are not affected. Amyotrophic lateral sclerosis is a degenerative disease, not only of the spinal motor neurones innervating the muscles but also of the cortico-spinal neurones which carry voluntary impulses from the brain by the pyramidal tracts to the spinal motor neurones which they control. In this disease also there is no sensory trouble. Both these diseases—progressive muscular atrophy and amyotrophic lateral sclerosis—tend to affect early the small muscles of the hand and shoulder girdle. In amyotrophic lateral sclerosis there is a wasting of muscles associated with exaggerated deep reflexes, patellar and ankle clonus and plantar extensor response; these form the early symptoms of the disease.

Another disease probably infective in origin but of extreme importance is disseminated sclerosis. This disease is easy of diagnosis when such cerebral symptoms are present as intentional tremors, staccato speech, nystagmus, and optic atrophy, but when only spinal cord symptoms are in evidence it is very apt to be mistaken for functional disease. Not infrequently dysaesthesia—namely, numbness, tingling, pins and needles in the limbs—marks the onset of the disease; this is followed in some cases by temporary anaesthesia; the patient then suffers with a spastic condition of the legs associated with a certain amount of paralysis or paresis, inco-ordination and difficulty or awkwardness in gait and station. When these symptoms are accompanied—as they often are in young women—by emotional symptoms, an erroneous diagnosis of hysteria may be made, especially if a systematic examination of the superficial and deep reflexes is not made. Absence of the epigastric and

abdominal reflexes on one or both sides, exaggeration of the knee-jerks, patellar clonus, ankle clonus, and—most important—plantar extensor response of the big toe, with fanning of the other toes, paresis, loss of sense of position, and diminution of bone sensibility show that there is a lesion involving the pyramidal tracts and the posterior column. The superficial sensibility is usually unaffected.

THE IMPORTANCE OF ANATOMICAL DIAGNOSIS IN PROGNOSIS AND IN CASES WHERE SURGICAL INTERFERENCE MAY BE CONTEMPLATED.

The diagnosis of the exact localization of disease of the spinal cord is of great importance from two points of view—namely, in prognosis and in the rare cases where surgical interference is contemplated.

The prognosis is always most grave where there is clinical evidence of extensive diffuse myelitis and where the lesion affects certain regions of the spinal cord owing to dangerous symptoms and complications arising. These lesions in the upper cervical region may affect the phrenic neurones. Again, a lesion in which the symptoms point to a complete transverse myelitis is evident by an absolute loss of sensibility below the lesion paraplegia and loss of control over the sphincters. In such cases cystitis and secondary infective nephritis are liable to occur; also large sacral bedsores, unless great care be taken by the doctor and nurse.

When the lesion affects the lumbo-sacral region and the lower motor neurones are destroyed there is, in addition, atrophy with reaction of degeneration of the muscles of the lower extremities; the sphincter troubles are more serious and bedsores are almost sure to occur in spite of careful treatment and nursing.

Anatomical Diagnosis in Relation to Surgical Interference.

A precise anatomical diagnosis in cases of extramedullary tumour of the spinal cord and meningitis circumscripta is essential before operative interference can even be contemplated. Extramedullary tumour is really a more hopeful surgical operation than cerebral tumour. The difficulty of diagnosis lies, however, in the fact that we cannot always be sure that the tumour is outside the cord. It may be intramedullary. The existence of definite symptoms of root irritation prior to pressure symptoms serves as a means of localization of the situation of the tumour and affords evidence of its extramedullary situation.

The earliest symptom noticed by the patient in extramedullary tumour is pain or paraesthesia, generally on one side and only in the area of distribution of a root and associated with hyperaesthesia of the corresponding skin area. As the tumour increases in size it produces sooner or later a unilateral compression of the spinal cord of the same side, and this causes an interruption of sensory and motor tracts.

Now it frequently happens in these cases that a sensory dissociation known as the Brown-Séquard phenomenon is found—namely, there is loss of sensibility to pain, heat, and cold of the side opposite to the lesion and paralysis and loss of tactile kinaesthetic sense on the same side as the lesion. This can be explained on anatomical grounds. The fibres conveying sensations of heat and cold and pain decussate to the opposite side almost immediately in the grey matter, whereas the fibres conveying tactile kinaesthetic impressions do not decussate until they reach the medulla. The existence of compression in the pyramidal tract fibres is shown by weakness or loss of voluntary power in the limb, dragging of the foot, increase of deep reflexes, ankle clonus, and plantar extensor response. If unrelieved the pressure increases as the tumour grows and a complete paraplegia results.

These cases of slow-growing benign extramedullary tumour may be easily missed in the early stages and the case regarded as functional, unless a very careful and methodical examination is made, and that leads me to say a few words in conclusion regarding the differential diagnosis of spinal cord disease and hysteria in its multiform simulations.

Diagnosis of Functional Diseases.

The experiences of the great war have given us innumerable instances in support of Babinski's view that these functional disabilities are the result of auto- or hetero-suggestion, and can be cured by suggestion or persuasion.

I do not, however, hold with those authorities who think it unnecessary or undesirable carefully to examine a case to enable them to exclude organic disease. Certainly there is a danger of suggesting to the patient symptoms, especially in respect of sensory disturbances, but after you have made a careful and methodical examination of the superficial and deep reflexes and found them all normal, you are justified in arriving at the conclusion that the contracture, paralysis, or inability to stand or walk (astasia abasia), which may have even existed for months or years, is the result of auto- or hetero-suggestion, and you can then with confidence assure your patient that he can be cured. In these functional cases, moreover, even after prolonged disuse of the limbs, there is little or no wasting, and the muscles all respond normally to electrical stimulation. I would remind you that in long-standing functional cases there is acrocyanosis and coldness of the feet, so that no response occurs to stimulus of the sole. If the foot be warmed the response can be obtained.

The recognition of functional sensory disabilities simulating spinal cord disease is easy: the superficial sensibility to pain, heat and cold, and touch is lost completely; there is no dissociation, neither the anaesthesia nor the pains complained of conform to the anatomical distribution of spinal roots or peripheral nerves. In the limbs the superficial anaesthesia takes the form of a stocking or gauntlet, and can easily be removed by suggestion, the restoration of sensibility being from above downwards. The secret of success in the treatment of these functional cases is faith; consequently, in the first treatment you must not leave the patient until you have established that by bettering or curing the disability. It may take minutes; it may take hours.

However, among the very numerous cases of functional disability there are many cases of organic disease of the spinal cord with a large halo of functional disturbance, which can be removed by various methods of suggestion, by re-education and various other forms of encouragement. But the fact must not therefore be overlooked that such a patient, in spite of the satisfactory results of such treatment, is suffering with a permanent disability, which may progress in spite of improvement by the treatment.

From what I have said it is clearly necessary to decide by examination: First, whether the case is functional or organic. Secondly, if organic, in order to form a correct judgement regarding prognosis and treatment, it is essential to diagnose the pathological nature of the lesion and its anatomical situation.

In conclusion, I would ask you to bear in mind that more mistakes are made from not looking than from not knowing.

THE LABYRINTHINE REACTIONS OF EXPERIENCED AVIATORS.

BY

DAVID RANKEN, M.S.LOND., F.R.C.S.ENG.,

SQUADRON LEADER R.A.F. MEDICAL SERVICE.

THIS investigation was undertaken in order to ascertain the difference, if any, between the labyrinthine reactions of experienced pilots and those of the average individual of the same age who has done no flying. In the American Air Force the Bárány rotation tests have played a much more important part in the acceptance or rejection of aviation candidates than in our own, and it is stated by Colonel Isaac Jones of the American Air Force, in his book entitled *Equilibrium and Vertigo*, that in addition to the majority of aviation candidates, all experienced pilots so far examined by them have without exception shown normal responses to their routine standards in the turning chair.

As the Aviation Candidates Medical Board, Hampstead, has during the last eighteen months examined several hundreds of experienced pilots for civilian aviation, the present seemed a suitable time for such an investigation. All tests employed have been performed as closely as possible in conformity with the rules laid down for the

American Air Force in order that the results obtained might be strictly comparable.

The points investigated were:

1. (*a*) The average amount of nystagmus, past-pointing, and vertigo in pilots who have from 100 to 1,000 hours to their credit. (*b*) As (*a*), but in pilots who have flown more than 1,000 hours.
2. The difference, if any, between the reaction sensibility of the right and left labyrinths.
3. The reasons for unduly high or low periods or errors.
4. The relation, if any, between these tests and others in use at the Aviation Candidates Medical Board.
5. The value of these tests from the point of view of the medical selection of pilots.

1. *Average Nystagmus Periods.*

(*a*) The average nystagmus periods of 100 pilots with from 100 to 1,000 hours in the air to their credit were:

(i) After turning to the right ten times ... 22.6 secs.
(ii) After turning to the left ten times ... 23 secs.

(*b*) The average nystagmus periods of 50 pilots with over 1,000 hours to their credit were:

(i) After turning to the right ten times ... 20.6 secs.
(ii) After turning to the left ten times ... 21.82 secs.

On comparing these two sets of figures it will be noticed that the first pair is a trifle higher than the second pair, both also being slightly lower than those laid down by the American Air Force—that is, 26 seconds after turning to either the right or the left, as the normal average. It will also be noted that the response in both cases is slightly higher after turning to the left than to the right—that is, after stimulating the right than the left labyrinth, as rotation to the left stimulates and produces impulses mainly from the labyrinth of the opposite side, and vice versa.

Past-Pointing.

The average past-pointing in 50 pilots with 100 to 1,000 hours to their credit was:

(i) After turning to the right ten times ... 2.5 errors
(ii) After turning to the left ten times ... ... 2 errors

In the case of 50 pilots with over 1,000 hours to their credit the figures were:

(i) After turning to the right ten times ... 2.25 errors
(ii) After turning to the left ten times ... 1.8 errors

It will again be noticed that the first pair of figures is slightly higher than the second pair. It would seem at first sight also that stimulation of the left labyrinth causes more reaction and consequent error than that of the right. A more probable explanation, however, is that in routine testing all pilots were turned to the right first, and a preliminary education thus gained in pointing errors caused them, consciously or subconsciously, to expect, allow for, and compensate the tendency to such errors on being turned in the opposite direction—that is, to the left. Of all three tests, this would seem the one where erroneous results are most easily obtained, for the above reason.

Vertigo.

It is in the case of the vertigo periods, however, that the most striking results were obtained. The vertigo periods are considered by some to be identical with the nystagmus periods—that is, 26 seconds after turning to the right and 26 seconds after turning to the left.

In the case of 50 pilots with 100 to 1,000 hours to their credit the average vertigo periods were:

After turning to the right ten times ... ... 13.5 secs.
After turning to the left ten times ... ... 11.7 secs.

In the case of 20 pilots with over 1,000 hours to their credit the average vertigo periods were:

After turning to the right ten times ... ... 13.1 secs.
After turning to the left ten times ... ... 12.4 secs.

The outstanding feature in these pairs of figures is that they only amount to about half as much as those assumed to be the average for the normal individual. If this assumption were correct one might be justified in believing that the majority of aviators acquire a diminished vertigo period consonant with their flying experience. At a recent examination of cadets for the Air Force, however—youths of about 18 years of age who had never been up in the air—the writer found that the average vertigo period after turning ten times to the right was 15.4 seconds, and after turning to the left 15.3 seconds. One can only say therefore that in the case of the nystagmus and past-pointing—the average number of errors in the last named is taken to be three after turning to either right or left—there appears to be a very slight gradation of reaction sensibility of the labyrinths, greatest in those who have done no flying and gradually diminishing according to the number of hours done in the air, and that the statement cannot be corroborated that 26 seconds is the average vertigo time of the normal individual or of the experienced pilot.

2. *The Relative Reaction Sensibility of the Right and Left Labyrinths.*

Bearing in mind that turning to the right chiefly stimulates the left labyrinth and vice versa, it is interesting to compare the above nystagmus, past-pointing, and vertigo figures. From them it would seem that stimulation of the right labyrinth produces less past-pointing and vertigo, but a longer nystagmus period than stimulation of the left labyrinth.

The number and extent of the difference are too small for dogma, but it may be stated that a series of cases was taken with the idea of discovering whether there is a guiding labyrinth, and whether it differs in right- and left-handed people.

Out of 71 right-handed pilots it was found on interrogation and after trying to eliminate such influences as training, talk of the machines, etc., that 29 preferred to turn in the air to the left, 12 to the right, and 30 were indifferent whether they turned to the right or left—in other words, the preponderance of right-handed pilots prefer to turn to the left, which act stimulates principally their right labyrinth. Only six genuine left-handed pilots were examined, and it was considered that this number was too small to form any just idea of the preferences of naturally left-handed individuals.

3. *Reasons for Excess or Diminution in the Extent of Labyrinthine Reaction.*

In order to discover whether all experienced pilots satisfy the labyrinthine reactions laid down as standards, the nystagmus times and past-pointing errors of 100 pilots were investigated and compared. In all, therefore, four tests were employed, namely:

1. Nystagmus after turning to the right.
2. Nystagmus after turning to the left.
3. Past-pointing after turning to the right.
4. Past-posting after turning to the left.

Of 100 experienced pilots three failed to satisfy the standards in all four tests; two failed to satisfy in three tests; seven failed to satisfy in two tests.

A certain number of others failed in one result only. This was always the second past-pointing test and possibly due to previous experience of error as explained above.

Of the seven who did not satisfy in two tests, these were always nystagmus results, and furthermore all were below and none above the time limits save one where the periods were thirty-seven and thirty-nine seconds respectively. It may here be noted that American standards allow anything between sixteen seconds and thirty-six seconds.

Of the two who did not satisfy in three findings—that is, both nystagmus and one past-pointing test—one had suffered during the previous year from nervous debility, and showed signs of it in the other tests performed at the examination. His vision also was defective—right eye $\frac{6}{24}$, left eye $\frac{6}{18}$—and although no heterophoria was present, the nystagmus periods were not easy to take owing to a seeming difficulty of the eyes to fixate after rotation. He had previously done 3,500 hours in the air, and a recent report from his squadron stated that in practice his vision and flying were satisfactory. He did not wear glasses.

The other, with 800 flying hours to his credit, had normal vision and muscle balance. Four years previously he had spent six weeks in bed with diphtheria. There were apparently no complications, but he was advised by his doctor not to fly for some time. He had consequently flown only once in three years, so that his experience in the air could hardly be called recent; still on rigid standards he would have been rejected as an aviation candidate.

Of the three who failed to satisfy in all four tests, one had done 480 hours between April, 1918, and January, 1919. He had recently suffered from influenza and malaria and was only two weeks out of hospital. He still suffered from headaches. His vision and muscle balance were normal.

The second, who had 5,000 hours in the air to his credit, had just recovered from an attack of jaundice—cause unknown—at the time of examination. He had had a previous attack in 1915. His vision and muscle balance were normal.

The third had suffered from a nervous breakdown one year before, and influenza and pneumonia six months previously. He had recently done 750 hours in the air. His vision and muscle balance were normal and no nervous symptoms were present at the time of examination.

It would seem, therefore, that although definite failure in one or more of these tests is not enough, *per se*, on which to reject a candidate, still a combination of three or four failures is often accompanied by evidence of actual or recent impairment of one or other of the various systems of the body. It is noteworthy also that, in practically every case that could not be said to satisfy rigid standards, failure was due to inability to reach the minimum rather than to exceed the maximum limit, there evidently being a decided tendency towards diminished rather than increased labyrinthine reaction sensibility.

4. *Relationship between these Tests and others Used by the Aviation Candidates Medical Board, Hampstead.*

In order to see if there is any relationship between the results of these tests and those employed routinely by the Aviation Candidates Medical Board a series of 100 cases was taken and a comparison made. The tests selected for comparison were three in number—namely, tremor of eyelids or hands, self-balancing, and the rod and board test. It was found, however, that a pilot might have what are accepted as normal labyrinthine reactions and yet at the same time perform only moderately or badly one, two, or all three of the above-mentioned tests. Of the pilots discussed under (3), only one of the three with all four labyrinthine reactions unsatisfactory was poor in two tests—namely, self-balancing and the rod and board test; the other two performed all the tests satisfactorily. In addition, in the case of the other pilots discussed under (3), abnormal labyrinthine reactions seemed to bear no relationship at all to the successful execution or otherwise of these three tests. This is perhaps not surprising, as the turning reactions only test the integrity and tone of the cerebro-cerebellar-vestibular tracts, whereas it is well known that many factors may enter into the successful execution of the other tests cited.

5. *Value of these Tests from the Point of View of the Medical Selection of Pilots.*

At present, and until other and perhaps surer standards are laid down, one is inclined to view the utility of these rotation tests, at all events from the point of view of routine examination, as being problematical. It is true that they may draw attention in certain instances to particular defects which might or might not have been otherwise noted, but, on the other hand, their rigid observance might easily exclude men whose past histories and recent performances are those of perfectly successful pilots. Their value, however, and the data they give to anyone capable of interpreting such information is undoubtedly great in certain instances, as the following two cases recently seen by myself will show:

CASE I.

Lieutenant L. complained of deafness in the left ear incurred in May, 1918. The history was that whilst descending, and about 700 feet from the ground, he felt a tightness in the head and a mist before his eyes. He made a bad landing—"pancake"—was so dizzy on attempting to alight that he could not keep his feet, and had to be taken to his quarters on an ambulance and put to bed. He did not vomit, but things seemed to go round him to the right and he slept badly. During the next few days he was very shaky on his feet when attempting to walk. About two weeks later he was permitted to start flying again. He is now unable to stay long in the air and is always sick should he remain up as long as an hour. Before his accident he was a good stunter, but now either cannot or dare not stunt. On examination he was found to be totally deaf in the left ear, and his nystagmus and past-pointing indicated impairment of the left labyrinth; he was actually sick whilst being tested. The caloric test confirmed the view that his left labyrinth was not functioning, so that here was a pilot with a completely destroyed left labyrinth whose defect had unfortunately not been recognized, and who, being allowed to fly was a constant danger to himself and anyone else who happened to be his observer.

CASE II.

Lieutenant G. was, in May, 1917, in a balloon which was struck by lightning; the telephone receivers were in his ears at the time. The balloon was immediately hauled down, but he felt "overpowered by dizziness," which was accentuated when attempting to walk to his hut after reaching the ground. He also noticed that he was quite deaf in the left ear. After a week's leave he was again put on balloon duty and managed to continue for three months. During this time he always felt uncomfortable and dizzy in the air, though never troubled similarly before the accident. At the end of these three months he was, fortunately for himself, transferred to ground duties. On recent examination for assessment of gratuity, I found him to be completely deaf in the left ear, and the rotation and caloric tests showed a functionless left labyrinth. Like Case I, this was an undiagnosed case of a destroyed labyrinth, which only careful rotation and caloric tests could demonstrate.

CONCLUSIONS.

1. Experienced pilots have, if anything, a slight tendency towards diminished labyrinthine reactions.
2. Disturbance, present or past, of some other system of the body may affect labyrinthine reactions.
3. Where deafness is present no medical examination of a candidate or pilot is complete without a careful investigation of the functions and reactions of the semicircular canals of both sides.
4. In the absence of a discovery of present or past signs or symptoms pointing to an aural affection, routine examination by means of the Bárány tests is superfluous, provided that a thorough general medical examination is made.

THE EFFECTS OF RADIUM TREATMENT ON WAR INJURIES IN THE NEIGHBOURHOOD OF NERVES.*

BY

WALTER C. STEVENSON, M.D.DUB.,

CAPTAIN R.A.M.C., HOME HOSPITALS RESERVE,

SURGEON TO DR. STEEVENS'S HOSPITAL AND TO THE INCORPORATED ORTHOPAEDIC (CHILDREN'S) HOSPITAL OF IRELAND, DUBLIN.

THAT radium in suitable doses does not injure nerve tissue is shown by the work of Mme. Fabre and Dr. Paul Touchard on five cases of syringomyelia, all of which improved, showing increased mobility of the limbs with diminution of stiffness. One patient's hand had been quite helpless in a *main en griffe* position, but after radium treatment she was able to flex, extend, and separate her fingers. A second was able to resume his work as a draughtsman after six months' disuse of pencil and compasses. Another remarkable fact was the disappearance, in one case, of the trophic disturbances characteristic of Morvan's disease.[1]

The conclusion that the powerful physical agent (the gamma rays from radium C) has some effect on injured nerve areas was forced on me, more or less by accident, in the following case:

CASE I.

Pte. S. fell off a transport wagon on March 15th, 1917, fractured the anatomical neck of his left humerus and injured his brachial plexus. When admitted to the Special Military Surgical Hospital, Blackrock, over eight months later, he had limited movement of the shoulder and little power to move his wrist; he was unable to flex his thumb and fingers, especially at the distal joints. Sensation in the hand and wrist, except over the ulnar distribution, was impaired. His first three fingers were discoloured, and there were trophic changes of the nails of the second and third fingers. On December 31st, 1917, graphs of the movements of the wrist and fingers were made with the aid of a strip of lead, as is the routine in this massage department. On January 18th, 1918, with the purpose of increasing the movement in the shoulder-joint, 100 millicuries of radium emanation screened by 2 mm. of lead in a flat applicator, kindly sent me by Dr. Lynham of the London Radium Institute, was applied for two hours in the axilla, and for two hours each on the front and back of the joint. Two days later the masseuse brought the patient to me and asked why he could flex and extend his wrist better and flex his fingers better, and why the discoloration of his fingers was less when radium was only applied to the shoulder. The graphs, which I have before me, taken on January 3rd, 1918, are conclusive evidence of an increase of voluntary movement, which cannot be explained by any change of weather or treatment, nor by suggestion, for it was not expected. The movement in the shoulder was practically unaltered except that voluntary abduction was temporarily reduced from 63 degrees to 59 degrees.

It is difficult to explain the effect of radium in the foregoing and following cases. I can only report the results of careful observations and accurate records in which I have eliminated as far as possible the many sources of error, especially suggestion. The sudden improvement in movements cannot be explained by greater personal attention to a patient, muscle re-education, the recent removal of a splint, or any change of environment or treatment that I am aware of. That radium will within six hours

* Paper read before the Section of Surgery, Royal Academy of Medicine in Ireland, November 21st, 1919.

alter the microscopic appearance of malignant cells has been proved by Morson;[2] that it will free or loosen scar tissue, and also that in some cases it will act like a charm in removing the pain and tenderness in a scar, I have demonstrated frequently. It has an anaesthetic as well as an analgesic effect.[2]

Radium cannot be expected to work miracles and materially benefit gross nerve lesions; it would appear, however, to stimulate normal functional activity in nerve tissues which have been injured but are on the road to recovery, either by softening the scar tissue around them, or by some action on the nerve cells themselves, possibly by improving their nutrition. In some cases radiation appears to lessen hyperactivity in a nerve which is being irritated by scar tissue.

When one realizes the number of nerve lesions that have occurred in this war, and the long periods during which one has to wait for recovery after nerve suture, any treatment that presents possibilities of shortening the period of incapacity is worth considering. On this account the following cases are, I believe, worth recording. All the patients except the first were treated by radium emanation supplied by the Royal Dublin Society, Radium Institute. I use a surface applicator of 1.5 mm. thickness of lead, as described in detail elsewhere.[3]

CASE II.

Pensioner A. fell 30 feet on April 28th, 1916, and fractured the lower part of his spine. On February 18th, 1917, his left leg was flaccid, the right leg spastic; he was incontinent, and could move about with difficulty on crutches. On December 28th there was no response to either current in the right extensor longus hallucis, or in dorsiflexors of foot or peronei on left. January 3rd, 1918: Radium applied to spine. January 7th: Patient stated that for the first time he felt that his feet were cold. A good response to galvanism was obtained in the dorsiflexors and evertors of the left foot and a slight response in the right extensor longus hallucis, ACC>KCC in each case. On January 10th, 1918, the patient could get about more easily on his crutches.

CASE III.

This case, Major B., should perhaps not be included here, as the patient's hand and wrist were radiated as well as the wounded area in the upper arm. He was wounded on February 10th, 1917; the musculo-spiral nerve was freed on May 17th, and the median on June 17th, 1917, by Mr. William Taylor at the Castle Hospital, Dublin, where he attended for massage. During the first six months of treatment he improved greatly, but for three months before I saw him the masseuse informed me there had been little or no improvement in the fingers and wrist. Radium was applied on February 19th, 1918, and I left Dublin a couple of days later. On March 10th the patient wrote: "I believe you have had the diagrams of my hand showing the enormous improvement it made in ten days. I think the results were extraordinarily good." The graphs verify his statements. I applied radium again on April 3rd, 1918, and shortly afterwards he was passed for home service.

CASE IV.

Pte. C. The median nerve, partially divided in the lower forearm, was sutured by Major W. S. Haughton on November 12th, 1917. On December 16th radium was applied for prevention of post-operative scar, and on the 17th there was some pain in the palm where it had been anaesthetic; voluntary extension of the wrist and extension and flexion of the fingers, which had been rigid from muscle spasm, now became possible. On January 9th, 1918, there was marked improvement in the movement of the wrist and fingers.

CASE V.

Pte. D. was wounded on the ulnar side of the forearm on December 11th, 1917. Limited voluntary flexion and extension of all joints of the hand. For months any attempt voluntarily to move the fingers had caused violent intention tremors. Radium applied to scar on August 9th, 1918. On the 12th the tremors had markedly diminished, and the patient had a much larger range of voluntary movement.

CASE VI.

Pte. E. was wounded through the left shoulder and chest on October 9th, 1917. He had pain in the scar at the back of the chest, recovering wrist-drop, and hyperextension of the fingers at the metacarpo-phalangeal joints. Radium given on September 21st, 1918, in the front of the shoulder, axilla, and over the scar. Three days later there was some improvement of flexion of the fingers; extension of wrist was much improved. Abduction of the shoulder had increased by 13 degrees, and the scar on the chest was less painful and tender.

CASE VII.

Pte. F., wounded in the left elbow on March 23rd, 1918; brachial artery severed and tied at both ends. Elbow could not be completely extended; hand red and congested, radial artery small. Radium was applied to front of elbow on August 6th, 1918. On the 24th he was seen with Major Haughton, who agreed that the colour of the hand and the radial pulse were improved; he could extend his elbow completely, and the pronation of the forearm and power of grip were increased as shown by measurements.

CASE VIII.

Pte. G., wounded in right upper arm on July 18th, 1916; trophic changes first and second fingers. Median nerve freed from scar by Lieut.-Colonel W. I. de C. Wheeler on August 9th, 1917. On December 21st, 1917, radium was applied to the operation scar in the upper arm. Next day, opposition of thumb to little finger, which before treatment had been very slowly performed, was now briskly carried out; increase in range of movement of fingers and wrist, except flexion of first interphalangeal joint of first finger, which was limited. A week later further improvement was shown in graphs.

CASE IX.

Pte. H., wounded in left leg, March 16th, 1918; the divided external popliteal nerve was sutured by Major Haughton on August 12th, 1918. *Electric reactions:* Slight response in tibialis anticus to galvanic, none to faradic current; other muscles could not be tested on account of the current causing cramp in the foot. On August 21st radium was applied to the wound and operation scars. Next day the electrical reactions were greatly improved; response to galvanic current and slight flicker of movement to faradic current in the tibialis anticus; no response in other muscles, but no cramp as previously.

CASE X.

L.-Cpl. I., wounded middle left forearm, September 8th, 1916; two inches of median excised and nerve sutured by Major Haughton. On December 15th, 1917, graphs of the finger were taken immediately after massage. On December 16th radium was applied over the sutured nerve to limit the secondary scar of the operation. Next day there was some tenderness in the palm where it had previously been anaesthetic. Graphs taken before massage showed considerable improvement in flexion of fingers, following the application of radium; graphs made immediately after massage showed more than double this range of flexion.

CASE XI.

Pte. J. Wounded in the left shoulder on May 29th, 1917. Operation on median nerve near axilla February 4th, 1918. Hyperaesthesia of hand in region of median nerve distribution. Radium applied March 17th, 1918. Captain Alexander, in charge of the electro-therapeutic department, Alder Hey, reported three days later that there was no improvement in the hyperaesthesia, which had spread to the second finger and also to the radial area. Slight improvement in movement of shoulder.

CASE XII.

Pte. K. Wounded on September 26th, 1917, in the right shoulder, right arm, and immediately above the elbow. Radium was applied in these three localities on April 13th, 1918; the result was diminished tenderness of the scar near the elbow and some improved movement of the fingers. Again treated with radium June 27th, 1918; the movements of fingers before and after were accurately measured by a goniometer. The increase of voluntary and passive movement was as follows:

	Metacarpo-phalangeal Joint.		First Interphalangeal Joint.		Second Interphalangeal Joint.	
	Active.	Passive.	Active.	Passive.	Active.	Passive.
Index finger ...	25°	20°	30°	37°	6°	
Middle finger ...	9°	9°	30°	27°	9°	
Ring finger ...	19°	19°	17°	42°	5°	30°
Little finger ...	20°	13°	16°	20°	5°	

The angles of movement show that after radium treatment the patient could voluntarily flex his fully extended fingers as far as I could force them before radium, while the distance through which I could force them was further increased. For instance, at the index metacarpo-phalangeal joint before radium he could flex voluntarily to 52 degrees and I could force the finger to 72 degrees, while after radium he could voluntarily flex to 77 degrees and I could force it to an angle of 92 degrees. On July 1st, 1918, Captain Lloyd Roberts, neurologist, Alder Hey, examined the hand and noted the improvement in the voluntary movements and pliability of the fingers, though the electrical reactions were not changed since last examined by him on June 22nd; he suggested that the results were due to improved nutrition following radium treatment.

With the exception of a painful bulb in the ulnar nerve, where no improvement was apparent after radium treatment, the above cases include all of this type I can find in my notes of some 300 military patients treated at Blackrock, Alder Hey, and Shepherd's Bush Special Military Surgical Hospitals. Taken separately the cases may not be convincing, but taken collectively the weight of evidence

is that radium treatment serves a very useful purpose in certain types of nerve trauma and in certain stages in the repair of nerve injuries. The conclusions to be drawn from this work with radium in the treatment of war injuries affecting nerves can be summarized as follows:

1. Radium treatment cannot benefit gross nerve lesions; here operative treatment is indicated, to unite severed nerves or free them from dense scar tissue.
2. After a nerve operation, or after milder degrees of nerve trauma, it would appear to aid and to hasten the return of function in a limb.
3. It improves the nutrition in the area supplied by injured nerves.
4. It may be useful as an aid to diagnosis, and in certain cases will indicate or contraindicate the necessity of operation.
5. It is a valuable adjunct to other forms of treatment.

REFERENCES.

[1] *Radium*, by Dawson Turner, 2nd edition, p. 136. [2] Radium Treatment of Scars, with Clinical Notes on Military Orthopaedic Cases, by Walter Stevenson, *Lancet*, March 23rd, 1918. [3] A Lecture on the Technique of the After-treatment of War Injuries by Radium, by Walter C. Stevenson, *Medical Press*, January 8th, 1919.

ON POISONING BY ARSENOBENZOL COMPOUNDS USED IN THE TREATMENT OF SYPHILIS.

BY

ALEXANDER G. R. FOULERTON, F.R.C.S.,

LECTURER ON HYGIENE TO THE LONDON SCHOOL OF MEDICINE FOR WOMEN, AND LECTURER IN THE HYGIENE DEPARTMENT OF UNIVERSITY COLLEGE, LONDON; COUNTY MEDICAL OFFICER OF HEALTH FOR EAST SUSSEX.

BEFORE considering the toxic action of arsenobenzol compounds it will be convenient, since the essential pathological processes appear to be closely similar in either case, to refer to a paper[2] published in 1918 which dealt with the pathology of another group of cases of poisoning in which what is termed toxic jaundice is a characteristic symptom, and in which there are found after death an infiltration of the liver and kidneys with fat, and in some cases an acute atrophy of the former gland. Six poisons, all of which have a special affinity for fats, were referred to as belonging to this group; three of them—chloroform, ether, and tetrachlorethane—are active fat solvents, and the other three—phosphorus, dinitrobenzene (D.N.B.), and trinitrotoluene (T.N.T.)—are readily soluble in fats.

The essential process of poisoning in these cases appears to be as follows: The poison, whether swallowed into the stomach or inhaled into the lungs, or fixed in the fatty constituents of the skin and absorbed slowly therefrom—as may be the case with one or other of the six—becomes fixed in the food fat of the circulating blood. This fat, with the poison fixed in it, is carried to the liver for the purposes of normal metabolism, there to be transformed by a process of desaturation of the fatty acids into the "availab'e organic fat" which is believed to be the principal source of energy for the work of various active tissues. The destructive action of the poison thus concentrated in the liver is such that the functional activity of the gland is impaired, with interruption of the process of desaturation of the food fat and, presumably, disorder of function in other directions. The normal metabolism of food fat being checked, engorgement of the liver with fat and a condition of lipaemia, caused by an accumulation of unchanged food fat in the blood, result. In experimental poisoning of the cat and rabbit with trinitrotoluene it was found that considerable quantities of the surplus fat were excreted by the kidneys, being readily demonstrable in the urine. And so the kidneys become engorged with fat in process of excretion; and, as with the liver, there is disturbance of the functional activity of the gland as a result of the direct action of the concentrated fat-fixed poison. The investigation led to the conclusion, therefore, that the fatty changes which occur in the liver in such cases as those of delayed chloroform poisoning and poisoning by trinitrotoluene represent an infiltration with food fat which the gland is unable to transform, and that the similar condition in the kidney is caused by an infiltration with unchanged and useless fat which is in process of excretion from the body. The changes do not represent, as had been supposed hitherto, a fatty degeneration of the parenchyma cells of the gland. The first effect of the direct action of the concentrated poison on the liver, as seen in the earlier stages of experimental poisoning with trinitrotoluene, is a perivascular round-cell infiltration of the connective tissue along the course of the portal circulation. In the areas occupied by the migrating cells the first microscopic evidence of interrupted metabolism is found in the presence of minute globules of fat which apparently have passed through from the portal capillaries. At a later stage, in human cases, the gradual accumulation of this fat produces the gross fatty infiltration which is the most obvious feature of the group of cases of poisoning. In the more prolonged poisoning of munition workers with trinitrotoluene the tracts of round-cell infiltration become replaced in places by dense fibrotic tissue, so that the parenchyma cells, already damaged by the direct action of the fat-fixed poison, undergo a further destructive degeneration which is secondary to the cirrhotic change.

The fatty changes in the liver and kidneys in fatal cases of poisoning by arsenobenzol compounds appear to be essentially identical with those just described. There is an infiltration of the liver with unchanged fat, resulting from an interference with fat metabolism caused by the direct action of the poison on the tissue of the gland. With this there is an apparently consequent engorgement of the kidney with surplus unchanged circulating food fat. In poisoning with the arsenical compounds, whilst there is not a ready explanation of the concentration of the poison in the liver which in the other cases is afforded by an obvious special affinity for fats, it appears to be possible that some similar fixation of the poison in the fat does in fact occur.

At a time when an investigation into the pathology of poisoning by T.N.T. amongst munition workers was nearly completed, three deaths amongst patients who had been under treatment with arsenobenzol compounds (novarsenobillon and kharsivan) came under observation towards the end of 1917, and were apparently the first cases of the kind recognized in this country. Many other cases followed, but for various reasons it was inexpedient to publish any details at the time; and in the paper quoted on the action of certain poisons which affect fat metabolism only a very brief allusion was made to the subject. The close resemblance between these cases and cases of delayed poisoning by trinitrotoluene was referred to; and it was stated that in an experiment in which a rabbit had been poisoned with arsenobenzol changes in the liver had been produced which were similar to those found after the experimental administration of trinitrotoluene. It had been found that in the rabbit the first appearance of fat was not in the parenchyma cells of the liver, but in areas of round cell infiltration which appeared along the course of the portal capillaries. Also there was evidence of the elimination of fat by the kidneys.

The following table (I) sets out the facts, so far as they were ascertainable, as to the dosage and time of appearance of toxic symptoms in 7 cases which occurred in the practice of six different hospitals, and in which it was possible to make a microscopic examination of the liver and kidneys after death. The table includes similar details which were obtained in an investigation of the circumstances of 9 cases treated in yet another hospital, in which the appearance of jaundice was followed rapidly by death in patients who were either under treatment with kharsivan or for whom the course had already been completed. Nothing is known as to the actual condition of the organs in these last 9 cases.

For purposes of comparison with these 16 cases two other series of cases recorded respectively by Professor Stuart McDonald[4] and by Drs. Strathy, Smith, and Hannah[5] may be referred to. The former series included 5 fatal cases which had been treated with "salvarsan," combined with the usual intramuscular injections of mercury. It is stated that in all of the cases the jaundice, which appeared at first without any serious general symptoms, was followed after an interval of from two to eight days by symptoms of severity, increasing jaundice being accompanied by haematemesis, active delirium, and coma, with death in from one to four days. Dr. Strathy and his colleagues refer to a series of 58 cases treated in a military hospital, in which unfavourable symptoms of one kind or another occurred either during or after a course of treatment with either arsenobillon or kharsivan or galyl, combined in each case with intramuscular injections of mercury. Amongst the 58 cases there were 47 in which there was jaundice, and of these 8 died. The number of injections given in the fatal cases varied from four to eleven. The largest amount of the drug given in a fatal case was 6.95 grams and the least amount 2.2 grams. The average interval between the last injection and the onset of symptoms in a fatal case was forty-one days, the longest interval being forty-eight days and the shortest eighteen days. The average interval between the onset of symptoms and death was five days, the longest interval eleven days, and the shortest two days.

Regarded from the clinical point of view the 29 cases, including those recorded by Drs. McDonald and Strathy, which occurred in the practice of nine different hospitals, together with other published cases, appear to fall into

TABLE I.—*Sixteen Deaths occurring during the Course of, or after, Treatment with Arsenobenzol Compounds.*

Case.	Dose in Grams.	No. of Injections.	Duration of Period of Treatment.	Interval between last Injection and first appearance of Toxic Symptoms.	Interval between appearance of Toxic Symptoms and Death.
1	3.1	8	48 days	44 days	4 days
2	2.8	7	42 ,,	34 ,,	3 ,,
3	3.0	6	89 ,,	24 ,,	3 ,,
4	5.4	6	37 ,,	42 ,,	15 ,,
5	Full course	—	Some weeks	Some weeks	5 ,,
6	Full course	—	,, ,,	,, ,,	5 ,,
7	0.9	2	15 days	A few days	2 or 3 days
8	—	7	50 ,,	15 days	4 days
9	—	7	43 ,,	10 ,,	4 ,,
10	—	7	127 ,,	16 ,,	12 ,,
11	—	6	36 ,,	13 ,,	1 day
12	—	6	36 ,,	8 ,,	3 days
13	—	6	36 ,,	17 ,,	4 ,,
14	—	4	22 ,,	9 ,,	5 ,,
15	—	3	15 ,,	9 ,,	8 ,,
16	—	—	46 ,,	9 ,,	1 day

three groups, according to the rapidity with which definite toxic symptoms follow administration of the drug. There are (1) a few acute cases in which the symptoms appear rapidly after only two or three injections have been given; (2) subacute cases in which symptoms appear at a later date, either during the course of treatment or soon after its completion, and in either case within about ten days after the last injection; and (3) cases of delayed poisoning, in which the symptoms do not appear until from two to seven weeks after the last dose of a completed course, the patient having been in apparently good health during the interval. The factors of dosage and time appear, however, to have quantitatively but little determining influence on the final result. Whether the symptoms appear rapidly after a few doses—as in Case 7, in which only two doses of 0.45 gram each were given—or whether they are delayed for six weeks after the completion of a full course of treatment—as in Case 1, in which 3.1 grams of the drug had been given by eight injections—the final result is the same in a large majority of the fatal cases: jaundice, haematemesis, delirium and coma, with death within three, four, or five days.

The Process of Poisoning after Administration of Arsenobenzol Compounds.

The pathological problem presented when these cases were first recognized was one of considerable interest. As the results of earlier investigations it was stated in my previous paper[2] that it appeared to be probable that the toxic effect of the organic arsenic compounds was influenced materially by the benzene constituent—a conclusion which has been strengthened by subsequent observations. Since then, however, others have suggested that the cases represent an arsenical poisoning pure and simple. Dr. McDonald, on the other hand, considers that the changes in the liver are the effects of an infection by a bacillus of the typhoid-colon group, which he isolated from some of his cases after death.

There would appear at least to be a *prima facie* case for regarding this infection as being the new factor which, acting on livers previously damaged by syphilis, and possibly arsenic *plus* mercury, has completed the damage to the liver cells and allowed autolysis of the tissue, which appears to be the essential change, to occur.[4]

It being difficult, in view of the general course of these cases, to accept a theory which presupposes a bacterial infection as a determining cause of the illness, which is regarded rather as being simply the direct result of a drug poisoning, some experiments have been carried out in order to determine if possible whether the benzene constituent has any influence in aggravating the toxic effect of the arsenic. The experiments have included the injection of rabbits subcutaneously with (1) arsenic oxide (As_4O_6), (2) with the benzene constituent (ortho-amido-phenol) with which the drugs are compounded, (3) with arsenobillon, and (4) with kharsivan.

Experiments with Arsenic Oxide.—Altogether 9 rabbits have been injected with toxic doses of arsenic oxide, and, except for Rabbits 1 and 9, the liver and kidneys were examined microscopically after death in every case. The arsenic was injected daily, in approximately equal doses, as shown in Table II.

TABLE II.

No.	Weight of Rabbit in Grams.	No. of Doses.	Average Dose Injected Daily, in Milligrams.	Total Amount in Milligrams.	Result.
1	4,000	1	—	16	Died within 18 hours
2	1,420	4	13.1	52.5	Died on fourth day.
3	3,250	3	10	30	Killed under chloroform on third day.
4	3,750	5	9 6	48	Died on fifth day.
5	1,190	5	6 6	33	Died on fifth day.
6	1,500	17	5	85	Died on 17th day; weight, 1,360 grams.
7	1,900	17	5	85	Died on 17th day; weight, 1,670 grams.
8	378	21	1.17	24.75	Died on 21st day; weight, 581 grams.
9	378	23	1.28	29.5	Died on 23rd day; weight, 570 grams.

The cases in which a microscopic examination was made after death may be grouped (1) as cases of acute poisoning (Rabbits 2, 3, 4, and 5) with death within three, four, or five days, and (2) as cases of chronic poisoning (Rabbits, 6, 7, and 8) in which death occurred on the seventeenth, or twenty-first day. In all there was evidence of acute nephritis, showing in the more severe instances distension and cellular infiltration of the intertubular connective tissue, with injury to the tubal epithelium which sometimes had been shed. In all there were indications of an interstitial hepatitis, with more or less extensive round cell infiltration of the interlobular connective tissue, and usually an indefinite cloudy sort of change in the parenchyma cells, the outlines of which were often indistinct. Fatty changes were well marked in the liver in all four acute cases, and in the kidneys of Rabbits 2 and 3 which died on the third and fourth days. In Rabbits 2 and 3 there was a fairly heavy infiltration of the liver with fat, which was abundant in the parenchyma cells. There was also an infiltration of the cortical zone of the kidney, the fat appearing mostly in the epithelium of the convoluted portion of the tubules. The appearances, so far, were closely similar to those found in cases of human poisoning with arsenobenzol compounds, except that the actual proportion of fat appeared to be less relatively than in those human cases which had been examined. In Rabbits 4 and 5, which died on the fifth day, the livers showed areas of round cell infiltration along the course of the portal circulation; numerous small fat globules present were confined to the interlobular areas of cell infiltration, and had not reached the parenchyma cells of the lobules. In Rabbit 5 small branches of the portal vein could be seen with small globules of fat in what were apparently thrombosed lengths of the vessels. In these two rabbits there were only traces of fat in the kidneys, present in the form of quite minute globules, and mostly in the tubular epithelium. In Rabbits 6, 7, and 8, in which death was longer delayed, the appearances were again those of acute hepatitis and nephritis. In the livers of Rabbits 6 and 7 there was a fair amount of fat in the form of small globules lying in the areas of cell infiltration, but none was found in the liver of the third animal. In each case the kidneys showed an acute nephritis, with marked interstitial and epithelial changes, but without any fat infiltration.

Experiments with Ortho-amido-phenol.—Two rabbits (No. 10, weighing 1,150 grams, and No. 11, weighing 1,250 grams) received each a daily subcutaneous injection of 1 gram of ortho-amido-phenol, given in a normal soda solution; a third rabbit (No. 12, weighing 1,300 grams) was given a single dose of 0.5 gram. The first two rabbits became drowsy after each dose and died on the third and fourth days respectively; the third rabbit became drowsy on the third day after the single injection and was killed under chloroform. After death, an extensive, dark-brownish, gelatinous infiltration was found about the site of the injections; and the organs generally, and especially the spleen and kidneys, were stained a brownish colour. In Rabbits 10 and 11 there was an intense nephritis, with some disorganization of the kidney structure; no unchanged fat could be seen in the gland. The liver of Rabbit 10 showed an interstitial hepatitis, with some infiltration of the lobules with fat; in Rabbit 11 there were hepatitis and nephritis, but not any microscopic evidence of the presence of fat in either liver or kidney. The ortho-amido-phenol, in the large doses given, appeared to have an actively destructive effect both on parenchyma cells of the liver and on the kidney epithelium.

Experiments with Arsenobillon.—Altogether 7 rabbits were given various doses of arsenobillon injected subcutaneously, the total quantity administered ranging between 0.16 gram given in two doses of 0.8 gram each with a twenty-four hours' interval (Rabbit 14), and a total amount of 3.188 grams given by forty-eight injections, spread over a period of sixty-four days (Rabbit 17). In all the cases the rabbit died from the effects of the drug. The changes in the liver and kidneys were similar, in varying degree, to those found in the rabbits poisoned with arsenic. Thus in the liver of Rabbit 17, as in Rabbits 4 and 5, there were patches of round cell infiltration along the course of the portal circulation, without as yet any passage of the fat into the lobular areas. In other cases there was the appearance of destructive change in the parenchyma cells with, or without, the presence of unchanged fat. In all of the rabbits there was a nephritis of varying intensity.

Experiments with Kharsivan.—Three rabbits were injected with kharsivan, and each died within twenty-four hours of the last injection. Rabbit 18 (weight 1,400 grams) received altogether 0.8925 gram subcutaneously by nine injections. Rabbit 19 (2,250 grams) received 1.1 grams by three injections given on consecutive days, and Rabbit 20 (1,900 grams) was given an amount of 1.17 grams by six injections on consecutive days. In all three rabbits there was evidence of nephritis, without any unchanged fat visible in the sections of the kidney. The liver presented the usual indications of an interstitial hepatitis, with in the case of Rabbit 19 small globules of fat amongst the round cell infiltration.

The results of these experiments may be summarized. The action of the arsenic oxide is such that after a comparatively acute poisoning there is an interstitial hepatitis with injury to the parenchyma cells, caused presumably by the direct action of the poison, together with the appearance of considerable quantities of unchanged fat in and amongst the parenchyma cells. In less acute poisoning there is interstitial hepatitis, with fat present in the form of small globules and, as yet, limited to the infiltrated interstitial tissue along the course of the portal circulation. In all of the experimental cases there was a nephritis in addition to the hepatitis. In two of the cases a considerable infiltration of the liver and kidneys with fat had produced an appearance which was comparable exactly with that seen in cases of human poisoning with arsenobenzol drugs. After the injection of ortho-amido-phenol, in the massive experimental doses given, there were acute hepatitis and nephritis, with the presence of unchanged fat in the interstitial tissue of the liver. The action of the poison, in the large amounts, on the parenchyma cells of both liver and kidney, appeared to be severe. The results of poisoning with the two arsenobenzol drugs were comparable histologically with those obtained in the less acute cases of poisoning with arsenic oxide.

In these investigations special attention has been paid to disturbance of fat metabolism as an indication of disorder of function following on damage of the liver tissues caused by the action of various poisons. It is comparatively easy to follow any disturbance of this particular function of the liver, because of the readiness with which unchanged fat can be recognized by histological methods, whilst the biochemical researches of Leathes [3] and others after him have given us an understanding of the physiological processes concerned. But of the various functions of the liver that which is concerned with the metabolism of fat is one which may be interfered with, temporarily at any rate, without causing much disturbance of the general health. From the pathological point of view a disorder of other functions which are concerned primarily with the production of urea from nitrogenous waste, and with the elaboration of uric acid from purin bases, are of more importance for the orderly continuance of vital economy. Therefore, whilst the results of the failure of fat metabolism are those which are most clearly obvious on inspection, the concurrent failure of other functions must be looked upon as the more serious and immediate factors in the causation of death. Death with all the symptoms of toxic jaundice, and with fatty infiltration of the liver and kidneys, may follow poisoning with arseniuretted hydrogen gas; so that it appears that the results characteristic of poisoning by arsenobenzol compounds may be produced by the action of arsenic alone. Also the results of my animal experiments show that the fat-metabolizing functions of the liver are directly affected by the action of arsenic oxide in poisonous doses. But in view of the serious damage to the liver and kidney tissues in experimental poisoning with ortho-amido-phenol it is impossible to ignore the probability that the toxic action of the arsenobenzol drugs may be influenced to some extent by the benzene constituent.

Possible Danger in Treatment with Arsenobenzol Drugs.

Three questions of practical importance remain to be considered on the recognition of these cases of poisoning: (1) As to the general risk of poisoning in the treatment of syphilis, malarial infections, and other diseases with arsenobenzol drugs; (2) as to whether the use during the war of other arsenical products in substitution for the "606" of German manufacture, which was in common use before the war, has been in any way responsible for the occurrence of poisoning; and (3) as to whether the so-called "intensive" treatment with arsenobenzol compounds, in combination with intramuscular injections of mercury, which came into vogue during the war, has had any influence in the direction of increasing the risk.

The risk of poisoning inherent in treatment by arsenobenzol drugs cannot be appreciated closely at present. The drugs were used in the treatment of unprecedented numbers of cases during the war, because of the military advantage gained by a shortening of the period during which a man with syphilis has to be kept out of the line; and it is certain that the deaths from poisoning by these drugs which have been recognized and recorded hitherto constitute only a fraction of the number of deaths due to this cause which have occurred during the last six years. This must necessarily be so; because the drug had not been recognized as a possible cause of the toxic symptoms which have been described, and because of the frequency with which a period of apparent good health intervenes between the completion of the treatment and the appearance of those symptoms.

Since these special toxic effects of the arsenobenzol drugs were not recognized during the period when "606" was in common use in this country, it is not possible at present to form any opinion as to whether the arsenical compounds which have been used in succession are more or less toxic than the original drug. As, however, the use of "606" was continued elsewhere during the war, and since the special dangers have come to be recognized, it is possible that some information on this point may be forthcoming later on. But the effects being caused by the essential arsenic, with probably some intensifying action of the benzene constituent, one might, perhaps, infer that when further information has been obtained it will not prove that the precise proportion of the two ingredients has been of material importance in influencing the toxic action of the drug.

With regard to the effect of the "intensive" method of treatment, apart from the conjoined use of mercury, there is not much to be said. It is difficult to trace in recorded cases any correlation between the actual amount of drug administered and either the time of onset of symptoms or the severity of those symptoms. The clinical course of the symptoms appears to be remarkably constant in a large majority of the fatal cases, which are the only ones as to which we have as yet any definite information. In the cases of delayed poisoning the symptoms have occurred usually after the completion of a course of treatment and when a full amount of the drug has been administered; but a precisely similar course of events may intervene during the course of treatment, and after the injection of only two or three comparatively small doses.

The possible effects of the action of mercury on a liver which may be already damaged more or less by the toxic action of the arsenical preparation require special consideration. It is a common belief in therapeutics that mercury has some sort of stimulating effect on the liver cells. The condition of the liver in experimental poisoning with mercury has been described differently by various pathologists. Burmeister and McNally [1] and others describe marked histological changes of a progressive nature in the livers of dogs poisoned with mercuric chloride, but the changes described have not included any of a fatty nature. Practically all observers agree, however, in describing an acute nephritis in experimental mercurial poisoning, with the occurrence of fatty changes in the tubal epithelium.

In a case of human poisoning which I had an opportunity of investigating recently a man, aged 33 years, died on the sixth day after swallowing a tabloid (?1 gram) of mercuric chloride. After death a condition of severe gastro-enteritis was found. Microscopic examination of the liver showed a hepatitis, with a moderate infiltration of the lobules with fat. The examination of the kidneys showed an intense nephritis, without any fat infiltration.

It is evident, therefore, that mercury in large doses has by itself a definite action on the liver tissue, and that its administration in even the moderate doses used with the "intensive" method of treatment may have an injurious effect on a liver already damaged somewhat, with consequent impairment of its functional activity, by the arsenical drug. That such possible unfavourable influence would be of a merely incidental or accessory nature, and not essential, is shown by the fact that mercury had not been administered in at least three out of my series of sixteen cases. Nevertheless it is advisable that the use of mercury in conjunction with arsenic should be discontinued; the more especially so in that it is difficult to understand in what way the additional treatment can have any useful effect under the conditions.

Taking a broad view of the matter in the light of the experience which has accumulated up to the present time, it has to be admitted that there is a certain definite risk in treatment with arsenobenzol compounds. It is impossible to express the risk in any individual case in the terms of a percentage; but the danger is sufficiently real to suggest that a man who is going through a course of treatment should be kept under careful medical regimen throughout the period of administration of the drug and for some weeks afterwards. It is scarcely necessary to say that complete abstinence from alcohol should be compelled; the diet also should be so regulated as to lighten the work of the liver as much as possible. The diet which would appear to be advisable during the course of treatment is the same as that recommended both for the prevention of poisoning by trinitrotoluene amongst munition workers and in the treatment of cases in which symptoms of poisoning have already occurred.

The administration of milk or any other fat food in the course of the treatment of declared poisoning is inadvisable. Whatever may be the exact causation of the disease of the liver two facts are outstanding. In the first place the liver functions become seriously disordered, so that the gland is no longer able to carry out effectively its part in fat metabolism. In the second place, a condition of excessive lipaemia is established. As in preventive treatment sugars should be substituted for fat foods, definite doses of glucose being given together with fruits. The sugar given thus is given not only in substitution for fatty foods, but also because of theoretical considerations which suggest that oxidation of the excessive floating fat will be favoured by its administration. The diet, then, should consist mainly of carbohydrates, with very small quantities of lean meat, or preferably fish—excluding the fatty kinds, such as herring, mackerel, etc.[2]

REFERENCES.

[1] Burmeister, W. H., and McNally, W. D.: *Journ. of Med. Research*, 1917, xxxvi, p. 87. [2] Foulerton, A. G. R.: *Journ. Roy. Army Med. Corps*, 1918, xxx, p. 535. [3] Leathes, J. B.: *Lancet*, 1909, clxxvi, p. 593. [4] McDonald, S.: BRITISH MEDICAL JOURNAL, i, 1918, p. 76. [5] Strathy, G. S., Smith, C. H. V., and Hannah, B.: *Lancet*, 1920, cxcviii, p. 802.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF RINGWORM.

DURING the past twelve months I have successfully dealt with over sixty cases of tinea tonsurans, the majority of cases being cured within a month.

As a preliminary step the affected area of the scalp must be shaved and cleansed with liquid ethereal soap. The part is then gently and carefully rubbed with a piece of lint which has been dipped in liquor potassae and dried with a piece of cotton-wool. Next the part is sprayed with ethyl chloride for about thirty seconds and allowed to dry; it is then painted with tr. iodi mitis. It is unnecessary to repeat the shaving and cleansing with ethereal soap, but the remainder of the procedure should be carried out morning and evening for the first three days and once daily during the subsequent four or five days.

During this time a mild folliculitis occurs, and as a result the infected hairs fall out. Usually a week of such treatment is sufficient to effect a cure, after which it is only necessary to rub ammoniated mercury ointment into the scalp twice daily, keeping the case under observation for about a fortnight or three weeks.

As a rule the folliculitis quickly subsides and healthy hairs soon make their appearance. Other varieties of ringworm can be quickly cured by like treatment.

Coventry. W. P. ELFORD, M.A., M.D.

SIMPLE PAROXYSMAL TACHYCARDIA.

As Dr. Thomas Lewis, in his *Clinical Disorders of the Heart Beat*, states that paroxysmal tachycardia is rare in young children, the following case may be of interest, especially as the boy's mother being similarly affected there is a possibility that heredity played a part.

On April 24th, 1920, I was called in to see a boy, aged 13, who complained of "quick beating of the heart." His mother informed me that he had his first attack when 4 years old, and subsequently one at 6, when convalescent from an ordinary attack of scarlet fever, and at 9, after returning home from tobogganing. During the past winter he had two attacks. He stated that the attacks came on suddenly, without warning or known cause, and after lasting one to three hours stopped as suddenly. He had not had rheumatism; since 8 years of age he had won prizes at the school races, and whilst running had never felt any ill effect. Before the present attack the patient felt quite well. When walking in the house about 9 a.m. he suddenly felt his heart beating fast, and this caused him to sit down; he experienced no pain or breathlessness, and no sickly or faint feeling. When I saw him at 12 noon he was still sitting up, the heart was beating forcibly, and the rate was uncountable. The patient had a slightly pale appearance, and his expression was rather anxious. When he lay down no alteration in the rate of the heart's beat could be detected, but he felt more comfortable. The apex beat was just inside the nipple line, and on percussion no enlargement of the heart was found. Auscultation revealed no murmur; the sounds were tic-tac in character. At 1 p.m., although the patient felt hungry, he could not eat much dinner. At 3.30 the beating suddenly stopped, and for a time (he states ten minutes) he felt short of breath; towards the end he had a severe stabbing precordial pain, which disappeared on taking long deep breaths.

I examined him again four days after the attack. No pallor was noticeable and the pulse rate was 74 per minute; in the mitral area a slight presystolic thrill was palpable, and auscultation revealed a short presystolic murmur leading up to a sharp first sound. The second sound in the pulmonary area was reduplicated. The patient stated that since the attack he had not dared to hurry, for fear of bringing on another. I found that his visual acuity was only $\frac{6}{18}$, even with glasses, and he informed me that his sight often became blurred. Dr. Fison kindly estimated his refraction, and found a considerable degree of astigmatism present. He ordered fresh glasses, those in use being unsuitable. As the boy has recently been studying more than usual, the visual defect may account for the attacks occurring so closely together.

His mother is subject to similar attacks, which, in her case, first occurred at 19 years of age, and have since continued at varying intervals. She says that the attack "comes on with a big jump"; she feels the heart beating quickly and the vessels in the neck are seen to beat forcibly. If the attack lasts for any considerable time she feels an aching pain in the upper part of the chest. She is most comfortable lying down, and the attacks end suddenly, after lasting from a few minutes to some hours; they usually come on after over-exertion or too much excitement. On examination of the heart while she was resting no murmur or irregularity was detected. She gave no history of having had Graves's disease, and had no exophthalmos, swelling of thyroid, nor tremor. Her parents are both alive and well, and no history was obtained of cardiac trouble in either.

Harrogate. A. C. SHARP, M.D.Glas.

OBSTRUCTION DUE TO ADHESIONS OF THE PELVIC COLON.

THE following case is interesting, in that it presented all the general signs and symptoms of increasing obstruction by a malignant growth:

A man of 56 complained of obstinate constipation, which had increased progressively during nine months; for one month he had had diarrhoea every morning, the stools being scanty, slimy, and frothy. He had not noticed blood in them, and was able to pass flatus freely. Two or three similar stools followed the morning stool, and, although he was able to do his work, he almost invariably had one or two "vomiting turns" during the course of the day. He had suffered from rheumatism, and twenty years ago had enteric fever; during the last twelve months he had lost 18 lb. in weight. On abdominal palpation I thought I could detect in the left iliac fossa a small, hard, immovable mass of very ill-defined outline. I was greatly struck with the huge balloon-like cavity shown by rectal examination; the walls of the rectum were felt with difficulty, and were impalpable except in the lowest inch and a half. No tumour was felt. The diagnosis of malignant growth in the lower portion of the pelvic colon was made both by myself, and independently by another surgeon elsewhere.

Assisted by my colleague, Mr. E. A. Guymer, I opened the abdomen by a five-inch incision in the left linea semilunaris. The liver was normal. There were no palpable glands along the course of the large vessels, nor accessory signs of

malignancy. The upper part of the sigmoid was slightly distended; on tracing it downwards the lower six inches presented a remarkable appearance. Along one-half of its circumference it was closely and tightly bound down by old-standing adhesions and scar tissue to the lateral wall of the left iliac fossa. Springing from the lowest inch or two of the sigmoid was a mass of bands which stretched upwards and forwards to the anterior abdominal wall, and the left and upper part of the bladder; it was at this point that the obstruction was most marked; there was a sharp kink in the bowel. The lumen of the rest of the affected portion was also slightly diminished. With some difficulty these adhesions were separated and divided; the gut, which was freed, showed some slight thickening of its wall on that side which had been bound down, but not on the opposing half of the circumference. A rectal examination, made at the close of the operation, gave normal findings.

It is probable that at some time or other at one or more points along one side of the sigmoid there had been inflammatory trouble, which had spread along that side and gradually bound the bowel down in the manner shown at the operation. The origin of this inflammatory process is doubtful; from the condition of things seen it was quite possibly due to inflammatory changes in one or more diverticula on the affected side of the gut, this inflammatory process having spread and then subsided. I should say, therefore, that this was a case of early but arrested diverticulitis; I know of no other pathological condition which could fit in with the findings. The patient made an uninterrupted recovery and he has no further trouble with his bowels.

DONALD M. MACLEOD,
Late Senior House-Surgeon and Resident Surgical Officer, Norfolk and Norwich Hospital.

Reports of Societies.

FETAL INTRACRANIAL HAEMORRHAGE DURING BIRTH.

AT a meeting of the Edinburgh Obstetrical Society, held on June 9th, Dr. WILLIAM FORDYCE, President, in the chair, Dr. EARDLEY HOLLAND read a paper on cranial stress in the fetus during labour, based on *post-mortem* examination of a consecutive series of 168 fresh fetuses. Most of these had undergone breech or forceps delivery, or delivery through contracted pelvis, but a few were born after apparently normal labour. Injuries of the septa of the dura mater were found in 81, or 48 per cent., with subdural cerebral haemorrhage in all but two cases.

The septa of the dura mater were described and shown to form a perfect mechanical system of stress bands and stress lines. The theory was developed that the septa of the dura mater—that is, the tentorium cerebelli, falx cerebri, and falx cerebelli—were, functionally, ligaments of the cranial bone, and limited the alteration in shape or moulding of the head during labour.

During excessive change in shape or moulding of the fetal head excessive strain is thrown on the septa, and they are overstretched and may ultimately tear. The tears occur in the area of greatest stress in the "stress bands"; the usual site is the anterior border of the tentorium at its junction with the falx cerebri. If tearing occurs, the limitation of movement of the cranial bones is removed, and the head is free to undergo an excessive alteration in shape. Further alterations in the relationship of the intracranial contents are thus brought about; the chief of these is kinking and stretching of the vein of Galen. The fixed point of this vein at its entrance into the straight sinus is moved upwards and forwards; the acutely kinked vein becomes engorged and tense, and may rupture. Rupture of the vein of Galen, however, is rare; the vessels that usually give way, and are the cause of subdural haemorrhage, are the tributaries of the vein of Galen coming from the cerebellum and pons Varolii.

The lecturer said that, clinically, tearing of the tentorium cerebelli—an almost non-vascular membrane—was not in itself dangerous; the danger lay in the cerebral haemorrhage which accompanied or followed it. Besides being found in dead-born fetuses, these injuries were extremely common in infants who had died during the first week of life as the result of difficult labour. Their frequency in breech cases suggested that intracranial haemorrhage was the cause of death, and not, as usually described, pressure on the cord, with asphyxia. It was indicated, therefore, to avoid haste and methods likely to cause undue cranial stress. Healed tears might be found in children several months old, and an example was shown. There could be no doubt that many of these injuries were not immediately fatal; surviving infants might die either in the early days of life or after a few weeks or months. The extent to which these injuries were responsible for infantile cerebral disease, such as spastic paraplegia, mental defects, backwardness, and other similar conditions, formed an interesting speculation.

Dr. J. W. BALLANTYNE and Dr. F. J. BROWNE discussed Dr. Eardley Holland's paper, and showed specimens illustrating head injuries in the newborn fetus. Dr. Ballantyne considered that Dr. Holland's contribution must now be considered as the classical paper on the subject; it seemed evident that tearing of the vessels in the neighbourhood of the tentorium was a common cause of haemorrhage. He and Dr. Browne, however, had more often found haemorrhage in other sites, and in their experience intraventricular haemorrhage was frequent. They were convinced that prematurity was an important factor; asphyxia, post-natal infection, and syphilis were other possible causes. The nature of the haemorrhages seemed to put operative interference out of court. Sir HALLIDAY CROOM said that many years ago, in children after efforts made to resuscitate for asphyxia, he had found lacerations of the liver, intestines, and spleen; one case which he submitted to Professor Cunningham showed a laceration of the tributary vessels of the Galen vein. Dr. HAIG FERGUSON emphasized the need for care in the application of forceps in premature children. He referred to the paper of Meyer, who reported 24 cases of tearing of the tentorium in 64 stillbirths; this was a percentage of 37.5 as compared with Dr. Holland's 48 per cent. He believed that in the majority of cases of cephalhaematoma a fracture of the bone took place. Dr. HENDRY said that out of 250 cases in the Glasgow Maternity Hospital they had only had one case of fracture of the cranial bone with cerebral haemorrhage. They had only found injury to the tentorium in 8 out of 250 cases. He pointed out how easy it was to injure the tentorium in the process of examination. Dr. JOHNSON believed that the subject had important clinical bearings, and he was sure that injuries of this sort which were not lethal were important causes of mental defects. The PRESIDENT thought it more likely that the haemorrhages found in breech cases were due to asphyxia and not to stress.

Dr. EARDLEY HOLLAND, in reply, agreed with Dr. Ballantyne that there were many causes of haemorrhage. He himself had focussed his attention on tentorial conditions; the examination rendered the specimens unfit for any further investigation. It was best to make a window in the side of the head and drop the brain out cautiously. His investigations had shown that there was no relation whatever between cerebral haemorrhage and a positive Wassermann reaction.

Reviews.

THE AFTER-TREATMENT OF WOUNDS AND INJURIES.

IN his book on *The After-Treatment of Wounds and Injuries*[1] Mr. R. C. ELMSLIE has produced an eminently straightforward practical work. It is the fruit of personal experience gained in a military orthopaedic hospital, and does not pretend to be a complete treatise on the subject. He observes that the principles of military orthopaedics are in no way different from those of civil orthopaedic surgery, though the applications may be new and changing. These principles depend upon what may, after all, be regarded as guiding ideas in all surgery: "a knowledge of pathology, a clear appreciation of mechanics, and the realization that the surgeon's aim is to restore function." Probably the sooner we get rid of the convention that military orthopaedics is a special department in surgery the better. There seems no good reason why any good practical surgeon should not learn to do satisfactory orthopaedic work. Nor is there any reason against the general practitioner making himself familiar with this class of case and endeavouring to cultivate the orthopaedic conscience

[1] *The After-Treatment of Wounds and Injuries.* By R. C. Elmslie, M.S., F.R.C.S. London: J. and A. Churchill. 1919. (Med. 8vo, pp. vii + 323; 144 figures. 15s. net.)

or instinct which will see in the first place that orthopaedic treatment is suitable and in the second quickly decide upon the method to be adopted. Both surgeon and practitioner will obtain plenty of help and sound guidance from this book. There is sufficient pathological and operative detail to satisfy the former, and the latter will find that a great vista is opened up for him full of suggestive work in the directions of both deformity-preventing and deformity-curing.

The first half of the book deals with the principles of treatment, and the remainder with injuries of specific regions, including an account of methods of splinting, the use of plaster-of-Paris, and the various physical methods of treatment, massage, and electricity. The reader will not get far into the book before discovering that the author's demand for rigid asepsis and for thorough eradication of septic foci which continue to lurk in unexpected places is firmly based on his own experience. It was one of the many surprises of war surgery that small pockets of infective granulation tissue and small sequestra could persist for many months in an apparently soundly healed area. With this in view the author gives in detail the description of the technique of radical operation for chronic osteomyelitis.

Rigid conservatism in the surgery of the hand is the best plan. Two of the author's dicta on this subject are worthy of quotation: "A hand of even very little functional utility is better than an artificial hand or appliance"; "a stiff thumb with all the joints ankylosed and all the long tendons lost is better than no thumb at all."

The chapters on nerve lesions—both the discussion of general principles and the detailed description of lesions of individual nerves and their treatment—are exceeding full and very well written. In testing the electrical reaction of muscles Mr. Elmslie advises the surgeon to observe the character of the contraction of the muscle produced by the interrupted galvanic current. When the nerve is intact the contraction produced is both sharp and rapid; when the nerve is interrupted and the lower part is degenerated the contraction is slower and more wave-like. This method of observation he prefers to the expression so long familiar ACC > KCC, the formula resulting from the alteration of polar reactions. The importance of Tinel's sign, "fourmillement" or tingling along the course of the nerve below the point of interruption when that point is lightly percussed with the finger, is properly emphasized; by this sign the gradual progress downwards of the process of regeneration can be watched from time to time. In bridging a gap in a nerve, after all the devices of pulling down and transposing the nerve and posturing the limb have failed, an autogenous graft is, in the author's opinion, the only rational procedure.

Mr. Elmslie's style of writing is didactic, forceful, and clear, but with a tendency to reiteration. The illustrations are well chosen and of good quality. The index is much too scanty. The book is one which can be most heartily recommended as an excellent exposition of a branch of surgery whose range is likely to widen even if, as we all hope, there be no more war.

PULMONARY SYPHILIS.

DURING the last seven years Professor ELIZALDE of Buenos Aires has met with 30 cases of pulmonary syphilis in the *post-mortem* room, finding the *Treponema pallidum* in the lung in each instance. His book on the pathological anatomy and pathogenesis of pulmonary syphilis[2] contains a detailed histological account of twelve of these cases, illustrated with a large number of microphotographs many of which are excellent; all the thirty patients, it may be added, were adults. The author gives first three cases of pulmonary gumma; no gummatous formation takes place without a preceding endarteritis obliterans, he holds. The next seven cases considered are examples of syphilitic pneumonia; four periods in its development are considered—(1) pulmonary catarrh with early inflammatory growth; (2) sclerosis and gumma formation, with massive filling of the alveoli; (3) sclerosis and gumma formation, bronchiectasis, reopening of the alveoli; and (4) simple sclerosis with shrinkage. Throughout the first two stages there is a great failure in the production of blood vessels. Among 24 patients with syphilitic pneumonia or bronchopneumonia 18 also exhibited aortic aneurysm, and in 10 of these a greater or less degree of compression of the bronchi was observed; Professor Elizalde is inclined to connect the presence of the pneumonia with this compression. Finally he describes two cases of syphilitic bronchopneumonia, in which all the appearances summed up above are presented on the small scale.

The book is well printed and the numerous illustrations are admirably reproduced; there is, however, no table of contents and no index, though a brief summary of the work in French is appended at the end of the volume.

[2] *Anatomia patologica y patogenia de la sifilis pulmonar.* By Dr. Pedro I. Elizalde. Buenos Aires: A. Guidi Buffarini. 1919. (Sup. roy. 8vo, pp. 375; 83 plates.)

DIATHERMY.

To the series of manuals issued under the title of "Modern Methods of Treatment" Dr. CLAUDE SABERTON has added *Diathermy in Medical and Surgical Practice;*[3] this is an eminently practical and instructive monograph, which should serve a useful purpose as an introduction to the subject, and prove of value to practitioners and students who desire guidance in what has now become an established method of both medical and surgical treatment. It is divided into three parts: the first deals very thoroughly with the technique and methods of application; the apparatus is described in detail, and the various types of diathermy apparatus, with their advantages and disadvantages, are illustrated. The second part is devoted to the medical application of diathermy, including the treatment of diseases of the circulatory system, the nervous system, fibrositis, diseases of joints, and thoracic and other affections. The surgical uses of diathermy are considered in the third part, and, whilst many conditions benefited by this method of treatment are reviewed, its uses in various types of malignant diseases and the method of its application to these diseases are set forth in full detail; the results it is possible to obtain are fairly stated. An extensive bibliography adds to the value of the book and brings it to a conclusion.

The author has used diathermy extensively, and not the least valuable paragraphs are those in which he gives his own experiences and describes his own methods of procedure. The experiences of Mr. Herbert Frankling, related on page 107 and the following pages, in the diathermy treatment of papillomata of the bladder and in malignant disease of the tongue show the possibilities of this method in no uncertain manner. Numerous illustrations of both apparatus and methods add to the value of the book and serve to make the author's meaning clear.

[3] *Diathermy in Medical and Surgical Practice.* By Claude Saberton, M.D. London: Cassell and Co., Ltd. 1920. (Cr. 8vo, pp. 147; 33 figures. 7s. 6d. net.)

NOTES ON BOOKS.

THE man who, while sojourning at Cambridge, desires to add to his John Willis Clark and F. J. Allen a lighter kind of guide may find some amusement from *The Country Cousin at Cambridge*, by LILIAN CLARKE.[4] This book combines the didactic method of Mrs. Markham with the naïveté of the Young Visiters. The cousin, a man, interrupts the verger-like descriptions of College Halls and Chapels with such remarks as these: "How perfectly sweet!" "The idea of the lady's personal interest in her scholars is charming!" "It is a most elegant aristocratic place!" "How deliciously old-world!" "This is a cosy nest!" There is a thin thread of love interest which comes to an untimely end; and the book is pervaded with the pathetic wistfulness of a Townsman who has missed the crowning glory of cap and gown. We are not made aware of the price of the book, probably because it is one of those works which are best described as priceless!

In his monograph on *Asthma*[5] Dr. O. H. BROWN develops at full length his theory that the essential feature of the disease is "non-passive expiration," or forced expiration; this leads to a mechanical interference with the circulation in the bronchial blood vessels and lymphatics, with the result that the bronchial mucosa becomes congested and swells up in such a way as to obstruct the passage of air to and from the pulmonary alveoli. He holds that muscle

[4] *The Country Cousin at Cambridge.* By Lilian Clarke. 1920. Published by Johnson and Nephew, Cambridge.

[5] *Asthma.* By Orville Harry Brown, A.B., M.D., Ph.D., formerly Assistant Professor of Medicine, St. Louis University. London: Henry Kimpton. (Med. 8vo, pp. 339; 36 figures.)

spasm does not play more than a contributing part in any case of asthma, and probably exerts an important influence in it but rarely. Opinions will differ as to the value of the author's theory, but his book gives evidence of a very thorough study of the literature of the subject.

Professor ZIELER'S little manual on sexual diseases[6] contains a short and practical account of the etiology, symptoms, diagnosis, and treatment of gonorrhoea, soft sore, and syphilis. It is designed for the use both of medical practitioners and medical students.

Dr. VAZIFDAR'S *Physiology of the Central Nervous System and Special Senses*[7] is a compilation from the better known textbooks of physiology, and is designed to help medical students in Bombay and elsewhere through their intermediate examinations by offering them a summary of the subject. The text appears to cover the ground adequately; it contains a number of diagrammatic illustrations, and is by no means free from misprints.

Mr. COMYNS BERKELEY'S *Gynaecology for Nurses and Gynaecological Nursing*[8] has now reached its third edition. The first part deals with gynaecology proper, and in it the various special diseases to which women are liable are concisely explained; a description of venereal diseases has been added. The second part is concerned with bacteria and immunity; its study will help nurses to understand the importance of asepsis, and the necessity of attending to the small matters which are essential to surgical cleanliness. In the third part all the various methods of treatment the nurse will be required to carry out are fully described, and there are illustrations of the instruments required for operations, and the various positions in which the patient should be placed. Description of operations has been wisely omitted, but the after-treatment and the complications that may arise are fully dealt with.

The series of "Pilgrim's Books" after making an indifferent start with Zimmerman's *Pleasures of Solitude* has recovered itself with the second volume, a selection of sketches from the *Tatler*.[9] There are three dozen of them, well printed in a small volume which may profitably, as the publisher suggests, be slipped into the pocket on a walking or bicycle tour. The sketches are well chosen, and that every one is gay and shrewd no warranty is needed. In this day, when so much writing is either slipshod or laboured or precious, it is not only a pleasure but an instruction to read a little in this crisp, clean, eighteenth-century English.

WE have received the first number of the *Journal of Neurology and Psycho-pathology*. The editorial secretary is Dr. Carey F. Coombs of Bristol, and the periodical will be published by Messrs. John Wright and Sons of that city. The first number opens with a Note on Suggestion, by Dr. William McDougall of Oxford, and there are papers on the treatment of cerebro-spinal fever by Dr. C. Worster-Drought, on the Freudian explanation of dreams by Dr. Parkes Weber, and on a case of lethargic encephalitis involving the cerebral cortex by Dr. George A. Wilson of Rainhill. The number also contains notes and clinical cases, a critical review of vagotonia, editorial articles and abstracts. The periodical will be conducted by an editorial committee consisting, for neurology, of Dr. Kinnier Wilson, Dr. Graham Brown, and Dr. R. M. Stewart, and for psychopathology, of Dr. Bernard Hart, Dr. Henry Devine, and Dr. Maurice Nicoll. The price of each number is 8s. 6d.; the annual subscription 30s.

[6] *Die Geschlechtskrankheiten. Ihr Wesen, ihre Erkennung und Behandlung.* Ein Grundriss für Studierende und Aerzte Von Professor Dr. Karl Zeiler, Vorstand der Universitäts und Poliklinik für Haut und Geschlechtskrankheiten in Würzburg. Leipzig: Georg Thieme. 1920. (Cr. 8vo, pp. viii + 182; 13 figures. M. 5.15.)

[7] *Physiology of the Central Nervous System and Special Senses.* For the use of students. By N. J. Vazifdar, L.M. and S., Assistant Chemical Analyser to the Government of Bombay, Third edition. Bombay: S. Govind and Co. 1920. (Demy 8vo, pp. 209; 18 figures. Rs. 3.12.)

[8] *Gynaecology for Nurses and Gynaecological Nursing.* By Comyns Berkeley, M.A., M.D., M.C., F.R.C.P. Third edition. London: Scientific Press Limited. 1919. (Cr. 8vo, pp. xii + 253; 38 figures. 6s. net.)

[9] *Toasts, Rakes, and Cits.* Being Portraits of Maids, Men, and Matrons, fashionable and unfashionable, "about town" in the Eighteenth Century. By Sir Richard Steele, Joseph Addison, and others. The Pilgrim's Books. London: P. Allan and Co. 1920. (Fcap. 8vo, pp. 268. 5s. net.)

THE first volume of a new edition of Martindale and Westcott's *Extra Pharmacopoeia* is nearly ready for publication by Messrs. H. K. Lewis. This is the seventeenth edition, the sixteenth was published in January, 1915.

THE REPORT OF THE IRISH PUBLIC HEALTH COUNCIL.

BY

THOMAS HENNESSY, F.R.C.S.I.,

IRISH MEDICAL SECRETARY, BRITISH MEDICAL ASSOCIATION.

THE Report of the Irish Public Health Council was formally laid on the table of the House of Commons on June 14th.

The Irish Public Health Council was appointed by the Chief Secretary for Ireland to formulate proposals with a view to the submission to Parliament of an Irish Public Health Bill which would, *inter alia*, place the public health services on a more comprehensive basis, and, where necessary, make mandatory on the local health authorities the various adoptive and permissive health enactments.

The Council consists of seventeen members, of whom seven are members of the medical profession. The chairman is Dr. E. Coey Bigger, medical commissioner of the Local Government Board for Ireland and chairman of the Central Midwives Board. Three of the seven medical members are, however, departmental officials: Dr. E. F. Stephenson, Acting Medical Commissioner of the Local Government Board; Dr. W. J. Maguire, Medical Commissioner of the Insurance Commission; and Sir William Thompson, F.R.C.P.I., registrar-general of births, deaths, and marriages in Ireland. Dr. R. J. Rowlette and Dr. Alice Barry are the direct representatives in the Council of the Irish medical profession. Sir John William Moore, M.D., president of the Royal Academy of Medicine in Ireland, was appointed by the Chief Secretary to represent medical interests generally. The non-medical members of the Council are the Vice-President and a commissioner of the Local Government Board, the Chairman and a commissioner of the Irish Insurance Commission, representatives of approved societies, insurance and tuberculosis committees, veterinary medical associations and nursing institutions.

To people who believe regretfully that, as regards the settlement of most public questions in Ireland, it is too much to expect anything approaching unanimity, the report of the Council should be an agreeable surprise. Apart from some points with regard to the organization of the central health authority, the very important and far-reaching recommendations of the report are signed by all the members of the Council; therefore, on the present occasion the Government cannot refuse to legislate on the plea of the lack of agreement amongst the people most concerned in Irish health questions.

Irish health legislation, on a radical basis, is long overdue. In most respects it is fully fifty years behindhand when compared with England, Scotland, and other European countries. The recent patch-work medical legislation for Ireland has been a complete failure from the want of the necessary local machinery for administration, as has happened, for instance, in the case of the medical inspection of school children. When it came to putting that much-needed Act of Parliament into force it was found practically impossible, as the county councils, which were the bodies for its local administration, had no medical officers of health, nor had they the legal authority to make such appointments. Moreover, whilst Ireland contributes its full amount of the Imperial grants voted in recent times towards the improved medical services for Great Britain it does not share in these improved medical services, as the Government of the day generally excused the exclusion of Ireland on the ground that the economic and other conditions of Ireland differed so much from those of Great Britain that Ireland would best be dealt with by a separate measure. With this contention people in Ireland were in agreement, but somehow the separate measure for Ireland always seemed doomed not to materialize, with the result that an equivalent grant of about a quarter of a million sterling due to Ireland for medical services is unexpended each year by the Treasury. Nor is this equivalent grant spent on any other Irish service. In the circumstances it is to be hoped that not only the unanimity of the recommendations of the Irish Public Health Council, but their general merit, practicability and suitability to the peculiar health needs of Ireland, will secure for them a speedy and calm passage to the statute book.

The Council, during its many sittings, gave every opportunity to all the interests concerned in Irish health questions to put their views before it. It received deputations

from the medical profession and approved societies, and representations were made to it from time to time by public bodies and organizations drawing attention to various defects in the present public health and medical services of Ireland, and suggesting how these defects might be remedied.

The report in its preliminary section lays special stress on the lack of co-ordination and over-lapping, both in the central control and in the local administration of the public health and medical services. As regards the system of central control the report points out that there are several departments in Ireland dealing more or less independently with health matters of a kindred nature, and sometimes actually identical.

The report shows next that there is even a greater lack of co-ordination in local administration. Boards of guardians are, under the Poor Law and Medical Charities Acts, entrusted with the local administration of the union infirmaries and fever hospitals and of the dispensary medical service. The sanitary authorities—for the most part district councils corresponding to the too limited area of the Poor Law unions—are, under the Public Health Acts, vested with the local administration of sanitary enactments and of maternity and child welfare schemes, and also with functions relating to the provision of hospital facilities. Finally, the County Councils are either responsible for, or have certain functions in connexion with, the administration of county infirmaries, sanatoriums, and lunatic asylums. In addition to those functions the County Councils have, by recent legislation, been entrusted with the local administration of schemes for the medical inspection and treatment of school children and for the treatment of tuberculosis and venereal disease. The result is that an enormously complicated system of local health administration has grown up, which few persons, apart from the officials directly concerned, understand, or know from what sources advice or assistance in regard to hospital treatment or to questions pertaining to public health can be obtained. To remove the want of co-ordination and overlapping in the local administration, as well as on the ground of efficiency and economy, the Council urges that all these services should be co-ordinated under one local authority on a county basis.

The report recommends that its proposals might suitably be embodied in a bill comprising five parts:

1. Central health authority.
2. Local health authorities.
3. Medical service.
4. Finance.
5. General.

CENTRAL HEALTH AUTHORITY.

The Council as a first principle recommends that there should be complete co-ordination in the central administration of the medical and public health services in Ireland, and that local (including rating) authorities and professional interests should be represented in the central administration. The Council considers that the advantages of the incorporation of local interests in central administration are twofold. The local bodies and organizations will be placed in a position to advocate directly the needs of the interests which they represent, and at the same time the central authority will be kept fully in touch with, and will be more likely to have the support of, public and professional opinion.

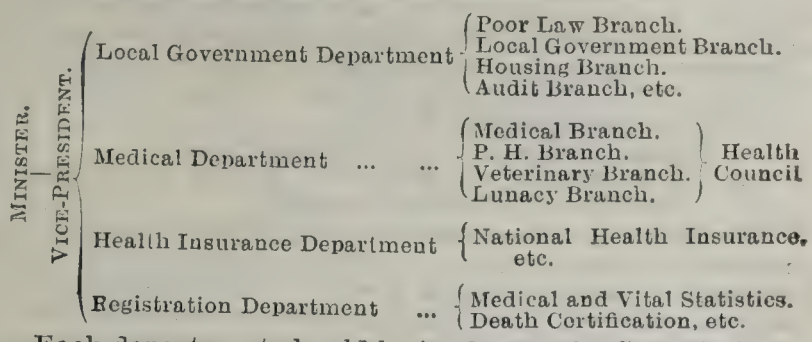
Ministry of Health for Ireland.

The Council recommends the establishment of a Ministry of Health for Ireland, to which should be transferred:

(*a*) All the powers and duties of the Local Government Board for Ireland.
(*b*) All the powers and duties of the Irish Insurance Commission.
(*c*) All the powers and duties of the Registrar-General of Births, Deaths, and Marriages.
(*d*) All the powers and duties of the Inspectors of Lunatic Asylums, subject to some specified exceptions.
(*e*) The powers and duties of the Chief Secretary for Ireland under the Anatomy Act, 1832, and the Cruelty to Animals Act, 1867.

It is further recommended that power should be given to transfer from time to time to the Ministry, by Order in Council, such powers and duties of other departments as it may be considered desirable so to transfer. Under the category are included (1) the transfer of any powers and duties of the Department of Agriculture and Technical Instruction for Ireland in relation to veterinary services; (2) certain medical functions now vested in the Home Office under the Factory Acts; and (3) the medical functions exercised by the Ministry of Pensions.

As regards the organization of the Ministry there was some difference of opinion. The proposal of the majority for a Ministry was supported by the representatives of the medical profession, and is somewhat as follows:



Each department should be in charge of a Commissioner who would be responsible for the work of his own department and would have access to the Minister through the Vice-President. In the cases of the Local Government Department, the Medical Department, and the Insurance Department, the report considers it would be necessary that there should be other commissioners (in charge of important branches or groups of branches) associated with and subordinate in each case to the head of the department. The majority of the Council support this scheme.

The alternative proposal of the minority involves the establishment of a central health authority constituted as follows:

PRESIDENT
(The Chief Secretary for Ireland).

A Board of Health, consisting of a Chairman and permanent members to be called Commissioners, transferred from the Departments affected.

The members of the Board of Health recommended by the minority of the Council would have equal standing.

Health Council.

Under either of the systems indicated above the report recommends unanimously the formation of a Health Council. The general policy and principles of administration of the public health and medical services, and of all the activities of the Ministry directly concerning health, should be subject to the general control and direction of the Health Council. As regards the constitution of the Health Council, it is recommended that it might comprise:

Six representatives of the County or Local Health Boards.
Four representatives of the medical profession.
One representative of the dental profession.
One representative of the veterinary surgeons.
One representative of nurses; and two representatives of approved societies.

The Commissioner in charge of the medical departments of the Ministry should be permanent chairman of the Council and should have the right to give a casting vote in case of equality of voting. It will be noted that the county or local health boards and the approved societies have a clear majority over all the other combined interests represented in the Council. This is probably justified on the ground that these two interests will provide a very considerable amount of the moneys for the medical services, etc.

LOCAL HEALTH AUTHORITIES.

The report recommends the county or county borough as the area for local administration for all matters pertaining to health and medical services, and that in each county and in each county borough there should be established a Board of Health, which should be the administrative health authority for the area. The local health boards will consist of members appointed by the county and borough councils, representatives of the medical, veterinary, and dental professions, insured persons, nurses, voluntary health associations, etc. As in the case of the Health Council, the majority of the members of the Local Health Boards will be appointed by the bodies which contribute to the finances—namely, the county council and approved societies.

The County Health Boards would be responsible for the local administration of:

1. The public hospitals, sanatoriums, asylums, etc., in their respective areas of control.
2. The system of medical treatment of insured persons and of those who are unable to pay.
3. Schemes for the medical treatment of expectant and nursing mothers and of young children, and for the inspection and medical treatment of school children.

4. Schemes for the treatment of tuberculosis and other special diseases.
5. The general public health system in their respective areas (with the exception of certain local services in urban areas).

IRISH MEDICAL SERVICE.

The report recommends that the existing dispensary system of providing medical treatment for poor persons should be completely transformed, and that in lieu thereof a system of medical treatment should be provided (as part of the general hospital, etc., system under the control of the local or county health boards):

1. For insured persons on a contributory basis.
2. For those who are admittedly unable to contribute towards the cost of such treatment.

The report lays emphasis on the agreement among the members of the Irish Public Health Council that drastic reforms are necessary with a view to improving the conditions under which the members of the medical profession shall be called upon to carry out the medical treatment of the classes referred to. The report points out that a national medical service was advocated by the Vice-Regal Commission on Poor Law Reform in Ireland, and by the committee appointed in 1913 to consider the extension of medical benefits to Ireland, and that the principle has also been considered and approved by the medical profession, and formed one of the recommendations made last year to the then Chief Secretary by deputations representing the medical profession in Ireland. The report continues:

Accordingly we recommend the establishment of an Irish medical service, the members of which should be appointed by the Ministry as a result of competitive examination and should be eligible for promotion in the service and entitled to superannuation.

At present appointments in the Irish Poor Law medical service are made by election by boards of guardians. Provision will be made that existing officers in the Poor Law medical service will go over to the new service without undergoing the test of a competitive examination. It is also recommended that power should be given in the scheme for the incorporation in the new medical service, without competitive examination, for a limited number of years, of medical men who are now practising amongst the classes who will be entitled to treatment under the new medical scheme. The report states, however, that the introduction of such a scheme may involve difficulties in certain industrial areas with regard to the treatment of insured persons by salaried medical officers, and that it may be necessary, after further discussion with the interests concerned, to exclude temporarily from the application of the scheme certain specified areas.

In connexion with the recommendation of the Irish Public Health Council that the appointments in the new medical service should be made as the result of competitive examination, it is of interest to note that the Irish convention appointed by the Prime Minister in 1917 "to draft a constitution for Ireland which should secure a just balance of all the opposing interests," recommended the formulation of a scheme of competitive examinations for admission to the public service, including all statutory administrative bodies—for example, county councils, etc.

Hospitals.

The report recommends as a very important part of an Irish medical service the co-ordination of the hospital system throughout the country. It is generally admitted that the whole hospital system in Ireland (particularly in the case of the voluntary hospitals in larger cities) requires development and further financial assistance if suitable and adequate hospital treatment is to be available for all classes of the community who are in need of it. Suggestions are made by which the voluntary hospitals can be placed on a firmer financial basis. As regards the county infirmaries, it is recommended they should come under the County Health Boards as part of the hospital system of the Irish medical service, and that all existing financial restrictions should be removed. Finally, the County Health Boards should be entrusted with the local administration of schemes for the medical treatment of expectant and nursing mothers and of young children, as well as of schemes for the medical inspection and treatment of school children. In order that these services may be fully correlated and satisfactorily carried out, the whole system of hospital and institutional treatment of the sick in each county and county borough should be co-ordinated under the County Health Boards.

As regards preventive medicine, the report recommends the appointment of whole-time medical officers of health and the provision of funds for research work.

The report does not deal with the details of the medical service, either as regards its preventive or curative side. This can be understood, as, apart from making an unanswerable case for a new Irish medical service on a broad basis, the report is content to rest with the suggestion that it would be sufficient if the bill for the establishment of a Ministry of Health for Ireland contained a provision requiring the Ministry to frame a scheme for an Irish medical service centrally appointed and controlled, and entrusted with the duties to which reference has been made above.

THE TREATMENT OF MALARIA.

THE volume of *Observations on Malaria*[1] Sir Ronald Ross has edited for the War Office had its origin in an instruction to the Ds.M.S. of Mesopotamia, Salonica, Egypt, Italy, and France, to obtain reports of scientific observations on malaria from such officers as were specially qualified to deal with the subject. The result is the eight papers of the present volume, of which four are concerned, directly or indirectly, with treatment, one with an anti-malaria campaign in Italy, two with mosquito surveys and antimalaria work in England, and one with complement fixation in malaria.

The report by Dr. Nierenstein on the excretion of quinine in the urine is based on the examination of 834 specimens from eighty-six malarial patients. It contains a mass of information on the relative value of a number of tests, and quantitative results expressed in tables; it will be consulted by all who are working now or in the future on this subject, which is one for the chemist. It is pointed out that the large amount of work done on the excretion of quinine in dogs is stultified by the fact that the dog normally excretes in the urine a substance related to quinoline. He has found a new disintegration product of quinine with haemolytic qualities, provisionally named haemoquinic acid, in the urine of twelve out of thirteen cases of blackwater fever, an observation which may help to throw light on the nature of that lethal disease.

From the military point of view the most interesting contribution is that by Lieut.-Colonel Dalrymple on the treatment of malaria-infected troops in France. The criticism that preventive work on malaria should take precedence of curative may be anticipated by the reflection that in war it must needs be that infections come. It is prefaced by a letter from Field Marshal Earl Haig, which states that the results obtained "were highly satisfactory in bringing about the rapid restoration to the fighting ranks of men who in many cases had previously been for months under treatment without avail."

In June and July, 1918, there arrived in France from Salonica 22 battalions of infantry, every one malaria-infected. It was necessary that they should be fitted for the fighting line with as little delay as possible, for the reinforcement was much needed. From examinations of blood films Colonel Dalrymple estimated that treatment was necessary in from 75 to 85 per cent. of the men. They were formed into two divisions, and the sympathy and co-operation of divisional, battalion, and company commanders, as well as senior non-commissioned officers, were enlisted. The treatment consisted, on the one hand, of a quinine salt systematically administered, 15 gr. daily for fourteen successive days, and then 60 gr. a week for two months; and on the other, of regulated military duty, games, sports, amusements, and the "forward area" ration. A man who relapsed was treated in his own unit. Men who had undergone twenty-eight days' treatment without a relapse were allowed to proceed on leave with fourteen days' supply of quinine tabloids. No officer or man escaped treatment, whether he had or had not suffered from malaria; the time factor made this essential. The work done was graduated from four non-consecutive hours up to route marches with full packs, and finally a night in the open without blankets, following such a march; reports were rendered by the regimental medical officer on all such occasions. Sea bathing, which was encouraged under supervision, did not increase the number of relapses. The results of this interesting experiment were excellent: the average duration of treatment was ten weeks, and "two divisions were put in the forward area within three months of commencement almost relapse-free." Moreover, "both divisions distinguished themselves beyond all praise in the front line"; in fact, the success was such that 12,142 men

[1] H.M. Stationery Office. Through any bookseller. Price 6s. net.

were sent over from England to undergo the same treatment.

The observations on the pathology and treatment of malaria by Mr. Harold Row, late assistant lecturer in zoology, King's College, London, who unfortunately died from influenza before he had completed his paper, are founded on the study of cases at the 4th London General Hospital between February, 1917, and January, 1919; microscopical examinations were made in each case, as much as a cubic centimetre of blood being scrutinized by the thick film method. The paper deals almost entirely with treatment, first of benign and secondly of subtertian infections, which are so often lumped together to the detriment of sound conclusions. With regard to *P. vivax*, the parasite of benign tertian (about 1,000 cases were studied), the author came to the conclusion that long continued quinine treatment is imperatively necessary to secure even a reasonable freedom from relapse, and that anti-relapse treatment will produce this result in a large proportion of cases. After a number of trials the best form of treatment for the malarial attack was found to be 10 grains of quinine hydrochloride three times a day for at least twenty-one days; of 516 cases so treated it is stated that 30.2 per cent. relapsed, but it appears that most of these were "reported" and not parasitic relapses, and the period for which the cases were under observation is not clear. Moreover, the record does not enable the inquirer to ascertain in what proportion of cases the initial quinine was followed by anti-relapse treatment. This consisted of 10 grains of "quinine" either daily or thrice daily for two days each week. Under this treatment relapses occurred even under hospital conditions, but in the case of men getting 20 or 30 grains daily they were so rare as to call for a personal explanation when they did occur. As "quinine resistance" is quite commonly reported, it is interesting to notice that of 13 men (out of 774) who so relapsed 8 were shown to have avoided swallowing the quinine, or in one instance to have induced vomiting immediately after leaving the medicine room. Mr. Row found that, whereas cases infected with *P. vivax* are liable to relapses for long periods and complete eradication of the infection is difficult, in those due to *P. falciparum*, the parasite of the subtertian variety, the patient will be cured in a large number of cases by the first treatment given, especially if followed by anti-relapse quinine treatment for, say, six months; it should be noted, however, that the number of cases was comparatively small, and the period of observation is not given. Mr. Row saw no essential difference between administration by the mouth and by intramuscular injection, and no advantage in specially timing the dose of quinine; in this he is at variance with such a careful observer as J. D. Thomson, who points out that, especially where the resisting power of the patient is low, success may be obtained with less quinine than would otherwise be needed if its administration is timed so as to secure concentration in the blood at the right stage of the parasitic cycle.

The observations of Captain T. Gardner on the malaria parasites under the influence of various doses of quinine administered by the mouth contain a great deal of statistical information which will well repay study.

Colonel J. C. Robertson, I.M.S., reports on the anti-malarial campaign at Taranto, Southern Italy, during 1918. A large rest camp was formed, and as the district was known to be malarious, "arrangements were made for all the usual antimalarial operations to be brought into force." But it appears that these were not sufficiently thorough or extensive, and partly owing to an instruction that malaria was not to be diagnosed unless parasites were found in the blood, the reporting of cases was faulty. Indeed, it is stated that many cases were labelled P.U.O., influenza, etc., though they were regarded as malaria and reacted to quinine! Late in the autumn of 1917 the arrival of troops badly infected at Egypt and Salonica was reported, and the extent of the danger may be gauged in some degree by the fact that among 1,573 officers and other ranks of the permanent staff at Taranto there were 220 primary admissions to hospital for malaria, or 14 per cent. The author was sent to Taranto in December of that year. As protection from mosquitos he asked for huts for the troops, but the type supplied proved difficult to render mosquito-proof, and the wire gauze furnished was of too large a mesh to be effective, so that reliance had to be placed on destruction of mosquitos—the killing of hibernating adults and the oiling or draining of breeding places and wells. The camp was drained by Major Kenworthy, R.E., at a cost of 186,000 lire, and all operations were well advanced before the breeding season commenced. Of 949 anophelines examined between June and November an infection of the stomach was demonstrated in 74 and an infection of the salivary glands in 12, so that the risk of occurrence of human infection was not negligible. The result of the measures taken was that between April 15 and December only 16 cases of primary infection occurred, and it was doubtful whether more than one of these were contracted in the camp. This result is contrasted with the very unfavourable figures of an Italian anti-aircraft battery hard by the camp.

Major Angus Macdonald, well known in the West Indies, contributes a report on indigenous malaria and malaria work with the troops in England in 1918. After furnishing some account of the control of malaria carriers in England he gives a tabular record of 61 authenticated cases (as against 163 in the previous year) showing the relation of each to carriers and anophelines; in nearly all instances female *Anopheles maculipennis* were found in the huts. The infective foci numbered 29, of which 4 were situated in Kent (42 cases) and the remainder in nine other counties. In the majority the attack occurred in August or September; the onset of three in May is best explained by the "incubation" of infected mosquitos in heated huts, for the malarial cycle in the mosquito in this climate requires summer temperature. In a discussion of the endemicity of malaria in England it is stated that the last epidemic of ague occurred in 1858 to 1860 when the disease was imported by troops from the Crimea. Major Macdonald believes that "the factor definitely determining the occurrence in England is the importation of carriers, and that at the present day there is no evidence to support the belief that malaria is endemic in England." The disappearance of the disease is not, he says, to be attributed to quinine in "its notoriously casual method of administration," nor do the hypotheses of climatic change or "agricultural reorganization" satisfy him. He notes that in 1857 to 1859, besides the carrier importation, the factors of heat and of rainfall were at the optimum. His "chronological entomological record" in tabular form, wherein the findings of anophelines in the adult and larval stages in many places are set down, will, together with a similar table by Captain Parsons, be of value to future workers in this field. Details are furnished of the breeding habits of the species *A. maculipennis* and *bifurcatus;* the latter, as is well known, is a "wild" mosquito, whereas *A. maculipennis* is commonly found, as was pointed out by Grassi, in stables and byres; but *A. bifurcatus*, as an illustration shows, was once found in a farm water-butt. The operations whereby the dykes at Sandwich, Sheppey, and Lydd were rendered inhospitable to larvae are described in detail; resort was not had to oiling. Major Macdonald's paper is effectively illustrated.

Captain A. C. Parsons's contribution on mosquito surveys during 1917 and 1918 of camps and barracks in England where malaria was possible or actually present, is concerned with adult anophelines and the aquatic forms. He found that in a mixed camp anophelines will be discovered, if at all, in the marquees and tents rather than in huts or permanent buildings, and confirms the observation of others that the adults are to be found more thickly in piggeries, stables, and cow byres than in human habitations; indeed, though anophelines as a rule prefer upper stories, in the case of certain cavalry barracks the men's quarters above the stables were singularly free from mosquitos, and other striking instances of the kind are given. Farms are therefore important "test places." It may be here remarked that, in the belief of the French observer Roubaud, domestic animals play a part of first importance in diverting anopheles mosquitos from human habitations, and he deprecates the whitewashing of cowsheds; Colonel James suggested some time ago that it would be better to whitewash dark and dirty corners of human dwelling places.[1] The characters of typical breeding-places are described. *A. maculipennis* was found to dislike water not exposed to the sun, so that ill-considered clearing may encourage this species.

[1] *Proceedings* of the Special Clinical and Scientific Meeting, British Medical Association, London, 1919.

Lastly, Dr. Gordon Thomson, Protozoologist to the London School of Tropical Medicine, relates his experiments on the complement fixation in malaria with antigens prepared from cultures of malaria parasites. This is pioneer work of prime importance, for if it is possible to perfect the methods employed the results of a complement fixation test will tell us whether and when a malarial infection in any patient has died out, and replace the unsatisfactory uncertainty in which we now stand. The details are of necessity very technical, and at present, Dr. Thomson states, the test is subject to great error.

The volume closes with Provisional Instructions for the Treatment of Cases of Malaria in the United Kingdom, dated August, 1917, and the Interim Report on the Treatment of Malaria, which has been published elsewhere, and, it must be confessed, is calculated rather to befog than to assist the seeker after knowledge.

VITAL STATISTICS OF ENGLAND AND WALES.

(*Continued from p. 837.*)

Encephalitis, Cerebro-spinal Fever, Poliomyelitis, Polioencephalitis, and Neuritis.

The deaths attributed to encephalitis in 1918 numbered 366 (207 males and 159 females), as compared with averages of 184 and 133 respectively for the two sexes in the preceding seven years. Evidence is found, both in the increase of the number and proportions of deaths notified as due to encephalitis, and in the seasonal concentration of these deaths within months in which encephalitis lethargica was prevalent, that the outbreak in the spring of the disease so termed was responsible for a considerable proportion of the deaths recorded as encephalitis. By estimation of this proportion and addition of 101 deaths returned as encephalitis lethargica, polioencephalitis, etc., and 28 deaths ascribed to "botulism," Dr. Stevenson arrives at a total of 180 deaths attributable to encephalitis lethargica.

Cerebro-spinal Fever.—The deaths from cerebro-spinal fever in 1918 numbered 812, as against 1,974, 1,214, and 1,531 in 1915, 1916, and 1917 respectively. Before 1915, the highest recorded numbers (163 and 194) occurred in 1913 and 1914. The figures for 1918 again show a much higher mortality among non-civilians than among civilians and females of the same age-groups.

Poliomyelitis and polioencephalitis were assigned as the cause of death in 268 cases (134 each for males and females) in 1918. These are the highest figures recorded since the adoption of the classification of 1911. The increase represents mainly deaths of adults, and when deaths certified as infantile paralysis or poliomyelitis are distinguished from those attributed to polioencephalitis, is found to concern the latter group only. The number of certificates relating to polioencephalitis was almost twice as great in 1918 as in the whole of the preceding five years. There is therefore little doubt, Dr. Stevenson thinks, that the increased mortality under this heading is to be attributed to deaths from polioencephalitis of epidemic origin; the facts strongly support the view that poliomyelitis is a distinct disease from lethargic encephalitis. The number of deaths recorded as due to poliomyelitis has varied little during the years 1913–18; in the period 1916–18, however, notifications of this disease declined from 704 to 236 annually.

Neuritis.—Deaths from this cause, which averaged 481 a year in 1911–14, fell to 158 in 1918; the decline is much greater for females than for males, and has caused the mortality among females to become less than that recorded for males, although it has previously been twice as great. From 1911–14 the average number of deaths annually assigned to alcoholic neuritis was 26 for males and 70 for females; these numbers have now been reduced to four and three respectively. It seems probable, Dr. Stevenson remarks, that the reduction which has occurred in deaths ascribed to neuritis without mention of alcoholism may be due to the same cause. If this is so, the conclusion is indicated that in the past the majority of cases of fatal neuritis among women have been due to alcoholism, but that there is a residue of cases of neuritis, equally large among men and women, which there is no reason to regard as caused by alcohol.

Deaths under Anaesthetics.

The number of deaths during or in connexion with the administration of an anaesthetic has been very constant during the last seven years, and in 1918 was 279. In 67 per cent. of the cases the nature of the anaesthetic was stated; of these cases chloroform is recorded in 43 per cent. as the only anaesthetic administered, and in 32 per cent. as administered in combination with some other agent, so that in 25 per cent. only of these cases was chloroform not used. The conditions associated with the greatest mortality in connexion with anaesthetics were: Various forms of violence 40 (including 28 cases of battle wounds), hernia 19, empyema 18, enlarged tonsils and adenoids 18. Status lymphaticus was noted in the case of 23 deaths under anaesthetics. Of these cases 16 were in persons less than 11 years old. In 9 the anaesthetic used was chloroform, in 4 ether, and in 3 chloroform and ether; in the remaining 7 cases the nature of the anaesthetic employed is not stated.

Alcoholism.

During 1918, 81 deaths (61 males and 20 females) were attributed directly to alcoholism. These figures, in accordance with the heading in the International List of causes of death, exclude cases of organic disease attributed to alcoholism. For purposes of comparison all death certificates in which there appeared any mention of alcoholism have been assembled in a special table; the most common associated conditions were cirrhosis of the liver (92), violence (43), lobar pneumonia (31), organic heart disease (24), and influenza (19). The total deaths reckoned in this manner were in 1918 under 400, as compared with 648 in 1917, 1,054 in 1916, 1,551 in 1915, and (in round numbers) from 1,500 to 2,400 annually during the years 1904–14. The alteration of the age-constitution of the male civilian population due to the war has the effect of masking to some extent the full reduction in the death rate, so that this diminution of deaths attributable to or connected with alcoholism is the more striking. In face of so sudden and so great a change (Dr. Stevenson remarks) it is well to bear in mind the possibility that war conditions may in some way have prevented deaths from alcoholic excess from being returned as freely as before, but "in the absence of any adequate explanation of the change on these lines its association with the restrictions on the manufacture and sale of alcoholic liquors entailed by the war appears to be inevitable." On account of difficulties experienced by practitioners in declaring upon an open certificate that death is due to alcoholism, the returns of death from this cause have long been recognized to be unreliable, but this factor of unreliability has been constant. Since the death rate has fallen enormously in conjunction with drastic restriction of the supply of alcohol—this restriction being the one concomitant factor which has obviously changed—"it is difficult to avoid associating the two phenomena as cause and effect."

Cirrhosis of the Liver.

Deaths assigned to cirrhosis of the liver in 1918 numbered 1,730 (1,121 males and 609 females); these numbers are very much below those of former years. If the figures are based on the less comprehensive classification (excluding cirrhosis certified to be alcoholic and certain other conditions) which was in use prior to 1911, the deaths for 1918 are reduced to 1,034 males and 545 females; these figures are 26 per cent. below the exceptionally low levels of 1917 and are much the lowest recorded—notwithstanding increase of the population—since the commencement of the record in 1875. The fall in mortality during the war has amounted to about 66 per cent. for females and 50 per cent. for males (those under 45, in whom only 20 per cent. of the mortality occurs, being excluded). Corroboration is found in these figures of the universally held opinion that alcohol causes a certain proportion of the mortality from cirrhosis; and (Dr. Stevenson remarks) "if as a result of increase in the supply and consumption of alcohol in 1919 and subsequent years the death rates under consideration rise once more, the evidence that their fall was due to decreased consumption will be overwhelming." The greater decline in deaths of females has increased the excess of male mortality (normally about 40 per cent.) to 161 per cent. This figure corresponds with the statement usually made in medical textbooks, but has never before been attained in English death certification.

(To be continued.)

British Medical Journal.

SATURDAY, JUNE 26TH, 1920.

THE ETIOLOGY OF LOBAR PNEUMONIA.

KNOWLEDGE concerning the causation of lobar pneumonia grows apace. It was but recently that American observers[1] succeeded in differentiating the pneumoccccus into a number of serologically distinct types, and then determined the frequency of each type in cases of lobar pneumonia. It was found that about 64 per cent. of the cases yielded specimens of either Type I or II, 12 per cent. yielded specimens of Type III, while in 24 per cent. pneumococci were present that could not be identified with any of these types, and were accordingly grouped together as Type IV. An attempt was at once made to apply this new knowledge in order to obtain a rational system of specific therapy for the treatment of cases of lobar pneumonia. From the information available it would seem that the administration of serum prepared against Type I pneumococcus has been of great value in the treatment of cases infected by that strain of the micro-organism. The efficacy of this serum, however, is limited to cases infected by Type I, and according to reports published up to the present time, serum prepared against other types of the pneumococcus has been less successful.

For a long time the pathogenesis of lobar pneumonia has remained obscure, and the experimental studies of Blake and Cecil[2] carried out in the laboratories of the United States Army Medical School at Washington throw a welcome light upon it; they have succeeded in producing a disease corresponding apparently in all respects with lobar pneumonia in man by introducing the pneumococcus into the trachea of monkeys. The needle of a hypodermic syringe was inserted between the rings of the trachea just below the larynx, and a small dose (1 c.cm.) of a dilution of a broth culture of the pneumococcus introduced in this way into the trachea. The great majority of the monkeys injected in this manner developed lobar pneumonia. In some cases the dose required to produce this result was but one millionth of a cubic centimetre of a broth culture. The monkeys were kept under daily observation, and records were made of the clinical symptoms and physical signs, the temperature, the leucocyte count, and the number of pneumococci developing in cultures from 0.5 c.cm. of their blood. In those that died and in some that were killed at an early stage of the disease a careful histological examination was made of the lungs. It was found that the temperature curves shown by the inoculated monkeys were identical with those of cases of lobar pneumonia in man, presenting the features of sudden onset, sustained elevation throughout the course of the disease, and a fall by crisis on the seventh or eighth day. In some cases the pneumonia remained unresolved, and in others empyema or pericarditis occurred as a complication.

Lobar pneumonia was produced in this way with each of the serological types of the pneumococcus. Out of 31 monkeys injected intratracheally with Type I lobar pneumonia resulted in 26; of these animals 21 succumbed and 5 recovered. It is of interest to note that while monkeys injected with Types II, III, and IV, also developed pneumonia, they recovered. Although these different specimens of the pneumococcus were alike virulent to mice on intraperitoneal injection, Type I was thus far more virulent than the others to the monkey when introduced into the trachea.

Control experiments were made by injecting monkeys intratracheally in the same way with the same quantity of sterile broth or of broth containing killed pneumococci, with negative result. Attempts to produce pneumonia by instillation of large quantities of virulent pneumococci into the nose and throat of monkeys were also unsuccessful, though the pneumococci thus introduced could be detected in the secretions of the mouth for at least a month. Attempts to produce the disease by subcutaneous or intravenous inoculation of virulent pneumococci also failed; when the animals died, they succumbed to septicaemia.

From their histological observations Blake and Cecil conclude that the pneumococcus, when introduced into the trachea, is absorbed from the bronchi by the lymphatics of the lung, and thus gets into the blood stream. They found that a preliminary leucocytosis began usually within six hours of injection, and reached its apex within twenty-four to forty-eight hours. No relation could be established between the height of the preliminary leucocytosis and the subsequent course of the disease. There is little doubt that it represents an attempt on the part of the body to reinforce the resistance at the site of entry of the pneumococcus. A consistent fall in the leucocyte curve was observed to follow this rise. The rapidity of the fall appears to bear a direct relation to the severity of the disease in the monkey.

In the majority of cases the pneumococcus was recovered from the blood of the monkeys within six to twenty-four hours of its injection into the trachea, and frequently before elevation of temperature or clinical evidence of pneumonia had developed. These observations, therefore, would appear definitely to solve the problem of the pathogenesis of pneumonia, and also to explain the early presence of the pneumococcus in the blood of patients suffering from this disease. It will be of interest to see the further papers promised by these observers, in which they propose to describe the result of introducing other living bacteria into the trachea in the same manner.

[1] Acute Lobar Pneumonia, Monograph No. 7, Rockefeller Institute, N.Y., 1917.

[2] Blake, F. G., and Cecil, R. C.: Experimental Pneumonia. *Journal of Experimental Medicine*, vol. 31. Nos. 4 and 5, 1920.

THE TREATMENT OF MALARIA.

MALARIA is one of the most widespread diseases, being endemic in probably all parts of the tropics and subtropics and in many regions of the temperate zone. Since, where it is endemic, it is usually very common, the best method of treating it is a question of great importance to large numbers of medical men. During the last half-century the disease had almost ceased to be endemic in this country, but the war has increased the number of malarious persons here who contracted the disease abroad, so that, leaving aside for the moment the question whether the indigenous disease still lingers in some few places in England, treatment has become a subject of greater concern to home practitioners.

Quinine is still the sheet anchor, but there are a great many opinions as to the best way of administering it, a fact to which recent correspondence in this JOURNAL has borne witness. The

volume on malaria recently issued by the War Office owes much of its value to a discussion on the vast experience gained during the war in the treatment of malaria, and in particular of relapses. We give elsewhere in this issue (p. 872) an account of the principal points elucidated in the volume, and have stated at some length the system recommended by Colonel Dalrymple. The chief value of his paper, however, lies not in the particular mode of administering the quinine he favours—probably other prescriptions would have been equally effective—but in his recognition of the fact that save in recent infections, which as a rule yield to the drug more readily than old, the administration of quinine forms but a part in the management of malaria. As to how great that part is opinions differ, but the chief lessons to be learnt from the experience related is that abundant nutritious food, work graduated to the patient's powers, occupation for the mind, a cheerful environment in a congenial climate, aided by quinine, worked wonders; after a period of at most ninety days practically all the troops had reached such a stage of fitness that they could share the arduous labours of the front area. Perhaps it was fortunate that the treatment was carried out in the summer months, for Dr. J. W. W. Stephens and his colleagues have shown at Liverpool—in a paper that seems to have secured little attention—that the liability to relapse is then at its lowest; in the Liverpool figures the "percentage of cures"—that is, a period of sixty days without relapse—was, in January to April, 10 per cent., but in July to October 60 per cent. or over. It would be interesting, if the figures could be obtained, to learn how many men of Colonel Dalrymple's two divisions relapsed in the succeeding winter and spring. Major Angus Macdonald argues ably in support of his belief that malaria has altogether ceased to be endemic in England; and Nuttall, Cobbett, and Strangeways, writing in 1901, spoke of the disappearance of malaria from Great Britain; this opinion has been generally accepted, although in a table of the distribution of ague in England in the nineteenth century a case at Acle, in Norfolk, is noted. Colonel S. P. James, I.M.S. (retired), now attached to the Ministry of Health, who during the war was concerned especially with malaria among the civil population, found evidence that a certain number of the cases in north-west Kent were indigenous. Of those detected in Sheppey in 1917 some infections were evidently contracted from troops returned from Salonica, but one group, in Queenborough town, could not be ascribed to such an origin; indeed, some infections could be traced to civilian cases which had originated before troops had begun to return from the Eastern Mediterranean. A similar outbreak of true indigenous malaria was observed in the Isle of Grain. "As regards malaria in England," he writes, "we have to deal with two different and as a rule independent conditions: the one arising from the importation of exotic malaria and due to a foreign strain of the parasite, the other being true indigenous malaria due to a parasite which has never entirely disappeared from this country." He finds that with the indigenous variety the cases are mild and relapses are rare. Some of the infections were only discovered during the routine examination of all the inhabitants of a house.

Major Macdonald holds that a large proportion of those infected in one year will for various reasons have ceased to be infective before eleven or twelve months have passed, and that therefore the *Anopheles* biting again after that interval will not become infested with the parasite, so that the chain of infection will be broken. Colonel James, however, shows that among 20 cases continuously observed from their original attack in 1917 only 6 had no relapse; among the remaining 14 there were 19 relapses, and 9 of these relapses occurred in July to September.

Nevertheless, it is improbable that we shall see any recrudescence of malaria in this country. The contact between man and *Anopheles* was closer in the years of the war than it is likely to be again, and human carriers were more numerous then and in 1919; yet the number of infections was always manageable. Sir William Osler pointed out that in temperate climates districts from which malaria has disappeared have not been reinfected; thus, the progressive fall in the incidence of malaria in Baltimore was not interrupted by the importation of many infected Italians. He attributed a definite rôle in the disappearance of malaria from the great Canadian lakes to the cinchonizing of the inhabitants.

SIR CLIFFORD ALLBUTT'S PORTRAIT.

THE presentation to Sir Clifford Allbutt of his portrait, painted by Sir William Orpen, R.A., will be made on Tuesday, June 29th, at 10 p.m., in King's College, Cambridge, after the delivery of his address as President of the British Medical Association. The presentation will be made by Sir Norman Moore, Bt., President of the Royal College of Physicians of London, on behalf of the medical profession.

THE PRODUCTION OF CLEAN MILK.

IN our issue of November 8th, 1919 (p. 608), an account was given of the investigations made at the Research Institute in Dairying, University College, Reading, by Frecar, Buckley, and Stenhouse Williams, who estimated that for the production of clean milk a charge of 3d. a gallon over and above the market price would meet the increased cost of elaborate apparatus and more careful methods. Bacteriological examinations showed that the main cause of uncleanliness of milk was contamination at the outset; where this contamination had occurred, no subsequent cooling or other manipulations, and no reduction of the length of its journey could remedy matters to any significant extent. Further investigations [1] have now been made at Reading by Knight, Freear, and Stenhouse Williams, who examined systematically the conditions which at the time of milking determine the degree of bacterial concentration subsequently to be found. In the first series of experiments the results of the use of open and covered buckets for milking were compared; on every occasion the number of organisms obtained from the covered bucket was higher than that from the open bucket. The reason for this was revealed when the internal condition of the two buckets was compared; both naked-eye and bacteriological examination showed the internal surface of the covered bucket to be much less clean than that of the closed. When the washing of the buckets, which had hitherto been entrusted to the farm worker, was taken over by the experienced clean milker using the same materials, a great reduction was found in the number of organisms from the milk of the covered bucket. In a third series of experiments both kinds of buckets were steamed for forty minutes, their temperature being raised to 95° C., and kept covered till milking time next morning. Under these conditions the bacterial counts of milk from the covered bucket were much lower than from the open bucket. In the fourth series of experiments it was found that the removal of the long hairs from the udders and the washing of the cows led to a still greater decrease in bacterial contamination. The experiments showed that, given intelligent and

[1] *A Study of Factors Concerned in the Production of Clean Milk.* Part I. By Edith G. Knight, Kathleen Freear, and R. Stenhouse Williams. London: P. S. King and Son. 1920. (Price 1s.)

interested labour, it is possible, with comparatively simple equipment in an ordinary cowshed, to produce milk of a high degree of purity. The authors describe the sterilization of buckets as actually carried out on a Grade A milk-producing farm: After being rinsed with cold water and scoured with soap and hot water, then placed in a cold water tank, and finally rinsed with the cold jet from the hose pipe, the buckets are placed in a sterilizing tank, steamed for twenty minutes, and kept in the tank until needed for the next milking. The receiving tank, strainer, and cooler are all carefully washed and treated with current steam in the same way as the buckets. During three years' employment of this method the authors have satisfied themselves by weekly examinations that the cleanliness of the milk has been invariably satisfactory.

RECENT WORK ON HUMAN METABOLISM.

THE indefatigable staff of the Carnegie Institute, Washington, have issued two stout volumes[1] discussing important problems of human nutrition. In publication No. 279 Drs. Harris and Benedict subject the data accumulated by many workers with respect to the rate of basal metabolism to a complete statistical analysis. They show that the usual statement, that the calorie output of a resting adult per square metre of body surface is constant, lacks precision. Actually, the basal metabolism of an unknown person can, by means of a linear equation, in which age, body weight, and height are substituted, be predicted with greater average accuracy than is obtained by the usual plan of multiplying body surface by a constant. A table is provided which will save other workers the labour of making calculations. The authors also devote a large number of pages to the criticism of opinions supposed to be entertained by other physiologists, and at times recall to the memory a taunt of Galen: "Such are the opinions of the school of Sabinus, persons who furnish improbable explanations of events which do not happen." Whether Drs. Harris and Benedict have always successfully identified the pupils of Sabinus is perhaps open to question. Publication No. 280 contains 701 large octavo pages and is devoted to an exhaustive study of two experiments upon squads of college students placed for varying periods upon diets low both in the yield of total energy and in the content of protein. The experiments show that it was possible for healthy young men to live the normal life of college students for several months on a diet fully one-third less than ordinarily required, and that, *inter alia*, a new equilibrium of basal metabolism upon a lower plane was temporarily established. In an essay on Tennyson, Walter Bagehot quoted the ten lines which describe Enoch Arden's customary occupation, and added the comment, "So much has not often been made of selling fish." We mean no disrespect to the acute and laborious compilers of publication No. 280 when we say that their 701 pages very often recall Bagehot's comment. We dwell on this because, despite the paper shortage, the habit of printing ill-co-ordinated contents of laboratory notebooks is not declining. In our judgement, the value of this monograph would have been increased had its bulk been reduced by four-fifths. A great many experimental methods which did not in fact lead to any important conclusions are described in detail, to the confusion of the ordinary reader and without any compensating advantage to the expert, since the very small number of physiologists who command the necessary material facilities for such researches would naturally communicate with the workers at the Carnegie Institute before embarking upon a prolonged inquiry on such lines, for even 701 pages cannot contain all the minute details of technique that an experimenter needs to know. There is, again, a lack of the sense of proportion in writers who, while meticulous in their description of experimental methods, infer from the remarks of twenty-four students in response to questions on the subject of nocturnal emissions, sex feeling, etc., that "our data indicate that Nature demands a rather high metabolic level for the normal functioning of sex in man," and that "these results appear to us of considerable significance." The specialist will find in this volume, particularly perhaps in the part dealing with the excretion of nitrogen, interesting matter; we do not think it either attractive or of particular value to the general medical reader.

[1] *A Biometric Study of Basal Metabolism.* Harris and Benedict; *Human Vitality and Efficiency under Prolonged Restricted Diet*, Benedict, Miles, Roth, Smith. Carnegie Institute, Washington. 1919. Publications 279 and 280.

COMPLEMENT FIXATION TEST IN SYPHILIS.

THE importance officially attached to the complement fixation test in syphilis (commonly known by the name "Wassermann test") is evidenced by the number of reports with regard to it recently issued. Early in 1914 the Local Government Board resolved to make a grant for an investigation into the merits of the various methods of conducting the test. The investigation was to have been carried out in the Military Hospital, Rochester Row, under the direction of Colonel L. W. Harrison, but the scheme was stopped by the outbreak of war. On Colonel Harrison's return to Rochester Row it was revived, and Drs. Eastwood, Griffith, and Scott, pathologists to the Local Government Board, were appointed to work in association with Colonel Harrison. The Medical Research Committee also gave attention to some aspects of the matter and published reports, including two by its Committee on the Standardization of Pathological Methods. The investigation for the Local Government Board was carried on at the same time, and the result is now seen in a volume[1] issued by the Ministry of Health. It contains an introduction by Colonel L. W. Harrison, and two reports, the one by Drs. F. Griffith and W. M. Scott on the technique of the Wassermann reaction, and the other, by Dr. Arthur Eastwood, on the principles involved in the test. The reports of the Medical Research Committee showed that when due precautions are taken the reaction possesses a high degree of reliability. The object Drs. Griffith and Scott had in view was to investigate the behaviour of each agent employed in the reaction. They propose a routine method of applying the test, which they consider free from certain objections; in it the amount of complement containing serum is kept constant. Dr. Eastwood's essay is of a more general character; it contains a very large amount of highly technical information, but the author is far from claiming that all the difficulties are solved; in fact, he winds up both parts of his essay, the one dealing with complement and the other with the "Wassermann substance," by an enumeration of the controversial matters still open.

ANTE-NATAL RESPIRATORY MOVEMENTS.

To many thoughtful obstetricians the reflection must often have come as they watched the first inspiratory efforts of the newborn infant immediately after its expulsion from the canals that these movements were unexpectedly successful and complete if they were, indeed, being performed for the first time and with no preliminary practice. But the question arises whether it is right to assume that no such preliminary respiratory gymnastics (so to say) are undertaken by the unborn infant. Both Ballantyne, in his *Manual of Ante-natal Pathology* (vol. i, pp. 144, 169), and Feldman, in his recent work on *Ante-natal and Post-natal Child Physiology* (p. 146), accept the probability of the explanation that the rhythmic fetal movements which are sometimes felt by the expectant mother and which have been actually seen in tracings by Ahlfeld and Ferroni are thoracic in their nature. It may be taken for granted that they are not sufficiently strong to draw

[1] Reports on Public Health and Medical Subjects. No. 1: The Complement Fixation Test in Syphilis, commonly known as the Wassermann Test. 1920. H.M. Stationery Office. Price 5s. net.

liquor amnii into the lungs, although even in this respect it is unwise to limit belief too strictly, and they may be real enough to act as preparatory exercises for post-natal respiration. Ballantyne indeed finds in them "further proof that nature makes no leaps (*non facit saltus*), but prepares beforehand for the transitions of life and even for those of them which seem at first sight so abrupt as does the establishment of pulmonary respiration in place of placental." A curious piece of corroborative evidence has recently been furnished by Hans Jaeger of Zurich (*Korresp. f. Schweizer Aerzte*, No. 39, 1919) in his report of a newborn infant which perished from asphyxia on the second day of life. The ribs showed numerous exostoses, several of which were articulated to each other, and showed signs of displacement in a horizontal direction; some of the exostoses were covered on their surfaces of contact with cartilage, and in a few instances there was a capsule with a joint cavity containing synovial fluid. Similar articulations were detected between exostoses and adjacent ribs. It seems impossible to avoid the conclusion that these intercostal exostoses had been moving upon each other in ante-natal life, for so elaborate an articulating apparatus could hardly have developed during the two days during which the infant made ineffectual efforts to breathe. It is unnecessary to point out the bearing which such new views may have upon some of the current beliefs in medical jurisprudence in relation to infanticide and the proof of live birth. The ambiguous and often discredited phenomenon of *vagitus uterinus* may even be restored again to credence.

AN INSTITUTE OF HYGIENE IN PARIS.

THE University of Paris has come to an understanding with the French Government, through the Minister of Health, and buildings have been found in Paris which can be converted into a large institute of hygiene. It will be under the general direction of the professor of hygiene, Dr. Léon Bernard, but there will be five sections, each with its director. It will have sections of epidemiology, of social hygiene, of food, of industrial hygiene, and of sanitary technology; and a series of laboratories—of bacteriology, chemistry, physics, and physiology—a museum, a library, and lecture rooms. Courses of lectures of two standards will be given, the one elementary, for ordinary students of medicine, and the other advanced, for doctors proposing to specialize in hygiene. Instruction will also be given to persons employed in disinfection and as health and school visitors. It is hoped eventually to extend the opportunities for study by establishing courses for architects, engineers, and statisticians. The food section will comprise three departments, the first dealing with the chemistry of foods and of adulteration, the second with the damage done by parasites and microbes, the third with the physiology of food and nutrition. An institute of hygiene on similar lines is also being established in the University of Strasbourg.

RETROGRADE ABSORPTION BY THE KIDNEY.

THAT the cells of the renal tubules can absorb substances from their lumina is known, or at any rate suspected, but the experiments of Carnot[1] illustrate strikingly this retrograde permeability. He injected 15 c.cm. of melted paraffin into the ureter of dogs, with the result that they developed almost immediately marked progressive dyspnoea and died in three minutes without convulsions. The fatal result was explained by the fact, verified invariably after death, that the paraffin injected into the ureter not only penetrated the calices and tubules of the kidney, but passed, immediately and before solidification, into the veins; in fact, blocks of paraffin were found in the right heart, and the pulmonary arteries at the hilus were injected by a solid mass of paraffin, which completely blocked the circulation and produced immediate death. Histological examination of the kidney showed how the passage had occurred. The excretory system of the kidney was extensively injected; the paraffin was found not only in the straight tubules, but also in the convoluted tubules, in the glomeruli, and in the efferent veins. The immediate passage of the paraffin from the excretory apparatus to the blood was not due to any traumatic rupture, but must have taken place before solidification had time to occur. These experiments were done with paraffin melting at 50° C., but were repeated with a mixture of paraffin and vaseline melting at 45° C. In the latter case, as solidification was slower death occurred later, the animal surviving for about three-quarters of an hour. At the autopsy the whole excretory apparatus — ureter, pelvis, and calices — was found to be injected; in both sides of the heart there were small blocks of paraffin; masses of hardened paraffin were found at various parts of the lung, where they had produced more or less voluminous emboli. The microscopic examination revealed small fragments of paraffin inside the protoplasm of the tubular epithelial cells, whilst in the lungs, in addition to the arterial emboli, small particles of paraffin were found passing through the alveolar epithelium; finally masses were discovered in large quantity actually within the hepatic cells.

[1] *C. R. Soc. Biologie*, vol. lxxxiii, No. 17, 1920.

THE FUNDUS OF THE EYE AFTER DEATH.

LITTLE has been published about the changes in the eye after death since Gayet wrote his article in Norris and Oliver's *System of Diseases of the Eye*, now some twenty years old. Würdemann has discussed in the *American Journal of Ophthalmology* for May the external ocular signs of death, and gives two coloured plates of the fundus —the first half an hour after apparent death, the second about four hours after death. He states that about three hours after death the media become somewhat obscured by a lethal film due to the exudation of albumin and to disintegration of the corneal epithelium; the latter factor may be partly eliminated by the instillation of a few drops of water into the conjunctival sac. The changes seen in the fundus picture are due to the cessation of the circulation, the most noticeable being the yellowish discoloration of the eye background, the pallor of the nerve head, the narrowing of the arteries, and the appearance of clear spaces in the lumina of the veins; finally, after some hours the fundus assumes a dirty grey appearance, due to disorganization and infiltration of the retina, which becomes opaque and veils the subjacent choroid. Würdemann's article is interesting from an academic point of view, but we are not disposed to look upon it as of much practical value. The ophthalmic surgeon is very rarely present at death; the results of his handiwork may sometimes lead to blindness, but very rarely indeed to death. People who live in terror of being buried alive are more likely to leave directions to their executors that a surgeon shall be summoned after death to open an artery than an ophthalmologist to give an opinion on the fundus oculi; while many nowadays leave instructions for their cremation, and before that is carried out very stringent regulations establishing the fact of death must be observed.

AN evening concert in aid of the Royal Medical Benevolent Fund Guild will be given at Wigmore Hall, Wigmore Street, W., on Friday, July 2nd, at 8 o'clock. The following artists have kindly promised to assist: Miss Olive Sturgess, Miss Phyllis Lett, Mr. Lloyd Chandos, Mr. R. E. Miles, Miss Elsa Stamford, Miss Gertrude Tomalin, and Mr. Ernest Busby. Tickets (tax included), price 21s., 12s., 5s. 9d. and 3s., may be obtained from Miss M. Ellis Rowell, 49, Beaumont Street, W.1, or from the Box Office, Wigmore Hall. The Guild, a ladies' branch of the Royal Medical Benevolent Fund, was formed some ten years ago to supplement the work of the Fund, by visiting and other personal service, by providing clothes and other necessities, and by assisting in the education and technical training of the younger beneficiaries. This concert is part of an effort to put the Guild on a sound financial basis.

Medical Notes in Parliament.

The Threatened Western Extension of Typhus.

IN his statement in the House of Commons on June 17th as to the present position of the League of Nations, Mr. Balfour spoke with satisfaction of the appointment of the permanent Advisory Committee on International Health. It was, he said, a very great advantage—an advantage much more easily obtained through the League of Nations than through any other conceivable machinery—that the nations of the world could appoint to advise them in this great international interest a body of medical experts in which all had confidence and in which all might feel that they were represented. The machinery through which this was being done was a medical conference, originally held in London at the inspiration of the League; he believed that it would contrive to frame an international permanent health committee that would serve an interest which, next to peace, was almost the greatest that he could imagine—the interest of the general health. Of the matters the League of Nations had taken up, in addition to those definitely imposed upon them by treaty obligations, the first was an attempt to deal with the threatened invasion of zymotic disease from the East to the West, especially in Poland. Every one knew that typhus, transported from Russia into Poland, had raged with great severity. Medical authorities were seriously alarmed as to what was going to happen in Central Europe in the coming winter. It was in the winter that typhus occurred with special severity. It was, therefore, during the summer most important to carry out those steps and take those preventive measures by which the population of Europe might be protected from such calamities as those with which our forefathers were only too familiar. Action had been taken through the Red Cross societies and an appeal had been made to the nations forming the union to provide such funds as were necessary for staying the disease. The Polish Government had spent money freely and with great public spirit and skill in doing what it could, but their efforts alone were not sufficient; it would indeed be entirely unfair to throw upon them unassisted the whole burden of acting as the guardians of the health of the West. The League had, therefore, after carefully considering the expert advice, come to the opinion that two million sterling would be sufficient, and that of this sum an immediate expenditure of a quarter of a million was obligatory, or at all events of the very greatest importance. The League had no power to tax the nations, and it was by no means clear if it had the power to say at what rate they should be severally taxed. There were nations who by their geographical position were profoundly and immediately interested in the sanitary condition of Central Europe. Other members of the League of Nations were separated by wide oceans and illimitable spaces from the scene of difficulty, and if an attempt were made to levy on that scale the differences would be very great. It was felt quite impossible to lay down what the nations ought to contribute. The appeal, therefore, would be to generosity, and he could not doubt that when it was made by the League of Nations to its component members it would receive an adequate response. If he were right in that prophecy, he hoped that the action they had taken might really be of first-class importance in preserving Europe from a repetition of such horrors as halved the population about the middle of the fourteenth century, and continued to decimate it for centuries afterwards.

State Grants to Universities.

On June 17th Mr. Inskip asked whether grants to universities would be made in the current year to the amount of £1,000,000; whether it was intended that in future years the grants should not fall below this figure; and whether universities in receipt of aids from rates raised by local authorities would receive grants in accordance with the principle stated by the Prime Minister on August 14th, 1918, to a deputation from the University of Wales. Mr. Chamberlain replied that the permanent State grant to universities was raised in 1919–20 from £468,000 to £1,000,000. The same sum was being provided in the present financial year in addition to certain non-recurrent grants, and would be continued in future years. The responsibility for the distribution of the money rested with the Treasury, which had always adopted the advice of the University Grants Committee. As regards the last part of the question, the doubling of the Treasury grant was decided upon some months after the deputation to which Mr. Inskip referred. The grant to the University of Wales and its constituent colleges was determined by the £ for £ principle, this being in substitution for and not additional to increased grants on the lines of those given to English, Scottish, and Irish universities.

Voluntary Hospitals in London.—In reply to a question, on June 16th, Dr. Addison said that he was aware that the National Hospital for the Paralysed and Epileptic, Queen Square, and two others in London contemplated closing in whole or in part; the question of giving interim assistance to hospitals in serious financial difficulties was under consideration by the King's Fund. The position of many other London hospitals gave ground for anxiety, and he was considering what measures could be taken to meet the situation without prejudicing the voluntary principle and without losing the services of the voluntary workers, to whose co-operation he attached the greatest value. He had never been in favour of nationalizing the voluntary hospitals.

Medical Fees under the Workmen's Compensation Act.—In reply to a question by Sir H. Nield, on June 17th, the Home Secretary said that the question of the revision of the scale of fees to medical referees and assessors under the Workmen's Compensation Act, 1908, would be considered, with due regard to all relevant circumstances, after the Departmental Committee, which had been inquiring into the operation of the Workmen's Insurance Act, had reported.

Blind Welfare Committee.—Asked if he would arrange for a representative of the National League of the Blind to serve on the Blind Welfare Committee, Dr. Addison, on June 17th, said he was anxious not to increase the number of this committee unnecessarily. Its deliberations would extend to various kinds of industrial occupations, and it would no doubt seek the assistance of those competent to speak as regards the conditions in those occupations. He had already decided to ask a representative of the trade unions to serve on the committee.

Neurological Treatment of Pensioners.—Sir Henry Harris asked, on June 17th, whether there were more than 400 cases awaiting in-patient neurological treatment in London and the region immediately surrounding it; and whether, in view of the very serious results of delay and neglect, the Minister was taking steps to provide additional accommodation. Mr. Macpherson accepted the number stated as correct for the whole area covered by London and the south-eastern counties. Every effort was being made to obtain further hospital accommodation. Many difficulties had to be overcome, but he hoped that further facilities would be available at an early date.

Conditions at Kantara Camp.—Lieut.-Colonel Fremantle asked, on June 16th, if the War Secretary was aware of the insanitary condition of the camp at Kantara, Egypt, and of the absence of proper provision against the heat; whether there were in the camp and hospital over 200 officers and 100 nursing sisters who had been awaiting passage home for periods of three months or more; and what prospect could be held out of their return and of immediate improvement in the conditions of living there. Captain R. Terrell had down on the notice paper a similar question, and said that certain words had been omitted by the Clerks at the Table. He had desired to ask what steps are being taken to rectify "these irritating and costly delays." The Speaker reminded the hon. member that adjectives were not admitted into questions. Sir A. Williamson said that he realized the importance of the matter.

Census Bill.—This bill has completed all its stages in the Upper House.

Answers in Brief.

An instruction will shortly be issued that men who have served for six months during the late war will, provided they are otherwise eligible and medically fit, be allowed to join the Territorial Army even though they do not fulfil the physical standard laid down in the regulations.

Alternative pensions have not hitherto been allowed for nurses under the Royal Pensions Warrants. The question of extending the benefits of this class of pensions to nurses is at present under consideration, but Mr. Macpherson is not yet able to make any announcement on the subject.

The number of individuals liable to income tax for the year 1919–20 is estimated at 3,700,000. The number of individuals who will pay income tax for the year 1920–21 under the new Budget proposals is estimated at 2,450,000. These figures do not include individuals whose incomes are above the exemption limit, but who by reason of reliefs and allowances will not be liable to income tax.

Asked whether the Government will introduce a bill to give legislative sanction to the proposals regarding the employment of women before and after childbirth, which were adopted at the Washington International Labour Conference, Dr. Addison has stated that the British representative, acting on his own judgement, refrained from voting on this subject. The extent to which the British Government shall adhere to the recommendations of the Conference is being considered. The matters involved largely affect insurance questions and are being examined.

The Earl of Pembroke, the Earl of Onslow, Earl Beauchamp, Lord Wemyss, and Lord Muir Mackenzie will represent the House of Lords on the Joint Committee of the two Houses to which have been referred the two Criminal Law Amendment Bills that have had second readings. Probably the First Offenders Bill will be referred to the same Committee.

England and Wales.

BRITISH ASSOCIATION AT CARDIFF.

THE eighty-eighth annual meeting of the British Association for the Advancement of Science will begin at Cardiff on August 24th. Professor W. A. Herdman, who holds the chairs of natural history and oceanography in the University of Liverpool, will deliver his inaugural address on the evening of that day. He will give a general survey of the subject of oceanography, and will discuss in detail certain special problems and recent investigations with particular reference to sea fisheries. There will be two evening discourses, one of which, by Sir A. Daniel Hall, K.C.B., F.R.S., to be delivered on August 27th, will deal with "A grain of wheat from the field to the table." There will be twelve sections, which will meet on four days. Professor Karl Pearson, F.R.S., will preside over the section of anthropology; Mr. J. Barcroft, F.R.S., demonstrator in physiology, Cambridge, over that of physiology, and Miss E. R. Saunders over that of botany. On August 25th there will be a conference of delegates of corresponding societies. A general exhibition of specimens will be arranged at the City Hall, and some of the sections will have special exhibitions.

THE CORONERS' SOCIETY.

The annual meeting of the Coroners' Society of England and Wales, held on June 10th, was followed by a banquet at the Holborn Restaurant. Mr. Kelway Pope, coroner for Southampton, the newly-elected president, proposed the loyal toasts. Mr. Brooke Little, who proposed the toast of "The Coroners' Society," said that the office of coroner was very ancient. It was positively known that coroners existed in A.D. 1194 in the reign of Richard I; some people asserted, on the more than doubtful authority of the *Mirror of Justices*, that coroners sat in the time of King Alfred, who was said to have hanged many unjust judges and coroners. In early times coroners were unpaid, and elected for life by the popular vote. In the reign of Henry VII, however, a sum of 13s. 4d.—equivalent to £8 in 1914—was paid to the coroner in cases of murder and manslaughter; this came from the chattels of the accused, if convicted. Under George II the payment of an increased fee and out-of-pocket expenses was ordained for all inquests held upon view of dead bodies. Any recommendations made by the Coroners' Society should carry weight with the Government, especially in respect of contemplated legislation regarding salaries, the granting of adequate pensions, and the extension of fire inquests outside the City of London. At the present time there were over thirty outstanding enactments relating to coroners; he thought they might well be included in one consolidating and amending Act. Mr. Pope, the president, in reply, expressed his agreement with all Mr. Brooke Little's points. Dr. H. R. Oswald, coroner for West London, proposed the toast of "Our Guests." Sir Edward Troup, K.C.B., Permanent Under Secretary of State to the Home Office, in acknowledging the toast, said that the Home Office was not negligent with regard to legislation, and hoped to deal with the question of coroners' juries as soon as possible. The emergency legislation respecting the powers of coroners to dispense with juries held good for six months after the official termination of the war. No complaints regarding this had been received from the general public, except in one case in which a coroner had returned a verdict of *felo de se*. Coroners generally appeared to like the discretionary powers entrusted to them. To say that the election of coroners should be confined to two professions only was evidence of a narrow view; in any case he felt strongly that during the next ten years at least vacancies should be filled by men who had actually seen active military service.

WHOLE-TIME MEDICAL APPOINTMENTS IN WORCESTERSHIRE.

At a meeting of the Worcestershire County Council on June 14th the Chairman (Mr. Willis Bund) referred to the efforts which the County Education Committee had made to get assistant medical officers at a salary of £450, but had been prevented from doing so because of the action of the medical papers in refusing to insert the advertisements (see BRITISH MEDICAL JOURNAL, May 8th, 1920, p. 654). He said that the Committee had advertised in other papers, as they had been authorized, and they got a considerable number of replies, but he was sorry to say that the persons were not suitable. He did not say they were not qualified persons, but the number who were suitable for the job was very small indeed; there was only one that they would be able to appoint. They had a large number of Irishmen and some Scotsmen, but these had not had experience in the class of work which the Ministry of Health required, and he very much doubted whether the Ministry of Health would have approved the appointments. He did not think that they would. If the Council's scheme was to go through, it was absolutely necessary that the appointments should be made, and he could only suggest that the Council should enlarge the resolution and empower the Committee to go beyond the salary offered in certain cases. He suggested that the Committee should be authorized to get the doctors at what salaries they could, but it would have to be more than £450 a year. Mr. Parkes asked why they should do that—because a strong Association demanded and forced their hand? It was obvious that the British Medical Association was at the back of it. The medical officer at Worcester had apologized to the corporation for asking for more; she told them that she did not want more. It had come to something when an Association could force this, and this Association was supported by a Government department. He contended that public officers stood in a position different from the private practitioner because they had no night work and no Sunday duty. Mr. Lane did not think that anything very serious would happen if these appointments were not made. The Chairman said that the Ministry of Health had approved the scheme, and if the Council did not fill up the appointments they would not make the grants. He agreed with every word Mr. Parkes had said. Mr. Albright asked if the matter had come before the County Councils Association. That was the only way in which they could really resist it—by uniting with other bodies. Dr. H. E. Dixey said that they must realize that several county councils were paying the sums suggested. If they did not appoint officers they would stop the whole medical service of the county. The motion to give the Committee power to go beyond £450 was carried.

INFANTS' AND CHILDREN'S HOMES AND HOSPITALS.

The Ministry of Health has issued a circular letter[1] requiring local authorities and voluntary agencies conducting homes and hospitals for infants and children under five years of age to make records for the purpose of an annual report to the Ministry of:

(1) The number of cases admitted; (2) the average duration of their stay; (3) the reasons for their admission; (4) the number of cases discharged (*a*) in good health, (*b*) improved, (*c*) without improvement; (5) the number of cases of infectious disease, with brief records of any epidemics of measles, whooping-cough, epidemic diarrhoea, or other infectious conditions; (6) the number of deaths, with their date and cause; (7) the number discharged on account of infectious or other illness, with the result (where known) of treatment conducted elsewhere.

Immediate information is to be sent to the Ministry of all deaths from epidemic diarrhoea.

Scotland.

HOSPITAL AND NURSING SERVICES.

WE understand that the report of the Scottish Insurance Commission on hospital and nursing services, to which reference was made last week, has been referred to three of the Consultative Councils in Scotland "to consider whether the present general hospital service is an adequate one for the community, and to make recommendations for its improvement or for the provision and maintenance of an adequate service." A joint committee of the three Councils, with Dr. James R. Drever, Scottish Medical Secretary of the British Medical Association, as chairman, has been appointed. The Insurance Commission's report is now three years old, and is therefore in many respects out of date, particularly in what it has to say about the

[1] Memo. 18/M.C.W., Ministry of Health, May, 1920.

financial position of the hospitals. The joint committee of the three Councils will review the present position of the whole question and report in due course.

SMALL-POX IN GLASGOW.

Last week the number of new cases of small-pox in Glasgow slightly increased, as many as eight being admitted on June 16th to the Belvidere Fever Hospital, where, at the end of the week, there were 135 cases under treatment. The Secretary of State for Scotland has stated in the House of Commons that in no patient removed to hospital had vaccination been carried out within six months previous to infection; 29 persons who subsequently developed small-pox were vaccinated either in their own homes or in the reception houses after known exposure to infection, and before the development of the disease. In 7 of these cases vaccination failed; in 22 the disease was in modified form, except in the case of a child of two months who had been exposed to infection at home for seven days before discovery and vaccination; 186 cases of all ages had been vaccinated in infancy; the mortality among these had been 12 per cent.; of these cases 168, and the whole of the deaths had occurred among persons over 16 years of age. In 57 cases of persons who had never been vaccinated the mortality was 35 per cent.; all but six were under the age of 15. In 3 cases the primary vaccination was doubtful; one of these died; these were included in the 186 vaccinated cases. Of the 186 previously vaccinated cases, one had been revaccinated in 1890, five in 1901, one in 1906, and one in 1916; but the two last named showed no evidence of successful revaccination. Among the group vaccinated in infancy only four were under 10 years, and these were mild and modified cases. The Lord Advocate stated that the Scottish Board of Health had from the beginning been daily in consultation with the public health officials in Glasgow, and was satisfied with the measures taken to deal with the outbreak and to prevent the further spread of the disease later in the season. Adequate arrangements had been made from the start for the hospital accommodation of cases, for the isolation of contacts, and for the free vaccination of the general public.

Australia.

FRIENDLY SOCIETIES AND NURSING BENEFITS.

AT a recent conference of representatives of the various friendly societies of New South Wales the Premier outlined a plan by which, with the aid of Government assistance, members of these societies might be able to rely upon nursing benefits to supplement the ordinary medical attention now secured by them. It was, he said, now generally admitted that skilled nursing was a necessary adjunct to medical attention. It had been shown that the friendly societies alone were unable to supply nurses, but it was now suggested that the Government might help in this direction. At the present time there was a large number of trained nurses who were unemployed. Many of them had been trained in war service, but the cost of their employment was beyond the limits either of the ordinary workman's income or of the benefits conferred by the friendly societies. The Government statistician had supplied figures showing that if a scheme of district nursing were put into operation the services of a staff of about 680 nurses would be required, and this would mean an expenditure of about £165,000. It had been calculated that if members of friendly societies would pay from 2d. to 3d. a week in addition to their ordinary contributions the scheme could be launched, the Government undertaking to subsidize these payments by 50 per cent., or £ for £ as the case might be. If members of the societies would earmark 3d. a week out of the recent increase given by the Board of Trade they would make provision for skilled nursing of their families. He thought that in the long run the scheme would pay for itself by reason of decreased sickness and the consequent improvement in the general health and efficiency of the workers' families. The delegates agreed to submit the scheme to their respective societies.

FEDERAL CONTROL OF THE PUBLIC HEALTH.

At the recent meeting of the Federal Committee of the Australian Branches of the British Medical Association an important discussion took place on the relation between the Federal Government and the public health. It was decided that a full Commonwealth Department of Public Health ought to be set up with a professional permanent head, and under the control of a minister without other portfolio. Attention was directed to the increasing recognition of the value of preventive medicine to the community, and a proposal in favour of endowing chairs of preventive medicine in the universities of the Commonwealth was endorsed. It was suggested that the policy could best be assisted by local campaigns to demonstrate the efficiency of preventive medicine. These campaigns could be undertaken with the object of elucidating the principal factors in the spread of diphtheria, typhoid fever, and tuberculosis in Australia. The Commonwealth Government is to be asked to extend the scheme of control over venereal diseases, to subsidize State expenditure on infant welfare work and on maternity hospitals and wards, and to undertake a systematic investigation into the causes of infant deaths during the first month after birth. The Committee also considered it desirable in the interests of the public health that there should be a central establishment for the investigation of preventable diseases, working in association with existing State institutions, and that laboratories should be provided at all principal ports and centres, with adequate facilities for the examination of specimens sent by medical practitioners in the surrounding districts, specially for assisting in the diagnosis of cases of quarantinable diseases. There should also be a specially trained staff in field research. These proposals are to be forwarded to the Prime Minister of the Commonwealth.

India.

STATE LEPER HOSPITAL, KASHMIR.

DURING 1919 twenty cases of leprosy in the Kashmir State Leper Hospital were treated with gynocardate and morrhuate of sodium, as suggested by Sir Leonard Rogers in the BRITISH MEDICAL JOURNAL of February 8th, 1919, p. 147. It is too early to present a final report, but about half appear to have received some benefit, and two have been much improved. The cost of upkeep of this hospital is entirely borne by the Kashmir State, but the staff of the Church Missionary Society act as honorary medical officers.

KASHMIR MEDICAL MISSION.

The annual report for 1919 of the Kashmir Medical Mission contains a memorial notice of the late Dr. Arthur Neve, who was for twenty-four years head of the mission, and from 1908 to 1910 president of the Medical Missionary Association in India; appreciations of his work are quoted from many sources. The secretary of the memorial fund is Mr. Norman Greene, c.o. Messrs. Cox and Co., Srinagar. The Kashmir valley was visited by a severe epidemic of cholera in 1919, and there were 12,000 deaths among 20,000 cases; erysipelas and acute septic cellulitis have also been very prevalent. All forms of tuberculosis are rapidly increasing, but malignant disease, except the special kangri epithelioma, is relatively rare. For the rest, the work of the hospital has to do chiefly with orthopaedic, plastic, and reparative surgery, and with foul wounds and ulcers engendered by extremely dirty and insanitary conditions of life. Carrel's intermittent wound irrigation is much used in the surgical wards; a thousand major and two thousand minor operations were performed in 1919, but the work of the hospital suffers as a consequence of lack of funds. The honorary treasurer in England is Miss S. E. Neve, of 12, Kidbrooke Park Road, Blackheath, S.E.

On September 25th and 26th the Société Belge de Médecine Mentale will celebrate the fiftieth anniversary of its foundation by a congress at Ghent and Brussels which the corresponding societies in the allied countries have been invited to attend. Communications should be sent to the Secretary, Colonie des Aliénés, Lernieux, Brussels.

Correspondence.

FUTURE PROVISION OF MEDICAL SERVICES.

Medicine and the State.

SIR,—The report of the Medical Consultative Council of the Ministry of Health is a momentous document. I have read it side by side with an account of the Gloucestershire Scheme for the Extension of Medical Services, sent me by my valued friend, Dr. J. M. Martin. I trust the profession is going to scrutinize every one of the proposals in each of these documents before committing itself to the great changes which are only vaguely indicated in what we may call their "argument." May I be allowed to suggest some points for consideration?

1. That "*part-time service*" *for the use of all members of the community is* "*whole-time service*," which the report rightly condemns. The original suggestion of "part-time service" naturally presupposed the limitation of such service to those too poor to pay for it. "Income-limit" is an essential condition of "part-time service." The higher the income-limit the nearer such service approximates to whole-time service, with all its grave effects on efficiency when made general throughout the profession.

2. That if the profession is senseless enough to again consider any scheme of reorganization without *at the same time* having its financial clauses fully and clearly before it, it will deserve to suffer for it, as it certainly will.

3. That the chief secretary of our chief professional defensive body ought to be a business man with legal training, chosen for his proved business ability.

4. That the profession must have an adequate share in its own control. In the Gloucestershire scheme the board of management is practically wholly lay, and therefore quite incompetent for the very responsible position it will occupy. Medical advisory committees have over and over again been shown of small value unless an adequate proportion of the board itself is medical. The appointment of a nearly wholly lay board is retrograde and most undesirable.

5. Special services by consultants should, as usually now, be paid for as "piece work," not by contract. Hospital work might be part-time "contract work," provided a reasonable income limit is imposed.

6. A good deal of misapprehension evidently exists as to the effects of the proposals on

A, the general practitioners,
B, the consultants of secondary centres,
C, the consultants of "teaching schools,"
D, the public.

A. *Effect on General Practitioners.*

In the Gloucestershire scheme the lay board appoints the primary centre doctors—that is, it is by no means certain that all the local practitioners will be appointed. Is such a board to override the qualifying powers of universities, licensing bodies, and General Medical Council? If they appoint, they can also dismiss.

It is doubtful if the general practitioner will be stimulated to research by a system which lessens his liberty, ties him to records and red tape—quite valueless, as experience proves in such conditions—supervises him at every turning, and takes away his best cases to the secondary centre, where he has no time to follow them. This in itself is a grave matter, for the general practitioner hitherto has been a noted contributor to research. Edward Jenner was a general practitioner, so was, I think, Withering, who discovered digitalis, so was Sir James Mackenzie, so was Dr. Budd, who at North Tawton discovered "water-borne typhoid."

If the new scheme reduces the general practitioner, as I believe it will, to a sort of *first-aider*, it will do incalculable harm not only to everyday practice but to research. The general practitioner of to-day is a wonderful man, fully justifying Paget's dictum that "general practice is the highest branch of the profession." It is very bad policy to hamper his activities or to degrade his position. The proposals, if carried out, will do both.

B. *Secondary Centre Consultants.*

What kind of prestige will secondary centre consultants retain when their best cases are taken away to the "higher" sphere of the "teaching centre"?

C. *Consultants of "Teaching Schools."*

What scale of fees and what safeguards against "hospital abuse" is going to protect these against the "unjustifiably cheap country journey." It has to be remembered that those gentlemen of leisure who occasionally vary their activities by a day in the mines or in the factory are now also men of means! Consultants are generally generous men. But generosity may be abused.

D. *The Public.*

There is nothing so steadying to fine impulse as financial reflection! What will all this "castle in Spain" cost? Take a primary centre, properly equipped at present building prices (do we lay 300 or 200 bricks a day, now that our best intelligences are in control?), with corresponding scales for fittings of all sorts.

Then how about privacy in illness? Mrs. A. will have the time of her life in the primary centre discovering from the invaluable records what is the matter with Mrs. B. and Miss C.! And how about free choice of doctor when—very reasonably—doctors decline under the new conditions to trouble to go miles to a distant patient in somebody else's district?

And why this enthusiasm about "teaching centres"? Is it to ensure for such schools a larger supply than heretofore of cases to teach from and to examine candidates upon! Do we not nowadays rather need centres for research unhindered by students?

Conclusion.

The proposals seem to me, as I say, to need the most attentive scrutiny, and to be at present uncalled for, except perhaps in view of the financial straits of our medical charities. But the right way to deal with those charities is by requiring small *payments from all patients, whilst retaining proper income limits.*

It would be difficult to exaggerate the gravity of the proposals before us.

The British medical profession is the magnificent product of industry, intelligence, and public spirit acting in a remarkable atmosphere of individual freedom. Let us beware who handles it. "Facilis est descensus Averni, sed revocare gradum, hic labor, hoc opus est."—I am, etc.,

Exeter, June 20th. W. GORDON.

SIR,—The average practitioner has not time to read voluminous reports of Medical Consultative Councils, and, even if he had time, in view of to-day's excessive rents, rates, taxes, cars, and general expenses, he would have no patience to consider further flash and expensive ministries, as neither the ratepayer nor taxpayer will stand much more. Even the small income man—say, £300 a year—is paying £30 per annum to be governed locally and centrally, and as the time he is going to allow this to continue is being measured in months, not years, idealists in medicine who want to bring Harley Street to the pauper's door had better commence with fundamentals—as housing, butter not margarine, bread not husks, meat not dried leather, cloth not shoddy, business not theory. In most middle-class, lower middle-class, and working-class practice it would be an extraordinary year if the times a consultant is required exceeded six, and many practitioners will go a succession of years without requiring their services at all.

Hospitals are now available everywhere for all cases, the motor ambulance having removed that difficulty in poor cases. The difficulties in Canada—where abdominal cases sometimes have to be sent hundreds of miles by rail—do not occur here, yet, from the lack of perspective in these extravagant schemes, it is made to appear that they do. In the cities a consultant could be had at any time, day or night, pre-war for a guinea or two for the masses, and it is very little more now.

For baths, electricity, etc., even the rich have to travel to Buxton, Droitwich, Harrogate, etc., so that it seems rather extravagant (in the absence of a general Communist policy) to bring these to the door of far too many who, for the purposes of legislation and votes, are called poor working classes.

Moderate terms at the nursing homes for small people would be very useful and prevent hospital abuse.—I am, etc.,

Blackburn, June 20th. J. I. HALSTEAD.

FEES FOR THE TREATMENT OF SCHOOL CHILDREN.

SIR,—At the Representative Meeting a recommendation will be submitted with reference to the fees for the treatment of school children. Paragraph iii states:

> That a fee of not less than one and a half guineas per case (including anaesthetist's fee) be paid for adenoid and tonsils operations involving a general anaesthetic.

In my opinion three guineas is the minimum which should be agreed upon—two guineas for the operator and one guinea for the anaesthetist. The operation is a difficult one. No man who can perform it thoroughly should accept less than two guineas for each case. These cases sometimes die under the anaesthetic. It is of the utmost importance that the anaesthetist should be a specially trained man. A fee of one guinea for his services is moderate.

The Panel Committees have fixed a fee of one guinea for the administration of an anaesthetic. There is a circular to be presented to the Representative Meeting from the Minister of Health recommending a fee of one guinea for the administration of an anaesthetic by a doctor called in by a midwife.

It may be argued that there will be several children to be operated upon at the same time. There will often be only one, and if there are more this does not decrease the difficulty of the operation or the risk which the anaesthetist has to undertake.

The British Medical Association has requested us to increase our fees by 50 per cent. Therefore, in fixing one guinea for operator and half a guinea for anaesthetist, it is the equivalent of 14s. for the operator and 7s. for the anaesthetist at pre-war rates. If governing bodies offered us such fees I maintain that we ought to refuse them, but if they are to be put forward as the considered opinion of our own Association, it will be a retrograde step; it will be derogatory to the profession, and it will decrease the value at which the public have estimated our services.—I am, etc.,

J. LIONEL STRETTON,
Senior Surgeon, Kidderminster Infirmary and Children's Hospital; Chairman, Worcester Division, British Medical Association.

June 19th.

P.S.—I have submitted this letter to a meeting of my Division, and they approve of it.

PANEL PRACTITIONERS AND VACCINATION.

SIR,—I read with personal interest the able account of Dr. Lawson in the SUPPLEMENT of June 19th concerning the dealings which the profession have had with the medical officer of health and the Corporation of Glasgow in regard to vaccination. Sir John Lindsay, the Town Clerk, has now replied that the Corporation intend to abide by their former proposals—namely, "a fee of 2s. for each person vaccinated at the doctors' consulting rooms other than insured persons on the operator's lists, and 2s. 6d. for each person vaccinated in house-to-house visitation."

I shall be pleased if you will allow me, Sir, to deal with another aspect of the question—"vaccination performed by inspectors of the Public Health Department of Glasgow."

At the annual meeting of the West of Scotland Branch it was resolved that the Secretary should write Dr. Chalmers, the medical officer of health, against the employment of sanitary inspectors for carrying out vaccination. In his reply, Dr. Chalmers admitted liability, but intimated that he intended to continue the practice except in the case of infant vaccinations. The Branch Council having met on April 21st to consider the matter resolved to appeal to the Scottish Board of Health, and the following reply was received from the Board, dated May 27th:

> With reference to your letter of 21st ultimo regarding the employment of unqualified men for carrying out vaccination, I am directed to say that the Board do not consider any action on their part called for meantime.

The question came up for discussion at a meeting of the Scottish Committee on June 10th, and it was left with Dr. Drever to deal further with the matter.

Why Glasgow should be chosen as the cockpit of Scotland for all the fighting this year is more than we can understand.

In January we had a court of arbitration over the question whether suturing of a tendon is or is not an operation which a general practitioner of ordinary competence and skill can undertake. The Insurance Committee had the object in view, if it was decided in the affirmative, that other operations, such as appendicitis, would have to be undertaken at the usual rate of remuneration—the capitation grant for insured patients. The result was a signal victory for the profession.

Later we were up against the powers that be over the important question of the limitation of lists, and although in this contest no defeat was sustained, we were not so successful as we hoped to be.

The subject of vaccination is down for discussion at Cambridge, and it seems to me that this opportunity should be accepted by the leaders of the profession to send a strongly worded protest to the Boards of Health that in future all important questions involving the interests of the profession at large should be taken up by central bodies, and not those under local control.—I am, etc.,

A. KENNEDY GLEN,
Secretary Local Medical and Panel Committee, Honorary Secretary West of Scotland Branch.

Glasgow, June 19th.

SANATORIUM HOSPITAL FOR THE WELL-TO-DO.

SIR,—There is a great need for a sanatorium or clinic for the well-to-do classes in some healthy suburb of London to which patients could be sent for diagnosis, dietetic treatment, convalescence, and rest cures, and where they could live amid cheerful surroundings conducive to restoration to health, the patients being able to undergo medical treatment from their own physicians under suitable conditions, which is an impossibility at home.

There are many such institutions on the Continent, and from my own experiences and observations I know and have seen what a blessing they are to the well-to-do sick. There was before the war—I do not know if it still exists—a very splendid institution in Vienna called the Cottage Sanatorium, known, I feel sure, to many of your readers, where patients were treated under the most perfect conditions, having the medical care and attention of a well organized hospital with the surroundings of one of the best hotels.

I should also like to venture to suggest a block for maternity cases. I was informed whilst in Vienna that most expectant mothers who could afford it went into an institution for their confinement; it was considered far safer, as the mother could get every necessary attention. Confinements thoroughly disorganize a house and do not give a mother a fair chance. Nursing homes with the surroundings of so much illness are depressing for the patient and therefore do not seem proper places for a confinement; as I know from my own personal experience, a confinement in a small nursing home is most disturbing to the other patients.

In this country there is really nowhere for the well-to-do sick except nursing homes, where they are confined to one room, a most distressing existence except when in bed, and there are many sick people who require very careful treatment, though able in all respects to go about the same as the healthy until the end has nearly come. For instance, take diabetics, what a boon such an institution would be to them; they cannot go away for a change to an hotel with satisfactory results owing to the food, and it is the same with many other complaints. Such patients, owing to there being no proper institution in this country, are forced to go on the Continent for treatment which could quite as well be taken in their own country; with other sufferers, circumstances prevent them leaving their country and they have to bear the consequences. If we had such an institution, how many useful lives could be saved or prolonged—lives in many cases most useful to the community? At Banff I understand there is an institution of this nature, but I feel we require such an institution near London within easy reach of our specialists.

The institution in Vienna, I understand, was a company, and should any of your readers wish for any particulars I shall be delighted to do all I can to supply them.—I am, etc.,

E. MALCOLM.

10, Calverley Park, Tunbridge Wells, June 18th.

THE ROCKEFELLER FOUNDATION GIFTS.

SIR,—May I correct two errors with regard to the Rockefeller Gift which appear in the leading article of the BRITISH MEDICAL JOURNAL of June 19th in an annotation on "Biochemistry in the universities"?

The income from the sum of £435,000 given by the Rockefeller Foundation to the Corporation of University College Hospital as an endowment fund is to be used for the furtherance of medical education and research in the medical school, and a sum, not exceeding £16,000 per annum, to be utilized for the upkeep of the 120 beds allocated to the purposes of the medical and surgical units until such time as money can be otherwise raised for their maintenance, when this income will be restored to its original purpose of helping medical education and research.

For the maintenance of the remaining 60 of the new 180 beds allocated to the obstetric unit, and for the increased charges for upkeep consequent on the increased size of the hospital and nurses' home, the corporation will have to raise the deficit on the annual income—some £15,000 to £20,000 per annum. You will notice that the endowment is for the maintenance of the beds allocated to the medical and surgical units, and not for those allocated to the obstetric unit, as stated in your leader, and the amount to be devoted to the use of the new biochemical laboratory is £1,300 and not £15,000, as stated in your page 841.—I am, etc.,

G. BLACKER, Dean.

University College Hospital
Medical School, June 21st.

THE POLISH RED CROSS SOCIETY OF GREAT BRITAIN.

SIR,—Your readers are well aware of the serious increase in typhus in Eastern Europe, but few realize that this terrible scourge in the near future may be knocking at our own doors. Adequate assistance must be sent to Poland to deal with the endless stream of refugees pouring through her country.

We, the undersigned, most earnestly appeal for funds to send to Poland a completely equipped unit, armed with all the latest scientific discoveries and fruits of modern research to combat this appalling disease.

It is hardly necessary to add that the need is an urgent one. There are now in Poland itself 250,000 cases of typhus, and this number is increasing daily. Thousands of lives can be saved by sending a unit of this description.

This appeal is issued by the Polish Red Cross Society. Donations should be sent to the Princess Sapieha, 45, Grosvenor Square, W.1.—We are, etc.,

(Signed) A. F. LONDON.
FRANCIS, CARDINAL BOURNE.
JOSEPH HERMAN HERTZ,
Chief Rabbi.
TREOWEN.
STUART OF WORTLEY.
ARTHUR STANLEY, G.B.E.,
President, British Red Cross.
T. P. O'CONNOR.
HUMPHRY ROLLESTON, K.C.B., M.D.,
President, Royal Society of Medicine.
JAMES CANTLIE, K.B.E., M.D.
WILLIAM HUNTER, C.B., M.D.
J. CAMPBELL MCCLURE, M.D.

June 19th.

Obituary.

DR. ROBERT H. RAINS, of Bexhill, who died last week, received his medical education at Owens College, Manchester, and took the diploma of M.R.C.S. in 1886. He was in practice at Bexhill, and took a temporary commission in the R.A.M.C. during the war. On demobilization a few months ago his health broke down. He took great interest in local affairs at Bexhill, and at one time was a candidate for the borough council.

DR. JAMES MIDDLETON of Peterhead died on March 26th, 1920, at the age of 69. He graduated M.B., C.M. at Aberdeen University in 1882, and for two years acted as assistant to the late Sir John Struthers in the anatomical department. In 1888 he went to Peterhead, where, without neglecting his large practice, he contrived to devote much time to public affairs, which interested him, and to literature, which he loved. His contribution to the *Book of Buchan*—"Men of Literature in the North-East"—is a well known example of his incisive and scholarly style. Together with Dr. Tocher and Mr. John Gray he was instrumental in beginning the anthromopetrical observations of the Buchan Field Club. Dr. Middleton was connected for many years with the volunteer movement, and was Major in the Territorial Force. At the outbreak of war he served for a time at Bedford; subsequently he had charge of the 5th Gordons, at Peterhead. Dr. Middleton was regarded with widespread affection and high esteem, and shortly before his death there were presented to him (privately, on account of his failing health) a series of silver services, which had been purchased by public subscription. Dr. Middleton is survived by a widow, two sons, and two daughters.

IT is with deep regret that we have to record the death, on June 16th, of Dr. F. C. SMYTH, 1, West Elmwood, Belfast. He was called to an emergency case late on the night of June 15th, and was about to return home when the motor car in which he had been brought suddenly lurched backwards, knocking him down and passing over him. He was conveyed at once to the Royal Victoria Hospital, but despite every care and attention he died in a few hours, without regaining consciousness. Death was due to an extensive fracture of the base of the skull with laceration of the brain. Dr. Smyth, who was only 41 years of age, graduated in the Royal University of Ireland in 1903 and took the M.D. degree in 1908. He was assistant physician to the Ulster Hospital for Children and Women, medical officer to two sections of the Royal Irish Constabulary, and enjoyed a very extensive practice in and around Belfast. He was held in much affection and esteem by his patients, and was popular among his professional brethren, who recognized his great ability and professional skill. He leaves a widow and three young children, with whom and with his brother, Dr. Walter Smyth, co. Antrim Asylum, deep sympathy is felt in their irreparable loss.

The Services.

DEATHS IN THE SERVICES.

SURGEON MAJOR-GENERAL JAMES CLEGHORN, C.S.I., Bengal Medical Service (retired), died at Haslemere, Surrey, on June 14th, aged 79. He was born on May 19th, 1841, educated at the Universities of Edinburgh and Vienna, and took the M.D. of St. Andrews in 1862, and the L.R.C.S.Ed. in 1863. He passed the examination for entrance to the Army Medical Department, and joined at Netley as a surgeon on probation towards the end of 1864. The I.M.S. had then been closed for four years, no new appointments having been made since 1860. In 1865 that service was again thrown open to competition, and at the first examination held in January, 1865, several of the men on probation for the A.M.D. went up, six of them passing. Among them were H. Cook, afterwards Surgeon-General of Bombay, who passed second, Cleghorn was third, and Robert Harvey, who succeeded Cleghorn as Director-General of the I.M.S., was fourth. The list was headed by K. McLeod, who was not one of the candidates from Netley. Entering the I.M.S. as surgeon on April 1st, 1865, Cleghorn reached the administrative grade as surgeon-colonel on August 13th, 1891, and on March 29th, 1895, succeeded the late W. R. Rice as Director-General. He served in the Bhutan campaign of 1865–66, receiving the frontier medal. In 1870 he went into civil employ in the North-West now the United Provinces, and after serving there in several districts, in March, 1885, was appointed to act as surgeon-superintendent of the Presidency European General Hospital, Calcutta. In April, 1886, he was posted to Lucknow, the prize station of the N.W.P., and held that post till his promotion in 1891, when he became Inspector-General of Civil Hospitals in the Punjab. He received a good service pension on April 2nd, 1894, was made C.S.I. on June 22nd, 1897, and was appointed honorary surgeon to the Queen on October 5th, 1898. He retired on October 25th, 1898.

Surgeon Rear-Admiral Sir Daniel J. P. McNabb, K.B.E., C.B., has been appointed naval member of the Medical Consultative Board to the Admiralty.

The name of temporary Captain J. G. M. Molony, R.A.M.C., has been brought to the notice of the Secretary of State for War for valuable services rendered whilst a prisoner of war.

The following are the correct names and ranks of the officers mentioned in the lists of appointments to the Order of the British Empire, and not those as printed in the *London Gazette* of the dates indicated in parenthesis. Captain (temporary Major) George Whiteside Robertson, Union R. of O. (Medical) attached S.A.M.C. (December 12th, 1919). Lieutenant Raymond Theodore Frederick Barnett, R.A.M.C.T.F. (March 31st, 1919). Captain Donald Macintyre, R.A.M.C.S.R. (November 18th, 1918, and April 15th, 1919).

Medical News.

DR. VANGHETTI has been awarded the Riberi prize of the Royal Medical Academy of Turin for his work in connexion with the utilization of the muscle of a stump to actuate an artificial limb (the so-called cineplastic operation).

BEFORE the Cavendish Lecture, to be given to the West London Medico-Chirurgical Society by Professor Sherrington on "Posture," at 7.45 p.m., at the Kensington Town Hall, on Friday, June 25th, the society's companion triennial gold medal will be presented to Colonel T. R. Elliott, C.B.E., D.S.O., M.D., F.R.S., for his contributions to the treatment of thoracic injuries in the great war. A conversazione and exhibition of medical and surgical appliances and books will follow the lecture.

SIR LEONARD ROGERS will give a lecture on leprosy at the London School of Tropical Medicine, Endsleigh Gardens, N.W., on Monday, June 28th, at 2 p.m.; and on Wednesday, July 14th, at 2 p.m., Colonel S. P. James will deliver a lecture on the prevention of malaria. Members of the medical profession are invited to be present.

A MEETING of the Medical Officers of Schools' Association will be held at 11, Chandos Street, Cavendish Square, W.1, on Monday, June 28th, at 5.15 p.m., when Mr. R. W. Tustin, chairman of the Milk Committee of the Canadian Food Control Board, will give a lecture on milk supply, illustrated by the cinematograph and lantern slides. Any person interested is invited to attend.

A SERIES of film demonstrations will be given at the Royal Society of Medicine on June 29th, July 1st, 5th, 9th, and 12th. The demonstrations have been arranged by the Fellowship of Medicine, but are open to visitors.

A SPECIAL post-graduate course will be held at the National Heart Hospital, Westmoreland Street, London, W.1, during the last two weeks of July. It will include practical instruction in the use of the polygraph and electrocardiograph. Particulars can be obtained from the Dean.

SIR CLIFFORD ALLBUTT has written a preface for a book entitled *Industrial Colonies and Village Settlements for the Consumptive*, by Professor Sir German Sims Woodhead and Mr. P. C. Varrier-Jones, the honorary medical officer of the Cambridge Tuberculosis Colony at Papworth. The book will be published shortly by the Cambridge University Press.

DR. WYNN WESTCOTT, after twenty-six years' service in that office, has resigned the coronership for North-East London.

A CHILD of seventeen months has died in Middlesbrough after accidentally swallowing three pills containing potassium nitrate.

THE new buildings of the University Library at Leyden will be open to the public on July 12th. The official ceremony will take place later.

THE date of the presentation of the cheque, arising out of the generous response to the fund organized for the purpose of marking the very exceptional services of Sir John MacAlister to the Royal Society of Medicine during more than thirty-three years, has been fixed for Wednesday, July 7th, in the Barnes Hall, at 4.30 p.m. The ceremony will be performed by the President, Sir Humphry Rolleston, K.C.B., and will precede the business of the annual meeting, which will be held at 5 p.m. The fund will be finally closed on Saturday, July 2nd.

WE have received from the secretary of the Friends' Emergency and War Victims' Relief Committee (27, Chancery Lane, W.C.2) a circular stating that the population of Vienna has declined from 2,125,000 to 1,750,000. Before the war there were 3,200 doctors; now there are 4,800. It is said that 60 per cent., together with their wives and families, have a hard struggle to earn their daily bread; 20 per cent. are quite unable to get on, and have insufficient nourishment and insufficient warmth; and only 20 per cent. have an income which provides fairly well for themselves and those dependent on them. These conditions are attributable partly to the economic ruin of the middle classes and the extraordinary advance in the cost of living, and partly to the recent extensions of insurance practice in the city; this, it is stated, has reduced doctors' incomes by 90 per cent. Numerous ambulances and welfare centres have been organized, and though their social necessity is by none more highly recognized than by the medical faculty, they have caused its members an enormous material loss.

DR. C. W. WINDSOR of Royston, Herts, has been appointed to the Commission of the Peace for the County of Cambridge.

AT a meeting of the Conference of Delegates of the Metropolitan Medical Schools on March 11th, it was resolved: "That application be made to the Government requesting that a single examination be instituted for admission to the medical services of all Government departments, and that this examination be held at regular intervals." The individual medical schools were invited to consider this question, and at a meeting of the conference held on June 2nd it was resolved that the proposal be approved in principle, and that the departments concerned be informed, and asked to communicate the details of any arrangements which might be formulated if it were decided to institute a single examination.

"KOSSOVO DAY," the national day of the Serbians, will be commemorated this year by a concert at the Mansion House on Monday, June 28th, at 3 o'clock, presided over by the Lord Mayor. Admission is by invitation tickets to be obtained from the Secretary, Serbian Red Cross, 8, Queen's Gate Place, S.W.7.

THE Ministry of Health has issued a volume (*Type Plans and Elevations of Houses designed by the Ministry of Health in connexion with State-Aided Housing Schemes*, London, His Majesty's Stationery Office, 1920, price 1s. net) containing thirty-four type plans and elevations for State-aided housing schemes. The designs are not put forward as the "last word in cottage planning," but with the intention of providing a key to the various types for which full working drawings have been prepared. Of the two main groups of houses which it is proposed to construct class A consists of cottages containing a living room, scullery, three bedrooms, and the necessary offices; Class B contains a parlour in addition. Certain of the plans, however, provide for four bedrooms, the fourth bedroom being rendered possible by the existence of a central passage in a block of four houses. Certain dwellings have been designed with extra long frontages and shallow depths for hilly sites. By adopting type plans local authorities can save a considerable amount of time, and have obtained comparatively satisfactory prices both in open competition and for agreed price contracts. The full sheet working drawings can be obtained by local authorities and public utility societies from the Ministry of Health, Whitehall, or from the Housing Commissioners. A specification has also been issued of cement concrete to be used for approved buildings.

WE have received from Messrs. W. B. Saunders Company (9, Henrietta Street, W.C.2) a catalogue of their medical books, showing the date of publication of each.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*: telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

D. L. asks whether ovarian gland substance has been given in cases of excessive growth of hair on the face in women.

INCOME TAX.

Method of Dealing with Renewals.

A CORRESPONDENT has called our attention to a discrepancy between an answer given on this subject in the BRITISH MEDICAL JOURNAL of January 18th, 1919, and an answer given recently (June 5th, 1920). The earlier answer was founded on what was understood to be the practice of the Inland Revenue Department, but evidence given before the Royal

Commission on Income Tax seems to indicate that the attitude of the department has changed or is changing. In a memorandum presented to the Commission the Board of Inland Revenue suggested the following as an alternative method of estimating allowances for depreciation and obsolescence of plant and machinery, etc.:

"As an alternative to the allowance for wear and tear and obsolescence of plant and machinery, the cost of renewing plant and machinery may be claimed as a deduction in the computation of income tax liability under Schedule D. When this course is preferred by the taxpayer the amount to be allowed is the actual cost of the new plant and machinery (excluding any part of such cost which is attributable to additions or improvements—that is, to an increase in capital) after deducting the scrap value or realized price of the plant and machinery replaced.

"*Example* (*a*).—A machine which originally cost £1,000 is worn out and replaced by a machine of similar power or size or capacity which now costs £1,500. The whole of this expense of £1,500 is allowable from the profits of the year in which it is incurred.

"*Example* (*b*).—A machine which originally cost £1,000 is worn out and replaced by one of a greater power or size or capacity costing £2,500. The amount to be allowed as an expense is in this case not the full £2,500, but only the cost of replacing the old machine by one of similar power or capacity —say £1,500.

"Although this method of allowance is alternative to the wear and tear allowance for the same class of plant, the two principles may run concurrently for different classes of assets in the same business. For example the wear and tear allowance may apply to fixed machinery, while the renewal method is used for loose plant."

Inasmuch as the whole difficulty will automatically cease if and when the depreciation allowance is made accessible to professional men, it is perhaps unnecessary to pursue the matter further than to say that there seems no reason to assume that the Board will now enforce its early practice as a general rule.

L. A. T. bought a De Dion car for £289 in 1911 and sold it in 1919 for £25, and bought a Ford car in 1913 for £138, which he still uses. Can he claim any deduction for depreciation?

*** As the Income Tax Acts stand at present he has no claim, but if and when he again buys a second car he can claim that expense as a deduction, except to the extent to which the car so purchased represents an improvement. For instance, if the present cost of a similar De Dion car to the one sold be taken as £550, then he can claim when purchasing another car for, say, £*x*, either £550 − £25, or £*x* − £25, whichever be the smaller.

H. C. P. has been refused by the inspector of taxes a deduction from the amount of his emoluments from the Ministry of National Service in respect of expenses. Apart from the child allowance, H. C. P.'s claim is (*a*) for hotel expenses, and (*b*) in respect of the loss incurred by the dissolution of his practice when he accepted a commission.

*** As regards (*b*), H. C. P. has no legal claim to an allowance, seeing that it is a loss of capital that is in question. The expenses referred to in (*a*) raise a more difficult question. Assuming that the emoluments are correctly assessed under Schedule E, our correspondent must show that the expenses were wholly, exclusively, and necessarily incurred *in* the performance of his duties; judicial dicta suggest that a line is drawn between, on the one hand, those obviously allowable expenses, such as the cost of maintaining a car for travelling from place to place to fulfil the conditions of the appointment requiring personal attendance at both places, and on the other hand, those *quasi*-residential expenses—such as the city man's season ticket—which are necessitated, not by the conditions of the appointment, but by the circumstances of the person who holds it. We fear that to a great extent the expenses which our correspondent has in mind would fall on the wrong side of the line of demarcation. In those circumstances we suggest that he might place the facts before the Board of Inland Revenue, Somerset House, for their consideration; possibly they may be able to exercise some powers of mitigation which the local inspector does not possess.

PUZZLED refers to a recent answer in this JOURNAL which stated that the income tax will be assessed this year under the new regulations; he points out that the forms now being issued by the assessors require a return of profits on a three years' average basis and not on the previous year's basis proposed by the recent Royal Commission.

*** The proposals in question—apart from administrative matters—dealt with the methods of calculating the income liable to tax, and with the system to be adopted in assessing that ascertained amount. The latter proposals are embodied in the Finance Bill now before Parliament and will presumably receive statutory effect as for the present financial year, but those proposals which deal with the quantum of income to be assessed are omitted from the Finance Bill, apparently for embodiment in a separate income tax bill to be introduced in the autumn session and to become effective next year. The answer to which our correspondent refers, related to a question in which the quantum of the income was assessed, and therefore one which turned on the application of the new proposals to this year's tax. We may perhaps add that the assessors' forms are apparently printed some months before the Finance Bill is introduced.

SUNBURNT POTATOES.

DR. JOHNSON SMYTH (Bournemouth) asks for an explanation of the intensely disagreeable taste of a boiled sunburnt potato. Is the taste due to some alkaloid developed at the same time as the chlorophyll? The potato belongs to the Solanaceae; is it possible that it may develop solanine or atropine in association with the chlorophyll?

LETTERS, NOTES, ETC.

THE PREVENTION OF INFLUENZA.

DR. J. LEON JONA (Melbourne, Victoria) writes to express the hope that Sir Thomas Horder's address, recorded in the BRITISH MEDICAL JOURNAL of November 29th, 1919, will lead the profession to consider the adoption of a practical scheme for anticipating and dealing with epidemics of influenza. The first important step, Dr. Jona considers, would be to make notification compulsory. While it has been stated that influenza did not exist in an epidemic form in Melbourne in October, 1918, yet at that time those engaged in general medical practice met many cases of the disease. The second factor is, he thinks, rather economic than purely medical: in influenza the infectivity is highest in the early catarrhal stage, and it is not sufficient to isolate those patients only who are seriously ill. These are comparable to criminals who have been caught and placed out of harm's way; it is the criminal at large—the promiscuous sneezer, cougher, or kisser—who is the menace to public safety and requires to be dealt with, but here that in civil life difficulties begin. The man who feels off-colour reports to a doctor only if it pleases him; he must pay out of his own pocket. If the doctor advises treatment in bed or isolation, the patient must lose his wages, or even perhaps his post. Men with dependants and mothers of families (and it was among the latter that the mortality was highest in the recent epidemic) are particularly reluctant to "report sick." Dr. Jona continues: I suggest that in every city district medical inspectors should be appointed to whom any employee feeling ill could be sent, and at whose discretion the patient would be sent home or into isolation; the payment of his wages should be continued. Provision for this could be made by a scheme similar to that employed for insurance under the Workmen's Compensation Act. The isolated patient should be periodically examined by the medical inspector; a staff of domestic assistants should also be organized. Such a system may perhaps appear complicated and expensive, but if it pays the army to keep, say, one M.O. per ten thousand men for sanitary services and preventive medicine, the system that I advocate should prove a sound economic proposition. It is the duty of the profession to take active steps in this matter.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 40, 43, 44, 45, 46, 47, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 41, 42, and 43.

THE following appointments of certifying factory surgeons are vacant: Stokesley (York, North Riding), Truro (Cornwall).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	7	6
Each additional line...	0	1	3
Whole single column	6	0	0
Whole page	16	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

.3
R

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

SUPPLEMENT

CONTAINING

CURRENT NOTES ON THE WORK OF THE ASSOCIATION

REPORTS OF CONFERENCES

MEETINGS OF BRANCHES AND DIVISIONS

PROCEEDINGS OF THE GENERAL MEDICAL COUNCIL

MEDICAL BILLS IN PARLIAMENT

NATIONAL INSURANCE PROCEEDINGS

NAVAL AND MILITARY APPOINTMENTS

CORRESPONDENCE, Etc.

VOLUME I, 1920.

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

INDEX TO SUPPLEMENT FOR VOLUME I, 1920.

A.

Admiralty surgeons and agents, 65
Air Force, Royal. 8, 12, 23, 32, 34, 43, 55, 79, 84, 92, 96, 101, 145, 150 165, 177, 186, 205
Arbitration, some thoughts on (H. B Brackenbury), 65
Arbitration. *See also* Fees, medical, *and* Insurance
Army, British, 7, 11 23 28, 32, 34, 43, 55 63 79, 84, 91, 95, 101, 145, 149, 154, 165, 177, 186, 193, 205
Army, British: Army Medical Service, 7, 11, 23, 32, 34, 43, 55, 84, 95, 101, 145, 154, 165, 177, 186, 193, 205
Army, British: British West Indies Regiment, 34
Army, British: Exchange, 8, 12
Army, British: General Reserve of Officers, 32, 34, 84, 101, 177, 205
Army, British: Overseas Contingents, 34 44, 150, 177, 193
Army, British: Queen Mary's Army Auxiliary Corps, 12, 34, 80, 96
Army, British: Royal Army Medical Corps, 7, 11, 23, 28, 32, 34, 43, 55, 63, 79, 84, 91, 95, 101, 145, 149, 154, 165, 177, 186, 205—Retired pay, 26
Army, British: South African Medical Corps, 34, 44, 150, 177 193
Army, British: Special Reserve of Officers 8, 12, 24, 34, 43, 55, 79, 92 96, 97, 101, 145, 150, 177, 194, 205—Note on, 97
Army, British: Temporary officers and permanent commissions, R.A.M.C., 57
Army, British: Territorial Force, 8 12 24, 25, 43, 55, 79, 92, 96, 101, 146, 150, 152, 166, 178, 205—Army Medical Service, 101—Deputation to Director-General, Army Medical Service, 152—Reconstruction of, 25, 81, 93—Royal Army Medical Corps, 8, 12, 24, 43, 79, 92, 96, 102, 146, 166, 178, 205
Army, British: Territorial Force Reserve, 12, 55, 79, 92, 96, 102, 146 150, 178
Army, British: Volunteer Force, 8, 12, 24, 34, 55, 64, 79, 92, 96, 146
Army, Indian, 12, 24, 34, 55, 96 146, 150, 177, 193, 205—Temporary commissions, 1—Individual aid, 13—Commuted furlough, 45—Consolidated rates of pay, 97
Assistants in panel practice, 180
Association, British Medical: Annual meeting at Cambridge (1920), 37, 77, 88, 149, 161, 174, 195, 207—Freemasons at, 37—Programme, 77, 88, 161, 195
Association, British Medical: Annual Representative Meeting, Notices of Motion, 143, 164, 180, 188
Association, British Medical: What it is and What it Means to its Members, 193
Association, British Medical: Its Work and its Critics (Alfred Cox), 1
Association, British Medical: Council election, 25, 37, 174, 180, 187, 203—Council meeting, 57—Annual report of Council, 105—Council attendances, 148—Supplementary report of Council, 167—Reasons for recommending an increased subscription, 179
Association, British Medical: General expenses, 148
Association, British Medical: Lectures, 87
Association, British Medical: Membership of, 93, 187
Association, British Medical: In Victoria, 9

B.

Bath Insurance Committee: Resolution *re* insured persons on lists of deceased practitioners, 36
Battle of the lodges in Victoria. *See* Victoria
BELL, J. A: Transfer of practices, 36
BENSON, Philip L.: The arbitrators' award, 83
BENSTED-SMITH, W. F.: Remuneration, 21
Birmingham, meeting of panel practitioners, 54
Bournemouth district, increase of fees, 10
BRACKENBURY, H. B.: The Panel Conference, 5—Some thoughts on the arbitration, 65—Unity and trade unionism, 89—Proposed testimonial to, 90, 98—Dinner and presentation to, 95 The general practitioner and the health services, 155—As a parliamentary candidate, 187
Bradford Division: Dinner and presentation, 149
Brighton, trade union question at, 78
British Medical Association, its work and its critics (Alfred Cox), 1. *See also* Association

C.

Caithness and Sutherland Division Annual dinner, 160
Carnarvon, North, and Anglesey Division: Dinner and presentation, 81
Certifying factory surgeons. *See* Factory
Chester, County Palatine of, Local Medical and Panel Committee: Disapproval of remuneration, 27—Terms of service, 27—Goodwill of practice, 27
Chichester, trade union question at, 94
Cinematograph films, medical, 87
CLARKE, Sidney: Limitation of panel lists, 31
Cleveland Division: Annual dinner, 29
Colonial commissions for venereal propaganda 173
Colonial medical services, 10, 37
Conferences of various medical bodies, 39
Contract practice in Scotland, development of, 207

COUNCIL, GENERAL MEDICAL:
Committees, 200
Dental Education and Examination Committee, 199
Election of Junior Treasurer, 200
Executive Committee, 83
Midwifery, teaching of practical, 198
Penal cases, 200
Pharmacopœia Committee, 199
President's address, 183
Preventive medicine, teaching of, 189
Professional examinations, 199
Public Health Committee, 199
Reports of committees, 199
Students' Registration Committee, 199
Vote of thanks, 200

COX, Alfred: The British Medical Association, its work and its critics, 1—The proposed testimonial to Dr. Brackenbury, 98
CREW, H. C.: Insurance medical records, 51
CROMIE, J.: A call to order, 16
CROSS, Edward J.: Net capitation fee, 27

Current Notes
Acknowledgement of assistance, 29
Action by Panel Committees and insurance practitioners, 13
Admiralty surgeons and agents, 65
Annual meeting, Cambridge, 1920, 37
Arbitration, 29, 33, 45, 57—On disputed medical charges, 45
Assistants in panel practice, 180
Association lecture at Edinburgh, 38
Association in Victoria, 9
Battle of the lodges in Victoria, 33
Brackenbury, Dr., as a parliamentary candidate, 187
British Medical Association lectures, 86
Colonial commissions for venereal disease propaganda, 173
Colonial medical services, 10, 37
Contract practice in Scotland, development of, 207
Council attendances, 148
Council election, 25, 37, 174, 180
Council meetings, 57
Degrees for London medical students, 25
Ebbw Vale dispute, 148
Fee for administration of gas to pensioners, 26
Fee for notification of infectious disease, 1
Fees for juvenile club patients, 202
Fees for medical examination for life assurance, 1, 45
Fees for St. John Ambulance lectures, 38
Freemasons at the annual meeting, 37
General Association expenses, 148
Gratuity, the £60, 46
Hospital reconstruction, 81
Hospital survey, 147
Hospitals and pension work, 187, 201
Hospitals, voluntary, State-aided patients in, 207
Income tax of civilian doctors on war work, 87
Indian Medical Service: Temporary commissions, 1—Commuted furlough, 45
Individual advice to members of the Association, 160
Individual aid, 13, 151
Insurance practitioners' right of appeal to High Court 159
Insurance regulations and remuneration, 9
Insurance remuneration, the Government's decision, 13
Insurance statistics, 93
Library books, surplus, 87
Library, hours of opening of, 160
Medical cinematograph films, 87, 201
Medical fees in criminal courts, 201
Medical profession and local elections, 29
Medico-Political Committee, work of, 159
Membership of the Association, 93, 187
Morant, the late Sir Robert, 97
Motor cars, preferential delivery, 38, 65—Taxation of, 147, 151, 173
"New Poor," 65
Newcastle practitioners and a garage fire, 65
Nurses' registration, 57
Panel Committee expenses, 201
Panel lists in Glasgow, 160, 173
Part-time prison medical officers, 97
Payment of hospital staffs for treatment of disabled men, 45, 148
Pensions Boards, appointments, 23

Current Notes (*continued*):
Pensions of medical officers retired from the colonial services, 160
Pensions Ministry, 65
Pensions for senior medical officers R.N., 9
Poor Law hospitals, utilization of, 151
Postal medical service, 81, 99
Postal rates, increased, 147
Praise and blame for Insurance Acts Committee, 29
R.A.M.C. retired pay 26
Representative Body, 13, 23
Rewards for medical discovery, 37, 57
Right of appeal against removal from the panel, 93
Salaries of medical officers of local authorities, 57, 180
Salaries, minimum, of public medical officers, 159
Salary of a medical officer of health, 173
Salvarsan and allied products, control of, 147
Scientific meetings: North of England Branch, 87
Senior Surgeon Commanders R N., 93 173
Special intermediate insurance certificate, 99
Special Reserve, R.A.M.C., 97
State aided patients in voluntary hospitals, 207
Statistics of practice, income and expenditure, 201
Temporary officers and permanent commissions, R A.M C., 57
Territorial Medical Force, reconstruction of, 25, 81, 93
Visitation of Divisions, 99

D.

Darlington Division:—W. E. Hume: Lessons learnt at the Pensions Boards and their bearings on cases of heart trouble met with in private and insurance practices, 99
DAWSON, H. G. W.: Reduction of panels, 43
Degrees for London medical students, 25
Divisions, visitation of, 99
Dorset, West, Division: Increase in fees, 30
Dorset and West Hants Branch: Annual meeting 189—Election of officers, 189—Presidential address, 189
Dundee Branch: Address by Dr. A. F. Hurst, 26
DUNLOP, J. Beattie, presentation to, 149

E.

EATES, A. R.: Register of insured persons, 145
Ebbw Vale dispute, 148
England and Wales, notification statistics in, 76
Essex, North-East, Division: Annual report of Council, 189 - Ethical rules, 189
Essex, South-West, Division: Annual meeting, 202—Election of officers, 202—Lecture, 202
Exeter Division: Annual meeting, 100—Election of officers, 100

F.

Factory surgeons, certifying: Abolition of the sixpenny fee for examination 91
FARMAN, Robert J.: Testimonial to Dr. Brackenbury, 90 - Proposal for a complimentary dinner, 144
Fee for administration of gas to pensioners, 26
Fee for examination, the sixpenny, abolition of, 91
Fee for notification of infectious disease, 1
Fees for juvenile club patients, 202
Fees, medical, 204
Fees, medical, arbitration on disputed, 45
Fees, medical, in criminal courts, 201
Fees for medical examination for life assurance, 1, 45, 85
Fees for St. John Ambulance lectures, 38
FENWICK, Collingwood: The profession and the Government, 10
FOLEY, C. H. (and others): Irish dispensary doctors and the proposed new motor taxes, 185
FOTHERGILL, E. Rowland: Council election, 203
FOX, Adam: New regulations and arbitration, 20—Publicity of inquiries, 76—Appeals to the High Court, 101—Right of appeal to the Courts, 177

G.

GARRATT, G. C.: New regulations and arbitration, 20—Statistics of panel attendances in Manchester and Scotland, 42
General Medical Council. *See* Council
General practitioner and the health services (H. B. Brackenbury), 155
Glasgow Eastern Division: Report on Conference of Panel Committees, 87—Revised ethical rules, 87 - Medical club, 87—Annual meeting, 99—Election of officers, 99
Glasgow, panel lists in, 160, 173
Glasgow and West of Scotland Branch: Annual meeting, 99—Election of officers, 99—Demonstrations, 99
GORDON, W. I.: Limitation of lists, 27
GOULD, H. U.: Remuneration and rural practice, 35
GRAY, J. Pereira: The Panel Conference, 5, 10—National insurance, 177
Gratuity, the £60, 46
Greenwich and Deptford Division: Annual meeting, 189—Election of officers, 189.

H.

HAMILTON, James: The capitation fee, 157—Remuneration of medical practitioners, 176
HARRIS, R. W: Insurance remuneration, terms of settlement, 15
Harrow Division: Ethical rules, 4—Increase of medical fees, 4—Fees for life insurance, 4
HARVEY, P. G.: New regulations in rural practice, 35
Health Ministry: New medical appointments, 165—National Insurance Act, 1920, 177
HEDLEY, A. S.: An appreciation and a suggestion, 83
Herts (West) and Watford Medical Society:—H. B. Brackenbury: The general practitioner and the health services, 155
HODDER, A. E.: The profession and arbitration, 35
Hong Kong and China Branch: Annual meeting, 38—Election of officers, 38
Horsham Division: Annual meeting, 203—Election of officers, 203—Matters referred to Divisions, 203
Hospital reconstruction, 81
Hospital survey, 147
Hospitals and pension work, 187, 201
Hospitals, Poor Law, utilization of, 151
Hospitals, voluntary, State aided patients in, 207
Huddersfield Division: Annual meeting, 203—Election of officers, 203—Matters referred to Divisions, 203

I.

Income tax of civilian doctors on war work, 87
Indian Medical Service. *See* Army, Indian
Individual advice to members of the Association, 160
Individual aid, 13, 151
Insurance Acts Subcommittee, Scotland: Election of officers, 4—Draft Medical Benefit Regulations (Scotland), 4—Conference with Insurance Committees, 4
Insurance appeal, a successful, 5—London and Counties Medical Protection Society *v.* East Sussex Insurance Committee, 5

INSURANCE, NATIONAL:
Acknowledgement of assistance, 29
Advisory Committee *re* medical records, 74
Amending Bill, 74, 177
Appeal, a successful, 5
Arbitration, 25, 29, 33, 46, 57, 58, 67—Memorandom by Sir Clifford Allbutt, 46—Case presented on behalf of profession by Insurance Acts Committee, 46—Memorandum by Professor A. L. Bowley, 53—Observations on behalf of Government in case presented to arbitrators on behalf of insurance practitioners, 58—Award of the arbitrators, 67
Board of Arbitrators *re* remuneration, 25—Terms of reference, 25
Contributions and benefits, the new, 20—Ministry of Health announcement 20
Correspondence, 5, 10, 15, 20, 27 30, 35 42 75, 82, 89, 98, 101, 144, 157, 176, 185
Insurance terms and conditions, 6
Intermediate certificate, 205
Limitation of lists, 42
Medical records, appointment of Advisory Committee, 74, 83
Mileage grant, distribution of, 153
New terms and conditions of service for Scotland. *See* Scotland
Panel Committee expenses, 201
Panel Committees and insurance practitioners, action by, 13
Panel lists in Glasgow, 160, 173
Panel practitioners and vaccination, 204
Practice income and expenditure, statistics, 201
Praise and blame for Insurance Acts Committee, 29
Range of service by panel doctors, 76
Regulations and remuneration, the new, 9
Remuneration, the Government's decision, 13, 15, 17—Terms of settlement, 15—The Government's offer, 17—Reply by Insurance Acts Committee, 18—The proposal for arbitration, 19—The settlement, 19—Statement by the Ministry of Health, 20
Right of appeal against removal from the panel, 93
Right of appeal to High Court, 159
Scotland, new terms and conditions of service for, 149
Scottish Panel Conference, 41
Special intermediate insurance certificates, 99
Statistics, 93

INSURANCE, NATIONAL (*continued*):
Inverness Division: Action in national emergencies, 153—Fees for life insurance, 153—Salaries of prison medical officers, 153—Remuneration in the Highlands, 153
Irish dispensary doctors and the proposed new motor taxes, 185
Irish Medical Committee: Irish Public Health Council, 14—Medical treatment for discharged disabled men, 14—Medical certification under the Insurance Act, 14—Medical attendance on the Royal Irish Constabulary, 15—Payments for attendance on post office employees, 15
Isle of Ely Division: Annual meeting, 202—Election of officers, 202 - Ethical rules, 202—Matters referred to Divisions, 202—Increase of fees, 202

J.

JONES, W. Black: Insurance remuneration, 15

K.

Kensington Division: Increase of fees,

L.

Lanarkshire Division: Annual meeting, 202—Election of officers, 202—Matters referred to Divisions, 202
Lancaster Division: Address by Medical Secretary, 157
LARKING, Arthur E.: Proposed increase of subscription, 204
LAWRANCE, M. C. S: Payments for 1918, 6
LAWSON, William: Panel practitioners and vaccination, 205
Leinster Branch: Annual meeting, 202—Election of officers, 202—Presidential address, 202—Pensions for Poor Law medical officers, 202—Fees for medical examination, 202—Salaries of Poor Law medical officers, 202—Salaries of prison medical officers, 202
Lewes and East Grinstead Division: Annual meeting, 203—Election of officers, 203—Matters referred to Divisions, 203
Life insurance fees. *See* Fees
Library books, surplus, 87
Library, hours of opening, 160
Lincoln Division: Address by Dr. Alfred Cox, 157
London Insurance Committee: Remuneration of medical practitioners, 165 — Pharmaceutical service, 165—Limitation of lists, 165
London Panel Committee: Election of Panel Committee, 165
London County Panel Committee: Terms of service for 1920, 27—Model scheme of remuneration, 27—Brackenbury testimonial, 91—Administrative expenses, 91 — Complaints against practitioners, 91
London County Insurance Committee: Payment of practitioners, 54—Colindale Hospital, Hendon, 55—Special clinics for venereal disease, 55—The late Sir Robert Morant, 95—Large panel lists, 95—Venereal diseases, 95
London Panel Committee: Post-graduate instruction, 145
LYTH, J. C.: Sickness benefit claims, a fallacious index, 75—Medical fees, 204

M.

Malaya Branch: Annual meeting and dinner, 202—Election of officers, 202—Discussion on eligibility for membership of the Association, 202
Matters referred to Divisions, 85
Medical cinematograph films, 87, 201
Medical discovery, rewards for, 37, 57
Medical fees. *See* Fees
Medical officer of health's salary. *See* Salary
Medical profession and local elections, 29
Medico-Political Committee, work of, 159
Middlesex, North, Division: New capitation fee, 57—Middlesex formulary, 57—Fees for life insurance, 57—Lecture, 160
Midwives, training of, 86
MORANT, the late Sir Robert, 97
Motor cars: Preferential delivery, 38, 65—Taxation of, 147, 151 173, 185
Motor drivers, standards of vision for, report of committee, 6
Munster Branch: Annual meeting, 203—Election of officers, 203—Ethical rules, 203

N.

Navy, Royal, Medical Service of, 7, 11, 23, 28, 32, 34, 43, 55, 63, 79, 84, 91, 95, 101, 145, 149, 154, 165, 186, 193, 205—Pensions for senior medical officers, R.N., 9, 93, 173
Navy, British: Royal Naval Volunteer Reserve, 149
"New poor," 65
Newcastle practitioners and a garage fire, 65
NOBLE, J. A.: Insurance remuneration, 10
Norfolk Branch: British Medical Association lecture, 4
North of England Branch: Post-graduate courses, 82—Scientific meeting, 87
Notification statistics in England and Wales, 76
Nurses' Registration, 57—Vote of thanks to British Medical Association, 57

P.

Panel Committees *See* Insurance
PAULLEY, Legge: Testimonial to Dr. Brackenbury, 90
Payment of hospital staffs for treatment of disabled men, 45, 86, 148
Pensions Boards, appointments, 23
Pensions of medical officers retired from the Colonial Services, 160
Pensions Ministry, 65
Pensions for senior medical officers R.N., 9. *See also* Navy
Perth Branch: Report of Treasurer, 10—Increase of fees, 10
PICRON, Lionel Jas: Unity and trade unionism, 89
PINEO, Ernest D.: Insurance remuneration, 90
Plymouth Division: Appointment of Representative, 182—Raising of subscription, 182—Right of appeal, 182—School medical officers' fees, 182
Poor Law hospitals utilization of, 151
Postal Medical Service, 81, 99
Postal rates, increased, 147
Presentations, 95, 149
Preston Division: Annual meeting, 160—Election of officers, 160—Ethical rules, 160—Fees for life insurance, 160—Payment of medical staffs of hospitals, 160—Training of midwives, 160
PRICE, Geoffrey: Arbitration, 6
PRING, Frederick Arthur, penal case of, 200
Prison medical officers, part-time, 97

Q.

QUINE, R. H.: The regulations in rural practice, 75

R.

Remuneration. *See* Insurance
Representative Body, 13, 23
Rewards for medical discovery. *See* Medical
RICHMOND, B. A.: Testimonial to Dr. Brackenbury, 90—Proposal for a complimentary dinner, 144
Rochdale Division: Address by Dr. Cox, 153—Annual meeting, 153—Election of officers, 153
Rotherham Division: Increase of fees, 26
RYAN, S. H.: The dispensing fee, 30

S.

St. Helens Division: Increase of fees, 10—Annual meeting, 182—Election of officers, 182—Annual report of Council, 182
Salaries of medical officers of local authorities, 57, 180
Salaries of public medical officers, 159
Salary of a medical officer of health, 173
Salisbury Division: Annual meeting, 189—Election of officers, 189—Annual report of Council, 189
Salvarsan and allied products, control of, 147
SASUN, Pandit Devi Dayal, penal case of, 200
Scotland, development of contract practice in, 207
Scottish Board of Health: Range of service by panel doctors, 76
Scottish Committee: Salaries of prisons' medical officers and parochial medical officers, 207—Medico-legal fees, 207—Vaccination, 207—Annual meeting of Scottish secretaries, 207
Scottish Panel Conference, 41
SHOYER, A. F.: Success and freedom, 76
South-Eastern Counties Division: Annual meeting, 189—Election of officers, 189—Medical Parliamentary Fund, 189—Annual Report of Council, 189
SOWDEN, George Smith: Taxation of motor cars, 185
Staffordshire (South) Division: Increase of fees, 38
State aided patients in voluntary hospitals. *See* Hospitals
STORMONT, J. Henry: Rural mileage grant 89
Subscription, increased, reasons for an, 179—Correspondence on, 204
Suffolk (South) Division: Increase of fees, 26
Suffolk (West) Division: Increase of fees, 30—Amalgamation of clubs, 30
Sussex, East, Medical and Panel Committee: Brackenbury testimonial, 91—Mileage accounts, 91—Record cards, 91

T.

Tasmanian Branch, appointments in the Commonwealth, 82
Territorial Force *See* Army, British
Trade union question at Chichester, 95
Trowbridge Division: Raising of fees, 33—Revised ethical rules, 33

V.

Venereal disease propaganda, Colonial commissions for, 173
Victoria, battle of the lodges in, 23
Victorian Branch: Annual report, 9
Vision of motor drivers, 6. *See also* Motor

W.

Wakefield, Pontefract and Castleford Division: Annual meeting, 203—Election of officers, 203—Annual report of Council, 203
Wales (South-West) Division: General meeting of profession *re* Insurance Acts 26
Warrington Division: Annual meeting, 182—Election of officers, 182
Westminster Division: Ethical rules, 203—Increase of fees, 203—Subscriptions, 203
Willesden Division: Increase of fees, 78—G. F. Buchan: Municipal hospitals and clinics, 78—Meeting of members and non-members, 100—Policy of the Association, 100
WILLIAMS-FREEMAN, J. P.: Small urban areas and the mileage fund, 75
Wiltshire Branch: General meeting, 33—Raising of fees, 33, 182—Need for maternity hospitals, 33
Winchester Division: Increase of fees, 100
WOOD, Alexander John: Penal case of, 200
Worcester Division: Special meeting, 26—Address by Medical Secretary, 26—Dinner to colleagues who had served with the Forces, 78
WRIGHT, Thomas: Insurance remuneration, 30
WRIGHT, T. Strethill: The capitation fee 6—Proposal for a complimentary dinner, 158

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 3RD, 1920.

CONTENTS.

PAGE

British Medical Association.

CURRENT NOTES:
- TEMPORARY I.M.S. COMMISSIONS ... 1
- FEES FOR MEDICAL EXAMINATION FOR LIFE ASSURANCE ... 1
- FEE FOR NOTIFICATION OF INFECTIOUS DISEASE ... 1

THE ASSOCIATION: ITS WORK AND ITS CRITICS. By ALFRED COX, O.B.E., M.B., Medical Secretary, British Medical Association ... 1

MEETINGS OF BRANCHES AND DIVISIONS ... 4

ASSOCIATION NOTICES ... 4

INSURANCE:
- INSURANCE ACTS SUBCOMMITTEE, SCOTLAND ... 4
- A SUCCESSFUL INSURANCE APPEAL ... 5
- *CORRESPONDENCE* ... 5

STANDARDS OF VISION FOR MOTOR DRIVERS ... 6

NAVAL AND MILITARY APPOINTMENTS ... 7

APPOINTMENTS ... 8

BIRTHS, MARRIAGES, AND DEATHS ... 8

DIARY ... 8

British Medical Association.

CURRENT NOTES.

Temporary I.M.S. Commissions.

I.M.S. officers whose leave is long overdue will be glad to note that, owing to the efforts of the British Medical Association, a special endeavour is being made by the India Office to obtain temporary reliefs in order that it may be possible to grant leave. This offer, which appears in the JOURNAL this week (p. 35), is based on the proposals put forward by the British Medical Association in November. In considering the financial aspect, however, intending candidates would do well not to be carried away by the specious interpretation placed upon the offer by a lay contemporary. It gives a false idea to speak of money paid in rupees, and spent as such in India, in terms of its English equivalent. A rupee in India is of no more value to-day than it was ten years ago, despite the rise in exchange; indeed, its purchasing value has gone down and is still going down instead of up, for the cost of living in India has risen greatly. The only fair way of comparing this pay with the pay of a medical man in England is to convert the amount which can be sent home and spent at home at the value of the rupee in England, and to convert the rupee spent in India at the Government rate—namely, 1s. 4d.—that is, 15 rupees to the sovereign. An officer without wife and family should be able to live on 400 rupees a month in India; this at 15 rupees to the £1 amounts to £320 a year. The balance of 300 rupees a month sent home and valued at 2s. 4d. per rupee is £420 a year, so that the value of the annual pay may be reckoned as £740, and not £980, as has been stated elsewhere.

Fees for Medical Examination for Life Assurance.

The Contract Practice Subcommittee of the British Medical Association recently met representatives of the Life Offices Association, an organization representing all the Life Insurance Offices of the United Kingdom, and discussed the fees now paid for medical examinations. The subject was thoroughly debated and an agreed report of the proceedings will be placed before the Medico-Political Committee at its meeting in January, after which it is hoped that a report may be placed before the Divisions. As central action is being taken, there should be no local collective effort to alter the present fees, for experience shows that merely local action is of little use, and in any case will embarrass those who are trying to arrive at an agreement which will cover the whole country.

Fee for Notification of Infectious Disease.

The Ministry of Health has given notice that the provisions of the Local Government (Emergency Provisions) Act, 1916, will lapse on the date of termination of the war as fixed by Order in Council, after which date the fee to be paid to a medical practitioner for the notification of a case of infectious disease will be restored to 2s. 6d.

THE BRITISH MEDICAL ASSOCIATION:
*ITS WORK AND ITS CRITICS.**

BY
ALFRED COX, O.B.E.,
MEDICAL SECRETARY TO THE BRITISH MEDICAL ASSOCIATION.

IT is the immemorial right of the Englishman to grumble; objects for the exercise of this right are never far to seek, but the chief honours are, I think, shared by the weather and "the Government." The former was intended by Providence for the purpose; the latter—a thing made by and for ourselves, but impersonal, remote, and yet all-pervading—is irresistibly tempting. The British Medical Association stands in a similar relation to the medical profession. It is big, it is all-pervading in medical matters, it represents ourselves as an organized body, it is made by and for ourselves, but, like the Government, it is impersonal and remote. At one point the analogy breaks down: we cannot get out of contributing to the Government however much we may grumble at it; but we may have all the luxury of damning the Association though we may never have paid a penny or raised a finger to help it.

Just as Ministers have to take the platform at times to defend the Government and attempt to show that, though it may not be perfect, it is composed of men of the same flesh and blood as ourselves, struggling with difficulties but inspired by ideals, making mistakes but not unwilling to learn, and, above all, anxious for the support and confidence of those who put them in their position—so it is not unfitting that from time to time those who are responsible for the central work of the Association should make a similar appeal to our constituents. It is for that purpose that I am here to-day to speak about the work of the Association and to face its critics.

I have just finished reading the life of the man who, in my opinion, did more than any other to make the Association what it is to-day—Sir Victor Horsley. One part of it is not pleasant reading for those who regard ingratitude as probably the meanest of human failings, for there is no doubt that his unique services to the Association and the profession were rewarded by treatment which, however stoically he might conceal it, cut him to the heart. I will not pursue the painful subject—Horsley himself would have been the last to allow an injury to an individual to obscure general principles; but I want you to hear what Horsley thought the work of the Association should be. Stephen Paget, his biographer, says:

> The Association stood for the resistance of his profession against autocracy and bureaucracy; he looked for its strength to tell on the nation, the Government, and public institutions of education and of health; it was democratic, in touch with the present, not bound by traditions; it could do what the Royal Colleges and the General Medical Council were not doing; it

* An address delivered before a meeting of the Leicester and Rutland Division at Leicester on December 9th, 1919.

could make people hear what it said to them. He had constantly in his mind the power which the Association might attain on these lines, as the one great intermediary between the State and his profession, the one system in which the doctors would be united to defend themselves from injustice, to provide a better service for the nation, and to enforce proper rates of payment of their work.

These were the ideals of a great man and a devoted believer in the Association, and though we failed, as he believed, to live up to them at a critical time, we can honour his memory and help the Association and the profession of which he was such a brilliant ornament by examining them and trying to follow them.

As Others See Us.

The value of the work of the Association may fairly be gauged by what public opinion thinks about us. It is a better test on the whole than the opinion of members of the profession itself, because the perspective is better. *Municipal Engineering*, a technical journal of considerable standing, in discussing our recommendations concerning the Ministry of Health, in August, 1917, said the recommendations showed:

> that the medical profession is not only a very powerful body, but one of the strongest "trade unions" in the country. As a consequence of their unity of purpose and of organization they are able to wield, not only at the Local Government Board and in Parliament, but in the country, a power which no other professional body of men can approach.

The *Daily Telegraph* of October 26th, 1917, speaking of the Joint Industrial Councils under the Whitley Scheme, said:

> That is to say, the Councils will acquire a distinct authoritative status similar to that enjoyed in respect of the medical profession by the British Medical Association. Whenever any Government department wishes to know anything about a particular industry it will apply direct to the new Council; if it desires to negotiate with an industry it will automatically choose the Council as that industry's recognized mouthpiece.

When the civil servants in 1918 formed their Society of Civil Servants they said in their circular that their endeavour would be

> To establish the administration of the public service as a science and a profession . . . to found an Institute of Civil Servants which will provide for the service a medium for expression and for corporate action similar to that which is furnished for their members by the British Medical Association and other professional bodies.

Another testimonial, to which I attach great importance as being written by one of our most thoughtful and brilliant students of social and political affairs, is to be found in an article on "Progress in Industry," by Mr. A. E. Zimmern, Professor of International Politics in the University of Wales. Speaking of the ideals of the more thoughtful of the younger trade union leaders, he said:

> Trade unionism does not exist merely to raise wages or to fight the capitalist any more than the British Medical Association exists merely to raise fees and to bargain with the Government. They exist to supply a professional need: to unite men who are doing the same work and to promote the welfare and the dignity of that work. . . . Professional organizations are, and are bound to be, conservative; their conservatism is honourable and to their credit, for they are the transmitters of a great tradition.

Finally, I would quote some remarks of Mr. Justice McCardie in his judgement in the Coventry case—remarks which are not the less valuable because that judgement was against us on the issues then at stake:

> The British Medical Association is a powerful body. . . . The Association has performed for many years and in several directions a great and beneficent work in matters of interest and importance to the medical profession and the public.

The View of the Profession.

So much for public opinion—not always so favourably expressed, I admit, as in the passages I have quoted, but invariably respectful of the power of the Association and its public influence. What is the opinion of the members of the profession for which and through which it works? What is the opinion of the medical man or woman who has taken some trouble to find out the facts? On the whole, and naturally, they are inclined to dwell on the weaknesses and failures of the Association, but disposed to admit, in spite of disappointments, that any work that has been done for the benefit of the profession generally has been done, at any rate in the main, by the Association, because there is no other body to do it. The average medical man knows that the Association has for many years, and to an ever-increasing extent, taken an active part in moulding legislation bearing on the health of the nation or on the prospects and status of the medical profession; that it has cultivated the pursuit of the medical sciences in every direction—through its JOURNAL, its annual meetings, its Branch and Division meetings; that it has brought members of the profession together socially and has thereby encouraged the growth of that good-fellowship which does so much to sweeten any kind of work; and that it has to the best of its powers and judgement tried to elevate the status and improve the pecuniary position of its members and of the profession in general.

These are elementary facts and undoubtedly we all ought to know them; but it is painfully impressed on me that comparatively few do know them, and it may be useful to spend a little time in considering some of them in more detail.

The Association's Scientific Work.

During the war many of our usual scientific activities have been perforce in abeyance. But our JOURNAL kept the flag flying, and received many well-deserved compliments from those in the best position to judge for the way in which it dealt with the medical and surgical discoveries and developments the publication of which was of inestimable value to us and our allies. The Special Clinical Meeting held in the spring was admitted on all hands to be a triumph for the Association, proving once again how it can always rely on the services of the best men for an effort of this kind. Our Annual Meetings will revive again next year, when, under the presidency of a man honoured throughout the world of medicine—Sir Clifford Allbutt—Cambridge will show us what an Annual Meeting can and should be. And our Branches and larger Divisions are showing a growing appreciation of their duties and capabilities in the way of directing the scientific activities of the profession in their neighbourhood. It is not generally known that for many years the Association has spent some £700 or £800 of its income in scholarships and grants to scientific workers. We were pioneers in this field long before the Government realized—as it has done only imperfectly now—that scientific workers need encouragement. Looking down the list of those who have had these grants, one is surprised and delighted to see how many men now in the first rank had their scientific enthusiasm encouraged by the Association at a time when such help was most valuable to them.

Its Social Usefulness.

The service performed by the Association in merely bringing its members together is so much taken for granted that it is rarely recognized as being probably the most useful and necessary of all its work. Useful not only to the profession but also to the public, for whatever makes for ease in professional intercourse and the breaking down of professional misunderstandings and jealousies is undoubtedly a public gain. Many a man owes to the Association meetings some of his best friendships and most cherished recollections. Even a formidable rival may be seen to have his good points in the convivial atmosphere of a Branch or Division dinner.

Its Influence on Remuneration and Status.

Since its reconstruction in 1902 the Association has spent much of its activities and of its income on questions of remuneration and conditions of service. Indeed some of our older, more prosperous, or more conservative members think we have paid too much attention to an aspect of our work which seems to them rather sordid. It is not that the Association is devoting less of its energies to the scientific and social side, but that it has enormously developed its work for the "honour and interests of the medical profession" in response to a demand which was insistent. The man who did not know the Association twenty years ago cannot possibly realize the extent of this development. Social and political tendencies have compelled our profession to come into relations with the State and public bodies in ways that were undreamt of twenty years ago. We cannot resist these tendencies. We must either accept them without question or try to mould them in a way which seems to us consistent both with our interests and those of the community we serve. We have had to lay down minimum scales of salaries for all kinds

of public medical officers and to enforce them through our JOURNAL and through our Divisional machinery. We have backed up our Divisions in laying down local rates of pay for contract and other kinds of work and in fighting for them. We have fought the Government, with varying success, with respect to the National Insurance system. We have extracted, and are continuing to extract, equitable terms for those doctors who are in the Services of the Crown. We have fought and won the battle of equal remuneration for the same work, for medical men and women.

It would take me far longer than either you or I can spare to enter in detail into the matters I have just sketched in a few words. But there is one object lesson of the Association's ability to determine and improve rates of remuneration so outstanding and so irrefutable that I submit it to you.

Mr. Lloyd George's first offer of remuneration for work under the Insurance Act was 6s., inclusive of cost of drugs. The final offer was 9s., and the difference was due entirely to the action of the Association, which in the three years 1910 to 1913 spent £30,000 of its own money, in addition to moneys subscribed to a voluntary fund, in organizing the profession to refuse the offer of the Government and to improve the Insurance Act from our point of view. Now there are, roughly speaking, 14 million insured persons and the extra 3s. has been paid for six years. It is therefore easy to show that from 1913 to 1919 the sum of £12,600,000 has been paid to the profession which they would not have had unless the Association had done the work referred to. As there are, roughly, 14,000 insurance practitioners, the average extra amount put into the pocket of each during the past six years is £900, not to mention the war bonuses and grants for practice expenses also secured by the work of the Association. Not a bad return for a yearly subscription of two guineas.

Its War Work.

The status of any body of men in the community is governed not only by their financial position, but, I am glad to think to an increasing extent, by the usefulness to the community of their work. Judged by this test we need fear no comparisons. But even a profession with a record like ours must show from time to time that it is not living on its reputation, but can make a special effort when great occasions arise. From such a test the profession and our Association have recently emerged triumphant. I believe that when we are far enough away from it to see it in the right perspective we shall regard the establishment and successful conduct of the Central and Local Medical War Committees as the finest single achievement of our Association. I fully recognize that without the co-operation of non-members of the Association that work would have been far harder and far less successful than it was, but it was only rendered possible because we had the necessary central and local machinery. It was carried through mainly by the enthusiasm, patriotism, and unselfish devotion of our members, and it was paid for by the Association, which spent about £15,000 over it, the Government, however, in recognition of the great national usefulness of the work, contributing the sum of £5,000. This work, which enabled the services of the profession to be made available for military purposes with the minimum of inconvenience to the public, will always redound to the honour of the Association, and give infinite satisfaction in retrospect to those who were privileged to take part in it.

Collective Bargaining: An Example.

A recent achievement of the Association, through its Insurance Acts Committee, also deserves attention, not only for its certain effects on the remuneration and conditions of service of those who are doing National Insurance work, and thereby indirectly on all forms of medical remuneration, but also because it may serve as an object lesson in the way negotiations between reasonable people should be carried out. In these days we hear much of differences between employers and employed. We suffer, along with the rest of the nation, by the "direct action" and "lightning strike" methods of people who have not yet risen to the conception that we are "all members of one body," and that each of us owes a duty to that body. We all believe that ways should and will be found of settling such disputes in a reasonable way, extreme action only being resorted to under the stress of a conviction that there is no other way of obtaining justice. I claim that the procedure adopted by the Ministry of Health and the Insurance Acts Committee is an object lesson of how points of difference may be reduced to a minimum by reasonable discussion. For over a year the two parties have discussed the conditions of service of National Insurance with the one object of finding out the defects in the present system and the ways in which they can be remedied. In all such discussions there must be differences of opinion, because each side looks at the questions in debate from a different angle. But when each side is anxious to convince the other and not to overbear it, the result is bound to be a large measure of agreement. And so we found it. The new Regulations differ greatly from the first draft we considered; they contain many points that we have been asking for for years; they largely increase the responsibility of medical bodies for the working of the system and the amount of local option given to the areas; they are, in my opinion, a great improvement over the present Regulations. Of course they contain restrictions and innovations that we would prefer omitted, and at least one which I think is a mistake from the point of view both of the public and the profession as being unnecessary. But the method was sound and the result on the whole good, and if we can only manage to conduct the negotiations on the last remaining point—remuneration—in the same spirit, I am convinced we shall not only satisfy the average member of our profession, but will have set an example which might well be copied in the industrial world.

Ideals and Methods.

Like most men who have worked for long in the political and organizing spheres, I have had reluctantly to drop many of the ideas and theories with which I began. But some of the articles of my original creed are still held as ardently and tenaciously as ever. For example, I believe that in the long run—sometimes, I admit, a very long run—reason always prevails. This belief sustains me in the face of many of the criticisms that are brought against our Association. When I am told that the only way to get things done is to use force, bluster, and strong language, I disagree, because daily experience shows me that that is not the way in which you and I generally get what we desire, or as much of it as is good for us. The man who approaches us with the pistol at our heads and loud threats of what he intends to do unless he gets his "demands," finds a resistance which probably would not have been there had he made his approach on the assumption that he was dealing with an honest and reasonable person. This particularly applies when we know the said pistol is not loaded, or is handled by a person so clumsy as to be much more likely to damage himself than anybody else. Of course, the wise man will always contrive to have some special means of persuasion up his sleeve in case reason does not prevail, but seeing that the medical profession always has such means and that the other party always knows it, it is as well to keep them up our sleeve and out of sight until we are sure that all other means have failed. The profession in the last resort can always refuse service on the terms offered, or, what is quite as effective, if slower, it can prove that a grudging and unwilling service is worth nobody's while.

I believe most profoundly in democracy, and in our Association because it is democratic. "Government of the people, for the people, and by the people" is a motto which runs through every article and by-law of our Association. Democracy as a form of government has its defects, of course. It is subject to mistakes, but so are autocracy and oligarchy, and the beauty of democracy is that the people who make the mistakes are also the people who suffer by them and are therefore all the more ready and willing to profit by them. The cure for the faults of democracy is more democracy, more insistence on the acceptance of responsibility on the part of the people who elect their representatives to govern them. The whole tendency of the present day is to put more and more responsibility on the separate parts of the kingdom, on the local authorities, and even on each calling, so that each may work together for the good of the whole.

Our Association has made its mistakes, and it will make many more; the full value of democracy can only be learnt by using it. As a writer in *The Times* said the other day, "Democracy is not an automatic process like

the beating of the heart, but a highly advanced faculty that only functions properly by virtue of continued exercise." So to our critics I freely admit that we are not perfect, that we are frequently slow in action and too late in coming to decisions, that we are sometimes timid when we ought to be bold, often claiming that we know what the profession wants when the event proves that we did not know. But is the remedy to remain outside and act simply as a unit, or to seek to set up some other body yet untried—a process which would take many years without any certainty of gaining by the change—or to improve on the organization we have got? I reject entirely the theory of those who imagine that by adopting the trade union form of organization we should find a short cut out of all our troubles. There is no short cut, and all experience forbids us to look for it in any mere variation of the *form* of organization. It is the spirit that counts—the burning enthusiasm, the faith in a good cause, the feeling of pride in the dignity of our high calling. With these our Association can do anything the profession demands of it. Without them any form of organization would be sterile.

I will not waste your time by discussing a criticism of the Association which is in favour just now with a certain school. They say, "Oh, the Association is all right as a scientific body, but it is useless for protective purposes. You ought to let some other body, preferably a trade union, do that kind of thing for you." The man who can say that is wilfully ignorant of the history of the Association during the last twenty years. If he really knew that history, and was still capable of believing his theory, he would be capable of believing anything.

I believe there is a great future before our Association and that the efforts and accomplishments of the past are nothing compared with what we can and will do in the future. There is an immediate task before us which will test our organization, our capacity for usefulness, and our public spirit to the utmost. The Minister of Health tells us he expects next year to bring in a great bill dealing with the extension and improvement of the medical service of the country. It will be the profession's duty and its privilege to guide that legislation into channels which seem to it consistent with the great traditions of the profession as well as with the interests of the people. No Minister can do this without the assistance of our profession: the profession cannot help him properly unless it is organized: it has no organization except the British Medical Association.

Some of you may have expected, from the title of my address, to find me in an apologetic mood. I never felt less reason for apologetics. On the contrary, I ask you to feel pride in our past history and strong hope and determination for our future.

Meetings of Branches and Divisions.

NORFOLK BRANCH.

British Medical Association Lecture.

A MEETING of the Norfolk Branch was held in the Norfolk and Norwich Hospital on December 19th, 1919, when the President, Dr. F. W. BURTON-FANNING, F.R.C.P., was in the chair. About fifty members of the Association and non-members residing in Norfolk were present.

Sir HUMPHRY ROLLESTON, K.C.B., M.D., F.R.C.P., Emeritus Physician, St. George's Hospital, President of the Royal Society of Medicine, gave an address on the dyspeptic and other referred symptoms associated with disease of the gall bladder and of the appendix, which will be published in a subsequent issue of the JOURNAL. The lecturer discussed the symptoms and signs referred to the gastro-intestinal, cardiac, nervous, and locomotor systems as the result of gall bladder and appendix disease; also the diagnosis, by means of *x* rays, of disease in these organs, and the spread of disease in the biliary passages to the pancreas.

Dr. MUIR EVANS, Dr. A. J. CLEVELAND, Mr. S. H. BURTON, and Mr. A. J. BLAXLAND discussed various points raised in the address.

On the motion of Sir HAMILTON BALLANCE, seconded by Dr. ARTHUR BURTON, a vote of thanks was accorded to Sir Humphry Rolleston, to which he replied.

METROPOLITAN COUNTIES BRANCH: HARROW DIVISION.

A MEETING of the Division, to which all non-members engaged in general practice were invited, was held on December 12th, 1919. The ethical rules were adopted.

The subject of increase of medical fees was discussed, and the following resolutions were unanimously adopted:

> That this meeting of the medical practitioners in the area of the Harrow Division adopt the recommendation of the Council of the British Medical Association that all fees should be increased by at least 50 per cent. over pre-war rates to meet the increased cost of living and expenses, and expects that every practitioner in the Division, while reserving his right to meet cases requiring special consideration, will agree to carry out loyally the recommendation of the Council, as is being done all over the country.
>
> That the honorary secretary be instructed to send a copy of the above resolution to each practitioner in the area, to the honorary secretaries of the adjacent Divisions, and to the newspapers in the area.

The feeling was strongly expressed that the fee payable for a full life insurance examination, including examination of urine, should be at least one guinea, whatever the amount covered by the insurance, and that the Council of the British Medical Association should urge this matter on insurance offices.

With reference to the National Insurance Act New Regulations, it was resolved to inform practitioners by circular:

> That a meeting of all panel practitioners should be summoned to discuss the new terms offered by the National Insurance Commissioners as soon as these were made known, and asking them to refrain from signing the new agreement until after this meeting had been held.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, February 18th, in the Council Room, 429, Strand, London, W.C. 2.

SUGGESTED CHANGES OF AREAS.

Tunbridge Wells Division.

NOTICE is hereby given to all concerned of the following proposal made by the Kent Branch:

> That the urban and rural districts of Sevenoaks and the civil parishes of Stansted, Shipbourne, and Ightham be included in the area of the Tunbridge Wells Division of the Kent Branch, and that the present Sevenoaks Division be discontinued.

The matter will be determined in due course by the Council. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, London, W.C. 2, not later than March 3rd, 1920.

BRANCH AND DIVISION MEETINGS TO BE HELD.

KENT BRANCH: MAIDSTONE DIVISION.—Dr. A. C. Black, Honorary Secretary (Strettit Place, East Peckham, Paddock Wood, Kent), gives notice that a meeting of the Division will be held at the West Kent Hospital, Maidstone, on January 5th, at 3.15 p.m., when an address will be given by Mr. N. Bishop Harman, F.R.C.S., on some ocular conditions causing "pink eye."

NOTTINGHAM DIVISION.—The Nottingham Division cordially invites members of the Midland Branch of the Association to be present at a British Medical Association lecture to be given at 64, St. James's Street, Nottingham, on Wednesday, January 7th, 1920, at 4 p.m. Dr. Bernard Hart, Physician for Mental Diseases, University College Hospital, London, will lecture on modern methods of treatment in functional nervous disorders.

INSURANCE.

INSURANCE ACTS SUBCOMMITTEE, SCOTLAND.

AT a meeting of the Subcommittee held in the Scottish Office of the British Medical Association, 6, Rutland Square, Edinburgh, on December 9th, 1919, Dr. C. Nairn (Greenock) was elected chairman and Dr. M. Dewar (Edinburgh) deputy-chairman of the Subcommittee.

The Draft Medical Benefit Regulations (Scotland) were considered, and it was resolved to make representations to the Board of Health with regard to several of them. It was also resolved to hold a conference of representatives of Scottish Local Medical and Panel Committees as soon as convenient after the Regulations are in the hands of the Committees.

On December 9th representatives of the Subcommittee met the Board in conference with representatives of Insurance Committees, and discussed the draft Regulations. It is understood that the Regulations will be issued to practitioners early in January.

A SUCCESSFUL INSURANCE APPEAL.

ON an appeal undertaken by the London and Counties Medical Protection Society for one of its members against a decision of the East Sussex Insurance Committee, a point of interest to insurance practitioners arose under Article 21, Subsection 1, of the Medical Benefit Regulations, which sets out the manner in which the Insurance Committee, with the approval of the Commissioners, shall require an insured person to select a practitioner.

The manner of making application required by the Committee and approved by the Commissioners was set out in the contract between the doctor and the Committee, which incorporated the Regulations. The scheme adopted by the Committee as set out in the contract with the doctor was made under Article 21, Subsection 4 of the Regulations, which is as follows:

In any case in which an application from an insured person to be placed on the list of a practitioner, either by the presentation of a medical card or in such other manner as the Insurance Committee shall, from time to time, prescribe, is rejected by the practitioner, it shall be the duty of the practitioner, (*a*) if the applicant is in urgent need of treatment, to provide such treatment as the case may require, and (*b*) in every case to inquire whether the insured person wishes to apply to another practitioner on the panel, or whether he wishes to apply to be assigned by the Committee to a practitioner on the panel.

The facts, as stated at the inquiry, were that in this case the insured person had caused to be posted an application to be placed upon the doctor's panel, which application had, in fact, never come to the doctor's notice, and had neither been accepted nor rejected by him. When the patient required medical attendance and sent for the doctor the application was then discovered for the first time by the doctor, who refused to attend on the ground that the patient was not in his area.

The question arose whether the posting of the application by an insured person to a doctor constituted a presentation within the meaning of Article 21, Subsection 4, of the Regulations. It was argued by Mr. Croom-Johnson, instructed by Messrs. Le Brasseur and Oakley, the society's solicitors, on behalf of the doctor, that the word "present" in its natural and ordinary meaning meant a presentation in person, and that a construction which would enable applications to be made by post would not only place a serious additional burden of clerical work on insurance doctors, but would lead to a number of administrative difficulties.

After a very lengthy discussion the Committee found in favour of the doctor on appeal, holding that the presentation of an application by an insured person to be placed upon a doctor's panel must be made either by the applicant in person, or at least by an agent in the position to answer such inquiries as the doctor might require to put to him and to convey such message relating to the application as the doctor might require to be sent to the applicant.

CORRESPONDENCE.

The Panel Conference.

SIR,—The minutes (M. 32) of the annual Conference held at the Memorial Hall, Farringdon Street, should be printed in letters of gold and sent to the Minister of Health. To him it will be an epoch-making document. The Local Medical and Panel Committees, through their representatives, have proclaimed him autocrat in medical affairs. Against his ruling there is no appeal, against his penalties no remedy, his word is law. He is the second Englishman who has been raised to this position. Alexander Selkirk was the first.

It is true that the Conference carried the motion: "That any person aggrieved by the removal of his name from the list may appeal to the High Court, and on any such appeal the High Court may give such directions in the matter as it thinks proper," etc. That this was carried, however, was not the fault of the Conference. We were authoritatively told by a private member that neither Dr. Addison nor the representatives could alter the law of the land nor curtail the power of His Majesty's judges. Our hands were therefore tied. The Conference remained as loyal as it could to the Minister. Every motion that gave the smallest hint of interfering with his autocratic powers was immediately either ruled out of order or was by a little adroit manœuvring withdrawn. Dr. Addison's position was made secure when a resolution to organize the professiou to refuse service under certain contingencies was dropped as unthinkable. For do we not admit that no greater calamity could befall us than removal from the medical list? We agree that whatever the capitation fee may be our services are certain. We are so enamoured with our work that we are clamouring for more. We insist that the bargain (what bargain nobody seems to know) will continue for three years. To make ourselves thoroughly docile throughout the whole of our working lives we intend to negotiate with the Government for a pension scheme. We must then work or lose our pension.

The same fate befell any attempt to assert the right of the panel practitioner, for it was made abundantly clear that the practitioner has no rights. The following motions were unceremoniously thrown out: (*a*) That attendance on insured persons after labour shall not be required until twenty-eight days after delivery; (*b*) that a person must produce evidence of his being an insured person—that is, a medical card—before he can claim treatment; (*c*) that the liability of an insurance practitioner for the acts and omissions of his deputy be defined. In spite of weighty objections, his list must be limited to 3,000. When there are sufficient practitioners to go round it must be further reduced to 2,000, for surely one can give more time and attention to 2,000 than to 3,000. But lest he has too much time to spare, he must place himself at the beck and call, day and night, of any one who can bluff him for treatment. If he employs an assistant he must obtain the consent of the Insurance Committee and agree to the terms the Committee impose. The patients whom he attracts by his ability, affability, and tact are not his, but belong to the State. Such is democracy and nationalization. He can be dismissed at a moment's notice, with or without a hearing, but this is as it should be, for God's scales of justice are placed in the Minister's hands.

What resolutions, then, did the Conference pass? The non-committal ones. "That the conference maintains the opinion that 13s. 6d. is the lowest capitation fee that can properly be accepted for an effective service." It is a pious opinion qualified by an adverb and an adjective. That the week should be defined as from Saturday midnight to Saturday midnight instead of from Sunday midnight to Sunday midnight was carried unanimously, and will no doubt receive the Minister's hearty approval.

Medical men throughout these islands will receive with pleasurable surprise, eclipsed only by that of the Minister, the news "That the Conference do express a general approval of the new Regulations for 1920." The representatives themselves were staggered at their own hardihood.

In this encounter we have lost. The Ministry has won. This is as I expected. The Association must admit that it is powerless. The wisest course now, in my opinion, is to let the profession drift to its doom. Thorough humiliation and decay will precede regeneration.—I am, etc.,

Exeter, Dec. 14th, 1919. J. PEREIRA GRAY.

*** We have thought it right to submit a proof of Dr. Pereira Gray's letter to the Chairman of the Insurance Acts Committee, who replies as follows:

SIR,—Dr. Pereira Gray's letter reveals him as the obstinate twelfth juryman. To maintain this attitude it is necessary either to pervert the facts, or to attribute to other minds one's own psychological imperfections. Dr. Gray does both. It appears to be the general opinion that the recent Conference of representatives of Local Medical and Panel Committees was the most successful of the series because (1) relatively full opportunity was given for the discussion of all important matters, (2) the items were as far as possible taken in what seemed to the meeting their order of importance, (3) after full discussion it was possible to arrive at unanimous or almost unanimous decisions to present to the Ministry of Health. That Dr. Gray does not agree with these decisions does not prove that they were foolish. He should not, however, misrepresent them or give, as he does, an entirely erroneous impression of the character of the Conference. He appears to have seen merely what he looked for. He tells us, "This is as I expected." He certainly regards all the other eleven jurymen as fools.

Dr. Gray's letter consists of the expression of a series of opinions sandwiched between what purport to be statements of fact. It is sometimes a little difficult to separate the one from the other, but almost every sentence which purports to be a statement of fact is either false or misleading. I quote seriatim the most important:

1. "The Local Medical and Panel Committees, through their representatives, have proclaimed him"—the Minister of Health—"autocrat in medical affairs."
2. "A resolution to organize the profession to refuse service under certain contingencies was dropped as unthinkable."
3. "We intend to negotiate with the Government for a pension scheme. We must then work or lose our pension."
4. "When there are sufficient practitioners to go round it"—the practitioner's list of insured persons—"must be further reduced to 2,000."

5. The insurance practitioner "must place himself at the beck and call, day and night, of anyone who can bluff him for treatment."
6. "If he employs an assistant he must . . . agree to the terms the Committee impose."
7. "The patients whom he attracts . . . are not his, but belong to the State."
8. "He can be dismissed at a moment's notice, with or without a hearing."

Not one of these statements is true; and the truth of others must not be assumed because I have refrained from quoting them. Such being the state of affairs with regard to the facts, there is no need for me to examine any opinions based upon them. I would ask Dr. Gray and others interested to read again the minutes of the Conference to which he refers, and your admirable report of the proceedings. Dr. Gray has, of course, a right to hold whatever opinions he chooses both as to matters of medical politics and as to the actions of the chosen representatives of the profession in this connexion, but before offering these opinions to the public he should verify his facts, and he should refrain from attributing improper motives to his colleagues, all of whom have the honour and interests of the profession at heart to at least as great a degree as he has, I doubt not, himself.—I am, etc.,

H. B. BRACKENBURY.

London, N., Dec. 27th.

The Capitation Fee.

SIR,—The letters appearing under this heading each week seem to miss the real point. Your correspondents labour to prove (what is already sufficiently obvious) that the demands of the profession, far from being unreasonable, claim less than what is just; and they continue to waste time appealing for fair play and consistency.

Surely the whole disreputable history of the Insurance Act should have taught them that at bottom what really counts with a politician is not justice or consistency or fair play, but simply expediency. Why does Dr. Addison refuse to accept the very moderate capitation fee claimed by the representatives of the profession? Because acceptance would mean a slight increase in the weekly contributions of the insured, and such an increase might be unpopular, and therefore inexpedient. Convince him that the hostility of a united profession is a far more serious menace to the success of the proposed new service than the unpopularity he fears, and all difficulties about granting the capitation fee will magically vanish.

But to effect this we must be united and organized. Dr. Addison will not listen to our representatives. Very well. Break off negotiations and let all panel practitioners be invited to send in their resignations from the panel to the Local Medical Committees by a certain date, a formal guarantee being given that these shall be returned if less than 75 per cent. respond to the call.

If the profession is really in earnest in its determination to resist further exploitation, a response far exceeding this figure may be anticipated. (If it is *not* in earnest, it will have to submit, deservedly, to any terms the Minister of Health may choose to impose.)

Should the rank and file support their representatives properly, Dr. Addison would be confronted with an argument the cogency of which he could not disregard. Expediency would now beckon him in a different direction, and his present shortsighted and provocative policy would be dropped.—I am, etc.,

T. STRETHILL WRIGHT.

Okehampton, Devon, Dec. 2.th, 1919.

Payments for 1918.

SIR,—Whilst I have read each week various letters concerning the National Insurance Act and the capitation fee required to work it, I have been struck by the fact that none of your correspondents have mentioned that as far as 1918 was concerned we have not been paid at the rate of either 7s. or 8s. 9d. per head.

In the statement presented to me the following figures are of interest: The amount of the individual doctors' credit is £230,835 8s. 9d., but the amount *available* to pay that sum is only £187,799 1s. 7d., or 81.356 per cent. Therefore, without any apology, the Insurance Committee state that instead of paying me the full amount to which I am entitled, and for which we contracted to work, they will only pay 81 per cent. In other words, instead of receiving £252 12s. 3d., I only receive £205 10s. 4d., a matter of £47 less.

Is there any body of men in the country other than doctors who would stand this? It amounts really to a bankrupt paying his creditors 15s. in the £ instead of 20s., as I think you will admit 81 per cent. really means we are paid 5s. 6d. per head instead of 7s.

The Government can well afford to give us a 15 per cent. war bonus when they can pay us 19 per cent. short of the money legally due to us.—I am, etc.,

M. C. S. LAWRANCE.

Earlestown, Lancs, Dec. 18th, 1919.

Arbitration.

SIR,—I advocate a further 50 per cent. increase of all fees by July 1st, 1920, making a total increase of 125 per cent. above pre-war figures.

As the Health Ministry has not accepted our figures, I suppose the matter will now go to arbitration. I submit that the arbitration board should consist of three members: one appointed by the Panel Conference, one appointed by the Health Ministry, and a chairman (appointed by the King) who shall have both legal and medical qualifications.

Other points, besides remuneration, that might well go before the arbitration board are: Records; transference of patients on death of panel practitioner; expenses of doctors summoned before Medical Service Subcommittee; limitation of liability of panel practitioner to personal attendance on his own panel patients; free choice of patient by doctor; no alteration of Regulations without consent of Panel Committee; payment of fees for unallocated persons since 1913; liability of Health Ministry to pay full quarterly fees for insured persons remaining uncancelled on practitioner's list over the first day of each quarter; liability of Health Ministry to provide each insured person with a medical card within one month of such person becoming entitled to medical benefit.—I am, etc.,

GEOFFREY PRICE, M.R.C.S., L.R.C.P.

Kineton, Warwick, Dec. 27th, 1919.

Insurance Terms and Conditions.

"GENERAL PRACTITIONER" writes: I ventured to suggest in a letter written while the matter was still unsettled—but for which you were unable to find room—that our ultimate financial reward was already decided and that the acceptance of the objectionable clauses in the new agreement would not increase that reward. Now, when we are told that the modest figure asked for is quite unthinkable, I suggest that since the acceptance of these clauses did not provide the profitable lever we were told it would, we should try if the still more modest sum offered by the Government could not be used as a lever to get rid of these clauses. Take the "emergency" clause. There it is admitted that a doctor cannot possibly attend to even an insured person on every conceivable occasion, yet his capitation fee is made liable for each time he fails to do so. His brother practitioners are bound to drop all and run to the insured person who considers his case an emergency. Should he happen to be an epileptic, say, he may soon figure as a minus quantity in his doctor's books. And since the principle of deduction is to be accepted, how long will it be before the hospitals also charge us when they treat our patients, or before "police calls" are made recoverable from the panel doctor? On the other hand, any reward we may get for attending an emergency must be dearly bought at the loss of our personal freedom. At a time when workers all the world over are claiming and obtaining more liberty and freedom we are surrendering ours and accepting duties which are likely to give rise to friction amongst ourselves and ultimately to reduce our incomes.

STANDARDS OF VISION FOR MOTOR DRIVERS.

THE Council of British Ophthalmologists almost a year ago appointed a Committee to inquire into the visual requirements of persons licensed to drive mechanically propelled vehicles on public roads. The Council was impressed by the growing number of accidents caused by motor traffic, and wished to ascertain how far these might be due to defective vision on the part of drivers. At present the only qualification required for obtaining a licence to drive a motor vehicle other than a public conveyance is that the applicant must be 17 years of age; and it is stated as a fact that a blind man has obtained a licence. The problem to which the Council addressed itself was to ascertain the types of visual defect which may interfere with, or delay, a driver's power of avoiding accidents, and to determine as far as possible a standard which would not exclude the driver whose visual defect does not interfere with his capacity for driving with safety.

Report.

The Committee, to which Mr. Elmore Brewerton acted as Secretary, has recently reported to the Council, which has now issued a report,[1] divided into five parts: the first

[1] Report on the Visual Requirements of Persons Licensed to Drive Mechanically Propelled Vehicles on Public Roads. London: G. Pu man and Sons, Ltd. Price 1s.

gives a summary of the existing conditions under which licences are granted to drivers of various forms of mechanically propelled vehicles in this and other countries. The second part shows, in tabular form, the number of accidents occasioned by motor vehicles in London during the years 1912–17 inclusive, arranged in two groups—fatal and non-fatal. The number of accidents of both kinds grew each year up to 1915, and then declined, but during 1916–17 the number of hackney carriages plying for hire was much less. A striking feature of the tables is the steady increase in the number of accidents, both fatal and non-fatal, caused by trade and commercial cars during the whole period dealt with—even in the last two years, when the total number of accidents decreased. It is supposed that less care has been taken with the choice of drivers for this class of vehicle than for any other. While the accidents are, of course, attributable to a variety of causes, the defective sight of the drivers must be one cause.

The third part of the report takes up the kinds of visual defects in motor drivers from which accidents may arise, under the following heads: (1) Blindness in, or loss of, one eye; (2) conditions necessitating the habitual use of spectacles; (3) defective acuity of vision both with and without spectacles; (4) restricted fields of vision, night blindness; (5) the presence of diplopia or squint. Blindness in, or the loss of, one eye, limits the field of vision, and objects cannot be seen stereoscopically. But compensatory adjustments occur, as is well known, and one-eyed drivers are positive in believing themselves fully competent to drive with safety to themselves and others, though all admit that a foreign body in the sound eye might disable them. Discussing the hindrances to driving caused by spectacles, it is observed that obscuration of spectacles from without by mist, rain, dust, or mud can to some extent be guarded against by adaptable screens. The evidence collected from drivers does not seem to show that the restriction of the field of vision caused by using ordinary spectacles has proved a source of danger; it would in any case be much less than that due to the use of goggles. As regards acuity of vision generally, and the degree of this needed for safe motor driving, it is noted that the standard of central acuity laid down for army chauffeurs by an Army Council Instruction in 1918 was without glasses, in one eye $\frac{6}{18}$, and in the other $\frac{6}{60}$, no distinction being made as to which eye should have the better vision. It is not, however, considered that this army war standard, when there was a shortage of labour, can be taken as suitable for motor drivers of public vehicles in civil life, in time of peace, when there is an ample supply. Under (4) it is remarked that for the quick perception of oncoming traffic, or of objects approaching from either side, a full field of vision is the most important factor, rather than acute form sense in the centre of the field such as is tested by Snellen's test types.

The fourth part puts forward a scheme of vision testing for licences. Although desirable, it is held to be impracticable to subject to a satisfactory sight test every applicant for the issue or renewal of a licence. Obviously the standards of vision necessary for motor driving are not the same for all classes of drivers. Thus, one who drives his own car (unless he is a country doctor) can choose his time, route and pace, but not so (in theory, at least) a taxi-driver. Again, the responsibilities of a motor omnibus driver for instance are especially great, because he carries many passengers and moves along fixed routes at set times, while the vehicle he steers is large and heavy, and he is ill-protected from mist, rain, and dust. The Council states emphatically that no person who from any cause has double vision should be granted a licence. The recommendation is made that certificates of sight for motor drivers be instituted, stating the visual fitness of the driver to drive certain classes of motor vehicles after having had his sight tested by an ophthalmic surgeon appointed for that purpose. In setting up standards for hackney cab drivers it is recognized that some persons have a greater capacity than others for overcoming the disadvantages due to visual defect. As a rough practical test of rapidity of response to visual stimuli the Council recommends a daylight trial trip as well as the direct vision test, and further, that some leniency may be shown as to the standard of central acuity required for renewal of licences to hackney cab drivers of long experience.

Recommendations.

The fifth part gives a summary of the Council's recommendations as follows:

I. That before a licence is granted by a county or borough council to an applicant to drive a mechanically propelled vehicle along the public roads such applicant be required to show his ability to steer a motor car round corners and to avoid obstacles.

II. That before such a licence be renewed the applicant be required to sign a statement that since the licence was granted he has not suffered from any physical disability likely to interfere with his driving capacity.

III. That if a licensed driver who suffers from some visual defect meet with an accident attributable in any way to that defect, he shall be liable to have his licence taken from him, or endorsed, as may be considered desirable in accordance with the circumstances of the case.

IV. That special sight test certificates for drivers of motor vehicles be instituted, and granted to applicants whose sight has been tested by ophthalmic surgeons appointed for the purpose, these certificates to be of three grades: Grade A, certifying the holder's visual capacity to drive any kind of motor vehicle; Grade B, certifying the holder's visual capacity to drive any kind of motor vehicle other than a motor omnibus or tramcar; Grade C, certifying the holder's visual capacity to drive a motor tramcar.

For Grade A certificate:

1. Every applicant, in addition to manifesting his ability to steer a motor car satisfactorily in daylight, should be required, in a trial trip at night, to show himself capable of driving in dim light and under varying degrees of illumination.

2. In an examination by an ophthalmic surgeon he should show: (*a*) Visual acuity of $\frac{6}{6}$ in one eye and $\frac{6}{24}$ in the other eye without the aid of glasses. (*b*) A full field of vision in each eye. (*c*) No manifest squint. (*d*) No double vision.

For Grade B certificate:

1. Every applicant, in addition to manifesting his ability to steer a motor car satisfactorily in daylight, should be required, in a trial trip at night, to show himself capable of driving in dim light and under varying degrees of illumination.

2. In an examination by an ophthalmic surgeon he should show: (*a*) Visual acuity of $\frac{6}{9}$ in one eye and $\frac{6}{24}$ in the other eye with glasses if necessary; (*b*) a full field of vision in each eye; (*c*) no double vision.

For Grade C certificate:

1. Every applicant should be required in a trial trip to show himself capable of driving a motor tramcar by day and by night under varying degrees of illumination.

2. In an examination by an ophthalmic surgeon he should reach the same visual standards as for a Grade A certificate.

V. That an applicant for a licence to drive a mechanically propelled hackney carriage be required to obtain the appropriate sight test certificate before such licence be granted.

An applicant for a renewal of licence to drive a hackney motor cab who is an experienced driver might, however, be granted such a renewal with a lower standard of central acuity of vision, namely, $\frac{6}{12}$ in one eye and $\frac{6}{36}$ in the other, with or without glasses.

VI. That owners of mechanically propelled vehicles, other than hackney carriages, be strongly advised to employ as drivers only those who have obtained a Grade A or Grade B certificate.

VII. That temporary permits be granted to those learning to drive mechanically propelled vehicles. When driving motor cars along the public roads the holders of such permits must be accompanied by a licensed driver.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: T. W. Philip to the *Centurion*, and to the *Ajax* on recommissioning; N. S. Meiklejohn, D.S.O., to Plymouth Hospital; J. S. McGrath to the *Woodcock*, J. G. Stevens to the *Stuart*, J. D. Bangay to the *Cornflower*, H. P. Turnbull to the *Superb*. Surgeon Lieutenant Commander G. F. Sym to R.N. College, Dartmouth. Surgeon Lieutenants: R. F. Quinton to R.N. Hospital, Plymouth; N. B. de M. Greenstreet to the *Ark Royal*, H. W. Fitzroy-Williams to the *Teal*, G. L. Stanley to Haslar, A. G. McKee to the *Vernon*, J. M. Horan to the *Columbine* for Port Edgar Base, G. E. Heath to the *Hollyhock* on commissioning. Surgeon Lieutenants (temporary): J. D. Milligan to the *Blake*, H. M. Scott to the *Inflexible*, T. W. Robbins to the *Camellia*, additional, for duty with sloops.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel S. G. Butler, D.S.O., relinquishes the acting rank of Colonel on ceasing to be specially employed.

The following relinquish the acting rank of Lieutenant-Colonel: Major M. F. Grant, Major F. Casement, D.S.O. (on ceasing to command a medical unit). On ceasing to be specially employed: Majors H. E. J. A. Howley and R. V. Cowey, D.S.O. Temporary Captain W. N. Parker, D.S.O.

To be acting Lieutenant-Colonels whilst specially employed: Major and Brevet Lieut.-Colonel C. R. Sylvester-Bradley, Captain and Brevet Major F. T. Dowling.

The following relinquish the acting rank of Major: Captain E. A. Strachan (December 16th, 1918, substituted for notification in the *London Gazette*, March 13th, 1919). Temporary Captain C. E. Waldron. On ceasing to be specially employed: Captains J. A. L. Wilson, J. E. Hepper. Temporary Captains: S. S. Dunn, E. T. C. Milligan, O.B.E., T. M. Bellew, G. Marshall, N. Reader, C. J. L. Patch, M.C., St. G. E. Harris, E. J. Maxwell, R. McRae.

To be acting Majors whilst specially engaged: Captains W. T. Graham, O.B.E., (Brevet Major) W. F. Christie (from February 5th to July 23rd, 1919). Temporary Captains H. B. G. Russell, C. S. Wynne, M.C. (from October 14th to November 20th, 1919), E. Kidd (from September 1st to October 29th, 1919).

Captain A. Watson, D.S.O., is seconded for service with the Egyptian Army.

To be Captains, but not to reckon for pay or allowances prior to December 1st, 1919: Captain E. C. Linton from S.R., March 19th, 1918, precedence next below R. H. Leigh; Captain J. C. Denvir from T.F., November 4th, 1918, precedence next below W. Russell.

Lieutenant (temporary Captain) G. E. Spicer, M.C., resigns his commission.

D. C. Smelzer to be temporary Captain.

The following officers relinquish their commissions: Temporary Major E. P. G. Causton, O.B.E., and retains the rank of Major. Temporary Captains and are granted the rank of Major: J. S. Lloyd, V. H. Mason, M.C. (on account of ill health caused by wounds), G. B. Warburton. Temporary Captains and retain the rank of Captain: N. P. L. Lumb, O.B.E., F. J. McCarthy, T. Readman, S. P. Pollard, L. G. Reynolds, S. Potter, W. E. Cooke, D. B. Spence, H. V. Swindale, R. L. Jones, A. G. Morris, A. F. Fraser, W. J. D. Smyth, C. C. Twort, A. R. Gunn, W. G. Gordon, J. Hewat, C. H. Philips, H. W. Garden, T. G. Evans, T. T. B. Watson, V. R. Hirsch, G. W. Beresford, O.B.E., J. W. Potter, V. C. W. Vickers, G. H. Sinclair, A. Murdoch, A. E. Ainscow, R. G. Morshead, M.C., W. W. Stacey, J. Dickson, M.C., T. H. Jones, R. Adam, R. K. Robertson, H. L. Attwater, J. M. Sheridan, W. Niccol, E. H. Good, V. C. James, L. G. Jacob, F. G. Beatty, V. Wallace, C. St. A. Vivian, S. G. Gordon, A. Bremner, E. J. Selby, O.B.E., C. W. Aikman, J. M. MacKay, M.C., T. Jones, D. Bird, C. Sherris, E. J. Stuckey, O.B.E., A. V. Ledger, C. Murray, R. Jamison, W. Robertson, J. N. G. Nolan, I. Hodgkinson, J. A. Thom, W. C. Stevenson (on ceasing to serve with the Home Hospitals Reserve), J. W. Brown, H. D. Matthews, H. M. Godfrey (on account of ill health caused by wounds). Temporary Lieutenant J. Black, and retains the rank of Lieutenant.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Major E. C. Clements (R.A.M.C.T.F.) is granted a temporary commission as Major on seconding to R.A.F.

Flying Officers to be Flying Lieutenants: J. T. X. Canton, P. McDiarmid.

Transferred to the unemployed list: Captains A. Kirkhope, C. J. Milner, P. C. Parr, Lieutenant W. J. S. Cameron.

The notification in the *London Gazette* of August 19th concerning Flying Officer L. C. Broughton-Head is cancelled.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captains relinquish the acting rank of Major on ceasing to be specially employed: R. D. Cameron, G. E. Kidman, D. G. Stoute.

Captain M. D. Vint relinquishes his commission on account of ill health contracted on active service, and retains the rank of Captain.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captain (acting Major) F. Scroggie, M.C., relinquishes the acting rank of Major on ceasing to be specially employed.

Captain W. C. D. Hills relinquishes his commission on account of ill health contracted on active service and retains the rank of Captain.

3rd Scottish General Hospital.—Captain J. Patrick is restored to the establishment on ceasing to hold a temporary commission in the R.A.M.C.

1st Southern General Hospital.—Captain J. W. Stretton is restored to the establishment.

1st Western General Hospital.—Captain (acting Major) C. T. Holland relinquishes the acting rank of Major on ceasing to be specially employed.

VOLUNTEER FORCE.

Bedfordshire R.A.M.C.(V.).—Temporary Captain F. W. B. Phillips relinquishes his commission, and is granted the honorary rank of Captain.

Fifeshire R.A.M.C.(V.).—Temporary Captain A. L. Curror relinquishes his commission, and is granted the honorary rank of Captain.

Morayshire R.A.M.C.(V.).—Temporary Captain J. Adam relinquishes his commission, and is granted the honorary rank of Captain.

Renfrewshire R.A.M.C.(V.):—Temporary Lieutenant A. Leitch relinquishes his commission, and is granted the honorary rank of Lieutenant.

EXCHANGE.

R.A.M.C. Lieut.-Colonel, at present at home on leave, wishes to hear from an officer of his own rank serving in the British Isles who is willing to proceed to India to complete a term of duty ending in June, 1922. Address Lieut.-Col. J. G. Gill, R.A.M.C., Junior United Service Club, London.

APPOINTMENTS.

DOUGAL, Daniel, M.C., M.D., Honorary Assistant Surgeon, St. Mary's Hospitals for Women and Children, Manchester.

DYER, Charles Harold, M.D., C.M.Aberd., D.P.H.Vict., Medical Officer to the Tunbridge Wells Post Office.

EDMOND, William Square, F.R.C.S., Honorary Surgeon to the Royal Salop Infirmary.

HERZFELD, Miss Gertrude, M.B., Ch.B., Assistant Surgeon to the Royal Hospital for Sick Children, Edinburgh.

TROTTER, G. Clark, M.D.Edin., Medical Officer of Health for Deptford.

KING'S COLLEGE HOSPITAL AND MEDICAL SCHOOL.—The following new appointments to the staff are announced: H. W. Wiltshire, D.S.O., O.B.E., M.D., F.R.C.P., Physician in Charge of the Cardiological Department, Lecturer on Cardiology, and Vice-Dean of the Medical School. F. W. Tunnicliffe, M.D., M.R.C.P., Physician in Charge of the Therapeutics and Applied Pharmacology Department, and Lecturer on Therapeutics and Applied Pharmacology. A. C. D. Firth, M.D., M.R.C.P., Junior Physician and Demonstrator of Clinical Medicine. R. H. Steen, M.D., M.R.C.P., Out-patient Physician for Psychological Medicine. S. A. Kinnier Wilson, M.D., F.R.C.P., Junior Neurologist and Lecturer on Neurology. J. W. Thomson Walker, O.B.E., M.B., C.M., F.R.C.S., Senior Urologist and Lecturer on Urology. H. A. T. Fairbank, D.S.O., M.S., F.R.C.S., Senior Orthopaedist and Lecturer on Orthopaedics. John Everidge, O.B.E., F.R.C.S., Junior Urologist and Junior Surgeon, Lecturer on Surgical Applied Anatomy. C. Jennings Marshall, M.D., M.S., F.R.C.S., Junior Orthopaedist and Junior Surgeon, Lecturer on Surgical Applied Anatomy. W. J. R. Simpson, C.M.G., M.D., F.R.C.P., D.P.H., Lecturer on Tropical Medicine. W. d'Este Emery, M.D., B.Sc., M.R.C.P., Pathologist, Director of Pathological Department, and Lecturer on General Pathology. E. B. Clayton, M.B., B.Ch., Physico-therapist and Director of the Physico-therapeutic Department. L. M. Moody, M.D., B.S., M.R.C.P., Bacteriologist and Lecturer on Bacteriology. G. A. Harrison, M.R.C.S., Biochemist and Lecturer on Medical Chemistry. Helen Ingleby, M.B., B.S., M.R.C.P., Pathological Registrar and Lecturer on Morbid Anatomy. H. A. Burridge, M.B., Lecturer on Forensic Medicine and Toxicology. J. H. Sheldon, M.B., B.S., Sambrooke Medical Registrar and Medical Tutor. C. P. G. Wakeley, M.R.C.S., Sambrooke Surgical Registrar and Surgical Tutor. A. C. McAllister, M.B., B.S., Obstetric Registrar and Obstetric Tutor.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Honorary Assistant Physician: William Y. Woodburn, M.D. Honorary Assistant Anaesthetist: William Carling, M.B., B.Ch.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

IRVINE.—On the 21st December, 1919, at 36, Salisbury Terrace, Devonport, the wife of Major A. E. S. Irvine, R.A.M.C., of a son.

PRITCHARD.—On December 22nd, 1919, to the wife of Dr. Norman Pallister Pritchard, M.C., Curfew House, Chertsey, Surrey—a son (Gordon Alford).

MARRIAGES.

DONOGHUE—ANDERSON.—At Chapel Royal, Savoy, on December 20th, 1919, by the Rev. Hugh Chapman, Surgeon-Lieutenant William O'G. Donoghue, Royal Navy, to Grace Turnbull Anderson, M.B., Ch.B., second daughter of the late Thomas Anderson, A.M.Inst.C.E., Royal Indian Marine, and Mrs. Anderson, of 9, Belsize Park, London, N.W.

LYNN-THOMAS—MACRAE.—On the 9th December, 1919, at St. George's U.F. Church, Edinburgh, by the Rev. Prof. H. F. MacKintosh, Charles Ivan Lynn-Thomas, formerly Lieutenant 1st South Wales Borderers, son of Sir John Lynn-Thomas, K.B.E., C.B., C.M.G., and Lady Lynn-Thomas, R.R.C., of Greenlawn, Penylan, Cardiff, to Dorothy Guthrie MacRae, daughter of Duncan MacRae, Ruthven, Kingussie.

SINCLAIR—DANIEL.—On the 30th December, 1919, at Saint Anne's Church, Sale, Manchester, William Sinclair to Stephanie Patricia Daniel, M.B., B.S., M.R.C.S.

DEATHS.

FORREST.—On 18th ult., at a private nursing home, Glasgow, Robert Wardrop Forrest, M.D., F.R.F.P.S.G., aged 73, of Westwood, 60, Dalziel Drive, Pollokshields, Glasgow.

JOHN.—On December 27th, 1919, at 15, Albion Road, Hampstead, William John, M.R.C.S.Eng., L.M., late of Haverfordwest, aged 78 years.

ROSS.—On the 25th December, 1919, at "Roslyn," 153, Brigstock Road, Thornton Heath, Surrey, William George Ross, M.D., formerly of the 8th, "The King's," Regiment and Army Medical Department, aged 79. (15th May, 1840.)

SCALLON.—On December 23rd, 1919, Ethel Blanche, wife of Ernest Oliver Scallon, M.D., of Romsey, Hampshire, and daughter of the late John Senior, of New Inn and Dulwich.

DIARY FOR THE WEEK.

ROYAL SOCIETY OF MEDICINE.—*Section of Surgery—Subsection of Orthopaedics:* Tuesday, 5 p.m., Cases. *Section of Surgery—Subsection of Proctology:* Wednesday, 5.30 p.m., Discussion on Diverticulitis to be opened by Dr. Maxwell Telling, and continued by Professor A. Keith, Mr. Lockhart-Mummery, Dr. E. I. Spriggs, Mr. McAdam Eccles, Mr. Grey Turner, Mr. Rutherford Morison, Mr. Hamilton Drummond, Mr. Garnett Wright, Mr. James Berry, Mr. R. P. Rowlands, Mr. Maynard Smith, Mr. H. S. Clogg, Dr. A. C. Jordan, Mr. Ivor Back, Mr. Peter Daniel, Mr. L. E. C. Norbury, Mr. W. E. Miles, Dr. de Bec Turtle, Sir C. Gordon Watson, Dr. Hernaman Johnson, Mr. Sampson Handley. A collection of specimens illustrating the subject of discussion will be on view from 2.30 p.m. Following the meeting on January 7th the Annual Dinner of the Subsection will be held at Oddenino's Restaurant, 60, Regent Street. Members of the Subsection are entitled to invite one guest, but must intimate their intention to Mr. Sampson Handley before January 3rd. *Section of Neurology:* Thursday, 8.30 p.m., Dr. F. M. R. Walshe: Peripheral Neuritis among the Egyptian Expeditionary Force, 1915–19. *Clinical Section:* Friday, 5.30 p.m., Sir Anthony Bowlby: The Application of War Methods to Civil Practice. Exhibition of Cases.

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JANUARY.
5 Mon.	Maidstone Division, West Kent Hospital, 3.15 p.m.
6 Tues.	London: Scrutiny Subcommittee of Organization Committee, 2.30 p.m.
7 Wed.	Nottingham Division, 64, St. James's Street, Nottingham, 4 p.m. Lecture by Dr. Bernard Hart: Modern Methods of Treatment in Functional Nervous Disorders.
8 Thur.	London: Territorial Force Subcommittee, 4 p.m.
13 Tues.	London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
14 Wed.	London: Propaganda Subcommittee, 2.15 p.m.
27 Tues.	London: Public Health Committee.
28 Wed.	London: Medico-Political Committee.
29 Thur.	London: Organization Committee.
30 Fri.	London: Ethical Committee.
	FEBRUARY.
18 Wed.	London: **Council.**

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 10TH, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
The New Insurance Regulations and Remuneration	9
The Association in Victoria	9
Pensions for Senior Medical Officers, R.N.	9
Colonial Medical Services	10
ASSOCIATION NOTICES:	
Meeting of Council	10
Branch and Division Meetings to be held	10
MEETINGS OF BRANCHES AND DIVISIONS	10
INSURANCE—CORRESPONDENCE:	
Remuneration	10
The Profession and the Government	10
The Panel Conference	10
NAVAL AND MILITARY APPOINTMENTS	11
APPOINTMENTS	12
BIRTHS, MARRIAGES, AND DEATHS	12
DIARY FOR THE WEEK	12
DIARY OF THE ASSOCIATION	12

British Medical Association.

CURRENT NOTES.

The New Insurance Regulations and Remuneration.

We believe there is little likelihood of the decision of the Government being announced this week, owing to the continuance of the pressure of matters of great national and international importance which are within the knowledge of all. The matter is, we understand, receiving the direct attention of the Government. The Minister of Health is seeking to obtain an early decision, which will be communicated to the Insurance Acts Committee at the earliest possible moment.

The Association in Victoria.

We have received from Melbourne the annual report of the Council of the British Medical Association (Victorian Branch) and the Medical Society of Victoria for the year ending December 3rd, 1919. The Council held twenty-five meetings in all, apart from meetings of the trustees and of various subcommittees. The number of members on the roll showed an increase of 36. The war record shows that of the 966 members of the Association in Victoria, 407 enlisted for whole-time military service; of these, 304 have returned, 73 are still abroad, and 40 gave their lives for the empire. It is proposed to hang in the Medical Society's hall an Honour Board inscribed with the names of those who fell. Ethical matters occupied a good deal of the Council's attention during the year. It considered the attempt by certain insurance societies to discredit the obligation of professional secrecy on the part of medical men towards their patients. Insurance companies had inserted a clause whereby the insurer consented to his medical adviser divulging certain professional confidences usually kept secret. The Council decided that members should disregard such attempt, and should preserve strictly the ethical duty of professional secrecy. A great deal of time and care was devoted by the Council and its Organization Committee to the dispute with the friendly societies. Some account of this matter was given in a letter from the officers of the Victorian Branch to the Chairman of the Council of the Association, printed in the SUPPLEMENT of December 27th, 1919, and a note appeared also in the JOURNAL of the same date (p. 854). The loyalty and solidarity of the members of the Branch have been well shown all through this long-drawn-out dispute. It appears that the friendly societies are now trying to obtain in this country 100 doctors to act as medical officers, and in other ways to outflank the medical profession of Victoria. Before accepting any medical posts in Australia doctors are therefore urged to apply for information to the Medical Secretary of the British Medical Association, 429, Strand. With regard to legislation, the principal medico-political matters considered by the Council of the Victorian Branch were the proposed State Health Bill, the question of unqualified medical practitioners, the patent medicines question, and the general question of the extent of State and Federal medical services. Various recommendations have been made on behalf of the medical profession of Victoria in these matters. In response to a request from the Federal Committee to all the Branches, the Council appointed a subcommittee to draw up a report on the nationalization of medicine, with Sir Harry Allen as its chairman. In addition to using its influence in obtaining resident hospital appointments for medical men returning from military service, the Council arranged with the Melbourne hospitals and the medical school and Federal Serum Institute for the holding of a post-graduate course; this was attended by ninety practitioners, most of whom had been on active service. Ten meetings were held during the year for the discussion of papers on clinical and scientific subjects.

Pensions for Senior Medical Officers, R.N.

As recorded in the SUPPLEMENT of November 15th, 1919, the Naval and Military Committee of the British Medical Association recently instructed a special subcommittee to examine and report on the new regulations for pay and retirement of naval medical officers. The most pressing matter before the subcommittee was the position of certain senior surgeon commanders under the new scheme. The pension allowed by the new regulations to senior surgeon commanders is less than 10 per cent. greater than the old rate fixed more than forty years ago. Further, this increase is in certain contingencies subject to a deduction of 20 per cent., giving a final reduction of pension of about 10 per cent. Another matter which has formed the subject of representations to the Admiralty is the new age for compulsory retirement and the consequent loss of full pay service and chances of promotion to higher rank. On the instruction of the Naval and Military Committee a letter was sent to the Admiralty on December 2nd, 1919, drawing attention to the way in which senior surgeon commanders are adversely affected by the recent regulations. A request was made for an early reply. The Lords Commissioners of the Admiralty have now informed the British Medical Association by letter that the subject referred to in the Medical Secretary's letter of December 2nd—namely, the retirement of senior surgeon commanders R.N.—is receiving careful consideration, and that a reply, it is hoped, will be sent at an early date.

Colonial Medical Services.

It was announced in this column on November 22nd, 1919, that the British Medical Association would shortly give evidence before the Colonial Medical Services Committee recently appointed by the Secretary of State for the Colonies. The terms of reference of this Committee are as follows:

To consider the position of the medical services of the various colonies and dependencies, with a view to maintaining and increasing the supply of candidates, and to securing contentment within the service; and to consider whether the principle of assimilating the medical service of neighbouring colonies may usefully be extended, and, if so, how far and by what means.

The Colonial Office has agreed to the suggestion that representatives of the Association should be invited to give evidence, and has intimated that the Colonial Medical Services Committee would like to have a *précis* of the points which the British Medical Association desires to bring forward. In our last reference to this matter medical officers belonging to, or with recent experience of, any of the colonial medical services were invited to communicate with the Medical Secretary of the Association.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, February 18th, in the Council Room, 429, Strand, London, W.C. 2.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DUNDEE BRANCH.—Drs. R. C. Buist and G. H. S. Milln, Honorary Secretaries (166, Nethergate, Dundee), give notice that the second address on after-war conditions will be delivered in the Physiology Department, University College, Dundee, at 5 p.m. on Wednesday, January 14th, by Dr. Arthur Hurst, Physician to Guy's Hospital, who has chosen as his subject the functional element in diseases—medical, surgical, gynaecological, genito-urinary, ophthalmic, and oto-laryngological. The address will be illustrated by cinematograph and lantern demonstrations.

KENT BRANCH: TUNBRIDGE WELLS DIVISION.—Dr. A. F. Hurst, Physician to Guy's Hospital, will give a lecture to the Division, at the General Hospital, Tunbridge Wells, on Tuesday, January 20th, on new views on the pathology, diagnosis, and treatment of gastric and duodenal ulcer.

Meetings of Branches and Divisions.

LANCASHIRE AND CHESHIRE BRANCH: ST. HELENS DIVISION.

AT a meeting on December 9th, 1919, it was decided to adopt the recommendation of the Council of the British Medical Association to increase medical fees by 50 per cent. over pre-war prices, and to advertise this decision in the local newspapers—it being always understood that the individual doctor will use his discretion when dealing with the individual patient.

PERTH BRANCH.

A MEETING of the Perth Branch was held at Perth on December 19th, 1919, when Dr. FERGUSON WATSON was in the chair, and nineteen members were present.

The TREASURER (Dr. Hume) read his report, and stated that Dr. Parker Stewart became treasurer in accordance with the resolution passed at the meeting of the Branch on September 26th, 1919. A vote of thanks was unanimously accorded to Dr. Hume for the services he had rendered to the Branch as treasurer. The meeting approved the insertion of a report of the meeting in the newspapers stating that after careful consideration it was resolved to increase medical fees by 50 per cent. to cover increased cost of living.

The meeting, after discussion, expressed approval of the usual monthly circular to honorary secretaries of Divisions and Branches, issued from the head office, regarding the activities of the Association. With reference to the paragraph regarding the lending facilities of the library, several members intimated that they would willingly pay postage to be enabled to have books placed at their disposal by the library.

At a meeting of the medical profession of Bournemouth and district held on November 29th, 1919, it was unanimously resolved, in view of the increased cost of living and of working expenses by at least 100 per cent., and the general depreciation in the value of money, to recommend that the pre-war rate of fees be increased by 50 per cent.

INSURANCE.

CORRESPONDENCE.

Insurance Remuneration.

SIR,—I feel that my "pride in the dignity of our high calling" is diminished now that the purely personal relation between doctor and patient has been lost and we are journeymen working under contract. Still, this need not close the door on common sense. What other body of workers has been content to carry on on pre-war pay?

We have not embarrassed the Government by strikes. In fairness the Government should see that any readjustment of insurance payments should be retrospective.

The essence of all "bargaining" is that each side is prepared to give way. Dr. Addison recognizes this, and, though he knows that all our expenses have gone up more than 125 per cent., he is not ashamed to suggest a capitation fee of 10s. (or will it be 81 per cent. of 10s.?) as a basis of bargaining.

We, ashamed to embarrass a bankrupt Act, make our mistake of 1912 over again by timidly putting forward our modest minimum as a starting point of bargaining. Very decent of us, but very bad business.—I am, etc.,

Husbands Bosworth, Rugby, Jan. 4th. J. A. NOBLE.

The Profession and the Government.

SIR,—No medical practitioner, whether he has worked the panel or not, can fail to be interested in the present condition of things in the medical world, and to view with considerable uneasiness the great changes taking place in the business life of the profession to which he devoted time and money to enter.

I am chiefly interested in the stand made for a certain fixed capitation fee. For an ununited body of men to presume to dictate for one moment to a Government autocrat appears to me foolish in the extreme. It is customary for a slave to approach his lord in a spirit of meekness, and what we see is a body of conscripts dictating terms to an individual whose powers are enormous and who regards himself as only a shade lower than the Deity.

I think it most probable that the Minister of Health will out of charity allow his slaves a slight increase in the present fee, recognizing how utterly they are at his mercy, but further than that he will not budge, but rush the profession into compliance by forwarding agreements to be signed and returned by a certain date, probably four days, under the threat that unless received duly signed the practitioner will be deemed to have left the panel service. No time for remonstrance, bargaining, or meetings.

It should be remembered that many curious creatures, called, for the sake of propriety, conscientious Cuthberts, are now emerging from their war nests and are ready and willing to support any scheme or adopt any tactics ensuring a living, and that by earning the good opinions of the slave driver they will creep and crawl into some better post when matters have been settled.

There is only one hope for the future of the medical man, and that is an amalgamation of the three D's—doctors, dentists, and druggists—and the sooner that comes the better.

I write quite impartially, as I have never adopted the panel, and only starvation would make me do so, but I have seen and know what it is and what it threatens to become.—I am, etc.,

COLLINGWOOD FENWICK, M.D.

Wallingford, Dec. 29th, 1919.

The Panel Conference.

SIR,—As Dr. Brackenbury, in his comments on my letter, says that almost every sentence which purports to be a statement of fact is either false or misleading, I must ask for space for a reply.

A Conference that gives its approval to regulations which declare the decisions of the Minister to be final, that objects to an appeal to a court of law, that connives at the fact that the Minister may be both accuser and judge, that rejects clear-cut motions such as those from Stockport, Portsmouth, and Cheshire, and passes the as-you-were motion from Brighton, proclaims the Minister autocrat in the strictest sense of the term. "Speaking generally, what is resented more than anything else in the new Regulations," says the BRITISH MEDICAL JOURNAL, "is the autocratic element which permeates them."

Over and over again, at the conferences, objection was raised to the limitation of lists as curtailing the liberty of the medical man, interfering with his practice, and abrogating a first principle—free choice of doctor. Two years ago seventy areas voted for no limitations, as against

thirty-three in favour of them. Yet the Bournemouth resolution to limit lists to 3,000 was passed, although the chairman informed us that he had ruled out of order motions contrary to the decisions of the July conference. A further limitation to 2,000 is a logical deduction.

I said a resolution to organize the profession to refuse service under certain contingencies was dropped as unthinkable. The minutes record that an amendment from York, "and instructs the Insurance Committee to endeavour by all means to secure the refusal of all insurance practitioners to take service at any less sum," was lost. The reason given at the Conference was that refusal was unthinkable. So to this day the Minister cannot make up his mind about the fee. If an insurance practitioner is responsible for all persons who have been accepted by him, for those who have left him and are perhaps out of benefit but who have not been notified to him by the committee as having ceased to be on his list, and for all accidents and emergencies pending their acceptance by somebody else, I say that he is at the beck and call, night and day, of anyone who can bluff him for treatment.

A practitioner shall not employ a permanent assistant to attend his insured patients without the previous consent of the committee to the employment of such an assistant. The committee is requested to be reasonable. Before consenting to the employment by a practitioner of more than one assistant the committee shall obtain the approval of the Minister. In spite of these regulations the practitioner is after all responsible for all acts and omissions of any practitioner acting as his deputy or assistant. It is an old shibboleth that State money means State control. But in this case we have State control without State money.

I said that the patients whom a doctor attracts are not his but belong to the State. If the Minister confiscate Dr. Brackenbury's watch it belongs to the Minister, as there is no appeal. The BRITISH MEDICAL JOURNAL has not minced words: "The Ministry of Health has stated its determination to alter the present Regulations about transfers. Practitioners, for their part, are equally determined not to submit to any confiscation of the goodwill in their panel practices."

A pension scheme was literally sprung upon us a day or two before the Conference. It was a red herring drawn across the trail. It was a daring move on the part of those who are out for a State service. It was resolved "that this Conference is in favour of a pension scheme for insurance practitioners, to be managed by the practitioners themselves, and authorizes the Insurance Acts Committee to negotiate with the Government concerning such a scheme." Resolved also "that the question of a pension scheme for insurance practitioners be referred to Local Medical and Panel Committees."

At the Conference three names were added to the Association's nominees to form a deputation to the Minister. They had to inform him definitely that 13s. 6d. was the irreducible minimum that the profession would accept as a capitation fee. The interview with the Minister is published in the BRITISH MEDICAL JOURNAL of December 13th. The usual arguments for better payment were advanced. That money had depreciated during the war, that the cost of living had increased, that more work meant more pay, that greater responsibility entailed greater consideration, were theories new to him. His stereotyped reply reads: "*That he could not see any case made out for any increased rate of remuneration.*"

The Ministry has taken the measure of our Conference delegates. Our motions, whether passed or rejected, are entirely ignored at the Ministry. Since our Conference the following most objectionable regulations were inserted in the latest draft Regulations:

Range of practitioner's duties. (13) A practitioner is required —(*a*) To furnish in writing to the medical officer any information which the latter may require with regard to the case of any patient to whom the practitioner has issued, or declined to issue, a medical certificate of incapacity for work.

(*b*) To meet the medical officer, when the latter so requires, for the purpose of examining, in consultation, any patient in respect of whom the practitioner has sought the advice of the medical officer.

(*c*) To afford to the medical officer, or to such other person as he may appoint for the purpose, access at all reasonable times to any records kept by the practitioner under these terms of service, and to furnish the medical officer with any such records, or with any necessary information with regard to any entry therein, as he may require; and

(*d*) To answer any inquiries of the medical officer with regard to any prescription issued by the practitioner, or to any statement made in any report furnished by him under these terms of service.

Is it possible to consider insurance practice reputable after this? Fortune may render us unhappy, it is only ourselves that can make us despicable.

We were once medical practitioners. We were members of a learned profession. Now by the terms of our service we are insurance practitioners. We have, in the commissioners' own words, to safeguard the interests of the approved societies. We are agents in a business undertaking; for heaven's sake, then, let us learn business methods.—I am, etc.,

Exeter, Jan. 3rd. J. PEREIRA GRAY.

*** We have printed above *in italics* the words stated by Dr. Pereira Gray to have been used by the Minister of Health. We print below extracts from the official report of the Minister's reply published in the SUPPLEMENT:

"Dr. Addison said that, quite frankly, the case for a 13s. 6d. capitation fee was not, in his view, made out. . . . He was quite sure that the Government could not give 13s. 6d. . . . He did not see how it could be possible for the Government to accept such a proposal. . . . He concluded by saying that he was satisfied that there was a case for a substantial increase over the pre-war fee, and that the new fee to be fixed must be one which would give a good average general practitioner, fairly doing his duty, what he himself would feel would pay him properly for treatment—in other words, something like the same payment that he would expect for his patients generally, other than the more wealthy patients."

(SUPPLEMENT, December 13th, 1919, p. 157.)

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commander L. Warren, O.B.E., to the *President*, additional, for service with Subcommission of Inter-Allied Commission of Control. Surgeon Lieutenant Commander J. S. Elliott to the *Crescent*. Surgeon Lieutenants: J. C. Sinclair to the *Bluebell*, on commissioning; N. A. H. Barlow to the *Foxglove*, on commissioning; J. C. Kelly, D.S.C., to the *Godetia*, on commissioning; O. J. M. Kerrigan to the *Cicala*, on commissioning. Surgeon Lieutenant (temporary) J. F. Ainley to the *Grenville*.

ARMY MEDICAL SERVICE.

Colonel G. Dansey-Browning, C.B.E., is placed on the half-pay list.

Temporary Colonel E. F. Buzzard (Captain R.A.M.C.T.F.) relinquishes his temporary commission on reposting.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel C. J. O'Gorman, D.S.O., relinquishes the temporary rank of Colonel, March 31st, 1919 (substituted for the notification in the *London Gazette*, November 4th, 1919).

Major E. L. Moss, C.M.G., M.C., relinquishes the acting rank of Colonel.

The following relinquish the acting rank of Lieutenant-Colonel: Major G. H. Stevenson, D.S.O., Major C. W. Bowle (on ceasing to command a medical unit), Major E. D. Caddell, M.C.

To be acting Lieutenant-Colonels: Temporary Captain L. D. Shaw, D.S.O. (from July 22nd, 1918, to March 14th, 1919), Major E. B. Lathbury, O.B.E. (whilst commanding a medical unit from August 15th to October 5th, 1919).

Major W. M. Power, from the half-pay list, retires on retired pay on account of ill health, October 5th, 1919 (substituted for notification in the *London Gazette*, October 4th, 1919).

H. E. L. Canney, late temporary Major, to be temporary Major, seniority from June 25th, 1916.

The following relinquish the acting rank of Major: Captain H. A. Rowell, M.C.; temporary Captain E. Biddle, M.C., September 17th, 1919 (substituted for notification in the *London Gazette*, December 2nd, 1919).

Major E. L. Moss, C.M.G., M.C., relinquishes the acting rank of Colonel.

Captain G. S. Parkinson, D.S.O., to be temporary Major whilst specially employed.

Captain H. A. Rowell, M.C., to be acting Major from August 15th to October 5th, 1919.

The following are seconded for service with the Egyptian Army: Brevet Major W. E. Marshall, M.C., J. Biggam, M.C. (substituted for notification in the *London Gazette*, December 9th, 1919), K. P. Mackenzie (substituted for notification in the *London Gazette*, November 8th, 1919).

Temporary Captain J. Higgins to be Captain, March 1st, 1918, but not to reckon for pay and allowances prior to November 1st, 1919, with precedence next below A. L. Robertson (substituted for notification in the *London Gazette*, December 4th, 1919).

Lieutenants (temporary Captains) to be Captains: W. E. Hodgins, T. S. Law.

Late temporary Captains to be temporary Captains: A. Vella (seniority from November 21st, 1915), G. Fleming (seniority from November 16th, 1915), J. N. G. W. McMorris (seniority from June 6th, 1916).

Temporary Lieutenant A. P. Cullen to be temporary Captain.

Lieutenant E. H. W. Elkington, from C.A.M.C., to be Lieutenant, and to be temporary Captain, April 17th, 1918, but not to reckon for pay or allowances prior to December 15th, 1919, with precedence next below M. C. Paterson.

W. H. Steavenson to be temporary Lieutenant.

The following officers relinquish their commissions:—Temporary honorary Lieut.-Colonel M. Gamble, on ceasing to serve with the Withington War Hospital, and retains the honorary rank of Lieutenant-Colonel. Temporary Captain (acting Major) F. G. W. Deane, and is granted the rank of Lieutenant-Colonel. Temporary Captains and are granted the rank of Major: D. B. Pascall (November 13th, 1919; substituted for notification in the *London Gazette*, December 5th, 1919), A. S. K. Anderson, D.S.O., M.C., E. G. Dingley, G. R. B. Purce, M.C., G. W. R. Rudkin, M.C., M. Bates, J. S. Doyle, J. B. Haycraft, M.C., F. de S. McMenamin, M.C., W. Martin, E. McCulloch,

Temporary Captains and retain the rank of Captain: F. J. Strachan, M.C., E. Gray, A. J. Will, R. Thomson, N. S. Sherrard, J. D. Wright, R. H. Thomson, M.C., R. Ward, H. A. Ash, A. Renshaw (March 26th, 1917, substituted for notification in the *London Gazette*, June 13th, 1917), W. E. Hopkins, M.C. (November 9th, 1919, substituted for notification in the *London Gazette*, December 4th, 1919), H. J. Burke, M.C., C. G. Harmer, L. Hutchinson, A. Gregory, J. F. Allan, P. S. Marshall, V. StL. Pinnock, W. T. Currie, J. H. Murray, R. W. Murphy, E. T. Glenny, J. A. Macarthur, T. Forsyth, J. Paxton, B. P. Parmiter, L. M. Mayers, A. L. E. F. Coleman, M.C., E. Morison, N. Reader, B. J. Cusack, S. Murray, J. Dunlop, L. W. Bain, W. J. Macdonald, M.C., H. Richmond, A. E. Schokman, R. McLean, J. A. P. Cullen, S. P. Rowlands, I. C. MacKenzie, J. Porter, J. I. Enright, J. Avery, S. J. Darke, M.C., T. W. Bayne, H. P. Fairlie, J. D. MacEwen, J. C. Knox, D. S. Campbell, M.C., R. M. McMinn, R. Brown, W. L. Cassells, S. P. Stoker, M.C., S. A. Furlong (on account of ill health), P. D. Magowan, H. L. Flint, J. C. McWalter, R. S. Harvey, W. J. Poole, C. E. Sharp, O. R. Allison, J. C. Robb, H. G. Oliver, D. Malloch, M.C., J. P. Dee, D. L. Spence, W. Howat, A. R. Moore, A. E. Foerster, J. H. D. Phelps, D. Denlop, J. Menzies, S. E. Y. Ellott, H. Mortimer, R. A. Fuller, M.C., G. Habgood, N. H. Smith, V. M. Coates, M.C., F. Newey, O.B.E. Temporary Captain A. Anderson. Temporary Lieutenant and retains the rank of Lieutenant; P. J. F. Lynch.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Transferred to unemployed list:—Captains: W. L. Scott (February 13th, 1919 (substituted for notification in the *London Gazette*, April 4th, 1919), R. W. Meller (March 20th, 1919), J. E. Lascelles (April 14th, 1919), L. A. Walker (May 20th, 1919), H. Y. Riddell (December 5th, 1919), C. H. Browne (December 13th, 1919), (acting Major) L. C. McL. Wedderburn (December 19th, 1919).

INDIAN MEDICAL SERVICE.

The promotion to his present rank of Captain U. J. Bourke has been antedated from May 30th, 1917, to July 17th, 1916.

Major H. Crossle was posted as Joint Civil Surgeon, Peshawar, for September 29th, 1919.

Lieut.-Colonel C. A. Lane, M.D., has been permitted to retire from the service, with effect from October 25th, 1919.

The Hon. Major-General W. R. Edwards, C.B., C.M.G., K.H.P., I.M.S., has been elected an honorary Fellow of the Royal College of Surgeons of Edinburgh.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain J. B. Hanna relinquishes the acting rank of Major.

Lieutenants to be Captains: W. E. P. Briggs, G. Winter, G. S. Lewis, W. Oats.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel W. B. Mackay, C.M.G., relinquishes his commission on account of ill health contracted on active service and retains the rank of Lieut.-Colonel.

The following officers relinquish the acting rank of Lieut.-Colonel on ceasing to be specially employed: Major (acting Lieut.-Colonel) W. A. Thompson (July 7th, 1918), Captain (acting Lieut.-Colonel) F. G. Dobson, D.S.O. (June 30th, 1919, substituted for notification in the *London Gazette*, August 5th, 1919).

The following Captains (acting Majors) relinquish the acting rank of Major on ceasing to be specially employed: D. C. Bremner, J. Everidge, O.B.E. (March 21st, 1919, substituted for notification in the *London Gazette*, October 16th, 1919), F. W. K. Tough, A. P. Thomson, M.C. (May 13th, 1919, substituted for notification in the *London Gazette*, June 4th, 1919), L. N. Reece.

Captain F. Ellis, M.C., relinquishes his commission on account of ill health caused by wounds, and is granted the rank of Major.

1st London Sanitary Company.—Lieutenant J. T. A. Walker to be Captain.

1st Northern General Hospital.—Captain N. Hodgson is restored to the establishment.

TERRITORIAL FORCE RESERVE.

ARMY MEDICAL SERVICE.

Lieut.-Colonel Sir H. Davy, K.B.E., C.B., from 4th Southern General Hospital, to be Colonel.

ROYAL ARMY MEDICAL CORPS.

The announcement regarding Major G. Black, T.D., which appeared in the *London Gazette*, October 30th, 1918, is cancelled.

VOLUNTEER FORCE.

Kincardine R.A.M.C.(V.).—Temporary Lieutenant C. Aymer relinquishes his commission and is granted the honorary rank of Lieutenant.

QUEEN MARY'S ARMY AUXILIARY CORPS.

Auxiliary Section, R.A.M.C. attached.—Medical Controller E. E. Bourne, M.D., relinquishes her appointment.

EXCHANGE.

R.A.M.C. Lieut.-Colonel, at present at home on leave, wishes to hear from an officer of his own rank serving in the British Isles who is willing to proceed to India to complete a term of duty ending in June, 1922. Address Lieut.-Col. J. G. Gill, R.A.M.C., Junior United Service Club, London.

APPOINTMENTS.

ALDERSON, G. G., M.B., B.Ch., F.R.C.S.Eng., Surgeon to the Coventry and Warwickshire Hospital.

BARNES, E. W., L.R.C.P.I., L.R.F.P.S.Glasg., Public Vaccinator for the Central District of Liverpool.

FARDON, A. H., M.D., Medical Officer, Dorking Union Institution.

HEATH, T. L., M.R.C.S., L.R.C.P., Assistant Medical Officer, Poplar and Stepney Sick Asylum District.

MACDONALD, D. M., M.D., Medical Referee under Workmen's Compensation Act for County Court Circuit No. 3, and to be attached more particularly to the Barrow-in-Furness, Ulverston, Ambleside, Kendal, Kirkby Lonsdale, and Settle County Courts, vice Dr. Mathews, deceased.

POLLARD, H. D., M.B., B.S.Lond., F.R.C.S., Medical Officer, Bedford Union Institution.

SMURTHWAITE, Henry, M.D., B.S.Durh., Assistant Surgeon to the Gloucestershire Royal Infirmary and Eye Institution, and will be in charge of the Ear, Nose, and Throat Department.

DISTRICT MEDICAL OFFICERS: E. M. Brown, M.B. (Berkhamsted Union); A. Budd, M.B., B.S.Durh. (Launceston Union); C. E. Droop, M.B., B.Ch. (Gainsborough Union); E. A. C. Fazan, M.R.C.S., L.R.C.P. (Ticehurst Union); W. E. Gemmell, M.B. (Atcham Union); B. G. Gutteridge, M.R.C.S., L.R.C.P. (Shardlow Union); J. T. Hall, M.B., Ch.B. (Ashbourne Union); F. A. Hepworth, M.B., B.Ch., F.R.C.S. (Saffron Walden Union); W. J. Johnson, M.D. (Biggleswade Union).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BULSTRODE.—On the 22nd December, 1919, at Southleigh Park, Havant, the wife of C. V. Bulstrode, D.S.O., M.D., of Hampton-in-Arden, a son.

JUBB.—On December 22nd, 1919, at 7, Wentworth Street, Wakefield, the wife of A. Armitage Jubb, M.D., D.Sc., a daughter.

WARWICK.—On the 1st January, at 94, Regent's Park Road, to A. Macgregor Warwick, M.C., M.B., and his wife—a daughter.

MARRIAGE.

NICOL—MURRAY.—On 18th December, 1919, at British Embassy Chapel, Constantinople, by the Rev. Lieut.-Colonel J. L. Findlay, D.S.O., Chalmers Nicol, Major R.A.S.C., son of the late Alexander Nicol, St. Helens, Aberfeldy, to Mary Dorothea Murray, M.B. Ch.B., eldest daughter of the Rev. John Murray, Cupar, Fife.

DEATH.

LYLE.—On the 30th December, 1919, suddenly, at Speldhurst, Elmfield Road, Bromley, Kent, in her 48th year, Annie Seaton, the dearly loved wife of Herbert Willoughby Lyle, M.D.Lond., F.R.C.S., and only daughter of the late E. W. Winton, of Speldhurst, Tunbridge Wells, and of Mrs. Winton, of Etherton House, Widmore Road, Bromley.

DIARY FOR THE WEEK.

ROYAL SOCIETY OF MEDICINE.—*Section of Psychiatry:* Tuesday, 5 p.m., Dr. E. W. Scripture: Nature of Epilepsy; Dr. H. Crichton Miller: Endocrines in the Production of Mental Disorder. *Section of History of Medicine:* Wednesday, 5 p.m., Mr. S. P. Vivian: Thomas Campion, Doctor of Phisicke, 1567–1620; Canon Westlake: The Gild of Our Lady of Rouncyval. *Section of Dermatology:* Thursday, 4.30 p.m., Cases. *Section of Otology:* Friday, 5 p.m., Dr. A. A. Gray: Anatomy of the Vestibule. Cases and specimens. *Section of Electro-therapeutics:* Friday, 8.30 p.m., Mr. C. Thurstan Holland: Lessons of the War.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1, Friday, 8.30 p.m.—Discussion on Bacillary Dysentery, to be opened by Dr. Manson-Bahr. Fleas as the Probable Carriers of Rheumatic Fever, Dr. Tertius Clarke (Penang). Treatment of Malaria and Blackwater Fever, Dr. F. Roux.

POST-GRADUATE COURSES AND LECTURES.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. E. D. Telford: Treatment of Spinal Caries.

NORTH-EAST LONDON POST GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 4.30 p.m., Sir Humphry Rolleston, K.C.B., M.D., opening address of spring session: The Uses and Methods of Application of Post-graduate Teaching.

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		JANUARY.
13	Tues.	London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
14	Wed.	London: Propaganda Subcommittee, 2.15 p.m. Dundee Branch: University College, Dundee. Second address on After-War Conditions, by Dr. Arthur Hurst, Physician to Guy's Hospital, 5 p.m.
16	Fri.	North of England Branch, Royal Victoria Infirmary, Newcastle-upon-Tyne. Demonstrations: 2.30 p.m., Occupational Phthisis. 3.0 p.m., Trigeminal Neuralgia. 3.30 p.m., Difficult Labour. 4.15 p.m., Ophthalmic Cases. 4.45 p.m., Carcinoma of the Colon.
20	Tues.	London: Scrutiny Subcommittee, 2.30 p.m. Tunbridge Wells Division, Tunbridge Wells General Hospital. Lecture by Dr. A. F. Hurst: New Views on the Pathology, Diagnosis, and Treatment of Gastric Duodenal Ulcer.
22	Thur.	London: Naval and Military Committee, 2.30 p.m.
27	Tues.	London: Public Health Committee.
28	Wed.	London: Medico-Political Committee.
29	Thur.	London: Organization Committee.
30	Fri.	London: Central Ethical Committee, 2 p.m.
		FEBRUARY.
18	Wed.	London: **Council.**

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 17TH, 1920.

CONTENTS.

PAGE

British Medical Association.

CURRENT NOTES:
- INSURANCE REMUNERATION: THE GOVERNMENT'S DECISION ... 13
- ACTION BY PANEL COMMITTEES AND INSURANCE PRACTITIONERS ... 13
- THE REPRESENTATIVE BODY ... 13
- INDIVIDUAL AID ... 13

ASSOCIATION NOTICES:
- ELECTION OF THE REPRESENTATIVE BODY, 1920–21 ... 13
- ELECTION OF COUNCIL, 1920–21 ... 14
- ANNUAL CONFERENCE OF SECRETARIES AT CAMBRIDGE ... 14

THE IRISH MEDICAL COMMITTEE ... 14

PAGE

INSURANCE REMUNERATION:
- TERMS OF SETTLEMENT: Letter from the Ministry of Health ... 15

INSURANCE CORRESPONDENCE:
- INSURANCE REMUNERATION ... 15
- A CALL TO ORDER ... 16

APPOINTMENTS ... 16

BIRTHS, MARRIAGES, AND DEATHS ... 16

DIARY FOR THE WEEK ... 16

DIARY OF THE ASSOCIATION ... 16

British Medical Association.

CURRENT NOTES.

Insurance Remuneration: the Government's Decision.

ON Wednesday, January 14th, the Minister of Health received the members of the Insurance Acts Committee and informed them of the Government's decision as to remuneration for insurance medical practitioners under the new terms and conditions of service. Dr. Addison stated that the Government, after full and close discussion, had agreed to an annual capitation fee of 11s., which, subject to certain conditions, should take effect from January 1st, 1920. He expressed the hope that insurance practitioners would accept this offer and give loyal service under the new Regulations. The Chairman of the Insurance Acts Committee reminded the Minister that the Panel Conference had resolved unanimously that 13s. 6d. was the lowest capitation fee that could properly be accepted for an effective service, and that the Committee had no power to accept any less fee. The Chairman stated that the Committee would advise their constituents not to accept the 11s. He added that the Committee had a discretion—in the event of a lower sum than 13s. 6d. being offered by the Government—to make a proposal for arbitration. This suggestion was carefully examined, and an agreement was eventually arrived at on this basis, which is set out in the letter from the Ministry printed in the SUPPLEMENT at p. 15.

Action by Panel Committees and Insurance Practitioners.

The Insurance Acts Committee wishes to impress on every Panel Committee and on every insurance practitioner the importance of combined and uniform action at the present juncture. Acting in accordance with the scheme approved by the Panel Conference, the Committee has advised every Panel Committee, and through them every insurance practitioner, what action it is proposed to take. Panel Committees are urged to do nothing which will prevent or confuse this combined action, and insurance practitioners are strongly recommended to await the advice of the Insurance Acts Committee before taking any action which may be advised by any other body.

The Representative Body.

All members of the Association should study the notices published at page 14 with regard to preparations for the Annual Representative Meeting, which will begin at Cambridge on the morning of Friday, June 25th. Representatives and their deputies must be elected by May 28th, and their names notified to the Medical Secretary by June 4th. The members of each constituency are free to decide for themselves whether these elections shall be carried out by general meeting or by postal vote. Notices of motion affecting either the constitution of the Association or its policy on large issues must reach the Medical Secretary by April 10th, so that they may be published in the JOURNAL not later than April 24th. By decision of the Council every Oversea Division and Division-Branch that has an honorary secretary and the necessary organization is now an independent constituency for electing to the Representative Body. During the Cambridge meeting the Annual Conference of Honorary Secretaries of Branches and Divisions will be held; honorary secretaries, like representatives, are paid their first-class travelling expenses within the United Kingdom.

Individual Aid.

The attention of the Naval and Military Committee of the Association was recently called to the case of a senior I.M.S. officer, who wrote to say that, far from getting more pay under the new adjustment known as the 33⅓ per cent. increase, he was actually being paid less than before. When the new scale came into force he had just reached the maximum of Rs.1500 per mensem possible under the old scale, and should have begun at once to draw Rs.1800 a month. It is difficult for anyone not conversant with the intricacies of calculating pay adopted by the Government of India to understand by what process of reasoning the authorities arrived at the conclusion that this officer, instead of drawing an increase of Rs.300 a month, was to take a few steps back and begin again at Rs.1340 a month. However, that was the decision arrived at and made known to him. In accordance with Mr. Montagu's promise that he would inquire into any cases of this kind that were brought to his notice, details were at once submitted by the British Medical Association to the India Office, and it is most satisfactory to note that the officer's pay has been readjusted and that he is getting exactly what he asked the Association to obtain for him. The officer, it may be added, has written a letter cordially thanking the Association for its successful efforts on his behalf.

Association Notices.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of provisional Home Constituencies for election of the Representative Body, 1920–21, was sent by the Council to all the Home Divisions and Branches in November. Copies can be had by members on application to the Medical Secretary.

As intimated to all the Oversea bodies, the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body require to be elected not later than

May 28th, and their names to be notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out by general meeting of the Constituency, or by postal vote.

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

The list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and ***Nomination Forms***, will appear in the SUPPLEMENT of January 24th.

The list of the Groups of Oversea Branches was published in the SUPPLEMENT of October 11th, 1919, p. 79.

ANNUAL CONFERENCE OF SECRETARIES AT CAMBRIDGE.

The Annual Conference of Honorary Secretaries of Divisions and Branches will be held in connexion with the Annual Representative Meeting at Cambridge. Particulars of the date and hour of the Conference will be announced later. Honorary Secretaries are reminded that, as in the case of Representatives, the first-class travelling expenses, within the United Kingdom, of the Honorary Secretary of a Division or Branch attending the Conference are payable from the central funds of the Association.

BRANCH FOR NYASALAND.

THE following change has been made in accordance with the articles and by-laws, and takes effect as from the date of publication of this notice:

> That a Nyasaland Branch of the Association be formed, coterminous with the Protectorate of Nyasaland.

Representation in Representative Body.—Under the arrangements made by the Council, the Branch will be entitled to independent representation in the Representative Body, 1920–21, to return one Representative.

BRANCH AND DIVISION MEETINGS TO BE HELD.

KENT BRANCH: TUNBRIDGE WELLS DIVISION.—Dr. A. F. Hurst, Physician to Guy's Hospital, will give a lecture to the Division, at the General Hospital, Tunbridge Wells, on Tuesday, January 20th, on new views on the pathology, diagnosis, and treatment of gastric and duodenal ulcer.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—Messrs. N. Bishop Harman (108, Harley Street, W.1) and C. Edward Wallis (13, Queen Anne Street, W.1), Honorary Secretaries, give notice that a debate will be held this day (Friday, January 16th), at 5 p.m., at the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, to discuss "The Future of the Medical Profession under a salaried, whole-time State Medical Service." The chair will be taken by Dr. C. O. Hawthorne, and the discussion will be opened by Professor Benjamin Moore, D.Sc., F.R.S. (of the State Medical Service Association), and Sir Wilmot Herringham, K.C.M.G., C.B., M.D.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—Dr. Arthur E. Larking, Honorary Secretary (17, The Woodlands, Chesham Bois), gives notice that a meeting of the Division will be held to-day (Friday, January 16th), at 3.30 p.m., at the Crown Hotel, Aylesbury. Tea will be provided. Agenda: Monthly Report of Medical Secretary. List of Members and Non-members. Resolution to be proposed: "That the New Ethical Rules be adopted for the area of the Bucks Division." Suggested scale of minimum fees. Discussion: "On the Present Outlook for the General Practitioner" (introduced by the Secretary).

IRISH MEDICAL COMMITTEE.

A MEETING of the Irish Medical Committee was held in the Royal College of Surgeons, Dublin, on January 6th, when Mr. R. J. JOHNSTONE, F.R.C.S., was in the chair. There were also present: Drs. Darling, P. J. Hamilton, M. R. J. Hayes, McCann, McGrath, McKenna, Conor Maguire, M. McQuaid, Meagher, Morris, W. W. Murphy, J. J. O'Connor, W. O'Sullivan, J. Power, B. C. Powell, J. V. Ryan, R. J. Rowlette, E. C. Thompson, H. T. Warnock, D. Walshe, and the secretaries. Apologies for absence were received from Drs. Costelloe, Doolin, Giusani, Henry, and W. J. O'Sullivan.

Irish Public Health Council.

The following letter was received from Dr. E. Coey Bigger, chairman of the Irish Public Health Council:

I beg to inform you that the Irish Public Health Council, at their meeting of December 9th, had under consideration the question of the reform of the medical service in Ireland, and decided to recommend to the Irish Government the establishment of an Irish Medical Service, appointed by competitive examination, with fixed scales of salaries, rights to pension, study leave, etc.

Consequent on this recommendation, the Council also considered the functions and duties to be entrusted to and performed by the medical officers belonging to the service, but before coming to any conclusion in the matter the Council thought it would be of considerable assistance to their deliberations to have the benefit of the advice and help of the representatives of the medical profession in Ireland. With this object they directed me to request that the Irish Medical Committee would be so good as to nominate a few representatives who would attend the next meeting of the Irish Public Health Council, which will be held at the above office on Wednesday, January 7th, 1920, at 12.15 p.m.

The Council are anxious to have the opinions of the representatives generally on the services to be provided by the members of the Irish Medical Service, and particularly with reference to what classes of the community would be entitled to medical and surgical attendance in connexion with the service. The Council very much regret that they are not in a position to recoup expenses to the representatives for their attendance at the meeting.

The letter was discussed at considerable length, and the following decisions were unanimously arrived at:

That the medical service proposed by the Irish Public Health Council should include all residents in the administrative areas whose individual incomes do not exceed £150 per annum; that the minimal salary for medical officers should be £650 per annum with progressive increments; their offices ordinarily be pensionable on the attainment of 60 years, and subject to compulsory retirement at 65.

The following members were appointed as a deputation to wait upon the Irish Public Health Council on January 7th: Drs. Darling, Day, Johnstone, Morris, Murphy, O'Connor, O'Sullivan, Power, Thompson, and Warnock. The members of the deputation were also appointed to form a standing subcommittee to look after the interests generally of the medical profession with regard to the legislative proposals put forward by the Irish Public Health Council, and to report when necessary to the Irish Medical Committee.

A warm vote of thanks was passed to Dr. Rowlette for his services in the Irish Public Health Council.

Medical Treatment for Discharged Disabled Men.

In connexion with the scheme for the medical treatment of discharged disabled soldiers the following resolution was unanimously passed, and directed to be forwarded to the Irish Insurance Commission:

> That the scheme in existence for the medical attendance on discharged disabled soldiers and sailors has proved unsatisfactory both as to the inadequacy of the remuneration and to its method of distribution.

Medical Certification under the Insurance Act.

A letter, stating that the question of increased remuneration for medical certifiers would engage their early attention, was read from the Insurance Commissioners in reply to a communication on behalf of the Irish Medical Committee drawing attention to the inadequacy of the remuneration for certification and the urgent necessity for increasing its amount. The resolution recently passed by the co. Wexford Local Medical Committee was, on the motion of Dr. W. W. MURPHY, unanimously adopted:

> That the remuneration for certification under the Insurance Act is insufficient, and should be increased by the sum which is returned unexpended each year to the Treasury out of the Equivalent Grant. That as Ireland has to pay one year with another her full quota towards the administrative expenditure of the Act in England, Scotland, and Wales, we consider it grossly unfair that the Irish medical profession should be deprived of their money.

Medical Attendance on the Royal Irish Constabulary.

A letter addressed to the Medical Secretary, with regard to the position of medical officers of the police, was read from the Deputy Inspector-General, who stated that the question of medical attendance on the Royal Irish Constabulary was at present before the Treasury, and that an early decision in the matter was expected. The letter also stated that the Inspector-General could find no ground for the suggestion that medical attendants were removed from the service without any specific reasons being assigned. The invariable rule was to send to the medical attendant concerned copies of any complaints made by the members of the force against him, and to ask for his observations on the subject. If the occasion so required, an inquiry was held by a superior officer of the Royal Irish Constabulary and no action was ever taken in such a case without consultation with the surgeon of the force.

Some members of the Irish Medical Committee, who are police medical attendants, stated that they were not aware that the procedure outlined by the Inspector-General was usually followed.

Payments for Attendance on Post Office Employees.

A letter was read from Dr. W. J. O'Sullivan stating that the medical practitioners in the Limerick area refused the capitation fee for medical treatment of post office employees, and were now working a scheme under which they received 10s. a visit, exclusive of medicines. This arrangement was considered by the Irish Medical Committee quite satisfactory, and some members expressed a view that if such arrangements did not exist elsewhere, it was entirely due to the failure of the profession to organize on lines similar to those adopted in Limerick.

INSURANCE REMUNERATION.

TERMS OF SETTLEMENT.

THE following letter, embodying the terms of the settlement arrived at late on the evening of Wednesday, January 14th, has been addressed by the Ministry of Health to the Secretary of the Insurance Acts Committee:

Ministry of Health,
14th January, 1920.

SIR,—I am directed by the Minister of Health to refer to the correspondence and interviews which have taken place with your Committee on the subject of the remuneration of insurance practitioners, and to the deputation received to-day. The results were as follows:

The Minister stated that the representations which had been put forward had received the fullest consideration by the Government, and that the Government were prepared to seek the authority of Parliament for the supplementation of insurance funds by an Exchequer grant to the extent necessary to provide for the calculation of the Central Practitioners' Fund on the basis of an increased yearly capitation fee of eleven shillings (11s.), together with a Mileage Fund of £300,000 per annum for distribution amongst practitioners engaged in practice in rural areas in England and Wales.

The Insurance Acts Committee stated that, as the Conference of Panel Committees had resolved on a capitation fee of 13s. 6d., they would feel bound to recommend their constituents not to accept the 11s. capitation fee, and requested that the amount of the fee should be referred to arbitration. This was fully discussed, and after an adjournment the Minister announced that the Government acceded to this request, it being agreed that the award should be binding on both sides; that the Government would accordingly recommend Parliament to give effect to it when made; and that the Insurance Acts Committee and the Panel Committees would do all in their power to secure from the practitioners throughout the country a full and efficient service, with goodwill, under this settlement as a whole, including the terms of the award.

The reference to the arbitrators will be, in substance, to advise the Government as to what capitation rate will afford to insurance practitioners fair remuneration for the time and services required to be given in connexion with the attendance and treatment of insured persons under the conditions of the proposed Medical Benefit Regulations, 1920, as published in December last. It is understood on both sides that the investigation by the arbitrators is to be kept within the limits above stated, and it is hoped that it may be completed within four weeks. Any revision of the capitation payment, made as a result of the arbitrators' award, will operate, in every Insurance Committee area in which an adequate and satisfactory medical service is forthcoming, as from April 1st, 1920 (that being the date on which the new terms and conditions of service generally come into operation).

The request which had been previously made by the Insurance Acts Committee that the increased capitation rate asked for should operate (subject to certain understandings) as from January 1st, 1920, was specially considered in the light of the new position created by the reference to arbitration. The Government agreed that the Central Practitioners' Fund should be calculated from January 1st, 1920 (until the award of the arbitrators comes into operation) on the basis of the capitation fee of 11s., subject to the understanding (agreed by your Committee) that the whole of the new financial arrangements embodied in the 1920 Regulations shall come into operation, except as regards payment for invalided sailors and soldiers, from that date, and subject to the further understanding that the Panel Committees will co-operate effectively in such action as is necessary to enable the new Regulations to come into full operation on April 1st, 1920. This entails in particular that the schemes under Articles 15 and 21 of the Regulations should be determined in time to be embodied in the formal notice to the individual practitioners, which notice must be sent out by Insurance Committees at latest by February 3rd. As regards invalided sailors and soldiers, it is agreed, as most convenient to all concerned, that the present arrangement for payment on an attendance basis should be continued until March 31st, 1920, the accounts for that period constituting, of course, a first charge on the Central Practitioners' Fund, since this Fund will include the necessary funds to cover the estimated cost of treatment of these men. Insurance and Panel Committees are being advised accordingly.

In view of the general conditions under which it has been necessary for the Government to take the present decision with regard to the question of insurance practitioners' remuneration, and of the possibility of future legislation, whether as affecting health insurance contributions or otherwise, it is considered desirable that the arrangements above set out should not be entered upon for a defined term of years, the Government undertaking not to make any alteration except after consultation with the representatives of insurance practitioners and after an adequate period of notice.

I am, Sir, your obedient Servant,
R. W. HARRIS.

CORRESPONDENCE.

Insurance Remuneration.

SIR,—The Minister of Health recently stated (as reported in the SUPPLEMENT of December 13th, 1919) that "the new fee to be fixed must be one which would give a good average general practitioner, fairly doing his duty, what he himself would feel would pay him properly for treatment."

In settling the fee for treatment there are two factors: First, the average amount of work done; and secondly, the increase due to the extra cost of living.

In 1917 an interesting pamphlet was written by Mr. W. M. Marshall, Clerk to the County of Lanark Insurance Committee and Secretary to the Scottish Association of Insurance Committees; it was entitled "Medical Benefit in Scotland."[1] In an appendix he gives details as to the services rendered during the year 1916 by certain doctors in Lanarkshire, three of the practices being rural, two rural and industrial, and ten industrial.

Taking the averages of all those practices, there were 2.01 visits and 2.42 consultations per person on the panel lists for the year. The Ministry of Health allow 2s. 6d. per visit and 2s. for each consultation in the case of temporary residents and invalided soldiers.

If we take this scale for our estimate of the payment due it will be found that 2.01 visits amount to 5.25s., and

[1] Reviewed in BRITISH MEDICAL JOURNAL, December 15th, 1917.

2.42 consultations amount to 4.84s., the total amounting to 10.09s., or 10s. 1d., approximately, for which we are at present paid the sum of 7s.

If we add 50 per cent. on to this amount for the increased cost of living, the new fee should be 15s. 1½d., or if the lower rate of only 33⅓ per cent. is taken, the new fee would be 13s. 5d. (neglecting fractions), which is very nearly the same as the sum for which the British Medical Association are asking (13s. 6d.), and which shows the moderation of their demands.—I am, etc.,

Builth Wells, Jan. 10th. W. BLACK JONES.

A Call to Order.

SIR,—Judging by the subjective symptoms of Dr. Pereira Gray's jaundiced letter, I would suggest to him that his disease is not decline and death of his body politic, but that it is his liver which is out of order, and that the remedy is a blue pill of knowledge coated with accuracy, and followed by a deep draught of the saline, common sense. After a vigorous course of this treatment I am quite sure he will see and think clearly, and never again say that Alexander Selkirk was an Englishman.

Unfortunately Dr. Pereira Gray is not the only member of the profession who suffers from this malady. Judging by the number and character of the letters appearing in the SUPPLEMENT, there seems to be an epidemic at present characterized chiefly by an inability to see the subject under discussion from any standpoint but the writer's own.

> O wad some pow'r the giftie gie us
> To see oursels as others see us!
> It wad frae monie a blunder free us,
> And foolish notion.

is as pregnant with truth to-day as when it was written, and I do wish my professional brethren would wake up to the fact that there are other people in the world as well as medical men, and then surely they would not talk and write "through their hats" as they do now. We are not "monarchs of all we survey." The man in the street does exist, and he is by no means a blithering idiot.

A prominent public man who is in no way unfriendly to the profession said to me recently, "Well, I hope your profession will do as well out of this deal as they did out of the last one." You cannot bluff a man when he sees your cards, so "let us cut the cackle and come to the hosses."

Whatever we do, however, do not let us think we can help our cause by slinging mud at each other, especially at those placed in positions by ourselves to conduct our business for us. I do not agree with everything the Insurance Acts Committee have done, and will probably disagree with them again, but I recognize they have been chosen by us constitutionally, and I think it is the greatest folly as well as the basest ingratitude to write as some men do imputing motives and making innuendoes. For heaven's sake! if they have not the confidence of the majority fling them out neck and crop; but personally I am quite sure, however I may disagree with them, that our leaders are actuated by one motive only—that is, the greatest good of the greatest number of their professional brethren.

"'Tis not in mortals to command success," but Dr. Brackenbury, the Insurance Acts Committee, and our officials, have done better, they have deserved it; and they have placed us all, including the grousers, under a deep debt of gratitude, which I hope in due season—But that is another matter.—I am, etc.,

Auchencairn, Jan. 5th. J. CROMIE.

APPOINTMENTS.

BRASH, J. W., M.R.C.S., L.R.C.P., Medical Officer Children's Home, Parish of Paddington.

HOLDEN, Oscar, M.D., D.P.H., Medical Officer of Health of the County Borough of Dewsbury.

LEETE, Mason, M.B., B.S.Durh., Assistant Medical Officer of Health, Borough of Birkenhead.

SMITH, W. A., M.B., C.M.Aberd., Certifying Factory Surgeon for the Darwen District.

TURNER, R. T., M.D., D.P.H.Vict. Manch., Certifying Factory Surgeon for Nantwich, co. Cheshire.

WATSON, C. Riley, M.B., Ch.B.Leeds, Medical Officer for the Bubwith District of the Howden Union.

WRIGHT, P. P., M.D., Assistant Medical Officer, West Derby Union Infirmary.

DISTRICT MEDICAL OFFICERS: H. C. Billings, M.R.C.S., L.R.C.P. (Dorking Union); N. Daly, M.R.C.S., L.R.C.P. (Basingstoke Union); C. E. Droop, M.B. (East Retford Union).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

ANDERSON.—At 39, Chalmers Street, Edinburgh, on January 5th, the wife of Surgeon Lieutenant G. A. Melville Anderson, M.B., Royal Navy, a daughter.

BRUNTON.—On January 12th, at Purey Cust Nursing Home, York, to Lucy M. Brunton M.B., the wife of G. L. Brunton, M.D., a son.

SHARRARD.—At Elmhurst, The Avenue, Lincoln, on December 26th, to Dr. W. and Mrs. Sharrard (*née* Winifred H. Wells), M.B., M.R.C.S., D.P.H., a daughter.

SUDLOW.—On January 12th, at Penton House, Stoke-on-Trent, the wife of George Wray Sudlow, of a son (Gordon Wray).

DEATH.

NISBET.—At St. Ishmaels, Newton Abbot, S. Devon, Dr. A. T. Nisbet.

DIARY FOR THE WEEK.

HARVEIAN SOCIETY, 11, Chandos Street, W., Thursday, 8.15 p.m.—Annual Meeting.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tuesday, 4.0 p.m., Cases.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., Monday, Wednesday, and Friday, 5 p.m.—Professor Arthur Keith, F.R.S.: John Hunter's Observations and Discoveries in Anatomy and Surgery.

ROYAL SOCIETY OF MEDICINE.—*Occasional Lecture:* Wednesday, 5 p.m., Surgeon Commander K. Digby Bell, R.N.: The Medical Profession and National Physical Education. *Section of Therapeutics and Pharmacology:* Tuesday, 4.30 p.m., Discussion: "On the Therapeutic Uses of Oxygen," to be opened by Mr. J. Barcroft, C.B.E., F.R.S. Colonel Cummins, C.B., C.M.G., Dr. C. G. Douglas, Dr. J. S. Haldane, F.R.S., Dr. P. Hamill, Dr. G. H. Hunt, Dr. R. H. Peters, Dr. Ryle, Dr. F. Shufflebotham, and Dr. G. H. Sowry will speak. *Section of Pathology:* Tuesday, 8.30 p.m., Imperial Cancer Research Laboratories, 8, Queen Square, W.C.1, Mr. W. H. Woglom: Industrial and Experimental Pitch Warts; Mr. A. H. Drew: Oxidation Process in Normal Tissues and Cancer; Mr. W. E. Gye and Dr. B. R. G. Russell: Conditions of Survival of Tumour Cells in *in vitro;* Dr. W. Cramer: Action of Uranium Salts on Tumour Cells; Dr. J. A. Murray: Return-autologous Grafting of Tumours after Transplantation in Normal Animals. *Section of Study of Disease in Children:* Friday, 4.40 p.m., Cases. *Section of Epidemiology and State Medicine:* Friday, 8.30 p.m., Dr. F. G. Crookshank: Principles of Epidemiology; Dr. Cleland and Dr. Campbell: Epidemiology of Acute Encephalo-myelitis. Dinner will be provided at the Welbeck Palace Hotel at 7 p.m. (price 7s. 6d.). Those intending to dine are asked to inform Dr. Major Greenwood, Lister Institute, Chelsea, S.W.1, not later than Wednesday, January 21st.

SOCIETY OF MEDICAL OFFICERS OF HEALTH, 1, Upper Montague Street, W.C., Friday, 5 p.m.—Dr. John Robertson, C.M.G., O.B.E.: Slums and their Regeneration.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Tuesday and Thursday, noon, Dr. S. A. Kinnier-Wilson: Cerebral Localization.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. A. Ramsbottom: Chorea.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Friday, 2.30 p.m., Professor Rutherford Morison: Abdominal Emergencies; 3.15 p.m., Professor T. Beattie: Early Diagnosis of Pulmonary Tuberculosis; 4.30 p.m., Professor R. A. Bolam: Venereal Diseases.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: Demonstrations of *x*-ray Apparatus. Tuesday and Friday, 4.0 p.m., Dr. Hay: Examination of Eye. Wednesday, 3.30 p.m., Dr. Wilkinson: Common Forms of Sore Throat. Thursday, 3.30 p.m., Dr. Skinner: General Considerations in Dermatology.

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		JANUARY.
16	Fri.	North of England Branch, Royal Victoria Infirmary, Newcastle-upon-Tyne. Demonstrations: 2.30 p.m., Occupational Phthisis. 3.0 p.m., Trigeminal Neuralgia. 3.30 p.m., Difficult Labour. 4.15 p.m., Ophthalmic Cases. 4.45 p.m., Carcinoma of the Colon.
		Buckinghamshire Division, Crown Hotel, Aylesbury, 3.30 p.m.
		Marylebone Division, Rooms of Medical Society of London, 11, Chandos Street. Discussion on the Future of the Medical Profession under a Salaried, Whole-time, State Medical Service, 5 p.m.
20	Tues.	London: Scrutiny Subcommittee, 2.30 p.m.
		Tunbridge Wells Division, Tunbridge Wells General Hospital. Lecture by Dr. A. F. Hurst: New Views on the Pathology, Diagnosis, and Treatment of Gastric Duodenal Ulcer.
21	Wed.	London: Hospitals Committee, 3 p.m.
22	Thur.	London: Naval and Military Committee, 2.30 p.m.
23	Fri.	London: Ministry of Health Committee, 2.30 p.m.
27	Tues.	London: Public Health Committee.
28	Wed.	London: Medico-Political Committee.
29	Thur.	London: Organization Committee.
30	Fri.	London: Central Ethical Committee, 2 p.m.
		FEBRUARY.
18	Wed.	London: **Council.**

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 24TH, 1920.

CONTENTS.

	PAGE
INSURANCE REMUNERATION:	
The Government's Offer	17
Reply by the Insurance Acts Committee	18
The Proposal for Arbitration	19
THE SETTLEMENT	19
Statement by the Ministry of Health	20
NEW INSURANCE CONTRIBUTIONS AND BENEFITS	20
CORRESPONDENCE	20
CURRENT NOTES:	
Appointments on Pensions Boards	23
The Representative Body	23
ASSOCIATION NOTICES:	
Meeting of Council	21
Election of Representative Body and Council	21
List of Home Constituencies for Election of Representative Body	21
List of Home Branches for Election of Members of Council	22
Form for Nomination	22
NAVAL AND MILITARY APPOINTMENTS	23
BIRTHS, MARRIAGES, AND DEATHS	24
ASSOCIATION INTELLIGENCE AND DIARY	24
DIARY OF SOCIETIES AND LECTURES	24

INSURANCE REMUNERATION.

THE following is the authorized report of the conference on January 14th, 1920, between the Minister of Health and the Insurance Acts Committee, on medical remuneration. We have introduced cross headings.

Dr. ADDISON, in opening the proceedings, stated that since the last occasion on which this matter had been discussed with representatives of the Insurance Acts Committee the case put forward on behalf of the insurance practitioners for a capitation fee of 13s. 6d. had received the most careful consideration by himself and his colleagues in the Government. He regretted that there had been unavoidable delay in arriving at a decision. This was due to the fact that other matters of pressing national importance had been engaging the attention of the Government, and wider proposals and possible developments relating to Poor Law and other kindred issues had inevitably complicated the issue. Further, the Government were pledged to large expenditure of public money on old age pensions, unemployment insurance, and increased cash benefits, which made it necessary to review the case submitted by the profession in the light of other national commitments. He felt, however, in view of pledges given to the medical profession during the war, that a decision on the narrower issue of remuneration could no longer be delayed.

THE GOVERNMENT'S OFFER.

Any settlement on this question must necessarily take into account separate items, which had hitherto formed part of the insurance practitioners' remuneration, but which must in future be consolidated in the revised capitation fee. He referred in particular to the "floating sixpence" and payments in respect of invalided soldiers. These would in future be absorbed in the new basis of payment, and, as the deputation were aware, under the new system of calculating the central pool in advance, the amount for each area would be definitely known and paid quarterly to the medical men in the area in accordance with the local scheme of distribution. In considering the case for increased remuneration, it was obvious to him that medical men had suffered, with other classes of the community, from the general rise in the cost of living, and had also incurred increased practice expenses; but the argument which had been put forward in favour of increased remuneration on account of increased work, had not, in his view, been so fully substantiated. He referred in this connexion to the Manchester figures quoted by the Committee at his previous interview with them, and emphasized the importance, both from the point of view of the Government and of the profession, of securing that insured persons received treatment of the same quality as that which a doctor would give to his private patients. It had to be stated quite frankly that a feeling existed in the mind of the public that this was not, at present, the case in many districts. Impressions of this kind, although based on a limited number of cases which came unduly into prominence, certainly increased the difficulties of the examination of the case for increased remuneration. He hoped to see a great improvement in this respect as a result of the new Regulations, and he anticipated that the system of referee-consultants which it was proposed to establish, would meet the long-expressed wishes of the profession, and generally prove of value in improving the standard of insurance practice.

Dealing with the question of the actual amount of remuneration, Dr. Addison said that the Government had provided no less a sum than £300,000 as a mileage fund for England and Wales as against a pre-war figure of £34,000, and said that this would be an immense help in meeting the difficulties of the rural practitioners. This mileage fund, together with the payments for drugs and appliances supplied by practitioners, would stand outside and be additional to the new capitation fee.

The case for 13s. 6d. had been most carefully examined, and he regretted to say that the Government were not convinced of the necessity for such a large increase. The pre-war payment of 7s. 3d., including the floating sixpence, had been increased by war bonus to 8s. 9d., and it had been urged upon him from many quarters that the new capitation fee should not exceed 10s. The Government, however, had decided that this was not sufficient, and came to the conclusion that a fair figure would be 11s. When this arrangement came into operation, the total cost of medical benefit in Great Britain would be £10,000,000, some £2,000,000 of which was represented by the increased payments to doctors now being agreed to by the Government over and above what had been given by way of war bonus. The Government felt that a capitation fee of 11s. would give a fair remuneration to a practitioner using his best efforts in carrying out the obligations laid upon him under the new Regulations, and they sanctioned this amount only on the distinct understanding that the services to insured persons were to be materially improved and that there would be the fullest co-operation of the profession in securing a high standard of service.

It had been necessary, in dealing with this matter, to take into account the large expenditure on other public health services, and it was impossible to avoid the fact that public opinion might demand that every possible avenue should be explored with a view to determining whether the best possible results were being obtained in return for the heavy expenditure which would be incurred. The sum of 10 million pounds was an enormous item, and he therefore appealed to the profession to justify the cost by improved working of the medical services of the country.

The increased capitation payment would be available in every Insurance Committee area where an adequate and satisfactory service was forthcoming, and would date from January 1st, 1920, on the understanding, of course, that the new financial arrangements operated as a whole from that date. These would embrace the new basis of constitution of the central pool, the new basis of distribution, the disappearance of the floating sixpence, and all liability for treatment of temporary residents and invalided soldiers, in respect of which different methods of payment operated at present.

The Government did not feel able to acquiesce in the Committee's request that the new arrangement should be for a particular term of years, but were prepared to agree that no alteration would be made at any time except after consultation with the insurance practitioners and after an adequate period of notice. The new proposals would require legislation, which the Government would submit to Parliament in due course.

In conclusion, Dr. Addison said: "I have tried to put the case fairly before you. I appeal to you to use your good efforts to assist us in this matter; the Government has not seen its way to grant your full demands, and I do not expect as practical men you expected that it would. I do not wish to conceal the fact that it is only after the most prolonged and difficult consideration of this proposal that the decision has been arrived at, that the Government feel that it has dealt with the case not on any narrow arithmetical issue, but broadly and generously, because it feels that it is above all things necessary to secure, if we can, your friendly goodwill and co-operation in promoting improved developments not only in insurance services but in other directions, and from that point of view it is, in my opinion, one of the most justifiable items of public expenditure. I am sure that no comprehensive and steady policy for securing an improvement in our medical services can be carried through without the goodwill and assistance of fair-minded representatives of the medical profession, and I feel sure that you will realize that I have put the case frankly before you without any attempt to disguise the facts as they are, but at the same time in a whole-hearted endeavour to secure the development of improved medical services in this and in other respects, and to obtain your goodwill and help in furthering them. It is with those purposes and in that spirit that the Government has decided to put this proposal before Parliament in due course.

"It was necessary, of course, as a part of our undertaking that I should communicate it to you as soon as possible. I am very sorry it was not possible to do so earlier. I can assure you that it was due to no lack of energy on my part, but it was due partly to the great anxieties which had had to be attended to in all parts of the world, and which have necessarily engaged the attention of heads of many of the Government departments, and it was also due to the complexity of the case itself, and due finally to the prolonged and careful consideration which it received."

THE COMMITTEE'S REPLY.

Dr. BRACKENBURY said that Dr. Addison would appreciate that, before giving any sort of answer to the offer he had put before the deputation on behalf of the Government, consultation would be necessary; that would be done as quickly as possible. Meanwhile, he proposed to offer a few general observations arising out of the remarks of the Minister, without committing himself or his colleagues on the particular offer made. In the first place, he wished to express the thanks of himself and his colleagues for the extreme care and attention the Minister had given to the case which had been put before him in what must have been at times extremely anxious negotiations with his colleagues and others, and for the Minister's personal attitude towards this matter, and the way in which he had considered it and presented it. The deputation also appreciated fully the two difficulties which had been put before them: first of all, the economic situation and the other large commitments which the Government had to satisfy. At the same time, that did not appeal very much to the deputation as an argument against the granting of the demand which had been made; because although these commitments were great they were very largely in consequence of other classes of the community, other trades and occupations, having asked for increases in their remuneration; and it did not seem to be a satisfactory state of things that the Government had committed itself to that additional expenditure on account of the demands made by other classes of the community, and that that should present a difficulty in granting the demand which insurance practitioners in their turn had belatedly made. They also appreciated the difficulty the Minister had had with his colleagues about what might be called the prejudices in the minds of laymen as to the inefficiency of the existing service. It was because the deputation recognized that there were some doctors in many places, and perhaps a good many doctors in a few places, who had not lived up to what the deputation would desire them to regard as their professional reputation in connexion with this service, that the profession wanted to improve the service and get it on a right basis so that there should be no excuse for anybody to do work of any other than the highest type. The existence of that prejudice was recognized and that there was a certain basis for that prejudice. As the Minister had said, it loomed much larger than it ought to do because those deficiencies had been revealed to the public eye, while the good work done by the great bulk of the profession had not come to the public view at all.

Dr. Brackenbury thought the Minister and his colleagues had entirely misunderstood the inferences that the deputation drew from the Manchester figures. He did not wish to enter upon a controversy about those figures, but it seemed to him that what was brought out more obviously in the Manchester figures than any others was that when the remuneration was paid over at the end of the first year or the second year, it was brought home to the individual doctor, not consciously, but unconsciously, that he was not being adequately remunerated for the services which, in fact, he gave. It might have been in that first year, owing to the payment by attendance, that a few doctors in Manchester paid unnecessary visits and gave unnecessary attention at the very beginning, because they thought by so doing they would get a greater amount of payment out of the pool. But apart from that, and assuming all the men gave thoroughly good work through that first year, they discovered at the end that their remuneration was not adequate therefor; and in consequence, not by any collective arrangement but by the semi-conscious effect of that remuneration upon their minds, they minimized their services, they gave what they conceived to be safe and adequate but not superabundant services. Also they felt justified in using whatever means of treatment there were available for the community in Manchester and Salford in order that they themselves might not have to give services which were not properly paid for. In this way the medical man of Manchester did to some extent adjust the services which he rendered to the insured population to the amount of remuneration he received, in exactly the same way as he might quite legitimately do in his private practice.

Appreciating the Minister's difficulties, the object of the deputation was to get the service on the proper administrative and professional level. It was because of that that the request for 13s. 6d. was made. They wanted the general practitioner service improved in some form or another. Whether under the National Insurance scheme or in any other, the most important medical service must be the general practitioner service, for it was the foundation of all. Because it was so strongly felt that that service must be put in its proper administrative and professional place as the foundation of all the services of the Ministry of Health they believed they were justified in asking for the remuneration which was asked for, because, as the Minister himself had agreed, good service must be adequately paid for. That proposition might, with equal truth, be reversed. In order to get good service it was necessary to offer adequate payment, and that aspect of it should be well considered. It was agreed that some of the service which had been given in the existing state of affairs had not been adequate and would not in some individual cases, perhaps, justify the remuneration now asked for. But they did not want to offer any excuse for the perpetuation of that kind of thing. Unless remuneration on a scale such as that asked for was offered it would be difficult to say to every doctor, "You have no excuse whatever for giving anything else than your very best and most abundant energy and skill, because the remuneration is enough to justify that being asked for." If the remuneration were inadequate they could only expect a continuation of a service upon the present lines with a good many doctors doing less than their best, because they felt that their very best was not being paid for by the State. The profession was tremendously anxious to avoid that state of things. If that went on, the existing system would be damned, and there was the danger that a worse kind of system than this could be at its best might be substituted for it. There should be no excuse for the panel system offering less than the very best the whole body of general practitioners could offer. In order to attain that very best, one of the prime necessary conditions was that remuneration ought to be adequate so that all possible pressure could be brought to bear upon the profession for them to give the best that they had it in them to give.

On the purely economic side he must emphasize that the request for 13s. 6d. was not made as an offer which they expected to have to compromise upon. It was made, after the fullest consideration, as what was believed to be a reasonable minimum offer; they believed, rightly or wrongly, that they could justify it—that the 13s. 6d. was a sum which would stand cross-examination, and that it was the least for which the type of service could be offered which ought to be required. Since the request was made economic matters had not improved, and medical men had begun to realize in a way that many had not previously done,

what the real economic situation was. During the last two months they had had opportunities of thinking more in the new values of money than ever before, because although they had recognized that there was an altered value, they had scarcely got out of the habit of thinking in the old values of money. Not only had the economic condition worsened since the request was made, but experience had emphasized the moderation of the request.

Dr. Brackenbury concluded by again thanking the Minister for the consideration which he had given to the case, and asked that the deputation might consult together before announcing its attitude.

The MINISTER agreed to this course, but he thought it right to say that he was not authorized by theGovernment to enter into a course of bargaining. The figure of 11s. was that which the Government had decided should be submitted to Parliament.

THE PROPOSAL FOR ARBITRATION.

On resumption of the Conference after an interval, Dr. BRACKENBURY explained what the position and actual powers of the deputation were in regard to the offer which had been made. They had no power whatever to accept any offer of less than 13s. 6d.; there was, however, a discretion given by the Conference in case of an offer of less than 13s. 6d. to make the suggestion that the whole question should be submitted to a suitable board of arbitration. They had been considering whether that discretion should be exercised, and had decided that it should. They were quite unable to accept the 11s., would advise their constituents not to accept it, and would like to know whether arbitration could be accepted by the Minister on behalf of the Government.

Dr. ADDISON replied that this suggestion would need consideration, and it would be necessary for him to consult his colleagues before any reply could be given, but the first point which occurred to him was, What would be the question to be submitted to arbitration? Was their position that the question of payment should be inquired into, or would the inquiry include investigation into the character of the service?

Dr. BRACKENBURY said the inquiry would assume that the new Regulations would be enforced and properly worked, and that the inquiry would be limited to the question of what would be the proper remuneration of the medical practitioner, given the type of service indicated in the Regulations.

Dr. ADDISON said such an inquiry should not be on a hypothetical basis, nor should it assume a state of affairs other than that which existed at present. The inquiry would open up the questions of what were the deficiencies of the service, how they had arisen, and to what extent they would be removed by the new Regulations, or whether any other system would give a better result.

Dr. BRACKENBURY said they could not agree to arbitration on any such wide issues as those. He added that it was essential that the arbitration should be concluded quickly. On being reminded that the award might be for a smaller figure than 11s., he replied that he felt sure that he could take the responsibility of saying that their constituents would abide by the award if they could have a corresponding guarantee on the part of the Government, should the figure in the award be higher.

Dr. ADDISON said that, if arbitration were agreed to, the Ministry would of course abide by the award, but the sanction of Parliament was needed, and no pledge could be given beyond his promise to recommend Parliament to carry out the award. He personally had no objection to an inquiry, but he did not at present see how it could be confined to the narrow issue.

Dr. BRACKENBURY said that in that case, as the Committee had no power to accept any figure lower than 13s. 6d., and if arbitration on the narrow issue was really impracticable, they must report the situation to their constituents, and as they were fully convinced of the moderation and propriety of their demands, they had unanimously decided to use their influence to get the insurance practitioners throughout the country not to accept the offer of 11s.

Dr. ADDISON said that the position as he understood it was that the Committee desired arbitration on the narrow issue of the proper amount of the capitation payment, and could not accept at this stage an inquiry into the larger questions. He would put this proposition to the Chancellor of the Exchequer. The Conference would be resumed in the evening, to allow time for both sides to consider the matter in all its bearings.

ARBITRATION ACCEPTED.

On the discussion being resumed, Dr. ADDISON stated that he had conferred with the Chancellor of the Exchequer, who shared his opinion that it would be difficult to limit the arbitration to the narrow issue proposed; but in order that no opportunity of a friendly adjustment should be lost, he had expressed the view, with which the Chancellor concurred after much hesitation, that the Government should agree to refer the matter to arbitration on the lines requested by the Insurance Acts Committee. The Chancellor, however, wished it to be conveyed to the deputation that this proposal was only sanctioned with considerable misgivings, and that the Government might feel bound to consider subsequently whether, in view of the large sums of public money required, it could not be expended to greater advantage in some other way. It would be part of the understanding that, if arbitration took place, the Insurance Acts Committee would use their good offices to secure an efficient service in the interim at the rate of 11s., the Government undertaking to use their best endeavours to secure the consent of Parliament to the adoption of the arbitrators' award. It must also be agreed that, as the arbitration was on the narrow issue, if it should appear to the Government as a result of the award of the arbitrators on the question of remuneration that a wider inquiry became subsequently necessary into the medical services of the community, insured or otherwise, the loyal co-operation of the medical profession could be relied upon for the purpose of such further inquiry.

Dr. BRACKENBURY replied that as regards the wider inquiry they did not consider that the time was suitable, so soon after the war, which had necessarily interfered seriously with all medical services at home, for an investigation into the adequacy of the existing services, nor could they approve of such an inquiry being entrusted to the body which they would regard as suitable for the purpose of arbitration on the narrow question of the amount of the remuneration.

After further discussion an agreed statement was drawn up, and was afterwards embodied in the official reply on the whole matter sent the same day to the Insurance Acts Committee and printed in last week's SUPPLEMENT and issued to all Panel Committees.

A preliminary discussion followed with regard to the constitution of the Arbitration Board, and the Conference then concluded.

THE SETTLEMENT.

The details as to the arbitrators and the precise terms of reference have yet to be arranged, but the information will be published as soon as possible. The arrangements made for carrying on the work, pending the result of the arbitration, devolve certain duties on the Panel Committees. The request of the Insurance Acts Committee that the remuneration accepted by the profession, whatever it might be, should date back to January 1st, has been met by the Government agreeing to pay 11s. between January 1st and March 31st, 1920. The fee as settled by arbitration will come into operation on April 1st, 1920, or, should the results of the arbitration not be known by April 1st, the new fee will be retrospective to April 1st.

The payment of the 11s. during the interval before the new Regulations come into force involves also the acceptance of the other new financial arrangements, including the new method of setting up the Central Pool, the new method of distribution of the Central Pool, and the inclusion in the Local Pool of the money for discharged disabled sailors and soldiers and temporary residents. But it has been decided that during the quarter January 1st to March 31st accounts on an attendance basis shall continue to be rendered and paid for as a first charge on the Central Practitioners Funds so far as concerns the disabled service men only.

The Model Schemes.

The Insurance Acts Committee has undertaken to urge Panel Committees to co-operate with the Insurance Committees in order that the two model schemes—allocation and distribution—may be sent up as soon as possible to the Ministry, so that they may be finally printed and distributed locally to the individual practitioners by January 31st. The decision of the Panel Conference to accept arbitration, and necessarily, therefore, to accept whatever fee may be awarded by the arbitrators, relieves Panel Committees from the difficulty they have hitherto

had of dealing with these schemes until they knew the money that was to be given.

The latest date by which notice of the conditions of service (including the schemes) must be sent to the individual practitioners is February 3rd, and the individual practitioner will have until February 17th to make up his mind whether he will go off the panel.

Mileage and Drugs.

In considering the remuneration which will be in operation both this quarter and after the result of the arbitration is known, insurance practitioners should bear in mind the concessions that have been made as regards mileage and the payment for drugs. The amount of the mileage grant *for England and Wales*, which is altogether apart from the capitation fee, is £300,000 as compared with the pre-war grant of £34,000. The mileage grant for Scotland is not yet known, but there is no reason to suppose that the claims of rural practitioners in Scotland will be treated less fairly than those in England and Wales.

The additional capitation fee to insurance practitioners who supply drugs and appliances will be uniform throughout the country—namely, 2s. per annum—and practitioners will not have to supply the more expensive drugs and appliances specified in a list as to which the Insurance Acts Committee was consulted.

The Regulations.

The foregoing information, together with an analysis of the present position of the Regulations as affected by the decisions of the Panel Conference, has been sent by the Medical Secretary to the honorary secretaries and chairmen of Local Medical and Panel Committees in Great Britain, and to the honorary secretaries of Divisions and Branches of the British Medical Association.

Scotland.

The provisional settlement reached on January 14th between the Minister of Health and the Insurance Acts Committee does not apply to Scotland, Dr. Addison being unable to speak for the Scottish Board of Health. The Committee, however, relies on Scottish practitioners to insist that the remuneration accepted in Scotland is not less than that settled by arbitration. In the meanwhile the Scottish Subcommittee of the Insurance Acts Committee is in negotiation with the Scottish Board of Health.

STATEMENT BY THE MINISTRY OF HEALTH.

The letter from the Ministry of Health to the Secretary of the Insurance Acts Committee, conveying the substance of the terms of settlement arrived at on January 14th, 1920, was published in last week's SUPPLEMENT at p. 15. The Ministry on January 15th issued the following statement to the press:

On Wednesday, January 14th, the Minister of Health received a deputation of members of the Insurance Acts Committee of the British Medical Association—representing the Conference of Local Medical and Panel Committees—on the subject of remuneration of insurance medical practitioners. The results of the negotiations have been embodied in an official communication from the Ministry of Health to the Insurance Acts Committee, which is appearing in the *British Medical Journal* of this week.

Dr. Addison stated to the deputation that the Government were prepared to seek the authority of Parliament for the provision of funds necessary to pay insurance doctors on the basis of an increased yearly capitation fee of 11s., together with a mileage fund of £300,000 per annum for rural doctors in England and Wales. The doctors' representatives stated that, as the Conference had resolved on 13s. 6d., they would feel bound to recommend their constituents not to accept the 11s. capitation fee; but they were empowered to ask for arbitration, which they now did. This was fully discussed, and, after an adjournment, the Minister announced that the Government acceded to this request and would recommend Parliament to give effect to the finding of the arbitrators. The Insurance Acts Committee on their part undertook that they and the Panel Committees throughout the country would co-operate in securing from the practitioners throughout the country a full and efficient service, with goodwill, under the settlement as a whole, including the terms of the award. The arbitrators' award will operate as from April 1st, 1920, the Government agreeing to pay in the meantime a capitation fee of 11s. as from January 1st.

The Minister stated that, in view of the general conditions under which it had been necessary for the Government to take the decision above described and of the possibility of future legislation, no particular term of years would be specified for the duration of the arrangements, the Government undertaking not to make any alteration except after consultation with the representatives of insurance practitioners and after an adequate period of notice.

The Minister also stated that the Government reserved its freedom to institute, at a subsequent date, any inquiry which might be then thought desirable in the light of the award and the cost of its working, into the question whether as good or better a service could be secured with the same or less expenditure of money under some other system.

NEW INSURANCE CONTRIBUTIONS AND BENEFITS.

THE Ministry of Health issued the following announcement on January 15th:

The Government have arrived at a decision as to the revision of the contributions and benefits under the National Health Insurance scheme, and a bill to give effect to their proposals is to be introduced into Parliament at the first opportunity.

The weekly contributions are to be increased by 3d. in the case of both men and women, 2d. of which is to fall on the employer and 1d. on the employed person. The normal rate of sickness benefit is to be increased to 15s. in the case of men and 12s. in the case of women. Disablement benefit is to be at the rate of 7s. 6d. a week for both men and women, and maternity benefit is to be increased from 30s. to £2.

Sanatorium benefit is to be removed from the Acts, the treatment (other than domiciliary) of tuberculosis, both among the insured and the uninsured, being recognized as falling within the province of the local authorities. A State system of medical referees is to be established, towards the cost of which the societies will make a small contribution by way of payment per case referred.

The increased contributions above described, together with the consequential increase in the Exchequer contributions, will, in addition to providing for the above increases in the rates of cash benefits, enable a larger sum than hitherto to be made available towards meeting the increased cost of medical benefit.

The above changes relate to England and Wales and Scotland. In the case of Ireland there are some modifications, the principal of these being that sanatorium benefit will remain in the Act. The rates of the cash benefits are to be the same as in Great Britain, but the weekly contributions in Ireland are to be increased by 2½d. (employer 1½d., and employed person 1d.) instead of 3d.

CORRESPONDENCE.

The New Regulations and Arbitration.

SIR,—In 1912 our Representatives, accepting the calculation of our Council that a capitation of 8s. 6d. would yield but 1s. 5d. per attendance, insisted upon this, and threw away an unparalleled opportunity to fix a wage limit for all contract work; also they antagonized the Chancellor and all his supporters and split our ranks beyond repair. Yet the calculation which did such mischief proved entirely wrong, and positively more is received on a capitation of 7s. than was expected from 8s. 6d. Statistics[1] of 25 burghs and 31 counties of Scotland, covering three years and comprising between four and five million attendances per annum, show but 3.16 attendances annually per unit, and even if one allows an error of over 10 per cent.—a large one for a Scot in a matter of business—and calls it 3.5, this yields, on a capitation of 7s., 2s. per attendance.

Now, had 7s. been accepted on trial, as it surely would have been had 2s. per attendance been expected from it, and our still united forces been solidly thrown into battle with the then new-formed and hesitating Insurance Committees over the limit of wage, can it be doubted that we should have won? The abomination of educated doctors attending plutocratic munitioners, with fur coats and grand pianos at home, at 7s. a year would then never have been perpetrated, and administrative expenses would have been greatly reduced. Further, we should have co-operated in shaping Regulations and records, and the monstrous things

[1] Report of the Administration of National Health Insurance. 1914–17. pp. 294 and 295.

foisted upon us would never have been produced. Above all, we should have remained a united, victorious, and formidable body, whom no one would have dared to affront again. Because I at that time estimated attendances at 3.75, yielding 1s. 10¼d. each on a 7s. capitation, predicted that panel practices would prove most saleable of all, warned my colleagues that we should "go down like a pack of cards" if we struck, and strenuously, both at meetings and in the JOURNAL,[2] advocated precisely the above course as our only hope, I venture now to criticize the present action of our Committee.

Once more, learning nothing from that deplorable and most avoidable fiasco, we are throwing away opportunities, perhaps our last, to obtain solid improvements in hope, probably vain, to gain higher pay. On a capitation of 11s. a panel of 3,000 yields £1,650 a year, without expense of collection, bad debts, or bill for drugs, and private practice is allowed besides, the dependants of the insured being estimated at 1.5 to 1. To this is added £300,000 for rural doctors. Will any court of arbiters give us more? On the other hand, we are neglecting far more essential matters once again. The raising of the wage limit of non-manual workers to £250, logical in itself, should have been seized on as pretext to limit manual workers in like way. I do not think they would resent it. The new Regulations are unintelligible to me in this matter, but as our Committee do not mention it, I presume it is not done. The inequitable contract should have been revised, allowing no change without mutual consent. The powers of the Insurance Commissioners, already too considerable, should have been curtailed; instead, being vested in a single man, they are infinitely more dangerous to us. How shall we stand when he is nominee of a Labour Cabinet, and perhaps definitely hostile, or pledged to State service? The emergency regulation should have been fought, and the scope of "reports" defined and restricted. The liability for expenses in case of complaint should have been imposed equally upon societies with ourselves, or else upon neither. Finally, the old regulation as to transfer should have been left, but safeguarded on the lines suggested by Mr. Anderson, a layman of practical experience whom I quoted in my letter of December 20th, 1919.

Now, I maintain that there is not one of these questions which could not be fully understood and appreciated by a court of intelligent laymen, and not one but might be brought before them *with good hope of redress*. Surely it had been better had our Committee insisted that all of them be submitted to arbitration. Is it too late even now to repair this omission? I earnestly hope that some effort in this direction may yet be made.—I am, etc.,

Chichester, Jan. 18th. G. C. GARRATT.

SIR,—At the last Panel Conference it was agreed to submit the amount of the capitation fee to arbitration if necessary, but it was not agreed that such arbitration should go further and involve at the same time the acceptance of the whole of the Regulations, which now appears to be the intention of the Government.

There are two vital principles embodied in the Regulations which, if allowed, would affect not only panel practitioners but also the whole of the community, namely:

(*a*) The taking away of goodwills without purchase or compensation.

(*b*) The taking away from all British subjects their inherent right of appeal to the Courts of Law in the event of being unjustly penalized.

These two vital principles stand absolutely outside arbitration and no attempt must be made to smuggle them in under cover of any kind of award.—I am, etc.

Stalybridge, Jan. 18th. ADAM FOX, L.R.C.P., L.R.C.S.

Remuneration.

SIR,—It is very noticeable in the letters on this subject that the bulk of the complaints come from those who have small panels, especially those (as in country practices) where the possible total is strictly limited.

This is what any business man would expect. A large number, concentrated in a small area, where the transport to and from the place of business (the doctor's house) is easy, always greatly cuts down expenses of management. (Patients, for instance, will come three miles or more in a tramcar, whereas in the country they would demand a visit, and telegraph for it, too.)

There may be objections, and I suppose in any case the suggestion is now too late, but would it not be possible and more equitable to grade up the capitation fee according to the *smallness* of the practitioner's panel—say an extra sixpence a head for every hundred under, say, a thousand? At present the small panels—country ones, anyway—are either negative or a loss.—I am, etc.,

Newton Ferrers, S. Devon, Jan. 9th. W. F. BENSTED-SMITH.

[2] BRITISH MEDICAL JOURNAL SUPPLEMENT, December 14th, 1912, p. 669.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, February 18th, in the Council Room, 429, Strand, London, W.C. 2.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

A LIST of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, is appended (see (I) below).

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

A LIST of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and ***Nomination Form***, are appended (II) and (III) below, p. 22).

The list of the Groups of ***Oversea Branches*** was published in the SUPPLEMENT of October 11th, 1919, p. 79.

(I.) HOME CONSTITUENCIES FOR ELECTION OF THE REPRESENTATIVE BODY.

(*Divisions bracketed together form one Constituency.*)

ABERDEEN—
- Aberdeen
- Orkney
- Shetland

BATH AND BRISTOL—
- Bath
- Bristol

BIRMINGHAM—
- Bromsgrove
- Dudley
- Central
- Coventry
- Nuneaton and Tamworth
- Walsall
- West Bromwich
- Warwick and Leamington

BORDER COUNTIES—
- English
- Dumfries and Galloway

CAMBRIDGE AND HUNTINGDON—
- Cambridge and Huntingdon
- Isle of Ely

CONNAUGHT—
- Mid Connaught
- North Connaught
- South Connaught

DORSET AND WEST HANTS—
- Bournemouth
- West Dorset

DUNDEE

EAST YORK AND NORTH LINCOLN—
- East York
- North Lincoln

EDINBURGH—
- Edinburgh and Leith
- South-Eastern Counties
- The Lothians

ESSEX—
- Mid Essex
- North-West Essex
- North-East Essex
- South Essex

FIFE

GLASGOW AND WEST OF SCOTLAND—
- Argyllshire
- Dumbartonshire
- Ayrshire
- Glasgow Central
- Glasgow Eastern
- Glasgow North-Western
- Glasgow Southern
- Lanarkshire
- Renfrewshire and Buteshire

GLOUCESTERSHIRE

KENT—
- Ashford
- Dover
- Folkestone
- Bromley
- Canterbury and Faversham
- Isle of Thanet
- Dartford
- Rochester, Chatham and Gillingham
- Maidstone
- Sevenoaks
- Tunbridge Wells

LANCASHIRE AND CHESHIRE—
- Ashton-under-Lyne
- Glossop
- Birkenhead
- Blackburn
- Blackpool
- Isle of Man
- Bolton
- Burnley
- Bury
- Chester
- Crewe
- Hyde
- Stockport, Macclesfield, and East Cheshire
- Leigh
- Wigan
- Liverpool
- Manchester
- Mid-Cheshire
- Oldham
- Rochdale
- Preston
- St. Helens
- Warrington
- Salford
- Southport

LEINSTER—
- Dublin
- East Leinster
- Mid Leinster
- North Leinster
- North-West Leinster
- South-East Leinster

METROPOLITAN COUNTIES—
- Camberwell
- Chelsea
- City
- East Hertfordshire
- Finchley and Hendon
- Greenwich and Deptford
- Hampstead
- Harrow
- Kensington
- Lambeth
- Marylebone
- North Middlesex
- South Middlesex
- South-West Essex
- Stratford
- Tower Hamlets
- Wandsworth
- West Hertfordshire
- Westminster
- Willesden
- Woolwich and Lewisham

MIDLAND—
- Chesterfield
- Derby
- Holland
- Kesteven
- Leicester and Rutland
- Lincoln
- Nottingham

MUNSTER—
- North Munster
- South Munster
- West Munster

NORFOLK—
- East Norfolk
- Gt. Yarmouth
- Norwich
- West Norfolk

NORTHERN COUNTIES OF SCOTLAND—
- Banff, Elgin and Nairn
- Caithness and Sutherland Islands
- Ross and Cromarty
- Inverness

NORTH LANCASHIRE AND SOUTH WESTMORLAND—
- Furness
- Kendal
- Lancaster

NORTH OF ENGLAND—
- Bishop Auckland
- Durham
- Blyth
- Morpeth
- North Northumberland
- Cleveland
- Consett
- Gateshead
- Darlington
- Hartlepool
- Stockton
- Hexham
- Newcastle-on-Tyne
- South Shields
- Tyneside
- Sunderland

NORTH WALES—
- Denbigh and Flint
- N. Carnarvon and Anglesea
- S. Carnarvon and Merioneth

OXFORD AND READING—
- Oxford
- Reading

PERTH

SHROPSHIRE AND MID WALES

SOUTH-EASTERN OF IRELAND—
- Carlow and Kilkenny
- Waterford

SOUTHERN—
- Channel Islands
- Isle of Wight
- Southampton
- Portsmouth
- Winchester

SOUTH MIDLAND—
- Bedford
- Buckinghamshire
- Northamptonshire

SOUTH WALES AND MONMOUTHSHIRE—
- Cardiff
- Monmouthshire
- North Glamorgan and Brecknock
- South-West Wales
- Swansea

SOUTH-WESTERN—
- Barnstaple
- East Cornwall
- Exeter
- Plymouth
- Torquay
- West Cornwall

STAFFORDSHIRE—
- Mid-Staffordshire
- North Staffordshire
- South Staffordshire

STIRLING

SUFFOLK—
- North Suffolk
- South Suffolk
- West Suffolk

SURREY—
- Croydon
- Guildford
- Kingston-on-Thames
- Reigate
- Richmond
- Wimbledon

SUSSEX—
- Brighton
- Chichester and Worthing
- Horsham
- Eastbourne
- Hastings
- Lewes and East Grinstead

ULSTER—
- Ballymoney, North Antrim, and South Derry
- Derry
- Belfast
- Enniskillen
- Omagh
- Monaghan and Cavan
- Portadown and West Down

WEST SOMERSET

WILTSHIRE—
- Salisbury
- Swindon
- Trowbridge

WORCESTERSHIRE AND HEREFORDSHIRE—
- Hereford
- Worcester

YORKSHIRE—
- Barnsley
- Bradford

YORKSHIRE (*continued*)—
- Dewsbury
- Leeds
- Halifax
- Harrogate
- Huddersfield
- Rotherham
- Sheffield
- Scarborough
- Wakefield, Pontefract, and Castleford
- York

(II.) GROUPS OF HOME BRANCHES FOR ELECTION OF TWENTY-FOUR MEMBERS OF THE COUNCIL, 1920–21.

(Each Group elects One Member of Council unless otherwise stated.)

BRANCHES IN GROUP (A)—
North of England
North Lancashire and South Westmorland

BRANCHES IN GROUP (B)—
Yorkshire

BRANCHES IN GROUP (C)—
(Two to be elected)
Lancashire and Cheshire

BRANCHES IN GROUP (D)—
East York and North Lincoln
Midland

BRANCHES IN GROUP (E)—
Cambridge and Huntingdon
Essex
Norfolk
South Midland
Suffolk

BRANCHES IN GROUP (F)—
Birmingham
Staffordshire

BRANCHES IN GROUP (G)—
North Wales
Shropshire and Mid Wales
South Wales and Monmouthshire

BRANCHES IN GROUP (H)—
(Four to be elected)
Metropolitan Counties

BRANCHES IN GROUP (I)—
Bath and Bristol
Gloucestershire
West Somerset
Worcestershire and Herefordshire

BRANCHES IN GROUP (J)—
Dorset and West Hants
South-Western
Wiltshire

BRANCHES IN GROUP (K)—
Oxford and Reading
Southern

BRANCHES IN GROUP (L)—
Kent
Surrey
Sussex

BRANCHES IN GROUP (M)—
Aberdeen
Dundee
Northern Counties
Perth

BRANCHES IN GROUP (N)—
Edinburgh
Fife

BRANCHES IN GROUP (O)—
Glasgow and West of Scotland (Four City Divisions)

BRANCHES IN GROUP (P)—
Border Counties
Glasgow and West of Scotland (Five County Divisions)
Stirling

BRANCHES IN GROUP (Q)
Connaught
South-Eastern of Ireland

BRANCHES IN GROUP (R)
Leinster

BRANCHES IN GROUP (S)—
Munster

BRANCHES IN GROUP (T)—
Ulster

(III.) FORM FOR NOMINATION

BY A DIVISION, OR BY THREE MEMBERS OF A BRANCH, IN THE GROUP, OF A CANDIDATE FOR ELECTION AS ONE OF THE TWENTY-FOUR MEMBERS OF THE COUNCIL, 1920–21, TO BE ELECTED BY THE GROUPED HOME BRANCHES.

* By instruction of the ..... Division I (* *or* We, the undersigned Members of the .....Branch) hereby nominate

.....

of .....

as a Candidate for Election by the Branches in Group .....† as a Member of the Council of the Association.

.....Honorary Secretary.*

.....Division.*

(.....Member.*

.....Member.*

.....Member.*)

I hereby declare my willingness to serve, if elected, as a Member of the Council for the year 1920–21.

Candidate's Signature.....

N.B.—Nominations should be sent to the Medical Secretary, 429, Strand, London, W.C.2.

* Please omit words not required.
† The Group should be indicated by filling in the index letter (as above).

British Medical Association.

CURRENT NOTES.

Appointments on Pensions Boards.

IT has come to the notice of the Medical Secretary of the British Medical Association that some medical men who have served during the war are apparently not familiar with the method by which they can, if they so desire, secure work on the local pensions board. The policy of the Ministry is to give preference for this work to practitioners who have served, and any such doctor who is living in the neighbourhood of a pensions board but who is not a member of it should apply to the Deputy Commissioner of Medical Services of the district, whose name and address will be given to him by the chairman of the board or can be obtained by writing to the Medical Department of the Ministry of Pensions, Great Smith Street, S.W.1. The appointments are made by the Ministry, but the applications must go through the D.C.M.S.

The Representative Body.

We would again draw the attention of members to the notices published at page 21 with regard to preparations for the Annual Representative Meeting, which will begin at Cambridge on Friday, June 25th. Representatives and their deputies must be elected by May 28th, and their names notified to the Medical Secretary by June 4th. The members of each constituency are free to decide for themselves whether these elections shall be carried out by general meeting or by postal vote. Notices of motion affecting either the constitution of the Association or its policy on large issues must reach the Medical Secretary by April 10th, so that they may be published in the JOURNAL not later than April 24th. By decision of the Council every Oversea Division and Division-Branch that has an honorary secretary and the necessary organization is now an independent constituency for electing to the Representative Body. The Annual Conference of Honorary Secretaries of Branches and Divisions will be held during the Cambridge meeting; honorary secretaries, like representatives, are paid their first-class travelling expenses within the United Kingdom.

BRANCH AND DIVISION MEETINGS TO BE HELD.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—Mr. Albert E. Morison, Honorary Secretary (1, St. George's Square, Sunderland), gives notice that the annual meeting of the Division will be held at the Royal Infirmary, Sunderland, on Thursday, January 29th, at 4.30 p.m. At 7 p.m. a complimentary dinner will be given to those members who have returned from active service, at the Burnville Café, Fawcett Street.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty:—Surgeon Commanders (retired) E. Cooper, G. T. Bishop, and H. W. Gordon-Green, O.B.E., have been promoted to the rank of Surgeon Captains (retired), seniority January 1st. Surgeon Commanders F. Cook to the *Eaglet*, additional; C. Ross to R.N. Hospital, Simonstown; R. W. Stanistreet to the *Orion*, J. H. Fergusson to the *Pembroke* for Chatham Hospital; J. H. L. Page to the *Victory*, for Haslar Hospital; P. M. Rivaz to the *Pembroke*, for the Medical Ambulance Train; P. F. Woodruff-Minet to the *Danae*, G. D. Walsh to the *Erebus*. W. W. D. Chilcott to the *Vivid* for R.N. Barracks, C. K. Bushe, O.B.E., to the *President*, additional, for Medical Department as Assistant to Medical Director-General, A. McCloy to R.N. Hospital, Plymouth, R. Kennedy to H.M. Hospital Ship *Berbice*, F. G. Goble to the *Centaur*, D. C. Given to the *Woolwich*. Surgeon Lieutenant Commanders D. P. H. Pearson to the *Crescent*, for R.N. Sick Quarters, South Queensferry; K. H. Hole to the *Agadir*, A. M. Henry to the *Valiant*, J. T. D. S. Higgins to the *Shakespeare*, H. F. Briggs to the *Berbice*. Surgeon Lieutenants H. C. C. Veitch to the *Wallace*, R. R. Shaw to the *Barham*, E. Heffernan to the *Royal Oak*, R. P. Ninnis to the *Queen Elizabeth*, J. D. Brown to the *King George V*, W. P. Vicary to the *Cornflower*, J. J. Bangay to the *Europa*, additional, to 3rd Royal Marine Battalion, Mudros, N. B. de M. Greenwood to the *Ladybird*. Surgeon Lieutenants (temporary) R. N. B. McCord to the *Hercules*, J. H. Bennett to the *Blake*, temporarily, J. A. Watson to the *Woolwich*, on recommissioning.

ARMY MEDICAL SERVICE.

Major-General Sir H. N. Thomson, K.C.M.G., C.B., D.S.O., is placed on the half-pay list, November 18th, 1919 (substituted for notification in the *London Gazette*, December 8th, 1919).

Temporary Colonel Sir H. J. Stiles, K.B.E. (Brevet Lieut.-Colonel R.A.M.C.) relinquishes his temporary commission on reposting.

The following officers retire on retired pay: Major-General H. Carr, C.B., Colonel F. W. Begbie, C.B.E., and Colonels G. T. Rawnsley, C.B., C.M.G., and T. B. Beach, C.M.G., C.B.E. from the half-pay list.

Temporary Colonel C. M. Wenyon, C.M.G., C.B.E., relinquishes his commission and retains the rank of Colonel.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel D. J. Collins to be temporary Colonel whilst A.D.M.S., April 7th, 1916 (substituted for notification in the *London Gazette*, July 14th, 1916).

The following officers relinquish the acting rank of Lieutenant-Colonel: Majors F. E. Rowan-Robinson, J. H. R. Winder, D.S.O., R. W. D. Leslie, O.B.E., E. G. Ffrench; Captain E. W. Wade, D.S.O.

To be acting Lieutenant-Colonels: Major C. H. Denyer, M.C. (from September 25th to November 19th, 1919); temporary Major W. E. Home, O.B.E. (whilst commanding troops on a hospital ship).

Major E. G. R. Lithgow is restored to the establishment.

Temporary Major C. V. Mackay to draw the pay and allowances of his temporary rank from March 26th to June 6th, 1918 (inclusive), and from August 3rd to September 26th, 1918 (inclusive).

Temporary Major E. Ligertwood, D.S.O., relinquishes the temporary rank of Lieutenant-Colonel on reposting, November 30th, 1916 (substituted for notification in the *London Gazette*, January 22nd, 1917).

Captain L. C. Hayes to be temporary Major whilst specially employed.

The following relinquish the acting rank of Major: Captains J. S. McCombe, D.S.O., W. T. Hare, M.C., E. C. Lambkin, D.S.O., A. Jackson, W. K. Campbell, D.S.O., M.C., J. F. Bourke, M.C. Temporary Captains R. Nichol, J. Porter, W. Brown.

Captain and Brevet Major J. D. Kidd, O.B.E., M.C., to be acting Major.

To be acting Majors: Temporary Captains J. T. Gunn, from November 10th to December 7th, 1918 (substituted for notification in the *London Gazette*, September 10th, 1919); J. E. P. Shera, from November 25th, 1918, to May 8th, 1919.

Captain P. H. Wells, M.C., resigns his commission.

Temporary Captain R. Jamison relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed (October 18th, 1919, substituted for the notification in the *London Gazette*, December 9th, 1919.)

Temporary Captain (acting Major) W. M. Oakden to draw the pay and allowances of his acting rank (June 18th, 1919).

Temporary Captain (acting Major) D. O. Riddel, D.S.O., relinquishes the pay and allowances of his acting rank.

Captain T. E. B. Beatty, from Special Reserve, to be Captain, August 16th, 1919, but not to reckon for pay or allowances prior to December 1st, 1919, with precedence next below W. L. A. Harrison.

The notifications regarding temporary Captains William G. Gordon, Roland B. Radcliffe, and Rae McRae, published in the *London Gazette* of December 19th, May 30th, and December 22nd, 1919, respectively, are cancelled.

To be temporary Captains: J. A. Martin. Temporary Lieutenants: P. Johnson, W. L. Young, J. H. Rodgers, C. K. T. Hewson, P. P. Galea, F. C. S. Bradbury, H. G. Watters, H. H. McClelland.

Temporary honorary Lieutenant C. E. Backus (since deceased) to be temporary honorary Captain, October 10th, 1919.

H. P. Hodge to be temporary Lieutenant.

Late temporary Captains to be temporary Captains: L. C. E. Murphy (seniority December 18th, 1916), J. A. Cowan (seniority December 20th, 1916), and F. J. Waldmeier (seniority September 21st, 1917).

The following officers relinquish their commissions:—Temporary Major F. C. Purser, O.B.E., and retains the rank of Major. Temporary Captain and Brevet Major S. P. Hodkinson, and retains the Brevet rank of Major. Temporary Captain W. N. Parker, D.S.O., and is granted the rank of Lieutenant-Colonel. Temporary Captains and are granted the rank of Major: D. C. Ogilvie, M.C., J. P. Davidson, M.C., R. B. Roe, F. H. Moxon, O.B.E., E. T. C. Milligan, O.B.E. J. W. McKinney, R. S. S. Statham, O.B.E., G. Jackson, S. S. Dunn, R. Jamison (November 18th, 1919, substituted for notification in the *London Gazette*, December 20th, 1919), W. Gemmill, J. G. Duncanson, T. M. Bellew, W. H. Alderton, M.C., P. J. Lane, M.C., R. MacDonald, O.B.E. Temporary Captains and retain the rank of Captain: C. Murphy, E. T. Jameson, E. G. D. Murray, O.B.E., R. R. K. Paton, C. A. O'Driscoll, K. D. Falconer, M.C., A. Gaston, M.C., W. J. Moir, A. C. H. Geyer, R. W. Miller, C. J. C. Macquarie, H. B. McCaskie, D. R. Adams (on account of ill health contracted on active service). C. Harris, A. C. MacKay, J. R. Stott, O.B.E., C. W. Macpherson, M. Sommerville, M.C., H. N. Crossley, W. A. Alexander, R. N. Thomson, W. Campbell, J. G. Lessey, M. Rust, T. M. Anderson, S. C. R. Flaxman, W. J. Symes, C. F. Davey, C. C. Harrison, M.C., A. G. Howson, J. F. Penman, M. H. Watney, A. P. Green, W. Hornsby, W. H. Bush, A. J. Dempsey, J. Russell, E. D. F. Hayes, P. J. Montgomery, A. Dick, A. Scott, E. D. Wortley, O.B.E., P. Davies, M.C., J. A. D. Radcliffe, H. J. Gater, S. P. Moore, G. O'Connell, M.C., L. C. Johnston, R. C. Maclachlan, C. N. Coad, M.C., A. F. Flower, J. J. Dowdall, M. R. V. Ford, L. T. Stewart, R. M. Wilson, W. K. Connell, J. McPolin, I. S. James, S. J. Cowell, C. R. Denny, E. Gordon, M.C., S. J. Graham (on ceasing to serve with the Belfast War Hospital), J. B. Mason, J. A. Frost, R. J. Wilson, (acting Major) J. A. Moraes (on ceasing to serve with the Ceylon Sanitary Company), A. T. Gibb (on account of ill health contracted on active service), J. R. Pate, R. G. Barlow, J. Campbell, M.C., O. G. Evans (on account of ill health), C. L. Stewart, B. E. Laurence, B. Dunlop, A. Davidson, J. P. McGreehin, R. W. L. Todd, P. C. Cole. Temporary Captain A. Peden. Temporary Lieutenants and retain the rank of Lieutenant: J. A. Martin, (acting Captain) F. G. Stevens, and T. C. Van-der-Ziel on ceasing to serve with the Ceylon Sanitary Company.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Wing Commander J. St. J. Murphy (Surgeon Commander R.N.) and Flight Lieutenant E. Heffernan (Surgeon Lieutenant R.N.) relinquish their temporary R.A.F. commissions on return to naval duty.

Squadron Leader E. G. R. Lithgow (Major R.A.M.C.) relinquishes his temporary R.A.F. commission on return to army duty.

J. D. Keir (Surgeon Commander R.N.) is granted a temporary commission as Lieutenant-Colonel, October 1st, 1918, seniority from April 1st, 1918 (substituted for notification in the *London Gazette*, November 26th, 1918).

H. J. Swan (late Flying Officer R.A.F.) is granted a temporary commission as Flight Lieutenant.

Flying Officers to be Flying Lieutenants: D. Cromie, J. B. Barnett, C. H. Young.

Transferred to Unemployed List: Captains A. B. Rooke (March 30th, 1919), J. S. Dockrill (May 3rd, 1919), J. Paxton (February 21st, 1919), J. R. Adam (February 28th, 1919), J. H. Cooke, M.B.E. (December 6th,

1919), J. A. Johnson (November 12th, 1919), S. A. Neild-Faulkner (December 20th, 1919), H. Munro (March 5th, 1919), Lieutenant J. Gorsky (December 17th, 1919).

INDIAN MEDICAL SERVICE.

Lieut.-Colonel E. V. Hugo, C.M.G., M.D., F.R.C.S., appointed to be Professor of Surgery, and Major R. H. Bott, M.B., F.R.C.S., Professor of Operative Surgery at the King Edward Medical College, Lahore, October 11th, 1919.

Lieut.-Colonel G. P. T. Groube has been permitted to retire from the service in consequence of ill health, October 7th, 1919.

Lieut.-Colonel C. A. Lane, M.D., has been permitted to retire from the service with effect from October 25th, 1919.

Captain H. K. Rowntree, M.C., appointed to be additional Assistant Director-General, Indian Medical Service, January 6th, 1920.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain A. G. McColl relinquishes his commission on account of ill health contracted on active service and retains the rank of Captain.

Captain W. Donald, M.C., relinquishes the acting rank of Major.

Captain G. H. Gidlow-Jackson relinquishes his commission on account of ill health and retains the rank of Captain.

Lieutenant A. B. Grant to be Captain.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Major (acting Colonel) C. H. Lindsay, C.M.G., D.S.O., relinquishes the acting rank of Colonel on vacating the appointment of A.D.M.S.

The following Captains (acting Majors) relinquish the acting rank of Major on ceasing to be specially employed: N. W. Kidston, K. I. S. Smith, E. A. Houchin, M. Coplans, O.B.E., D.S.O. (March 8th, 1919, substituted for notification in the *London Gazette*, April 29th, 1919), (acting Lieut.-Col.) C. H. J. Fagan, O.B.E.

Captain V. T. Ellwood is restored to the establishment.

1st Eastern General Hospital.—Major H. B. Roderick, O.B.E., T.D., is seconded for service with the Cambridge University (Medical Unit) Senior Division, O.T.C.

2nd Eastern General Hospital.—Major F. G. Bushnell is restored to the establishment.

1st London Sanitary Company.—Lieutenant F. C. Cook to be Captain.

2nd London Sanitary Company.—Captain H. Jessop relinquishes his commission on account of ill health contracted on active service, and retains the rank of Captain; Lieutenant S. Shaw to be Captain.

Supernumerary for Service with the O.T.C.—Lieutenant (temporary Captain) W. L. H. Duckworth ceases to serve with the Cambridge University Contingent (Medical Unit), Senior Division, and relinquishes the temporary rank of Captain.

VOLUNTEER FORCE.

The following temporary Majors relinquish their commissions and are granted the honorary rank of Major: H. L. Rutter, J. Harrison, M. Bruce, J. P. Philip.

The following temporary Captains relinquish their commissions and are granted the honorary rank of Captain: A. A. Angelis, T. Halliwell, B. A. Richmond, and J. F. Sarjeant (City of London R.A.M.C.V.), G. W. Brumwell (Cumberland R.A.M.C.V.), W. F. Clowes (Essex R.A.M.C.V.), C. H. Evers, A. H. Hobbs, D. Revie, C. G. Henderson, R. Younger, A. A. Martin (Northumberland R.A.M.C.V.), G. C. Grant (Banffshire R.A.M.C.V.). R. M. Hugo and G. M. Wilcockson (Surrey R.A.M.C.V.), E. J. Jerome (Cornwall R.A.M.C.V.), J. R. Leeson (Middlesex R.A.M.C.V.), T. Wood (Midlothian R.A.M.C.V.).

The following temporary Lieutenants have relinquished their commissions and are granted the honorary rank of Lieutenant: E. H. Andrews, G. F. Cooper, and F. Isdell (Essex R.A.M.C.V.), L. C. Burrell (Surrey R.A.M.C.V.), J. Cromie (Kirkcudbright R.A.M.C.V.), G. Duffus (Surrey R.A.M.C.V.), T. Gilchrist (Linlithgowshire R.A.M.C.V.), H. S. Grace and A. Payne (Northumberland R.A.M.C.V.), J. Heard (City of London R.A.M.C.V.). R. Inch (Midlothian R.A.M.C.V.), D. R. Macdonald (Haddingtonshire R.A.M.C.V.), F. McKenna (Ayrshire R.A.M.C.V.), R. S. Penman (Renfrewshire R.A.M.C.V.), G. E. Sawdon (Derbyshire R.A.M.C.V.), E. I. H. White and J. R. H. Dubourg (Lancashire R.A.M.C.V.).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

PRIOR.—On January 16th, at 22, Hampstead Way, N.W.4, to Dr. and Mrs. E. Symes Prior—a daughter.

SHAND.—On Sunday, January 18th, 1920, at 307, Gillott Road, Edgbaston, Birmingham, the wife of G. E. Shand, M.D.Aberd., D.P.H., of a daughter.

STRANGE.—On January 16th, 1920, at The Queen Victoria Nursing Institute, Wolverhampton, to the wife of Ernest W. Strange, M.D. —a son.

MARRIAGE.

EVANS—HARRIS.—On January 8th, 1920, at St. Mathew's Church, Rugby, by the Rev. Dr. Middleton, Dr. T. Garfield Evans, M.D.Lond., son of the late Captain John Evans, Aberayron, to Catherine Macintyre Harris, second daughter of Mr. Alfred Harris, 68, Dunchurch Road, Rugby.

DEATHS.

DAVY.—On January 12th, 1920, suddenly at a nursing home, David Henry Davy, M.R.C.S., L.R.C.P., 84, Beverley Road, Hull, in his 67th year.

DUNN.—On January 12th, Edwin Lindsay Dunn, M.B., Medical Superintendent, Berkshire County Asylum, only son of the late Robert Dunn and Mary B. Lindsay Dunn of Dunfield, Londonderry.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, which will be forwarded by post, if desired, on application to the Librarian.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Mediscera, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4351 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JANUARY.

23 Fri. London: Ministry of Health Committee, 2.30 p.m.
27 Tues. London: Superannuation Subcommittee, 2 noon.
London: Medical Officers of Health Subcommittee, 2.30 p.m.
London: Public Health Committee, 3 p.m.
28 Wed. London: Medico-Political Committee, 2 p.m.
29 Thur. London: Grants Subcommittee, 11 a.m.
London: Organization Committee, 11.30 a.m.
30 Fri. London: Central Ethical Committee, 2 p.m.

FEBRUARY.

18 Wed. London: **Council.**

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 8.30 p.m., Demonstration of Pathological and Medico-legal Specimens.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Monday, Wednesday, and Friday, 5 p.m., Professor Arthur Keith, F.R.S.: John Hunter's Observations and Discoveries in Anatomy and Surgery.

ROYAL SOCIETY OF MEDICINE.—Social evening, Friday, 8.30 p.m., Sir D'Arcy Power will speak on The Fees of Our Predecessors, with illustrations. Objects of interest will be exhibited in the Library. Music and light refreshments. *Section of Odontology:* Monday, 8 p.m., Mr. S. F. StJ. Steadman: Dental Sepsis in Children. *Section of Medicine:* Tuesday, 5.30 p.m., Dr. W. H. Willcox: Typhus and Relapsing Fever in Mesopotamia and Northern Persia. Dr. Arkwright and Dr. Ledingham will speak on Bacteriology. *Section of Balneology and Climatology:* Thursday, 5.30 p.m., Discussion on Merits and Defects of British Health Resorts, to be opened by Dr. Neville Wood.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Tuesday, noon, Mr. C. H. S. Frankau, C.B.E., D.S.O.: Simple Enlargements and Tumours of the Thyroid Gland. Wednesday, noon: Intestinal Obstruction. Thursday, noon, Dr. A. E. Gow: Intravenous Protein Therapy.

MANCHESTER: ANCOATS HOSPITAL.—Thursday, 4.30 p.m., Mr. Douglas: Clinical Demonstrations.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. Wilson H. Hey: Surgical Treatment of Incurable Cancer.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—1 p.m., Mr. A. M. Martin: Operations. 3.15 p.m., Professor T. Beattie: Early Diagnosis of Pulmonary Tuberculosis. 4.30 p.m. (at College of Medicine), Dr. J. D. Lickley: Anatomy of the Thorax and Abdomen.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2 p.m., Dr. J. Metcalfe: *X*-ray Treatment of Diseases of the Thyroid Gland (demonstration). 4.30 p.m., Lieut.-Colonel R. H. Elliot: Treatment of Glaucoma (lantern lecture).

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: Localization of Foreign Bodies. Tuesday, 4 p.m., Dr. Hay: Examination of Eye. Wednesday, 3.30 p.m., Dr. Wilkinson: Enlarged Tonsils and Adenoids. Thursday, 3.30 p.m., Dr. Skinner: Urticaria, Purpura, etc. Friday, 4 p.m., Dr. Hay: Ocular Sequelae of General Diseases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Friday (January 23rd), 5 p.m., Professor W. M. Bayliss, F.R.S.: Acidosis. Saturday, 10 a.m., Dr. Arthur Saunders: Medical Diseases of Children. Monday, 5 p.m., Mr. Addison: Club Foot. Tuesday, 5 p.m., Mr. Banks Davis: Common Affections of Middle ear—Treatment. Wednesday, 5 p.m., Mr. Souttar: Clinical Surgery. Thursday, 5 p.m., Dr. Grainger Stewart: Encephalitis Lethargica. Friday, 5 p.m., Mr. MacMahon: Functional and Organic Affections of Voice and Speech.

APPOINTMENTS.

HILLIER, R. J., M.R.C.S., L.R.C.P., Anaesthetist to Jessop Hospital for Women, Sheffield.

SALMOND, R. W. A., O.B.E., M.D., Ch.M., Honorary Radiologist to University College Hospital and Lecturer in Radiology at the Medical School.

WARD, H. G., M.D., D.P.H.Vict., Medical Officer of Health for the Warwickshire United Districts.

WILSON, J. I. P., M.D., Medical Superintendent, Mile End Old Town Hamlet Infirmary.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 31ST, 1920.

CONTENTS.

	PAGE
INSURANCE REMUNERATION:	
THE BOARD OF ARBITRATORS	25
TERMS OF REFERENCE	25
CURRENT NOTES:	
RECONSTRUCTION OF THE TERRITORIAL MEDICAL FORCE	25
ELECTION OF COUNCIL	25
DEGREES FOR LONDON MEDICAL STUDENTS	25
FEE FOR ADMINISTRATION OF GAS TO PENSIONERS	23
R.A.M.C. RETIRED PAY	26
MEETINGS OF BRANCHES AND DIVISIONS	26
ASSOCIATION NOTICES:	
ELECTION OF REPRESENTATIVE BODY, 1920–21	27
INSURANCE:	
CORRESPONDENCE	27
LOCAL MEDICAL AND PANEL COMMITTEES	27
NAVAL AND MILITARY APPOINTMENTS	28
ASSOCIATION INTELLIGENCE AND DIARY	28
DIARY OF SOCIETIES AND LECTURES	28
APPOINTMENTS	28
BIRTHS, MARRIAGES, AND DEATHS	28

INSURANCE REMUNERATION.

THE BOARD OF ARBITRATORS.

THE following gentlemen have consented to act as arbitrators on the question of the remuneration of insurance practitioners:

F. GORE-BROWNE, Esq., K.C. (a Master of the Bench of the Inner Temple), Chairman;

Sir RICHARD VASSAR-SMITH, Bt. (President of the Council of the Institute of Bankers, Chairman of Lloyd's Bank, Ltd.); and

J. C. STAMP, Esq., C.B.E., D.Sc., Fellow Royal Statistical Society (Secretary to Explosives Trades, Ltd., Member of the Royal Commission on Income Tax).

TERMS OF REFERENCE.

The terms of the reference to the arbitrators are as follows:

"To advise the Government what should be the amount of the capitation fee (per insured person per annum) on the basis of which the Central Practitioners Fund under Article 19 (i) of the Medical Benefit Regulations, 1920, should be calculated, so as to afford fair remuneration for the time and services required to be given by general practitioners, under the conditions set out in those Regulations, in connexion with the medical attendance and treatment of insured persons.

"This capitation fee is not to include any payment in respect of the supply of drugs and appliances (such payments being met out of the Drug Fund under Article 22) nor any payments to meet those special conditions of practice in rural and semi-rural areas which are covered by the payments to be made out of the Central Mileage Fund under Article 19 (ii)."

British Medical Association.

CURRENT NOTES.

Reconstruction of the Territorial Medical Force.

THE Naval and Military Committee of the British Medical Association and its Territorial Force Sub-committee have for some time past had under consideration from various aspects the future organization of the medical service of the Territorial Force. In view, however, of the announcement that the Secretary of State for War would shortly meet representatives of the Territorial Force Association for the purpose of expounding the policy of the Government in relation to the future of the Territorial Force as a whole, it has been deemed inadvisable to take action until the general policy proposed with regard to the Territorial Force is made known, since the constitution of the medical service must be largely determined by that of the force. The Naval and Military Committee, however, having examined the subject in its various aspects, will be in a position to consider the proposals of the Government from the medical point of view and to offer advice with regard to the reconstruction of the Territorial Medical Service, and on the relation of that service to the civil profession both in peace and in war. The matter will be very closely watched.

Election of Council.

The attention of members is called to the notice printed in last week's SUPPLEMENT, at p. 21, with regard to the election of twenty-four members of the Council of the Association for 1920–21, by the grouped Home Branches. This election is carried out at the head office of the Association by a postal vote of all the members in each group. The list of groups was printed at p. 22, together with the form for nomination of candidates. Nominations should reach the Medical Secretary by May 17th next. All members of the Association are eligible for election. The SUPPLEMENT for January 24th contained also notices as to election of the Representative Body for the ensuing year, and gave a list of the home constituencies for the purpose of these elections, which may be carried out by a general meeting, or by postal vote, at the discretion of the members of each constituency. It is intended that the Annual Report of the Council for 1919–20 shall be published in the SUPPLEMENT of April 24th.

Degrees for London Medical Students.

The Council of the Metropolitan Counties Branch of the British Medical Association at its last meeting discussed the question of degrees for London medical students and the establishment of a teaching university in London, and took steps to appoint a committee to advise what action, if any, should be taken. The Branch is thus resuming at an opportune moment its consideration of a subject upon which it presented a very valuable report in 1885, when the late Mr. Macnamara was its president. One outcome of its action at that time was the appointment of a Royal Commission, which found that the case for a teaching university in London was made out, but by a majority advised that there should be one university for London, and not two. A minority, consisting of Lord Kelvin, Sir Gabriel Stokes, and Dr. Welldon, expressed their preference for a new teaching university for London, leaving the existing university untouched. Mr. McAdam Eccles, who is now president of the Branch, briefly related to the Council the subsequent history of the movement, and the work of the various Royal Commissions on the subject; he drew attention to the recommendations of the most recent Commission with regard to the establishment of university hospital units in London, a recommendation now being put into force, with the assistance of the University Grants Committee, at St. Bartholomew's, St. Thomas's, and University College Hospital. The last Royal Commission (the Haldane Commission), which reported in 1913, admitted the grievance of London medical students, in that so many of them, in spite of the fact that they had received medical education in the capital of the empire, could not obtain a

university degree. The Commission considered that the proper course was to advise what in the medical faculty, as in others, was essential to a real university education, and to draft recommendations which would result in adequate provision being made in London to render this education open to all able to profit by it. "The degree," it was said, "would follow in the ordinary course, and the grievance should naturally disappear." The Metropolitan Counties Branch, therefore, can quote the opinion of the Royal Commission in favour of steps being taken which will lead to the disappearance of the grievance.

Fee for Administration of Gas to Pensioners.

The attention of the Association was recently called to the fact that no definite fee was provided for the administration of nitrous oxide gas in cases where medical men were called in by dentists under arrangement with the Ministry of Pensions. It was represented to the Ministry of Pensions that a special fee should be provided in these cases. The Ministry of Pensions replied that a fee of 5s. had been provided in addition to the 5s. allowed to the dentist in cases of extraction under gas. A further letter was sent to the Ministry of Pensions, pointing out that the Association could not possibly consider a fee of 5s. adequate for this service, and expressing the hope that a fee of at least 10s. 6d. would be provided. A reply has been received stating that the fee has been reconsidered, and that in future the sum of 10s. 6d. will be paid to the medical man for the administration of this anaesthetic.

R.A.M.C.: Retired Pay.

As was shown in a leading article in the JOURNAL of October 18th, 1919 (p. 503), an examination of the new scale of retired pay for officers of the Royal Army Medical Corps brought to light the extraordinary fact that, whereas in pre-war days a major of twenty years' service could retire with a pension of £1 a day, he will in future receive but £321 a year. A letter was addressed by the British Medical Association to the War Office calling attention to this fact and expressing the hope that this figure would be reconsidered. In a reply received on January 16th it is stated that the rates of retired pay granted to officers in the R.A.M.C. are at present under consideration and that the point raised by the Association will not be lost sight of.

Meetings of Branches and Divisions.

DUNDEE BRANCH.

ON January 14th Dr. A. F. HURST, Physician to Guy's Hospital, delivered an address on the functional element in diseases—medical, surgical, gynaecological, genito-urinary, ophthalmic, and oto-laryngological. Professor MACEWAN presided over a large audience. The address was very interesting, and Dr. Hurst gave some account of the results of the psychic and re-educative treatment of cases at Netley and Seale Hayne. The address was illustrated by a series of excellent slides and cinematograph films, this being the first public exhibition of medical films in the district. Dr. W. B. DRUMMOND conveyed the thanks of the audience to Dr. Hurst.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

A GENERAL meeting of the local medical profession called by the South-West Wales Division was held at Carmarthen on January 16th. The meeting was addressed by Dr. ALFRED COX, Medical Secretary of the Association, who gave a *résumé* of what had taken place in the negotiations between the Insurance Acts Committee and the Minister of Health two days earlier.

He said that the profession had asked for 13s. 6d. as a capitation fee, or, failing that, for arbitration, and the latter had been granted. The Minister, on being asked whether the Government would accept the results of arbitration, said he was in a position to bind the Government, and asked whether the Insurance Acts Committee could speak as confidently for its constituents. Dr. Cox thought the question a very pertinent one in view of the notoriously undisciplined action of certain sections of the profession, but he said they had assured the Minister that the profession were honourable men and sportsmen, and, having asked for arbitration, would abide loyally by the result. He pointed out how the negotiations had completely contradicted their friends who tried to make them believe that no body that was not a trade union could carry on negotiations in a matter of this kind. The fact was that it did not matter to the Government whether a body negotiating with it called itself a "trade union" or a "brotherhood," or a "boy scouts brigade"—what the Government wanted to know was whether the negotiators could "deliver the goods." It was because they believed that the British Medical Association was in a better position to do this than any other body that they negotiated with it, knowing that it had taken a great deal of trouble to get a mandate from a representative conference.

He specially directed the attention of his audience, most of whom were rural practitioners, to the great achievement that had been effected on their behalf, a sum of £300,000 having been allotted for mileage purposes as against the old amount of £34,000. This was in his opinion a handsome but richly deserved recognition of the important services of the rural practitioner to the community. Insurance practitioners generally and rural practitioners in particular owed a deep debt of gratitude to the men who had been mainly instrumental in carrying through this great improvement—namely, Drs. Williams-Freeman, A. Linnell, Lewys-Lloyd, and Brackenbury.

Dr. Cox then referred to the general work of the Association and urged the younger members of the Association to take an active part in its work. The Association, like all organized bodies, needed a constant influx of new blood and new ideas, and it was hopeless if the younger men contented themselves with criticism instead of lending a hand. He also referred to the formation of the Welsh Committee and to the useful work he believed it was destined to perform in regard to specially Welsh medical interests.

The meeting closed with a hearty vote of thanks to Dr. Cox and the Chairman, Dr. Owen Williams.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.

AT a largely attended meeting of the practitioners resident in the area of the Kensington Division, Mr. HERBERT TANNER presiding, it was unanimously resolved:

> That this meeting of medical practitioners resident in Hammersmith, Kensington, and Paddington agrees that, owing to the altered value of money, it is necessary that the fees for professional work be increased by at least 50 per cent. on the fees prevailing before the war, and calls upon all practitioners resident in these areas to loyally carry out this recommendation, as is being done in all parts of London and the provinces; it being understood that in cases (known to the practitioner) where such an increase would be the infliction of a hardship, he will use his own estimate of the fees to be demanded in these circumstances.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.

AT a meeting of the South Suffolk Division the following resolutions as to increase of private fees and fees for life insurance examinations were adopted:

> At a meeting held in Ipswich on December 5th, 1919, the medical practitioners in the area of the South Suffolk Division of the British Medical Association, comprising both members and non-members of the Association, decided, in view of the increased cost of living and expenses of carrying on practice, to raise their private fees by not less than 50 per cent., but they will continue to show the same consideration they have habitually extended to those unable to pay the recognized fees.
>
> This meeting is of opinion that the time has come when fees for examinations for life insurance should be not less than 21s., and that insurance companies should be circularized to that effect, and that doctors practising in the area should be informed.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: WORCESTER DIVISION.

A SPECIAL meeting of the Worcester Division, to which non-members were invited, was held at the Worcester General Infirmary on January 7th, when Dr. J. LIONEL STRETTON was in the chair.

The MEDICAL SECRETARY addressed the meeting, and dealt with the following matters: (1) Fees for the notification of infectious diseases. (2) Criticism of members of the Insurance Acts Committee by members and non-members of the British Medical Association. (3) Present position of negotiations for alterations in draft Regulations: (*a*) Sale of practices; (*b*) question of appeal to the High Court; (*c*) capitation fee for supply of drugs; (*d*) certificates; (*e*) remuneration. (4) Fees for medical examination for life assurance. (5) The numerous certificates required by ex-service men when claiming a pension. (6) Fees for operations, etc., undertaken on behalf of public authorities on school children.

On the motion of the CHAIRMAN, seconded by Dr. POLLARD, a hearty vote of thanks was accorded to Dr. Alfred Cox for his address.

YORKSHIRE BRANCH: ROTHERHAM DIVISION.

A GENERAL meeting of the profession was held at Rotherham, on December 23rd, 1919, when Dr. KNIGHT was in the chair.

The meeting having been called for the purpose of discussing the circular from the Council of the British Medical Association with reference to increased fees for medical attendance, the following resolution was passed unanimously:

> That this meeting is in favour of the recommendations of the Council of the British Medical Association, and agrees to increase medical fees generally by 50 per cent. above the charges made before the war.

It was resolved that the Secretary (Dr. Lodge), in conjunction with Drs. Knight and Slack, should draw up a suitable notice of the proposed increase for insertion in the local press.

A copy of the minutes of the meeting will be sent to all practitioners in the Rotherham area.

The meeting then considered the scale of fees to come into

operation on January 1st, 1920, in order to secure the proposed increase of 50 per cent., and a scale of minimum fees was adopted.

Association Notices.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

INSURANCE.

CORRESPONDENCE.

Limitation of Lists.

SIR,—May I raise the question of the limitation of lists in your columns?

After full discussion and some opposition our Conference of representatives agreed to a limit of 3,000. The 2,000 limit proposed by the Ministry was dropped later on, as our Insurance Acts Committee pointed out at the same time quite fairly, reminding us that power was retained by each Insurance Committee to fix a lower limit at anything it liked after conferring with the Local Panel Committee (whether the Panel Committee agreed or not).

The Northumberland Insurance Committee has now made a limit of 2,000 (as I expect nearly all Insurance Committees will), in opposition to the wishes of the Panel Committee, which proposed 2,500, and the question is now left by the rules to the arbitration of the Ministry. We know their wishes in the matter. Giving all credit to the Insurance Acts Committee for their difficult and arduous task (we owe them, I believe, a big debt of gratitude), have they done right in leaving a proposal disapproved of by the Panel Conference, where union was strength, to be decided in local areas, where the doctors will be overriden? The question is a national one, not local. The Insurance Acts Committee knew the probable course of events. Could they not have done something more to get a national settlement, and the power taken from local committees?

The limit may be fair enough, but it may only be the first step to a lower limit—perhaps 1,500—in other areas. Again, many doctors with public appointments, good class private practice, country district, etc., are less able to attend 1,000 than a man devoting himself solely to working class practice to attend 2,000. Why should limits be imposed on the one and not the other? Allowing that such limits should be and will be imposed later on, it is, of course, a full-time State service in disguise, which I understood the profession were against. Again, at the present time, with high salaries for assistants, housing difficulties, and scarcity of men, the latitude of one year allowed for getting an assistant is not enough.

I sum up: Granted that the limit of 2,000 is fair, is the Ministry's method of getting their point a fair and open one after what has taken place? Have we any safeguard against lower limits or lower proportional limits after dependants come into the scheme?—I am, etc.,

W. I. GORDON,
Member, Northumberland Panel Committee

Blyth, Northumberland, Jan. 24th.

The Net Capitation Fee.

SIR,—On December 11th, 1919, I received from the Clerk to the Bedfordshire Insurance Committee a cheque for £5 16s. 8d. as a final payment for 1918. This makes the total amount paid to me for 1918 up to £43 5s. 7d. The Clerk tells me that the mean average number on my list was 139.25. Therefore I actually received about six shillings and two pence as a capitation fee.

Why (I do not dispense) do not I receive what I understood was the promised amount—namely 7s. 6d. for each person on my list? Why should 17.6 per cent. be deducted as the inflation of my mean average number, and 8.32 per cent. be added for unallotted persons? How are these figures arrived at?

If I remain on the panel is there any guarantee that I shall receive more than a proportion of the promised capitation fee, whatever it may be, under the new Regulations?—I am, etc.,

St. Neots, Jan. 7th. EDWARD J. CROSS.

LOCAL MEDICAL AND PANEL COMMITTEES

COUNTY OF LONDON PANEL COMMITTEE.

Terms of Service for 1920.—At the meeting of the London Panel Committee on January 20th it was reported that the representatives of the Insurance Committee, who have been conferring with representatives of the Panel Committee on the proposed terms of service for practitioners, had agreed to support the demand of the Panel Committee that provision should be made in Article 34 for the supply free of cost of the necessary information for the investigation of excessive prescribing; to accept the suggestion that the special final certificate applicable to rural areas should be used in urban areas; and to insert a clause in the present agreement redefining the radius within which a practitioner is required to visit. The Panel Committee resolved to ask the Insurance Committee to agree to an arrangement whereby a practitioner entering into a written agreement with any insured person who desired to be placed on the practitioner's list, but who lived outside the customary radius, should be allowed to charge a special fee for visiting such insured person at his residence. It was stated that such an arrangement already obtained in the Middlesex area.

Model Scheme of Remuneration.—The Committee considered in detail the model scheme of remuneration, and suggested certain emendations. Acceptance of the new method of calculating the lists was made conditional upon the previous supply to the practitioner of the correct list by the Insurance Committee. It was agreed also that the fee payable to the practitioner responsible for providing the services of an anaesthetist ought to be fixed at one guinea; that the accounts for emergency treatment should be sent in by practitioners within forty-eight hours of the emergency (instead of seven days as on the original draft), and should be submitted on a form giving the name of the practitioner on whose list the name of the insured person appeared; that the gratuities in respect of temporary residents should be reckoned in the ratio of 2 to 1 to those in respect of permanent residents; and that the units credited to practitioners who had limited their lists should, in the case of practitioners in general practice, be reduced by 7½ per cent., and in the case of practitioners in institutions by 10 per cent. A scale of fees for emergency treatment was also laid down and agreed to. The Committee also made certain suggestions for incorporation in the model allocation scheme, and resolved with regard to both schemes to urge that they should be subject to revision at the end of any year if the Panel Committee deemed this to be advisable.

COUNTY PALATINE OF CHESTER.

The following resolutions were passed unanimously at a meeting of the County Palatine of Chester Local Medical and Panel Committee, held at Crewe on January 17th, 1920:

1. That this Committee expresses its most emphatic disapproval of the remuneration offered by the Government; and regrets that the Insurance Acts Committee thought fit to exercise its authorization to ask for arbitration when the Government's offer proved to be such a low figure as 11s.
2. This Committee notes with especial regret that the terms of service for which the remuneration is offered are "the proposed Medical Benefit Regulations, 1920, as published in December last," which regulations (*a*) retain the provision by which the Minister may be at one and the same time the accuser or complainant, and the judge or arbitrator (Regulation 57), the accused having no appeal—a provision which in the opinion of this Committee is contrary to the spirit of English law; and (*b*) introduce a new provision [16 (c)], detrimental to the transfer of practices, which greatly diminishes their capital value; and (*c*) impose a new obligation on practitioners [First Schedule, Part 1, 5 (c) and Model Allocation Scheme 5 (i.) and (ii.)], requiring them to attend any insured person on the list of another doctor, in an accident or sudden emergency if that doctor be not at the moment available, for a fee to be deducted from that doctor's remuneration.

With regard to (*b*) the Committee remarks that at the death of a doctor it is too often found that the goodwill of the practice is the chief and often the only asset which he has to leave to his widow and children, and that by this regulation this asset is, without compensation, greatly diminished or it may be abolished. With regard to (*c*) a

trying and uncertain and entirely new duty is imposed on a panel doctor in the shape of a legal obligation. When has it happened, the Committee asks, in the past, that doctors have ignored the claims of urgent illness? They have voluntarily dealt with such cases as they occurred, on their merits. They resent, however, being *legally obliged* to attend all and any who may demand their services on a plea of urgency; and they note that the reality or otherwise of the urgency is left to the decision of the patient.

WARRINGTON.

A meeting of the Warrington Medical and Panel Committee was held on January 17th, when Dr. FERGUSON was in the chair. Although the meeting was hastily convened there was a good attendance. It was decided to fall in with the Insurance Acts Committee's decision to abide by arbitration in the matter of the capitation fee, and also to form a subcommittee to co-operate with the Insurance Committee in formulating the allocation and remuneration schemes for the area under the New Regulations.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty:—Surgeon Lieutenant Commander A. Simpson to the *Egmont* and for Malta Dockyard. Surgeon Lieutenant J. D. Mu phy to R.M. Division, Chatham.

ARMY MEDICAL SERVICE.

Temp. Colonel W. Hunter, C.B. (Captain R.A.M.C., T.F.) relinquishes his temporary commission on reposting.

ROYAL ARMY MEDICAL CORPS.

To be acting Colonels: Major (acting Lieut.-Colonel) G. W. Heron, D.S.O., O.B.E. (November 22nd, 1918), Lieut.-Colonel W. P. Gwynn, C.M.G. (from June 7th to October 1st, 1919).

Temp. Lieut.-Colonel H. J. Roberts (Lieut.-Colonel, T.F. Res.) relinquishes his temporary commission.

The following relinquish the acting rank of Lieut.-Colonel:—Majors and brevet Lieutenant-Colonels: D. S. Skelton, D.S.O., M. G. Winder, D.S.O. Majors A. W. Gater, T. B. Unwin, D.S.O., O. Ievers, D.S.O., B. A. Odlum, O.B.E., W. I. Thompson, D.S.O., R. B. Hole, W. H. Forsyth, D.S.O. (October 18th, 1919, substituted for notification in the *London Gazette*, December 2nd, 1919). Captains G. H. Stacke, W. D. Anderton, M.C., A. J. Hickey, M.C., L. T. Poole, D.S.O., M.C.

To be acting Lieut.-Colonels: Major T. H. Scott, D.S.O., M.C., Captain C. H. K. Smith, M.C., temporary Captain A. J. Blake, M.C.

The following officers relinquish their commissions: Temporary Lieut.-Colonel J. F. Haswell. Temporary Major J. A. Devine, O.B.E., D.S.O., and retains the rank of Major. Temporary Captains and are granted the rank of Major: E. B. Gunson, I. Jones, W. D. Cruickshank, V. L. Connolly, M.C. (January 18th, 1919, substituted for notification in the *London Gazette*, March 6th, 1919), C. N. Coad, M.C. (December 20th, 1919, substituted for notification in the *London Gazette*, January 13th, 1920), C. E. Walker. Temporary Captains and retain the rank of Captain: T. Howell, M.C., H. F. Ferguson, R. J. B. Leney, G. H. Fraser, R. M. de Mowbray, S. C. W. Iredale, J. Hill, M.C., E. W. L. Sharp, W. Duffy, R. C. Hewitt, M. K. Robertson, G. C. Hartley, M.C., W. Gemmill, T. F. Ryan, C. A. D. Bryan, C. H. G. Lyall, R. H. Fletcher, H. G. Baynes, E. U. Williams, O.B.E., F. A. Kerr, J. S. Prentice.

The notifications regarding the following officers in the *London Gazette* of the dates indicated are cancelled: Captain and Brevet Major L. Dunbar (July 1st, 1919), Temporary Captains Hubert Joslen (November 26th, 1919), R. Massie, O.B.E. (December 2nd, 1919), Sydney F. McDonald (October 15th, 1919).

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 9 p.m., Lettsomian Lecture by Dr. Herbert Spencer: Tumours complicating Pregnancy, Labour, and the Puerperium; I. Fibroids.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Hunterian Lecture, Monday, 5 p.m., Sir Berkeley Moynihan, K.C.M.G., C.B.: Late Surgery of Gunshot Wounds of the Chest. Friday, 5 p.m., Professor V. Zachary Cope: Surgical Aspect of Dysentery.

ROYAL SOCIETY OF MEDICINE.—*Section of Surgery, Subsection of Orthopaedics*: Tuesday, 5 p.m., Cases. Paper: Mr. Max Page: Use of Pneumatic Pads. *Section of Pathology*: Tuesday, 8.30 p.m., Dr. Teale: Phagocytosis *in Vitro*. *Section of Surgery*: Wednesday, 5.30 p.m., Mr. Garnett Wright: Congenital Diverticulum of the Colon. Mr. R H. Anglin Whitelocke: Appendicectomy by a New Route. *Section of Ophthalmology*: Wednesday, 8 p.m.: Case. 8.30 p.m., Dr. S. H. Browning: Treatment of Gonorrhoeal Iritis. *Section of Obstetrics and Gynaecology*: Thursday, 8 p.m.: An abstract of a paper by Dr. Goodall on the Origin of Tumours of the Ovary. Dr. Gordon Ley: A Statistical Report of Carcinoma of the Ovary. *Section of Laryngology*: Friday, 4 p.m., Cases and Specimens. *Section of Anaesthetics and Laryngology*: 8.30 p.m., Discussion: Anaesthesia in Throat and Nose Operations, to be opened by Dr. F. S. Rood.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. Punch: Morbid Anatomy of Pulmonary Tuberculosis.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—Wednesday, noon, Dr. Jewesbury: Diet in Infancy and its Effects. Thursday, noon, Mr. H. S. Souttar: Painful Injuries of the Peripheral Nerves.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. F. E. Tylecote: Some Features of Recent Epidemics of Pneumonia.

NEWCASTLE-ON-TYNE: ROYAL VICTORIA INFIRMARY.—Friday, 2 30 p.m., Professor R. A. Bolam: Venereal Diseases. 3.15 p.m., Professor W. E. Hume, C.M.G.: Clinical Aspect of Blood Diseases. 4.30 p.m. (College of Medicine), Dr. J. D. Lickley: Anatomy of Thorax and Abdomen.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2 p.m , Mr. H. W. Carson: Hernia (demonstration). 4.30 p.m., Dr. F. G. Crookshank: Respiratory Disease in Childhood (lecture).

SALFORD ROYAL HOSPITAL.—Friday, 4 p.m., Dr. Heywood: Functional Nervous Disorders and Organo-therapy.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: *X*-ray Examination of Bones and Joints. Tuesday, 4 p.m., Dr. Hay: Ocular Sequelae of General Diseases. Wednesday, 3.30 p.m., Dr. Wilkinson: Nasal Obstructions. Thursday, 3.30 p.m., Dr. Skinner: Inflammations of Skin. Friday, 4 p.m., Dr. Hay: Diseases of Eyelids.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith.—Saturday (January 31st), 10 a.m., Mr. Banks Davis: Throat, Nose, and Ear Operations. Monday, 5 p.m., Mr. MacDonald: Infections of the Urinary Tract. Tuesday, 2 p.m., Dr. Pernet: Skins. Wednesday, 5 p.m., Dr. Owen: Electro-cardiography. Thursday, 10.30 a.m., Dr. Simson: Gynaecology. Friday, 5 p.m., Dr. R. Hutchison: Functional Dyspepsia.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4351 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JANUARY.

30 Fri. London: Central Ethical Committee, 2 p.m.

FEBRUARY.

3 Tues. London: Scrutiny Subcommittee, 2.30 p.m.
4 Wed. London: Journal Committee, 2.30 p.m.
5 Thur. London: Ministry of Health Committee, 2.30 p.m.
6 Fri. London: Naval Medical Service Subcommittee, 2.30 p.m.
11 Wed. London: Finance Committee, 2.30 p.m.
18 Wed. London: **Council.**
19 Thur. London: Dominions Committee, 2.30 p.m.

APPOINTMENTS.

GORDON, G. A., M.D., Medical Officer, Richmond (Surrey) Union Institution.

GOULDEN, Charles, O.B.E., M.A., M.D., M.Ch., F.R.C.S., Assistant Ophthalmic Surgeon to the London Hospital, Whitechapel.

MACKENNA, R. W., M.A., B.Ch., M.D., Honorary Dermatologist to the Liverpool Royal Infirmary.

O'NEILL, C. S., O.B.E., M.D., D.P.H., Medical Referee to the Altrincham District War Pensions Committee.

ROSS, James A., M.A., M.B., Ch.B.Edin., Consulting Ophthalmologist to the Education Authority, Cumberland, and Consultant Oculist to the Education Authority, Dumfries-shire.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BURRIDGE.—At Swanage, on January 24th, the wife of Captain W. Burridge, R.A.M.C., a son.

SEDGWICK.—On January 26th, at Thrybergh, Rotherham, the wife of G. H. Sedgwick, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGE.

BRITTON — NORTH. — On January 14th, at St. George's Church, Tredegar, by the Rev. David Jones, M.A., Reginald Bertram Britton, M.R.C.S., L.R.C.P. (Lond.), third son of G. B. Britton, M.P., of Bristol, to Irene, youngest daughter of W. North, J.P., of Tredegar.

DEATHS.

BOYD.—On January 22nd, at Carntall, co. Antrim, Ireland, John Alexander Boyd, M.B., of 63, Upper Gloucester Place, London, N.W.1, fifth son of the late Nathaniel Boyd, of Carntall.

DYER.—On the 24th January, at the London Fever Hospital, Islington, Francis Norman Victor Dyer, M.A., M.B., B.Ch. Cambridge, M.R.C.S. and L.R.C.P. London, Assistant Medical Officer, the dearly beloved only child of Mr. and Mrs. Dyer, and grandson of the late Rev. Charles Dyer, in his 26th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 7TH, 1920.

CONTENTS.

PAGE

British Medical Association.

CURRENT NOTES:
- THE ARBITRATION ... 29
- PRAISE AND BLAME FOR THE INSURANCE ACTS COMMITTEE ... 29
- ACKNOWLEDGEMENT OF ASSISTANCE ... 29
- THE MEDICAL PROFESSION AND LOCAL ELECTIONS ... 29

MEETINGS OF BRANCHES AND DIVISIONS ... 29

ASSOCIATION NOTICES:
- MEETING OF COUNCIL ... 30
- ELECTION OF REPRESENTATIVE BODY AND COUNCIL ... 30

PAGE

INSURANCE—CORRESPONDENCE:
- THE DISPENSING FEE ... 30
- INSURANCE REMUNERATION ... 30
- INSURANCE MEDICAL RECORDS ... 31
- LIMITATION OF PANEL LISTS ... 31

ASSOCIATION INTELLIGENCE ... 31

NAVAL AND MILITARY APPOINTMENTS ... 32

APPOINTMENTS ... 32

DIARY OF SOCIETIES AND LECTURES ... 32

BIRTHS, MARRIAGES, AND DEATHS ... 32

British Medical Association.

CURRENT NOTES.

The Arbitration.

IN preparing the case to be submitted to the Board of Arbitrators on behalf of insurance practitioners, the Insurance Acts Committee has secured the assistance of the distinguished economist, Professor A. L. Bowley, D.Sc., F.S.S. Dr. Bowley is professor of statistics in the University of London, and has been for many years lecturer at the London School of Economics and Political Science. He is a member of council of the Royal Economical Society, and has twice served as vice-president of the Royal Statistical Society. He has published many authoritative works on mathematics and statistics, as well as on economics and related social questions. Professor Bowley will advise on the economic and statistical questions involved, and will, if necessary, appear as a witness. The Insurance Acts Committee has entrusted the conduct of the case to Dr. H. B. Brackenbury, Dr. H. G. Dain, and Dr. A. Linnell, with the Medical Secretary. They will attend before the arbitrators and support the written case that will be submitted. The preparation of this is in the hands of the Executive Subcommittee, which consists of Drs. Brackenbury, Ridley Bailey, H. G. Cowie, Dain, Fothergill, Fry, Wood Locket, Palmer, Panting, Crawford Treasure, and J. P. Williams-Freeman.

Praise and Blame for the Insurance Acts Committee.

At its meeting on January 29th the Insurance Acts Committee received congratulations on its conduct of the negotiations with the Government with reference to the Regulations for 1920 and the capitation fee from a conference of the South-Western Group of Panel Committees (including Cornwall, Devonshire, Exeter, Plymouth, Somerset, Bath, Dorset, Isles of Scilly, and Wiltshire Committees); from Anglesey; from a conference of representatives of the North of England Panel Committees; from West Sussex; and from a conference of the Panel Committees of Lancashire. A typical resolution was that which came from the North of England Conference of Panel Committees:

> "That the heartiest thanks of this conference be sent to the Insurance Acts Committee for the way they have conducted the negotiations with the Ministry of Health on behalf of the medical profession."

The Committee expressed its satisfaction at receiving these marks of appreciation, but was preserved from the fate of those of whom all men speak well by the receipt of a resolution from the Southampton Panel Committee, which, on January 19th, expressed the opinion that—

> "The lamentable weakness in subjecting the irreducible minimum of 13s. 6d. to arbitration, if not acceded to by the Government, thereby converting it into a reducible maximum, has completely sold the pass."

The Medical Secretary reported that he had drawn the attention of the Southampton Committee to the resolution of the Panel Conference, which authorized the Insurance Acts Committee to ask for arbitration in the event of the Government not offering the 13s. 6d., though Southampton had not agreed to it.

Acknowledgement of Assistance.

The Medical Secretary desires to take this means of thanking the numerous correspondents who have sent information bearing on the forthcoming arbitration on the insurance capitation fee. The tabulation and classification of this information is a task of considerable magnitude, and the Medical Secretary hopes that correspondents who have had no direct acknowledgement will accept his thanks hereby tendered.

The Medical Profession and Local Elections.

An instance of what can be done in the way of promoting the candidature of suitable medical men for seats on local authorities is reported by Mr. A. M. Webber, the Secretary of the Nottingham Division. There was a by-election for a vacancy on the Nottingham City Council, and Dr. F. H. Jacob was induced to stand as a candidate, with the support of both the Conservative and Liberal parties. A letter signed by most of the medical practitioners in the ward was circulated stating briefly Dr. Jacob's qualifications as a councillor from the medical point of view and the reasons why more medical men should be placed on the council. The letter was also inserted in the principal local papers, and the election agent considers that it was an important factor in the contest. The result was that Dr. Jacob was returned by a majority of 1,288 over the Labour candidate, and while, no doubt, this result was due very largely to the personality of Dr. Jacob, who is a well known and highly respected consulting physician in Nottingham, the action taken by his colleagues seems well worthy of notice and also of imitation. Dr. Jacob is physician to the General Hospital, Nottingham, and a former Secretary of the Nottingham Division.

Meetings of Branches and Divisions.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.

THE annual dinner of the Division was held in the Corporation Hotel, Middlesbrough, on January 29th, when fifty-one members and guests were present. The Chairman of the Division (Dr. A. BRYANS of Middlesbrough) occupied the chair, and was supported by the Mayor of Middlesbrough, the Coroner for Sunderland, the clerks to the Middlesbrough and North Riding of Yorks Insurance Committees, and other well known residents in the district. The toast of "The Cleveland Division" was proposed by Mr. JAMES WANDLESS, clerk to Middlesbrough Insurance Committee, and was replied to by the CHAIRMAN, who, in the course of his speech, strongly deprecated the attempt which was being made by other bodies of medical men to take over work which rightfully belonged to the British Medical Association.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

AT a meeting on January 31st it was decided to adopt the recommendation of the Council of the British Medical Association to increase medical fees by 50 per cent. over pre-war prices, it being always understood that the individual doctor will use his discretion when dealing with the individual patient.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

AT a meeting of the West Suffolk Division on January 27th it was resolved that fees for private clubs and non-insured members of friendly societies be raised to 14s. for members over 16, and 7s. for members under 16. These fees conform to the new rates to be instituted by the Suffolk County Medical Club as from April 1st next.

The Honorary Secretary was instructed to urge upon medical men in the area the desirability of amalgamating their private clubs with the County Club, as it was only by such means that uniform rates could possibly be obtained. Several medical practitioners in West Suffolk have already taken this step and have found it a great advantage. The office of the Suffolk County Medical Club is at 45, Princes Street, Ipswich.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, February 18th, in the Council Room, 429, Strand, London, W.C. 2., at 10 a.m.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920-21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

THE list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and ***Nomination Form***, appeared in the SUPPLEMENT of January 24th, page 22. Separate Nomination Forms will, if desired, be forwarded on application by Branches, Divisions, or Members.

The list of the Groups of ***Oversea Branches*** was published in the SUPPLEMENT of October 11th, 1919, p. 79.

BRANCH AND DIVISION MEETINGS TO BE HELD.

ESSEX BRANCH: SOUTH-EAST ESSEX DIVISION.—Mr. E. C. Hughes, F.R.C.S. (Surgeon to Guy's Hospital), will deliver an address on Gall Stones, on Thursday, February 12th, at the Victoria Hospital, Southend-on-Sea.

INSURANCE.

CORRESPONDENCE.

The Dispensing Fee.

SIR,—Below is a comparison of prices, pre-war and present, of a dozen drugs and dressings chosen indiscriminately from amongst those in everyday use:

		Pre-war.	Present.
		s. d.	s. d.
Acidi borici	per lb.	0 6	1 4½
Syrup. hypophosph. co.	,,	1 6	2 9
Tinct. digitalis	,,	3 6	6 3
Inf. gent. conc.	,,	1 6	2 7
Potass. iodidi	,,	10 3	26 8
Mist. expect.	,,	2 0	3 6
Paraffinum molle flav.	,,	0 6½	1 6
Sodii salicyl.	,,	1 11	5 0
Morphin. hydrochlor.	per oz.	9 0	23 0
Quin. sulph.	,,	1 0	4 8
Boric lint	per lb.	1 6	3 4
Bandages (2½ in.)	per doz.	2 6	6 0

In addition dispensers' salaries have risen and the prospect of a substantial rise in cost, especially of dressings, is imminent.

The chemist is paid for all drugs at 1920 prices and receives payment for dispensing at a rate approaching 5d. per bottle with the likelihood of an early increase. Yet the doctor who dispenses for his panel patient is to be offered the old 1913 rate of pay—namely, 2s. a head a year. There seems little need to emphasize the obvious injustice of this offer.

For the doctor not possessed of private means there is but one course—cheaper drugs and smaller doses.

If the interest of the patient is of any consequence, either to the Ministry of Health or to the medical profession, it is imperative that the dispensing practitioner should be encouraged, by proper payment, to give suitable medicines to his panel patients. He has the right to expect, moreover, a payment for his time and trouble at least equal to that received by the chemist.—I am, etc.,

Astley, Feb. 2nd. S. H. RYAN.

Insurance Remuneration.

SIR,—I have just received from my Insurance Committee the terms of service which come into operation on April 1st of this year. The Government has offered a capitation fee of 11s. The Conference representatives have refused this, and asked that the question of remuneration be submitted to arbitration. I do not find fault with Dr. Addison, who is a servant of the Government, in taking up the attitude he did at the Conference negotiations, because it is up to him, in order to please his master (the Government), to make the best terms possible with the profession short of granting their actual demands—namely, 13s. 6d. Also I have not the slightest doubt that the Government give us the credit of being able to look after our own interests, and the whole question to be settled, in their opinion, was to be done by haggling until they get us to accept something less than we at first asked for.

They certainly have not given us credit for asking (as we have done when we fixed upon 13s. 6d.) what we, the general practitioners, considered an irreducible minimum, much lower than the present increased cost of living justified us in doing. The increased cost of living is undoubtedly 100 per cent. over pre-war level, and we would have had a perfect and justifiable right in asking for 15s. The Government is perfectly aware of this increased cost, and Sir Eric Geddes in dealing with the railway workers found that he was negotiating with a very different type of man than those with whom Dr. Addison conferred as our representatives, because he was compelled to give them an increase equivalent to 134 per cent. over pre-war rates.

A great mistake was made when our representatives desired to submit the question to arbitration, and I do not think the profession should consider themselves bound by them. The Government cannot work the National Health Insurance scheme without the services of the medical profession, and if we in a solid body refuse to accept less than 13s. 6d. we are certain to obtain it, but we must act every one of us in concert.

We should not allow the Government to dictate to us and tell us what they will give us. It is for us to prevent them exploiting our services, and to state clearly we will accept nothing less than 13s. 6d., a 60 per cent. increase, which really is not enough and does not represent the full increase in cost of living, but as it is the figure fixed upon by our representatives, we are willing to abide by it.

Moreover, the new Regulations under which we shall work, and which come into force on April 1st next, are much more onerous and exacting than the old terms. For example, very briefly, the new Regulations state:

1. The panel doctor is responsible for the treatment of a pregnant woman up to the end of twenty-eight weeks, and again the tenth day following labour.
2. He has to keep and furnish reports; to consult with the Government medical officer; to meet him when he so desires; to visit cases in consultation with him; to show him all records and to answer any inquiries by letter if desired.
3. He must pay out of his own pocket for an anaesthetist if one is required.
4. He must obtain the consent of his Insurance Committee before he can take a holiday extending over one week, and before he can employ an assistant. He must obtain the consent of the Minister of Health before he can employ two or more assistants.
5. He must treat any member of any society that the Insurance Committee may direct him to treat.
6. He must supply drugs, etc., required for immediate application if the chemist is closed.
7. He, when declining to accept an applicant to his list, must treat him if he requires it, and then instruct him how to proceed to get upon a neighbour's panel.

These I quote as the most glaring and the most irksome of the new conditions under which we are to work in the future. Shall we be adequately paid if we accept 13s. 6d. per head per annum? I would unhesitatingly say "No," but as it is the figure fixed by our representatives I am willing to stand by it. The profession in one voice should request our representatives to withdraw their offer of arbitration, and let the Government understand at once that we can accept nothing less than 13s. 6d., and that no further negotiations are desired.

Why do we allow the Government to exploit our services? Is it because we have always done a very large amount of charitable work, and the Government now look upon it as a right? I am far from suggesting that we should discontinue to do charitable work, for I think there is nothing gives me greater pleasure than to return the fees in deserving cases, and the expressions of gratitude received are ample reward. But it is quite another thing for the Government to take advantage of this philanthropic trait of our character and ask us to work and render services of a very responsible nature for anything less than 13s. 6d. a head per annum. Any sum less than this will never give satisfaction, and the service will certainly suffer as a consequence. If you want the best service from anyone you should pay him well.

If we give this decision as our final and well considered ultimatum, and as coming as the voice of every *Division* and *Branch* of the *British Medical Association in England* I feel sure that the Government, recognizing the strong attitude we are taking up, and realizing that the insurance scheme cannot be carried on without our co-operation, and also after due consideration arriving at the fact that our demand for 13s. 6d. is equitable, fair and reasonable, they will, willingly I hope, and if unwilling be compelled to grant it.—I am, etc.,

THOMAS WRIGHT, M.B., C.M., D.P.H.

Greyholme, Aldershot, Jan. 28th.

Insurance Medical Records.

SIR,—Under the new Insurance Regulations record taking appears to be inevitable, and knowing as I do that the old method was cumbersome and unreliable from a statistical point of view, any suggestion likely to lead to ease, reliability, and usefulness should be welcomed by the powers that be, to say nothing of the record keeper.

It has been my custom ever since the Act came into force to paste a slip of paper inside the medical ticket, on which I record my attendance, particularly with regard to diagnosis and treatment, the name and address of patient being first entered. The patient is instructed to bring the card every time he wishes to see me, or to have the card on the table when I visit him at home. I find this a great convenience; it saves time and leads to accuracy in certification and continuity of treatment, and I am convinced that a big panel cannot be satisfactorily conducted without some such method.

If this system were adopted, the profession would quickly realize its value, and the State might then expect to get a true record, which I have no hesitation in saying was next door to impossible under the old arrangement. All that is required is a new medical ticket with a plain interior, or simply ruled as the old record cards were, and issued every year. The collection of these cards, simultaneously with the stamp cards, ought not to be difficult. I hardly like to suggest that the fact that a patient's card could be inspected at any time, either by his society's representative or State official, might afford an inducement to the adoption of the plan.

As instances of usefulness I may mention the case of a girl who sometime last December wanted a certificate, for the unemployment bureau, of inability to work from June to September, 1915. I was able to satisfy her requirement on referring to her medical card, without having to draw upon my stock of credulity or good nature. In another case a man died suddenly in a tramcar, three miles away from home; the police found in his pocket a medical card, with my notes attached, showing my last attendance and indicating the disease from which he died.

The method is businesslike, and I am convinced that any medical man who tries it will in future keep the record for his own benefit.—I am, etc.,

H. C. CREW.

Wednesbury, Jan. 28th.

Limitation of Panel Lists.

SIR,—The action taken by the Ministry of Health, at the twenty-fourth hour, in issuing a circular letter—and accidentally emphasizing it by another the day following—advocating the limitation of panels below the maximum laid down in the Regulations, is highly discreditable. I feel sure that at the Conference of Panel Committees none anticipated this, and to advise Insurance Committees to take action in this respect, when time was the main factor in hurrying the completion of the schemes, was most surely the best way of creating ill feeling and dissatisfaction.

"Give him an inch and he will take an ell" is an old saying, and this is the case with the Minister. The 3,000 limit is in the Regulations, but the future policy of the Ministry is that this is to be regarded as exceptional and far lower limits will be the rule.

In this county the Insurance Committee and the Panel Committee failed to agree upon a limit, and the matter was referred to the Minister, who has imposed a limit of 2,500 as a temporary measure, and it is added that such a limit cannot be regarded as an indication of the view of the Minister that so high a limit as 2,500 is appropriate for the rural parts of the area. (But no *rural* practitioner is ever likely to obtain this number locally.) The imposition of any limit does not in itself lead to greater efficiency, for the other duties of a practitioner must always be taken into consideration.

It seems illogical that, on the one hand, the Ministry recommends smaller panels, and then, under M.C. 3, we are advised to fine a practitioner who, for his own reasons, endeavours to limit his panel, and no points need be raised as to what other work he does.

In this county we endeavour to create a good standard

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

6 Fri. London: Naval Medical Service Subcommittee, 2.30 p.m.
10 Tues. London: Executive Subcommittee, Insurance Acts Committee, 2.30 p.m.
11 Wed. London: Finance Committee, 2.30 p.m.
12 Thur. South-East Essex Division, Victoria Hospital, Southend-on-Sea. Address by Mr. E. C. Hughes, F.R.C.S. (Surgeon to Guy's Hospital), on Gall Stones.
18 Wed. London: **Council**, 10 a.m.
19 Thur. London: Dominions Committee, 2.30 p.m.
27 Fri. Edinburgh Branch: Address by Dr. A. Blackhall-Morison: The Passive Mechanical Factor in Heart Disease, Its Influence and Management.

of service, and would deal with any panel if it were proved that the practitioner was not able to undertake his obligations, but the creation of limits is really artificial and serves no useful purpose.—I am, etc.,

SIDNEY CLARKE, M.D.,

St. Albans, Feb. 3rd. Honorary Secretary, Herts Panel Committee

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: H. C. Arathoon, E. B. Kenny, H. Spicer, and A. X. Lavertine to the *President*, additional, for recruiting duties at Manchester, Nottingham, Southampton, and Newcastle respectively; J. K. Raymond to the *Erin*. Surgeon Lieutenants: W. A. Jolliffe to the *Egmont*, additional; D. A. P. Clarke to the *Hercules*; W. J. McB. Allan to R.N. Hospital, Plymouth. Surgeon Lieutenants (temporary): W. O'G. Donoghue to the *Pembroke*, additional; H. S. Bryan to the *Victorious*.

ARMY MEDICAL SERVICE.

Major-General W. T. Swan, C.B., retires on retired pay.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. P. J. Murphy is placed on the half-pay list on account of ill health.

To be acting Lieutenant-Colonels: Temporary Captain (acting Major) G. W. Rea (July 23rd, 1919), Major and Brevet Lieut.-Colonel B. A. Craig (August 20th, 1919).

Major A. B. Hinde, O.B.E. (ret. pay), is granted the rank of Lieutenant-Colonel on ceasing to be re-employed.

Major and Brevet Lieut.-Colonel D. S. Skelton, D.S.O., is seconded for service under the Colonial Office.

Major J. E. H. Gatt retires on retired pay.

Temporary Major S. A. Smith, D.S.O., O.B.E. (Major C.A.M.C.), relinquishes his temporary commission.

The following relinquish the acting rank of Major: Captains T. P. Litt, T. F. Kennedy, O.B.E., G. E. A. Argo, M.C., F. G. Flood, M.C., G. G. B. Holroyde, M.C., S. J. L. Lindeman, M.C., F. R. H. Mollan, M.C., H. W. Browne, M.C., S. J. A. H. Walshe, D.S.O., A. G. Wells, D.S.O., E. G. S. Cane, D.S.O., E. A. Strachan, W. J. Tobin. Temporary Captains: R. A. Steven, R. W. S. Christmas, V. L. Connolly, W. C. Horton, R. Thomson, C. C. Harrison, M.C., A. Brown, O.B.E., A. M. Malcolmson, A. E. Quine, W. D. Cruickshank, R. S. S. Statham, C. N. Coad, M.C., A. Scott, F. C. Lees, M C, W. Montgomery, S. J. W. Donald, F. De S. McMenamin, M.C., H.W. Turner, M.C., S. E. Picken, M.C., H. B. G. Russell, R. B. Blair (April 6th, 1919, substituted for notification in the *London Gazette*, June 27th, 1919), B. H. Woodyatt, A. L. Robinson, H. H. Dunmere, M.C., W. C. Sharpe, A. S. K. Anderson, D.S.O., M.C., W. J. Macdonald, M.C.

Captain J. P. Quinn, M.C., resigns his commission.

The name of Captain James R. Hill is as now described, and not as printed in the *London Gazette* of October 14th, 1919.

The notifications in the *London Gazette* of November 4th, 1919, and the substitution therefor in the *London Gazette* of December 30th, 1919, regarding Lieut.-Colonel Charles J. O'Gorman, D.S.O., are cancelled.

Temporary Lieutenant S. P. Hyam to be temporary Captain.

To be acting Majors: Temporary Captains C. D. Coyle (from February 2nd to October 10th, 1919) and S. W. Allworthy (from February 28th to April 7th, 1919), R. Scott, E. J. Maxwell, Captain M. Morris.

Captain E. G. H. Cowen retires, receiving a gratuity.

Captains R. M. Dickson, O.B.E, and R. O'Kelly relinquish the acting rank of Lieutenant-Colonel.

Temporary Captain J. F. O'Malley to be temporary Major, June 1st, 1918 (substituted for notification in the *London Gazette*, May 31st, 1918).

The notifications in the *London Gazette* of January 24th, 1920, regarding the relinquishment of the acting rank of Major and the pay and allowances of that rank by temporary Captain Alexander Scott are cancelled.

The notifications in the *London Gazette* of August 25th and September 30th, 1919, regarding temporary Captain John D. Gimlette are cancelled.

Lieutenant (temporary Captain) H. J. Bensted, M.C., to be Captain.

T. W. J. Childs to be temporary Captain.

The following officers relinquish their commissions: Temporary Lieut.-Colonel A. C. Suffern on ceasing to serve with the 1st Birmingham War Hospital, and retains the rank of Lieutenant-Colonel. Temporary Major (acting Lieut.-Colonel) W. de M. Hill, C.B.E., and is granted the rank of Lieutenant-Colonel. Temporary Majors and retain the rank of Major: W. P. Yetts, O.B.E., Norcliffe Roberts, O.B.E. (on ceasing to serve with the Horton—County of London—War Hospital). Temporary Captains, and are granted the rank of Major: J. W. C. Gunn, W. J. Macdonald, M.C. (substituted for notification in the *London Gazette* of January 2nd, 1920). Temporary Captain J. Howells. Temporary Captains and retain the rank of Captain: G. M. Cameron, M.C., E. H. Cameron, J. R. Griffith, J. Geoghegan, B. M. Collard, T. E. George, S. B. Radley, A. C. Lambert, M.C., R. O. Whyte, A. E. Moore, J. D. Gimlette, E. Forbes, M.C., W. C. Morton, E. F. Buckler, R. Crawford, E. R. C. Cooke, M.C., J. Gray, R. L. Haines, K. D. Atteridge, D. I. Dakeyne, H. C. Martin, D. Rees, R. C. Walker, D. S. Clarke, H. W. Perkins, (acting Major) T. V. Somerville, M.C., G. J. C. Ferrier, M.C., R. H. Stoddard, G. A. Lamont, F. H. Cooke, J. F. Hoare, A. H. Huycke, M.C., F. T. D. Clindening, E. F. Wills, E. J. Peill, A. R. Leggatte, J. P. McVey, M.C., C. Hunter, F. D. Parbury, A. L. Martyn, A. H. Wilson, E. A. Aylward, D. K. MacDougall, A. G. Alexander, J. C. Anderson, G. N. Braham, M.C., C. Loddiges, M.C., A. F. Miller. Temporary Lieutenant F. G. McGuinniss, and retains the rank of Lieutenant (April 14th, 1919, substituted for notification in the *London Gazette*, July 9th, 1919). Temporary honorary Lieutenant C. H. Evans, and retains the honorary rank of Lieutenant.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Transferred to unemployed list: Captains J. Paxton, J. H. M. Sandison. Lieutenant (acting Captain) C. Duggan, Lieutenant A. G. Hewer.

The initials of Captain C. S. Clegg are as now described, and not as stated in the *London Gazette* of April 4th, 1919.

Flight Lieutenant J. E. Dunbar (Captain R.A.M.C. T.F.) relinquishes his temporary R.A.F. commission on return to army duty.

Acting Squadron Leader J. J. C. Hamilton to be acting Wing Commander whilst Wing Commander.

Flight Lieutenant H. Gardiner-Hill, M.B.E., to be acting Squadron Leader whilst Squadron Leader.

GENERAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain F. E. Bissell (late Captain, R.A.M.C. S.R.) is granted the rank of Lieutenant-Colonel on ceasing to be employed.

APPOINTMENTS.

NICCOL, William, M.B., Ch.B.Glasg., Ophthalmic Surgeon to the Gloucestershire Royal Infirmary and Eye Institution, Gloucester.

ROYAL FREE HOSPITAL, AND LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—George Scott Williamson, M.B., Ch.B.Edin., M.C., to be Pathologist and Director of Pathological Studies. Mary Schofield, M.R.C.S., L.R.C.P.Lond., to be Clinical Pathologist and Assistant Director of Pathological Studies.

DISTRICT MEDICAL OFFICERS.—R. Aitken, M.B., Ch.B. (Norwich Parish); R. M. Barrow, M.B. (St. Thomas Union); H. E. Coghlan, M.B. (Andover Union); P. S. Duigenan, L.R.C.P.Edin., L.R.C.S.I. (Ashton-under-Lyne Union); A. E. McKenzie, M.R.C.S., L.R.C.P. (Prescot Union); A. Mackintosh, M.B., Ch.B.Aberd.. (Sunderland Union); F. L. Newton, M.B., Ch.B.Vict. (Upton-upon-Severn Union); J. H. Nixon, M.D. (Chippenham Union).

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 8.30 p.m., The Clinical or Naked Eye Diagnosis of Diphtheria and other Infections of the Fauces, illustrated with the Epidiascope by coloured drawings and photographs, by Dr. H. Drinkwater. On Some New Methods of Illustration, illustrated by the Epidiascope, by Dr. T. B. Hyslop.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Hunterian Lectures: Monday, 5 p.m., Professor H. Tyrrell Gray: Influence of Nerve Impulses on Gastro-intestinal Disorders. Wednesday, 5 p.m, Professor James Sherren, C.B.E.: Late Results of the Surgical Treatment of Chronic Ulcers of the Stomach and Duodenum. Friday, 5 p.m., Professor Walter G. Spencer: Historical Relationship between Experiments on Animals and the Development of Surgery.

ROYAL SOCIETY OF MEDICINE.—Tuesday, Occasional Lecture, 5 p.m., Professor A. D. Waller: The Measurement of Human Emotion and of its Voluntary Control. *War Section:* Monday, 5.30 p.m., Discussion on Gas Poisoning, to be opened by Sir Wilmot Herringham. Colonel Cummins, Dr. C. G. Douglas, Professor J. S. Haldane and others will speak. *Section of Balneology and Climatology:* Thursday, 5.30 p.m., Resumed Discussion on the Merits and Defects of the British Health Resorts. Dr. F. G. Thomson, Dr. J. Campbell McClure, and Dr. W. P. Kennedy will speak. *Section of Neurology:* Thursday, 8.30 p.m., Dr. Rows, C.B.E.: Anxiety States. *Clinical Section:* Friday, 5 p.m., Cases.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. Perkins: Ward Demonstrations.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Monday, noon, Dr. Eric Pritchard: Motor Functions of the Alimentary Tract in Infants. Tuesday, noon, Dr. F. Langmead: Congenital Pyloric Stenosis; 5 p.m., Dr. F. G. Crookshank: Handprints and Posture in Mongols. Wednesday, noon. Mr. W. M. Mollison: The Deaf Child. Thursday, noon, Dr. A. F. Hurst and Mr. Montagu Hopson: Medical Aspects of Dental Infection.

MANCHESTER: ANCOATS HOSPITAL.—Thursday, 4 p.m., Mr. Morley: Clinical Manifestations of the Mobile Caecum.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. H. H. Rayner; Local Anaesthesia Technique (Practical Demonstration).

NEWCASTLE-ON-TYNE: ROYAL VICTORIA INFIRMARY.—Friday, 2.30 p.m., Dr. J. W. Smith: Post-Influenza Sequelae; 3.15 p.m., Professor W. E. Hume, C.M.G.: Clinical Aspect of Blood Diseases; 4.30 p.m. (College of Medicine), Professor Stuart McDonald: Morbid Anatomy of Blood Diseases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2 p.m., Mr. H. W. Carson: Hernia; 4.30 p.m., Dr. Arthur Giles: Gynaecological Fallacies.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: *X*-ray Examination of Thorax. Tuesday, 4 p.m., Diseases of the Iris and Ciliary Body. Wednesday, 3.30 p.m., Dr. Wilkinson: Common Laryngeal Ailments. Thursday, 3.30 p.m., Dr. Skinner: Seborrhoea, Alopecia, etc. Friday, 4 p.m., Dr. Hay: Diseases of the Lens, Glaucoma.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Saturday (February 7th), 10 a.m., Mr. Arthur Saunders: Medical Diseases of Children. Monday, 5 p.m., Mr. Addison: Appendicitis in Children. Tuesday, 5 p.m., Dr. Burnford: Clinical Lecture. Wednesday, 5 p.m., Mr. Owen: Pneumothorax. Thursday, 5 p.m., Dr. Simson: Uterine Fibroids. Friday, 4.30 p.m., Mr. Hey Groves: Bone Grafting in Fractures.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

PINSON.—On January 30th, at 155, High Street, Chorlton-on-Medlock, Manchester, to the wife of K. B. Pinson, M.B., M R.C.S., a son.

DEATH.

HAYES.—On January 24th, 1920, after a short illness, at her residence, 3, Marlborough Buildings, Bath, Minnie Albinia Lennard Hayes, the beloved wife of Lieut.-Colonel E. C. Hayes, C.B.E., R.A.M.C. (retired).

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 14TH, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
THE ARBITRATION	33
THE BATTLE OF THE LODGES IN VICTORIA ...	33
MEETINGS OF BRANCHES AND DIVISIONS ...	33
ASSOCIATION NOTICES:	
MEETING OF COUNCIL	34
BRANCH AND DIVISION MEETINGS TO BE HELD ...	34
NAVAL AND MILITARY APPOINTMENTS	34
ASSOCIATION INTELLIGENCE	35
INSURANCE—CORRESPONDENCE:	
THE PROFESSION AND ARBITRATION	35
REMUNERATION AND RURAL PRACTICE	35
THE NEW REGULATIONS IN RURAL PRACTICE ...	35
TRANSFER OF PRACTICES	36
APPOINTMENTS	36
DIARY OF SOCIETIES AND LECTURES	36

British Medical Association.

CURRENT NOTES.

The Arbitration.

DRS. BRACKENBURY, DAIN, and COX, representing the Insurance Acts Committee, met the representatives of the Ministry of Health before the Board of Arbitrators on Friday, February 6th, to discuss the question of procedure. All the members of the Board were present. The Chairman, Mr. F. Gore-Browne, K.C., decided that the statement of the Insurance Acts Committee should be received by the Board and by the Ministry of Health not later than February 14th; that the Minister of Health's reply should be sent to the Board and to the Insurance Acts Committee by February 23rd; that the arbitration should commence on Wednesday, March 3rd, at 11.15 a.m.; and that the dates of future hearings, if any, should be fixed that day. The Executive Subcommittee of the Insurance Acts Committee met on February 10th, and considered the documents which it is proposed to submit in support of the case for the profession. These documents and the reply of the Ministry will be published in due course, together with an agreed report of the proceedings.

The Battle of the Lodges in Victoria.

In the JOURNAL of December 27th, 1919, p. 854, there was a note upon the latest phase of the long-drawn-out contest between the medical profession in Victoria and the friendly societies (or lodges) in that State. It appeared that an emissary of the lodges was then on his way to this country with the object of finding a hundred doctors to act as medical officers, and that the officials of friendly societies and "medical institutes" were pressing the Legislature to sanction the appointment of whole-time State or municipal medical officers, whose duties would include attendance upon friendly society members. In the SUPPLEMENT of the same date we printed a letter from the officers of the Victorian Branch of the British Medical Association giving the history of the controversy forced upon the medical profession in Victoria by a combination of the friendly societies and the State. The letter ended by asking the aid of the Central Council of the Association in preventing as far as possible "any influx of medical practitioners from England to these institutes, which are solely for commercially exploiting the labours of the medical men." In accordance with this request steps were at once taken by the Head Office to put medical men on their guard. Announcements have been inserted in the newspapers advising doctors before accepting any medical posts in Australia to apply for information to the Medical Secretary. As we said in a Current Note on January 10th, the loyalty and solidarity of the members of the Victorian Branch have been well shown throughout this struggle; and they may be sure that the Association in this country will stand by them. In the *Medical Journal of Australia* for December 13th, 1919, there is a leading article reviewing the situation and expressing the hope that medical practitioners in Great Britain may be made aware of the history of the events, so that no one will accept the position of medical officer to one of the medical institutes in ignorance of all the facts. We think that all who have followed what has appeared lately in these columns must now understand what is at issue between our colleagues in Victoria on the one side and the lodge officials, abetted by some politicians, on the other.

Meetings of Branches and Divisions.

WILTSHIRE BRANCH.

A GENERAL meeting of the Branch, to which all non-members in the county were invited, was held at Trowbridge on January 25th, when the President, Dr. KEMPE, was in the chair.

The SECRETARY announced that he had sent a copy of the resolution passed at the last meeting regarding rates for medical attendance (SUPPLEMENT, October 18th, 1919, p. 86) to all club secretaries whose names he had received, and that it would be necessary to call another Branch meeting as soon as the National Insurance remuneration was fixed. The question of the minimum fee for examination of new members was deferred until that meeting.

A letter from the Medical Secretary was read urging Divisions to raise private fees at least 50 per cent. over pre-war rates. It was resolved:

> That the medical men practising in the county of Wilts, at a meeting in Trowbridge, resolved to increase their fees at least 50 per cent. over pre-war rates.

An announcement to that effect was directed to be published in the local press.

Dr. LOCKET announced that the Government's offer for attendance under the National Insurance Acts was 11s. capitation fee, 2s. dispensing fee, and a mileage fund of £300,000. He stated that the Insurance Acts Committee had refused the offer and proposed arbitration, which the Government had accepted. A general discussion followed, and it was resolved:

> That this meeting endorses the action of the Insurance Acts Committee, and thanks them for the large amount of work they have done on behalf of the profession.

Dr. FLEMMING briefly explained the need for maternity hospitals in the county, and the necessity that they should be under the control of the medical men. It was agreed that the report drawn up by the committee appointed at the annual meeting on June 21st, 1919, be circulated to medical men, and that they be asked to arrange public meetings to interest the public in the proposal.

WILTSHIRE BRANCH: TROWBRIDGE DIVISION.

A MEETING of the Division was held at Trowbridge on January 25th, when Dr. LAURENCE was in the chair. The question of raising fees for private practice was referred to the Branch.

Dr. STEELE (Devizes) produced a scale of fees paid to divisional police surgeons, showing that the fee paid for examination of recruits was 2s. 6d. The meeting considered this fee inadequate, and the secretary was instructed to forward the scale of fees to the Medical Secretary.

The revised ethical rules, as approved by the Annual Representative Meeting, 1919, were adopted.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, February 18th, in the Council Room, 429, Strand, London, W.C. 2., at 10 a.m.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH.—Drs. John Stevens and John Eason, Honorary Secretaries, give notice that the Winter Clinical Meeting of the Edinburgh Branch will be held in the Royal Infirmary, on Friday, February 27th. All members of the profession are cordially invited. The Museum will be open from 11 a.m. Special Clinics will be held during the forenoon, and the Clinical Meeting at 3.15 p.m. At 5 p.m. Dr. Alexander Blackhall-Morison (London) will lecture on The Passive Mechanical Factor in Heart Disease: its Influence and Management. Dinner at 6.30 p.m. in the Hall of the Royal College of Physicians, 9, Queen Street; morning dress; dinner ticket, 10s. 6d. Members of the Branch are requested to notify, not later than February 23rd, whether or not they intend to be present.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Lieutenant Commander G. R. McCowen, O.B.E., to the *Excellent*, additional, for duty at Whale Island, and in Gas School on relief. Surgeon Lieutenant H. L. Douglas to R.N. Hospital, Chatham. Surgeon Lieutenants (temporary) H. M. Scott to the *Erin;* H. A. L. Guthrie, A. M. McCallum, J. R. Brennan, E. S. Mellor, and T. N. D'Arcy, transferred to the permanent list as Surgeon Lieutenant.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel G. S. Crawford, C.M.G., retires on retired pay.

Major and Brevet Lieut.-Colonel E. Ryan, C.M.G., D.S.O., to be acting Lieut.-Colonel from April 15th to October 28th, 1919.

Major M. G. Dill retires on retired pay.

The following Majors relinquish the acting rank of Lieut.-Colonel: G. R. Painton, (Brevet Lieut.-Colonel) C. W. Holden, C.M.G., D.S.O.

Major W. Byam, O.B.E., to be temporary Lieutenant-Colonel whilst specially employed.

To be Majors: Captains and Brevet Majors H. H. Blake, O.B.E., A. Shepherd, A. E. G. Fraser. Captains (acting Majors) F. Worthington, D.S.O., O.B.E., J. W. Houston, D.S.O., S. G. Walker, A. L. Foster, A. G. Wells, D.S.O., C. McQueen, M.C. Captains F. R. Coppinger, O.B.E., A. C. Hammond-Searle, M.C., J. E. Ellcome, G. J. Keane, D.S.O., R. M. Dickson, O.B.E., A. L. Stevenson, B. Varvill, M.C., W. J. Dunn, O.B.E., F. B. Dalgleish, C. E. L. Harding, C. M. Rigby, W. H. S. Burney. T. E. Eves, D.S.O., L. Murphy, D.S.O., A. H. T. Davis, J. S. McCombe, D.S.O., W. J. Tobin, R. O'Kelly.

Captain P. C. Field is restored to the establishment.

Captain J. E. Rusby, M.C., resigns his commission, June 20th, 1919 (substituted for notification in the *London Gazette*, June 18th, 1919).

Temporary Captain A. Jones, D.S.O., M.C., relinquishes the acting rank of Lieut.-Colonel on ceasing to command a medical unit, November 12th, 1918 (substituted for notification in the *London Gazette*, February 17th, 1919).

Temporary Captains relinquish the acting rank of Major: P. J. Lane, M.C., D. B. Pascall, M.C., W. H. Alderton.

Temporary Captain J. E. Thompson to be acting Major.

The following Captains resign their commissions: J. W. O'Brien, M.C., W. Moodie.

The following Captains are seconded for service with the Colonial Office: C. D. M. Buckley, M.C., W. C. Hartgill, M.C., T. J. L. Thompson, M.C.

Lieutenant (temporary Captain, acting Major) J. La F. Lauder, D.S.O., M.C., to be Captain, February 8th, 1918, and to retain his acting rank (substituted for notification in the *London Gazette*, March 3rd, 1919).

Lieutenants (temporary Captains) to be Captains: C. O. J. Young, M.C., R. N. Phease, C. B. C. Anderson, P. E. D. Pank, G. Moulson, W. J. F. Craig.

Temporary Lieutenant H. Abernethy to be temporary Captain.

The following officers have relinquished their commissions:—Temporary Majors and retain the rank of Major: A. T. Duka, D.S.O., E. Swainston (on ceasing to be employed at the Brook War Hospital), W. Pearson (on ceasing to be employed at the Graylingwell War Hospital). Temporary Captain and Brevet Major R. Bruce-Low and retains the brevet rank of Major. Temporary Captain A. Jones, D.S.O., M.C., and is granted the rank of Lieutenant-Colonel, November 15th, 1918 (substituted for notification in the *London Gazette*, November 30th, 1918). Temporary Captain (acting Major) H. B. G. Russell, and is granted the rank of Major. Temporary Captain M. Murphy, M.C. (on transfer to the I.M.S.). Temporary Captains and retain the rank of Captain: E. N. Glover, O.B.E., J. W. Robertson, M. J. Murray, J. D. Doherty, W. G. Macdonald, M.C., R. F. Lunn, A. S. Morley, C. R. Smith, S. W. Allworthy, A. H. D. Smith, M.C., H. W. Bennett, F. O'B. Ellison, J. R. O'Brien, W. J. Oliver, C. F. Constant (on account of ill health), A. V. Dill, W. Murphy, A. E. Clarke, H. F. Penman, A. M. Malcolmson, A. Trower, H. W. Hay, H. Coppock, H. A. Richards, G. Millar, M.C., J. A. F. Hatch. Temporary honorary Captains and retain the honorary rank of Captain: A. H. Good, J. V. Ricci.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Captain F. C. Kempson to be acting Major whilst employed as Major.

Flight Lieutenant A. S. Glynn to be acting Squadron Leader whilst employed as Squadron Leader.

The notification in the *London Gazette* of November 26th, 1918, concerning Captain C. Salkeld is cancelled.

Transferred to unemployed list: Captains W. Enraght, J. E. Lascelles (May 14th, 1919, substituted for notification in the *London Gazette* of January 6th), H. W. Pigeon, C. R. M. Pattison, J. Souter, S. R. E. Davies, T. C. Backhouse.

INDIAN MEDICAL SERVICE.,

Lieut.-Colonel L. J. M. Deas has been posted as Residency Surgeon, Jaipur, with effect from October 25th, 1919.

Major-General P. Hehir, C.B., C.M.G., C.I.E., M.D., has been permitted to retire from the service with effect from December 8th, 1919.

J. R. Kochhar has been permanently appointed to the service with effect from March 17th, 1919, and promoted to the rank of Captain with effect from September 16th, 1919.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain E. M. Cowell, D.S.O., relinquishes the acting rank of Lieutenant-Colonel.

The notification in the *London Gazette* of December 2nd, 1919, regarding the relinquishment of the acting rank of Major by Captain Arthur F. L. Shields is cancelled.

The following Captains relinquish the acting rank of Major: D. Dougal, M.C., K. K. Drury, M.C., H. W. Hills, M. J. B. F. Burke-Kennedy, T. McEwen, M.C., K. W. Lewis, E. R. Lovell.

The following Captains relinquish their commissions and are granted the rank of Major: On account of ill health contracted on active service: M. W. Ruthven, H. C. Rook. On account of ill health caused by wounds: T. Lindsay, T. McEwen, M.C., A. G. S. Wallace, M.C.

The following Captains relinquish their commissions and retain the rank of Captain: G. E. Shand, W. C. Davidson, J. C. A. McCalden, R. Stewart, F. Balkwill, T. G. James, J. R. Cox, H. E. Bamber, W. Feldman. On account of ill health contracted on active service: N. S. R. Lorraine, J. Taylor, R. F. Pinson, N. H. Harrison, J. Y. McLean, A. A. Fyffe. J. J. Landers, P. V. Anderson. On account of ill health caused by wounds: T. W. Wylie, M.C., R. A. Stewart, M.C., S. D. G. McEntire, P. MacCallum, M.C., J. R. John. On account of ill health: J. P. Charnock, J. P. Broom, H. M. Wharry, E. D. Roberts, H. J. Rice, M.C., D. M. Jones, W. H. Duff.

Captain J. F. W. Meenan to be acting Major from January 15th to March 11th, 1919.

Captain I. Braun relinquishes his commission.

The notification in the *London Gazette* of December 2nd, 1919, regarding Captain Thomas C. Storey, M.C., is cancelled.

GENERAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Late Captains R.A.M.C. to be Captain: John E. Rusby, M.C. (June 20th, 1919, substituted for notification in the *London Gazette*, June 18th, 1919), J. W. O'Brien, M.C., W. Moodie.

OVERSEAS CONTINGENTS.

SOUTH AFRICAN MEDICAL CORPS.

Temporary Major H. C. Baker, O.B.E., relinquishes his commission on completion of service, and retains the rank of Major.

Temporary Captain A. G. Forbes, M.C., relinquishes his commission on ceasing to be employed, and retains the rank of Captain.

BRITISH WEST INDIES REGIMENT.

Surgeon Captain A. G. Curphey, M.C., relinquishes his commission, and retains the rank of Surgeon Captain.

VOLUNTEER FORCE.

The following temporary Majors relinquish their commissions and are granted the honorary rank of Major: County of London R.A.M.C.V.:—E. S. Tait, F. S. Barber, H. Webb, R. Chetham-Strode, R. M. H. Walford, J. S. Goodall, F. G. Parsons, A. Allport, Sir J. Collie, C.M.G., T. E. White, F. C. Langford, E. G. Annis (Captain T.F.Res.), A. J. Swallow, H. Jackson.

The following temporary Captains relinquish their commissions, and are granted the honorary rank of Captain:—Anglesey R.A.M.C.V.: G. L. Jones. City of Bristol R.A.M.C.V.: G. G. D. Willett. Cheshire R.A.M.C.V.: M. Young, H. L. Pearson. City of Dundee R.A.M.C.V.: D. J. Forbes. Durham R.A.M.C.V.: J. C. French. Essex R.A.M.C.V.: J. H. Salter. Gloucestershire R.A.M.C.V.: T. C. Leman. Kent R.A.M.C.V.: J. Richardson, H. Brown. Lancashire R.A.M.C.V.: J. M. Ferguson. Leicestershire R.A.M.C.V.: J. A. H. Barnes, J. M. Lithgow, J. R. Foulds. Lincolnshire R.A.M.C.V.: T. Anningson. City of London R.A.M.C.V.: D. McB. Greig, M. C. Sykes. County of London R.A.M.C.V.: F. J. Fielder, S. Peake, H. M. Wood, F. M. Turner, G. Pollock, E. E. Henderson, T. Wilson, R. E. T. Ingram, R. Lawson, H. J. Hillstead, J. Kennish, J. B. Wallace, H. J. Bumsted, C. T. Quiller, M. A. Farr, J. G. McWillie, W. J. Nolan, F. W. Warren, T. Pearson, H. Johnson, R. Ostlere, J. F. G. Bent. Norfolk R.A.M.C.V.: W. L. Cox, G. S. Keeling, L. H. B. Mills, F. Preston, A. Crook, C. B. Smith, W. J. E. Sumpter, C. W. Steel, R. Grant. Northumberland R.A.M.C.V.: J. G. Miller. Warwickshire R.A.M.C.V.: A. T. Holdsworth. West Riding R.A.M.C.V.: P. Macdonald. Worcestershire R.A.M.C.V.: H. E. Dixey, E. H. Alton, H. Smith.

The following temporary Lieutenants relinquish their commissions, and are granted the honorary rank of Lieutenant:—Buckinghamshire R.A.M.C.V.: H. Barrett, J. D. J. Harris, H. T. Wickham. Carnarvonshire R.A.M.C.V.: R. Rowland-Jones. Cheshire R.A.M.C.V.: L. C. A. Savatard, W. R. J. Garson, A. Banks, C. McA. Wilson, T. H. Smith, F. Cant. Derbyshire R.A.M.C.V.: S. J. Parkhill, W. A. Warters. Dorset R.A.M.C.V.: G. G. Morrice. City of Dundee R.A.M.C.V.: H. M. McHoul. Essex R.A.M.C.V.: G. F. Wilson, J. S. Brookfield. Gloucestershire R.A.M.C.V.: J. M. Martin. Hertfordshire R.A.M.C.V.: H. H. Thomson. Huntingdonshire R.A.M.C.V.: W. F. Fisher. Lancashire R.A.M.C.V.: R. C. Holt, J. Melvin, W. Stewart. Lincolnshire R.A.M.C.V.: R. Slocock, H. T. Benson. City of London R.A.M.C.V.: C. N. Foley. County of London R.A.M.C.V.: A. H. Gibbon, J. Norton, J. L. I. Moore H. Mc.D. Parrott, J. S. Mackintosh, P. Dayian. Norfolk R.A.M.C.V.: L. P. Clements, J. T. Richards, S. W. M. Vyse, F. J. Emms, L. H. B. Miller, F. Preston, A. Crook. North Riding R.A.M.C.V.: J. Murray, J. C. B. Williams, and R. H. F. Bostock. Northumberland R.A.M.C.V.: J. M. MacLachlan. Nottinghamshire R.A.M.C.V.: A. Fulton and J. D. Willis. Somerset R.A.M.C.V.: J. M. H. Munro. Staffordshire R.A.M.C.V.: W. R. Somerset. Sussex R.A.M.C.V.: E. FitzG. Frazer. Warwickshire R.A.M.C.V.: M. H. C. Atkinson and H. H. H. Addenbrooke. West Riding R.A.M.C.V.: K. H. Beverley and T. Chetwood.

Northumberland R.A.M.C.(V.)—The surname of honorary Lieutenant H. S. Crace is as now described, and not as stated in the *London Gazette* of January 19th, 1920.

QUEEN MARY'S ARMY AUXILIARY CORPS.

Auxiliary Section, R.A.M.C. attached.—The following relinquish their appointments: *Medical Officials:* R. E. Proctor, M.D., and A. F. Nash, M.B., F.R.C.S. *Recruiting Medical Controller:* C. A. F. Sturm, M.D.

INSURANCE.

CORRESPONDENCE.

The Profession and Arbitration.

SIR,—I have read with dismay and disgust, which I imagine will be shared by many of the profession, the letter in your issue of February 7th by Dr. Thomas Wright, in which he advocates repudiation by the profession of the action of its properly elected representatives in the event of their full demands not being conceded by the arbitrators.

The representatives of the profession have acted throughout in accordance with the instructions given to them by the Panel Committees, which are the elected representatives of the panel practitioners as a whole, and to repudiate their undertakings would not only be an extreme dishonour to the profession, but would brand it at once as being on the same footing of morality and social and political intelligence as the least instructed trade unions, whose abrogation on recent occasions of contracts entered into after due consideration Dr. Wright would, I am confident, be eager to condemn.

It is agreed by all students that the highest development of the politico-social sense of peoples is shown by their readiness to accept loyally undertakings made by their accredited representatives, and it should be the endeavour of a learned and noble profession like our own in no way to fall short of this highest standard of political wisdom and conscience, and to spurn anarchy under whatever specious disguise it may present itself.

I urge, Sir, that it is our duty to abide faithfully by the decision of the arbitrators, whether that be for 13s. 6d., or 11s., or less, and to render to the insured persons under our care the best services of which we are capable on all occasions; for such is the only course consistent with honour, and, moreover, is the only method by which we can maintain in ourselves a high and advancing standard of professional ability, and by so doing construct a bulwark against a whole-time salaried State service, which is the alternative to the panel system, and is urged by eloquent and honest—though, I hold, misguided—reformers in many quarters.—I am, etc.,

A. E. HODDER,
Chairman, Mid-Staffs Division, British Medical Association.

Stafford, Feb. 8th.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

13	Fri.	London: Ministry of Health Committee, 3 p.m.
17	Tues.	London: Scrutiny Subcommittee, 2.30 p.m.
18	Wed.	London: **Council**, 10 a.m.
19	Thur.	London: Dominions Committee, 2.30 p.m.
		London: Territorial Force Subcommittee, 4 p.m.
20	Fri.	North of England Branch, Royal Victoria Infirmary, Newcastle-on-Tyne, 1-5.15 p.m., Demonstrations (see Post-Graduate Courses).
27	Fri.	Edinburgh Branch, Clinical Meeting, Royal Infirmary: Museum open 11 a.m.; Special Clinics during forenoon. Clinical Meeting, 3.15 p.m. Address by Dr. A. Blackhall-Morison: The Passive Mechanical Factor in Heart Disease: its Influence and Management, 5 p.m. Dinner, 6.30 p.m.

Remuneration and Rural Practice.

SIR,—Are panel practitioners as a body trying to arrive at an equitable arrangement with the Government? It is my belief that if this were the object in view a reasonable settlement would have been reached long ago. Can we expect any Government to grant a capitation fee of 13s. 6d. regardless of circumstances? Why do doctors refuse a limitation of numbers on a panel? Can anyone argue that it is reasonable to pay a doctor £3,370 per annum, if he has 5,000 on his panel, and still allow him to further increase his income by private practice, etc.

On the other hand, is it reasonable to expect any doctor to be satisfied that he is adequately paid if at the same rate he receives £540 for attending 800 panel patients *plus*, say, 10 per cent. mileage, making £594 per annum in a sparsely populated district where travelling expenses absorb half this amount and the loss of time is considerable? Again, in densely populated districts the doctor can, as a rule, hand over a patient who is dangerously ill to the care of a hospital, and he has no further trouble or anxiety, whereas the rural practitioner has to attend all such cases from start to finish, operating upon his appendix patients, strangulated hernias, and all the rest of it.

Surely the equitable way of dealing with the question is to take into consideration what the doctors' duties are, what are the conditions of his locality, and what the density of the population, and so estimate what is a fair week's work for him, and arrange both the limitation of his panel and the scale of remuneration accordingly.

In estimating the number of hours constituting a fair week's work for a doctor, regard should be paid to the irregularity of his hours and the fact that no hour in the day or night can be called his own. A reasonable week's work might be fixed at forty-four hours. If a reasonable net income be considered to be £1,000 a year, and he has to work sixty-six hours a week, he should be entitled to receive:

1 year at 44 hours a week	£1,000
Plus 22 hours a week overtime (double rate) ...	1,000
Practice expenses, say	700
Total gross income	£2,700

Now, in my county the average panel is less than 800, and in my district considerably below this figure, the density of population being about 1 to 4 acres. I know not what is the average panel in a densely populated district; but assuming that it should be rather less than 3,000, and assuming also that in such a district 50 per cent. of a doctor's work is panel practice, and that in my district 25 per cent. of a doctor's work is panel practice, then in the densely populated district the panel should be limited to 3,000, and a doctor with a full panel should be paid 50 per cent. of £2,700—that is, £1,350—that is, at a rate of 9s. a head; while in a district such as this a panel practice should be limited to 800, and a doctor with a full panel should be paid 25 per cent. of £2,700—that is, £675—that is, at a rate of 16s. 10d. per head. Other districts should be graded according to density of population. If 9s. a head is too low a figure, both that and the 16s. 10d. should be raised proportionately.

In my opinion panel practice in the country from the business point of view is not worth touching for itself, but one has to take it as a part of the country conditions. The special allowance of £300,000 for mileage, which is to compensate the country doctor for increased travelling expenses and *loss of time*, does not touch the question; should the unit be valued at 2s. 6d. it would not benefit me to the extent of 10 per cent.

The rural practitioner's position has never been sufficiently represented, and the reason is obvious—we are a negligible minority and cannot be adequately represented on executive committees, etc., for the very reason that we are rural practitioners. I am on a Panel Committee, but when attending meetings I have to travel fifty-six miles at a cost of about 28s. a time and the loss of nearly three-quarters of a day's work.—I am, etc.,

Shaftesbury, Feb. 8th. H. U. GOULD.

The New Regulations in Rural Practice.

SIR,—As one whose practice is partly urban and partly rural, I feel that the proposed Regulations have been strangely ignored in favour of the relatively less important capitation fee.

For myself, and I know I am also saying what most rural men would endorse, I feel that the Regulations will prove absolutely unworkable in a country practice. The points I particularly wish to draw attention to are:

1. That as the Regulations stand there is no obligation for messages to be delivered as early as possible. Rural men will appreciate the absolute impossibility of attending

to a scattered country district, if they have to go twice a day to the same part of their district, especially when the second journey could have been avoided by a little earlier message being sent.

2. The question of the patient being apparently the judge as to the urgency or not of the case. I feel strongly that we should be safeguarded by some regulation about vexatious and unnecessary calls. We, if we do not go, are to pay for another man, if he can be found, to do the work. The patient, on the other hand, if he sends unnecessarily or late, is not to be penalized.

3. The hardship of having to undertake, apparently under penalty, other men's work.

In cases of emergency, in the past, we have always attended a *real* emergency if the patient's own doctor is out. True, we are to be paid by the unfortunate doctor whose patient we attend, but I object strongly to having to throw over my own work for the purpose.

Dr. Addison, I see, tells the public the panel patient is to have the same attention as a private patient. I do not know of any doctor who undertakes for his private patients to attend them whenever they send in to him, for any trivial trouble, for trouble which could have been notified to him days before, to go at all hours of the day or night, and to pay another man if he cannot go himself.

I feel strongly that the rural men, being in a minority in most Divisions of the Association, have not been sufficiently consulted, or they would never consent to accept Regulations which they know are unworkable and which can only cause unpleasantness and friction and which, if accepted, will most certainly not tend to cause a contented service.—I am, etc.,

Monmouth, Feb. 7th. P. G. HARVEY, M.D.Lond.

*** We have referred this letter to the Medical Secretary, who suggests that Dr. Harvey's complaint as to insufficient consultation should be put before his Panel Committee. The Insurance Acts Committee kept these bodies fully informed of every move with regard to the Regulations, and it did not appear at the Conference in November last that representatives were ill informed as to the effect of the Regulations. Dr. Cox adds that the representatives who may be regarded as especially rural were well in evidence during the discussions, and all Dr. Harvey's points were thrashed out.

Transfer of Practices.

SIR,—We must now clearly envisage the present position in regard to this all-important matter. The Minister refuses all amendments, however moderate and equitable, and insists upon the clause abolishing the capital value of practices. In these circumstances it is the clear duty of the profession to proceed, through its representatives, to press the claim for compensation for the loss of the capital value of the practices of all those now on the panels, and who shall still be on the panels at the end of 1922, when their right of transfer ceases. Those, of course, who exercise their right to sell between now and 1922 will have no claim for compensation.

Meanwhile the profession should loyally accept the capitation award of the arbitrators, and diligently set about carrying out the new Regulations efficiently and honourably. But no step must be omitted that can legitimately be taken to establish this vital principle of compensation—the greatest matter of principle that has arisen since the Insurance Acts were passed.

As a first step in our constitutional struggle for our rights, I would suggest a representative deputation to the Prime Minister, to remind him of his speeches of 1912 and 1913, and the fair prospects then held out to us; and to call his attention to the manner in which it is proposed to fulfil those expectations.

Then every endeavour should be made to bring our case before Members of Parliament, with a view to amendment of Clause 16, when the Regulations are before Parliament.

Finally, appeals should be made to the sense of fair play of the public by making them acquainted, through the press, with the magnitude of the financial loss and the deprivation of legal rights with which we are threatened.

It is hard to conceive why these hardships should be inflicted upon a hard-working section of the community, who carried on under many and serious difficulties during the war and loyally refrained from embarrassing the Government by pressing their just claims until after peace was declared. Surely they have deserved better treatment at the end than to be given an increased capitation fee with one hand while being robbed of their capital with the other.—I am, etc.,

Gloucester, Feb. 7th. J. A. BELL.

BATH INSURANCE COMMITTEE.

At a meeting of the Bath Insurance Committee the following resolution was adopted unanimously and forwarded to the Ministry of Health:

> That this Committee protests against the action of the Ministry in refusing after 1922 to allow insured persons on the lists of deceased practitioners automatically to be included in the lists of their successors, unless notice is given by the insured persons to the contrary in accordance with the existing provisions of the Medical Benefit Regulations.

APPOINTMENTS.

BROWN, A. Middleton, M.D.Aberd, D.P.H., Assistant Medical Officer of Health, City of Chester.

FENTON, James, M.D., D.P.H., Medical Officer of Health for the Royal Borough of Kensington.

MCMICHAEL, G. V. T., M.B., Ch.B., D.P.H.Edin., Medical Officer of Health for Paisley.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Pathologist: G. S. Williamson, M.C., M.B., Ch.B. Assistant Physician: Hazell Haward Chodak, M.D., M.R.C.P.

DIARY OF SOCIETIES AND LECTURES.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Friday, 4 p.m., Schorstein Memorial Lecture by Sir Archibald E. Garrod, K.C.M.G.: Diagnosis of Disease of the Pancreas.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 9 p.m., Second Lettsomian Lecture by Dr. Herbert R. Spencer on Tumours complicating Pregnancy, Labour, and the Puerperium; II, Ovarian Tumours.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Monday and Wednesday, 5 p.m., Professor W. G. Spencer: Historical Relationship between Experiments on Animals and the Development of Surgery.

ROYAL SOCIETY OF MEDICINE.—General Meeting of Fellows, Tuesday, 5 p.m., to consider proposal to constitute a Section of Urology. *Section of Therapeutics and Pharmacology:* Tuesday, 4.30 p.m., Discussion on the Value of Alcohol as a Therapeutic Agent, to be opened by Dr. H. H. Dale, and continued by Dr. A. P. Beddard, Dr. Langdon Brown, Sir William Hale-White, Dr. R. Hutchison, Dr. O. Leyton, Dr. E. Mellanby, Professor R. B. Wild, and Dr. W. H. Willcox. *Section of Pathology:* Pathological Laboratory, St. Bartholomew's Hospital, E.C.1, Tuesday, 8.30 p.m. *Section of History of Medicine:* Wednesday, 5 p.m., Dr. R. C. Buist: The Salernitan Verses and their English Versions. *Section of Dermatology:* Thursday, 4.30 p.m., Cases. *Section of Otology:* Friday, 5 p.m., Cases and Specimens.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—Friday, 8.30 p.m., Discussion on Small-Pox, to be opened by Colonel W. G. King, C.I.E., I.M.S. (retired). Lieutenant-Colonel N. Hamilton Fairley, A.A.M.C., and Captain H. R. Dew, R.A.M.C.: Causes of Death from Malaria in Palestine: a Study in Cellular Pathology.

POST-GRADUATE COURSES AND LECTURES.

BRITISH MEDICAL ASSOCIATION, North of England Branch, Royal Victoria Infirmary, Newcastle-on-Tyne.—Friday, Demonstrations; 1 p.m. onwards, Pathological Museum; 2.30 p.m., Mr. A. M. Martin: Forms of Paralysis and their Treatment; 3 p.m., Dr. George Hall: Paralyses in Children; 3.30 p.m., Professor Stuart MacDonald: Pathology of Ulcerative Endocarditis; 4.15 p.m., Mr. R. J. Willan: Renal Tuberculosis; 4.45 p.m., Mr. C. F. M. Saint: Abdominal Injuries, with special reference to the Spleen.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. Hartley: Pneumothorax.

CHELSEA CLINICAL SOCIETY, Club Room, St. George's Hospital, S.W.—Tuesday, 8.30 p.m., Clinical Demonstration. Cases and Specimens.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—12 noon:—Monday, Mr. D. W. Roy: Prolapse and its Treatment; Tuesday, Dr. F. J. Poynton: Aortic and Mitral Disease of Rheumatic Origin; Wednesday, Mr. G. E. Waugh: Appendicitis in Children; Thursday, Mr. J. F. O'Malley: Indications for Removal of Tonsils and Adenoids.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. C. H. Melland: Polio-encephalitis and Lethargic Encephalitis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Monday, 2 p.m., Dr. Collier: Out-patients; 3.30 p.m., Mr. Paton: Optic Atrophy. Tuesday, 2 p.m., Dr. Grainger Stewart: Out-patients; 3.30 p.m., Dr. James Taylor: Wards. Wednesday, 2 p.m., Mr. Armour: Cerebral Tumours; 3.30 p.m., Dr. Grainger Stewart: Disseminated Sclerosis. Thursday, 2 p.m., Dr. Farquhar Buzzard: Out-patients; 3.30 p.m., Intracranial Tumours. Friday, 2 p.m., Dr. Gordon Holmes: Out-patients; 3.30 p.m., Dr. Collier: Wards. Saturday, 9 a.m., Surgical Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2 p.m., Mr. Howell Evans: Demonstration of Cases illustrating Diseases of the Breast; 4.30 p.m., Dr. Metcalfe (lantern lecture): Examination of Diseases of Digestive Tract.

SALFORD ROYAL HOSPITAL.—Thursday, 4 p.m., Mr. Ollerenshaw: Common Injuries and their Treatment, from an Orthopaedic point of view.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: *X*-ray Examination of Thorax. Tuesday, 4 p.m., Dr. Hay: Diseases of Iris and Ciliary Body. Wednesday, 3.30 p.m., Dr. Wilkinson: Common Laryngeal Ailments. Thursday, 3.30 p.m., Dr. Skinner: Seborrhoea, Alopecia, etc. Friday, 4 p.m., Dr. Hay: Diseases of Lens, Glaucoma.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Saturday (February 14th), noon, Mr. Souttar: Surgical Anatomy of the Abdomen. Monday, 5 p.m., Mr. MacDonald: Tuberculous Disease of Urinary Tract. Tuesday, 5 p.m., Dr. Burnford: Clinical Lecture, with Cases. Wednesday, 5 p.m., Dr. Beddard: Practical Medicine (Lecture 2). Thursday, noon, Mr. Sinclair: Surgical Demonstration. Friday, 5 p.m., Dr. A. C. Jordan: Radiography of Chronic Intestinal Stasis.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 21ST, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
The Annual Meeting at Cambridge, 1920	37
Freemasons at the Annual Meeting	37
Rewards for Medical Discovery	37
Colonial Medical Services	37
Preferential Delivery of Motor Cars ...	38
Fees for St. John Ambulance Lectures ...	38
MEETINGS OF BRANCHES AND DIVISIONS ...	38
ASSOCIATION NOTICES:	
Election of Representative Body and Council ...	38
Branch and Division Meetings to be held ...	38
CONFERENCES OF VARIOUS MEDICAL BODIES:	
Report and Correspondence	39
INSURANCE:	
Scottish Panel Conference	41
Limitation of Lists	42
Correspondence	42
NAVAL AND MILITARY APPOINTMENTS	43
ASSOCIATION INTELLIGENCE	44
DIARY OF SOCIETIES AND LECTURES	44
APPOINTMENTS	44
BIRTHS, MARRIAGES, AND DEATHS	44

British Medical Association.

CURRENT NOTES.

The Annual Meeting at Cambridge, 1920.

The arrangements are steadily going forward for the eighty-eighth Annual Meeting of the British Medical Association, to be held in Cambridge on Tuesday, June 29th, Wednesday, June 30th, Thursday, July 1st, and Friday, July 2nd, under the presidency of Sir T. Clifford Allbutt, K.C.B., F.R.S., Regius Professor of Physic in the University. The Annual Representative Meeting will begin on the previous Friday morning, June 25th, at Cambridge. Notices with regard to the election of the Representative Body have appeared in several recent issues of the SUPPLEMENT. The statutory Annual General Meeting will be held at 2 p.m., on Tuesday, June 29th; on the same evening, at 8.30 o'clock, Sir Clifford Allbutt will give his presidential address to the Association. The scientific sections will meet on Wednesday, Thursday, and Friday, the mornings from 10 a.m. to 1 p.m. being set apart for discussions, and the afternoons from 3 o'clock for clinical and laboratory demonstrations. The sections this year are twelve in number. The Section of Medicine (President, Sir Humphry Rolleston), of Surgery (President, Sir George Makins), of Pathology and Bacteriology (President, Professor Lorrain Smith), of Neurology and Psychiatry (President, Dr. Henry Head), and of Physiology and Pharmacology (President, Professor F. G. Hopkins) will meet on each of the three days. The remaining sections, each meeting on one day, are as follows: Obstetrics and Gynaecology (President, Dr. Herbert Williamson), Tropical Medicine (President, Professor G. H. F. Nuttall), Electro-Therapeutics (President, Dr. A. E. Barclay), Medical Education (President, Sir George Newman), Medical Sociology (President, Dr. G. E. Haslip), Naval and Military (President, Colonel Joseph Griffiths), and Venereal Diseases (President, Mr. E. B. Turner). For the conduct of the afternoon demonstrations arrangements are being made in Cambridge by the following Directors of Demonstrations: Medicine, Dr. Aldren Wright; Surgery, Mr. Arthur Cooke; Physiology, Professor Langley; Pharmacology, Professor W. E. Dixon; Neurology, Dr. E. D. Adrian; Pathology, Professor Sir G. Sims Woodhead. There will be, in addition, a temporary Pathological Museum. The Secretaries' Conference and Dinner will be held on June 30th, and the Annual Dinner on July 1st. The popular lecture will be given on the evening of July 2nd by Dr. G. S. Graham-Smith. On Saturday, July 3rd, there will be excursions to places of interest in the neighbourhood. The honorary local secretaries of the annual meeting are Dr. J. F. Gaskell and Dr. G. S. Haynes.

Freemasons at the Annual Meeting.

The Freemasons of Cambridge are desirous of entertaining the brethren attending the annual meeting next summer, and Friday evening, July 2nd, has been suggested as a suitable date. We are asked to express the hope that any member of the Association who is a Mason and will be able to attend will intimate his intention of doing so at an early date to Dr. G. S. Haynes, New Medical Schools, Cambridge.

Rewards for Medical Discovery.

The Joint Committee of the Association and the British Science Guild has for some time past been considering certain proposals for the recognition and recompense by the Government of medical workers in the field of science.[1] The present position of persons engaged in scientific research in this country is very unsatisfactory. Their opportunities for continuous research are precarious, their salaries small, and their prospects uncertain. The present state of things is discreditable to the country, for the conditions under which they work are calculated to discourage rather than encourage those whose discoveries have been and may in future be of inestimable value to the community. The Joint Committee has issued a report on the "Need of Rewards for Medical Discovery," and this report has been forwarded to the Prime Minister, who has been asked to receive a deputation on the subject. The composition of the Joint Committee is as follows:

Representing the British Medical Association.
Sir T. Clifford Allbutt, K.C.B., F.R.S.
Dr. R. T. Leiper.
Professor Benjamin Moore, F.R.S.
Mr. E. B. Turner, F.R.C.S.
Professor J. S. Haldane, F.R.S.

Representing the British Science Guild.
Lieut.-General Sir Alfred Keogh, G.C.B.
Colonel Sir Ronald Ross, K.C.B., K.C.M.G., F.R.S.
Professor W. Bayliss, F.R.S.
Dr. D. Sommerville.
Sir Richard Gregory, F.R.A.S.
Lieut.-Colonel O'Meara, C.M.G., late R.E.

Election of Council.

Nomination forms for election to the Central Council of the Association can be obtained by members on sending a postcard to the Medical Secretary; they are returnable by May 17th at latest. A notice on this subject appears on page 38 of the SUPPLEMENT.

Colonial Medical Services.

Evidence will be given by the British Medical Association on Monday, February 23rd, before the Colonial Medical Services Committee appointed by the Secretary of State for the Colonies. It is hoped to publish the

[1] BRITISH MEDICAL JOURNAL, January 3rd, 1920, p. 26.

memorandum of evidence in the Annual Report of the Council, due to appear in the SUPPLEMENT on or about April 24th. In addition, separate copies of the memorandum of evidence will be sent in the near future to those Branches and members who have kindly communicated with the Medical Secretary on the subject of the colonial medical services, and also to any other Branches, Divisions, or members who intimate to the Medical Secretary a desire to be supplied with a copy.

Preferential Delivery of Motor Cars.

The Association has now for some months been offering assistance to its members in order to enable them to obtain early delivery of motor cars. At the last meeting of the Medico-Political Committee it was reported that a good many cars had been supplied through the efforts of the Association, and that a number of letters of appreciation had been received. In this connexion the Ford Motor Company announce that the two-seater model is no longer available, as production of this type of car has ceased for the time being; preferential delivery of the touring car or the chassis can still be made. Members requiring assistance should, in the first instance, apply to the Medical Secretary, 429, Strand, for a form on which to state particulars of their order.

Fees for St. John Ambulance Lectures.

The Medico-Political Committee at its last meeting considered the statement of a member that, having undertaken to give a course of St. John Ambulance lectures for a fee of five guineas, he found that the course had been extended from five lectures to six with no addition to the fee. The Committee gave instructions that a letter should be written to the Secretary of the St. John Ambulance Association asking whether the correspondent had been rightly informed and whether the central body was aware that no additional remuneration was being offered for the extra lecture. The Medical Secretary has been officially informed that the course has been extended from five lectures to six; that it was presumably due to an oversight that no alteration had been made in the fee; but that steps were being taken to amend the regulations. The official fee in future will therefore be at the rate of one guinea a lecture, which is in accordance with the approved policy of the Association. Members who have undertaken to give courses of lectures may think it well to call the attention of the local secretary of the St. John Ambulance Association to this fact.

British Medical Association Lecture at Edinburgh.

Dr. Alexander Blackhall-Morison will lecture to the Edinburgh Branch of the British Medical Association on Friday afternoon, February 27th, on "The passive mechanical factor in heart disease, its influence and management."

Meetings of Branches and Divisions.

HONG KONG AND CHINA BRANCH.

THE annual general meeting of the Branch was held on November 13th, 1919, when the following officers were elected:

President: Professor Earle. *Vice-President:* Professor Digby. *Honorary Secretary:* Dr. O. Marriott. *Honorary Treasurer and Librarian:* Dr. J. H. Sanders. *Council:* Deputy Surgeon-General Woodwright, R.N., Major Harding, R.A.M.C., Dr. W. W. Pearse, Dr. Strahan, Dr. Thomas.

It was decided to resume the monthly scientific meetings suspended during the war and to restock the library with works of reference.

It was resolved to enter into negotiations with the China Medical Missionary Association, with a view to holding a joint general and scientific meeting of the profession in Hong Kong in 1921.

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.

A MEETING of the Division, to which all practitioners were invited, was held at Wolverhampton on February 3rd, when Dr. CRAIG was in the chair.

The revised rules governing procedure in ethical matters of a Division not itself a Branch were adopted.

The annual report and financial statement of the Division were received and approved.

Dr. RIDLEY BAILEY reported on the conference of Local Medical and Panel Committees. It was resolved:

That this meeting of practitioners in the area of the South Staffordshire Division of the British Medical Association resolves that all medical fees for private practice shall be increased by at least 50 per cent. on pre-war charges.

This decision was directed to be communicated to the local press.

The HONORARY SECRETARY brought up the question of action to be taken by the Association in cases of national emergency, and he was instructed to interview the Chief Constable.

The Executive Committee was requested to draft a scheme to allow of holidays for the practitioners in the area by arranging that those who were not on holiday should do the work of the practitioners who were away.

Association Notices.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches, for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

THE list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and ***Nomination Form***, appeared in the SUPPLEMENT of January 24th, page 22. Separate Nomination Forms will, if desired, be forwarded on application by Branches, Divisions, or Members.

The list of the Groups of ***Oversea Branches*** was published in the SUPPLEMENT of October 11th, 1919, p. 79.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH.—Drs. John Stevens and John Eason, Honorary Secretaries, give notice that the Winter Clinical Meeting of the Edinburgh Branch will be held in the Royal Infirmary on Friday, February 27th. All members of the profession are cordially invited. The Museum will be open from 11 a.m. Special Clinics will be held during the forenoon, and the Clinical Meeting at 3.15 p.m. At 5 p.m. Dr. Alexander Blackhall-Morison (London) will lecture on The Passive Mechanical Factor in Heart Disease: its Influence and Management. Dinner at 6.30 p.m. in the Hall of the Royal College of Physicians, 9, Queen Street; morning dress; dinner ticket, 10s. 6d. Members of the Branch are requested to notify, not later than February 23rd, whether or not they intend to be present.

CONFERENCES OF VARIOUS MEDICAL BODIES.

APPENDED is a report of certain conferences which took place in May, June, and July last, between representatives of the following bodies: The Association of Panel Committees (on whose initiative the British Medical Association called the conferences), the Medico-Political Union, the Medical Parliamentary Committee (now the British Federation of Medical and Allied Societies), the Medical Women's Federation, the National Medical Union (whose representative was, owing to a postal mishap, only able to be present once), and the British Medical Association.

The report is agreed as being a correct version of the proceedings by all the bodies concerned except the Medico-Political Union, whose desire to secure certain alterations has materially delayed the issue of the report. The Secretary of that body said he considered the draft report submitted to him on October 9th, 1919, "misleading and conveying no information likely to assist the profession to form an opinion." The other bodies accepted the draft as an accurate record. On being pressed to state the alterations which his union desired, the Secretary asked that certain proposals put forward by Dr. Brackenbury should be stated in full. These proposals, as they emerged amended as resolutions of the Conference, are contained in paragraphs 6 and 7 of the report. The representatives of the British Medical Association in their anxiety to secure an agreed report took no exception to the setting out of Dr. Brackenbury's original proposals, though they considered it unnecessary because, as stated above, the practical outcome of them so far as the Conference was concerned, is already reported in paragraphs 6 and 7. They were, however, quite willing to consent to the publication of these suggestions as laid before the Conference. But they could not accept as a true statement the sentence which the Medico-Political Union desired to have inserted—namely, that the suggestions were "put forward by Dr. Brackenbury on behalf of the British Medical Association as alternatives to the suggestions made by the Medico-Political Union," because Dr. Brackenbury put his proposals before the Conference as a member of the Conference on his own initiative, and not speaking officially on behalf of the British Medical Association. Moreover, he made that position perfectly plain when he produced his proposals. The representatives of the British Medical Association objected therefore to any statement which would lead readers of the report to think that the line the Association proposed to take in the Conference had been laid down beforehand and was embodied in Dr. Brackenbury's proposals, when as a matter of fact the Association's representatives had been left by the Council with a free hand to do the best they could to achieve the objects for which the Conference was called—namely, "the discussion of common action and the possibility of securing the adherence of all medical organizations to the National Insurance Defence Trust." The representatives of the Medico-Political Union apparently could not believe that the representatives of the Association had been left to exercise their judgement as seemed to them best.

The Council considered the report on December 17th, 1919, and resolved that when it was published the following statement should accompany it:

(1) That in order to promote unity of purpose and common action, the representatives of the British Medical Association and of all the other organizations except the Medico-Political Union were willing to recommend for adoption a scheme for co-operation between medical organizations.

(2) That it was open to the Medico-Political Union to signify its adhesion to such a scheme.

(3) That as a condition of cessation of controversy with, and antagonistic action by, the Medico-Political Union, the Association's representatives at the Conference undertook to recommend to the Council that, subject to the working of the scheme, it be recognized as a possibility that in concerting common action in the case of a particular dispute with a Government department circumstances might arise which would justify such action being taken only by a professional organization registered as a trade union, and that the Medico-Political Union be recognized as the official body representing those members of the profession who wish to belong to a medical trade union. In view, however, of the fact that the Medico-Political Union have officially intimated that these proposals would not satisfy them, and that they will not accept anything other than their own original proposals unaltered, the Council has not considered the recommendations of its representatives, and is of opinion that it would serve no useful purpose to take further action.

The last letters which passed between the Medical Secretary and the Secretary of the Medico-Political Union will show clearly the different conceptions which the two bodies held as to the spirit in which such a Conference should be conducted:

Medico-Political Union,
January 10th, 1920.

Dear Dr. Cox,

In reply to yours of the 6th inst., I would like to point out that the suggestions put forward by Dr. Brackenbury, a copy of which was handed to me, was headed "Suggestions for an arrangement between the British Medical Association and the Medico-Political Union." I was under the impression that Dr. Brackenbury was speaking on behalf of the Association. If I am now to understand that Dr. Brackenbury was on this Committee as an independent individual, making suggestions as such, I must admit that I was under a misapprehension. If such was the case, I fail to see why the Conferences were called. I certainly attended them as a representative of the Medico-Political Union and not in the capacity of a private individual. I clearly understood that the conclusions arrived at were subject to the approval or otherwise of our respective councils. Under the circumstances I fail to see where my alternative to paragraph 7 departs from the realm of fact.—Yours sincerely,

(Signed) A. WELPLY,
General Secretary.

British Medical Association,
January 13th, 1920.

Dear Dr. Welply,

I will make a final attempt to explain why I think your alternative to paragraph 7 would be misleading and untrue. On the instance of the Association of Panel Committees the British Medical Association called a conference to discuss certain suggestions which may be grouped under the head of the possibility of finding a basis for common action. It appointed certain representatives, leaving it to their judgement to act in the conference as seemed to them best. They had no detailed instructions, but were, of course, expected to report to the Association.

Dr. Brackenbury, in a desire to put down something which would serve as a basis for discussion, placed before the Conference (or rather the Committee which was appointed by the Conference) certain suggestions which he thought might meet the objects for which Dr. Stancomb had drafted certain propositions. Those suggestions were not put forward by him officially on behalf of the Association, but on his own initiative as a member of the Conference. Some of Dr. Brackenbury's propositions met with the approval of his colleagues, some of them did not, and in the discussion which occurred most of them were considerably modified.

We cannot be parties to any further delay, so I shall be glad to know whether you are prepared to accept the preamble to paragraph 7 as I stated it in the enclosure to my letter of December 23rd last; or whether we shall send the report enclosed in my letter of October 9th, and long ago agreed by all the other associations taking part in the Conference except your own, to those associations and to the profession, with a statement that it has been agreed by all the associations taking part in the Conference except the Medico-Political Union.—Yours faithfully,

(Signed) ALFRED COX,
Medical Secretary.

To this no reply was received.

REPORT AS TO THE RECENT CONFERENCES OF REPRESENTATIVES OF VARIOUS MEDICAL BODIES ON THE POSSIBILITY OF CO-OPERATION.

In accordance with a suggestion made by the Association of Panel Committees, the Council of the British Medical Association invited certain medical bodies to take part in a Conference for the following purposes:—

(1) To discuss common action;

(2) To endeavour to secure that the Advisory Council to the Ministry of Health should possess the confidence of general practitioners; and

(3) To secure the adherence of the organisations taking part in the Conference to the National Insurance Defence Trust.

The following bodies accepted the invitation and were represented by the practitioners indicated:—

Association of Panel Committees.	Dr. H. J. Cardale. Dr. Peter Macdonald. Dr. B. A. Richmond. Dr. J. P. Williams-Freeman.
Medico Political Union.	Dr. F. Coke. Dr. G. A. Main. Dr. E. H. Stancomb. Dr. A. Welply.

Medical Parliamentary Committee (now British Federation of Medical and Allied Societies).	Dr. C. Buttar. Dr. A. Latham. Dr. Jane Walker. Dr. A. S. Woodwark, C.M.G., C.B.E.
Medical Women's Federation.	Dr. Dickinson Berry. Dr. Janet Lane-Claypon. Dr. Chalmers Watson, C.B.E. Dr. Ethel Williams.
British Medical Association.	Dr. J. A. Macdonald, LL.D. (in his absence, Dr. G. E. Haslip). Dr. M. G. Biggs. Prof. R. A. Bolam, O.B.E. Dr. H. B. Brackenbury. Dr. J. R. Drever. Dr. T. W. H. Garstang. Dr. Alfred Cox, O.B.E.

Owing to a mishap in the post the invitation to the National Medical Union was not delivered and no representative from that body was present until the last meeting, when Dr. R. Fielding-Ould attended.

There were three conferences, on May 6th, June 6th, and July 16th, 1919.

Dr. Garstang was appointed Chairman and Dr. Cox Secretary.

1. At the first meeting it was resolved that there should be an agreed report of the proceedings and that there should be no publication of the proceedings other than the agreed report, but that it would be open to every member of the Conference to report to the body appointing him, as he thought fit.

2. The Association of Panel Committees, as the body on whose initiative the Conferences were called, began by stating that they were anxious for united action in the profession and that there should be no waste of energy in internecine fighting. To this end they advocated the formation of a liaison Committee, and that in dealing with Government bodies and other important bodies joint deputations should represent the profession.

3. On behalf of the British Medical Association, it was pointed out that for years the Association had endeavoured, with considerable success, to bring about common action by including in its most important Committees, Sub-Committees and deputations representatives of various sectional organisations, such as the Medical Women's Federation, Society of Medical Officers of Health, Poor Law Medical Officers Association and others. The Insurance Acts Committee was a typical example of this policy of the Association.

4. The representatives of the Medico-Political Union stated that they wanted neither to injure nor to rival the British Medical Association, and submitted the following conditions by means of which they believed an understanding could be arrived at:—

(a) That there should be recognition of the trade union as a possible valuable adjunct in medical organisation.

(b) that the Medico-Political Union should be frankly recognised as the official body representing those members of the profession who wished to belong to a medical trade union;

(c) that the British Medical Association should recognise the Medico-Political Union as the agent for the profession in collective bargaining in the final resort, that is, if ordinary means of persuasion had failed and there was any question of refusing to accept or renew contracts or anything which might be construed as being "in restraint of trade," the matter should be dealt with by the Medico-Political Union;

(d) that further conferences be held to define limitations of work and prevent overlapping; and

(e) that there shall be mutual agreement in important matters before any action is taken by way of joint deputations.

5. At this point a Committee was set up to consider and report on the best ways of promoting common action, including the advisability of forming a liaison committee. The Committee consisted of—

Dr. Richmond (Association of Panel Committees).
Dr. Welply (Medico-Political Union).
Dr. Buttar (Medical Parliamentary Committee).
Dr. Jane Walker (Medical Women's Federation).
Dr. Brackenbury, Dr. Garstang (British Medical Association).
with Dr. Cox as Secretary.

6 The Committee met twice and presented the following recommendations to the Conference:—

A. That the British Medical Association and the Medico-Political Union alike undertake that neither body shall attempt to dissuade any medical practitioner from joining the other body.

B. That the British Medical Association and the Medico-Political Union alike undertake each to communicate to the other any decisions of their Committees as to medico-political policy that may be arrived at, and to allow time for a reply before any public action is taken; that if such reply asks for a conference on any particular matter such conference shall be arranged with the Committee concerned.

C. That if the British Medical Association is arranging a deputation to a Government Department on any matter of medico-political policy, it shall invite the Medico-Political Union to send representatives on such a deputation; that if the Medico-Political Union desires that any deputation should go to a Government Department on such a matter it shall inform the British Medical Association, and shall wherever possible leave the British Medical Association to arrange such a deputation.

(Dr. Welply, on behalf of the Medico-Political Union, dissented to the last part of this recommendation).

D. That the British Medical Association and the Medico-Political Union recognise that there is an important divergence of view between them on the subject of professional trade unionism; controversy on other matters of a medico-political character shall be avoided unless, after the procedure outlined in Recommendations B. and C. above an important divergence of view remains.

E. That if any question arises which involves a struggle between the profession and the Government or a Government Department, the mutual consent of the British Medical Association and the Medico-Political Union shall be required before such struggle is entered upon; measures for conducting the struggle shall be concerted between them and common action taken, as far as possible.

F. (i.) That the Association of Panel Committees should recognise the Insurance Acts Committee as a suitable body to represent the profession in negotiation with the Government on matters of Insurance Act administration, (a) so long as that Committee is appointed for this purpose by the Conference of Local Medical and Panel Committees, (b) so long as there is not less direct representation of Local Medical and Panel Committees than exist at present, and (c) if it be recognised as desirable that the work of the Insurance Acts Committee should be organised as far as possible as a separate department of the British Medical Association;

(ii.) That the Association of Panel Committees shall recommend its constituent bodies to support the National Insurance Defence Trust.

G. That in case of dispute between the profession and the Government or a Government Department, the British Medical Association and any other medical organisations that have accepted the arrangements set out in recommendations B and C as applicable to them shall concert measures for conducting the dispute and common action shall, so far as possible, be taken.

H. That the question of forming a liaison Committee be deferred until it be ascertained what medical organisations are willing to enter into the arrangements suggested in B, C and G above, and that if such a Committee be formed, its duty shall be to facilitate the working of such arrangements.

7. The Committee also recommended that the following suggestions, put forward on behalf of the British Medical Association as alternatives to the suggestions made by the Medico-Political Union (*see* par. 4), be reported in full to the profession:—

(i.) That the Medico-Political Union recognise the Insurance Acts Committee as a suitable body to represent the profession in negotiation with the Government on matters of Insurance Act administration so long as that Committee is appointed for this purpose by the Conference of Local Medical and Panel Committees;

(ii.) That if any question arises which involves a struggle between the profession and the Government or a Government Department, the mutual consent of the British Medical Association and the Medico-Political Union shall be required before such struggle is entered upon; measures for conducting the struggle shall be concerted between them and common action taken as far as possible;

(iii.) That the Medico-Political Union shall do nothing to dissuade Panel Committees or practitioners from supporting the National Insurance Defence Trust, and the British Medical Association will recognise that any levy which the Medico-Political Union may make on its members from time to time is, in the case of such members, fully equivalent to a subscription to the Trust;

The representative of the Medico-Political Union during the course of the proceedings of the Committee indicated that that body would be satisfied with nothing short of the proposals made on its behalf (par. 4), and withdrew from the meeting when it was found that these proposals were not acceptable.

8. The Conference met again on June 6th and July 16th to consider the recommendations of the Committee and passed the following resolutions :—

(a) That there should be recognition of the possible value of a trade union as an adjunct to medical organisation

(b) That the British Medical Association and the Medico-Political Union shall alike undertake that neither body shall attempt to dissuade any medical practitioner from joining the other body.

(c) That the Medico-Political Union should be recognised as the official body representing those members of the profession who wish to belong to a medical trade union.

(d) That if any question arises which involves a struggle between the profession and the Government or a Government Department there shall be consultation between the British Medical Association and the Medico-Political Union before such struggle is entered upon ; measures for conducting the struggle shall be concerted between them and common action taken as far as possible.

(e) That further conferences be held to define limitations of work and to prevent overlapping.

(f) That in case of dispute between the profession and the Government, or a Government Department, the British Medical Association and any other medical organisations that have accepted the arrangements set out in Sections B and C of paragraph 6 above as applicable to them, shall concert measures for conducting the dispute, and common action shall so far as possible be taken.

(g) That this Conference, feeling that a Liaison Committee may be helpful in facilitating common action, resolves that the question of forming such a Committee be referred to the constituent bodies after the conclusion of the conferences, with a recommendation that they should consider whether the present conference might constitute such a Liaison Committee.

(h) That it be recognised as a possibility that in concerting common action in the case of a particular dispute with a Government Department, circumstances might arise which would justify such action being undertaken only by a professional organisation registered as a Trade Union.

9. The representatives of the Medico-Political Union stated that sub-paragraph (d) above, was not acceptable as the equivalent of their proposition (sub-paragraph (c) of paragraph 4 above) which expressed their conviction as to the proper way of conducting collective bargaining and that the following matters must be left to the Medico-Political Union (a) the steps taken in regard to practitioners who declined to take action in support of the professional bodies between which there had been consultation and (b) any question of breaking contracts. In these circumstances the Medico-Political Union held that the British Medical Association must stand aside.

10. On behalf of the British Medical Association the theoretical possibility that there might be a stage at which action could best be taken by a Trade Union was admitted, but the opinion was held that every case must be taken on its merits and that the Association could not tie its hands in advance.

11. On the discussion of sub-paragraph (h) of paragraph 8 above the representatives of the Medico-Political Union said that body could accept nothing less than their original proposition, namely :—

> That the British Medical Association should recognise the Medico-Political Union as the agent for the profession in collective bargaining in the final resort, that is, that if ordinary means of persuasion had failed and there was any question of refusing to accept or renew contracts or anything which might be construed as being "in restraint of trade" the matter should be dealt with by the Medico-Political Union.

If this were not granted in principle the Medico-Political Union was not prepared to go further.

12. At this stage it was agreed that the members should report the findings of the Conference to the bodies they represented and that the calling of a further conference would depend on the attitude taken by these bodies.

13. The following correspondence with the Medico-Political Union has since taken place :—

Medico-Political Union,
September 27th, 1919.

Dear Sir,

I am instructed by my Council to inform you that they learn with regret that the British Medical Association refuses to accept the proposals for unity of action stated by Dr. Stancomb on behalf of the Medico-Political Union.

I am further to inform you that it is the wish of my Council that a full report of the negotiations be circulated immediately to every member of the profession.

Yours faithfully,
(Sgd.) A. WELPLY,
General Secretary.

Dr. Cox.

British Medical Association,
October 3rd, 1919.

Dear Sir,

I regret that your letter of the 27th ult. has not received an earlier answer, but it arrived at a time when I was hung up in Wales by the railway strike. I shall place it before Dr. Garstang, Chairman of the Conferences, as soon as possible.

Are we to understand that your Council has definitely decided to accept nothing less than Dr. Stancomb's original proposition? One can infer that it has done so from your letter, but I think it would be more satisfactory if we could be informed whether your Council declines to accept the suggestions for a working arrangement that we made in the Conference and adheres rigidly to the proposals put forward by Dr. Stancomb.

Yours faithfully,
(Sgd.) ALFRED COX,
Medical Secretary.

Dr. A. Welply.

Medico-Political Union,
14, Gray's Inn Square, W.C.1.
4th October, 1919.

Dr. A. Cox, O.B.E.

Dear Sir,

In reply to yours of the 3rd instant, my Council are not willing to accept anything less than Dr. Stancomb's original proposition.

Yours faithfully,
(Sgd.) A. WELPLY,
General Secretary.

INSURANCE.

SCOTTISH PANEL CONFERENCE.

A CONFERENCE of Representatives of Scottish Local Medical and Panel Committees was held in Edinburgh on February 11th. Of a total of fifty-six insurance areas in Scotland thirty-eight were represented. Dr. CUTHBERT NAIRN (Greenock), Chairman of the Insurance Acts Subcommittee, presided.

The Draft Regulations for Scotland (1920) were submitted, and the following resolutions were passed :

1. That this Conference do express a general approval of the New Regulations for 1920, and requests the Insurance Acts Subcommittee to endeavour to secure such emendations thereto as may be approved by this Conference.
2. That the decisions of the British Conference on matters of principle should be accepted by this Conference.

The arrangements for transfer of practices were accepted under protest, and objection was taken to Section 8 (4) of the Terms of Service, which provides that :

> Such accommodation shall not, except with the consent of the Committee or, on appeal, of the Board, be in premises occupied by a chemist,

and

> the practitioner shall not, in the matter of accommodation, discriminate between insurance patients and other patients.

It was also resolved to protest strongly against the proposal that a portion of the cost of the Central Checking Bureau may be charged to Panel Committees ; and to ask that the words "and of his treatment of them" be deleted from Section 8 (11) of the Terms of Service, and the words "such diseases as may from time to time be prescribed" from 8 (12).

On the question of remuneration letters were submitted from the Board of Health, intimating their intention to postpone the introduction of the new Regulations in

Scotland until July 1st, and offering a capitation payment of 11s. to date from January 1st, pending the decision of the Arbitration Board, when the question will be reopened.

The Conference resolved:

That the Conference accept the proposal to postpone the date of operation of the New Regulations.

That the Conference accept the offer of a capitation fee of 11s., to date from January 1st, 1920.

That the Insurance Acts Subcommittee be authorized to negotiate for a new capitation rate from April 1st, 1920, and that they be authorized to accept on behalf of the profession any sum not less than that fixed by the Arbitration Board for England.

That in the event of a less sum being offered by the Board of Health, the matter be referred to the Panel Committees.

Considerable discussion took place on a motion dealing with mileage (that the mileage grant should be increased by not less than three times the present figure for those over three miles; and that, further, a new grant should be allowed for all insured persons between two and three miles), and it was finally resolved:

That this Conference express its sympathy with the rural practitioners, and that the Insurance Acts Subcommittee be asked to endeavour, by the procuring of statistics and facts and placing these before the medical board, to get an adequate mileage grant, failing which they place the whole matter before the Panel Committees.

LIMITATION OF LISTS.

THE following Circular Letter (I.C.L. 293) to Panel Committees and Insurance Committees, with regard to the limit of insured persons on doctors' lists under Article 15 (2) of the Medical Benefit Regulations, 1920, was issued by the Ministry of Health on January 19th, 1920:

I am directed by the Minister of Health to refer to paragraph 4 (*b*) of Memorandum 261/I.C., in which it is pointed out that while the limit of 3,000 persons in Article 15 (2) is a maximum limit which must in no case be exceeded, it is not in any sense to be regarded as a normal figure, and that it is for the Insurance Committee and Panel Committee to fix such maximum for the area as a whole, or for different districts within the area, as they may think fit.

The Medical Secretary of the British Medical Association on January 21st addressed the following letter to the Secretary of the Ministry of Health:

I beg to thank you for sending me a copy of your circular letter to Panel and Insurance Committees (I.C.L. 293). I must say I am surprised and disappointed that this letter should have been sent because, as might have been expected, it is being looked upon by the Panel Committees as an encouragement to Insurance Committees to reduce the limit of persons on doctors' lists to below 3,000, and I find from my correspondence that this is being strongly resented.

The normal maximum having been settled by negotiation, together with a regulation which gives Insurance and Panel Committees together the power to fix a lower maximum, it is felt that they might very well have been left to deal with this matter in their own way, without having received a circular which directs pointed attention to their power to fix a lower normal figure.

To this Mr. R. W. Harris, Assistant Secretary to the Ministry of Health, replied on January 22nd as follows:

With reference to your letter of yesterday's date with regard to the circular letter I.C.L. 293 on the subject of the limit of persons on doctors' lists, I am directed by the Minister of Health to remind you that, in the discussions last autumn with your Committee, it was made clear that the Minister had agreed to the insertion of so high a limit as 3,000 in the Regulations with some reluctance and on the understanding that it was in no sense to be regarded as a normal maximum. This was also made clear at the time of the issue of the advance copies of the Regulations by the insertion in the Regulations of the words "in no case" ("the limit shall in no case exceed 3,000 insured persons") in the proviso to Regulation 15 (2), and by the issue of the paragraph 4 (*b*) in Memorandum 261, issued on October 31st last, of which a copy was sent to you at the time, and of which a further copy is enclosed herewith.

In view of the lapse of time since the original Memorandum was issued, it was felt necessary to issue I.C.L. 293 as a reminder in order that the true position in regard to this important question, which was made clear in the earlier Memorandum, should not be overlooked.

In answer to this, Dr. Cox wrote on February 4th:

In reference to your letter of the 22nd ult., I am instructed to state that I laid it and my letter to which it was a reply before the Insurance Acts Committee at its meeting on Thursday last, and was directed to forward the following observations.

The Committee is aware that the representatives of the Ministry have always expressed a preference for a lower maximum than 3,000 where this could be brought about. The Insurance Acts Committee was of opinion that there are exceptional doctors, or doctors exceptionally situated, who are able to undertake a list of 3,000 or over and do their duty to their patients, but it was quite willing that the power to fix a lower maximum should be left to local option. The Committee was, and still is, of opinion that the highest possible maximum having been laid down as 3,000, the question as to whether there should or should not be a lower maximum in any area might well have been left to the free determination of the local authorities concerned.

The Committee considers that the marked and repeated way in which the Ministry drew attention to the fact that a lower maximum might be fixed, and the action that it took in sending back schemes in which the 3,000 limit had been agreed upon was not consistent with the rights of self-government, within wide limits, which local authorities are supposed to exercise in this country.

CORRESPONDENCE.

Statistics of Panel Attendances in Manchester and Scotland.

SIR,—The figures produced by Dr. D'Ewart are so persistently brought by our Committee to the notice of the experts of the Health Ministry that some analysis of them in relation to other figures in possession of these officials may be of interest to readers of the JOURNAL.

The population of Manchester in 1913 numbered 730,976, of whom 255,000 were insured. The Insurance Act came into operation on January 15th, and by December 31st these persons, all between 16 and 65 years of age and capable of work recently, had received 1,500,000 attendances, or 6.12 per annum per unit. No other statistics on a similar scale having been published in this country, it is necessary for comparison to refer to those of Scotland, which were presented to Parliament in 1917. The attendances in twenty-five Scottish burghs in 1913 averaged 3.24 per annum per unit; in Glasgow, a town perhaps comparable to Manchester, but 3.15. When one comes to investigate causes of excessive attendance in Scotland, the counties of Linlithgow and Lanark are conspicuous with an average attendance, over three years, of 4.28 and 4.18 per annum. I have made inquiry in respect to Lanark. It is far the most densely populated county, with population in 1913 of 1,447,113 to but 562,821 acres; moreover, this population consists largely of miners, who take heavy risks. It is, further, the habit of doctors to visit miners' "rows" regularly and fairly often, and see all cases, including chronic ones, who cannot work. This is no doubt an excellent custom, but it raises the rate of attendances—and particularly of visits—notably, so that 150 such "visits" may be paid in a day by a single doctor. Probably similar conditions obtain in the adjoining county of Linlithgow, whereas in two other neighbouring counties—Dumfries and Renfrew—the rate was 2.36 and 2.76, and in the strictly rural districts of Ross with Cromarty and Inverness but 1.55 and 1.71, the average of all counties being 3.10. A point of great interest is the small difference between counties and boroughs in this respect, although the case-values indicate a far larger number of insured persons under treatment in the latter.

Two explanations are probable: first the depressing effect on the rural statistics of counties like Lanark and Linlithgow, with large mining populations, case-value of urban type, and altogether abnormal attendance rate; and secondly, absence of hospitals, so that cases however serious requiring many visits have nevertheless to remain at home. In such English counties (non-mining) as are well provided with hospitals, attendance rate will probably be lower than the average of Scottish counties for these two reasons, but unfortunately our attendance statistics are not available. In rural districts everywhere the proportion of visits is naturally far higher than in towns, and about equals the consultations.

As regards towns, Kirkcaldy heads the list with 5.16 attendances, contrasting with 1.96 in Edinburgh. An exceptional feature is that, in the former, visits exceed consultations, being in 1915 in proportion of 3 to 2, whereas in Glasgow 80 per cent. and, according to Dr. Hoffman, in Manchester 85 per cent. of attendances are surgery consultations. I have been unable to discover the cause of this anomaly, which must press very hardly on the panel doctors in Kirkcaldy. Speaking generally, I gather that a large proportion of textile workers brings up attendances in towns. Kirkcaldy, with the lowest case-value in Scotland, has perhaps excess of these. Nevertheless, the total of attendances in Kirkcaldy does not attain the level reached by Manchester in 1913, and whatever be the explanation of the latter, the sequel was noteworthy. In 1913 the case-value in Manchester stood high for a large town, namely, 90.76, as compared with 80.04 in Birmingham and 74.66 in Bristol. Scottish case-values commence in 1914, and on the same scale Glasgow yields 80.52 and Kirkcaldy 62.34. Now case-value is obtained by dividing the Panel Fund of a district by the number of insured persons who receive treatment, and standardizing

the result to the average of 100, county values being generally over and borough under 100. Yet in 1914 the case-value of Manchester fell abruptly to 56.53, absolutely the lowest on record anywhere, also in Salford it fell from 90.76 to 64.73, and these two have remained at the bottom till records ceased in 1916, no other towns exhibiting similar misfortune—indeed, in neighbouring Liverpool, Rochdale, Bolton, Preston, and St. Helens, it rose conspicuously; in fact, a rise was the general experience.

These figures indicate that, not only did panel doctors in Manchester receive per attendance for 1913 but half what was obtained by those in Glasgow, and had to send in accounts for it too, but that, since that year, they have had to attend nearly double the number of patients to that attended in Liverpool, etc., for no larger total sum. They were, moreover, heavily mulcted to repair the great overdraft upon the drug fund created by their 6.12 per annum attendances of 1913. Those who consider that payment per attendance is much more advantageous than payment per capitation should take special note of this experience in Salford and Manchester. It is not surprising that some doctors have left the panel, nor that this district alone in 1917 advocated state rather than panel service.—I am, etc.,

Chichester, Feb. 8th. G. C. GARRATT.

Reduction of Panels.

SIR,—As a panel practitioner I have carefully read Circular M.C./2 and the provisions as therein laid down for the reduction of redundant panels to 2,500 and the subsequent allocation of rejected persons. I can clearly foresee that a great amount of friction and considerable inefficiency of working will be the result if the methods as at present indicated are adhered to. I have no criticism to make of the regulation limiting panels to 2,500, but I have of the method of reduction and allocation for these reasons:

The Regulations enable the practitioner with a redundant panel to reduce it by rejecting persons *of his own selection.* Naturally he will select the old and chronic invalids, the troublesome and undesirable, he will thus (supposing he has a panel of 3,000) be able to reduce his list (and remuneration) by 17 per cent., and at the same time reduce his work by anything up to 40 per cent. or 50 per cent. On the other hand, the practitioner with a relatively small panel (say 1,000) may have 200 undesirable patients allocated to him—result, increase of remuneration by 20 per cent. and work increased by 60 per cent. I do not think I am understating the probable result of these two operations; at any rate I am sure that if I had to reduce my panel by 10 per cent. by relinquishing a number of selected persons I could reduce my work by 40 per cent. Ordinarily, no good insurance practitioner would wish to shirk attendance on a proper proportion of undesirable persons, yet it is manifestly unfair that the doctor with the large panel should perforce be made to relinquish a large part if not all of them and the doctor with the small panel be made to take them on. A vicious circle will soon be set up as the small panel doctor will in self-defence have to reject from his list twice yearly as many undesirables as he can. This can do no good to any one and will make for decreased efficiency and endless trouble and friction.

The remedy I would suggest and which will ensure a proper proportion of such persons on all doctors' lists and at the same time safeguard the principle of free choice of doctor by patient and patient by doctor is that redundant panels be reduced by closing the panel to all new patients and allowing it to diminish by a natural wastage (deaths, lapses, removals, etc.). This natural wastage is, I estimate, 12 to 15 per cent. per annum, and would in a year or two reduce a redundant panel to 2,500. If a panel does not thus automatically reduce itself within a reasonable time—say, eighteen months to two years—the procedure as laid down in paragraph 6 (5) might then well be carried out.

I am in hopes that it is not too late for the methods as now laid down to be revised by the Ministry of Health.—I am, etc.,

Derby, Feb. 14th. H. G. W. DAWSON.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: G. Carlisle to the *Dragon*, E. L. Atkinson to the *President*, additional, for R.N. College, Greenwich; R. F. McMahon to the *Antrim*, on commissioning; J. C. Bringan, O.B.E., to R.N. Hospital, Malta; C. J. E. Cock to the *Vulcan*. Surgeon Lieutenants: G. L. Stanley to the *Yarmouth*, L. W. Gemmell to the *Merlin*, R. J. Inman to R.M.A., Eastney, H. F. Stephen to the *Castor*, W. G. Thwaytes to the *Pisgard*, Surgeon Lieutenant (temporary) J. Kirker to the *Petersfield*, on commissioning.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Temporary Lieut.-Colonel J. F. Haswell, V.D. (Colonel T.F.), relinquishes his temporary rank on ceasing to be employed in the Army Medical Service (December 2nd, 1919, substituted for notification in the *London Gazette*, January 22nd, 1920).

Lieut.-Colonel H. M. Nicholls retires on retired pay.

Major W. Tibbits is placed on retired pay.

Major R. G. H. Tate to be temporary Lieutenant-Colonel whilst specially employed.

The following Majors relinquish the acting rank of Lieutenant-Colonel: R. C. Wilson, H. W. Farebrother, G. A. K. H. Reed, (Brevet Lieut.-Colonel) G. W. G. Hughes.

The following relinquish the acting rank of Major: Captains W. E. Adam, M.C., J. C. Sproule, W. H. S. Burney, A. L. Stevenson, temporary Captain and Brevet Major R. Bruce-Low, temporary Captains A. W. Comber, J. R. Pate, R. Heaton, G. T. Foster-Smith, E. B. Barton, F. R. Barwell, A. G. Anderson.

Captains to be acting Majors: G. D. Harding (October 28th, 1918, substituted for notification in the *London Gazette* of October 27th, 1919), W. T. Graham, O.B.E. (from January 4th to June 13th, 1918), F. A. Robinson, M.C., and E. P. A. Smith, O.B.E., M.C. (from January 4th to August 13th, 1918), R. W. Vint (from February 4th to August 13th, 1918), T. Young (June 12th, 1919), H. A. Sandiford, M.C. (from July 12th to August 18th, 1919).

The notification in the *London Gazette* of January 23rd regarding Captain G. H. Stacke is cancelled.

To be temporary Captains: H. R. McNair and H. H. Perry, late C.A.M.C.

The following officers relinquish their commissions:—Temporary Majors and retain the rank of Major: R. H. J. Swan, O.B.E., S. M. Cox, R. L. Davies. Temporary Captain (acting Major) W. N. Parker, D.S.O., and is granted the rank of Lieutenant-Colonel (December 9th, 1919, substituted for notification in the *London Gazette*, January 15th, 1920). Temporary Captain G. L. Leggat, O.B.E., and is granted the rank of Lieutenant-Colonel. Temporary Captains and are granted the rank of Majors: H. H. Sampson, O.B.E., M.C., J. Porter (March 13th, 1919, substituted for notification in the *London Gazette*, April 14th, 1919), C. D. Coyle (November 11th, 1919, substituted for notification in the *London Gazette*, December 4th, 1919), J. Rodger, M.C., A. L. Lockwood, D.S.O., M.C., E. F. C. Dowding, W. H. Clements. Temporary Captains and retain the rank of Captain: P. Carroll, S. Forrest, N. F. Graham, M.C., H. M. MacKenzie, A. J. McCreadie, M.C., I. Feldman, F. C. Robbs, M.C., N. J. Judah, R. T. Todd, W. H. Ogilvie, E. E. Lightwood, W. H. Sheffield (May 11th, 1919, substituted for notification in the *London Gazette*, June 20th, 1919), J. F. Allen, J. Caton-Shelmerdine, E. R. Griffiths, A. G. Price, G. D. Fairley, T. M. J. Stewart, B. V. Ward, J. R. K. Thomson, O.B.E., A. R. Hargreaves, C. K. Sylvester, E. A. A. Saunders, J. W. E. Cole, N. I. Sinclair, E. K. Gawn, N. B. Capon, R. C. Cooke, D.S.O., M.C., P. C. West, W. E. Fetherstonhaugh, T. L. Clark, H. S. De Boer, M.C., G. W. Smith (on ceasing to serve with the Springfield War Hospital), C. E. Waldron, O. F. D. Airth, C. W. S. Davies-Jones, J. C. Waitham, J. McI. Falkiner.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Flying officers to be Flight Lieutenants: T. Montgomery (August 19th, 1919), C. F. Eminson, R. D. Jones.

Transferred to the unemployed list: Captains S. J. Moore (February 12th, 1919), D. Guthrie (March 8th, 1919). Lieutenant J. Stark (February 13th, 1919).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captains relinquish the acting rank of Major; T. McEwen, M.C. (May 8th, 1919, substituted for notification in the *London Gazette*, January 24th, 1920), F. G. Lescher, M.C., J. Kennedy, G. T. Mulally, M.C.

Captain B. W. Jones relinquishes his commission on account of ill health caused by wounds, and retains the rank of Captain.

Lieutenants relinquish their commissions and retain the rank of Lieutenant: R. Graham (on account of ill health contracted on active service), C. L. Hewer (on account of ill health).

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captains A. Mitchell and H. W. Read are seconded under paragraph 112 T.F. Regulations.

Captain G. A. Williamson is seconded for service with the Aberdeen University Contingent, Senior Division, O.T.C., and is appointed to command a unit, February 9th, 1919.

Captains (acting Majors) relinquish the acting rank of Major on ceasing to be specially employed: C. G. Strachan, M.C., B. M. Footner, M.B.E., A. E. P. McConnell, F. R. Humphreys, M. Coplans, O.B.E., D.S.O., A. R. Muir.

Captain (acting Lieut.-Colonel) O. W. D. Steel, M.C., relinquishes the acting rank of Lieut.-Colonel on ceasing to be specially employed.

Captains F. Roberts, C. P. C. Sargent, and J. E. Lascelles are restored to the establishment.

Captain H. B. Porteous is seconded for service with the R.A.F.

Lieutenant P. W. G. Sargent, C.M.G., D.S.O., to be Captain, with precedence next below Captain C. C. Fitzgerald, M.C., April 1st, 1915.

1st London Sanitary Company.—Captain A. G. Harrington is restored to the establishment.

2nd London Sanitary Company.—Lieutenant A. S. Reeves to be Captain.

1st Southern General Hospital.—Major (acting Lieut.-Colonel) W. Kirkpatrick relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed.

3rd Southern General Hospital.—Major L. M. Guilding is restored to the establishment. Captain (acting Major) R. Ritson relinquishes the acting rank of Major on ceasing to be specially employed, and is restored to the establishment.

2nd South-Western Mounted Brigade Field Ambulance.—Captain (temporary Major) J. M. Dupont relinquishes the temporory rank of Major on ceasing to be specially employed (July 19th, 1916).

2nd Western General Hospital.—Major (acting Lieutenant-Colonel) A. Wilson relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed.

Attached to Units other than Medical Units.—The announcement regarding Alexander Stewart which appeared in the *London Gazette* of January 8th, 1916, is cancelled.

Supernumerary for Service with Officers' Training Corps.—F. C. Purser (Major in Army) to be Captain for service with medical unit, Royal College of Surgeons, Ireland, O.T.C.

OVERSEAS CONTINGENTS.

SOUTH AFRICAN MEDICAL CORPS.

The following Lieutenant-Colonels relinquish their commissions on ceasing to be employed, and retain the rank of Lieutenant-Colonel: G. H. Usmar, O.B.E., G. R. Thomson, C.M.G.

Temporary Captain M. M. Adams relinquishes his commission on ceasing to be employed, and retains the rank of Captain.

DIARY OF SOCIETIES AND LECTURES.

HUNTERIAN SOCIETY, Apothecaries' Hall, Water Lane, E.C.—Wednesday, 9 p.m., Presidential Address by Dr. W. Langdon Brown: Hunter, Gaskell, and the Evolution of the Nervous System.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 8.30 p.m.: Surgica Treatment of the Later Stages of Gunshot Injuries of the Chest and of Empyema, by Sir Charters Symonds, K.B.E., C.B.; After-results of Certain Surgical Operations, by Percy Montague Smith, M.D., F.R.C.S.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Thursday, 5 p.m., First Milroy Lecture (Dr. Aldo Castellani, C.M.G.): Higher Fungi in relation to Human Pathology.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Monday, 8 p.m., Clinical Evening (Cases at 7.45 p.m.). *Section of Medicine:* Tuesday, 5.30 p.m., Early Manifestations of Scurvy, by Colonel Ransom Pickard and Dr. G. W. Lloyd. Some Deficiency Diseases and Leprosy, by Dr. S. Dutton. Social Evening, Tuesday, 8.30 p.m.: Mr C. E. Wallis will speak on the History of Artificial Teeth, including the gold bridge work of the ancient Etruscans. Objects of historic dental interest will be exhibited in the Library. Music and light refreshments. *Section of Electro-Therapeutics with the Röntgen Society and the Institution of Electrical Engineers:* Thursday, 5 to 6.45 p.m., High Tension Transformers and Alternating Currents, by Dr. Reginald Morton, Major C. E. S. Phillips, and Mr. R. S. Wright, M.I.E.E.; 8.15 to 10 p.m., Discussion. Exhibition of Apparatus. *Section for the Study of Disease in Children:* Friday, 4.30 p.m., Discussion on the Influence of Accessory Food Factors in Infant Feeding, to be opened by Dr. Mellanby; to be followed by Professor Noël Paton, Dr. C. J. Martin, Dr. E. A. Barton, Dr. Robert Hutchison, and Dr. E. Cautley. *Section of Epidemiology and State Medicine:* Friday, 8.30 p.m., Investigation of the Periodicity of Epidemics of Whooping-cough from 1870–1910 by means of the Periodogram, by Dr. Matthew Young. Members of the Section who wish to attend the dinner at the Welbeck Palace Hotel at 7 p.m. are requested to notify Dr. Major Greenwood, Lister Institute, Chelsea Gardens, S.W.1, not later than February 25th.

TUBERCULOSIS SOCIETY, 11, Chandos Street, W.1.—Saturday, 8 p.m., General Meeting. Discussion on the Need for a Diploma in Tuberculosis, to be opened by Dr. Halliday Sutherland.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: X-ray Examination of Gullet and Stomach. Tuesday, 4 p.m., Dr. Hay: Disorders of Motility of Eye. Wednesday, 3.30 p.m., Dr. Wilkinson: Dysphagia. Thursday, 3.30 p.m., Dr. Skinner: Eczema. Friday, 4 p.m., Dr. Hay: Diseases of the Optic Nerve.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Saturday (February 21st), 10 a.m., Dr. Arthur Saunders: Medical Diseases of Children. Monday, 5 p.m., Dr. Beddard: Practical Medicine. Tuesday, 5 p.m., Mr. Page: Spinal Anaesthesia. Wednesday, 5 p.m., Mr. Steadman: Dental Sepsis—Children. Thursday, 5 p.m., Dr. Grainger Stewart: Diseases of the Nervous System of Syphilitic Origin. Friday, 5 p.m., Special Lecture, Dr. J. S. Risien Russell: Diagnosis of Affections of the Cerebellum.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

20 Fri. North of England Branch, Royal Victoria Infirmary, Newcastle-on-Tyne, 1–5.15 p.m., Demonstrations (see Post-Graduate Courses).

24 Tues. London: Ministry of Health Committee, 2.30 p.m.

27 Fri. Edinburgh Branch, Clinical Meeting, Royal Infirmary: Museum open 11 a.m.; Special Clinics during forenoon. Clinical Meeting, 3.15 p.m. Address by Dr. A. Blackhall-Morison: The Passive Mechanical Factor in Heart Disease: its Influence and Management, 5 p.m. Dinner, 6.30 p.m.

APPOINTMENTS.

FORSYTH, J. A. Cairns, M.Sc., M.B., Ch.B., F.R.C.S., Surgeon to Outpatients, Royal Waterloo Hospital for Children and Women.

STOTT, Arnold, M.A., B.Ch.Cantab., M.R.C.P., Assistant Physician to the Westminster Hospital.

WOODFORDE, A. W. G., M.B., B.S.Lond., Honorary Registrar to the Samaritan Hospital for Women, Liverpool.

MANOR HOUSE HOSPITAL, Hampstead.—Honorary Visiting Staff: Russell J. Howard, M.S., F.R.C.S. (Senior Surgeon), C. Jennings Marshall, M.D., M.S., F.R.C.S.

ST. THOMAS'S HOSPITAL.—Casualty Officers and Resident Anaesthetists: J. D. M. Cardell, M.R.C.S., L.R.C.P. (Ext.), A. F. Potter, M.R.C.S., L.R.C.P. (Ext.), H. G. Stormer, M.R.C.S., L.R.C.P. (Ext.), C. M. Billington, B.A.Cantab., M.R.C.S., L.R.C.P., R. C. Cooke, D.S.O., M.C., M.R.C.S., L.R.C.P., J. Hale, M.A.Cantab., M.R.C.S., L.R.C.P., D. B. Spence, M.R.C.S., L.R.C.P., F. G. Wood, M.A.Cantab., M.R.C.S., L.R.C.P. Resident House-Physicians: W. S. Dawson, M.A., M.B., B.Ch.Oxon., R. C. P. Whitcombe, B.A.Cantab., M.R.C.S., L.R.C.P. (Ext.), S. A. T. Ware, M.R.C.S., L.R.C.P., R. A. W. Procter, M.C., M.A. Cantab., M.R.C.S., L.R.C.P. (Ext.). Resident House-Physician (for Children): J. Forest Smith, M.R.C.S., L.R.C.P. Resident House-Surgeons: R. H. O. B. Robinson, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P., J. W. Wayte, M.C., M.B., B.S.Lond., M.R.C.S., L.R.C.P. (Ext.), G. Perkins, M.C., M.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P., R. M. Humphreys, B.A., M.B., B.Ch. Oxon. Resident House-Surgeon (for Ear, Nose, and Throat): H. I. Mariner, M.R.C.S., L.R.C.P. House-Surgeon to Block 8: L. G. Higgins, M.A.Cantab., M.R.C.S., L.R.C.P. Obstetric House-Physicians: A. H. Richardson, M.A., M.B., B.C. antab., F.R.C.S.Eng., H. L. Garson, M.C., B.A.Cantab., M.R.C.S., L.R.C.P. Ophthalmic House-Surgeons: J. P. S. Walker, M.A., M.B., B.Ch.Oxon., E. P. Brockman, B.A. Cantab., M.R.C.S., L.R.C.P. Clinical Assistants:—Throat: J. B. Cavenagh, M.C., B.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P., A. R. C. Doorly, M.B., B.S. Lond., M.R.C.S., L.R.C.P. Skin: H. Gardiner Hill, M.B.E., B.A., M.B.Cantab., M.R.C.S., L.R.C.P., A. C. Halliwell, B.A. Cantab., M.R.C.S., L.R.C.P. Ear: P. C. Brett, M.R.C.S., L.R.C.P., N. A. Sprott, B.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P. Electrical and *X*-Ray Department: F. G. Spear, B.A.Cantab., M.R.C.S., L.R.C.P.

CERTIFYING FACTORY SURGEONS.—J. P. Cassidy, M.B., B.Ch., N.U.I. (Linaskea District, co. Fermanagh), W. M. Christie, M.B., Ch.B.Edin. (Catrine District, co. Ayrshire), B. G. Gutteridge, M.R.C.S., L.R.C.P. (Shardlow District, co. Derby), J. C. Hallinan, M.R.C.S., L.R.C.P. (Rotherham District, co. York), A. L. Heiser, M.R.C.S., L.R.C.P. (Colnbrook District, co. Buckingham), H. McLoughlin, M.B., B.Ch., N.U.I. (Rostrevor District, co. Down), E. W. L. Sharp, M.R.C.S., L.R.C.P. (Burnham District, co. Norfolk), G. P. Wilson, M.R.C.S., L.R.C.P. (Ketton District, co. Rutland).

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. Beaumont: Influence of War on Respiratory Disorders.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Tuesday, noon, Dr. Irwin Moore: Demonstration, Oesophagoscopy. Wednesday, noon, Dr. A. E. Giles: Uterine Displacements in relation to Pregnancy.

MANCHESTER: ANCOATS HOSPITAL.—Thursday, 4.30 p.m., Dr. Ward: Bronchial Affections of Childhood.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. E. Bosdin Leech: The Use of Pancreatic Preparations for Digestive Disorders.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Monday, 2 p.m., Out-patients (Dr. Collier); 3.30 p.m., Mr. Paton, Ophthalmoplegia. Tuesday, 2 p.m., Out-patients (Dr. Grainger Stewart); 3.30 p.m., Ward Cases (Dr. Risien Russell). Wednesday, 2 p.m., Mr. Sargent: Surgical Treatment of Spinal Caries; 3.30 p.m., Dr. James Taylor: Epilepsy. Thursday, Dr. Farquhar Buzzard, 2 p.m.: Out-patients; 3.30 p.m.: Intracranial Tumours. Friday, 2 p.m.: Out-patients (Dr. Gordon Holmes); 3.30 p.m., Ward Cases (Dr. Tooth). Saturday, 9 a.m., Surgical Operations.

NEWCASTLE-ON-TYNE: ROYAL VICTORIA INFIRMARY.—Friday, 2.30 p.m., Dr. A. Parkin: Diabetes. 3.15 p.m., Dr. George Hall, C.M.G.: Systematic Examinations of Nervous Diseases, together with Diagnostic Points. 4.30 p.m., Professor Stuart McDonald: Routine *Post-mortem* Examination.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, Dr. R. Murray Leslie, 2 p.m.: Demonstration of Cases of Pneumonia. 4.30 p.m., Lecture: Complications of Pneumonia.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

DEATHS.

MURPHY.—On the 13th inst., of heart failure, at the Military Hospital, Chisledon, Francis Murphy, Temporary Captain R.A.M.C. R.I.P.

WILLIAMS.—On February 13th, of pneumonia, at 109, Grange Road West, Middlesbrough, William Jones Williams, M.D., J.P., aged 78.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 28TH, 1920.

CONTENTS.

PAGE

British Medical Association.

CURRENT NOTES:
- PAYMENT OF HOSPITAL STAFFS FOR TREATMENT OF DISABLED MEN 45
- FEES FOR MEDICAL EXAMINATION FOR LIFE INSURANCE ... 45
- ARBITRATION ON DISPUTED MEDICAL CHARGES 45
- COMMUTED FURLOUGH IN THE I.M.S. 45
- THE £60 GRATUITY 46

ASSOCIATION NOTICES:
- ELECTION OF REPRESENTATIVE BODY, 1920-21 55

NAVAL AND MILITARY APPOINTMENTS 55

ASSOCIATION INTELLIGENCE 56

PAGE

ARBITRATION ON RATE OF INSURANCE REMUNERATION:
- I. MEMORANDUM BY SIR CLIFFORD ALLBUTT, K.C.B., PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION ... 46
- II. CASE PRESENTED ON BEHALF OF THE MEDICAL PROFESSION BY THE INSURANCE ACTS COMMITTEE ... 46
- III. MEMORANDUM BY PROFESSOR A. L. BOWLEY, Sc.D., F.S.S. 53

MEETINGS OF THE PROFESSION 54

COUNTY OF LONDON INSURANCE COMMITTEE 54

DIARY OF SOCIETIES AND LECTURES 56

APPOINTMENTS 56

BIRTHS, MARRIAGES, AND DEATHS 56

British Medical Association.

CURRENT NOTES.

Payment of Hospital Staffs for Treatment of Disabled Men.

THE Hospitals Committee of the British Medical Association has been considering the method and amount of payment which should be made to the medical staffs of hospitals for the treatment of discharged disabled soldiers and sailors. Conversations have taken place with the British Hospitals Association and with the Ministry of Pensions, and as a result of these deliberations the Hospitals Committee recommended to the Council the following:

> That for all work for soldiers and sailors, whether discharged or not, for any disease or injuries connected with the war, undertaken at voluntary hospitals, the medical staffs should be adequately remunerated. In any case the remuneration should represent an addition of not less than 25 per cent. to the cost of maintenance of in-patients, and not less than 25 per cent. of the ascertained cost per patient per attendance for out-patients, the additional sum to be placed at the disposal of the medical staff; that in the case of special clinics (for example, aural and ophthalmic) the fee payable to the medical practitioner should not be less than the fee payable by the Ministry of Pensions for identical or similar services—namely, £2 2s. per session.

This resolution, adopted by the Council at its meeting on February 18th, will, of course, be placed before the Representative Body at the Cambridge meeting in order that it may become the recognized policy of the Association; but as the whole subject is one which has exercised the minds of medical men at present engaged in such work it has been deemed advisable to publish this resolution in order that any arrangements which are set up in connexion with this work may be of a uniform nature. The British Hospitals Association is understood to be in agreement with this resolution, and has placed the whole matter of hospital accommodation and treatment before the Ministry of Pensions, which in turn is awaiting the consent of the Treasury to the proposals.

Fees for Medical Examination for Life Insurance.

Apparently some Branches and Divisions are still endeavouring by local action to raise the rates for medical examination of candidates for life insurance. The Medical Secretary wishes to draw attention to the Current Note of January 3rd last, in which it was stated that the Council has come to the conclusion that this is pre-eminently a matter which should be settled by central action. Merely local action has broken down wherever it has been tried. The present position is that a body, representative of all British life offices, has met a deputation from the Medico-Political Committee of the British Medical Association, and an agreed report of the suggestions put forward was before the Council at its meeting on February 18th, and will very shortly be sent to all the Divisions for discussion. Some insurance companies have apparently stated in letters to individual doctors that an agreement has been arrived at about the fee, but this is an error. The Association can arrive at no agreement until the matter has been discussed by the Divisions and Representative Body.

Arbitration on Disputed Medical Charges.

It must often happen that differences of opinion arise between patients and their medical attendants as to the reasonableness or otherwise of the doctor's charges. The medical man may meet his patient by making a quite uncalled for reduction or he may refuse to modify his charges. It is, perhaps, not well enough known that the Medico-Political Committee of the Association is prepared to adjudicate in such cases, and has done so on several occasions. Both parties must agree to accept the Committee's decision and to furnish full particulars to the Medical Secretary, when the matter will be dealt with at the next meeting of the Committee.

Commuted Furlough in the I.M.S.

The following correspondence has lately passed between the British Medical Association and the India Office:

February 4th, 1920.

Sir,

The attention of the Association has been called by I.M.S. officers to a question affecting their position as regards leave pending retirement. The statement made is to the effect that they have been given to understand that they will not be allowed to avail themselves of more than eight months' leave prior to retirement, whereas the period they are entitled to, under Civil Service Regulations India, is two years. The Association would be glad to be informed whether this statement is correct. They can only hope that the I.M.S. officers are under a misunderstanding. An early reply will be considered a favour.

Yours faithfully,
ALFRED COX,
Medical Secretary.

The Secretary,
India Office, S.W.1.

India Office, Whitehall, S.W.,
18th February, 1920.

Sir,

In reply to your letter of the 4th February I am directed to inform you that it is not understood on what grounds Indian Medical Service officers can have concluded that they would be unable to avail themselves of more than *eight months'* leave prior to retirement if they retired from the civil side and subject to the Government of India's concurrence to their taking any period of leave that might be due to them. It is thought possible that the terms of commutation of civil furlough into leave on higher pay may have been misunderstood. A copy of the terms is herewith enclosed. Such commutation is, of course, optional.

Officers who retired from military employment, either on medical or private grounds, would not—following the ordinary military rules under which no leave is "earned"—be regarded

as entitled to any specific period of leave, but would be given any moderate amount of leave which the circumstances of an officer's particular case might make reasonable—for example, leave to enable him to complete a further year's service for pension.

If detailed particulars of a specific case could be furnished it might be possible to give a more satisfactory explanation of the point at issue.

I am, Sir, your obedient servant,

F. W. H. SMITH,
for Secretary, Military Department.

The Medical Secretary,
British Medical Association.

The £60 Gratuity.

Soon after the armistice the War Office found a difficulty in obtaining enough medical officers to meet its requirements. A new contract was therefore offered, the terms of which were more favourable than those of the old one. A number of officers who had already served some months of a new year on the old contract changed over to the new, largely because the new contract promised certain demobilization at the end of six months. Under the old contract these officers were entitled to a £60 gratuity for satisfactory service for a year or any part thereof, even if only a day. But, on application to their agents for the payment of the gratuity, they were informed that they could only be credited with a *pro rata* gratuity of £5 per month. The War Office had apparently overlooked this point. Complaints that a breach of contract had been committed soon reached the British Medical Association, and the Naval and Military Committee decided to ask the War Office whether it intended to adhere to its decision; and then, if the answer were in the affirmative, to seek legal opinion thereon. A reply has now been received from the War Office that the full gratuity will be paid to all the officers in question who signed the new contract before December 6th, 1919, on which date the War Office appears to have realized that its attitude would have to be modified. The officers concerned who have only been paid *pro rata* should apply for the full amount.

INSURANCE.

ARBITRATION ON RATE OF MEDICAL REMUNERATION.

I.

Memorandum by the President of the British Medical Association, Sir T. Clifford Allbutt, K.C.B., Regius Professor of Physic, Cambridge.

THE President of the Association is unable to enter into any argument that implies a knowledge of the working of a general practice including Insurance Practice, or into any estimate of the several sources of income, of the outgoings, or of time required for its various departments. On these matters—fundamental as they are—he has no personal experience.

However, in the course of a long professional career he has formed certain general opinions, and received impressions that may not now be irrelevant. He desires to repeat what he has said before, that no calculation concerning modern Insurance Practice should be based, even remotely, upon the old apothecary and Club practice. Club practice was not business. Those doctors who made a living out of it, did so by conducting it penuriously and with gross inefficiency; more able and more honourable men carried on their Club practices, as others carry on hospital practice, at no inconsiderable pecuniary loss, and for other rewards. Let it not be said that all this is ancient history; for from this system, unfortunately if necessarily, the calculations of the Insurance Acts took their departure.

Moreover it is from the old Club practice that the new Insurance practice received its traditions. If four shillings a head failed to remunerate the Club doctor, and certainly it did fail, let us suppose that for the kind of Club practice of thirty years ago six shillings, or six and sixpence might have been less inadequate. Upon this amount seven and threepence is some advance, it is true; and at first sight might seem adequate, even generous, but only on condition that the services expected of the doctor, as a matter of business, were to be the same as of old. But were they to be the same; are they, ought they to be, the same? By no means; what society requires now is a far higher standard of care; far more time for each case—at least twice as much; time for higher skill and knowledge; for correspondence, and consultation fixtures (the Club doctor always declined consultations, they were not in his bond); for many minor operations, such as laryngoscopy, ophthalmoscopy, and so on—not, of course, on the preciser lines of the specialist but of ordinary competence; for subcutaneous and other injections; for lumbar puncture, &c.; for some familiarity with the proportion and potencies of special lines of therapeutics, as of X-rays, radiology, ionisations, vaccines and so on; methods the doctor himself cannot undertake to carry out, it is true, but the particular opportunities for which he should be able to recognise and on which he should be able to give competent and up-to-date advice to his patients; and last, not least, for the customs of private practice, namely, instead of curt and dictatorial visits, patient and explanatory conversations, such as to lift the patient out of the pill, plaster and bottle superstition, and up to a rational conception of the nature of the disease, its prognosis, and the means of its prevention. Now if this be attained, is it too much to reckon that at least twice the time for each patient will be required? If then the old Club practice might have been decently paid for at about six shillings and sixpence, modern Insurance practice cannot work out at less than about thirteen shillings apart from any consideration of currency values. We have to contemplate not merely an extension of the old methods and ideas, but rather a multiplication and transformation of them; changes that call for a supply of new men, new notions and new resources. If such men are to be attracted to Insurance work as *an honourable branch of private practice* it will flourish; if not the whole scheme will be degraded or nullified.

When the pressing district need for laboratories and technical apparatus is supplied the claims upon the time of the doctor for consultations and correspondence will be still greater.

II.

Case presented on behalf of the Medical Profession by the Insurance Acts Committee of the British Medical Association.

POSSIBLE METHODS OF ARRIVING AT "FAIR REMUNERATION."

1. "Fair remuneration for the time and services required to be given by general practitioners under the conditions set out in the Medical Benefit Regulations, 1920, in connection with the medical attendance and treatment of insured persons" may be ascertained by considering the problem along two main lines:—

(A) The accepted pre-war remuneration may be taken as a basis and inquiry made as to how certain altered circumstances justify its variation.

(B) An appropriate total remuneration in present-day values for a skilled general practitioner doing a full year's work as such may be arrived at, and from this may be calculated a capitation fee which may be expected to produce an income in proportion to the work done in connection with the insurance service.

2. Whichever line is adopted it is necessary to take the average of many cases so that the inappropriateness of some statements or calculations in individual cases may not vitiate the result; but the main difficulties arise from the facts that (A) there is no agreement as to what constitutes "an appropriate total remuneration" or "a full year's work" on the one hand or the propriety of the "accepted pre-war remuneration," on the other; and (B) that some of the material factors are of an uncertain character or are insusceptible of mathematical proof.

GENERAL CONSIDERATIONS AS TO STANDARD OF REMUNERATION.

3. In either case there are some general considerations as to the standard of remuneration to be aimed at which are of fundamental importance.

(i) The general conditions of a practitioner's education and work all combine to justify a high scale of

remuneration. These are (A) the medical profession is the calling which has the longest and most expensive training and therefore the actual earning of income begins late; (B) income is more continuously dependent on personal health and exertion than in almost any other profession or branch of commerce; (C) there is no other calling in which a man is so continuously tied to work, and in which a break or holiday is so difficult to obtain; (D) it is a dangerous occupation involving exposure to many kinds of infection, and statistics show that the expectation of life is shorter than in any other profession; (E) it involves taking responsibility of the highest order and the exercise of the most skilful judgment.

(ii) The remuneration of insurance practice must not be based on the lowest level of private practice, but on a relatively high level; otherwise the better type of practitioner cannot but devote himself to other branches of practice, leaving only the relatively inferior for insurance work. This is not what the State wants. (*See the Memorandum by Sir Clifford Allbutt.*)

(iii) The remuneration of insurance practice is to be on a uniform basis; hence on the one hand it must have at least as much regard to the value of the best services as to the value of the less satisfactory, even if some doctors should be overpaid, and, on the other hand, it must have no regard to the economic position of the insured person since the State requires equal services for all.

(iv) The present distribution of doctor-power shows that the conditions of work both in the poor parts of industrial towns and in very sparsely populated places are unattractive, and that an adequate income in such conditions can be earned only either by taking charge of more persons than can properly be attended in the best way (other than by a few exceptional practitioners), or by obtaining large fees from a few to make up for the necessarily small fees for the bulk of the patients; this can be remedied only by a quite adequate level of remuneration for the ordinary patient.

(v) The capitation fee to be arrived at is such as will result in the provision of a Central Practitioners' Fund of an amount sufficient properly to remunerate the whole body of insurance practitioners for the work which they perform under their agreements. This involves the averaging of the differences which exist between various kinds of practice in various respects. The items which are separately assessed and have therefore nothing to do with the capitation fee, are the supply of drugs in rural areas and the cost and time of travelling beyond a radius of two miles in such areas. But such points, as, for example, the relatively greater proportion of visits to consultations in rural and semi-rural practices, the relative sparseness of the population even within a two-mile radius in such practices, the relative absence of available professional help in such practices, and the relatively large amount of surgical work in colliery and some other industrial practices all remain to be taken into the average.

(vi) The remuneration is not to be merely for the actual medical attendance on the insured persons on a practitioner's list, but for "the time and services required *in connection* with" such attendance. This includes everything that arises out of the fact that the practitioner has, on behalf of the community, accepted responsibility for the care of the health of a certain number of persons, as far as this is within the scope of a general practitioner of ordinary competence and skill.

THE FIRST METHOD.

4. Of the two methods mentioned in the first paragraph that based upon the remuneration fixed in 1912 naturally suggests itself as the most direct method of approaching the subject. This remuneration was really stated in two ways: first as a capitation fee with 7s. 6d. as a maximum; 7s. as a minimum, or, say, 7s. 3d. as an average; second as a scale of fees, supposed in result to correspond to this capitation fee, with 2s. for a consultation, 2s. 6d. for an ordinary visit, and higher fees up to £1 1s. for rarer services of a more special character. This remuneration, higher than that originally proposed by the then Government, was the lowest that a sufficient number of the profession were prepared to accept for an experimental period of three years, and this acceptance was mainly due to the fact that the remuneration was a manifest improvement on that secured from the then existing "club practice" which had hitherto been conducted either partly as a charity or on entirely unsatisfactory lines.

However the fact that this remuneration has been tolerated for seven years (with an obviously necessary "bonus" addition during the last two) may be taken to indicate that it was not *wholly* inappropriate in pre-war conditions. But it must be emphasised that almost from the beginning the bulk of insurance practitioners have regarded it as too low; that many general practitioners declined on this ground to enter the service; and, that this toleration of the fee has been largely due to patriotic motives—the desire to continue at work and create no unnecessary disturbance during the national emergency.

5. It is very important too, to note that the capitation fee of 7s. 6d. or 7s. 3d. has never (except *possibly* in the case of a few individual practitioners) corresponded to the full fees set out in the scale of remuneration for services rendered, and that a capitation fee such as would, in fact, have worked out in accordance with that scale, would have been considered by the profession to have been more nearly an adequate minimum. In the view of the profession, therefore, the pre-war remuneration postulated as a basis should be not less than a capitation fee corresponding to the sum arrived at by multiplying the scale fees by the number of services of each kind rendered in a year to each insured person on an average, as ascertained by the experience of the last seven years. The number of items of service per insured person is 3·8, and the proportion of consultations to visits is 3 to 1. This gives a capitation fee of 8s. to 8s. 6d.

MAIN FACTORS NECESSITATING REVISION OF FEE.

6. The main factors necessitating the revision of this fee may be grouped thus:—

(1) The altered value of money;

(2) Increased work and responsibility owing to the impaired health or disabilities of discharged or demobilised men, and to similar war effects among other insured persons;

(3) Certain modifications of service under the proposed new arrangements;

(4) Newly or increasingly recognised responsibilities of general practitioners in connection with public health and medical research.

7. As to the first point—the altered value of money—there are two factors to be taken into consideration (A) cost of living and (B) expenses of practice.

COST OF LIVING.

8. The question of the increase which ought to be made to cover the increased cost of living is a matter of considerable difficulty, not only because it is almost impossible to secure reliable and adequate data, but because even if we had these there is no generally accepted standard by which the appropriate degree of compensation for high prices can be measured. We have the Board of Trade figures which show that on January 1st, 1920, the rise in the price of articles consumed by the working classes was 136 per cent. for food, and 125 per cent. for food, clothing, rent, etc.—and apparantly the rise is still going on. In the case of incomes practically the whole of which must be spent on necessities this might be a reliable standard. In this regard, the fact that persons with large incomes may be able to purchase certain necessary commodities to greater advantage than those with quite small incomes is balanced by the fact that many of the more essential articles of food can often be purchased by the latter advantageously at street and other markets, which are not available for the former. The difficulty of discovering an agreed standard arises with regard to that portion of the larger incomes which is spent on "comfort" and "luxuries," and which may be available for actual saving and investment. It is common ground that, in the case of incomes of a moderate amount, such as the professional classes may be regarded as receiving, an appropriate allowance should be made for at least the former of these forms of expenditure. In fact, in these classes, many things which are sometimes called "comforts" and "luxuries" are actually necessities, unless their standard of living is to be degraded in a way which would not be advantageous either to them or to the community. The difficulty is to combine these various factors so as to arrive at an appropriate assessment for a professional man.

EXAMINATION OF THE CIVIL SERVICE AWARD AS A PRECEDENT.

9. The award of bonus made to the Civil Service cannot be regarded as adequate at the present time in its application to the medical practitioner, and its present adequacy even as regards the Civil Service is at least seriously disputed. To test this we may take the case of a practitioner with an income of £800 a year *net*, with no income other than his professional earnings, and with a wife and two children to support, the children being of school age. In this fairly typical case we must discover what is the actual increase of income which the bonus would give, and what is the actual necessary additional expenditure in respect of which the bonus is given. The bonus receivable under the award is £300, but from this has to be deducted (A) the income tax on this bonus at the rate paid before the bonus was granted; (B) the extra 9d. in the pound on £1,100 by reason of the total income having been brought into the higher-rated category; and (C) the loss of the allowance on one child from the same cause. These deductions leave the increase of actual income due to the bonus at about £209. The necessary additional expenditure in such a case is computed by Prof. Bowley, taking an extraordinarily low basis for the calculation, to be £414. (*See the Memorandum by Prof. Bowley, Table II.*) So that the net additional income produced by the bonus covers scarcely more than half the additional expenditure. The difference can be met only by severe economies in regard to those small comforts which, in a household of the type under consideration, are almost necessities, and in regard to the education of the children. This education ought to be of a character which will enable them to earn an income sufficient to maintain them in the same social or industrial scale as their parents. If the average practitioner is to be forced to economise on this item, not only will injustice be done to individuals, but in the long run the highest interests of the community as a whole must suffer.

10. Moreover, it must be remembered that the bonus given to Civil Servants covers only cost of living and includes nothing equivalent to the item of practice expenses; that it varies from 60 per cent. to the Civil Servant earning £200 a year to 33 1/3 per cent. to the man earning £1,500 a year; and that while the Civil Servant may economise by changing his residence or altering his standard of living, these economies are not open to the medical practitioner who would stand to lose materially in income by adopting them.

PROPRIETY OF REFERENCE TO INCOME TAX.

11. The propriety of any reference to income tax in this connection has been questioned. The Committee agrees that the income tax produced by any suitable capitation fee must contribute its proper share to public burdens, and it admits that if the present income tax presses with undue hardness on the professional classes (as it does) the proper remedy is to reform the incidence of the tax rather than to increase remuneration. At the same time it is to be noted that the manufacturers and merchants can, and usually do, fix the price of their commodities after taking income tax into consideration, thus in effect passing on their burdens to a considerable extent to the purchasers of those commodities. In the above examples, however, comparison is made not with pre-war income tax, but with the present tax payable had there been no bonus. The propriety of this comparison is evident when it is remembered that it would be possible to award a bonus which, by reason of the effect of income tax, would actually result in a decrease instead of an increase in spending power. The Civil Service Arbitration Board in its Award of November 11th, 1919, recommending an increased bonus to Civil Servants states "that the argument is not without force that, in determining the extent to which the different classes of Civil Servants should be called upon to share in the national burden by forgoing full compensation for the decrease in the purchasing power of money, the extent to which they are already sharing in that burden by paying increased income tax is a relevant consideration."

EXPENSES OF PRACTICE.

12. Particulars as to the expenses incurred in twelve each of rural and semi-urban practices were supplied in October, 1918, to the National Health Insurance Commissioners in connection with the application for a grant towards increased practice expenses. These showed:—

Expenditure.	1913 or 1914.	1917.
	£	£
1. Drugs, instruments, professional books, etc., and general surgery expenses	3,549 ...	4,957
2. Travelling expenses	4,826 ...	8,420
3. One-third rent, rates, fire and light	894 ...	1,048
4. Salary, etc., of locum, assistant, and dispenser	849 ...	1,531
5. Telephone	178 ...	242
Total expenses ...	10,296 ...	16,198
Gross receipts ...	42,784 ...	47,135
Net earnings ...	32,488 ...	30,937

On these figures it is necessary to make the following comments:—

(A) In war time many cars were used which in normal times would have been replaced by new ones. If replacements had occurred with normal frequency, the increase shown in the above figures would have been greater.

(B) Figures for rents, etc., are too low in both years. When practitioners sending in returns owned their houses they frequently omitted to charge any rent for them. Rents must rise, and sooner or later higher charges will have to be incurred.

Examination of the figures also suggests that insufficient charges were made for wages and board of domestic servants.

(C) There can be no doubt that if figures could be obtained from urban areas, those practices would show a higher rate of costs, for not only would rent, rates and general practice expenses be higher than in the rural areas, but the cost of locomotion would be relatively higher owing to the more frequent stoppages leading to less economical consumption of petrol and more wear and tear.

(D) The above returns apply to 1917 (mid-year), since which time every item has increased in cost with the possible exception of drugs.

13. The table shows (A) an increase of expenses from 24 per cent. of the gross receipts in 1913 to nearly 35 per cent. in 1917; (B) an increase of 60 per cent. in the expenses themselves in 1917. These figures are almost certainly too low as applied to practices in general, as will be seen from the considerations set out in the preceding paragraph, and the last figure of 60 per cent. for mid-1917 becomes at least 75 per cent. for end-1919 if increased in accordance with the proportionate rise of prices between those periods. The practices from which the above table was compiled are accepted as being typical of rural and semi-urban practices. It is extraordinarily difficult to obtain useful returns of this character from medical practitioners, particularly those in urban practice, but further particulars have now been obtained from thirty-nine practitioners for expenses in 1913 and 1919. These practices are of a miscellaneous character, some of them urban, and they cannot be guaranteed as typical. As in some cases the returns required expert statistical interpretation they are not set out here, but are referred to in the accompanying Memorandum by Professor Bowley. They tend to confirm the above deductions from the previous table though the proportion of expenses to gross income is almost certainly too low to be regarded as typical of general practice. Moreover, the figures being for the whole year 1919 must be considered as relative to the average prices of that year and not to those obtaining at the end of it; and they necessarily have no reference to the quite recent large increase in the price of petrol. A consideration of all these facts leads to the conclusion that in order to produce a rise of not more than 55 per cent. in the net income over 1913 (this being the lowest percentage of increase on such income which, on the lowest reasonable basis can be regarded as approximating to the amount required to meet expenditure on food and other necessary items in a middle-class household if the standard of life is not to be seriously lowered) approximately 60 per cent. would have to be added to the gross income. To take this latter figure as the precentage of increase on the present capitation fee which is necessary in respect of the altered value of money is certainly not unreasonable, and probably leaves the actual income somewhat less than in 1913 for the same amount of work and responsibility.

14. In the above calculations the Committee has had in mind not urban practices only, but urban, semi-urban, and rural alike, in so far as the last two classes are conducted within the conditions regarded in the capitation fee, *i.e.*, without dispensing and within a two-mile radius for travelling. The chief argument based upon the figures given as to expenses of practice, is not that the proportion of expenses to gross receipts has increased, but that the percentage of increase of the expenses themselves between 1914 and end of 1919 is considerably greater than the percentage of increase asked for on account of the cost of living; and that therefore the percentage of increase proper to the gross income should be greater than than that proper to the net income. The cost of drugs is the item which has increased proportionately least between 1917 and 1919; and whatever be the relative proportion of expenses to gross income in rural and in urban practices respectively, the Committee can have no doubt, for the reasons given above, that the percentage of increase of the expenses themselves has been distinctly greater in the latter than in the former. This is all that matters for the purpose of the immediate argument, but the figures seem to show also that percentages distinctly in excess of the 25% and 33⅓% which the Committee has later on taken as the proportion of expenses to gross income in non-dispensing and dispensing practices, would be quite legitimate.

INCREASE IN COST OF LIVING.

15. The Committee submits a separate Memorandum on the purely statistical side of this branch of the subject from Professor A. L. Bowley which deals in a more authoritative and detailed way with the facts and figures than the Committee is qualified to do. But in making what it regards as the very low estimate of 60% to be added to proper pre-war remuneration on account of the altered value of money, the Committee wishes to emphasise certain points:—

(A) That the basis taken as regards food is the official working class budget, and that this basis, in order to make it properly applicable to a middle-class family, would require variation in accordance with the customs of such a family. For example, such a family would certainly consume more fish and meat than a working class family was accustomed to consume, and probably less bread.

(B) No claim is made for any advance in the character of the way of living, such as has been made by other classes. Every possible allowance has been made for domestic economies and substitutions. It has been admitted that such portion of income as has been available for saving, even though this be but an ordinary prudential provision for the future, must suffer some diminution.

(C) In a comparison of pre-war "expenses of practice" with those of the present time, economies have in many cases been made by the practitioner and his family taking upon themselves tasks (such as the driving and cleaning of a car, and the personal waiting upon patients and cleaning of professional premises), or submitting to conditions (such as giving up a car or an assistant or secretarial help altogether) which cannot be continued for any length of time without serious detriment to health and efficiency. Such economies as these must inevitably be abandoned or relaxed as soon as possible and then there would at once be a greatly increased practice expenditure.

(D) In spite of the difficulty of exact calculation, it seems to the Committee impossible seriously to doubt the propriety of an increase of remuneration of 60% on the gross income, equivalent to 55% on the net income, on account of the altered value of money. Practitioners know from universal experience that the cost of food, clothing, fuel, light, cleaning materials, servants, and the education of their children has, on the average, increased to a far greater extent than this. Rates are materially higher, and now practitioners are experiencing, as their leases terminate, a very substantial raising of the rents of their houses or surgeries. Many of the less financially successful practitioners are now in very difficult economic circumstances, and even the more successful, in spite of economies carried to the extreme, are beginning to find the margin of income which enabled them to make some provision for the future disappear. The Committee is convinced, by the experience of its own members, and by the expressions of opinion on this point which it has received from all parts of the country, that a greater increase than the 60% suggested, could on economic grounds be justifiably asked for.

INCREASED DEMANDS BY CERTAIN CLASSES ON THE ATTENTION OF INSURANCE PRACTITIONERS.

(A) *Discharged Disabled Sailors and Soldiers.*

16. With regard to the increased work and responsibility involved in attendance on persons whose health has been impaired by the war there are three classes of persons concerned:—(A) discharged disabled men; (B) men "demobilised" in impaired health but not "discharged" on that account; (C) other insured persons whose health (nervous health especially) has been impaired by war strain.

17. Actual figures are available with regard to the attendance on the first of these classes only, and these figures refer only to 1918. These statistics show that the attendance required by discharged disabled men was approximately three times that of ordinary insured persons, and that at least 2½% increase in the capitation fee was needed at that time in respect of that class. This is certainly now much too small a proportion mainly owing to the following reasons:—

(A) The accounts rendered for these cases do not represent the whole of the attendances for (i.) a considerable proportion of discharged disabled men have not been placed on the special attendance system at all, but have been retained on the ordinary list; (ii.) a considerable number of practitioners have never rendered any accounts for the attendances given; and (iii.) in many instances the accounts rendered have been only for relatively serious attendances, while accounts for shorter attendances have not been sent in.

(B) Considerable numbers of disabled men were retained in the Army and have since the Armistice been demobilised instead of being discharged disabled, and have been left to get their pensions in the ordinary way.

(C) Many discharged disabled men (especially in towns) have been referred for treatment to institutions direct instead of being sent to insurance practitioners as should have been the case, and it must be assumed that in future, with the gradual closing down of military hospitals a more correct course will be followed.

(D) It is only now, or in the early future, that many disabled men properly referred to institutions, are completing, or will complete, their institutional treatment and will pass under the care of an insurance practitioner.

(B) *Demobilised Men—Not Invalided.*

18. Besides those men who come under the special arrangements for discharged disabled soldiers and sailors there are large numbers of others who have been demobilised in a state of impaired health (*e.g.* liable to attacks of malaria, dysentery and trench fever, or suffering from their after-effects). The experience of practitioners has led them to form the opinion that the effect of this class upon their work and responsibility is even greater than that of the discharged disabled men.

Information obtained by answers to questions in the House of Commons in August and in October last, shows that the number of discharged and demobilised men invalided or in impaired health is materially more than 8 per cent. of the total number of insured persons. More recent figures from Birmingham show 10 per cent., and from Brighton 21 per cent. Assuming that the percentage is only 8, and that the relative proportion of items of attendance on these men as compared with ordinary insured persons is the same as that found by the 1918 returns (11.5 to 3.8) it is clearly necessary to add more than 16 per cent. to the pre-war capitation fee to compensate for this increased attendance. It is true that a number of these men are insured persons for whose treatment insurance practitioners are not at the moment liable owing to their retention in institutions, but this number as compared with the total number of insured persons is comparatively negligible. It must be remembered that the liability of the insurance practitioner exists from the moment of discharge from an institution, which may take place at any time.

(C) *Effect of War Conditions on Health of Other Sections of Community.*

19. It is sometimes said that there are classes of insured persons on whose health war conditions have

had a beneficial effect. The evidence of the existence of such classes does not seem at all clear. It may readily be admitted that there are some individual former soldiers or other members of the community whose health may have benefitted directly or indirectly from military training or from special war conditions (such as more exercise or more and better food), but such are only those who were in training at the end of the war and had not seen any active service and the profession has not experienced any diminished call on its services on the part of any considerable number or any whole class of such persons. The deleterious effects of war conditions on many classes of insured persons are however undoubted and though the incidence of these may vary with locality to some extent, there is a widespread prevalence of certain war-produced conditions (*e.g.* delayed nerve disturbances) which in the aggregate have materially increased the work of insurance practitioners. There are many practices in which the effect of this class is at least equal to that of either of the classes considered in the previous paragraphs. This experience in general practice is reinforced by that of many hospitals (especially those for nerve diseases) and by that of Approved Societies in dealing with Sickness Benefit. Mr. A. C. Thompson, President of the Annual Conference of Industrial Approved Societies in his presidential address on October 29th, 1919, said "The effect of the war upon the health of the community, has been a matter for serious consideration by Approved Societies in many ways, not the least of which is its effect upon the payment of sickness and disablement benefits, not only to men who have been serving in the forces, but also to the general body of members, particularly perhaps to those women members who have been employed in ways to which previously they were unaccustomed."

Calculation of Increase of Remuneration Due to Increased Liabilities Detailed in (A), (B) *and* (C) *above.*

20. If then, an addition of 12½ per cent. were made to the capitation fee in respect of increased work and responsibility in consequence of the impairment of health due to the war, this would appear to be a very modest computation. In view of the absence or insufficiency of statistical data on some points, the Committee does not press for a larger percentage but it is of opinion that a greater increase might be justified, and regards the 12½ per cent. as an absolute minimum.

INCREASED RESPONSIBILITIES UNDER NEW REGULATIONS.

Definite New Liabilities.

21. There remain for consideration such actual modifications of service as are required by the new Regulations, and such increased duties and responsibilities of general practitioners (especially with reference to public health and medical research) as have become recognised by the State and public opinion since 1912. The new conditions of service impose at least two definite new liabilities which do not exist at all under the present contract, viz. (A) the provision of medical or surgical treatment in the case of accidents or other sudden emergencies to insured persons where immediate treatment is necessary and where the practitioner responsible for the insured person is not available, and (B) the making of additional reports in certain cases and the personal attendance at consultations in some of the cases. It is impossible at present to make any reliable estimate as to the amount of time and work which these additional liabilities will necessitate, but they are obviously of considerable importance and may easily so develop as to make appreciable additional call upon a practitioner's time and energy.

Increased Stringency of Conditions of Service.

22. In addition to imposing these entirely fresh responsibilities the future conditions of service are in several respects more stringent than in practice the old have been. Instances are the provisions with regard to (A) the transfer of practices in the case of death or retirement, (B) surgery and waiting room accommodation, (C) the employment of assistants and deputies, (D) the giving of services outside the contract (E) the number of insured persons who may be accepted, and (F) attendance for conditions arising out of labour after the tenth day. These are not mentioned here as being new liabilities at all comparable in this respect to those named above, nor is it suggested that their increased stringency is other than proper, but it is a fact to be noted in this connection as one which should be given its due weight when considering any variations of capitation fee appropriate to modifications in the conditions of service.

23. It is recognised that under the existing conditions it is the practitioner's duty to give his best attention and exercise his highest skill towards the cure of those insured persons for whom he is responsible, and that to this end he should avail himself of such new or improved methods of diagnosis and treatment as are within his reach. This duty is not a new one imposed by the new conditions, but it is claimed that the recent advances in medical and surgical technique and the increased and increasing availability of improved methods do constitute a factor which is germane to the determination of the appropriate capitation fee governing the practitioner's remuneration; that is, that the fee ought to be fixed in view of the fact that he is expected to increase his knowledge and to use it appropriately in accordance with his best judgment.

THE RANGE AND STANDARD OF SERVICE UNDER THE NEW CONDITIONS.

24. In addition to this high standard of work in the case of the individual a further important consideration arises. It would be possible for a practitioner to perform his duty with great conscientiousness and efficiency in this regard, without doing anything material in the sphere of preventive medicine in the interests of the community as such, and without contributing anything to the futherance of medical research on which all future progress depends. The importance of the general practitioner in both these respects is largely a new realisation and is, at any rate, becoming much more definitely recognised to-day than it was eight years ago.

Sir George Newman, Chief Medical Officer to the Ministry of Health, says in a recent memorandum to the Minister: "The acquisition of knowledge by research and investigation is not a function of a central department alone. The problems of medicine arise where the patient lives; his house and workplace are the fields of enquiry, and the medical practitioner is the man to carry out partly or wholly the investigations which are necessary. Harvey, Sydenham, John Hunter, were all practitioners, and in our day practitioners have repeatedly demonstrated their desire and capacity to undertake investigation work. The incidence of disease of the heart or respiratory system, digestive disorders, nervous maladies or incipient mental disease can be best determined by the practitioner . . . . . This is the sort of work which lies before us, the comprehensive study of the facts as they are in daily life and environment and not only as they are in the laboratory. It is in the field, in general practice, in the workshop, in the home, as well as in the laboratory that truth is to be found." The Insurance service should be an important factor in these directions, and the Insurance practitioner will in future be expected, in proportion to his ability and opportunity, to do what he can in this respect.

25. The service expected under the new conditions is not such minimum service as will avoid an obvious breach of the agreement, but a service which at its best will include all the following matters:—

(1) Advice and treatment to insured persons when actually ill, with a view to relief and cure, if possible.

(2) Advice as to how treatment outside the scope of the practitioner's agreement can best be secured and such help as will enable the patient to take full advantage of any such treatment.

(3) Advice in matters of personal and domestic hygiene, where needed and as opportunity arises, with a view to the preservation and improvement of the health of the individual and family;

(4) Co-operation with Medical Officers of Health and others in matters of sanitation and public hygiene with a view to the prevention of disease in the community;

(5) Such investigation into the incidence, beginnings and source of disease as may assist medical research both in preventive and in clinical matters.

Up to the present time attention has been directed mainly to the first of these and almost wholly confined to the first two. It is true that it is difficult to control the carrying out of some of these duties by means of regulations, and that differences in a practitioner's education, personality and opportunities, affect considerably the degree of success with which he can carry on the last of these. There can be no doubt, however, that in the minds of both the profession and the public the conception of the sphere of work of a general practitioner

has now greatly widened, and that the performance of all the above functions must be encouraged if the Insurance Health Service is to be of proper value to the State. The performance of these functions necessarily involves the devotion of more time on the average to each case than has been customary in past years, and the recognition of an enhanced responsibility to the community as such, comparable to the long recognised responsibility to the individual patient. The action of the Ministry in connection with the settlement of the new agreement for service as from April 1st, 1920, emphasises this. Regulation 15 (2) prescribes that the number of patients that a practitioner working single handed may have on his list must not exceed 3,000. But this limit may be lowered by agreement between the Insurance Committee and Panel Committee, and, failing agreement by them, by the Minister. The Ministry has, by means of a circular, drawn pointed attention to the fact that the limit need not necessarily be as high as 3,000, and is exercising all its influence in favour of a lower maximum.

26. To arrive at the proper percentage of increase which is relative to the matters considered in the proceeding four paragraphs—new liabilities and other modifications of the terms of service, increased expenditure of time and money in maintaining the highest skill and the most approved methods of treatment, and an appropriate relationship to preventive medicine and research—is obviously less a matter of mathematical test than in the case of the previous factors. Here it is a question of the profession's estimate of the value of these services, checked, of course, by such reasonable considerations as an intelligent public can bring to bear on the problem. To the Committee it seems that it would not be unreasonable to value these services collectively as one-tenth of the whole. An alternative valuation (a lower one certainly) would be, say, a one shilling capitation fee. This means that a practitioner with 600 insured persons on his list would receive only £30 per annum for all his services to those persons and to the community (present and future) properly coming under these heads. The Committee regards this as a very low estimate of the value of those services.

AN ATTEMPT TO COMPUTE A FAIR CAPITATION FEE IN VIEW OF PREVIOUS CONSIDERATIONS.

27. If now we take x as the fair pre-war capitation fee expressed in shillings, and y as the similar value of the services and conditions referred to in the preceding paragraph, we arrive at this formula for the new capitation fee:—

$$\frac{8X}{5} + \frac{X}{5} + Y \text{ or } \frac{9X}{5} + Y$$

the first item being the amount produced by an addition of 60% to x, and the second the amount produced by an addition of 12½% to this. If y be taken as 10% of the *whole* the formula becomes simply 2x. In the suggested alternative y=1.

If x be taken as 7/3 (the average capitation amount used in calculating the Central Practitioners' Fund hitherto)* we get 14/6 or 14/-.

If x be 7/6 (the maximum hitherto obtainable, and actually obtained in many areas)* we get 15/- or 14/6.

If x be 8/- (the lowest amount that can be held to approximate to the scale of pre-war fees)* we get 16/- or 15/5.

If x be 8/6 (the amount which the Committee believes most nearly to represent that scale)* we get 17/- or 16/3.

If it be agreed that some of the factors on which the above figures are based are of a temporary nature (*e.g.* the increased attendance on persons whose health has been impaired by the war), it might be fair to reduce the resulting fee by a few pence in each case; but it should be remembered (A) that it is not proposed now to fix the fee for any definite period of time and that no factor is of so temporary a character as to be likely to affect the calculations for 1920 at least, (B) that some of the factors (*e.g.* those included in y) are as likely to increase as others are to diminish in value.

If the number of items of service used in valuing x at 8/- or 8/6 be alleged to be excessive, it must be remembered (A) that no account is taken in the calculation of the rarer services of a much higher individual value; (B) that the length of time occupied by each item tends to increase as the number of items diminishes.

If the value put on each item by the scale fee be alleged to be excessive it must be remembered (A) that the fees are those agreed as the working basis for temporary residents, travellers, and discharged disabled men; (B) that though they may be a little higher than the fees obtained in private practice in the poorer industrial neighbourhoods before the war the considerations set out in paragraph 3 show that the State fees ought to be on a decidedly higher scale than this; (C) that there are whole classes of insured persons (even though they may be a comparatively small minority of the whole number) for whom the fees named would have been considered low.

If the percentages added to x be alleged to be excessive, the Committee relies (A) on the considerations to which it has drawn attention in paragraphs 15-20; (B) on the fact that the profession has been obliged in private practice to take action as to fees which is intended to produce a result approximately equal to this increase.

28. The Committee submits (A) that though the highest of the above estimates is arrived at by adopting the higher rather than the lower limit of factors in which there is a margin of error, it can be justified; (B) that the estimate of 15/- to 15/5 is a reasonable estimate which can be fully justified at the present time; (C) that the estimate of 14/- is absolutely the lowest that can be considered to meet the necessities of the case in a minimum degree and for a service of a scope less satisfactory than that which ought to be provided.

EXAMINATION OF SECOND METHOD OF COMPUTATION.

29. The second method set out in paragraph 1 for ascertaining an appropriate capitation fee is, in the opinion of the Committee, less satisfactory for this purpose than that which has above been worked out in detail, mainly because the figures which must be postulated are even less susceptible to mathematical or statistical proof and because some of the fundamental assumptions must, within a wide margin, be matters of opinion rather than of fact. The value of the method seems to be rather as a test of the reasonableness of the conclusions reached by the former method than as an independent way of arriving at a definite result. The following observations are offered subject to this expression of opinion.

30. This second method for ascertaining the appropriate capitation fee may be stated in two forms:—

(i.) The total gross annual income appropriate to a reasonable full year's work of a general practitioner as such, may be agreed; the proportion of this work which would, under the conditions contemplated, be required in connection with a given number of insured persons may be investigated; and the capitation fee may be determined from these data.

(ii.) The fees (determined mainly by individual and traditional experience, but modified by recent and present economic conditions) appropriate to different items of general practitioner service may be agreed; an average fee per item of service may be gauged from these; the number of items of service required on the average by each insured person may be found from past records as modified by any relevant facts; and the capitation fee may be determined from these data.

These are merely two aspects of the same method, for doubtless all medical fees for particular services are ultimately regulated by the total annual income they may be expected to produce. There may, however, be some advantage in checking one form of calculation by another.

(A) *Capitation Fee Computed from Total Gross Income.*

31. Taking the first mode, it is suggested that the income factor may reasonably be placed at £1,800 for a recognised 2,400 hours' work, and that the proportion of such time appropriate to a list of 1,000 insured persons would be approximately three-eighths.

Time Factor.

32. It is necessary to examine carefully the exact meaning and propriety of these figures. First, take the hours. It will probably be unnecessary to prove that an 8-hour day for 300 days in the year is rather above than below what is coming to be regarded as ordinary full work for those classes whose work can appropriately be measured by time. No such measure (least of all a daily measure) can properly be applied to professional work, and, least of all, to that of a general medical practitioner. But the equivalent number of hours spread over the year may be taken as a reasonable datum for calculation as

* See paragraphs 4 and 5.

that beyond which the State should make no demands as a matter of course or at an ordinary rate of payment.

Income Factor.

33. Secondly, take the income. The sum mentioned is a gross amount at present day values. The amount of £1,800 gross would be received partly for attendance on private patients and partly as remuneration under the Insurance arrangements. If therefore 30% be taken as the proportion of working expenses this estimate would leave a net income of £1,260, or approximately £800 in pre-war money values, taking a very moderate view of the alteration in such values. Further, this figure is not taken as the commencing net income of a practitioner entering on practice or of one whose success is of an average character. It is not put forward as in any sense the average income of practitioners of all ages in town and country. It is on the contrary taken as the income of a man whose personality or opportunity or luck has, along with his professional ability and skill, resulted in his practice occupying his full ordinary time, and it may therefore be compared with the *maximum* salary of a whole-time medical officer of good standing in the public health service.

34. On the other hand the gross income named is not necessarily the largest amount that *any* general practitioner can expect to obtain as a year's professional income for (1) there are considerable numbers of general practitioners who are in some degree specialists and who therefore, in respect of part of their work, receive fees which it is customary to reckon on a higher scale (2) many practitioners possess professional skill or psychological characteristics which enable them to do more than the average in a given time; (3) many practitioners may choose, or may be compelled by circumstances, to work "overtime" and can do this effectively over a greater or less number of years. These facts do not affect the propriety, for the present purpose, of reckoning a reasonable income for work of what may be regarded as full ordinary duration.

Comparison of Income with that Earned in Comparable Circumstances.

35. How does such an income compare with the income of medical men doing work which can be more easily gauged on a time-money basis? The recognised present pay at school clinics, maternity and child welfare centres, and under the Ministry of Pensions, is a guinea and a half per session of 2½ hours, *i.e.*, £1,510 net for 2,400 hours. In the Navy or Army a successful officer of comparable age or position would be receiving with allowances and pension, approximately £1,400 net. The maximum salary of a medical officer of health in a large town should certainly under present conditions reach £1,500. The Committee is aware that these cases are not in every way comparable to that now under consideration, but the differences are not all in one direction. It can safely be said that if a medical man cannot look forward, if completely successful in his career, and devoting his whole time to the work, to earning in middle age a net income of between £1,000 and £1,500 (at present values) a year it is not financially worth while to enter the profession, and young men of good ability and education would be well advised to adopt some other career.

Proportion of Total Work Properly Assignable to National Insurance.

36. Thirdly, consider the proportion of such work properly assignable to the professional attention necessitated by a list of say 1,000 insured persons. Statistics of the work of insurance practitioners seem to show that this would involve somewhat less than 14 items of attendance per day, but the contemplated future conditions (*e.g.*, the inclusion of discharged disabled men and others of impaired health) will certainly necessitate a distinctly larger number of attendances, and these conditions will also entail a longer time on the average being given to each attendance than has usually been the case hitherto. We may safely assume not less than, say, four visits and ten or eleven surgery attendances per day. The time actually occupied in paying these visits and giving these attendances is not the only item to be taken into account. Within the total ordinary professional working time must be included (A) that occupied by professional correspondence, notes and records, and (B) that given to purely professional reading and study for the benefit of the individual cases attended. A proper proportion of the time so occupied must therefore be assigned to attendance on insured persons, and if all these factors be considered three hours out of every eight may not unreasonably be taken as occupied by efficient attention to 1,000 of such persons. There will always be some practices more concentrated than others, and some practitioners who are able to work effectively for a longer time than others, but taking all practices and all practitioners into the average and taking account of all variety of services, including minor operations under an anæsthetic, the Committee thinks that some four visits and ten or eleven consultations may well occupy almost or fully two hours and a-half, and that an extra half hour at least may be allocated to the correspondence, reports, notes, records, and professional reading necessitated by that number of patients.

37. The Committee believes this estimate to be approximately correct, and, in the conditions and kind of services contemplated, to be rather under than over what future experience will show, but there is still another important consideration which should materially affect the calculation. The *whole* of a practitioner's time is (or should be) at the disposal of his patients, and even if, in the case of a practitioner with 1,000 insured persons on his list, it may be expected that not more than three-eighths of his ordinary working time will, in fact, be occupied by, or in connection with, such persons, the conditions of the insurance contract really constitute a prior claim for such persons on the whole of his time. Such provisions as those relating to emergency attendances or the provision of a deputy do not become of no effect by reason of the fact that the practitioner was properly engaged in attending his private patients at the time the insured person required his services. If insured persons were to be placed in every respect on an equality with other patients and were to take an equal chance with them of being able to secure at any time the practitioner's services this would not hold good, but, in that case, several of the Regulations would require to be deleted or materially altered.

Calculation of Income to be Derived from Various Capitation Rates.

38. If, now, we have a successful practitioner devoting his full *ordinary* time to insurance work he may in an average case be assumed to deal with some 2,650 persons. At a capitation fee of 15/-, allowing for the necessary deduction for the administrative expenses of his Panel Committee, this would produce an income somewhat, but not greatly, in excess of the £1,800 stipulated. At 14/- the income would be almost exactly that named. The Committee, however, believes it to be fallacious to take as illustrations or tests large lists such as this. The total number of insured persons is approximately 14,000,000, and the number of doctors on the insurance panels approximately 14,000; the average list therefore consists of 1,000 persons. At present there are, in exceptional places and conditions, a number of practitioners with lists excessively large, so that the usual case is that of a practitioner with a list much below even this average. Steps are taken in the Regulations for 1920 to reduce these large lists; and partly by reason of this but mainly by reason of what it is hoped will be materially increased remuneration, there can be little doubt that during the next year or two additional practitioners will be attracted to the service so that the average case and usual case also, will be one of a list of moderate size. It must be remembered that in rural places, even where the population it not unusually sparse, it is almost impossible for a practitioner to have a large list, and it is the case of practitioners placed in such circumstances as these which deserves the most consideration. A list of 600 with a capitation fee of 15/6 would produce an annual income of £465, gross; at 15/- it would produce £450; at 14/- £420; at 13/6 £405. A list of 500 would produce at the same fees, £387, £375, £350, £337 gross. Some 20% to 30% of these incomes, in ordinary circumstances, would go in expenses. It would be quite wrong to assume that in such cases as these the practitioner's remaining time could be filled by attendance on private patients at corresponding or larger fees. Scope and opportunity are often wanting, even when there is no lack of professional ability or zeal. Ill-health or sheer misfortune destroys quickly a practice that has been built up by strenuous toil. It is quite incorrect to assume or to argue that such and such a capitation fee necessarily indicates a

total professional income of such and such a size in the absence of personal faults or lack of skill.

(B) *Capitation Fee Computed from Average Fee Per Item of Service.*

39. Passing to the alternative method of calculation mentioned in paragraph 30, items of service under the contract may be of several kinds, surgery attendances, certificates, visits, special or night visits, attendances on miscarriages, dislocations, fractures, minor operations, provision of an anæsthetist when required. Fees for these services in ordinary practice correspondingly vary. They are different, also, in different classes of practice, but professional experience has stabilised them within certain limits, and this experience, modified by a suitable allowance made for the present economic conditions, enables us to gauge a reasonable average fee for a practice conducted on such lines. as everyone would wish to apply to the insurance service. The Committee believes, that such an average fee is now at the lowest computation 3/6. This is a gross fee, the net remuneration per item of service being 25% to 33⅓% less.

40. Insurance statistics show an average of approximately 3·8 items of attendance per insured person per year. These statistics are not regarded by practitioners as very reliable, but statisticians may possibly be in a position to satisfy their doubts. In any case, the average number of items shown by these statistics must be increased in future by ⅛, as suggested in paragraph 20, by the inclusion of discharged and disabled men and others. This would make 4·28 attendances and would result in a capitation fee of 15/-.

CONCLUSION.

41. The Committee is exceedingly anxious, and in this it is sure it represents the whole profession, to secure a service which will be worthy of the best traditions of medical practice, and which will be of the utmost advantage both to individual insured persons and to the community and State. To this end it has tried, in presenting its case to the Board of Arbitration, to have in mind throughout the kind of service which it believes the Ministry of Health desires to establish under the new Regulations and conditions, and which the profession itself wishes to see in being. The Committee has tried also to put forward its case on the financial side with studied moderation and on a minimum basis, being convinced that the case for the profession only needs to be stated adequately and temperately, to secure an award such as will bring about the willing co-operation of the profession in providing a service of the type indicated.

III.

Memorandum by Professor A. L. Bowley, Sc.D., F.S.S.

FOOD.

1. In Table I. an estimate is made of the increased cost of food since 1914 allowing for reasonable economies. Thus it is supposed that about one-twelfth of meat, bacon and tea is saved by mere avoidance of waste. The daily consumption of milk is reduced from 3 pints to 2½ and finally to 2 pints, and the weekly consumption of eggs from 12 to 6 and finally to 4. This involves no serious loss in nourishment. The consumption of butter and fats is completely re-arranged so as to meet the supplies now available, 6 lbs. of butter, margarine, lard, suet or dripping is allowed throughout, but the cost is increased only from 58d. to 96d. In the case of meat it is supposed that in 1914 4½ lbs. of British meat and 2 lbs. of foreign were used, while in 1919-20 this was replaced by 2 lbs. of British and 4 lbs. of foreign. Sugar is reduced to the ration of 8oz. As a result the percentage increases to June, 1919, and January, 1920 become 67 and 81·5 respectively.

2. These increases are substantially less than those shown for the same dates in the "Labour Gazette," viz. 104 and 136 per cent. In the calculation of the Ministry of Labour, it is assumed that the 1914 diet is preserved exactly, in spite of the rationing of sugar, the shortage of eggs and butter and the costliness of milk. In January 1920 on this method sugar, milk, eggs and butter* shew together an increase of 210%, while the other commodities together shew 100%. In the middle-class estimate of Table I., sugar, milk, eggs, butter and fats shew 81% in 1920, and other commodities 82%. In the other commodities the diminution is due to the economy in meat. The budget shown on Table I. is with the exceptions named substantially that of an average working class family (5-6 persons) in 1914 so far as the foods included are concerned, and gives only 4s. 2d. weekly per person, or about 5s. 2d. per adult male. The expenditure of doctors (to judge from 21 returns) on all foods was in 1913-4 about 10s. 9d. per person. The difference is due partly to the items omitted (tinned food, fish, jam, green vegetables, etc.), and partly to a more liberal allowance of some of the items included. No details are available, but there can be little doubt that the *per capita* consumption of meat was greater than that shown in the budget; if we raise this item by one-third throughout, 22d., 38d. and 40d. are to be added to the first line of the table, and the mean percentage becomes 75 approximately.

3. An increase less than that so estimated could hardly be reached without a definite lowering of standard of nourishment so far as essential foods are concerned. It is of course possible to sacrifice semi-luxuries, but at the expense of amenity. Actually in the 10 doctors' households for which we have comparative returns the increase in expenditure on food is only 56%, and this indicates a very severe retrenchment.

TABLE I.

Estimated Middle-class Budget for Foods included in "Labour Gazette" Tables.

	July 1914. Quantity lbs.	Price d.	Cost. d.	June 1919. Quan. lbs.	Price. d.	Cost. d.	January 1920. Quan. lbs.	Price d.	Cost. d.
Meat ...	6·5	10	65	6	19	114	6	20	120
Bacon ...	1·1	12	13.2	1	27	27	1	28½	28½
Bread and Flour	32	1½	48	32	2⅜	76	32	2⅜	76
Tea ...	·65	18	11·7	·6	30	18	·6	34	20½
Sugar ...	5·6	2¼	12·6	3	7	21	3	8	24
Milk (pints)	21	2	42	18	3½	63	14	6	84
Potatoes	15	¾	11·2	15	1¼	19	15	1.6	24
Cheese...	·8	9	7·2	·8	18	14	·8	19¼	15½
Eggs (numbers)	12	1	12	6	3½	21	4	5½	22
Butter...	2	16	32	0	—	—	0	—	—
Marg'ine (table)...	0	—	0	2	16	32	2	16	32
Lard ...	1	8	8	0	—	—	0	—	—
Dripping	0	—	0	1	20	20	1	20	20
Suet ...	1	6	6	1	20	20	1	20	20
Marg'ine (cooking)	2	6	12	2	12	24	2	12	24
Total			281			469			510

Per cent. increases	June 1919 over July 1914	67
	Jan. 1920 ,, ,, ,,	81.5
	Mean	74.2

OTHER EXPENDITURE.

4. There is no published information, known to us, in any way sufficient to show the relative importance of different objects of expenditure in a middle-class household. To remedy this lack a questionnaire was sent to a number of doctors at the end of January 1920, asking among other things, for records of expenditure on certain items rent, rates, fuel and light, food, clothing, servants' wages, education, postage, tobacco) in 1913 or 1914. We obtained 21 records from men of different incomes and in different districts. These are summarized in Table II. The accounts used are consistent, appear to have been carefully kept, and are in accord with general experience. The records of sundry items were incomplete, and a rough estimate has been inserted for them in the Table.

5. The increases in wages, rates and fuel till 1919 are adequately stated in the returns. For food the 67 or 81·5% discussed in the previous paragraphs is taken. For clothes the "Labour Gazette" now estimates an increase of 300 to 400%; we have taken 100% as the lowest that can reasonably be assigned for replenishment on the most economical basis. It is evidence of strictest economy, necessarily leading to wearing out of existing clothes and making new purchases urgently necessary, that in the

* Other fats, except a very small amount of margarine, are not included in the official reckoning at all.

13 households for which comparative statements are made, the increase to 1919 was only 40%.

6. It is believed that it is not possible to reduce the figures shown in Table II., if the pre-war standard of comfort is to be preserved, since all reasonable economies have been assumed in food, clothing and all expenses; it would be very easy on the other hand to make a higher estimate. As regards the future, there seems to be no prospect of any material fall of prices, and we have still to take account of increased rent.

7. It is to be noticed that the details in 1913 are only used to supply weights to the percentages shown, and they can be modified considerably without affecting significantly the result.

8. The general conclusion is that the cost of living has increased 64% to 1920 after the strictest economy has been exerted.

9. If now we allow £100 for saving, and include income tax, it is found that the increase of expenditure is 50 or 54% of private income. It is doubtful whether as much as £100 was normally saved (or spent in insurance premiums) out of an income of £900, with two children to bring up; if a smaller sum is taken, the increase is more than 52%.

10. Apart then from any question of professional expenses, it appears that salaries and fees of the fairly well-to-do middle class ought to increase at least 52%, if their standard of life is not to be seriously lowered.

TABLE II.

Average family: Man, wife, 2.1 children, 2.6 servants.

	1913 or 1914.	Presumed Increase. Percentage. June '19.	Jan. '20.	Amount. June '19.	Jan. '20.
	£			£	£
Food	188	67	81½	126	153
Laundry	(24)*	100		24	
Wages	58	43**		25	
Two-thirds Rent ...	48	0		0	
,, Rates ...	14	37**		5	
,, Fuel, Light	20	63**		13	
Clothes	90	100		10	
Education—Fees ...	35	15		5	
,, Boarding	35	50		18	
Postage	6	50		3	
Tobacco	6	100		6	
Drinks	(10)	100		10	
Holidays	36	50		18	
Sundries—Household	(30)	75		23	
,, Personal	(70)	50		35	
Total Expenditure	670				
Income Tax at 9d. ...	30				
Saving & Insurance...	(100)				
Total (net) Income ...	£800				

June, 1919—Total £401 = 60 of Expenditure. 50% of Net Income.

Jan., 1920—Total £428 = 64% of Expenditure 53½% of Net Income

*In the first column figures in brackets are estimated, others are the average of 21 households.

**In the second column figures thus marked are the averages shown in families where neither house nor number of servants has changed.

Mean £414 = 62% of expenditure, 52% of income.

11. Having estimated the necessary increase in private expenditure, we must next find what has been the increase in expenses, what their relation to gross receipts in 1913 and what part is attributable to panel practice.

12. In the Memorandum forwarded to the Ministry of Health on October 25th, 1919, par. 10, it is shown that in the experience of 24 practitioners expenses were 24% of gross receipts. Information from 8 other practitioners raises the percentage to 26. It is also seen that the expenses of the same 24 had increased 60% by 1917. We have now obtained particulars of expenses in 1913 and 1919 from 29 practitioners, which lead to the following table:—

	Percentage of Expenses in 1913.	Percentage Increase to 1919.
Surgery expenses	30	65
Travelling	51	86
One-third rent, rates, fuel ...	10	29
	100	71

13. The expenses of travelling appear to be rising still, so that the + 71% is probably an under estimate at present.

14. If drugs and surgery expenses are excluded, the increase becomes 75%, and this may be taken as a reasonable estimate of the increase in panel practice.

15. Take as example a practice in which the gross receipts are £1,200, of which £400 is from panel work.

1913-14.	Total.	Private Practice.	Panel Practice.
Gross receipts	1,200	800	400
Expenses, Drugs and Surgery	122	120	2
Travelling and One-third Rent, &c.	190	127	63
Expenses	312	247	65

16. Here one-third of travelling and the rent, etc., allowance are debited to the panel, while the whole expenses and their separate parts bear the same proportion to gross receipts and each other, as already shown.

17. On this basis the expenses of panel practice were 16% of gross receipts from the practice.

18. We have then:—

PANEL PRACTICE.

1913-14.		Increase to 1919. Percentage.	Amount.
Expenses ...	£65	75	£48
Net Income ...	£335	50 to 53½	167 to 179
Total	£400		£215 to £227 = 54 to 57 per cent.

19. The 50 to 53½% on net income is the estimated increase in cost from Table II. Hence panel practice should yield 54 to 57% more than in 1913 to pay its own expenses and give a minimum increase in private income.

20. When it is considered how severely expenses have been written down throughout the estimations it may reasonably be held that the 60% in the B.M.A. Memorandum is a very moderate estimate.

MEETINGS OF THE PROFESSION.

BIRMINGHAM.

A MASS meeting of panel practitioners was held in Birmingham on February 10th. Dr. G. A. WILKES, who was elected Chairman, explained that the meeting had been convened to consider the terms of service issued by the Birmingham Insurance Committee under the new Medical Benefit Regulations. He briefly narrated the events that led up to the appointment of the Board of Arbitrators, whose decision would be binding. Dr. H. G. DAIN stated, in reply to a question, that the amount fixed under arbitration would come into effect on April 1st. The meeting passed a resolution agreeing to work loyally under the award of the Board of Arbitration set up at the request of the last Conference of Local Medical and Panel Committees.

The CHAIRMAN stated that every effort to get the Regulation relating to transfer of practices deleted had been unsuccessful. Unless, however, there was some good reason why the patients should not be transferred to an incoming practitioner they would probably be so transferred. Upon this subject he read extracts from correspondence between the Ministry of Health and the Insurance Acts Committee.

Dr. DAIN gave in brief outline the main points that had been gained by the Insurance Acts Committee during the negotiations preceding the issue of the new Regulations.

The following resolution was carried unanimously:

> That this meeting appreciates the energy and skill with which the Insurance Acts Committee has furthered the interests of panel practitioners in the framing of the new Regulations and the demand for increased remuneration, and wishes to express its warmest thanks to the Committee for those endeavours which have been so persistently made on their behalf.

The CHAIRMAN said he would like, in moving this vote of thanks to the Insurance Acts Committee for the work done during the last three years, to mention specially the name of Dr. Dain, who he was sure had worked for the entire good of the profession.

Dr. DAIN replied thanking the meeting.

A vote of thanks was passed to Dr. Wilkes for acting as Chairman, and the meeting closed.

INSURANCE COMMITTEES.

COUNTY OF LONDON.

AT the meeting of the London Insurance Committee on January 22nd it was decided that the payment to practitioners for the quarter ending March 31st should be in two instalments, the first to be calculated at the rate of 1s. for each insured person on a practitioner's list, and that the amount of the second

instalment should be left in abeyance. It was mentioned that this was the last time the Committee would be asked to pay the quarterly sum in two instalments. Under the new Regulations there would be one quarterly payment representing in each case a final settlement.

It was reported to the Committee that the Colindale Hospital, Hendon, formerly the City of Westminster Infirmary, was being opened for the reception of advanced cases of tuberculosis. The hospital would ultimately provide accommodation for approximately 300 cases. Dr. LAURISTON SHAW protested against the setting aside of any institution purely for advanced cases, on account of the hopelessness which admission to such a place was likely to induce in the patients.

A resolution was proposed by a representative of the approved societies on the Committee urging that the special clinics for venereal diseases should be greatly extended, and that panel practitioners should be empowered and encouraged to refer all cases of venereal disease, known or suspected, to these clinics. Dr. B. A. RICHMOND took exception to certain of the premisses of the resolution which seemed to imply that panel practitioners were not instructed in the most modern methods of diagnosis and treatment, and mentioned that out of 1,300 panel practitioners in London, 670 had received certificates showing them to have undergone a special course of training in the treatment of syphilis. The motion was referred to a subcommittee to consider and report.

Association Notices.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: C. H. L. Petch to the *Wildfire* for Sheerness Barracks and Yard, F. G. Wilson to the *Pembroke* for Medical Transport (Ambulance Train), P. M. Rivaz to the *Pembroke* for Royal Naval Barracks, J. H. McDowell to the *Alecto*, D. P. Chapman to the *Centurion*, F. F. Mahon to the *Malaya*, P. D. Ramsay to the *Cormorant*. Surgeon Lieutenant Commander J. H. Burdett to the *Hussar*. Surgeon Lieutenants: J. T. Wylies to the *Dolphin*, F. H. Vey to the *Espiegle* on commissioning, W. A. Sinclair-Loutit to the *Montrose*, T. Gwynne-Jones to the *Clematis*. Surgeon Lieutenants (temporary): E. C. W. Cooke to the *Europa*, A. G. Taylor transferred to the permanent list of Surgeon Lieutenants, seniority November 11th, 1915.

ARMY MEDICAL SERVICE.

Major-General James B. Wilson, C.B., C.M.G., and Colonel D. D. Sharahan, C.M.G., D.S.O., are placed on half-pay.

Colonel T. H. M. Clarke, C.M.G., C.B.E., D.S.O., retires on retired pay.

Temporary Colonel A. S. Woodwark, C.M.G., C.B.E., relinquishes his comission and retains the rank of Colonel.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. G. McNaught retires on retired pay,

Lieut.-Colonel C. S. Smith is placed on the half-pay list on account of ill health.

Major and Brevet Lieut.-Colonel W. Benson, D.S.O., and Captain J. R. Hill relinquish the acting rank of Lieutenant-Colonel.

Major G. H. Stevenson, D.S.O., to be acting Lieutenant-Colonel.

The following relinquish the acting rank of Major: Captain and Brevet Major W. E. Marshall, M.C.; Captains G. G. Collet and G. A. Bridge, M.C.; temporary Captains P. P. J. Stewart, O.B.E., H. M. Anderson.

Captain W. S. Martin, from unattached list T.F., to be temporary Lieutenant, October 5th, 1914 (substituted for notification in the *London Gazette*, October 14th, 1914).

Captain P. C. Field is restored to the establishment (November 23rd, 1919, substituted for notification in the *London Gazette*, February 3rd, 1920).

Temporary Captain H. A. Tillman to be acting Major whilst specially employed.

Temporary Captain (acting Major) R. G. Oram (Lieutenant 9th London Regiment, T.F.) relinquishes his temporary commission.

The notifications regarding A. S. Griffith and temporary Lieutenant A. S. Griffith in the *London Gazette* of September 24th, 1917, and August 28th, 1918, are cancelled.

The following officers relinquish their commissions:—Temporary honorary Lieut.-Colonel J. H. Nicholl, and retains the honorary rank of Lieut.-Colonel on ceasing to serve with the Red Cross Hospital, Bellahouston. Temporary Majors and retain the rank of Major: W. P. Yetts, O.B.E., J. R. Lee, O.B.E., E. B. C. White (on ceasing to be employed at the Welsh Metropolitan War Hospital). Temporary honorary Major A. M. Westwater, and retains the honorary rank of Major on ceasing to serve with the Red Cross Hospital, Bellahouston. Temporary Captains and are granted the rank of Major: W. V. Robinson, (acting Major) J. W. Innes (on account of ill health contracted on active service—April 2nd, 1919, substituted for notification in the *London Gazette*, April 1st, 1919), (acting Lieut.-Colonel) F. R. Fraser. Temporary Captains and retain the rank of Captain: G. M. Jones, T. W. Kelly, E. C. Black, A. A. Henderson, C. V. Walker, W. P. Cooney, C. E. Meryon, A. C. B. McMurtrie, M.C., J. G. Jones, M.C., J. F. Bridge, H. M. Leathes, H. G. Steel, F. J. Fahy, J. B. Donaldson, R. H. Liscombe, S. F. McDonald, S. S. Rosebery, W. R. Reynell, F. M. Bishop. Temporary honorary Captain C. R. Bird, and retains the honorary rank of Captain.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Flight Officer G. McK. Thomas to be Flight Lieutenant.

Transferred to the Unemployed List: Captains G. Meadows, J. Gardner, V. Magee; Lieutenants T. E. Roberts, T. Acton.

INDIAN MEDICAL SERVICE.,

Colonel R. C. MacWatt, C.I.E., M.B., F.R.C.S., Inspector-General of Civil Hospitals, Punjab, granted privilege leave for six months with effect from December 28th, 1919.

Lieut.-Colonel D. M. Davidson, M.D., appointed to hold charge of the office of Inspector-General of Civil Hospitals, Punjab.

Major H. Crossle was granted privilege leave from September 30th to November 26th, 1919.

Majors to be Lieutenant-Colonels: (Brevet Lieut.-Colonel) J. D. Graham, C.I.E., M.B.; C. A. Sprawson, C.I.E., M.D., F.R.C.P.; (Brevet Lieut.-Colonel) M. Mackelvie, M.B., F.R.C.S.E.; W. Lapsley, M.B.; W. H. Cazaly, M.B.; W. V. Coppinger, D.S.O., M.D., F.R.C.S I.; A. Spitteler, M.B.; J. C. S. Oxley, F.R.C.S.E.; (Brevet Lieut.-Colonel) L. J. M. Deas, M.B., F.R.C.S.E.; W. M. Houston, M.D.; W. D. A. Keys, C.I.E., M.D.; G. J. G. Young, M.B.; J. Good, M.B.; A. Chalmers, M.B., F.R.C.S.I.; W. G. Hamilton; S. R. Godkin, D.S.O., F.R.C.S.I.

A. C. Chatterji, M.B., appointed permanently to the service with effect from March 17th, 1919, and retains the temporary rank of Captain.

Major F. A. Barker, M.B., O.B.E., to be Senior Medical Officer and Civil Surgeon, Port Blair.

Major J. A. Cruickshank, M.C., M.B., has been granted combined leave for nine months (December 19th, 1919).

Lieut.-Colonel J. W. Grant has been posted as Residency Surgeon, Western Rajputana States (December 16th, 1919).

Brevet Lieut.-Colonel T. S. B. Williams has been posted as Residency Surgeon and *ex officio* Assistant to the Resident in Nepal (December 20th, 1919).

Brevet Lieut. Colonel R. McCarrison, M.D., F.R.C.P., has been appointed to be an Honorary Surgeon to His Excellency the Viceroy.

Lieut.-Colonel J. T. Calvert, C.I.E., M.B., has been permitted to retire from the service (October 6th, 1919).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain W. McK. H. McCullagh, D.S.O., relinquishes the acting rank of Lieut.-Colonel.

Captains relinquish the acting rank of Major: H. W. Maltby, M.C., D. S. Badenoch, H. H. Brown.

Captain J. R. Caldwell resigns his commission.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Major A. M. H. Gray, C.B.E., is seconded for service with the London University Contingent, Senior Division, O.T.C.

Captain (Brevet Major) W. J. Wilson is seconded for service with the Belfast University Contingent, Senior Division, O.T.C.

Captains (acting Majors) relinquish the acting rank of Major on ceasing to be specially employed: J. G. F. Hosken, F. Arvor (March 28th, 1919, substituted for notification in the *London Gazette*, September 18th, 1919).

Captain J. M. Kirkness is restored to the establishment.

Major H. H. B. Cunningham, T.D., to be acting Lieutenant-Colonel whilst specially employed.

2nd London General Hospital.—Captain H. F. Lancaster is restored to the establishment.

3rd Northern General Hospital.—Captain (temporary Major) A. E. Barnes relinquishes the temporary rank of Major (January 4th, 1918).

1st Southern General Hospital.—Major (Brevet Lieut.-Colonel, acting Lieut.-Colonel) J. E. H. Sawyer relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed.

TERRITORIAL FORCE RESERVE.

ARMY MEDICAL SERVICE.

To be Colonels: Captain E. F. Buzzard, from 5th London General Hospital; Captain (Brevet Lieut.-Colonel) Sir H. J. Stiles, K.B.E., from 2nd Scottish General Hospital; Captain W. Hunter, C.B., from 4th London General Hospital; Captain D. W. C. Jones, from General List.

ROYAL ARMY MEDICAL CORPS.

Major Sir J. Rose Bradford, K.C.M.G., C.B., C.B.E., F.R.S., from 3rd London General Hospital, to be Major, and is granted the honorary rank of Major-General.

The announcements regarding the following officers which appeared in the *London Gazette* of the dates indicated are cancelled: Major P. G. Williamson (December 31st, 1918, and January 18th, 1919), Major C. S. de Segundo, O.B.E. (November 15th, 1917), and Captain P. W. Young (April 3rd, 1918), Captain (Brevet Major) A. Walker, D.S.O. (January 9th, 1919), Captain (acting Major) A. R. Muir and Captain N. T. K. Jordan (December 31st, 1918).

VOLUNTEER FORCE.

County of London R.A.M.C.V.—Temporary Lieut.-Colonel B. Duke relinquishes his commission and is granted the honorary rank of Lieut.-Colonel.

The following temporary Captains relinquish their commissions and are granted the honorary rank of Captain:—Flintshire

R.A.M.C.V.: D. Fraser. Glamorganshire R.A.M.C.V.: J. Hartigan. Hampshire R.A.M.C.V.: P. E. Todd. Lancashire R.A.M.C.V.: D. Fenton. Leicestershire R.A.M.C.V.: F. S. Morrison, A. L. Macleod. County of London R.A.M.C.V.: E. A. Chill, C. W. Ensor. Middlesex R.A.M.C.V.: J. S. Crone, A. Wylie, R. W. Starkie, A. E. Tughan, J. O. Shemmonds; (Motor Ambulance Convoy): W. I. Atkinson, W. C. Davie, A. S. Powell, J. B. Johnson, C. G. Hare, A. Paull, L. H. R. Claydon, R. S. Barnes, L. C. Hudson. Oxfordshire R.A.M.C.V.: J. O. Sankey, T.D. (Major ret. T.F.). Suffolk R.A.M.C.V.: A. Y. Pringle.

The following temporary Lieutenants relinquish their commissions and are granted the honorary rank of Lieutenant:—Cambridgeshire R.A.M.C.V.: F. Robinson, F. W. Mawby, A. J. Laird. Cumberland R.A.M.C.V.: J. R. S. Anderson. Denbighshire R.A.M.C.V.: W. B. Russell. Derbyshire R.A.M.C.V.: W. E. Bond. East Yorkshire R.A.M.C.V.: H. Wales. Kent R.A.M.C.V.: H. O. Preston, F. R. B. Hinde. County of London R.A.M.C.V.: J. B. Howell. Middlesex R.A.M.C.V.: H. R. Bowtell, F. G. Hargraves, T. W. Hicks; (Motor Ambulance Convoy): H. G. Cottrell, R. B. Alaway, F. W. Clifford, F. Claridge, F. E. Bishop, P. Ferguson, F. Becker, L. D. Hughes. Suffolk R.A.M.C.V.: C. W. Biden, O. R. M. Wood, H. G. Toombs, T. H. Goodman. Warwickshire R.A.M.C.V.: J. Frew.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 9 p.m., Third Lettsomian Lecture by Dr. Herbert R. Spencer on Tumours complicating Pregnancy, Labour, and the Puerperium: III, Cancer.

RÖNTGEN SOCIETY, 1, Wimpole Street, W.1.—Tuesday, 8 p.m., Silvanus Thompson Memorial Lecture:—Professor W. H. Bragg, C.B.E., F.R.S.: Analysis by X Rays.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tuesday and Thursday, 5 p.m., Milroy Lectures by Dr. Aldo Castellani, C.M.G.: Higher Fungi in relation to Human Pathology.

ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.—Monday, Wednesday, and Friday, 5 p.m., Morison Lectures by Dr. Richard G. Rows, C.B.E.: Mental Illnesses.

ROYAL SOCIETY OF MEDICINE.—*Section of Surgery, Subsection of Orthopaedics:* Tuesday, 5 p.m., Cases and Specimens. *Section of Pathology:* Tuesday, 8.30 p.m., Mr. A. H. Drew, and Dr. J. A. Murray: Staining and Constitution of Mitochondria. Dr. E. H. Kettle: Experimental Aspergillosis in the Rabbit. Dr. Da Fano: Disseminated Sclerosis. *Section of Surgery:* Wednesday, 5.30 p.m., Discussion on The Remote Results of the Surgical Treatment of Gastric and Duodenal Ulcers, with exhibition of specimens (on view from 4.30 p.m.), to be opened by Mr. Herbert J. Paterson, to be followed by the President (Sir John Bland-Sutton), Sir D'Arcy Power, Mr. W. G. Spencer, Dr. Robert Hutchison, Mr. James Sherren, Dr. Chas. Bolton, Mr. G. Grey Turner, Mr. Garnett Wright, Mr. Cyril Nitch, Dr. A. F. Hurst, Mr. Chas. Ryall, Mr. Jocelyn Swan, Mr. H. W. Carson, Mr. Joseph Cunning, Sir Crisp English, Mr. R. P. Rowlands, Mr. A. J. Walton. *Section of Ophthalmology:* Wednesday, 8 p.m., Cases and Specimens. 8.30 p.m., Mr. Leslie Paton: The Use of Cobalt Glass in estimating Refraction. Mr. Charles Goulden: Treatment of Prolapse of the Iris following accident, with a note on the removal of non-magnetic foreign bodies from the anterior chamber. *Section of Balneology and Climatology:* Thursday, 5.30 p.m., Dr. W. Edgecomb: Visceral Fibrositis. Discussion on Immunity and Mineral Water Treatment. *Section of Obstetrics and Gynaecology:* Thursday, 8 p.m., Specimen. Dr. Gordon Luker: (1) Rupture of the Bladder associated with Three Months Pregnancy; (2) Late *Post-partum* Haemorrhage treated by Blood Transfusion and Panhysterectomy. Mr. Gordon Ley: Utero-Placental Apoplexy (Accidental Haemorrhage), an analysis of 50 cases. *Section of Laryngology:* Friday, 4 p.m., Cases.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. Batty Shaw: Body Weight in Adult Consumptives.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Professor H. R. Dean: The Wassermann Reaction.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Monday, 2 p.m., Dr. Collier: Out-patients; 3.30 p.m., Dr. Aldren Turner: Ward Cases. Tuesday, 2 p.m., Dr. Grainger Stewart: Out-patients; 3.30 p.m., Dr. Risien Russell: Out-patients. Wednesday, 2 p.m., Mr. Sargent: Injuries of Peripheral Nerves and their Surgical Treatment; 3.30 p.m., Dr. James Taylor: Subacute Combined Degeneration of Spinal Cord. Thursday, 2 p.m., Dr. Farquhar Buzzard: Out-patients; 3.30 p.m., Dr. Hinds Howell: Syphilis of the Nervous System. Friday, 2 p.m., Dr. Gordon Holmes: Out-patients; 3.30 p.m., Dr. Collier: Ward Cases. Saturday, 9 a.m., Surgical Operations.

NEWCASTLE-ON-TYNE: ROYAL VICTORIA INFIRMARY.—Friday, 1 p.m., Mr. J. W. Leech: Operations. 3.15 p.m., Dr. G. Hall, C.M.G.: Systematic Examinations of Nervous Diseases with Diagnostic Points. 4.30 p.m., Mr. H. B. Angus; Diagnosis and Treatment of Fractures.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2 p.m., Dr. A. J. Whiting: Demonstration on Early Diagnosis of Pulmonary Tuberculosis. 4.30 p.m., Lecture by Mr. J. Howell Evans: Septic Conditions of the Gall Bladder and Bile Passages.

SALFORD ROYAL HOSPITAL.—Thursday, 4 p.m., Dr. Ashby: Heart Disease in Children.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: X-ray Examination of Intestinal Tract. Tuesday, 4 p.m., Dr. Hay: Hemianopia: Cerebral Localization. Wednesday, 3.30 p.m., Dr. Wilkinson: Minor Aural Cases and their Management. Thursday, 3.30 p.m., Dr. Skinner: Acne Vulgaris, Ringworm, etc. Friday, 4 p.m., Dr. Hay: Diseases of Retina and Choroid.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Saturday (February 28th), 10 a.m., Mr. Banks Davis: Operations of the Throat, Nose, and Ear. Monday, 5 p.m., Dr. Robinson: Gynaecology. Tuesday, 5 p.m., Mr. Tyrrell Gray: Congenital Dislocation of the Hip. Wednesday, 2 p.m., Mr. Donald Armour: Special Surgical Cases. Thursday, 5 p.m., Mr. Baldwin: Lecture on Practical Surgery. Friday, 5 p.m., Special Lecture, Dr. Donald Hood: Clinical Aspects of Aortic Disease.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Mediscera, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

2 Tues. London: Ministry of Pensions Subcommittee, 5 p.m.
4 Thurs. Brighton Division, Sussex County Hospital, 4 p.m., Surgical Demonstration.
5 Fri. London: Library Subcommittee, 2.30 p.m.
London: Stewart Prize Subcommittee, 3.30 p.m.
London: Therapeutic Subcommittee, 4 p.m.
9 Tues. London: Standing Subcommittee of Central Ethical Committee, 2 p.m.
30 Tues. London: Organization Committee.

APPOINTMENTS.

CHATTERTON, Harold, M.R.C.S. Eng., L.R.C.P. Lond., Honorary Physician to the British Hospital for Mental Disorders and Nervous Diseases, London, N.W.

NEWCOMB, Wilfrid D., B.A., M.R.C.S., L.R.C.P., Assistant Pathologist, St. Mary's Hospital, Paddington.

REYNOLDS, Jane E., M.B., B.Ch., R.U.I., Resident Assistant Medical Officer, Halifax Union.

WARBURTON, G. B., Ch.M., F.R.C.S.Eng., Assistant Surgeon, Manchester Children's Hospital.

WILLIAMSON, A. J., M.D., D.P.H., Assistant Medical Officer of Health for Essex and Medical Officer of Health for the Lexden and Winstree Rural District.

GREAT NORTHERN CENTRAL HOSPITAL.—Physicians (with charge of out-patients): George Graham, M.D.Camb., M.R.C.P.Lond., W. J. Adie, M.B., Ch.B.Edin. Assistant to Dental Surgeon: M. J. K. Souter, L.D.S., R.C.S.

CERTIFYING FACTORY SURGEONS.—M. Ffoulkes, M.R.C.S., L.R.C.P. (Abergele District co. Denbigh). O. E. Williams, M.R.C.S., L.R.C.P. (Mold District, co. Flint).

DISTRICT MEDICAL OFFICERS.—V. G. Best, M.D. (Grimsby Union), A. I. Cooke, M.D. Cantab. (Chertsey Union), H. G. Feltham, M.B., Ch.B. Edin. (Glanford Brigg Union), J. M. Laughton, M.B., C.M.Edin. (Hackney Union), A. W. Lloyd-Davies, M.R.C.S., L.R.C.P. (Wolverhampton Union), J. Wilson, M.D. (Cheltenham Union).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

WILLIAMSON.—On February 23rd, at "Thurlstone," Kingston Road, Romford, to Dr. and Mrs. A. J. Williamson, a son.

MARRIAGES.

CLYNE—WALKER.—On February 11th, at St. Andrew's Church, Bombay, Charles Clyne, M.C., M.B., C.B., of Golaghat, Assam, to Violette Estelle Walker. (By cable.)

WESTBY—MCMULLEN.—On February 16th, 1920, at St. Ann's Church, Dublin, by Rev. Canon B. W. Keymer, C.F., R.A.F., assisted by Rev. Canon Day, vicar, John Thorp, M.B., B.Ch. (T.C.D.), only son of the late Dr. A. J. Westby and Mrs. Westby, 32, Waterloo Road, Dublin, to Marjorie, L.R.C.P.and S.I., younger daughter of the late Robert B. McMullen and Mrs. McMullen, 2, Arranmore, Herbert Park, Dublin.

DEATH.

YOUNG.—On the 19th inst., at Park House, Royton, Lancashire, Ralph Young, M.A., M.D., in his 69th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 6TH, 1920.

CONTENTS.

PAGE

British Medical Association.

CURRENT NOTES:
- COUNCIL MEETINGS ... 57
- REWARDS FOR MEDICAL DISCOVERY ... 57
- THE ARBITRATION ... 57
- SALARIES OF MEDICAL OFFICERS OF LOCAL AUTHORITIES ... 57
- TEMPORARY OFFICERS AND PERMANENT COMMISSIONS, R.A.M.C. 57
- NURSES' REGISTRATION ... 57

MEETINGS OF BRANCHES AND DIVISIONS ... 57

PAGE

ARBITRATION ON RATE OF INSURANCE REMUNERATION:
- OBSERVATIONS MADE ON BEHALF OF THE GOVERNMENT ON THE CASE PRESENTED BY THE INSURANCE ACTS COMMITTEE ... 58

NAVAL AND MILITARY APPOINTMENTS ... 63
ASSOCIATION INTELLIGENCE ... 64
DIARY OF SOCIETIES AND LECTURES ... 64
APPOINTMENTS ... 64
BIRTHS, MARRIAGES, AND DEATHS ... 64

British Medical Association.

CURRENT NOTES.

Council Meetings.

THE dates of the Council meetings were fixed last summer upon the assumption that the Annual Representative Meeting would be held as usual at the end of July, 1920. The special circumstances of the University of Cambridge made it, however, impossible to hold the Annual Meeting at the usual time of year, and it was accordingly decided that the Annual Representative Meeting should begin on June 25th at Cambridge. In consequence of this arrangement the dates of the April and June meetings of the Council have now been brought forward to April 14th and May 19th respectively.

Rewards for Medical Discovery.

The Right Hon. A. J. Balfour, Lord President of the Council, received a deputation from the Joint Committee of the British Medical Association and the British Science Guild at the Privy Council Office on Tuesday, March 2nd. Sir Clifford Allbutt on behalf of the Association, and Sir Ronald Ross on behalf of the Guild, put before the Minister the views of the Joint Committee as to the need for recognition and recompense by the Government of medical workers in the field of science. A report of the proceedings appears in the JOURNAL.

The Arbitration.

The arbitration on the question of the appropriate capitation fee for insurance practice during the coming year began on Wednesday, March 3rd, at 11.15 a.m., in a room at the Ministry of Health, before Mr. F. Gore-Browne, K.C., Sir Richard Vassar-Smith, Bt., and Mr. J. C. Stamp, C.B.E., D.Sc. The reply of the Government to the case put forward by the Insurance Acts Committee on behalf of insurance practitioners will be found at page 58. We hope to publish next week a report of the proceedings, with possibly the decision of the arbitrators.

Salaries of Medical Officers of Local Authorities.

In December, 1919, a circular letter, in the nature of a reminder, was sent by the British Medical Association to the Local Authorities throughout the country with regard to raising the salaries of their medical officers. Up to January 20th last 1,350 replies had been received. Of these, 621 stated that the salary had been increased by 33⅓ per cent. or more, 227 that the salary had been increased by less than 33⅓ per cent., 65 that the Civil Service bonus (Awards 84 and 101) had been granted; and 119 that no action had been taken. Of the remainder, 248 sent replies not falling under the above four headings, omitting, for instance, to state the exact amount of the salary; and 70 formal acknowledgements were received. The foregoing information was presented to the Council of the Association on February 18th by the Chairman of the Public Health Committee.

Temporary Officers and Permanent Commissions, R.A.M.C.

The Naval and Military Committee of the Association recently considered a letter written by a medical man who had transferred from a temporary to a permanent commission R.A.M.C., complaining that he was debarred from counting his period as temporary officer towards promotion, pension, and increments in pay. He pointed out that if this attitude was maintained he would derive no benefit from his three years of war service. It appears that Army Council Instruction No. 1310 lays down that such service should not count. The Naval and Military Committee decided to approach the War Office and ask its opinion on this question. In reply, the Medical Secretary has been informed that temporary officers who take up permanent commissions will reckon their service as temporary officers towards increase of pay, promotion, and retired pay, and that an Army Council Instruction will shortly be published to that effect.

Nurses' Registration.

At a general meeting of the members of the Society for State Registration of Nurses, held on January 8th, instructions were given that grateful thanks should be conveyed to the British Medical Association for the great services it had rendered to the nursing profession and the public in furthering the passage into law of the Nurses' Registration Acts. The secretary of the society in communicating this to the Association stated that the foregoing vote of thanks, carried with enthusiasm, was no formal expression of opinion, but embodied the very strong feeling which nurses desired to express to the British Medical Association of gratitude for its championship of their cause.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.

A MEETING of the North Middlesex Division was held at Wortley Hall, Finsbury Park, on February 25th, when Dr. GEORGE COHEN was in the chair.

It was decided that the next meeting should be clinical, that Mr. ALEXANDER FLEMING of St. Mary's Hospital be invited to lecture on "vaccine treatment," and that members of neighbouring Divisions be invited to attend the lecture.

Dr. BRACKENBURY reported the present position of the arbitration proceedings in regard to the new insurance capitation fee.

The honorary secretary was instructed to write to the clerk of the Middlesex Insurance Committee stating that it was the opinion of the North Middlesex Division that a revised and extended edition of the Middlesex formulary should be issued at an early date.

Dr. DISTIN opened a discussion on the inadequacy of the present average fees for life insurance examination.

It was resolved that the members of the Division should not conduct an exhaustive examination for life insurance for a fee less than one guinea, and that if the amount of insurance were £1,000 or over the fee should be not less than two guineas.

INSURANCE.

ARBITRATION ON RATE OF MEDICAL REMUNERATION.

Observations made on behalf of the Government on the Case presented to the Arbitrators on behalf of the Insurance Practitioners.[1]

GENERAL CONSIDERATIONS AS TO STANDARD OF SERVICE.

1. With the general considerations set forth in paragraph 3 of the Case, and in Sir Clifford Allbutt's prefatory memorandum, in respect of the standard of service required of insurance practitioners, the Government are in general agreement, as is shown by the following observations of the Minister of Health, taken from the published report of his interview with the deputation from the Insurance Acts Committee (referred to in this Statement as "the Committee") on December 4th, 1919.

Dr. Addison recognized that there were increasing demands in the community generally for an improved standard of service, and that an impetus had been given to these demands by the illustration that had been afforded during the war of what could be done by medical science, and said that no service, however dressed up with clinics, laboratories, and other provisions, could be an efficient service unless there were an efficient and contented general practitioner service.

2. The maintenance in insurance practice of the best attainable standard of general practitioner efficiency has been the aim of the Government since the inception of the Insurance Medical Service. In a letter to the British Medical Association of November 6th, 1912 (Cd. 6520, page 17) the then Chancellor of the Exchequer, Mr. Lloyd George, stated:

> The standard of service which it is hoped that the doctors attending insured persons will reach and maintain is that which the best opinion in the profession itself would expect from a general practitioner in his ordinary work. . . .
>
> The practitioner will be expected to avail himself of all such facilities in the shape of expert assistance in investigations useful for proper diagnosis and treatment as are placed at his disposal.

3. Every kind of work indicated by Sir Clifford Allbutt as necessary for an efficient service of high standard is intended (so far as it is within the ordinary competence of general practitioners) to be part of the service which insurance practitioners are to be under obligation to render to their insured patients when required. So far, therefore, as considerations of this kind must be taken into account in the evaluation of proper remuneration, it is not desired to minimize them in any way.

4. When, however, every effort has been made, by adjustment of the conditions of service, to encourage improved treatment and the development of the practitioners' efficiency, it must be recognized that such developments can only be brought about gradually; the mere payment of a relatively high rate of remuneration will not in itself alter the professional capacity of the practitioner receiving it. The present arbitration is concerned with the remuneration which will be paid to a general practitioner in the conditions obtaining in the year 1920.

5. When Sir Clifford Allbutt passes from general considerations affecting present day medical work to a question of the increase which ought to have been made in remuneration in 1912, to correspond with the difference in standard of service expected from the insurance medical service as compared with that of previous club practice, he must be deemed to be giving an expression of his personal opinion, not put forward by him as authoritative on this point, nor can his suggestions be accepted that the rate of remuneration originally offered for the insurance medical service was based in any way on previous club practice. (It should, however, be stated that, if any comparison is to be made on this basis, the insurance rate to be taken is 9s., and not 7s. 3d., since the club practice rate of 4s. was inclusive of drugs.)

Inherent Difficulties Attendant on a Flat Rate of Remuneration.

6. With respect to the considerations stated in sub-paragraphs (ii), (iii), and (iv) of paragraph 3 of the Case, due regard must be had to the inherent difficulties attendant on a flat rate of remuneration that must be paid uniformly to practitioners of varying degrees of professional efficiency. The number of doctors necessary to attend the 14 million insured persons is so large that, even were selection practicable, it would be impossible to confine the choice to the best. Moreover, the Insurance Acts do not admit of any selection of practitioners, but give every registered practitioner a statutory right to take part in the work of the service, unless and until his continuance be found, as the result of a public inquiry, to be prejudicial to the efficiency of the service.

7. The Government desire the rate of remuneration, as well as other conditions of service, to be such as will attract to the work (as they have in fact in the past seven years been able to attract) general practitioners who will not only give good service, but will co-operate in promoting improved developments of the service. But it would be visionary and wasteful to base calculations on the assumption that the service would be of a high ideal type throughout. The remuneration of practitioners throughout Great Britain under the Insurance Acts for treatment (apart from drugs and maternity services covered by the maternity benefit) amounts, at 7s. 3d., to about £5,000,000; each additional 1s. represents £700,000; and doubling the capitation fee, as is in effect proposed in the Case, means a total charge of £10,000,000. The present financial position of the country precludes additional expenditure in respect of potentialities of service that are not likely to become realities within the immediate future, which alone is now in question.

Methods of arriving at "Fair Remuneration."[2]

8. The two suggested methods of arriving at the appropriate capitation fee will be examined in their due order as they appear in the Case, but it will be seen that the first method involves a mere summation of items of which the primary one (the 7s. 3d.) is not agreed on either side as a true measure of the proper remuneration under the former conditions of service, while some of the remainder are insusceptible of precise evaluation. Any result, therefore, arrived at in this way must be checked by the second method, in which the main factors are more easily estimated by reference to common experience.

9. Before proceeding to examine the main contentions of the Committee on the first method of approach to the subject, exception must be taken to certain references in paragraphs 4 and 5 of the Case (as well as in paragraph 27), to the scales of attendance fees prescribed in the schedule to the old Regulations as the basis of calculation of remuneration by reference to services rendered. It might be inferred from these paragraphs that these fees were prescribed as definite payments which practitioners were entitled to receive in respect of services rendered by them, or that they must be regarded as affording an accepted measure of the proper money value of these services. Reference to the Regulations will show, however, at once that this was not the case. The aggregate remuneration of the doctors of an area was precisely the same, whatever method of distribution of that sum among them was adopted; the fees stated in the schedule were token fees only, their sole purpose being to establish ratios for the equitable distribution of the fixed amount available among the several doctors concerned, and the scale was only in fact adopted to a very small extent even for this purpose. (See paragraphs 7 and 20 of the Agreed Statement.) If it were the fact that the amount made available in any area, which was calculated on a fixed capitation basis, fell short of the aggregate sum to which the nominal fees amounted, the former and not the latter represented the money which the doctors were entitled to receive, and the monetary value which was (for the time being) agreed upon between the Government and the doctors engaged in the work as the proper value to be placed on the services rendered.

THE FIRST METHOD.

Circumstances in which 7s. 3d. was determined.[3]

10. The circumstances in which the 7s. 3d. (forming part of a total figure of 9s. for treatment and medicines) was

[1] BRITISH MEDICAL JOURNAL, *Supplement*, February 28th, 1920, p. 46 (referred to throughout as "the Case").

[2] Paragraphs 1 and 2 of the Case.

[3] Paragraphs 4 and 5 of the Case, and paragraphs 15 to 18 of Agreed Statement.

determined must first be stated. The Insurance Act of 1911 came into operation on July 15th, 1912, and the medical benefit provisions were due to come into operation in January, 1913. During the spring of 1912 the prospective conditions of service in connexion with medical benefit were fully discussed with the Advisory Committee, including, in addition to representatives of insured persons and other classes interested, representatives of the medical profession, some of whom were named by the British Medical Association. The question of remuneration was also discussed by the Chancellor of the Exchequer with a deputation from the British Medical Association, as a result of which it was agreed that Sir William Plender should be engaged to carry out the investigation into the actual income of doctors referred to below. The British Medical Association, however, broke off negotiations with the Government in July, 1912, and withdrew their nominees from the Advisory Committee.

11. It had already been indicated that the profession generally regarded the amount provided in the finance of the Act (6s. including drugs) as inadequate. After careful consideration of such data as were available, the Government decided to offer a rate which would yield the doctors a capitation fee, on average, of 7s. 3d. (or 9s. including drugs). This was decided upon, not as a figure arrived at by precise evaluation, nor as the result of negotiation—negotiations having been broken off—but because the Government were under obligation by the provisions of the Insurance Act to provide a medical service for insured persons on certain lines, and felt compelled to offer a rate, demonstrably in excess of the average income per head of the population which the doctors of that day were receiving, in order to secure, beyond question, the medical service which they were pledged to provide for the insured.

12. If it is now to be alleged that the amount was inadequate, it must be pointed out that, although the British Medical Association, in November, 1912, expressed the view that the conditions of service were derogatory and the remuneration inadequate, and advised doctors not to offer their services, nevertheless at the commencement of medical benefit the number of doctors who were willing to undertake service on the terms offered was ample to provide a sufficient service in every part of the country; and (apart from the temporary depletion caused by the calling up of doctors for military service) that service has remained adequate, in respect of numbers, throughout.

13. The Report (Cd. 6305 (1912)) by Sir William Plender of an investigation which was made with the co-operation of the British Medical Association contained the results of the examination of the books of over 200 doctors in the five towns of Darlington, Darwen, Dundee, Norwich, and St. Albans. An analysis of those figures makes it clear that the doctors in the areas in question in the years 1910 and 1911 were receiving about 4s. a head of the total population for all services given by them, excluding specialist and maternity services, which are not included within the present range of insurance practice, and drugs and medicines. It is to be noted that the inferences to be drawn from the Report are inferences drawn very largely from the ordinary private practice of that day among all classes of the community, the proportion representing income from club practice being less than 7 per cent.

14. The capitation fee offered by the Government of the day was, therefore, far in advance of what they could have paid if no better service was to be secured (not by the club patient but by the average member of the community), and no greater demand made on the doctors' time than under the conditions existing prior to the Insurance Act, and, being experimental and subject to revision in the light of experience, it necessarily remains an experimental figure until it can be tested, as it was contemplated that it should be tested, in the light of the services actually secured under the conditions of the Insurance Acts. This would, of course, involve an investigation which is by consent excluded from the terms of this arbitration.

15. The mere adding to the experimental figure of 7s. 3d. of the appropriate figure for increased cost of living and increased practice expenses, and for extra services alleged to be required as a result of war conditions, obviously cannot constitute that revision of the basic fee of 7s. 3d. itself in the light of experience which was originally contemplated, and leaves the result subject to all the doubts inherent in the original figure.

16. With these most important reservations, the First Method of approach put forward in the Case may now be examined in detail.

Cost of Living.

17. With regard to the addition sought to be made to the pre-war remuneration in respect of the alteration in the value of money during the last few years, it is necessary to introduce further considerations beyond those put forward in the Case.[1] If the basis to be adopted in this connexion were that of giving full compensation for the increase in the cost of living, there would be little difficulty in admitting Professor Bowley's estimate of 50 to 53½ per cent. on a net income of £800 per annum. But it is open to serious question whether such a basis can be accepted under present conditions.

18. The last few years have seen an enormous destruction of material wealth, and for many reasons the present production of wealth throughout the world must be much less than before the war. Political and economic disturbances of a greater or less intensity, and a general reduction in the hours of labour coupled with a lessened enthusiasm for work, have all combined to restrict the world production of wealth. As regards the distribution of this wealth between countries it is difficult to escape the conclusion that, as long as the supply of raw materials remain so much below the demand as at present, the countries producing such materials are in a preferential position, and that this country is correspondingly at a disadvantage.

19. Turning to the distribution of the share of the world's wealth accruing to this country at the present time, it is now generally admitted that the workers with incomes close to the margin of subsistence should be given not only full compensation for the increased cost of living but an improvement in their standard of life beyond their pre-war standard. But with a diminished total national wealth this necessarily entails that other classes of the community must suffer some diminution of the pre-war standard, and medical practitioners would hardly ask to be released of their part of the resulting economic burden.

20. The determination of the precise diminution of standard to be expected of any class is a matter of the greatest difficulty. The question was, however, fully considered by the Civil Service Arbitration Board as recently as November last in revising the Civil Service rates of war bonus, and the Government see no reason to think that the award then made did not hold the balance fairly between the taxpayer and civil servants.

21. Apart from the opinion expressed in the Case as to the adequacy of the award, the only grounds submitted for not applying it to the Case are (i) that a civil servant may, but a doctor cannot, economize by changing his residence and altering his standard of living, and (ii) that the capitation fee includes an allowance for expenses to which the Civil Service bonus award is not applicable.

22. The second ground may be a proper reason for some differentiation, and it is considered further below, but the claim that the doctor is entitled to better treatment than the Civil Servant on the former ground cannot be accepted.

23. Changes of residence as a means of economizing are of course out of the question for either class at the present time, and it will be some years before the shortage of houses is fully met. Other economies which might conceivably affect a doctor's reputation and income, if he alone practised them, are not likely to have any such effect when they are adopted by doctors generally, still less when economy is compulsory on the majority of persons of his social standing.

Civil Service Award and Increased Practice Expenses.[2]

24. The amount awarded by the Civil Service Arbitrators in the case of a civil servant with a pre-war income of £800, the figure used as representing a doctor's income in paragraph 9 of the Case, is £300, or 37½ per cent.

Practice expenses[3] are stated to have increased by 75 per cent., and, on the assumption that practice expenses were one-sixth of the receipts, this would justify an increase in that fraction of the insurance receipts by 75 per cent.

25. If five-sixths of the insurance receipts (in other words, the net income) is increased by 37½ per cent. and one-sixth of the insurance receipts (in other words, the practice expenses) is increased by 75 per cent., the effect on the whole capitation fee would be an increase of about 44 per cent.; and 44 per cent. of 7s. 3d. is about 3s. 2d., which would raise the sum of 7s. 3d. to 10s. 5d.

26. It will be noted that the Case, so far as expenses of practice are concerned, rests largely on figures furnished for a limited number of rural and semi-rural practices, and that a very large part of the expenses consists of travelling expenses, which are obviously much heavier in rural than in urban areas. It is stated in paragraph 12 (*c*) of the Case that if figures could be obtained from urban areas certain

[1] Paragraphs 8–11 and 15 of the Case.
[2] Paragraphs 9, 10, and 12 to 14 of the Case.
[3] Paragraphs 14 to 18 of Professor Bowley's Memorandum, *Supplement*, February 28th, 1920, p. 53.

results would appear. Considering the long period over which negotiations have extended, and the importance of this factor whether under the First or Second Methods in the Case, it is difficult to understand why the figures for a large number of urban practices have not been produced.

27. If, however, for the purpose of argument, the estimate of increased practice expenses and the cost of living remains at 44 per cent., the figure of 10s. 5d. must be subjected to a correction. It includes travelling expenses in rural and semi-rural, as well as in urban, areas. It therefore covers certain services, formerly covered by the 7s. 3d., which are now made the subject of a separate payment out of the Central Mileage Fund,[1] equivalent to a capitation fee of 5d. for the whole insured population. This 5d. must be deducted from the sum of 10s. 5d., leaving a net sum of 10s.

Effect of War Conditions on Health of Invalided and Demobilized Men, and Generally.[2]

28. The figures given in paragraph 17 of the Case, in regard to attendance on men discharged from the Forces, involve a fallacy, namely, that the additional medical attention which these men will need as a consequence of their military service can be measured by comparing the attendance that has, in fact, been given to certain of them with that required by ordinary insured persons. The Committee are doubtless unaware of the fact that a large proportion of the men who were discharged disabled (invalided) were always of inferior physique, and many of them in bad health before their military service began. They were taken for the Forces in a period of great national urgency, and while it is agreed that the disorders from which many of them were suffering were aggravated by their service, with resulting need for increased medical attention, the extent of that need can only be ascertained by reference to the attention they required before their military service began, and cannot be gauged by reference to the ordinary requirements of the general body of civilian insured persons.

29. The Committee refer to certain statistics as to attendances in the year 1918 on invalided men, and it is said that such men required approximately three times the attendances on ordinary insured persons. There is no direct evidence as to the extent to which such men required medical attendance while in civilian life before the war, but there is conclusive evidence that, as a body, they were below the general average of health. This evidence is supplied by certain data obtained some time ago for an administrative purpose having no relation to the present question, and subjected to actuarial analysis.

30. Two sets of figures were obtained. The principal of these came from a certain group of large societies, and shows that, in the years 1914–17, 78,999 members of the societies were discharged from the Forces; the actuarial investigation discloses the fact that the claims of these men for sickness benefit prior to their joining the Forces were 28 per cent. above the "expectation" of the Standard Tables. But the experience of these societies, as a whole, in the same period, appears to have been about 8 per cent. *below* the expectation, and it would therefore appear that, as compared with their fellow members, the discharged men in these societies experienced nearly 40 per cent. more than the general average of incapacity prior to their military service.

31. These figures are fully confirmed by the other body of data. This was supplied by a number of small societies selected for the same administrative purpose and without any reference to the question now under consideration. Among these societies, 9,566 men were discharged in the period 1914–17, and the claims of this group for sickness benefit in the period prior to enlistment were found to have been 33 per cent. above the "expectation," while the claims of the whole membership of their societies in the same period were well below the same standard. It is probable that, as compared with their fellow members in these societies, the men who subsequently joined and were discharged from the army had an excess of about 50 per cent. in their periods of incapacity for work when in civilian life.

32. Where there is such clear evidence of heavy benefits being claimed before enlistment, it is reasonable to assume that there was at least a correspondingly heavy demand for medical attention, and even if it could be shown, as stated in the Case, that in the period immediately following their discharge the attention required by these men was three times the average, the extra call which this might include compared with pre-war conditions would represent a very minute addition, if any, to the aggregate amount of the services which the doctors had to perform under their contract for treating all insured persons.

33. But it is further to be noted that the increased proportion of attendances to these men to which the Committee calls attention refers to the year or two immediately following discharge, when, in the nature of the case, the men concerned would experience much more than their own average need for attention. The cost per head of treating invalided men did in fact fall from about 20s. for about 150,000 men in 1918 to about 15s. for about 300,000 men in 1919. It is a fair presumption that the majority of the invalided men have now reached their ordinary state of health, and in 1920 will require little, if any, more attention than they did before they joined the Forces.

34. In any case, the excess cost of treating the invalided men, during 1918 and 1919, if divided among the whole insured population, represents an addition of a mere 2¼d. a person to the capitation fee. Even this small temporary addition must be nullified by what transpires in this document with regard to sickness experience as a whole.

35. The point sought to be made as to demobilized men is one presenting no greater substance. No evidence is submitted in support of the opinion of practitioners that the effect of military service in respect of this class is greater than in the case of men who are discharged disabled, but if there was now any large amount of illness among the millions of men who have been demobilized, it should certainly be discernible in the sickness claims upon approved societies. No such feature, however, is found on examining the experience of these bodies. The returns for 1919 are, naturally, not yet complete, but a sufficient number of them are available to enable this matter to be tested. Taking all the available societies, which include a male membership of about 2,000,000, or over 25 per cent. of all the insured men in England, it is found that while in 1914 these societies paid in sickness benefit £973,662, or an average of 10s. 6d. per *civilian* member (soldiers are not entitled to sickness benefit), the amount paid by them in 1919 was £723,642, or an average, as nearly as can be ascertained, of 8s. 4d. per civilian member, including the large number who had been demobilized. The fact that in 1919 a substantial proportion of the members, probably averaging at least one-sixth throughout the year, were still in the Forces, and that these of necessity were of lower average age and probably of better average health and physique than the general body, emphasizes the difference between these two amounts. It is certainly true to say that, if disturbing factors could be segregated a decline in the sickness claims of men, between 1914 and 1919, to an extent substantially exceeding 25 per cent. would be exhibited. In the face of figures such as these the suggestion which the doctors make that the aggregate amount of their attendances has been increased because a certain proportion of demobilized men have come to them suffering from the after-effects of war conditions would appear to be wholly without foundation.

36. It is not, of course, denied that the doctors have to deal with cases of the kind named. But it is suggested that these cases have been viewed without that regard to proportion which is essential if their relative importance is to be appreciated. In particular the doctors appear to have overlooked the fact that their attention is arrested only by the cases which come before them as due to war service, ignoring the probably much larger number of attendances they give to demobilized men for causes not connected with their military service, and the number of demobilized men who have had no need to come to them for attendance at all. The nature of the attendance required in a small proportion of the cases may and probably has varied as a result of the war; but the question at issue is the relative volume of the total attendance before and since the war. On this point the statistical evidence presented by the Department leads to conclusions directly opposite to those to which general observation and opinion have led the profession, but in support of which no evidence is adduced.

37. As to the cases of "after-effects" which admittedly have arisen, the further question might have to be considered as to how far these represent a persisting feature of medical services, or how far they also may be regarded as merely temporary *sequelae* of war conditions which with each succeeding month must become of dwindling importance. But, in view of the evident misapprehension by the profession of the whole position as to demobilized men, it is not thought necessary to elaborate this point.

38. In paragraph 19 of the Case the Committee raise the further presumption that war conditions have produced deleterious effects on the health of many classes of the community. They call in aid a statement made by Mr. A. C. Thompson, President of the Annual Conference of

[1] Paragraphs 16–20 of the Case.
[2] Paragraph 21 of Agreed Statement.

Industrial Approved Societies, but, on examination, it will be seen that this statement is made in the most general terms and includes no specific suggestion that approved societies have, in fact, suffered in the claims made upon them either by men or by women. Mr. Thompson could not, indeed, have made any suggestion that, as a result of the war, the claims upon the societies had increased, for such would have been contrary to the plain facts within his knowledge.

39. Great numbers of people admittedly had to work harder and more continuously during the war than previously, but these conditions are not necessarily detrimental to health. They may, indeed, in many cases have precisely the contrary effect, and when it is remembered that with such conditions were associated high wages, complete freedom from anxiety as to the continuance of employment, and good food, to an extent not previously attainable by the masses of the population, it may well be concluded that the general health of the people, so far from having suffered, improved during the war.

40. It will no doubt be agreed that the claims for sickness benefit made upon approved societies afford a very fair index to the physical state of the people. The general indications of the claim experience in respect of men having been shown, the facts as to the claims of women must now be stated.

41. The number of insured women in England is about 4,000,000, and the average expenditure per head in sickness benefit in each of the five years 1914–18 is calculated as follows:

	s.	d.
1914	10	4
1915	8	0
1916	6	8
1917	6	0
1918	6	10

The returns of all societies for 1919 are not yet available, but are forthcoming in respect of societies representing a membership of 1½ millions. In order to show how far these may be safely taken as a sample of the whole, their experience as a group has been taken out separately for each of the years 1914–18, and that of the year 1919 has been added. The results are as follows:

	s.	d.
1914	11	3
1915	8	8
1916	7	0
1917	6	1
1918	7	0
1919	6	0

It will be seen that the course of the claims in respect of the 1½ millions of women for whom returns are available for the whole six years is closely parallel, in regard to the first five of those years, with that of the whole body of insured women, and it may be concluded, therefore, that the remarkably low level touched by the claims in 1919 upon the smaller body will be found to have been universal. There are, doubtless, various reasons for this phenomenon, and while it is not made the ground for any such assertion as that the need for medical attendance has declined by nearly 50 per cent. since 1914, it seems conclusive in support of the view that, as a fact, the health of the insured community has substantially improved in the course of the last few years, with some resulting relief in medical services. If the doctors have really any reason to look for increase of responsibilities due to "delayed nerve disturbances," they have at least the expectation of contrary conditions resulting from the great improvement in the standard of life and consequent freedom from strain and anxiety which large sections of the insured community have secured for themselves in recent years.

42. On this part of the argument, therefore, it is submitted that no case for an increase of remuneration has been made out.

Liabilities under the New Regulations.

43. What are described as definite new liabilities under the new Regulations[1] are (*a*) the provision that treatment is to be given in an emergency where neither the practitioner responsible for the insured person nor his deputy is available, and (*b*) the making of additional reports in certain cases and the personal attendance at consultations in some of the cases.

44. The position with regard to (*a*) is that, under the old Regulations, a doctor responsible for the treatment of an insured person was under obligation to provide, to the best of his ability, the services of a deputy, on occasions when he was unavoidably precluded from giving personal attendance. Cases arose, however, in which neither the doctor nor any deputy with whom he might have made arrangements to act for him, was immediately available in an emergency in which an insured person on his list was in urgent need of immediate treatment; and, in such cases, other insurance practitioners who might be available, but with whom the absent doctor had made no arrangements, were under no obligation to attend. The effect of the new Regulation is to place definitely upon any insurance practitioner who may be available the obligation of acting in such an emergency (when neither the responsible practitioner nor his ordinary deputy is available) and to secure that the practitioner so called upon to act in the emergency shall be remunerated for his services by the practitioner responsible for the patient's treatment, according to a scale of fees agreed by the practitioners of the area. In other words, the Regulations secure that, automatically and without the need of any special arrangements between the practitioners concerned, each insurance practitioner becomes, for certain purposes and under certain conditions, the deputy of every other insurance practitioner in the same neighbourhood. It will be seen that, as regards the practitioner responsible for treatment, this amounts only to making fully effective the obligation, which has all along rested upon him, of providing a deputy when he is unable personally to attend, while as regards the practitioner called in, in such a case, the extent of the new burden (he being paid for his services) is the onus of being liable to be called upon at possibly inconvenient times. (It must be borne in mind that attendance in a confinement is not within this obligation.) Since the obligation extends only to cases arising within the radius (usually of two miles) within which the practitioner undertakes to give treatment, the number of cases likely to occur in each practice is very small indeed.

45. The provision is in fact the necessary stopping of a small gap in the old Regulations. To the extent to which it could be measured as an additional liability in terms of remuneration, it is believed that the addition of a small fraction of a penny to the capitation fee would fully cover the liability.

46. The reference to reports and consultations is presumably intended to apply to provisions in the Terms of Service[2] under which a system of Referee-Consultants is contemplated. Here again, while it is agreed that increased demands will be made on the time of the doctors, for which theoretically some increase of remuneration might be assessed, it is believed that the actual new work will be of relatively so small an amount, and accompanied by such set-offs in other directions through the operation of the same scheme, that only a nominal increase, if any, could be justified. The main objects of the new system are to diminish the calls on the Sickness Benefit Fund of National Health Insurance, and to assist medical practitioners by giving them second opinions and advice on cases which they refer, and the system will fail in its objects if any appreciable addition to a doctor's work in the matter of furnishing reports is not accompanied by an ultimate diminution in other claims on his professional time.

General Effect of the New Regulations.[3]

47. As regards "increased stringency of conditions of services," it is observed (paragraph 22 of the Case) that the provisions of the new Regulations are not regarded by the doctors as involving new liabilities at all comparable, as regards the burden on the doctor's time, to those referred to in paragraph 43 above, and that it is recognized that the improvements which the Regulations comprise are right and proper.

48. The Committee ask that, in assessing remuneration, due weight should be given to the new provisions of the Regulations referred to in (A) to (F) of paragraph 22 of the Case. It is submitted, however, that these new provisions do not impose any obligation on the doctor, as regards expenditure of time, which was not imposed upon him under the old Regulations, although certain of them make more explicit obligations which arose equally under the old Regulations, or take greater security for the enforcement of those obligations. The claim, therefore, for any increase in remuneration in respect of these provisions is in effect a claim that the doctors should be more highly paid than heretofore for rendering services which they have always been under contract to render, and have presumably rendered.

49. Respecting the matters referred to in paragraph 24 and in subparagraphs (4) and (5) of paragraph 25 of the Case—co-operation by insurance practitioners with public

[1] Paragraph 21 of the Case.

[2] See Paragraph 40 of Agreed Statement.

[3] Paragraphs 22 to 26 of the Case.

health authorities, and co-operation in medical research—it is recognized by the Committee that no obligation arises under the Regulations. In his insurance practice, as in his private practice—in which such work is not of less importance—the part played by the general practitioner in the furtherance of these great objects is, in the present state of public provision of health services, determined by his aptitudes, his professional zeal, and his sense of public duty, and not by legal obligation. If and when the services of general practitioners in these spheres are made a definite part of organized public provision, this may very well be done under arrangements applying to all kinds of general practice, and not to insurance practice only, and the remuneration provided would come from sources other than those (including contributions from insured persons and employers) which are earmarked for providing a service confined to insured persons. In the meantime, there being no obligation, there is no basis for assessing a specific increase of remuneration; and if it be suggested that it is nevertheless desirable to attract to and retain in the service those who possess the personal characteristics which are likely to lead to such work being done, the answer is that the necessary qualities (except as regards personal aptitude for research, which cannot be commanded) are those which are required also for the provision of good treatment. This part of the Case, therefore, is not distinguishable, as part of a claim for remuneration, from the parts already examined, and affords no ground for provision of remuneration additional to that provided in respect of treatment.

50. Before summarizing the results of the examination of the First Method, it may be observed that in the last subparagraph of paragraph 27 of the Case, it is stated that the profession has been obliged in private practice to take action as to fees which is intended to produce a result approximately equal to the increase asked for by the doctors. Detailed information with regard to this is not furnished; but if the reports in the public press correctly indicate that the rate of private fees has been increased by 50 per cent., it is not to be expected that this will result in a 50 per cent. increase in the doctor's actual income, and the argument does not, in any event, furnish support for demands on the Government of such magnitude as those as the doctors are now making.

Summary of Results of Examination of First Method.

51. Summarizing the considerations put forward as a result of the foregoing examination of the Case stated on the First Method, as to the appropriate remuneration on the basis of pre-war conditions and the changes that have now supervened, it is submitted:

(*a*) That the original figure of 7s. 3d. was experimental—has not yet been investigated by reference to the services actually rendered—and was in excess of the actual earnings of the profession at the time when it was granted;

(*b*) That if the basic figure proper to the pre-war conditions could be ascertained, the allowance to be made in respect of increased cost of living and increased expenses of practice should not exceed 44 per cent. of that figure;

(*c*) That the available evidence tends to show that the amount of work required to-day of Insurance practitioners per insured person is more likely to have been diminished by the collective results of war conditions than to have been increased;

(*d*) That changes made in the conditions of service by the new Regulations will not have increased the services which practitioners previously contracted to give, to a degree represented by more than a nominal increase in remuneration;

(*e*) That the considerations advanced in the Case in reference to changed conditions as regards public health and research, so far as they are not already covered, are not relevant to this Arbitration; and

(*f*) That therefore no case has been made out for a net increase of remuneration (after allowing for the additional remuneration already provided under the Central Mileage Fund in respect of services previously included in the 7s. 3d.) which would involve the payment of a higher capitation fee than 10s.

THE SECOND METHOD.

52. It is now proposed shortly to examine the second, and, as it appears to the Government in the circumstances, the more appropriate, method of ascertaining the fair rate of remuneration.[1] For the fairness of a capitation fee can only be adequately demonstrated by showing what rate of yearly income it produces for the time properly taken up by the duties involved. Before examining the capitation fee with this object it is, perhaps, again worth emphasizing that the system of remuneration by a uniform capitation fee has the serious defect that the fee is paid to all practitioners alike—good, bad, and indifferent; its fairness cannot be tested by the worth of the best general practitioner or by that of the worst. The measure of the value of a doctor's time and service must be that of a good average general practitioner.

53. It is stated that the claim can be examined by the Second Method in two forms. It is not, however, proposed to deal with the form of examination set out in paragraph 30 (ii) and paragraphs 39–40 of the Case beyond stating that to assume the value of an item of service, and to multiply that amount by the assumed number of services which ought to be given in a year to a body of persons is not a method of calculating remuneration which could properly be applied to a contract for the treatment of 14 million persons. The margin of possible error is too great. In any case, the problem being to find an appropriate fee for payment on a capitation system, it is not seen how this can properly be tested by ascertaining what income could be produced by taking an assumed value for each item of service and multiplying it by the number of services rendered. Admittedly, the object of the second method is to ascertain what is the rate of income for whole-time work which a given capitation fee would produce.

Measurement of a Doctor's Whole-time Income on a Time Basis.[2]

54. The comparisons made, in paragraph 35 of the Case, with incomes from other sources are open to obvious criticism. Particulars should be furnished of the services required from the whole-time officers referred to; and, in any case, part-time rates given for services of special kinds are not comparable with the rate under computation.

55. The estimate of 30 per cent. for working expenses in paragraph 33 of the Case and the estimate of time in paragraphs 31 and 36 of the Case, that is, that 1,000 persons require three-eighths of a doctor's working day, also cannot be accepted.

56. As regards the working expenses, the illustration based on the experience of several practices, given at the end of Professor Bowley's Memorandum, shows that practice expenses of £65 out of gross receipts of £400 become £113 out of gross receipts of about £620. The latter figure of expenses is about 18 per cent. of the gross receipts. It may be said that this is an under-estimate, but it is again necessary to state that there really should be no difficulty in producing adequate and clear evidence on this part of the Case, and it is not understood why 30 should be put forward in paragraph 33 of the Case as the proper percentage of income which represents practice expenses.

57. It is, however, recognized that Professor Bowley assumes an increase of net remuneration by 50 to 53 per cent., and that if this increase is limited to 37½ per cent., as proposed earlier in this statement, the expenses would be represented in Professor Bowley's illustration by 22 per cent. of present day receipts. In view of this, and, making allowance for the fact that, for the present purpose, the special burden of the cost of travelling in rural areas, and the cost of drugs everywhere, have to be excluded in measuring a doctor's expenses, a general average of 25 per cent. is considered to be a reasonable estimate of the proportion of gross receipts absorbed in the other expenses of insurance practice.

58. With regard to the "time factor," objection must be taken to the contention that the conscientious care by an insurance practitioner of his insured patients will make it necessary for him to devote so much as three-eighths of his total working time to the medical attendance and treatment (and ancillary duties as regards correspondence, etc.), which the responsibility for a thousand insured persons, well and ill, would involve. Such an estimate appears to be based on the assumption of an ideal standard of service which it is not suggested exists in ordinary general practice.

59. It is apparent from the Committee's statement that their assumption that four visits and ten consultations

[1] Paragraphs 29 and 30 of the Case.
[2] Paragraphs 32 to 38 of the Case.

(together with the correspondence, etc., incidental thereto) will occupy three hours is based on a conjectural estimate and not on direct observation and experience. It is further observed that in making the estimate allowance is said to be made for the variety of services required, minor operations under anaesthetics being mentioned by way of illustration. But obviously the validity of such a method of estimation must greatly depend on assigning the proper weight in respect of the numbers of different kinds of services that are required. It would be in accordance with familiar experience that when an average is thus struck conjecturally, without reference to definite statistics of the frequency of occurrence of various elements, the exceptional or prolonged service should make an impression on the mind out of proportion to its actual frequency. It has, however, often been stated by insurance practitioners, and it is in accordance with what would be expected, that the main effect of the Insurance Acts, as regards the demands on their time, has been greatly to increase the number of surgery attendances, both in respect of trivial ailments and also on occasions in the course of more serious illnesses when very little time is required for proper attention. The following table, showing the frequency of services of various kinds paid for on an attendance basis in connexion with the treatment of invalided soldiers, will help to illustrate this point:

(Figures given are for the year 1918.)

Services.	Percentages of Total Services.
Visits 232,439	15.7
Surgery attendances 1,069,244	72.4
Special visits 3 768	0.25
Night visits 1,743	0.12
Operations 602	0 04
Anaesthetics 87	0.006
Fractures 57	0.004
Dislocations 29	0.002
Certificates 167,245	11.4
Reports 510	

60. Assuming, however, that the data are not available for a direct calculation of the amount of time necessary for giving the treatment required by the patients from among, say, 1,000 insured persons, well and ill, there are certain facts which reveal the implied estimate made by the profession generally in another connexion of the number of persons whose care a doctor can safely undertake in his whole time. This evidence is afforded by the statements that have been made in connexion with the question of the imposition under the new Regulations of a limit upon the number of insured persons whose care a practitioner working single-handed may be allowed to undertake.

61. The imposition of any limit was accepted with considerable reluctance, and after protest, by the Conference of Panel Committees. The Minister, on the other hand, decided with some hesitation to fix so high a number as 3,000 to be the maximum limit in respect of any practitioner in any part of the country, and contemplated that a lower limit would be fixed by Insurance and Panel Committees, save in exceptional districts or in the case of exceptional practitioners, where it could be shown that the circumstances were of such a nature as to make it especially easy to cope satisfactorily with a relatively high number. His action, however, in specially calling the attention of those Committees to the fact that it was on this principle that the maximum of 3,000 had been fixed, and that the fixing of an appropriate limit was a matter for full and careful consideration locally, was stated to be strongly resented by the profession, and was the subject of a vigorous protest from the Insurance Acts Committee.

62. It is to be observed that this limit is not the limit of the practitioner's total work, and so of his total remuneration; it is the limit, only, of a part of his work—namely, that represented by the insured persons he may accept on his list, leaving him entire freedom as to the amount of other practice in which he engages. Almost invariably an insurance practitioner will attend the dependants and other members of the family of his insured patients, as well as a certain number of persons belonging to the non-insured class. But if regard be had to the dependants of the insured only the *clientèle* of non-insured persons ordinarily accompanying an insurance list of 1,000 would be about 1,300. A doctor, therefore, who had 3,000 insured persons on his list might well be, in effect, undertaking the medical care of at least 6,900 persons in all (well and ill). It may be said, however, that it is not, in fact, expected that any but a very exceptional practitioner would attempt to cope with such responsibilities. Let the case then be considered of a practitioner with 2,000 on his list. The total *clientèle* of such a practitioner, including dependants of insured persons, would be, ordinarily, at least 4,600, or possibly 5,000. If 3,000 is regarded as the figure that any practitioner is to be allowed to take on his list without question, if he thinks fit, and without restriction on the number of other persons whom he attends, it would appear to be a reasonable inference that, in the opinion of the profession, an ordinary practitioner can safely undertake in his whole time the care of between 4,500 and 5,000 persons. Making some allowance for the possibility that the standard of treatment of the uninsured (either as regards number of attendances or time devoted per attendance) may not be so high as that which it is hoped will obtain in respect of the insured, there still remains a margin from which it may be inferred that, in the opinion of the profession, a practitioner could safely undertake to give adequate attendance and treatment, of the good standard expected in the insurance service, to those who required attendance from amongst 4,000 persons (well and ill)—men, women, and children. This obviously leads to the conclusion that the conscientious care of 1,000 insured persons will not, in the opinion of the profession, absorb more than one-fourth of a doctor's total working time.

63. It is not desired, however, on behalf of the Government (so great is their anxiety to afford no pretext for supposing that they would be prepared to accept an inefficient service) to insist too rigidly on this inference. They are prepared to agree that, for a satisfactory service, something more than one-fourth of a practitioner's total working time might be required for the care of 1,000 insured persons, and for the purpose of the present case therefore they would be content that the Arbitrators should estimate two-sevenths as the proper fraction.

64. If, then, the care of 1,000 persons be regarded as absorbing two-sevenths of a doctor's time, and his remuneration in respect of that number be fixed at £500 gross (namely, at 10s. each) or £375 net (allowing 25 per cent. for expenses), this is equivalent to payment at a rate of about £1,300 a year net income. Even under the conditions of the present time it is submitted that this can hardly be regarded as an inadequate rate of remuneration for a good average general practitioner; it is a slightly higher rate than is suggested in the Case itself (paragraph 33) as the appropriate income of a man whose personality or opportunity and skill have resulted in his practice occupying his full ordinary time; and it is accompanied by the very substantial advantage of freedom from the contraction of bad debts and from the burden of collecting accounts.

Conclusion.

65. In conclusion, it is urged that, whether the question be approached by the first or second line of argument, there is adequate ground for holding that a capitation fee of 10s. a head would provide "fair remuneration" within the terms of reference of the Board.

In the course of the negotiations with the Committee, the Government were fully satisfied that this was the highest figure which could be shown, as a matter of demonstration, to be appropriate to the services to be rendered. But recognizing the difficulty of precise evaluation of certain elements of the calculation, and desiring to give to the profession the benefit of any doubts in order to secure their willing and zealous co-operation, the Government decided to offer a settlement on the basis of 11s.

This offer was, however, refused, and the Arbitrators are now asked to decide the doubtful points in the light of the considerations placed before them by both parties.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders E. R. Townsend to the *Royal Arthur*, R. F. Clark to the *Crescent* as Health Officer, P. F. Alderson to the *Terror*. Surgeon Lieutenant Commanders: A. S. Paterson to the *Dido* additional, G. D. Macintosh to R.M. Division, Plymouth; P. B. Wallis to the *Endeavour* on recommissioning. Surgeon Lieutenants F. L. H. MacDowel to the *Harebell*, G. M. Graham to the *Truro*, T. N. D'Arcy to the *Ceres*, B. S. Collings to Gibraltar Hospital, W. A. Jolliffe to the *Egmont*, J. R. Brennan to the *Mars*, T. J. O'Riordan to the *Veronica* on commissioning. Surgeon Lieutenants (temporary) transferred to the permanent list as Surgeon Lieutenants: J. Kirker, W. E. Heath.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel L. Addams-Williams retires on retired pay.

Major and Brevet Lieut.-Colonel R. A. Bryden, D.S.O., relinquishes the temporary rank of Lieut.-Colonel on ceasing to command a medical unit (May 20th, 1919; substituted for notification in the *London Gazette*, November 25th, 1919).

Major V. G. Johnson is placed on the half-pay list on account of ill health.

Major H. C. Sidgwick, O.B.E., relinquishes the acting rank of Lieut.-Colonel.

Major I. A. O. MacCarthy retires on retired pay.

Temporary Major W. C. Bosanquet (Brevet Major R.A.M.C.T.F.) relinquishes his temporary commission on reposting.

Temporary Major J. C. Davies (Major 4th Royal Welsh Fusiliers T.F.) relinquishes his temporary commission on ceasing to be employed with the Field Ambulance of the 43rd Division (June 7th, 1919).

J. L. Dickie (late honorary Captain R.A.M.C.) to be temporary honorary Major whilst commanding the Star and Garter Hospital, Richmond, Surrey (January 12th, 1916).

G. W. Beresford, O.B.E., late temporary Captain, to be temporary Major with seniority from January 14th, 1916.

Captain J. W. C. Stubbs, D.S.O., M.C., is seconded for service with the Egyptian army.

Temporary Captain J. R. P. Allin, M.C., relinquishes the acting rank of Major.

Late temporary Captains to be temporary Captains: S. F. Cheesman (seniority December 15th, 1916), C. S. Stolterforth (seniority December 15th, 1917).

J. G. Shaw, late C.A.M.C., to be temporary Captain.

O. T. J. C. De H. Clayre to be temporary Lieutenant.

The following officers relinquish their commissions:—Temporary Majors, and retain the rank of Major: C. R. Nicholson, A. C. O'Sullivan, T. B. Morse. Temporary Captains, and are granted the rank of Major: C. C. Harrison, M.C. (December 8th, 1919, substituted for notification in the *London Gazette* of January 8th, 1920), P. K. McCowan, (acting Major) J. T. Grant, O. R. L. Wilson, H. H. Hepburn, H. C. Dunmere, M.C., J. A. Paterson, B. Knowles, M.C. Temporary Captains, and retain the rank of Captain: A. R. Mitchell, W. H. Orton, A. J. R. Taylor, C. G. Lees, T. Kennedy, J. Williamson, J. A. Hadfield, C. L. Herklots, W. W. Halsted, G. R. Spence, P. C. H. Ryan, G. E. Kinnersly, M.B.E., D. S. Cassidy, E. W. Hall, L. J. O'Donovan, S. E. Holder, L. Gameson, M. Dobbs, D. H. Vickery, J. F. Wolfe, T. F. Shackleton, J. L. Smith, W. H. Stott, O.B.E., J. Scott, F. E. McGee, E. G. D. Milsom, G. M. Elliott, J. S. Byrne, E. H. Eastwood, N. Elrington, C. D. Walker, L. R. Pickett, A. F. Palmer, W. J. Moloney, F. J. Pierce. Temp. Lieutenants, and retain the rank of Lieutenant: D. C. Macaskill, D. I. McNaughton.

VOLUNTEER FORCE.

The following temporary Majors have relinquished their commissions, and are granted the hon. rank of Major:—City of Edinburgh R.A.M.C.(V.): W. G. Aitchison-Robertson. Lancashire R.A.M.C.(V.): T. B. Grimsdale G. Stowell.

The following temporary Captains have relinquished their commissions, and are granted the honorary rank of Captain:—East Yorkshire R.A.M.C.(V.): E. W. Archer. Kent R.A.M.C.(V.): H. O. Preston, E. J. Wood, A. F. Street. Lancashire R.A.M.C.(V.): S. J. Yeates, H. E. Jones, J. Watson, M. Bannister, W. J. R. Dunn, W. A. Rice, S. Hodgson (Captain T.F.R.). Shropshire R.A.M.C.(V.): W. A. A. Lewis, H. C. Woodhouse, E. B. Kersley, J. McC. McCarthy, F. K. Pigott (honorary Surgeon-Colonel, ret., T.F.). Surrey R.A.M.C.(V.): H. S. Stone.

The following temporary Lieutenants have relinquished their commissions and are granted the honorary rank of Lieutenant:—Hertfordshire R.A.M.C.V.: W. Gruggen. Kent R.A.M.C.V.: E. StC. Henriques. Lancashire R.A.M.C.V.: F. J. Atkinson. Shropshire R.A.M.C.V.: R. Gwynne. Surrey R.A.M.C.V.: C. H. McComas. Sussex R.A.M.C.V.: W. E. Grandy.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

5 Fri. London: Contract Practice Subcommittee, 2.30 p.m.
London: Stewart Prize Subcommittee, 3.30 p.m.
London: Therapeutic Subcommittee, 4 p.m.
9 Tues. London: Standing Subcommittee of Central Ethical Committee, 2 p.m.
London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
11 Thurs. Brighton Division, Sussex County Hospital, 4 p.m., Clinical Demonstration (Medical).
12 Fri. London: Ministry of Health Committee, 2.30 p.m.
17 Wed. London: Propaganda Subcommittee, 2.15 p.m.
18 Thurs. London: Medical Research and Laboratory Workers' Subcommittee, 2.30 p.m.
23 Tues. London: Public Health Committee, 3 p.m.
24 Wed. London: Medico-Political Committee, 2 p.m.
30 Tues. London: Organization Committee.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 8.30 p.m., Heat Hyperpyrexia: Clinical Aspect, by Dr. W. H. Willcox, C.B., C.M.G.; Physiological Aspect, by Dr. Leonard Hill, F.R.S.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tuesday and Thursday, 5 p.m., Goulstonian Lectures, by Dr. J. L. Birley, C.B.E.: Principles of Medical Science as Applied to Military Aviation.

ROYAL SOCIETY OF MEDICINE.—*Section of Surgery, Subsection of Proctology:* Wednesday, 5.30 p.m., Cases. Thursday, 5 p.m., Occasional Lecture, by Sir Jagadis Bose, C.I.E., C.S.I.: Plant and Animal Response (with Demonstrations of Growth by the Magnetic Crescograph). *Section of Neurology:* Thursday, 8.30 p.m., Professor J. S. B. Stopford: Results of End-to-End Suture of Peripheral Nerves. *Clinical Section:* Friday, 5 p.m., Exhibition of Cases.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. Inman: Laboratory Methods in the Diagnosis of Tuberculosis.

MANCHESTER: ANCOATS HOSPITAL.—Thursday, 4.30 p.m., Dr. Reid: Locomotor Ataxia.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. A. E. Barclay: *X*-Ray Demonstration of Oesophagus and Stomach.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Monday, 2 p.m., Dr. Collier: Out-patients; 3.30 p.m., Dr. Saunders: Ward Cases. Tuesday, 2 p.m., Dr. Grainger Stewart: Out-patients; 3.30 p.m., Dr. Risien Russell: Out-patients. Wednesday, 2 p.m., Mr. Sargent: Injuries of Peripheral Nerves and their Surgical Treatment; 3.30 p.m., Dr. Hinds Howell: Syphilis of the Nervous System. Thursday, 2 p.m., Dr. Farquhar Buzzard: Out-patients; 3.30 p.m., Dr. S. A. Kinnier Wilson: Ward Cases. Friday, 2 p.m., Dr. Gordon Holmes: Out-patients; 3.30 p.m., Dr. Gordon Holmes: Ataxia. Saturday, 9 a.m., Surgical Operations.

NEWCASTLE-ON-TYNE: ROYAL VICTORIA INFIRMARY.—Friday, 2.30 p.m., Dr. G. Hall, C.M.G.: Systematic Examination of Nervous Diseases, together with Diagnostic Points. 3.15 p.m., Mr. H. B. Angus: Diagnosis and Treatment of all Fractures. 4.30 p.m., Professor R. P. R. Lyle: Diagnosis of Uterine Diseases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2 p.m., Dr. A. J. Whiting: Demonstration, Pulmonary Tuberculosis. 4.30 p.m., Dr. Ernest Jones: Psycho-analysis.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: *X*-ray Examination of the Urinary System. Tuesday, 4 p.m., Dr. Hay: Errors of Refraction. Wednesday, 3.30 p.m., Dr. Wilkinson: Suppurating Ears. Thursday, 3.30 p.m., Dr. Skinner: Lupus, Lichen Planus, etc. Friday, 4 p.m., Dr. Hay: Subjective Sight Testing.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Saturday (March 6th), 10 a.m., Mr. Banks Davis: Operations of the Throat, Nose, and Ear. Monday, 5 p.m., Mr. Donald Armour: Operations for Hernia. Tuesday, 2 p.m., Dr. Pernet: Demonstration of Skin Cases. Wednesday, 2 p.m., Dr. Morton: Demonstration of Radiography. Thursday, 2 p.m., Mr. Bishop Harman: Operation for Squint. Friday, 5 p.m., Sir A. Pearce Gould: An Old Clinical Lecture, New Edition.

APPOINTMENTS.

BAMBER, H. E., M.B., B.Ch. Oxon., Assistant Medical Officer, Poplar and Stepney Sick Asylum District.

BENNETT, C. J. E., M.R.C.S., L.R.C.P., D.P.H., Medical Officer District and Children's Homes, Trowbridge and Melksham Union.

COUCHMAN, H. J., M.B., B.Ch. Camb., Assistant Medical Officer Farnham Union Institution.

ENGLISH, A. O., M.B., B.S. Lond., Medical Officer District, Institution, and Children's Homes, Meriden Union.

HARPER, Miss J., M.B., Resident Assistant Medical Officer Sculcoates Union Infirmary.

HENDERSON, C. J., M.B. Durh., Assistant Medical Officer to the Royal Albert Institution for the Feebleminded, Lancaster.

JONES, W. Howard, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Honorary Surgeon Anaesthetist to Charing Cross Hospital and Lecturer on Anaesthetics in the Medical School.

WAYLEN, G. H. H., B.A., B.Ch. Cantab., M.R.C.S., L.R.C.P., Medical Officer to the Institution and District Devizes Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.**, *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

COCHRANE.—On February 25th, to Dr. and Mrs. Andrew Cochrane, 572, Chorley Old Road, Bolton—a daughter.

ROPER SAUNDERS.—On February 5th, at 19, Devonshire Place, Jesmond, Newcastle-upon-Tyne, to Dr. and Mrs. Roper Saunders—a daughter.

SHATTOCK.—On February 27th, at 38, Mecklenburgh Square, W.C., to C. E. Shattock, M.S., F.R.C.S., and Mrs. Shattock (F. Mackenzie, M.B., B.S.)—a daughter.

STEEL.—February 1st, 1920, at Mahableshwar, India, to Major R. F. Steel, I.M.S., and Mrs. Steel (*née* Maude Allen)—a daughter.

DEATH.

BURGESS.—On Sunday, the 29th February, at the Red House, Lincoln, Dr. Andrew Burgess, of Canwick Road, Lincoln. Funeral at Canwick Church on Wednesday, 2.30.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 13TH, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
PREFERENTIAL DELIVERY OF MOTOR CARS	65
MINISTRY OF PENSIONS	65
ADMIRALTY SURGEONS AND AGENTS	65
THE "NEW POOR"	65
NEWCASTLE PRACTITIONERS AND A GARAGE FIRE ...	65
SOME THOUGHTS ON THE ARBITRATION. By H. B. BRACKENBURY, Chairman, Insurance Acts Committee	65
ANNUAL MEETING AT CAMBRIDGE: PROGRAMME	77
ASSOCIATION NOTICES	78
MEETINGS OF BRANCHES AND DIVISIONS ...	78
MEETINGS OF THE PROFESSION	78
ASSOCIATION INTELLIGENCE	80
ARBITRATION ON RATE OF INSURANCE REMUNERATION:	
AWARD OF THE ARBITRATORS	67
REPORT OF PROCEEDINGS	67
THE PROFESSION'S ARGUMENT	67
THE GOVERNMENT'S ARGUMENT	72
NATIONAL INSURANCE BILL, 1920	74
INSURANCE RECORDS: APPOINTMENT OF ADVISORY COMMITTEE	74
CORRESPONDENCE	75
RANGE OF SERVICE BY PANEL DOCTORS ...	76
NOTIFICATION STATISTICS IN ENGLAND AND WALES ...	76
NAVAL AND MILITARY APPOINTMENTS	79
DIARY OF SOCIETIES AND LECTURES	80
APPOINTMENTS	80
BIRTHS, MARRIAGES, AND DEATHS	80

British Medical Association.

CURRENT NOTES.

Preferential Delivery of Motor Cars.

WE regret to have to announce that the directors of the Ford Motor Company (England), Ltd., have definitely stated their inability to continue giving preferential treatment in delivery of cars to members of the medical profession. The letter states that this was looked upon as emergency work, and that all cases of medical men requiring cars after their return from active service should have been dealt with by now. An arrangement has been made with the Ford Company to deal with the applications which are already in hand, but it must be clearly understood that no further applications can be received. In view of the decision of the Ford Company it has been decided to discontinue the whole scheme of preferential delivery, as owing to the great volume of regular business manufacturers are showing more and more reluctance to give special terms or facilities to any branch of the community. It is desired to take this opportunity of acknowledging the kind and courteous manner in which Messrs. Ford have dealt with these special applications.

Ministry of Pensions.

The Medico-Political Committee, at its last meeting, decided to set up a special subcommittee to deal with medical matters connected with the Ministry of Pensions. As is well known, the British Medical Association obtained from the Ministry an undertaking that in making appointments it would give priority of consideration to those who had held commissions. Once this principle was recognized it follows that the actual selections must be left in the hands of the Ministry, which may be trusted to do what seems best in the public interest. It appears, however, that certain anomalies of selection do occur from time to time, and give rise to local dissatisfaction. Cases of this kind would be investigated by the subcommittee. If any practitioner who feels that he has a legitimate grievance will communicate the facts to the Medical Secretary, representations will be made to the Ministry, provided the subcommittee finds that a good case has been made out.

Admiralty Surgeons and Agents.

The British Medical Association has recently had under consideration the scale of fees paid by the Admiralty to its surgeons and agents. Evidently the Admiralty also had come to the conclusion that some increase in these fees was advisable, since it has addressed a letter to the Association asking for suggestions as to what increases would be considered reasonable. Certain proposals as to a suitable increase in the scale of fees have been submitted to the Admiralty, and it is believed that they are receiving the consideration of the Treasury. It is hoped that before long an announcement may be made in these columns which will be satisfactory to those members who hold such posts.

The "New Poor."

At the meeting of the Council of the British Medical Association on February 18th the Chairman, Dr. J. A. Macdonald, reported that he had appointed the Treasurer and the Medical Secretary to attend a meeting, called by the Professional Classes War Relief Council, of representatives of organizations especially intended to cope with distress among the more highly educated classes, in order to consider the desirability of establishing some permanent form of co-operation between such organizations.

Newcastle Practitioners and a Garage Fire.

About twenty Newcastle practitioners lost their cars last month just when work was at its heaviest, through a fire at a local garage. Dr. James Hudson, the honorary secretary of the Newcastle-on-Tyne Division of the Association, immediately appealed to local car owners through the press for assistance in tiding over what might have proved a very serious crisis for those affected. His request for offers of cars on loan or hire, or for sale, met with a ready and generous response, for which he has offered the thanks of the profession.

SOME THOUGHTS ON THE ARBITRATION.

BY
H. B. BRACKENBURY, M.R.C.S.,
CHAIRMAN OF THE INSURANCE ACTS COMMITTEE.

WHEN the Insurance Acts Committee, on behalf of the profession and in pursuance of the instructions of the Conference of Local Medical and Panel Committees, suggested arbitration with regard to the capitation fee for insurance practitioners, an undertaking was of course given on both sides that the award of the arbitrators would be loyally accepted. The Government is now pledged to use every effort to get the House of Commons to pass estimates which will provide the money required; the Committee is pledged not to promote any organized effort to refuse service; and insurance practitioners are pledged to do their work honestly under the conditions of the award. These pledges are, however, not unlimited as to duration; it is understood that after the year 1920 a notice of not less than three months may be given to vary the terms and conditions of service, to alter the basis of remuneration, or to repudiate service altogether by organized effort.

Moreover, a loyal adherence to the terms of the award on this understanding does not mean that the award is accepted as being either just or satisfactory. To those who know the course of events when the Government was considering its reply to the demand of the profession for a capitation fee of 13s. 6d., and the pressure from various quarters which was then being brought to bear on the

Ministry of Health to resist any payment of more than 9s. or 10s. as an extreme limit, the extraction of the offer of 11s. from the Government appears something of an achievement. To have accepted this offer, however, at that stage might reasonably have been held to be an admission of its fairness and adequacy. To submit to the same basis of remuneration now at the hands of the arbitrators involves no such admission; it leaves the profession free to maintain its opinion that under present conditions no capitation fee of less than 13s. 6d.—or from that sum up to about 15s.—is fair or adequate for the kind of service which it had in contemplation, and free to take at the proper time any legitimate action that it thinks fit to carry that opinion into practical effect. Personally I am prepared to maintain this standpoint as strongly as ever.

To many of us the main disappointment in the matter is that the Government has missed a magnificent opportunity—one which is not likely to recur, at any rate in so favourable a form. At the present stage of national health developments the fundamental necessity has appeared to us to be the definition, the establishment, the encouragement of a "general practitioner service" (not with reference to the Insurance Acts only) of the best type, and with the widest outlook as regards its responsibilities towards both the individual and the community. In the case which the Insurance Acts Committee submitted to the arbitrators the outline of such a service is made quite clear, and the provision of such a service is offered. In the observations made on behalf of the Government—both printed and verbal—presented to the arbitrators, though some pen-service and lip-service is paid to the idea, there is a repudiation of this as a practical thing, and a belittlement of what is at present required or immediately contemplated. It has been understood by those representing the profession throughout all these discussions that the main object of the revision was to improve the present service and to provide one of a comprehensive kind which would expand and fit in with additional medical and accessory services. Yet we find the Government saying that "the number of doctors willing to undertake service on the terms offered was ample to provide a sufficient service in every part of the country, and that service has remained adequate, in respect of numbers, throughout." It is notorious that there are areas in which the inadequate number of doctors is the chief cause of some serious deficiencies in the kind of service rendered, yet the Government is satisfied with this. Again it is said "the number of doctors necessary is so large that it would be impossible to confine choice to the best," and "a relatively high rate of remuneration will not alter the professional capacity." Obviously, however, the capacity *of the service* is materially altered according to the number of individuals of higher or lower professional capacity who are attracted to it or retained in it, yet the Government appeals for an award of such remuneration only as will ignore this. Again, the Government states that the profession's estimate is based on "an ideal standard of service," that a "high ideal type" is "visionary," that it cannot afford to pay for "potentialities of service that are not likely to become realities within the immediate future," that "considerations advanced as regards public health and research are not relevant," that "no obligation arises under the Regulations" with regard to some professional work and responsibilities and, "there being no obligation," there can arise no question of remuneration in respect thereof. All this was not to be expected of the Ministry of Health or even of an intelligent Treasury; and it is profoundly disappointing to discover that at a time when a new era of health administration is supposed to be beginning, and when within the profession there is a spirit of eagerness to offer every service that can properly be asked from them, the Government should base its case on a repudiation of the conception put forward on the part of the profession, and should ask for an award on the assumption that these services are not required, or should not be encouraged, or would not be forthcoming. We must accept the lower level of service as what it is now proposed to pay for; we shall no doubt give good and honest value on that level; but once more it is proved that the profession is willing to give practical effect to ideals far in advance of those held by politicians and administrators—even those who are specifically charged with the care of the public health.

On such a level as that indicated it is possible to hold that a capitation fee of 11s. affords a fair basis for a minimum remuneration. The Insurance Acts Committee maintains that even on this level it is not enough. The reference to the arbitrators was so framed that they could discharge it by the mere mention of a figure as their award. This is what they have done, and it is therefore impossible to be sure how this figure was arrived at. To those of us, however, who through nearly eight hours were trying to follow the minds of the arbitrators, it seems not improbable that the final stage of the conclusion was something like this: "We will assume that 2s. 6d. out of any capitation fee is required for expenses. We will assume that a general practitioner can properly attend to 3,000 persons (not necessarily insured persons) in a 2,400 hour year. A net fee of 8s. 6d. will therefore produce an income at the rate of £1,275 net. This is approximately what both sides have said is not unreasonable for a general practitioner as such, working his ordinary full time." This is a supposition, but, in fact, the result may correctly be stated in that way.

Those who have conducted the negotiations on behalf of the profession have therefore accomplished this—that, on the new basis of remuneration, a practitioner who claims that he is able properly to attend to three thousand persons in all, will be paid in respect of those who are insured persons at the rate of £1,275 a year net, while he will be at liberty to cultivate any professional work of a more special character and to charge fees therefor at a higher rate, or to attend, if he can, a larger number of patients by working longer hours than those regarded as the normal. This is a very definite improvement on the existing state of affairs; to some members of the profession, and doubtless to many outside it, such remuneration will not appear unfair or inadequate for the kind of service postulated. If the profession determine—as I think it should—that this remuneration is still inadequate, it ought to show either (*a*) that £1,275 per annum is less than the proper value of a good general practitioner, or (*b*) that a higher sum than 2s. 6d. per person can properly be allocated to professional expenses, or (*c*) that the circumstances of the case or the capacity of a general practitioner do not permit of as many as three thousand individuals, *on the average*, being properly cared for, or (*d*) that the conception of a "general practitioner service" ought to be so enlarged as to necessitate a smaller number of persons being under the care of each practitioner without reduction of total income. Personally, I am prepared to maintain that every one of these propositions is true, and I fancy that nearly all practitioners will agree with this, with these exceptions—that some members of the profession who are not general practitioners may dispute the first, and that many general practitioners are still apt to deceive themselves about the third. We still need some clear thinking on this point, and I propose to conduct an inquiry as to the number of persons for whose health the State may properly require a general practitioner of ordinary competence and skill to be responsible, and I hope to put the result of such inquiry before the profession for discussion. In any case it is clear that, in order to secure a further revision of remuneration in the early future, it will be necessary on all the above points to obtain a large amount of statistical information from practitioners. The absence of this was our chief weakness before the arbitrators, and this lack was not the fault of the Insurance Acts Committee or its officers, who have appealed over and over again to the profession to produce such statistics. May we appeal once more, now that the need is demonstrated, for the immediate and careful keeping of the records and figures needed?

Experience teaches one thing more. If we are at the earliest possible time once more to raise the question, and to show once more, as we think, the complete reasonableness of our demands, should these demands once more be rejected by a short-sighted administration, the profession must be in a much stronger position with regard to unity of action and with regard to a defence fund than is now the case if action is to be effective. The present result is in many respects good; we had a right to expect it to be better. The machinery for negotiation has not proved to be at fault. The personnel is at any rate representative and very hard-working. But we shall never arrive at the full results we want to accomplish without the entire support, both moral and financial, of the whole profession.

INSURANCE.

ARBITRATION ON RATE OF MEDICAL REMUNERATION.

AWARD OF THE ARBITRATORS.

THE following is the award of the Board of Arbitrators, as announced by the Ministry of Health:

We, the undersigned, having taken upon us the reference to us by the Ministry of Health and the Insurance Acts Committee of the British Medical Association—namely, "To advise the Government what should be the amount of the capitation fee (per insured person per annum) on the basis of which the Central Practitioners' Fund under Article 19 (i) of the Medical Benefit Regulations, 1920, should be calculated so as to afford fair remuneration for the time and services required to be given by general practitioners under the conditions set out in those Regulations, in connexion with the medical attendance and treatment of insured persons," taking note of the agreement that "the capitation fee is not to include any payment in respect of the supply of drugs and appliances (such payments being met out of the Drug Fund under Article 22) nor any payments to meet those special conditions of practice in rural and semi-rural areas which are covered by the payments to be made out of the Central Mileage Fund under Article 19 (ii),"

And having heard and considered the statements of fact and arguments submitted to us *do hereby award, determine, and advise* that the capitation fee per insured person per annum defined as above should be eleven shillings.

As witness our hands this 5th day of March, 1920.

F. GORE-BROWNE.
R. V. VASSAR-SMITH.
J. C. STAMP.

REPORT OF PROCEEDINGS.

BEFORE F. GORE-BROWNE, Esq., K.C. (Chairman), Sir R. VASSAR-SMITH, Bart., and Mr. J. C. STAMP, D.Sc.

Present on Behalf of the British Medical Association:—Dr. H. B. Brackenbury, Dr. H. Guy Dain, Dr. A. Linnell, Dr. Alfred Cox, Professor A. L. Bowley.

Present on Behalf of the Treasury and the Ministry of Health:—Mr. Hurst, Mr. Strohmenger, Mr. R. W. Harris, Dr. Smith Whitaker, Sir Alfred Watson.

Mr. E. C. Bull (Secretary).

The following is the report of the arbitration proceedings on the rate of remuneration of Insurance practitioners.

The CHAIRMAN stated that the Arbitrators had read the documents sent in and were grateful to both parties for having made such clear statements. He called on the representatives of the doctors to make their reply to the statement put in by the Ministry.

Dr. BRACKENBURY emphasised the importance of the award upon which would depend not only the economic welfare of ne 14,000 doctors but also the efficiency and adequacy of medical service for some 14,000,000 of the population. profession had never been so eager to provide a service of gh character for the welfare of the people as it was at esent, and this ideal of service was fundamental to the onsideration of the case.

The CHAIRMAN said that the Arbitrators would not concern themselves with the character of the service, but would assume that a body of professional gentleman of high education were going to do their best to render medical service to the community. On that assumption the Board would say what to the best of their knowledge and belief would be a fair remuneration.

THE PROFESSION'S ARGUMENT.

Dr. BRACKENBURY said that though the Government in its reply paid tribute to the ideal service, yet in many parts of their Memorandum they seemed to belittle the character of the services which were going to be rendered, and treated the ideals of the profession as visionary. The profession, on the other hand, believed that the service required was one which would give the insured persons the fullest aid both in the prevention and treatment of disease, and that it should not be confined to the mere treatment of specific diseases in specific persons. Whether the service was looked at in that broad way or in the narrower view of merely contributing to the personal comfort of a certain number of persons made a considerable difference to the question of remuneration. The profession in consultation with the Ministry of Health had been considering for over 18 months what was the service to be aimed at and the improvements to be made in the existing service, and, having settled that, it did not seem to matter whether the payment for the service would work out at one million more or one million less in its charge upon the exchequer. The question was what was a fair remuneration for the services required. They did not suppose the Government would suggest that they had only a certain sum of money to give and that the Board had to find out what sort of service could properly be given for that sum of money. The character of the service to be provided had been agreed, and it remained to settle the fair rate of remuneration regardless of the total amount it would cost. It was first necessary to establish a suitable basic fee; and secondly, to settle certain suitable percentage additions to that basic fee in order to arrive at the proper remuneration. He contended that the basic fee should be somewhere between 7s. 3d. and 8s. 6d., and that properly it should be the higher of these amounts. The Government case set out that it was by no means certain that 7s. 3d. was the right basic fee and that it might very well be less, but adduced no serious arguments to show it should be less. The Committee had stated the remuneration in two forms, first as a capitation fee and secondly as a scale of fees. They had never said that that scale of fees of 2s. for a consultation, 2s. 6d. for a visit, a guinea for other things, and so on, was a scale that was actually intended to be paid; but they were certainly not token amounts, they were amounts set out as being approximate to those which were in fact being received by doctors at the inception of the Act and which according to expectation at that time the capitation fee might not unreasonably be expected to work out at.

In reply to questions as to what was his authority for making that statement, Dr. Brackenbury said the profession accepted the risk, believing there was a possibility that those fees would not be reached; but nobody knew at the time what demand would be made by insured persons or whether in fact a capitation fee of 7s. 3d. would work out, when translated into fees per item, at such and such a figure. The profession was aiming at not getting less than they could reasonably expect to obtain from the same sort of person in private practice for the same sort of services. If the fees mentioned in the schedule to the Regulations had been merely token fees it would have been quite easy to leave the

values out altogether and to use numerals or symbols; but in fact they were the fees actually being received by the greater body of doctors for services of this character, and the profession saw a reasonable chance of the capitation fee working out at something like the fees which they were in the habit of receiving.

The CHAIRMAN thought that a great deal was said at that time about doctors having smaller remuneration than that provided by the Insurance Act. Dr. Brackenbury replied that the Insurance Act was intended to do away with the unsatisfactory service given for the very small fees received by some doctors.

Dr. STAMP asked whether there was any kind of check in actual life on the theoretical scale or the scale that was generally adopted—whether it had been checked by finding out the total sum received as compared with the total services given, and Dr. Brackenbury replied that there had never been any such check on any large scale except in the Plender Report. The difficulty was that no agreement could be arrived at as to what was the extent of the service that would be required, and the total income produced depended not merely on the fee per item of service but also upon the number of items of service the doctor would be called upon to perform. If the profession at the time the Insurance Act came in had been told that a capitation fee of 7s. 3d. would work out on the average at something like 1s. 10d. or 1s. 11d. per attendance, as proved to be the case, they would have said then (as in fact many did say then, and many refused to come in because they believed it would work out in that way) that it was below their reasonable minimum expectation. They would have felt that the capitation fee ought to be in the region of 8s. 6d. rather than of 7s. 3d. in order that it might work out at something like the scale which the profession had in its mind from traditional experience.

In answer to questions by the Chairman and Dr. Stamp as to the recent income of doctors, Dr. Brackenbury pointed out that their income had not fallen off in late years because the work had been increased, but that all the considerations were vitiated by war conditions. Most doctors had been working for their colleagues as well as for themselves. The Plender Report showed that the items of service given by doctors in particular towns divided by the total population of those towns resulted in the number of items of service per person being 1·8, whereas under the Insurance Act the average of service for insured persons was 3·8. The figure of 1·8 could be accounted for in various ways. A large number of persons never got any attendance at all; a large number got what attendance they did from charitable institutions; and a large number got their medical advice, such as it was, from the chemist. It could be assumed that the private patient did receive a much more adequate attendance than the 1·8, and that that low average resulted from a very large proportion of the population receiving no attendance at all or an entirely inadequate attendance.

Dr. STAMP asked whether it would be safe to say that as to one-third of the insured population the service increased from 1·8 to 3·8 and as to the other two-thirds from 1·8 to 2, making an average for the whole population of from 1·8 to 2·6. Dr. Brackenbury thought that the ratio of the increase of attendance on insured would be vastly greater than the ratio on non-insured, but there was no statistical evidence. From 8s. to 8s. 6d. would be the fee which at the introduction of the Act would have produced that remuneration per item of service and that total income which the doctor would have considered fair remuneration for the services rendered; and anything like so low a figure as 7s. 3d. was not only considered then by a large number of the profession to be inadequate but had, as the result of experience, proved to be inadequate. He turned next to the propriety of the addition of 60 per cent. in consideration of the increased cost of living and increase in practice expenses. He did not think it was necessary to deal at any length with the arguments in the Government Memorandum in paragraphs 18 and 19,* which dealt with the difficulty of finding the money to pay any considerable increase in the capitation rate.

The CHAIRMAN said those paragraphs appealed to him very much. Who was to pay for the war? They would all be delighted to put it on the war profiteers, but if they took every penny the profiteers had and brought them down to the same rate of income as the doctors were asking for there would still be an enormous amount left to pay.

Dr. STAMP thought the doctors would agree that finally wages and income were dependent upon the consumption of commodities, and that the present tendency of higher wages for the working class was that they wanted to have the same wages in order to consume the same commodities, not more; and if the commodities at any given moment became less than what they were before, the real wages might possibly be higher.

The CHAIRMAN said that the Arbitration Board agreed that the Civil Service would have to bear their share of the war burden. It had fallen on other professions, and the clergy in particular were very hard hit. Was it right to say that because the cost of living had risen x per cent. everyone should say that they must have their rate of remuneration increased x per cent.?

Dr. BRACKENBURY said that the medical profession would be the last to make any such claim. They had in their Memorandum discounted severely their claim on the ground of increased cost of living. They believed they had brought their claim down to an almost unreasonable limit in asking only for 60 per cent., not on expenditure but on income. The percentage of rise in the cost of food was 81. They were not asking for x (81) but for something materially less than 81. They had arrived at their 81 on extremely stringent lines; every possible substitution and economy had been allowed for. Had they claimed that the medical income should be raised by 81 it would be absurd because they would be claiming to be released from all the economic consequences of the war. Medical men along with other classes ought to suffer proportionately because of these consequences. If the cost of the necessities of life were raised in the proper proportion, which clearly they ought to be, then expenditure on those things which could be counted as comforts and luxuries and that portion which could be devoted to savings or investments must suffer materially when an increase of only 60 per cent. (or 55 per cent. apart from the cost of practice) was asked for instead of 81. With regard to the cost of carrying on practice he agreed that paragraphs 24, 25, 26 and 27 of the Government reply deserved consideration because the statistics of medical practice expenses were imperfect. He was sorry for it but the difficulties of obtaining figures from medical men in regard to these matters seemed to be insuperable.

Dr. STAMP asked from how many practices figures had been obtained. Dr. COX explained that the profession had been urged to send in returns, that a very small percentage had replied, and that the percentage of adequate replies was still smaller.

In answer to the question how many replies were received altogether, Dr. Cox said that 500 would be the very outside, but a great many were not sufficiently detailed to be of any use for the purpose of the enquiry.

The CHAIRMAN was not sure he could agree that, taking the returns for what they were worth, doctors were entitled to the Government percentage of 25 for practice expenses; a doctor's expenses did not go up with his income but with the number of patients he had. Dr. Brackenbury objected that some of the largest practices had the largest proportion of expenses. The Chairman said that Professor Bowley's figures for practice in 1913-14, showed 1,200 panel patients at £400 with a deduction for expenses of £65; he worked out that in 1920 there would

* BRITISH MEDICAL JOURNAL, *Supplement*, March 6th, 1920, p. 59.

be a 75 per cent. increase, and that whether the remuneration was 7s. 3d. or 10s. or 15s. the expenses with regard to 1,200 patients would be £113, *i.e.*, almost exactly 2s. a patient.

Dr. BRACKENBURY held that this must be modified because the great economy of expenses on which it was based could not be permanently kept up. The typical doctor had been cutting down expenses to the utmost limit. Dealing with the figures in paragraphs 25 and 26 of the Government case the symmetry of the 10s. now put forward by the Government was destroyed because the 5d taken off in order to make the sum 10s. should not be deducted, as a considerable proportion of the practices to which the figures referred were urban practices to which the consideration of mileage allowance would not apply. As to the criticism that doctors were only raising their private practice fees by 50 per cent. while they were asking for 60 per cent. on the same grounds from the Government, the British Medical Association had asked doctors to increase their private fees by an amount which would apply to all classes of practice, not merely to general practice. It had asked all doctors to increase their fees by at least 50 per cent. and had not tried to differentiate between different classes of practice. The 50 per cent. was always a minimum. The action of the Association was intended to produce the same general effect on income from private practice as was now being sought to be produced by the increase of 60 per cent. on the Insurance capitation fee. He then dealt with the proposed addition for the increased work due to war conditions. The contentions of the Government were that the disabled men were even before the war below the average condition as a class ; that the effect of war was rapidly diminishing, and that the sickness benefit figures showed that medical attendance must have been lower. It was no new discovery that some of the disabled men were previously below the normal level, many of them got into the Army improperly. The Government stated that 79,000 members of certain societies were discharged and the sickness benefit question had been investigated to see how the pre-war figures compared with the average figures. No useful valuation could be made unless the total number of members of the Societies from which those 79,000 were taken was known. But applying the Government figures to the contention of the profession that some 8 per cent. of all insured persons had had their physical condition lowered, the conclusion was that the addition required was not "very small if any," but approximately 10 per cent. There were 1,120,000 such persons including wounded men who had lost limbs, men suffering from shell shock, malaria, etc. In answer to Dr. Stamp who asked whether any idea could be given as to the number of people whose claims had been dismissed on the ground that their health was not impaired, Dr. Brackenbury said that in reply to a question in Parliament in October last it was stated that of about half a million who had applied for pensions and whose condition had been adjudicated upon, 399,000 had been granted pensions and the others refused. Dr. Stamp asked what proportion of the total number of pensioners represented any increased demands on the doctor, to which Dr. Brackenbury replied that the whole number made an increased demand, though of course some would give less trouble than others. The increased demand on the doctors would ultimately be a diminishing one, but the statement in the Government case that it was a fair presumption that the majority of invalided men had now reached their ordinary state was most astounding. Every practitioner knew that it was not so ; there were still persons who were finding out their disabilities and only now receiving pensions. In reply to a question by Dr. Stamp, whether doctors would not be able to do something more than merely keep these men as chronic invalids, Dr. Brackenbury said that ultimately no doubt a large proportion would become useful citizens, but it could not be truthfully said that they were rapidly improving, and as regards nervous complaints, such as shell shock, it was not correct to say that these cases were rapidly disappearing. Moreover, there were large numbers of persons permanently affected with rheumatism, effects of gas and trench fever, heart strain and so forth, who could never approach their pre-war ability though they would probably live the ordinary span of life. He emphatically disagreed with the statement in paragraph 40 of the Government's reply "that the claims for sickness benefit made upon Approved Societies afford a very fair index to the physical state of the people." The suggestion that there was a parallelism between sickness benefit and medical benefit must be strongly opposed. It was no more axiomatic than that there was a similar relationship between say sickness benefit and the death rate, which was demonstrably untrue.

This gave rise to a good many questions from the Arbitrators who suggested that there must be some connection because in order to get sickness benefit the patient must go to the doctor, and that the figures showed that a larger number were going to a doctor and getting a certificate in 1914 than in 1918 ; that the sickness benefit increases showed either more persons in bad health or the same number of people in bad health for a longer period of time. If the sickness benefit in 1914 averaged 10s. and in 1917 averaged 6s., it showed that people were drawing sickness benefit either in greater numbers or for a longer period in the earlier years than in the later years.

Dr. BRACKENBURY said it was fallacious to compare 1914 with subsequent years, and to ignore a very large number of persons who never claimed sickness benefit at all though entitled to do so. He did not agree that the figures showed that the persons required any less medical attendance. In answer to Dr. Stamp who suggested that he was establishing an inverse relationship betwen sickness benefit and medical attendance, he said it was quite possible by giving a greater number of medical attendances to bring about a reduced claim for sickness benefit in a proportion of the cases. Proper comparison would be with the year 1915. From that year there were two factors of increasing importance. First, the increased employment, and afterwards the rapid rise in wages made it not worth while for large numbers of persons to apply for sickness benefit. In addition, owing to imperfect administration, people who might have been content to take it, did not get their sickness benefit at all. When employment became better and wages began to rise it was not worth their while to go sick and claim sickness benefit at 7s. 6d. or 10s. a week towards which the first 3 days did not count. It was better worth their while, either to stick to work longer (in which case there would probably be more attendances on those persons in later years) or to take a few days off and not bother about benefit. There was a real enthusiasm during the war amongst all classes to do what they could to help the nation, and it was a common experience among doctors to be told by persons who, at an ordinary time would stay away from work, that they wanted to be patched up so as to carry on. It was true that that would not apply in 1919 ; but there was the unemployment dole in 1919, and many persons who in an ordinary way would have claimed sickness benefit claimed unemployment dole. The decreasing value of the sickness benefit was emphasised by the demobilised men's inability to claim their sickness benefit or, at the most, only able to claim half because they were in receipt of a certain pension. He agreed, in reply to Sir Alfred Watson, that that only applied to men with 100 per cent. pensions. Though there was no statistical evidence, the Insurance Act had induced people to go to the doctors in the early stages of disease as they had not done before. Hence they were made less liable to claim sickness benefit than they would formerly have been. If the Government figures were true, and the effect of the war had been greatly to diminish the need for medical attendance, the Ministry of Health could wish nothing better than a perpetual state of war. His contention was that the discharged disabled men and the men demobilised in impaired health were four times as numerous

as those to whom the 2¼d. applied, and in addition there was the effect of the war upon civil population for the next few years. It would be a strange paradox if the effect of the attention of the profession to the health of the people were automatically to reduce the remuneration.

A Government representative suggested that the 300,000 were people who in fact presented themselves to doctors for medical attendance in the course of 12 months. 1,075,000 were people who were in fact receiving pensions on a particular day, 31st December, 1919. The number had been growing and was not the average number for the year.

Dr. BRACKENBURY said that his contention was that the 2¼d. on 7s. 3d. necessitated an addition of 2½ per cent., this applied to the whole of the discharged, disabled and the demobilised impaired lives would necessitate an addition of 10 per cent. As for the effects of the War on the civil population, on this there was no statistical evidence, but in the mind of the profession there could be no doubt at all. In his own practice he felt the stress of that particular class more than that of the discharged or demobilised. The people whose nerves had been upset by overwork or domestic strain or air raids, had produced a far greater effect upon the total number of attendances. He was not concerned to prove that the profession would in the aggregate have more work to do in 1920 than it had had previously, but that the profession would have more work to do than it would had there been no war. Then as to the propriety of an addition for the altered requirements. The Government's reply rather suggested that these were of no account, but he regarded them as very real; the emergency attendance and the necessity for increased reports and consultations were two definite new liabilities. Their extent could not be gauged, but many doctors were very apprehensive about it.

Dr. STAMP suggested that the emergency attendance was largely a redistribution of attendances, and that the patients would have to be attended in any case by someone.

Dr. BRACKENBURY said that previously there was no liability to attend them at all; doctors could attend to them and charge for it. In the capitation fee two things were included beyond the ordinary practice expenses: the anæsthetist's fee and the fee to a fellow practitioner for attending in an emergency. Both were paid for out of the pool, and both needed the services of another doctor. The addition to be made to the total figure was believed by many members of the profession to be considerable. Personally he did not think it would be so large as many feared; but it was a new thing which might develop and might be a serious addition to the expenses a doctor had to bear.

Dr. COX remarked that the point was that the money formerly came out of the patient's private purse and now it was to come out of the limited pool which the profession shared locally.

Dr. BRACKENBURY expressed the hope that the effect of the new Regulations would be eventually to diminish the calls on the sickness benefit fund and to improve the health of the people; but they would not decrease the calls on the doctor; they would probably increase them. He would certainly have to write a good many reports he never had to write before, and he might have to set aside time for consultation with the referee. This would involve a good deal of extra work in the way of keeping records, and although the requirements were no doubt for the benefit of the service, they were really additions to the work and ought to be considered in the capitation fee.

With regard to the claim made to meet the increased stringency of the requirements some of the new Regulations had been objected to by the profession, but it might be taken for the purposes of this argument that they were accepted. Assuming that the increased stringency was necessary it nevertheless entailed additional work and compliance with additional requirements on the part of the great bulk of doctors who would have done their work quite well without any such stringency. Then there was the increased time and energy needed to keep abreast of the advances made in medical science. More was required of the practitioner now in that respect than there was even six or seven years ago. The Government had stated in its memorandum that the consideration of the services to the community as apart from those to the individual was irrelevant. He did not think so. The duties to the individual could be discharged conscientiously without reference to the duties to the community, but the profession wanted to do something more than that. The results of such work could not be seen at once; probably not for many years; but the work had to be done at once; and they wanted to make clear that it was not some remotely ideal service they were driving at but a real thing, and if the right kind of spirit was to be infused into the service it would have to be recognised in the remuneration.

Asked whether the profession did not regard these particular duties as incumbent on them under the old Regulations, Dr. Brackenbury said the whole thing was largely a new conception in the eyes both of the profession and the public. It was a new consciousness of the importance of the relation of the general practitioner to the public health. He next dealt with the second method of computing the capitation fee. The Government had dismissed the second form of this method by saying it was based on a calculation of an assumption of what ought to be. This was not so at all. The value of each item of service was approximately known. The value of services varied in various practices and in different districts, but a quite ordinary fee now would be 3s. 6d., averaging up the different kinds of services required under the contract.

Dr. STAMP raised the question as to whether there was not too large a margin of error in a calculation of this kind—6d. too much or too little did not matter much in the case of an individual patient but it mattered a good deal when paying a bill for 14 million persons. Dr. Brackenbury agreed that the first method was the better because it offered fewer opportunities for varying opinions and margins of error. The figure for the average service was not an irresponsible guess; it was based upon the collection of scales in many parts of the country. It was not the result of exact mathematical estimation but of the traditional experience of the profession? The number of items was not a guess or an assumed number. The figure 3·8 was what had been arrived at by the experience of the insurance service, but in future the number would probably be higher. Taking the second method in its first form the net average income which it was desired to produce, namely, £1,300, did not seem to be seriously in dispute.

The CHAIRMAN and Dr. STAMP asked whether it was thought that the average general practitioner should have £1,300 a year giving his whole time, and how did that compare with any other profession? Dr. Brackenbury said that the income suggested was for the whole time of a good general practitioner. The corresponding figure before the war was about £800 to £900. He could not say the actual average income of doctors before the war. It had been variously stated, but the experience of the Central Medical War Committee showed that the average was higher than had often been stated. He agreed that the effect of the Insurance Act had been to raise the general average of medical incomes, but he could not say by what percentage. In some parts of Lancashire the doctors had said that their incomes were lowered by the Insurance Act owing to its interference with their method of charging for attendance. He was claiming an average income of £1,300 net for a good general practitioner, successful enough to have enough work to occupy his whole time, and filling up that time properly and conscientiously.

The CHAIRMAN asked whether if a man had 3,000 panel patients and he was attending the dependants (1,300 to every

1,000) and charging them 3s. 6d. for attendance, would that not bring him in a very substantial sum of money?

Dr. BRACKENBURY said that if the relevant paragraph made this suggestion it was absurd. It would require the population of the country to be at least doubled to make it work out that way. An ordinary practitioner with 3,000 insured persons, working under the present Regulations, not working overtime, would have no opportunity for private practice at all. The higher the number of insured persons the less proportionately was a man able to devote himself to any private practice. The profession was not in favour of these large panels. As a fact, in the districts where large panels were possible, the average fee for the dependants would be much less than the 3s. 6d. mentioned as the average fee per service throughout the country. He admitted in answer to Dr. Stamp that somebody had to attend the dependants in these crowded areas and in so far as they were not attended by hospitals and charities they were attended by the men with the large panels.

Dr. DAIN gave his own experience and that of other medical practitioners in Birmingham, which showed that the private practice of men with large panels had diminished.

Dr. BRACKENBURY was asked to address himself to the argument the profession had put forward that 1,000 insured persons would require more than one-quarter of a practitioner's total working time. He said he still thought that three-eighths was an extremely moderate estimate of the time required for one thousand insured persons. A doctor with a practice of 4,000 of all sorts (which would be about the full capacity of a good practitioner in favourable circumstances working his full ordinary time) would have, say, one thousand seven hundred and fifty insured persons. For the insured persons he would be spending seven-sixteenths of his time, which was above the three-eighths claimed. In paragraph 62 of the reply it seemed to be assumed that the profession had said that any practitioner was to be allowed to take three thousand on his list without question and without any restriction. The profession had not contended that. It had contended that it might be quite reasonable to make a special enquiry from time to time as to the way in which doctors with large lists were able, in conjunction with their private practice, to do their work, and if the doctor were not found to be doing justice to his patients to reduce his list. The profession had opposed the application of any limit of 3,000 because it was felt that there might be exceptional doctors with practices so situated as to produce all the factors which made for ease of work and which might allow them quite properly to take more than 3,000 but the balance was in favour of limiting the lists to 3,000. The protest of the profession on this point had been against the action of the Ministry of Health, who, after it had been understood that 3,000 was the maximum number and that local Committees were to be allowed to fix a lower maximum if they pleased, had stepped in and tried to force the local authorities to fix a lower maximum than they had asked for. The protest was not against the 3,000 but against a central government body interfering with a matter which was one for local arrangement. He wished to refer to the statement of the Ministry in paragraph 12 of their reply that there always had been adequacy of service. He thought it was agreed that it was not adequate in regard to the numbers of doctors. There were in some areas, notably London, fewer doctors than were necessary to give the service which was required. Adequacy in the strictly technical sense in the main there had been; there had never been such a shortage of doctors generally as to justify the Ministry in stepping in and closing the panel. One of the objects kept in view by both parties was to increase the number of doctors taking part in the service in order to make it more adequate. Even though the insured persons did not occupy the practitioner's whole time, they had a first claim on his time. Averaging all the kinds of services together and all kinds of practices together—sparse rural and dense urban—and averaging all kinds of practitioners together, some of whom could work thrice as fast as others with equal efficiency, and limiting them to an ordinary working day, on that basis the three-eighths claimed as the proportion of time that ought to be devoted to 1,000 persons was within the mark.

To sum up he submitted that the basic fee from which the calculation should begin ought to be in the neighbourhood of 8s. 6d. rather than 7s. 3d.; that the 60 per cent. to be added on the actual value of money was a modest estimate and not open to the objections raised in the reply; that the more difficult question of the amount to be added in view of the conditions produced directly by the war among certain classes of persons was moderately stated, and whether the 12½ per cent. claimed was right or wrong he asked the Arbitrators to bear in mind that the number of admittedly impaired lives was very large; that the value of the entire services that were required of the profession by the community as well as the individual, the increased stringency of the service, the increased energy and time required by the necessity of the individual doctor keeping himself up to date were real things—all these went to enforce the contention that something in the neighbourhood of 15s. was a proper capitation fee; and that if that were tested in the light of all the facts adduced by the second method the result would be found not unreasonable. The profession was prepared to stand by the whole of the case submitted to the Board, and they did not believe that in any essential respect it had been shaken by the Government's reply.

Dr. DAIN dealt with the 7s. 3d. originally fixed, suggesting that the Plender Report proved that the fees on the schedule which had been referred to were such as were being received at the time of the Report and were such as the profession might fairly have expected the capitation fee to produce. That Report showed that the population was getting 1·8 services and was spending 4s. 2d. a head. Insurance Act experience increased the services to 3·8 which would bring the 4s. 2d. up to 8s. 11d. (if nothing were allowed for drugs), or something like 9s. 3d. if drugs were allowed for. It was therefore reasonable to consider that at that time 7s. 3d. was a proper fee from which the present argument might start. He did not agree that a fair comparison could be drawn between the amount of medical attendance required and the amount of sickness benefit claimed. The figures in the returns sent to the British Medical Association showed 3·26 for 1913, 4·06 for 1914, 4.05 for 1915, 3·96 for 1916, averaging over the whole period 3·82. In reply to Dr. Stamp, Dr. Dain stated that these figures were sent in by doctors in many areas, at the request of the British Medical Association. In 1913 there were only 106 returns, but in 1914 there were 366, including 90 from Birmingham. The figures for Scotland were all below the figures for England and Wales—3·09 in 1913, 3·32 in 1914, 3·05 in 1915.

In answer to a question by Dr. Stamp as to what was the proportion of visits to attendances at the surgery, it was stated on the Government side that the proportion of attendances to visits lay between 3 to 1 and 4 to 1 on 245,000 insured persons. On the records analysed in 1914 the proportion was 322 attendances to 96 visits, about 3½ to 1 for the whole country.

Dr. STAMP then put questions as to the relation between the fees charged for the different items of attendance. Dr. Cox said it was difficult to make any comparison because of the different customs in different areas. In the area in which he had practised for example the fee charged by most doctors was the same whether it was for a visit or an attendance at the surgery and whether medicine was given or not. In other areas there was a higher fee for a visit than for an attendance, and in others medicine was an extra in both cases.

Dr. DAIN agreed that the B.M.A. figures showed a slight fall in the number of attendances given, but the Government

figures showed a tremendous drop. In addition to the fallacies mentioned by Dr. Brackenbury he wished to point out that between 1914 and 1915 there were millions of women coming into Insurance who were not entitled to any sick pay until after the first six months and after that they came on reduced rates as being late entrants.

Sir ALFRED WATSON said there were only 4 million women in Insurance altogether and Dr. Dain corrected his figures as regards entrants to "hundreds of thousands." In his area practically every married women went to work.

Sir ALFRED WATSON said that during the war the estimated number of women who came into employment was about 1,000,000.

Dr. DAIN said the Birmingham Pensions Committee had informed him that the number of men applying for pensions was still slightly increasing, so there was no evidence there at any rate that they had resumed their normal state of health. He gave the particulars of practices known to him which seemed to show that it would take at least three-eighths of a practitioner's time to give efficient service to 1,000 insured persons; and Dr. Brackenbury adduced evidence from a large urban practice in which a test had been taken over a week, in this it was found that there were 1,183 services given in the course of a week by three doctors in partnership, of which 936 were surgery attendances and 247 visits. The test was taken in January but not a specially busy week.

Dr. DAIN said that if the profession was satisfied with the remuneration awarded, two difficulties would be met—there would be the remedy of under-staffing in overcrowded areas, and the satisfaction of the practitioner in the more sparsely populated areas that he might expect to get remuneration which would make it possible for him to live decently. There were many areas in which country doctors had found it difficult to make both ends meet.

Dr. LINNELL emphasised the last remark. Many rural practitioners had been seriously considering whether it was worth while carrying on. They could do it in pre-war days because rents, service and living were cheap, and though the financial results might be poor as compared with the towns a country life had attractions for some men. But the war had changed conditions completely, and though there was to be a considerable increase in the mileage fund he was not sure that it would suffice to keep men in the more sparsely populated areas. The proportion of visits to consultations in the country was much higher than in the towns, being estimated at one visit to two surgery attendances. He himself paid as many visits as he had attendances at the surgery. He emphasised many of the differences between rural and town practice which made the provision of a good capitation fee essential quite apart from the mileage grant, if the country doctor was to be able to live under present conditions. It had always to be remembered that no country doctor could have a large panel.

THE GOVERNMENT'S ARGUMENT.

On the Government side, it was pointed out that, in the Statement which had been prepared in reply to the Case presented on behalf of the insurance practitioners, it had been necessary to deal fully, and perhaps somewhat critically, with the points raised in the Case, but that the Government always had in view the object that they desired to secure an efficient and contented general practitioner service. It had been suggested by Dr. Brackenbury that the references to the total cost of the scheme were wholly irrelevant, but this was a view which the Government, as trustees for the persons who find the money for the Insurance Scheme (whether taxpayers or insured persons) could hardly be expected to share. The inherent difficulties of a flat rate of remuneration had been emphasised in the printed observations, as it was necessary to point out that for every increase of sixpence or a shilling beyond the point which secured a fair remuneration to the great body of insurance practitioners, a small additional number of men might be attracted to the service, but the additional fee would have to be paid equally to the whole body of practitioners, and, therefore, the question of the total cost was a very real consideration, as 1s. a head represented £700,000.

With regard to the First Method of dealing with the case, the Board were reminded of the limitations of this method of approach. No case had been definitely made out by the doctors showing that the 7s. 3d. was the appropriate initial fee; and still less was this the case with regard to the sum of 8s. 6d. introduced into the argument. If the figure of 7s. 3d. was assumed for the purposes of argument, and various amounts were added thereto for the considerations set out in the Case, it then became necessary to test the resulting figure and see what sort of income it produced, and whether that was a reasonable figure.

The Plender figures had been introduced into the Government statement not in order to show that 4s. a head was the proper rate of remuneration to pay for insurance practice under the conditions of 1912, but to show what sort of an income the doctors of that day were getting from an average general practice. It was not intended that the Arbitrators should infer that the Insurance Act had not brought an appreciable increase in the amount of work, but it was very difficult to measure that increase in terms of remuneration, unless not merely the number but the quality of services rendered, and particularly the time occupied, was made the subject of an investigation. A comparison of the average number of services of 1·5 in the Plender figures for private practice with the number of 3·8 under the Insurance Act could not be accepted as meaning that the same body of doctors had suddenly begun to devote two and a half times the amount of time to their attendance on a large part of the population, when compared with what had been given before the Act.

Professor BOWLEY'S estimate of fifty to fifty-three per cent. as representing the increased cost of living for a man with an income of £800 a year was not questioned, and it was not proposed to examine Professor Bowley on the subject. The only question under this head for the Arbitrators was to what extent it was proper to approach full compensation for increased cost of living.

Some discussion ensued with regard to the question of the proper proportion of income to be taken for practice expenses, and the Government representatives agreed that for the purposes of the First Method the figure of increase of seventy-five per cent. in the practice expenses themselves need not be challenged, although the illustrations appeared to be largely derived from rural and semi-rural practices. For the second part of the Case, Dr. Brackenbury said that he was prepared to agree that twenty-five per cent. of the total receipts not unfairly represented the proportion of insurance receipts which would be absorbed in practice expenses, excluding the special travelling in rural areas and all drugs.

After making the necessary additions for increased cost of living and for increased practice expenses, to the 7s. 3d., a figure of 10s. 5d. was arrived at in paragraph 27 of the Government statement, from which 5d. was deducted as representing the difference between the pre-war Mileage Fund and the amount of the new Central Mileage Fund. The point of the argument under this head was that the sum of 7s. 3d. was the remuneration paid for certain services, and that those services were now proposed to be paid for by a general capitation fee, together with a Central Mileage Fund represented by a capitation fee of about 5d. for the whole population. The services covered by the 5d. were not a new creation; they were always there, and they were undoubtedly paid for and included the amount being part of the 7s. 3d., although it was, of course, a matter for argument whether they were adequately paid for.

The attention of the Arbitrators was drawn to that part of

the Case in which it was stated that the rates for private fees had been increased 50 per cent. It was open to question whether this would result in a 50 per cent. increase in the doctor's actual income; and this did not in any case furnish much support for the demand which the doctors were making in regard to their insurance remuneration.

Regarding the suggestion that the scale of fees in the Medical Benefit Regulations was supposed to correspond with the capitation fee, and that, therefore, pre-war remuneration could be tested by this scale of fees, the Government representatives pointed out that it was clear, as a matter of history, that this scale was not put forward as intended to produce a given capitation fee. At the time of its introduction in 1912 negotiations had been broken off by the profession. The question of putting symbols or having mere numbers so as to suggest ratios was considered at the time, and it was clear that that would have been a more scientific way of doing it, but it was believed that it would be better understood by the doctors if the scale were stated by way of fees of a kind with which they were fairly familiar. The fees, however, remained tokens, and the Government were unable to accept the suggestion that they could be regarded as a basis for calculating the true pre-war fee.

The CHAIRMAN at this point said that he assumed that the doctors, when they were offered 9s. including drugs, made a rough calculation of the resulting income and decided to accept it.

With regard to the provisions in the Regulations for emergency treatment, the Government representatives suggested that the minds of the Board should be directed rather to the actual definite new obligation which was laid upon doctors by the new Regulations than to any apprehensions which doctors might have on the subject. This newly defined obligation was designed to cover a weak spot in the old Regulations. It was an obligation laid on an insurance practitioner, within the radius in which he undertook to give treatment, to treat an insured person in an emergency when neither that insured person's ordinary doctor nor his deputy was available. The whole point was one of emergency deputising. Under the old Regulations, if a man had been from another doctor's area, the doctor in the area in which the emergency arose could have been compelled to attend, but if the man happened to be on the list of a doctor in the same area, the other doctor could not be compelled to attend. In other words, when a man was outside his own doctor's radius, the obligation to treat was always there, and now the Regulations made it clear that there was equally an obligation on another practitioner to treat the man in an emergency whether he was within or without his own doctor's radius.

With regard to the new requirements arising under the conditions relating to the work of referees and consultants, the Government did not in any way want to minimise the amount of work which might be imposed by the existence of the necessity for reports and consultations and the keeping of records in connection therewith. They suggested, however, that these new conditions, by shortening the periods of sickness and by getting rid of cases of malingering, were going to reduce the work of doctors in other directions.

Dr. COX interposed that the referees might make things more comfortable for the doctor and for the patient too, but he could not see in the least how they would relieve the doctor of any work. The appointment of additional staff enabled more work to be undertaken, but in his experience it did not lessen work for the individual.

Dr. STAMP asked whether the work would not involve the keeping of accurate records of the illnesses from which patients were suffering. The Government representatives pointed out that the question of the precise form of record which would have to be kept was at present the subject of a reference to a Committee upon which doctors would be fully represented. The obligation to keep records had always been there, and it would remain to be seen whether the new records would entail as much clerical work as the old. At any rate they had not understood that stress had been laid on the subject of records generally as part of the doctors' case. In the first year in which the referee system was in operation it was difficult of course, to estimate, but it was generally considered that the number of cases requiring to be referred would probably not exceed about 200,000, or an average of some 14 cases per doctor, per annum.

On the question of the increased stringency of conditions of service, as on the more general considerations referred to in paragraphs 24, 25 and 26 of the Case, it was submitted that there was nothing which afforded justification for any increase in the remuneration.

With regard to the effect of war conditions on the health of the community, the figures and the relevant paragraphs set out in the case had been supplied by the Government Actuary, who had got out these figures for an entirely different purpose, and was in no way concerned to put the figures forward as an advocate for the Government side of the case, but merely as evidence having some real bearing on the question at issue.

On the question of the relevance of the sickness benefit figures, the Government in no way suggested that the curve of variation of medical attendance and the curve of variation of sickness benefit corresponded precisely; but they did say that, although the amount of sickness benefit was affected by other conditions, the question of the state of health of the patient was of such preponderating weight when considering both medical attendance and claims for sickness benefit that there should be, if not a rough parallelism, at any rate some correspondence and that it would be impossible for the sickness benefit experience to drop very substantially, with the amount of medical treatment increasing appreciably at the same time. There had been an abundance of employment with high wages and good food, and it was submitted with confidence that there had been sufficient amelioration of the general health of the people to counteract substantially whatever additional burden had been thrown on the medical profession by the increased attendance that they were called upon to give to discharged men with pensions for disability.

With regard to the disabled and demoblised men generally, the case on the doctor's side was almost entirely based on the personal impression of doctors as regards cases which they had seen, and it was perhaps difficult for them to have due regard to the relatively small proportion which these bore to the whole insured population. The 300,000 men who were given treatment on an attendance basis in 1919 were the men actually requiring treatment during that period, and did not represent the total number for whom the doctors were at risk. In other words, those who required no treatment were not brought into the calculation, and the cost of treatment per head indicated by the amount of treatment which these 300,000 people received would therefore be excessive if spread over the larger number. The cost, however, had in any case actually fallen from 20s. in 1918 to 15s. in 1919, and this suggested that the extra burden of treating these men was rapidly disappearing. It was further pointed out that the sickness benefit figures given in regard to 79,000 of these men indicated that, as a class, the 300,000 would largely be men who before they joined the Army were receiving considerably more than the average amount of attendance, so that it was not surprising that these same men had two or three times the normal amount of attendance for some time after their discharge.

A table was put in showing the various diseases and wounds for which men were receiving pensions and gratuities, and it was pointed out that a large proportion of the cases would be such as not to require abnormal treatment or prolonged treatment after discharge. It was the policy of the Pensions Ministry to extend rather than curtail the amount of institutional treatment which was being given, and which, of course,

relieved doctors of the more difficult cases. The Arbitrators were asked whether they desired evidence from the Ministry of Pensions as to this, and they decided that it was unnecessary.

In conclusion it was pressed upon the Arbitrators from the point of view of the Treasury that the doctors were, in effect, asking that the pre-war capitation fee should be doubled and that this would represent a total cost of some £5,000,000 over the pre-war figure; and the Board were asked to bear in mind that the existing financial state of the country imposed on them, when deciding what weight should be given to elements of doubt in the points that had been laid before them, a special responsibility to make sure that the facts upon which they proceeded were definite solid facts. There was unfortunately a surprising absence of evidence from the doctors' side in regard to their actual attendances, their average incomes, satisfactory figures of actual expenses, and so on; and it was important that the Arbitrators should have full regard to the meaning of the statistical evidence which was put in by the Government as against some of the more general impressions left on the minds of doctors by the particular cases coming under their notice. It was further urged by the Treasury that, in the circumstances in which the pre-war fee of 7s. 3d. was fixed, there was at that time no material for demonstrating that it produced a given rate of income, and the Government were forced to leave no shred of doubt as to the success of the Insurance Act. Examined by the test which could now be applied in the light of the number of services rendered, the fee produced a pre-war rate for whole-time remuneration of about £1,000 a year, a not ungenerous rate.

Some discussion ensued as to the relative values of various pre-war and present day public appointments, and the inferences to be drawn from them, and the Government representatives suggested that the rate of whole-time income of £1,300 a year net, which a capitation fee of 10s. would produce, was an adequate remuneration for a good average general practitioner fully employed.

The CHAIRMAN asked for what period the award would be supposed to stand, and the Government representatives said that, while the Government had hesitated to decide to offer a fee for a given term of years, they were quite prepared to say that the award should operate for at least a year from 1st April, and after that by consent from year to year. Dr. Brackenbury said that the doctors' representatives would regard with disfavour any doctor who did not adhere to the award and gave three months' notice immediately after its appearance, and that on their side they would accept the award as operating for a year at least. He repeated that there was at this moment a more eager desire on the part of the profession to give a good service than any of them had ever known within the profession before, but that of course to secure that service it must be adequately paid for and the doctors' case suggested in their view the right amount. The Government representatives for their part emphasied their desire that a good service should be forthcoming, and said that it was essential from the public point of view that a good service should be secured. It rested with the Arbitrators to fix a fair rate of remuneration.

The thanks of both parties were tendered to the arbitrators for the great patience they had displayed in listening to the arguments addressed to them, and the proceedings concluded.

NATIONAL INSURANCE BILL, 1920.

THE Government's Bill to amend the Acts relating to National Health Insurance was presented to the House of Commons by Dr. Addison, Minister of Health, on March 1st, and has now been printed.* The Bill consists of seventeen clauses, with four schedules. The Memorandum accompanying it is as follows:

1. The main object of the Bill is to provide for an increase in the rates of benefits under the National Health Insurance Acts in view of the fall in the value of money. The Bill increases the normal rate of sickness benefit from 10s. to 15s. a week in the case of men, and from 7s. 6d. to 12s. a week in the case of women; the rate of disablement benefit from 5s. to 7s. 6d. a week for both men and women; and the amount of maternity benefit from 30s. to 40s.

2. The Bill retains the fundamental principle of the National Insurance Act of 1911, under which the cost of the benefits is met out of compulsory weekly contributions by workers and their employers together with a grant of a specified proportion from the Exchequer. In order to provide for the increased benefits the joint weekly contribution is to be increased from 7d. to 10d. in the case of men, and from 6d. to 9d. in the case of women, and in each case 2d. of the increase is to be borne by the employer and 1d. by the worker. The proportion of the cost of benefits to be contributed by the State is to be two-ninths in the case of men as at present, and two-ninths (instead of the present one-fourth) in the case of women, with an additional Exchequer contribution towards the cost of women's benefits in the form of an increase in the present Women's Equalization Fund.

3. In consequence of the present general increase in the cost of medical services the Bill provides for an increased contribution from insurance funds towards the cost of medical benefit and fixes the total charge upon those funds at 9s. 6d. per insured person per annum for medical benefit, including drugs as well as attendance, and a further sum for this purpose will be provided in the shape of a special grant out of public funds.

4. Sanatorium benefit is no longer to be provided under the scheme of National Health Insurance, except in Ireland.

Arrangement of Clauses.

Clause.
1. Provisions as to contributions.
2. Rates of sickness, disablement, and maternity benefits.
3. Power of Minister to withdraw certificates and determine schemes.
4. Sanatorium benefit discontinued except in Ireland.
5. Amendment of financial provisions.
6. Provision for cost of medical benefit and for administration expenses of Insurance Committees.
7. Amendment as to administration of medical benefit.
8. Procedure on appeal against decision of Insurance Committee.
9. Power of inspectors to take and conduct proceedings.
10. Amendment as to benefit of persons in receipt of disablement pensions or allowances.
11. Amendment of S. 13 of 7 and 8 Geo. V, c. 62, with respect to persons receiving training.
12. Extension of power to make regulations.
13. Consequential and minor amendments.
14. Application to Scotland and Ireland.
15. Power to make arrangements with Isle of Man and Channel Islands.
16. Construction.
17. Short title, commencement, and repeal.

Schedules I to IV.

* Bill 41, H.M. Stationery Office, price 3d.

INSURANCE MEDICAL RECORDS.

APPOINTMENT OF ADVISORY COMMITTEE.

THE Minister of Health and the Scottish Board of Health have appointed an Inter-Departmental Committee to consider and advise them as to the form of medical record to be prescribed under the conditions of service for medical practitioners contained in the new Medical Benefit Regulations, having due regard to the clinical purposes (including the remedial value to the patient of maintaining a suitable record of his case) as well as to the administrative and the statistical purposes which such records may be adapted to serve.

The Committee consists of the following members:

Sir HUMPHRY DAVY ROLLESTON, K.C.B., M.D., F.R.C.P. (*Chairman*), Emeritus Physician St. George's Hospital, President Royal Society of Medicine.
H. B. BRACKENBURY, Esq., M.R.C.S., L.R.C.P., Chairman Insurance Acts Committee.
J. BROWNLEE, Esq., M.D., Director of Statistics Medical Research Committee.
H. G. DAIN, Esq., M.B., Chairman Birmingham Insurance Committee.
J. R. DREVER, Esq., M.B., Scottish Medical Secretary British Medical Association.
J. CRAUFORD DUNLOP, Esq., M.D., Superintendent of Statistics, General Register House, Edinburgh.
C. E. S. FLEMMING, Esq., M.R.C.S., L.R.C.P., Member Wiltshire Insurance Committee.
A. FULTON, Esq., M.B., Vice-Chairman Nottingham Insurance Committee.

M. GREENWOOD, Esq., M.R.C.S., L.R.C.P., Medical Officer (Medical Statistics) Ministry of Health.
R. W. HARRIS, Esq., Assistant Secretary Ministry of Health.
H. W. KAYE, Esq., M.D., Director of Medical Services Ministry of Pensions.
J. C. MCVAIL, Esq., M.D., Scottish Board of Health.
H. MEREDITH RICHARDS, Esq., M.D., Welsh Board of Health.
T. H. C. STEVENSON, Esq., C.B.E., M.D., Superintendent of Statistics, General Register Office.
S. P. VIVIAN, Esq., Deputy Registrar-General.
J. SMITH WHITAKER, Esq., M.R.C.S., L.R.C.P., Senior Medical Officer, Ministry of Health.

The Joint Secretaries of the Committee are G. F. McCleary, Esq., M.D., and A. E. Joll, Esq., of the Ministry of Health, Whitehall, S.W.1.

CORRESPONDENCE.

Small Urban Areas and the Mileage Fund.

SIR,—I should wish to point out what seems to me an unfortunate discrepancy between the instructions given to Insurance Committees in a circular letter from the Ministry of Health dated January 20th, 1920, and the recommendations in the report of the Mileage Committee which this circular is presumably intended to carry out.

The object of the circular (of four foolscap pages) is to obtain particulars from Insurance Committees of the debatable small urban areas whose population should or should not be included in the distribution of the Mileage Fund.

The report says (paragraph 37):

> We think that the line should be drawn at a population of 10,000. We feel that it would be unsafe to exclude urban areas of a smaller population, since the conditions of small urban districts appear to approximate to that of the more densely populated rural districts.

and goes on to say (paragraph 38):

> It is recognized, however, that the proposed line of demarcation which is necessarily arbitrarily drawn may result in the exclusion of some areas which should properly be included, and conversely in the inclusion of some that should be excluded.

The circular says:

> Every urban district council area and municipal borough in the Committee's area should be excluded, except in cases where (*a*) the population of the area in question at the 1911 census did not exceed 5,000 . . . or (*b*) the Committee are prepared to substantiate a case for their inclusion for the purposes of the Central Mileage Fund.

By taking 5,000 as the normal line it seems to me the Ministry is doing precisely what the report says it is unsafe to do, and asking Insurance Committees to undertake the burden of proving that towns of between 5,000 and 10,000 *should* be included instead of, as the report suggests, showing that they should *not*.

The importance of the matter lies in this: there are many small towns and some larger ones where an appreciable number of the insured persons prefer to be attended by a doctor living in the country more than two miles away. If these towns of, say, 6,000 inhabitants are excluded the country doctor will get no expenses for attending patients residing in them, but the town doctor will be able to come out into the country and be paid mileage.

It is difficult to see why these towns should be excluded at all. If they are well provided with competent practitioners the demand for an outsider to come in will be small, and the call on the Mileage Fund correspondingly so; if, on the other hand, their insured inhabitants have reason to exercise their free choice in favour of a country doctor, why should he not be paid his travelling expenses as much as the townsman?

If I may venture to give advice to my fellow Panel Committeemen, it is that they should follow the recommendations of the report rather than the Ministry's circular, and include all towns of less than 10,000 population and exclude those of more, unless there are straggling suburbs, adjacent town areas, large rural areas within the municipality, arbitrary unnatural boundaries, or other special circumstances which call for special treatment in either direction.—I am, etc.,

Andover, March 9th. J. P. WILLIAMS-FREEMAN.

Sickness Benefit Claims: A Fallacious Index.

SIR,—The case for the medical practitioners and the reply for the Government having been published, and the award of the arbitrators being apparently on the eve of publication, it is perhaps futile to comment upon either of the former. Nevertheless, in one particular the Government's reply is so demonstrably based upon a misunderstanding of the facts that it may be useful to point to the error, in the hope at least of affecting any future negotiations. A feature of the case for the practitioners was the supposed increase of sickness incidence among disabled soldiers, demobilized soldiers, and the public generally, due to the war. The Government in combating this proposition (which is one well known and recognized by all practitioners, but difficult of proof without records), rely solely upon the returns of sickness benefit paid out by approved societies. They have apparently neglected the much truer index which a return of prescriptions issued would have given, and say that "it will no doubt be agreed that the claims for sickness benefit made upon approved societies afford a very fair index to the physical state of the population." With this axiom they go so far as to submit that on this part of the argument *no* case for an increase has been made out.

My contention is that, so far from being a fair index, the claims for sickness benefit under present conditions are no index whatever. I am not prepared with figures, but it is common knowledge that the ratio of wages earned during health to benefit paid in sickness has altered to an enormous degree. A man earning, say, 30s. per week before the war was paid, say, 10s. per week sickness benefit. He now earns some £3 per week, but his sickness benefit remains the same or is increased, perhaps, to 15s. The cost of living has increased somewhat in proportion to his wages; and, by the admission of the Government in another part of the document, his hours of work are shorter and the work, on the whole, lighter. It surely needs no documentary evidence to show that such a state of affairs has affected the ratio of claims to sickness benefit to medical attention required to an extent which entirely vitiates the former as an index of the latter.

Prior to the war the tendency was almost invariably for the worker to desire to claim sickness benefit earlier and longer than his medical attendant considered necessary. He was working hard, had little time to go to the doctor for trivial ailments, but when ill he desired to lay off work readily and to continue to receive sickness benefit so long as his finances would allow. It is now a very different story; he is getting big money for short hours; he has leisure to consult his doctor for trivial ailments; but when ill he simply cannot afford to cease work and claim sickness benefit unless absolutely necessary, and then for as short a time as may be. The obvious retort that it lies with the doctor to see that he is off work for so long as and only for so long as is necessary, will appeal to the bureaucrat who has stated in so many words that he expects our professional zeal and sense of public duty, but is not prepared to pay accordingly until he can gauge it with his (red) tape-measure; but it is beside the mark. The doctor with the best will in the world can have only a general influence in the right direction; very much must depend on the patient's point of view. Absolute malingering apart, the doctor is bound to rely in many cases upon information conveyed to him by the patient; and the difference in the aggregate between the sickness benefit claimed by a population desirous of claiming as much as possible, and that claimed by a population desirous of keeping at easy and remunerative employment as much as possible, may be anything from 50 to 100 per cent.

I hope that this view of the matter will have been already urged upon the arbitrators in the case.—I am, etc.,

York, March 6th. J. C. LYTH.

The Regulations in Rural Practice.

SIR,—Permit me to bring before panel practitioners and the Committees concerned one or two matters affecting country practices which have been inadequately discussed and which ought to be amended before the new Regulations are finally settled.

Mileage.—It is agreed that payment should be made for extra time and cost in visiting distant patients. The limit of distance before such payment begins is at present two miles from the surgery. This means that the doctor has to cover an area of twelve square miles without extra pay. Is this area too much or too little? I assert that it is unreasonably large, and ought not to exceed three square miles, or one mile each way from the surgery. The true indicator ought to be the area a doctor can cover on foot. One mile each way (out and back) means eight miles' walking a day, or two and a half hours' work, after which the average man tires and cannot give his best attention. Beyond this limit a motor car is necessary. The expenses of the practice immediately jump up therefrom, at least £150 a year. Within the three square mile area a doctor may do his work on foot and economize; outside it he must have a conveyance, which simply eats up the fees

he makes, and often (as in my own case, for example) leaves him out of pocket. I should prefer 11s. within the one mile limit to 16s. or 18s. outside it. In the country there are no trams or cabs; one must have a car or walk.

Large Panels. — The average practitioner has been injured by the large panels of greedy men. It is now recognized that a limit should be imposed. I suggest that this limit should be one of area, as well as of numbers. The cutting down ought to be at the periphery where a man's area impinges on that of his neighbour, thereby recognizing areas as being to some extent parochial, and also recognizing the right of every panel practitioner to do his share of this national work, and incidentally to receive his pay for doing it. The popular practitioner would no doubt make good by private practice what he lost in area, and that without crushing out his neighbour by unlimited competition for panel patients.

Supply of Drugs.—In country places, where there is only one chemist, he has a monopoly of the drug supply. Doctors must not dispense for panel patients as they do for their private patients. The doctor may have, and usually has, a much better supply of drugs and special preparations—a variety which it would not pay any country chemist to stock. His patients on the panel may beg him to supply medicine and offer to pay for it rather than go to the chemist. He may be supplying the other members of a family with medicine, but the panel patient must go to the chemist or do without. If he goes, the results are not always satisfactory. Yet the doctor is responsible for the supply wherever the chemist fails, and for results. Would it not be better, in country places, to give the patient some option, or, better still, to credit the country doctor with drugs for all his panel patients and deduct all prescriptions dispensed by the chemist from the doctor's quarterly drug account, leaving to the patient the choice of going to the chemist if he wishes? By this arrangement the country panel patient would have no excuse for looking upon himself as ill-used or an outcast. The country doctor would also feel that he could treat all panel patients as private patients, a point on which so much stress has been laid in these negotiations. I suggest no limitation to the rights of the country chemist; what I do suggest is a little more liberty to the doctor and the patient.—I am, etc.,

Frizington, Cumberland, March 7th. R. H. QUINE.

Publicity of Inquiries.

SIR,—The enclosed is taken from last night's *Manchester Evening Chronicle*.

The point I want here to draw attention to is the publicity of these inquiries, which destroys a man's character and livelihood whether he wins or loses.

Inquiries of this character should only be made public if and when heard before one of His Majesty's judges sitting in open court, who can clear a man's character from all stigma attached to the complaint if the occasion demands it.

This is a vital point for all panel practitioners.—I am, etc.,

Stalybridge, March 4th. ADAM FOX.

*** The newspaper cutting enclosed by our correspondent contains a report of an inquiry held that day by three commissioners, appointed by the Ministry of Health, into allegations against an insurance medical practitioner made by the local Insurance Committee. The doctor's name and address are stated, and the allegations of the Insurance Committee appear to be printed in full. The report gives a running account of the proceedings, and ends with the statement "The inquiry then closed." The commissioners' findings are not published.

Success and Freedom.

SIR,—In the case which the Ministry of Health recently placed before the arbitrators it is confessed that the rate of payment is not what the best general practitioners can earn outside the panel. One expects, therefore, that the best men will not go on the panel. What, then, is the basis of the Government anticipation that at some future time better work will be done on the panel than off it?

Success in practice is produced largely by qualities which cannot be acquired under Government tuition—for instance, sympathy, personality, keenness, and tact (how lacking are these in the officials of the post office, telephone service, etc.)—all of them flourishing best in the free state of man. —I am, etc.,

London, N., March 8th. A. F. SHOYER.

*** *It is necessary to remind correspondents that no notice can be taken of communications which are not verified by the writer's name and address.*

RANGE OF SERVICE BY PANEL DOCTORS.

THE referees appointed by the Scottish Board of Health have decided a question arising under the Medical Benefit Regulations (Scotland), 1913, between the Insurance Committee for the Burgh of Glasgow and the Local Medical Committee. The point in dispute arose out of a claim by a panel doctor for special remuneration for suturing finger tendons. The referees appointed by the Board were Mr. John Wilson, K.C. (Chairman); Dr. A. J. Campbell, Duns; and Mr. Frederick K. Smith, Surgeon to the Royal Infirmary, Aberdeen.

The witnesses examined were:—(*a*) *For the Local Medical Committee:* Sir Kennedy Dalziel, Lecturer on Clinical Surgery in the University of Glasgow; Professor Peter Paterson, Surgeon Glasgow Royal Infirmary; Mr. J. Battersby, Assistant Surgeon Glasgow Royal Infirmary; Dr. W. Lowson, Chairman Glasgow Local Medical and Panel Committee; and Dr. William Snodgrass. (*b*) *For the Insurance Committee:* Mr. W. Jones, Clerk of the Insurance Committee; Dr. D. H. Fotheringham; Dr. W. A. Caskie; Dr. J. R. Drever, Scottish Secretary British Medical Association; and the patient.

The Insurance Committee maintained that the operation of suturing tendons of fingers was not one requiring special skill, and that, in any case, the argument adduced by the Local Medical Committee was not wholly applicable in the special case.

In their report the referees state that they are satisfied on the evidence adduced that it cannot be affirmed as a general rule that in a case of suturing tendons of fingers the service is one which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill. The following facts were established by the evidence—namely, that a distinction must be drawn between operations affecting tendons on the back of the hand and tendons on the front. (*a*) As regards the tendons on the front of the hand, the palmar or flexor tendons, there are special risks and difficulties. (*b*) As regards tendons on the back of the hand, neither the difficulty nor the risk is so great, but even in cases affecting these tendons, although occasionally appropriate enough for the ordinary general practitioner, no general or absolute rule that they are within his competence should be established.

The weight of the evidence was to the effect that in Glasgow in cases in which tendons of the fingers required to be sutured, the general practice over a long period of years has been for the patient to be sent to an infirmary to have the surgical operation performed there.

With regard to the particular case raising the present question, the referees are of opinion that there was not sufficient evidence to enable them to formulate a definite conclusion as to the exact nature of the operation performed. For the reasons set forth, the referees give as their decision: (*a*) That no general or absolute rule can be laid down to the effect that suturing of tendons of a finger is a service of a kind which can consistently with the best interest of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill; and further (*b*) that in view of the inadequacy of the evidence relating to the particular case, the tribunal are not in a position to make any definite pronouncement as to its precise character or the skill which it entailed.

NOTIFICATION STATISTICS IN ENGLAND AND WALES.

THE statistics of the incidence of notifiable infectious diseases issued hitherto by the Local Government Board are of interest chiefly to local administrators, as information is given with regard to each sanitary district in England and Wales. A certain amount of information is, however, to be extracted. It appears for instance from the last reports, which deal with 1918, that the number of cases of tuberculosis notified was 92,132, equivalent to a rate of 2.75 per 1,000 of population. Of these cases 72,741 were pulmonary, giving a rate of 2.17 per 1,000. It is stated that the tables include a considerable number of duplicate notifications, the number varying in different areas but being particularly large in London. The value of the statistics is affected by this. The rate of notification of pulmonary tuberculosis declined from 3.03 per 1,000 in 1912 to 2.17 in 1918. The rate for non-pulmonary tuberculosis declined during the same period from 1.14 to 0.58. It is very doubtful whether these rates are of any value. The number of cases of measles and German measles was 414,346, giving a rate of 12.38. The next in order of frequency was scarlet fever and diphtheria, the former giving a rate of 1.44 and the latter of 1.31. Of enteric fever there were 4,306 cases, a rate of 0.13, and of typhus fever there were only eight cases in the whole country; these were curiously scattered—two occurred in Liverpool, one in London, one in Walsall, and the remainder in rural districts. The number of cases of ophthalmia neonatorum notified was 6,532, as compared with 6,716 in 1917, 7,613 in 1916, and 6,806 in 1915.

British Medical Association.

EIGHTY-EIGHTH ANNUAL MEETING, CAMBRIDGE, JUNE-JULY, 1920.

President: Sir T. CLIFFORD ALLBUTT, K.C.B., LL.D., M.D., F.R.S., Regius Professor of Physic, University of Cambridge.
Chairman of Representative Meetings: T. W. H. GARSTANG, M.A.Oxon., M.R.C.S.Eng., D.P.H.Vict. (Altrincham).
Chairman of Council: J. A. MACDONALD, M.D., M.Ch., LL.D., Hon. Physician, Taunton and Somerset Hospital.
Treasurer: G. E. HASLIP, M.D. (London).

PROGRAMME.

The President will give an address on Tuesday evening, June 29th, in the Senate House, followed by a reception in King's College by the Cambridge and Huntingdon Branch.

The REPRESENTATIVE MEETING will begin in the Examination Halls on Friday, June 25th, at 10 a.m.

The statutory ANNUAL GENERAL MEETING will be held at the Examination Halls on Tuesday, June 29th, at 2 p.m.

The Annual Dinner of the Association will be held in the Hall of St. John's College at 7.30 p.m. on Thursday, July 1st.

Religious services will be held in the University Church, Great St. Mary's, and in the Roman Catholic Church, at 5 p.m. on Wednesday, June 30th.

The Popular Lecture will be given by Dr. G. S. Graham-Smith, F.R.S., at 8.30 p.m. on Friday, July 2nd.

DEMONSTRATIONS.

Laboratory and clinical demonstrations will be given from 2.30 to 4.30 p.m. (Wednesday, Thursday and Friday). The Directors of demonstrations are:

Medicine: Dr. ALDREN WRIGHT, 2, Corpus Buildings, Cambridge.
Surgery: Mr. ARTHUR COOKE, M.B., B.Ch.Oxon., Grove Lodge, Cambridge.
Physiology: Professor J. N. LANGLEY, F.R.S., Physiological Laboratory, Cambridge.
Pharmacology: Professor W. E. DIXON, F.R.S., Pharmacological Laboratory, Cambridge.
Neurology: Dr. E. D. ADRIAN, Trinity College, Cambridge.
Pathology: Professor Sir G. SIMS WOODHEAD, Pathological Laboratory, Cambridge.

THE SECTIONS.

The Sections will meet from 10 a.m. to 1 p.m.

Sections meeting on three days: Wednesday, June 30, Thursday, July 1, and Friday, July 2.

MEDICINE.

President: Sir HUMPHRY D. ROLLESTON, K.C.B., M.D., F.R.C.P.
Vice-Presidents: THOMAS BEATTIE, M.D., F.R.C.P.; Professor JOHN B. BRADBURY, M.D., F.R.C.P.; Sir THOMAS J. HORDER, M.D., F.R.C.P.; F. W. BURTON-FANNING, M.D., F.R.C.P.; THOMAS LEWIS, M.D., F.R.S.
Honorary Secretaries: A. J. JEX-BLAKE, M.D., F.R.C.P. (13, Ennismore Gardens, London, S.W.7); W. E. HUME, M.D., F.R.C.P. (4, Ellison Place, Newcastle-on-Tyne); E. LLOYD JONES, M.D. (59, Trumpington Street, Cambridge).

SURGERY.

President: Sir GEORGE H. MAKINS, G.C.M.G., C.B., P.R.C.S.
Vice-Presidents: HARRY LITTLEWOOD, C.M.G., F.R.C.S.; Sir CUTHBERT S. WALLACE, K.C.M.G., C.B., F.R.C.S.; GEORGE EDWARD WHERRY, M.Ch., F.R.C.S.; DAVID PERCIVAL D. WILKIE, F.R.C.S.Edin.
Honorary Secretaries: WM. HENRY BOWEN, M.S., F.R.C.S. (24, Lensfield Road, Cambridge); G. E. GASK, C.M.G., D.S.O., F.R.C.S. (41, Devonshire Place, London, W.1); GORDON TAYLOR, O.B.E., M.S., F.R.C.S. (15, Harley Street, London, W.1).

NEUROLOGY AND PSYCHIATRY.

President: HENRY HEAD, M.D., F.R.S.
Vice-Presidents: GORDON M. HOLMES, C.M.G., M.D., F.R.C.P.; W. H. RIVERS RIVERS, M.D., F.R.S.; LEWIS E. SHORE, M.D.; T. GRAINGER STEWART, M.D., F.R.C.P.; THEODORE THOMPSON, M.D., F.R.C.P.
Honorary Secretaries: E. D. ADRIAN, M.D., M.R.C.P. (Trinity College, Cambridge); E. FARQUHAR BUZZARD, M.D., F.R.C.P. (78, Wimpole Street, London, W.1); GEORGE RIDDOCH, M.D. (10, Alba Gardens, Golders Green, London, N.W.4).

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S.
Vice-Presidents: J. A. ARKWRIGHT, M.D., F.R.C.P.; LOUIS COBBETT, M.D., F.R.C.S.; MERVYN H. GORDON, C.M.G., M.D.; T. S. P. STRANGEWAYS, M.R.C.S., L.R.C.P.
Honorary Secretaries: A. E. CLARK-KENNEDY, M.R.C.S., L.R.C.P. (Corpus College, Cambridge); A. E. GOW, M.D., F.R.C.P. (37, Queen Anne Street, London, W.1); HELEN INGLEBY, M.B., M.R.C.P. (35, Welbeck Street, London, W.1).

PHYSIOLOGY AND PHARMACOLOGY.

President: Professor F. GOWLAND HOPKINS, M.B., F.R.S.
Vice-Presidents: H. H. DALE, C.B.E., M.D., F.R.S.; Professor J. A. GUNN, M.D.; Professor D. NOËL PATON, M.D., F.R.S.; F. RANSOM, M.D.
Honorary Secretaries: D. V. COW, M.D. (The Bridge House, Great Shelford, Cambridge); EDWARD MELLANBY, M.D. (32, Addison Mansions, Kensington, London, W.14).

The following Sections meet on Wednesday only.

NAVAL AND MILITARY.

President: Colonel JOSEPH GRIFFITHS, C.M.G., M.D., F.R.C.S.
Vice-Presidents: Lieut.-Colonel E. J. CROSS, R.A.M.C.T.; Lieut.-Colonel R. H. ELLIOT, M.D., D.Sc., I.M.S.(ret.); Surgeon Commander H. W. B. SHEWELL, R.N.; Surgeon Rear Admiral A. GASCOIGNE WILDEY, C.B., R.N.
Honorary Secretaries: Major S. M. MACGREGOR, O.B.E., M.D., R.A.M.C.T. (Sanitary Chambers, Glasgow); Major H. B. RODERICK, O.B.E., M.Ch., M.D., R.A.M.C.T. (17, Trumpington Street, Cambridge); Lieut.-Colonel F. E. APTHORPE WEBB, O.B.E. (Grafton House, Maid's Causeway, Cambridge).

OBSTETRICS AND GYNAECOLOGY.

President: HERBERT WILLIAMSON, M.B., F.R.C.P.
Vice-Presidents: FREDERICK DEIGHTON, M.B.; J. PRESCOTT HEDLEY, M.Ch., F.R.C.S.; FRANCES IVENS, M.B., M.S.
Honorary Secretaries: MALCOLM DONALDSON, M.B., F.R.C.S. (145, Harley Street, London, W.1); W. R. GROVE, M.D. (St. Ives, Hunts).

TROPICAL MEDICINE.

President: Professor G. H. F. NUTTALL, M.D., F.R.S.
Vice-Presidents: BREADALBANE BLACKLOCK, M.D.; Lieut.-Colonel S. PRICE JAMES, M.D., I.M.S.; P. H. MANSON-BAHR, M.D.
Honorary Secretaries: CHARLES FREDERICK SEARLE, M.D. (71, Bridge Street, Cambridge); J. GORDON THOMSON, M.B. (24, Herne Hill, London, S.E.24).

The following Sections meet on Thursday only.

MEDICAL EDUCATION.

President: Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P.
Vice-Presidents: G. S. GRAHAM-SMITH, M.D., F.R.S.; Professor DAVID HEPBURN, C.M.G., M.D.; THOMAS W. SHORE, M.D.; S. SQUIRE SPRIGGE, M.D.; Professor PETER THOMPSON, M.D.
Honorary Secretaries: S. R. GLOYNE, M.D. ("Hatherley," Chalfont St. Giles, Bucks); Professor J. KAY JAMIESON, M.B. (Dean of Faculty of Medicine, Leeds).

VENEREAL DISEASES.

President: E. B. TURNER, F.R.C.S.
Vice-Presidents: Colonel L. W. HARRISON, D.S.O., M.B.; MORNA L. RAWLINS, M.B.
Honorary Secretaries: W. H. HARVEY, M.D. (The Dene, Great Shelford, Cambridge); OTTO MAY, M.D. (19, Well Walk, Hampstead, London, N.W.3).

The following Sections meet on Friday only.

ELECTRO-THERAPEUTICS.

President: ALFRED ERNEST BARCLAY, M.D.
Vice-Presidents: ROBERT KNOX, M.D.; ALFRED CHARLES JORDAN, M.D., M.R.C.P.
Honorary Secretaries: E. P. CUMBERBATCH, M.B., M.R.C.P. (15, Upper Wimpole Street, W.1); F. SHILLINGTON SCALES, M.D. ("Redcourt," Adams Road, Cambridge).

MEDICAL SOCIOLOGY.

President: G. E. HASLIP, M.D.
Vice-Presidents: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.; ADAM FULTON, M.B.; C. O. HAWTHORNE, M.D.; Professor BENJAMIN MOORE, D.Sc., F.R.S.
Honorary Secretaries: S. MORTON MACKENZIE, M.B. (9, Rose Hill, Dorking); C. M. STEVENSON, M.D. (90, Chesterton Road, Cambridge).

The Honorary Local Secretaries of the Meeting are J. F. GASKELL, M.D., F.R.C.P., The Uplands, Great Shelford, near Cambridge, and G. S. HAYNES, M.D., 58, Lensfield Road, Cambridge.

Association Notices.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches, for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

THE list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and ***Nomination Form***, appeared in the SUPPLEMENT of January 24th, page 22. Separate Nomination Forms will, if desired, be forwarded on application by Branches, Divisions, or Members.

The list of the Groups of ***Oversea Branches*** was published in the SUPPLEMENT of October 11th, 1919, p. 79.

Meetings of Branches and Divisions.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: WORCESTER DIVISION.

On January 21st, 1920, members of the Worcester Division entertained a number of their colleagues who had served in the forces during the recent war to dinner at the Lion Hotel, Kidderminster. The chair was taken by Mr. J. LIONEL STRETTON, Chairman of the Division.

A most enjoyable evening was spent. At the conclusion of dinner, the CHAIRMAN made an eloquent speech in proposing the toast of "Our Guests," and extended a warm welcome to the members who had served. "In the process of reconstruction," he added, "we are most interested in our own profession. Changes are foreshadowed which may revolutionize our calling. If they are for the benefit of the country by all means let us accept them, but it is our duty to resist any suggestions which are calculated to lower our prestige or impair our work. That you will assist us I am well assured, and in welcoming you home I must express our delight that you have all returned and that none of you has suffered serious injury. We thank you for the good work you have done in your various sections. I must especially refer to the conspicuous bravery which won the M.C. for my colleague Major Craig. I congratulate him, and am delighted that he is with us. I trust that you may be spared for many years to continue your peaceful work, and that you will derive comfort from the contemplation of your part in saving your country from defeat, and that you will also remember this evening's entertainment as an expression of the appreciation of your professional brethren, which is the highest tribute you can receive."

Colonel BLANDFORD, C.B.E., T.D., in reply, thanked the Chairman on behalf of the guests for the very kind way in which he had proposed the toast and for the most enjoyable evening's entertainment by the hosts. Major J. R. CRAIG, M.C., also thanked the Chairman for his remarks and the members present for so kindly entertaining those who had been fortunate enough to be selected to serve.

Dr. O. C. P. EVANS proposed the toast of "The British Medical Association." He emphasized the importance of the Association, and enumerated some of the many advantages of being a member, and what the Association had done for its members.

Captain NEVILLE CROWE, honorary secretary of the Division, replied, and thanked Dr. Evans for the many kind things he had said in regard to the work that he had done as honorary secretary for upwards of ten years. There was, he said, the greatest need for missionary work by all the members of the Division, so that every practising medical man or woman in the area of the Division should become a member of the Association. He expressed his great indebtedness, and that of all the members of the Division, to the Chairman for the great interest and the work he had always done to forward the wellbeing of the profession.

Dr. H. E. DIXEY proposed "The Worcestershire and Herefordshire Branch of the British Medical Association." He reviewed the many changes in the Branch since he first became a member of it many years ago, and said that, although he was not in practice, he was proud to say that he was still a member of the British Medical Association. Dr. E. S. ROBINSON, president of the Branch, replied, and asked all members present to assist to make the Association an even greater power for the good of the profession.

Major BERTRAM ADDENBROOKE, T.D., conveyed to their hosts the thanks of all the service members present for a most enjoyable evening; especially did he wish to thank the Chairman, who was the moving spirit in getting the dinner up. Dr. HOLBECHE and Dr. WILKINSON, in responding, said what a great pleasure it had been to entertain those who had been privileged to serve. The CHAIRMAN thanked the members present for their appreciation of his efforts on behalf of the Division. It had been suggested to him that there should be an annual dinner of the Division, and he strongly supported the idea, and expressed the opinion that it should be held in the town where the chairman of the Division for the year resided.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of the Willesden Division was held at St. Andrew's Park Hall, Willesden, on February 10th, Dr. C. WHITEHALL COOKE presiding. It was reported that the recommendations in connexion with the 50 per cent. increase in fees had been generally adopted. It was resolved that, in the opinion of the Division, a medical referee [pensions] resident in Harlesden district should be appointed for that district and so establish a more satisfactory service.

An invitation from the Willesden Urban District Council Hospital Committee to the Division to hold a meeting at the Municipal Hospital and be entertained by the committee was accepted for June 11th.

Dr. G. F. BUCHAN, M.O.H. Willesden, gave an address on municipal hospitals and clinics. He said that municipal hospital and clinics were established by the will of the people, and not on the initiative of the M.O.H., who was merely the technical adviser of the council. He gave an interesting account of the history of the movement. Willesden would require at least 1,700 hospital beds; at present it had only 684. He had prepared a plan for a municipal hospital where provision would be made for the general practitioner attending with his patients, or for instruction.

The CHAIRMAN thanked Dr. Buchan for his very interesting address, and said he could see that many questions would be asked, as obviously many of Dr. Buchan's statements were not acceptable to those present.

A long and spirited debate then followed. Owing to the lateness of the hour the meeting was adjourned in order that the discussion might be completed.

MEETINGS OF THE PROFESSION.

THE TRADE UNION QUESTION AT BRIGHTON.

ON March 2nd a largely-attended meeting of the medical practitioners of Brighton and district was held at the Old Ship Hotel, with Dr. H. H. TAYLOR in the chair. The object of the meeting was to discuss the following proposition:

> In view of the changes in the medical service of the country, it is essential that the profession should be solidly organized on a trade union business to enable it to negotiate effectually with the Government; and that a Brighton branch of the Medico-Political Union be now formed.

A resolution upon these lines was moved by Dr. E. H. STANCOMB, who urged the necessity for the medical profession to combine as a trade union in face of the drastic changes that

were bound to come. If there was one class of the community that could not be accused of profiteering it was the medical profession, who had the power to raise the country from a C3 to an A1 class if they were not hampered or restricted. Speaking as its vice-president, he said that the Medico-Political Union did not contemplate any withholding of services from the community, because they realized that they must serve the country even if they struck against the Government. Dr. G. A. MAIN, organizing secretary of the Union, made a speech in support of the motion.

Dr. E. R. FOTHERGILL moved as an amendment:

> That in the opinion of the meeting no useful purpose would be served by the development in Brighton and district of an organization of the profession on trade union lines.

This, however, was ruled out of order by the Chairman as a direct negative. Dr. Fothergill then argued that the idea of a medical trade union was a delusion. What power, he asked, had this trade union to compel the State to give way? If they decided to strike would they picket the house of a private patient, or the doors of a hospital? Although the union had been in existence five years it had done nothing for the medical profession. Dr. E. BURCHELL also spoke against the motion. They were told, he said, that if they struck they would be striking against the Government or the authorities, and that while they were striking they would still go on working, and therefore earning. But did anyone outside a lunatic asylum believe that to be a fact? Dr. V. T. GREENYER, speaking as a member of the National Medical Union, also opposed, describing the movement as medico-political selfishness. Every man should work with the idea always before him that he was living in a sensible relationship to the public. Dr. L. A. PARRY said that as a member of an honourable profession he would be very sorry indeed to degrade himself to the same level as some of the miners, ironworkers, and others of a like class, who were constantly letting the public down. Dr. A. A. HILL, being impressed with the advantages of trade unions, expressed the hope that a strong branch of the Medico-Political Union would be formed in the district. Dr. N. S. ALDER asked whether they were to choose their leaders from the advocates of trade unionism or from men who kept up the honoured traditions of the medical profession. Dr. H. GERVIS said he would join the trade union with pleasure if he thought it were of the least use, but from the medical point of view it seemed hopeless. Doctors could not strike. If they struck against the Government they would not hurt the Government. If anyone were in pain they could not strike, because they well knew they would do their best to relieve the pain. Dr. R. SANDERSON maintained that the medical profession ought to do everything in its power to assist the State in its efforts to improve the national health.

After Dr. MAIN and Dr. STANCOMB had replied to the criticisms, their motion was lost by an overwhelming majority, five only voting for it.

The *Sussex Daily News* concludes its report of the proceedings with the statement that immediately afterwards a number of doctors held a further meeting in the room, Dr. MAIN presiding, at which it was unanimously decided to form a branch of the Medico-Political Union for Brighton and district. Seven practitioners gave in their names as members.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders F. J. Burke to the *Hood*, H. L. Penny to the *Hood* on commissioning and as Squadron Medical Officer. H. D. Drennan, D.S.O., to the *Marshal Soult*. Surgeon Lieutenants W. E. Heath to the *Vivid*, additional, for Plymouth Hospital; A. C. Anderson to the *Pembroke*, for Chatham Hospital for general duties and specialist ophthalmic duties as requisite; H. Hurst to the *Crescent*, additional, for Port Edgar Base; H. P. Turnbull to the *Courageous*, additional; A. G. Taylor to the *King George*. Surgeon Lieutenant (temporary) A. W. McRorie to the *Blake*.

ARMY MEDICAL SERVICE.

Major-General Sir W. W. Pike, K.C.M.G., D.S.O., is placed on retired pay.

Colonel E. H. Condon retires on retired pay.

Colonel N. Faichnie retires on retired pay, November 21st, 1919 (substituted for notification in the *London Gazette*, December 8th, 1919).

Temporary honorary Colonel Sir John Collie relinquishes his commission, December 11th, 1917, and is granted the honorary rank of Lieutenant-Colonel (substituted for notification in the *London Gazette*, December 10th, 1917.)

ROYAL ARMY MEDICAL CORPS.

Temporary Lieut.-Colonel R. P. Jack (Lieutenant-Colonel Scottish Rifles T.F.R.) relinquishes his temporary commission.

Major H. T. Wilson, D.S.O., relinquishes the temporary rank of Lieutenant-Colonel.

Major J. H. Campbell, D.S.O., and temporary Captain J. P. Davidson, M.C., relinquish the acting rank of Lieutenant-Colonel.

Temporary Major N. G. Cooper to be acting Lieutenant-Colonel.

The following relinquish the acting rank of Major: Captain H. G. Winter, M.C., temporary Captains C. A. Brisco, M.C., E. J. Selby, O.B.E., G. W. R. Rudkin, M.C., L. H. C. Birkbeck, G. C. Adeney.

Captain E. G. S. Cane, D.S.O., to be temporary Major whilst specially employed.

Temporary Captain (acting Major) A. Scott relinquishes the pay and allowances of his acting rank, May 15th, 1919, and relinquishes his acting rank.

Temporary Captains to be acting Majors: A. W. Wilcox (whilst commanding troops on a hospital ship), W. J. Pearson, M.C. (February 25th, 1918, substituted for notification in the *London Gazette*, July 25th, 1918), J. W. Pell (from January 8th to June 2nd, 1919, inclusive).

Lieutenants (temporary Captains) to be Captains: W. D. Whamond, T. L. Henderson, A. G. Stevenson, R. H. C. Pryn, B. J. Daunt, A. J. Bado, H. M. Alexander.

The following officers relinquish their commissions:—Temporary Major (acting Lieutenant-Colonel) R. D. Hotchkiss, and is granted the rank of Lieutenant-Colonel. Temporary Majors, and retain the rank of Major: C. B. Dobell, J. C. Woods, O.B.E. Temporary Captains, and are granted the rank of Major: W. M. Oakden (November 11th, 1919, substituted for notification in the *London Gazette* of December 4th, 1919), F. D. Saner, E. S. Sowerby, M.C., R. H. Strong, O.B.E. Temporary Captains, and retain the rank of Captain: J. H. Jones, T. B. Marshall, A. W. Ritchie, J. T. Daly, G. Cock, E. G. Y. Thom, A. Macdonald, (acting Major) R. S. Gibson, M.C., R. J. Harley-Mason, J. R. MacNeill, R. Williams, E. C. Bowden, M.C., A. J. Hawes, M.C., M. A. Milne, W. E. Procunier, V. E. Sorapure, L. Milburn, L. W. Evans, N. McA. Gregg, M.C.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Lieutenant A. G. Hewer to be Captain (June 10th, 1919).

Transferred to unemployed list: Captain O. H. Gotch, Lieutenant R. H. Turner.

INDIAN MEDICAL SERVICE.

Lieut.-Colonel E. Hasell Wright, Civil Surgeon, Coorg, has been granted privilege leave for one month and fourteen days from December 20th, 1919.

Lieut.-Colonel W. D. H. Stevenson, C.I.E., M.D., Assistant Director-General, Indian Medical Service (Sanitary), was granted an extension of privilege leave for twenty-three days, with effect from December 3rd, 1919.

Major W. J. Powell, Staff Surgeon, 4th (Quetta) Division, appointed to officiate as Chief Medical Officer in Baluchistan, in addition to his other duties, with effect from November 7th, 1919.

Captain J. B. Hance appointed to officiate as Civil Surgeon, Quetta, with effect from November 21st, 1919.

Lieut.-Colonel F. D. S. Fayrer has been posted as Residency Surgeon in Mewar and appointed to hold visiting charge of the office of Medical Officer Mewar Bhil Corps, in addition to his own duties, with effect from December 26th, 1919.

Captain J. J. H. Nelson, O.B.E., M.C., M.D., F.R.C.S.E., appointed to be Professor of Materia Medica, King Edward Medical College, and Second Physician, Mayo Hospital, Lahore, with effect from November 24th, 1919.

The promotion to present rank of Major H. S. Hutchinson, M.B., has been antedated from February 1st, 1918, to August 1st, 1917.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain K. D. Murchison, D.S.O., relinquishes the acting rank of Lieutenant-Colonel.

Captains relinquish the acting rank of Major: H. D. Brown, M.C., A. McL. Ferrie, M.C., W. J. Webster, M.C., C. E. H. Gater, W. Johnson, M.C., B. Goldsmith, C. J. B. Way, M.C., R. Nixon, A. Picken, O.B.E., M.C.

Captains relinquish their commissions and retain the rank of Captain: On account of ill health contracted on active service: H. S. A. Alexander, W. Griffiths, J. A. C. Guy. On account of ill health: I. G. Innes, W. A. Hawes, F. L. Heap, O. Johnston, J. T. Westby, H. E. Rhodes, M. W. Geffen. On account of ill health caused by wounds: J. D. MacCormack, M.C.

Captain D. C. Macdonald, M.D., relinquishes his commission on account of ill health contracted on active service and is granted the rank of Major.

Captain E. B. Jones relinquishes his commission.

Captain John Berry resigns his commission.

Lieutenants to be Captains: P. S. G. Cameron, L. H. Bartram.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captain (acting Lieut.-Colonel) J. Miller, D.S.O., M.C., relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed (May 2nd, 1919)

Captain (acting Major) J. B. Bate relinquishes the acting rank of Major on ceasing to be specially employed.

Captains A. D. Kennedy and N. R. Williamson are restored to the establishment.

4th London General Hospital.—Captain (Brevet Major) W. C. Bosanquet is restored to the establishment on ceasing to hold a temporary commission in the R.A.M.C.

2nd Scottish General Hospital.—Captain E. Matthew is restored to the establishment.

1st Southern General Hospital.—Lieut.-Colonel F. W. Ellis is restored to the establishment.

2nd Western General Hospital.—Lieut.-Colonel (Brevet Colonel) F. H. Westmacott, C.B.E., is restored to the establishment.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

The announcements regarding the following officers in the *London Gazette* of the dates indicated are cancelled: Captain H. C. Adams, O.B.E. (December 31st, 1918, and February 6th, 1919), Captain N. G. H. Salmon (January 14th, 1919).

VOLUNTEER FORCE.

The following temporary Majors relinquish their commissions and are granted the honorary rank of Major:—City of Glasgow R.A.M.C.V.: J. F. Gemmill, J. Lindsay, M. Campbell. Dorsetshire R.A.M.C.V.: J. M. Lawrie.

The following Captains relinquish their commissions and are granted the honorary rank of Captain:—Glamorganshire R.A.M.C.V.: C. Biddle. City of Glasgow R.A.M.C.V.: D. McKail, W. Weir, G. A. Brown. Monmouthshire R.A.M.C.V.: G. A. H. Martin. Nottinghamshire R.A.M.C.V.: H. O. Taylor.

The following temporary Lieutenants relinquish their commissions and are granted the honorary rank of Lieutenant: Durham R.A.M.C.V.: J. J. Weir. City of Glasgow R.A.M.C.V.: E. McConnell, J. W. Mathie, J. H. Teacher, A. McCrone, J. Kane, G. A. Allan.

Hampshire R.A.M.C.V.: R. J. Lytle. City of London R.A.M.C.V.: G. W. Isaac. Nottinghamshire R.A.M.C.V.: W. Hunter.

QUEEN MARY'S ARMY AUXILIARY CORPS.

Auxiliary Section R.A.M.C. attached.—The following Medical Officials relinquish their appointments: H. W. Esson, M. J. M. Stewart, L. M. W. Grant, S. P. L. H. T. Daniel.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

12 Fri. London: Ministry of Health Committee, 2.30 p.m.
16 Tues. London: Scrutiny Subcommittee, 2.30 p.m.
17 Wed. London: Propaganda Subcommittee, 2.15 p.m.
Brighton Division, Sussex County Hospital, 4 p.m., Clinical Demonstration (Venereal Diseases).
18 Thurs. London: Medical Research and Laboratory Workers' Subcommittee, 2.30 p.m.
19 Fri. North of England Branch, Royal Victoria Infirmary, Newcastle-on-Tyne, 2.30 p.m. to 4.45 p.m., Demonstrations. (See Post-Graduate Courses.)
23 Tues. London: Public Health Committee, 3 p.m.
24 Wed. London: Medico-Political Committee, 2 p.m.
25 Thurs. London: Insurance Acts Committee.
30 Tues. London: Organization Committee.

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tuesday, 5 p.m., Third Goulstonian Lecture by Dr. J. L. Birley, C.B.E.: Principles of Medical Science as applied to Military Aviation. Thursday, 5 p.m., Lumleian Lecture by Sir J. Rose Bradford, K.C.M.G., C.B.: Clinical Experiences of a Physician during the Campaign in France and Flanders, 1914–1919.

ROYAL SOCIETY OF MEDICINE.—Occasional Lecture: Monday, 5 p.m., The Relation between Hay and other Pollen Fevers, Animal Asthmas, Food Idiosyncrasies, Bronchial and Spasmodic Asthmas, etc., by Dr. John Freeman. *Section of Therapeutics and Pharmacology:* Tuesday, 4.30 p.m., Dr. F. Ransom: Action of Strontium on Frog's Heart Dr. E. P. Poulton: Case of Diabetes Insipidus treated with Pituitrin. Special General Meeting of Fellows, Tuesday, 5 p.m. *Section of Pathology:* Tuesday, 8.30 p.m., Laboratory Meeting at the Bacteriological Department, London Hospital, E.1. *Section of History of Medicine:* Wednesday, 5 p.m., Dr. E. T. Withington: Medical Terms in "Liddell and Scott." Dr. Comrie: "Michael Scot." *Section of Dermatology:* Thursday, 4 30 p.m., Cases. *Section of Otology:* Friday, 4.45 p.m., Cases and Specimens. *Section of Electro-Therapeutics:* Friday, 8.30 p.m., Dr. A. E. Barclay will open a Discussion on Radium-therapy and Radio-therapy of Exophthalmic Goitre. Dr. Sidney Russ: Vision by Ultra-violet Light.

CHELSEA CLINICAL SOCIETY, St. George's Hospital, S.W.—Tuesday, 8.30 p.m., Discussion—Is Asthma a Disease of the Chest? To be opened by Dr. D. M. Barcroft, followed by Sir Thomas Horder, Dr. Leonard Williams, Dr. Hernaman-Johnson.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—Laboratory Meeting, R.A.M. College, Grosvenor Road, S.W.1.—Friday, 8 p.m., Demonstrations: (1) Rabies, Sir S. Stockman; (2) Amoebae of Man, Professor Clifford Dobell; (3) Pathogenic Fungi. Colonel Lyle Cummins; (4) Malarial Parasites, Dr. C. M. Wenyon; (5) Trypanosomes, Dr. A. C. Stevenson; (6) Scurvy in Animals, Surgeon-Captain Bassett-Smith; (7) The Agglutinometer, Dr. Garrow.

POST-GRADUATE COURSES AND LECTURES.

BRITISH MEDICAL ASSOCIATION, North of England Branch, Royal Victoria Infirmary, Newcastle-on-Tyne.—Friday: 2.30 p.m., Professor W. E. Hume, C.M.G., Digitalis in Heart Failure; 3 p.m., Mr. S. S. Whillis, Suppurative Otitis Media; 3.30 p.m., Professor H. B. Angus, Fractures; 4.15 p.m., Dr. H. Drummond, Gastric Ulcer; 4.45 p.m., Mr. J. Clay, C.B.E., Ureter Catheterization.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. C. Wall: Bronchitis and Emphysema.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. P. R. Wrigley: Carcinoma of the Breast.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Monday, 2 p.m., Dr. Collier: Out-patients; 3.30 p.m., Dr. Aldren Turner: Ward Cases. Tuesday, 2 p.m., Dr. Grainger Stewart: Out-patients; 3.30 p.m., Dr. Tooth: Poliomyelitis. Wednesday, 2 p.m., Dr. Yealland; 3.30 p.m., Dr. Collier: Aphasia and Apraxia, I. Thursday, 2 p.m., Dr. Farquhar Buzzard: Out-patients; 3.30 p.m., Dr. S. A. Kinnier Wilson: Ward Cases. Friday, Dr. Gordon Holmes, 2 p.m.: Out-patients; 3.30 p.m., Cerebellar Disease — Ataxia, II. Saturday, 9 a.m., Surgical Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2 p.m., Mr. E. Gillespie: Tuberculous Disease of Bones and Joints (Demonstrations); 4 30 p.m., Dr. J. B. Banister: Routine Examination of Patients before Labour (Lecture).

SALFORD ROYAL HOSPITAL.—Thursday, 4.30 p.m., Mr. Macalpine: Indications for Prostatectomy.

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.30 p.m., Dr. Nutt: *X*-ray Therapeusis; Tuesday, 4 p.m., Dr. Hay: Subjective Sight-testing; Wednesday, 3.30 p.m., Dr. Wilkinson: Mastoid Suppuration; Thursday, 3.30 p.m., Dr. Skinner: New Growths of Skin; Friday, 4 p.m., Dr. Hay: Injuries of Cornea.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Saturday (March 13th), 10 a.m., Dr. Arthur Saunders: Medical Diseases of Children. Monday, 5 p.m., Mr. Donald Armour: Cervical Rib. Tuesday, 5 p.m., Dr. Pritchard: Some Common Infections. Wednesday, 5 p.m., Dr. Beddard: Practical Medicine. Thursday, 5 p.m., Mr. Baldwin: Practical Surgery. Friday, 5 p.m., Special Lecture, Sir Clifford Allbutt: Kinds of Pneumonia.

APPOINTMENTS.

ADDENBROOKE, R. G., M.R.C.S., L.R.C.P., District Medical Officer and Medical Officer of the Institution of the Cleobury Mortimer Union.

CARLILL, Hildred, M.D.Cantab., M.R.C.P., Physician to the Westminster Hospital.

CLARK, Ronald M., M.B., C.M.Edin., Medical Superintendent, Whittingham Asylum, Preston, vice J. F. Gemmel, M.B., C.M.Glasg., retired.

DONALDSON, Malcolm, M.B.Cantab., F.R.C.S.Eng., Assistant Physician-Accoucheur to St. Bartholomew's Hospital.

FLEMING, Grace A., M.B., Ch.B.Glasg., Medical Officer, Blackburn Union Institution.

GOLDIE, W. L., F.R.C.S.Eng., D.P.H., Medical Officer of Health for Leamington.

O'CONNOR, Mary, M.B., B.Ch., B.A.O., N.U.I., School Medical Officer, Plymouth Town Council.

RAFFAN, JAMES, M.D., F.R.C.S.Edin., Surgeon to the Huddersfield Royal Infirmary.

SAVY, Félix, M.B., Ch.B.Glasg., Medical Superintendent, The Grampian Sanatorium, Kingussie, Inverness-shire.

SCOTT, C. T., M.D.Cantab., Medical Officer, Market Harborough Union Institution.

WILSON, P. F., M.B., B.Ch.Cantab., Medical Officer of the Cottage Homes of the Hitchin Union.

DISTRICT MEDICAL OFFICERS.—H. Archer, L.M.S.S.A. (Bridgwater Union). C. D. Day, M.A., L.M.S.S.A. (Dorchester Union). W. L. Ingham, M.B., Ch.B.Leeds (Halifax Union). G. H. Johnson, M.R.C.S., L.R.C.P. (Romsey Union). G. H. Jones, M.R.C.S., L.R.C.P. (Woodstock Union). C. O'C. Parsons, L.R.C.P. and S.Edin., L.R.F.P.S.Glasg. (Ecclesall Bierlow Union). H. F. Renton, M.D. (Doncaster Union). W. G. Richards, M.B., (Llandilofawr Union).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.** (after March 24th it will be **7s. 6d.**), *which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

ADAMS.—To Dr. and Mrs. John Adams, of Bishops Castle, Salop, on March 2nd, the gift of a son.

DOLAN.—February 27th, 1920, at the private nursing home, 29, Upper Mount Street, Dublin, the wife of Dr. C. Dolan, Ballinamore, co. Leitrim, of a son.

FRANKLIN.—On the 5th February, 1920, at Indore, Central India, the wife of Major G. D. Franklin, O.B.E., Indian Medical Service, of a son.

HARKER.—On January 17th, at 18, Queen's Road, Southport, to Dr. and Mrs. Thomas H. Harker, a daughter.

YOUNG.—On February 9th, at 5, Newton Place, Glasgow, W., to Gavin Young, M.C., M.B., Ch.B., and Mrs. Young (*née* Marjorie Kerr Love), a son.

DEATHS.

ENGLISH.—On the 3rd March, at 33, Gilston Road, S.W., suddenly, of heart failure following bronchitis, Dr. Thomas Johnston English.

MILBURN.—On March 3rd, at The Laurels, Kidlington, near Oxford, Frederick Le Fèvre Milburn, M.R.C.S., L.S.A., aged 77. R.I.P.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 20TH, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
HOSPITAL RECONSTRUCTION	81
TERRITORIAL FORCE MEDICAL SERVICE	81
POSTAL MEDICAL SERVICE	81
MEETINGS OF BRANCHES AND DIVISIONS	81
ASSOCIATION NOTICES:	
ELECTION OF REPRESENTATIVE BODY AND COUNCIL	82
BRANCH AND DIVISION MEETINGS TO BE HELD	82
ASSOCIATION INTELLIGENCE	84
INSURANCE—CORRESPONDENCE:	
THE ARBITRATORS' AWARD	
AN APPRECIATION AND A SUGGESTION	83
COMMITTEE ON MEDICAL RECORDS	83
GENERAL MEDICAL COUNCIL: EXECUTIVE COMMITTEE	83
NAVAL AND MILITARY APPOINTMENTS	84
DIARY OF SOCIETIES AND LECTURES	84
APPOINTMENTS	84
BIRTHS, MARRIAGES, AND DEATHS	84

British Medical Association.

CURRENT NOTES.

Hospital Reconstruction.

THE meeting of the Ministry of Health Committee of the British Medical Association on March 12th was attended, by invitation, by Sir Hamilton Ballance (Norwich), Sir James Galloway (London), Mr. A. E. Morison (Sunderland); Sir John Rose Bradford and Dr. Raymond Crawturd (representing the Royal College of Physicians of London); and Mr. Raymond Johnson and Mr. Charles Ryall (representing the Royal College of Surgeons of England). Mr. E. B. Turner was in the chair. At previous meetings the Committee had considered the question of the nature of the medical provision that should be made for the community, had reported on it, and had arrived at the conclusion that suitable residential accommodation should be provided in every area, by means of primary hospitals, where the medical attendance would be carried out by the general practitioners of the locality; that patients should be admitted to such primary hospitals on the recommendation of a general practitioner, and should pay an agreed sum for maintenance; but that the medical fees be a matter for arrangement in each case between the doctor and the patient. The Committee considered that the establishment of such primary hospitals was an urgent matter, and that in connexion with them provision should be made for maternity cases. It went on to express the view that hospitals for cases of a more special nature should be established in larger areas, to be linked up with the primary hospitals; that no patient should be admitted to such a hospital without the recommendation of a general practitioner, except in case of emergency; and that an agreed sum for maintenance should be paid to the hospital, either by the patient or from some other source. It was suggested that the provision of this hospital accommodation could be met to a large extent by utilizing the present voluntary hospitals and Poor Law infirmaries. It advised that the members of the staffs of these hospitals, who would be expected to attend for specific periods each week, should receive adequate remuneration upon a time basis. On March 12th the question of the remuneration of the staffs of these hospitals, and also of the teaching hospitals, was discussed. Those members of the staffs of such hospitals present for the most part expressed preference for the system under which their services are honorary. It was pointed out that at voluntary hospitals which had departments for pensioners and venereal disease payments were received and divided between the hospital and the medical staff; that in certain districts an important part of the income of the hospitals was derived from workmen's subscriptions; and that in them the voluntary subscriptions were looked upon as defraying the cost of the middle-class poor. There was general agreement that the accommodation now provided for in-patients was inadequate, but the contention that the extension should be made, in the first place, in order to give better service to insured persons was not so generally accepted. The whole question as to the nature of the medical provision which should be made for the community or parts of it is at present being discussed by the Ministry of Health Committee, and proposals in connexion therewith will be submitted to the Divisions before discussion at the Annual Representative Meeting.

Territorial Force Medical Service.

The special Subcommittee of the British Medical Association has under consideration the question of the reorganization of the Territorial Force Medical Service, and hopes shortly to be in a position to make representations to the War Office. It would be of considerable assistance to the Subcommittee to have the benefit of the opinion of those who served in the Force during the war and who are acquainted with the defects of the old system, or who have definite ideas as to reconstruction. The Medical Secretary would be glad to receive any suggestions.

Postal Medical Service.

Although there have been two increments, of 1s. in each case, to the capitation fee paid to postal medical officers there still seems to be a considerable amount of dissatisfaction with the terms of the service. This is not surprising when it is remembered that National Insurance practitioners are getting 11s. per head a year without drugs while the Post Office expects its medical officers to find drugs, dressings, and bottles, to say nothing of delivery, for 10s. 6d. The Postmaster-General seems to be of opinion that the proper mouthpiece of postal medical officers is the Association of British Postal Medical Officers, and that body has apparently assured him that these officers are satisfied. The British Medical Association has no means of knowing which of its members are engaged in post office work, and it is essential that such information should be available without delay. All members who are postal medical officers are therefore asked to send a postcard to the Medical Secretary stating briefly that they are engaged in post office work, and saying if they are members of the Association of British Postal Medical Officers. Many efforts have been made to obtain the friendly co-operation of that association in an attempt to improve the service, but without avail.

Meetings of Branches and Divisions.

NORTH WALES BRANCH: NORTH CARNARVON AND ANGLESEY DIVISION.

Dinner and Presentation.

ON February 27th the medical practitioners of North Carnarvonshire and Anglesey entertained to dinner, at the Anglesey Arms Hotel, Menai Bridge, their colleagues who served with the Forces during the war. The chair was taken by Dr. R. M. Williams, chairman of the local Division of the British Medical Association, whose tragic death three days later was recorded in our last issue.

After the usual loyal toasts had been honoured, Dr. Rowland Jones (Bangor) proposed the toast of the Navy, Army, and Air Forces, and Captain Morris Jones (Colwyn Bay) and Dr. William Fox Russell (Holyhead) responded. Dr. T. W. Clay (Holyhead), in submitting the health of the guests, paid a tribute to the gallant memory of Captain J. Fox Russell, V.C., son of the previous speaker, who was killed in action on November 6th, 1917. Interesting speeches were made in reply by Colonel Mills Roberts, Colonel John Evans (Carnarvon), and Major J. R. Williams (Penmaenmawr). The toast of the Ministry of Health was proposed by Dr. Lewys Lloyd (Towyn), and replied to by Dr. Parry Edwards, Medical Officer of Health for Carnarvonshire, and Dr. Arnold Davies, Medical Officer of Health for Anglesey. The toast of the British Medical Association was submitted by Dr. John R. Prytherch, who spoke of it as the one organization representing British medicine to-day. Dr. Alfred Cox, in his reply, urged the importance of doctors keeping the respect of the public. The long hours that doctors worked were the price of their unique relationship to the public, and he hoped the medical profession would continue to hold that its first duty was towards the patient. In the coming changes, he said, there would be more State interference with medical practice; that was part of the inevitable tendency of the present day, and they must take care that neither the public nor the doctors suffered. Dr. J. E. Thomas proposed the health of the Chairman, who had shown great enthusiasm for the dinner, and was himself mainly responsible for organizing it. Dr. Williams's reply was his last public utterance. During the evening a presentation of silver plate was made to Dr. Powell, the tuberculosis officer, and his wife, formerly tuberculosis nurse, on behalf of the medical men of the area.

Previous to the dinner a meeting of the Division was held under the chairmanship of Dr. R. M. Williams, which after the transaction of ordinary business was addressed by the Medical Secretary. He dealt with many matters of current interest and answered several questions.

NORTH OF ENGLAND BRANCH.

Post-Graduate Course.

A LETTER has been sent to all doctors in the North of England stating that a joint committee, comprising representatives of doctors in general practice, the Council of the College of Medicine, and the honorary staff of the Royal Victoria Infirmary, Newcastle-on-Tyne, have decided to carry on a further post-graduate class for twelve weeks during the summer, beginning on Tuesday, April 20th. The classes will not be held during race week or the following week.

The organization permits of forty practitioners attending each day. Each class is limited to ten graduates, and four classes of ten graduates will be held simultaneously. Every doctor will receive instruction in each of the subjects mentioned below on at least three class days, which will be run consecutively. Every Tuesday, from April 20th onwards, is arranged for the first class. Should a second class be necessary, it will be held every Thursday, from April 22nd. The inclusive fee for the course is £10 10s. For income tax purposes this can be reckoned in practice expenses. Those wishing to join the class are requested to send in their names, together with the tuition fee, before March 31st, to Mr. R. J. Willan, M.V.O., Honorary Secretary and Treasurer, 6, Kensington Terrace, Newcastle-upon-Tyne.

Subjects.

Anatomy of the arm and leg, particularly the blood vessels, the nerves and their distribution.
Physiology.
Pathology, including the examination of pathological secretions and collection of clinical material.
Bacteriology.
Medical clinical diagnosis.
Surgical clinical diagnosis.
Digestion from the medical aspect.
Digestion from the surgical aspect.
Diseases of the heart.
Injuries of the joints.
Skin diseases.
Diagnosis and treatment of syphilis.
Clinical aspect of blood diseases.
A series of clinical cases for diagnosis will be shown on each day.

THE Tasmanian Branch of the British Medical Association at its meeting on January 14th, 1920, resolved to request all Commonwealth, State, and municipal bodies dealing with medical appointments to arrange that when new appointments are made, all things being equal, preference is given in the first place to returned medical officers, and secondly, to those rejected as medically unfit.

Association Notices.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches, for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

THE list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and Nomination Form, appeared in the SUPPLEMENT of January 24th, page 22. Separate ***Nomination Forms*** will be forwarded by the Medical Secretary on application by Branches, Divisions, or Members. The Nominations must be in the hands of the Medical Secretary ***not later than May 17th.***

BRANCH AND DIVISION MEETINGS TO BE HELD

LANCASHIRE AND CHESHIRE BRANCH.—The annual meeting for 1920 will take place at Southport on June 9th. The members will be entertained at lunch by the Southport Division, and after the President (Dr. Baildon, Southport) has given his address scientific papers will be read. A number of excursions are being arranged for the afternoon, and in the evening members will dine together. Members desiring to bring forward papers should communicate with the Branch Secretary, Mr. F. S. Heaney, F.R.C.S.I., 36, Rodney Street, Liverpool.

INSURANCE.

CORRESPONDENCE.

The Arbitrators' Award.

SIR,—I see that the arbitrators have unanimously decided in favour of the Government that the insurance capitation fee should stand at 11s., and not be increased to 13s. 6d. as the doctors claimed. Well, the award has gone against us, and, though we are not satisfied with it, we must loyally accept it and do our best to give a good and satisfactory service to those insured persons who are on our lists.

It will not do for our profession, as other workers have done, to treat our agreements as scraps of paper, only to be carried out when in our favour; they must be looked upon as binding us honourably to perform what we have promised to do.

I shall be very curious to know what the stalwarts of the Medico-Political Union will do under the circumstances, and how the "men of Kent," of Southampton, and of York will act. Will they carry out the orders of head quarters and strike, or will they quietly accept the "filthy lucre," and, like Brer Rabbit, "say nuffin"? I wonder.

At any rate, I am sure that the great majority of the profession will accept service, and will do their best for all those who are on their panels. We, Sir, who have any sense of gratitude, must at the same time thank the Insurance Acts Committee of the British Medical Association for the great and unceasing help which they have given not only to their fellow members but to the profession at large.—I am, etc.,

Steeple Claydon, Bucks, March 10th. PHILIP L. BENSON.

An Appreciation and a Suggestion.

SIR,—Now that the capitation figure is settled, at least for twelve months, the outstanding features of the whole proceedings are the tremendous work done by Dr. Brackenbury on behalf of panel practitioners and the debt of gratitude due to him from every panel doctor in the country. On two occasions I have been privileged to attend the Panel Conference as a Representative, and each time what impressed me most was the extraordinary knowledge of the medical aspects of the Insurance Act possessed by Dr. Brackenbury, chairman of the Insurance Acts Committee.

This grasp of the subject could only be acquired by an enormous expenditure of time and trouble, and I think the time has come when panel doctors should, in some tangible form, acknowledge their indebtedness to him. I write as a member of that class of panel doctor who has most complaints to make of insurance practice—the truly rural practitioner who spends most of his time motoring over surfaces flattered by the name of roads. But at last, after all these years, the claims of the rural man have been admitted, and, to pay for the time, trouble, and expense of travelling, we are told £300,000 will be substituted for £34,000. (Why £34,000 when the sum originally allocated by Mr. Lloyd George was £50,000 for "mountainous, moorland, and fen districts"?)

This substantial result is due largely to the indomitable perseverance and forcible augmentative power of Dr. Brackenbury, and if we had a few men with his enthusiasm and ability in Parliament we would be better served.

To prove that panel practitioners are not altogether devoid of a sense of gratitude for work well done on their behalf I beg to suggest that some form of testimonial to Dr. Brackenbury be initiated to which all panel doctors would be invited to subscribe, and I am sure the result would not be disappointing.

That we have not got all we wanted is certainly not the fault of the Chairman of the Insurance Acts Committee, and if, at some future time, we are to get all we demand, it will only be attained (in the words of Dr. Brackenbury) by "the entire support, both moral and financial, of the whole profession."—I am, etc.,

Rothbury, Northumberland, March 15th. A. S. HEDLEY.

COMMITTEE ON MEDICAL RECORDS.

THE Minister of Health has added to the Committee, which, as announced in the SUPPLEMENT last week, has been appointed to deal with the subject of medical records, Mr. G. S. W. Epps, F.I.A., representing the Department of the Government Actuary.

GENERAL MEDICAL COUNCIL.

EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee of the General Medical Council was held on February 23rd, when Sir DONALD MACALISTER, President of the Council, was in the chair.

Reciprocity with Alberta, Canada.

A communication was received from the Privy Council stating that an Order in Council, dated November 27th, 1919, had been issued, extending Part II of the Medical Act, 1886, to the province of Alberta. A communication was received from the Colonial Office transmitting an amendment of the Alberta Medical Profession Act, 1906, providing that corresponding action would be taken in the province. The Registrar has been instructed to register the holders of the L.C.P. and S. of Alberta on the British *Medical Register*.

University of South Africa.

A communication transmitting the draft of the complete curriculum for the degree of M.B., B.Ch., U.S. Africa, received from the School of Mines and Technology of the University of South Africa, was considered. It inquired what the attitude of the Council would be when the recognition of the degrees became immediate, and as to any features of the curriculum likely to prove unsatisfactory or inadequate. The President directed that the School be informed that Part II of the Medical Act must be extended to South Africa before any medical degrees or diplomas granted there could be registered by the Council, but that the licensing bodies here might recognize *pro tanto* any part of the curriculum and examinations they approved other than the final or qualifying examinations. The action of the President was approved.

South Australia.

A copy of the South Australia Medical Practitioners Act, 1919, received from the Colonial Office, was entered on the minutes.

University of Wales.

The President was reappointed as representative of the Council on the Medical Board of the University of Wales for three years, from May 11th, 1920.

Inspection and Examinations.

It was reported that Dr. R. Bruce Low, C.B., had accepted the post of inspector of D.P.H. examinations and had begun his duties. The question of the appointment of inspectors of examinations in medicine, surgery, and midwifery was considered, and names were suggested of gentlemen who might be invited by the President to act.

Nurses' Registration, Ireland.

The PRESIDENT explained, with reference to a communication from the Privy Council, that in the opinion of the Minister of Health the Nurses' Registration Bills differed from the Midwives Acts in two respects: (1) Rules to be framed did not purport to regulate the practice of nurses; and (2) rules made had to be laid before Parliament before approval by the Privy Council; it was therefore deemed unnecessary to submit them formally to the General Medical Council. With regard to the nomination of registered medical practitioners on the first nurses' registration council, it was agreed that the General Medical Council should be asked to suggest names, and the Executive Committee had been consulted, as promised. The President reported that, in response to the request of the Ministry of Health, he had, after consulting the members of the Committee by correspondence, submitted on behalf of the Council the name of Sir Francis Champneys as a member of the council to be constituted under the Nurses' Registration Act.

Massage and Medical Gymnastics.

A letter from the Privy Council dated January 14th, 1920, transmitting a petition from a body to be known as the Chartered Society of Massage and Medical Gymnastics, was submitted, and the President's reply thereto approved. The President, in this reply, stated

that in his opinion the petition was submitted by all the leading medical and administrative authorities qualified to speak on the general subject of orthopaedics and massage treatment; that such incorporation would have the effect of prescribing a much needed standard of training and examination for masseurs and masseuses; that the objections raised in the cross-petition are those of an obscure and unrepresentative local organization, whose possible interests are negligible in comparison with those of the national organization proposed; and that the reply lodged on the cross-petition is unanswerable, and should be regarded as conclusive in favour of the grant prayed for.

Society of Radiographers.

The Board of Trade had transmitted an application from the Society of Radiographers under Section 20 of the Companies (Consolidation) Act, 1908, together with the memorandum and articles of association; the Committee resolved to inform the Board of Trade that it took no objection to the application and memorandum subject to certain modifications, one of which was as follows:

No non-medical member—that is, no member who is without the qualifications entitling him to practise in Great Britain or Ireland as a physician or surgeon—shall accept patients for radiographic, radioscopic, or therapeutic work except under the direction and supervision of a qualified medical practitioner, and any breach of this regulation shall be deemed conduct unfitting the member guilty thereof to remain a member of the society.

The Executive Committee requested that if in future any alterations should be made in the memorandum or articles of association, the Council should be afforded an opportunity of considering them.

Qualifications Restored.

It was reported that all the qualifications of Mr. William Dutton Akers have now been restored to him.

Dental Business.

Communications from the Colonial Office transmitting the British Columbia Dentistry Amendment Act, 1919, the Alberta Dental Association Amendment Act, 1919, Prince Edward Island Dental and Amendments Acts, and the Nova Scotia Dental Act Amendment Acts, 1919, were referred to the Dental Education and Examination Committee.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: F. C. Robinson to the *Cambrian*: J. A. L. Campbell, O.B.E., to the *Pembroke VIII*, for Immingham Naval Dépôt; J. L. Barford, to the *Actaeon*. Surgeon Lieutenant Commanders: F. St. B. Wickham, O.B.E., to the *Ganges II.* for Shotley Sick Quarters; F. J. D. Twigg to the *Camellia*; H. C. Devas to Yarmouth Hospital. Surgeon Lieutenant: C. E. Greeson to the *Stuart*.

ARMY MEDICAL SERVICE.

Colonel A. G. Thompson, C.M.G., D.S.O., retires on retired pay (November 19th, 1919, substituted for notification in the *London Gazette*, November 21st, 1919).

ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieut.-Colonel A. W. Gibson relinquishes the acting rank of Lieutenant-Colonel.

Major J. E. H. Gatt retires on retired pay (January 20th, 1920, substituted for notification in the *London Gazette*, January 21st, 1920).

Temporary Captains relinquish the acting rank of Major: J. W. C. Gunn, L. R. Broster, J. Alexander, A. C. Bryson.

Captain S. Robinson, M.C., resigns his commission.

Temporary Captain G. Marshall to be acting Major.

The notification in the *London Gazette* of September 3rd, 1919, regarding temporary Captain William Tudhope is cancelled.

J. B. Mason, late temporary Captain, to be temporary Captain, seniority from September 7th, 1916.

Temp Lieutenant G. A. Fotheringill to be temporary Captain.

G. R. Waller to be temporary Lieutenant.

The following officers relinquish their commissions: Temporary Major (acting Lieut.-Colonel) C. E. Ligertwood, D.S.O., and is granted the rank of Lieutenant-Colonel; temporary Captain acting Major) H. Dudley on account of ill health (October 17th, 1918, and is granted the rank of Major (substituted for notification in the *London Gazette*, October 16th, 1918).

Temporary Captains and retain the rank of Captain: J. M. D. Scott, J. Manuel, M.C., J. D. Mackinnon, M.C., W. S. Perrin, R. Haslam, W. Gault, D. G. S. Gartshore.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Flight Lieutenant H. W. Scott to be acting Squadron Leader whilst employed as Squadron Leader.

Transferred to the unemployed list:—Captains: A. E. Collie, H. F. Squire, G. Dunderdale; Lieutenant R. E. Burns.

GENERAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain S. Robertson, M.C., late Captain R.A.M.C., to be Captain.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

23 Tues. London: Public Health Committee, 3 p.m.
23 Tues. London: Medical Officers of Health Subcommittee, 11.30 a.m.
24 Wed. London: Medico-Political Committee, 2 p.m.
25 Thurs. London: Insurance Acts Committee.
25 Thurs. Brighton Division, Children's Hospital, 4 p.m., Clinical Demonstration (General).
26 Fri. London: Ministry of Health Committee, 2.30 p.m.
30 Tues. London: Organization Committee.

APRIL.

1 Thurs. London: Organization Committee, 2 p.m.
7 Wed. London: Finance Committee, 2.30 p.m.
14 Wed. London: **Council**.
21 Wed. North Middlesex Division: Lecture by Mr. A. Fleming, F.R.C.S., on Vaccine Therapy.
28 Wed. Plymouth Division: Lecture by Sir Frederick Mott, K.B.E., F.R.S.: The Early Symptoms and Diagnosis of Diseases of the Spinal Cord.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 8.30 p.m., Discussion on Re-education after Amputation, to be opened by Mr. Muirhead Little, F.R.C.S.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tuesday and Thursday, 5 p.m., Lumleian Lectures by Sir J. Rose Bradford, K.C.M.G., C.B.: Clinical Experiences of a Physician during the Campaign in France and Flanders, 1914–1919.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology*: Monday, 8 p.m., Casual Communications by Mr. Frank Coleman, Mr. F. N. Doubleday, Mr. Montagu Hopson, Mr. S. F. St. J. Steadman, Mr. Harry Stobie, and Mr. Watson Turner. On Pyorrhoea, by Mr. Gerald B. Ash. *Section of Medicine*: Tuesday, 5.30 p.m., Dr. Mackenzie Wallis will open a discussion on Non-nephritic Albuminuria, followed by Dr. Batty Shaw and Dr. Tyson. Social Evening, Tuesday, 8.30 p.m.: Reception by the President, Sir Humphry Rolleston and Lady Rolleston. Dr. G. Murray Levick: Penguin Slides taken in the Antarctic during the Scott Expedition. Various objects of interest will be exhibited in the Library. Music and light refreshments. *Section of Epidemiology and State Medicine*: Friday, 8.30 p.m., Dr. S. Monckton-Copeman, F.R.S.: Small-pox. Members of the Section who wish to attend the dinner at the Welbeck Palace Hotel at 7 p.m. should notify Dr. M. Greenwood, Lister Institute, Chelsea Gardens, S.W.1, by March 24th.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Dr. Burrell: Vital Capacity in Pulmonary Tuberculosis.

MANCHESTER: ANCOATS HOSPITAL.—Thursday, 4 p.m., Mr. Platt: Principles of Treatment of Fractures.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. Charles Roberts: Chronic Inflammations and Cysts of the Breast.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Monday, 2 p.m., Out-patients, Dr. Collier; 3.30 p.m., Ward Cases, Dr. Aldren Turner. Tuesday, 2 p.m., Out-patients' Clinic, Dr. Grainger Stewart; 3.30 p.m., Dr. Tooth: Encephalitis. Wednesday, 2 p.m., Demonstration of Fraenkel's Exercises by Mr. Elmquist; 3.30 p.m., Dr. Collier: Aphasia and Apraxia, II. Thursday, 2 p.m., Out-patients, Dr. Farquhar Buzzard; 3.30 p.m., Ward Cases, Dr. Saunders; Friday, 2 p.m., Out-patients, Dr. Gordon Holmes; 3.30 p.m., Demonstration of Fraenkel's Exercises by Mr. Elmquist. Saturday, 9 a.m., Surgical Operations.

NEWCASTLE-ON-TYNE: ROYAL VICTORIA INFIRMARY.—Friday, 1 p.m., Mr. Grey Turner: Operations. 3.15 p.m., Mr. H. B. Angus: Diagnosis and Treatment of Fractures. 4.30 p.m., Professor R. P. R. Lyle: Diagnosis of Uterine Diseases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Tuesday, 2 p.m., Dr. F. G. Crookshank: Joint Disease in Children (Demonstration). 4.30 p.m., Dr. C. H. Hayton: Inflammatory Diseases of the Middle Ear (Lecture).

SHEFFIELD ROYAL HOSPITAL.—Monday, 3.0 p.m., Dr. Nutt: Ionic Medication, Radium Therapy, etc. Tuesday, 4 p.m., Dr. Hay: Ophthalmic Operations. Wednesday, 3.30 p.m., Dr. Wilkinson: Cerebral Complications. Thursday, 3.30 p.m., Dr. Skinner: Ear and Nose Suppurations. Friday, 4 p.m., Dr. Hay: Common Mistakes in Diagnosis and Treatment of Eye Diseases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Saturday (March 20th), 10 a.m., Mr. Banks Davis: Throat, Nose, and Ear Operations. Monday, 12.15 p.m., Dr. Burnford: Pathological Demonstration. Tuesday, 5 p.m., Mr. Tyrrell Gray: Congenital Hypertrophic Stenosis of the Pylorus. Wednesday, 5 p.m., Mr. Gibb: Glaucoma. Thursday, 5 p.m., Mr. Baldwin: Practical Surgery. Friday, 5 p.m., Special Lecture, Sir W. Arbuthnot Lane, Bt.: Intestinal Stasis.

APPOINTMENTS.

ABRAHAMS, Adolphe, O.B.E., M.D.Camb., M.R.C.P., Assistant Physician to Westminster Hospital.

FOURACRE, S. F., M.B., B.S. Lond., Honorary Anaesthetist to Charing Cross Hospital and to the National Dental Hospital (Dental Department of University College Hospital).

HIGGINS, Thomas Twistington, M.B., Ch.B., F.R.C.S., Surgeon to Out-patients at the Great Northern Central Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **6s.** (after March 24th it will be **7s. 6d.**), *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

AYLWARD.—On March 12th, at Herringswell, 4, Bretland Road, Rusthall, Tunbridge Wells, to Dr. and Mrs. Roy. D. Aylward, a daughter.

CRAWSHAW.—At Low Wood, Greenmount, near Bury, on the 10th March, to Dr. and Mrs. George Crawshaw, a daughter.

MILBANKE.—On the 29th February, to Dr. and Mrs. Milbanke, of South Hill Crescent, Sunderland, a daughter.

NOALL.—At Gorse Cottage, Strensall, York, on March 15th, the wife of W. Paynter Noall, M.S., F.R.C.S., of a daughter.

DEATHS.

MILLARD.—On the 1st March, at his residence, Annandale, Charlton Kings, Cheltenham, William Joseph Kelson Millard, M.D., F.R.C.P.E., M.R.C.S., L.S.A.

PINSON.—On March 11th, John Hugh, infant son of Mr. and Mrs. K. B. Pinson, 155, High Street, Chorlton-on-Medlock, Manchester, aged 5 weeks.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 27TH, 1920.

CONTENTS.

PAGE

Matters Referred to Divisions.

FEES FOR MEDICAL EXAMINATIONS FOR LIFE INSURANCE 85
PAYMENT OF MEDICAL STAFFS OF HOSPITALS FOR PENSIONS WORK 86
TRAINING OF MIDWIVES 86

CURRENT NOTES:
- BRITISH MEDICAL ASSOCIATION LECTURES 86
- SURPLUS LIBRARY BOOKS 87
- INCOME TAX OF CIVILIAN DOCTORS ON WAR WORK ... 87
- SCIENTIFIC MEETINGS: NORTH OF ENGLAND BRANCH ... 87
- MEDICAL CINEMATOGRAPH FILMS 87

MEETINGS OF BRANCHES AND DIVISIONS 87
PROGRAMME OF ANNUAL MEETING AT CAMBRIDGE ... 88

PAGE

ASSOCIATION NOTICES:
- MEETING OF COUNCIL 87
- ELECTION OF REPRESENTATIVE BODY AND COUNCIL ... 87

INSURANCE:
- *CORRESPONDENCE* 89
- LOCAL MEDICAL AND PANEL COMMITTEES 91

CERTIFYING FACTORY SURGEONS: ABOLITION OF SIXPENNY FEE FOR EXAMINATION 91
NAVAL AND MILITARY APPOINTMENTS 91
ASSOCIATION INTELLIGENCE 92
APPOINTMENTS 92
DIARY OF SOCIETIES AND LECTURES 92
BIRTHS, MARRIAGES, AND DEATHS 92

SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

Matters Referred to Divisions.

FEES FOR MEDICAL EXAMINATIONS FOR LIFE INSURANCE.

THE Annual Representative Meeting, 1919, directed the Council to consider and report on the question of fees for medical examinations for life insurance, a subject which has engaged the attention of the Association on many occasions during the past eighteen years and on which it has always been found impossible to obtain anything like agreement on a policy.

The Medico-Political Committee has on this occasion fully discussed the matter with the Life Offices Association, a body representative of all British Life Insurance Companies. The agreed report of that discussion is appended, and it is hoped that it will receive the immediate and earnest attention of the Divisions.

Based on this report, the Medico-Political Committee has arrived at certain conclusions which will be submitted to the Council and will form part of the Council's Report to the Annual Representative Meeting, 1920. In addition to instructing their Representatives Divisions should also forward their opinions to the Medical Secretary in order that, if necessary, there may be a supplementary report on the subject.

RECOMMENDATIONS.

(*a*) *Industrial Offices.*—That the fee for medical examination for industrial insurance be 5s. (minimum) or 10s. 6d., according to the form of report asked for.

(*b*) *Intermediate Offices*—that is, the ordinary branch of industrial offices and ordinary offices which issue policies whose average amount is small (for example, ordinary branch of Prudential and the Provident Mutual Life): That the minimum fee for medical examination be 10s. 6d. for policies up to and including £100, and 21s. if over £100.

(*c*) *Ordinary Offices.*—That the fee for medical examination be 21s., whatever the amount of the policy.

(*d*) That the fee for a medical certificate (without medical examination) for children proposed for "thrift policies" remain at 10s. 6d.

(*e*) That in no case shall any reduction be made in any existing fee for medical examination for life insurance.

(*f*) That no attempt be made to standardize the guinea form of report, as there are only slight differences between the forms already in use in most British offices.

(*g*) That representations be made to the Life Offices Special Committee as to the modification of these forms which are objectionable from the medical examiners' point of view.

The above proposals represent considerable improvements on the present position. They are as follows:

(*a*) About 35 companies will pay a guinea for insurances of £100 which previously only paid 10s. 6d. Of these companies, 20 are still paying 10s. 6d. where the sum assured is under £300, and 7 pay 10s. 6d. where the sum is under £500.

(*b*) There will be no reduction in any of the existing fees, and some of the intermediate fees will be levelled up—that is to say, a 3s. fee would go up to 5s., and a 7s. 6d. fee would go up to 10s. 6d.

(*c*) The 2s. 6d. fee for small industrial insurances disappears altogether, and is replaced by a 5s. fee.

The Association has made strong representations in favour of a general increase on all the pre-war fees and suggested a 50 per cent. increase on the guinea fee, but this the life assurance offices have absolutely refused to accept. They consider that they have made a great concession by the raising of the 10s. 6d. fee to a guinea, and they will strenuously resist any attempt on the part of the profession to obtain a fee higher than a guinea for what they call a normal examination. They will in the future, as in the past, continue to pay higher fees for exceptional cases.

In discussing the matter the Divisions must remember that the life assurance offices have stated that they are prepared, if the offer now made is refused, to meet the situation by eliminating medical examinations in a large number of cases (as is already done by some companies) and by combining either to create whole-time examiners in the large towns, or to place a very considerable amount of work in the hands of two or three men in those towns.

APPENDIX.

Report of Conference.

Report of a Meeting of Representatives of The Life Offices Association, the Associated Scottish Life Offices and the British Medical Association, held at the Offices of the Alliance Assurance Company, Limited, Bartholomew Lane, E.C., on Thursday, the 11th December, 1919.

PRESENT:—*The Life Offices Association*—Mr. A. Levine (in the Chair), Messrs. Besant, Coutts, Hovil, Laing, Thompson, and Mr. Humphry (Secretary).

Associated Scottish Life Offices—Mr. A. K. Rodger, M.P.

British Medical Association—Drs. J. W. Bone, John Clarke, A. Fulton, R. Wallace Henry, R. E. Howell, H. C. Mactier, A. Cox (Medical Secretary) and Courtenay Lord (Assistant Medical Secretary).

The Chairman in opening the proceedings stated that the Meeting had been arranged to discuss informally the question of the Fees at present paid to Medical Practitioners by the Life Assurance Offices in respect of Medical Examinations and Reports and to consider the desirability or otherwise of their

revision. He suggested that it would be convenient to divide the Offices into three classes, namely, Ordinary, Industrial and Intermediate, and to deal with the matter separately in regard to each class. At the request of a representative of the British Medical Association the classes were defined as :—

Ordinary.—Offices in which the amounts assured by the policies issued range from £100 upwards and average perhaps about £500, and in which the premium is usually paid at intervals of not less than three months, and the first premium may average something like £15 to £20.

Industrial.—Offices in which the sums assured by the policies issued are very small and the premiums are collected by weekly instalments of a few pence.

Intermediate.—Offices in which premiums are principally paid at monthly or longer intervals but the average amount of the policies issued is approximately £120 to £125.

It was understood that the representatives present were not authorised to commit their respective Associations to any agreement.

A very full discussion ensued, during which attention was called to the desirability of examinations in all cases (with the exception of purely industrial assurances) being of a thorough character and to the great diversity of practice among the Offices in regard to the number of questions appearing on their forms. Reference was made to the strong feeling in the medical profession that the 2s. 6d. fee in industrial assurances should be abolished, and it was suggested by a representative of one of the Industrial Offices that it might be possible to dispense with examinations altogether in industrial and the smaller ordinary cases as the limited experience of certain Offices in this direction had been very favourable.

The doctors present reported that there was strong feeling on the part of the medical profession that insurance fees generally should be increased in view of the general rise in prices.

It was agreed that some revision of the existing fees and a standardisation of forms was desirable and that a reasonable basis for consideration would be :—

(1) *Ordinary Offices.*—A fee of £1 1s. for all examinations—the report being made in a standardized form to be agreed, or one of less complexity should any Office prefer remuneration for any supplementary report required by the Office to be arranged between the parties concerned.

(2) *Industrial Offices.*—A fee of 5s. to be allowed as a general rule in industrial proposals, the report being made in a standardized form to be agreed.

(3) *Intermediate Offices.*—Including the Ordinary Department of Industrial Offices. A fee of 10s. 6d. in all cases where the sum assured does not exceed £100, the report being made in a standardized form to be agreed. In cases where the sum assured exceeds £100 a fee of £1 1s. to be paid and the standardized form applicable to ordinary offices to be used.

(4) The fee to be paid in all cases for reports from the medical attendant of an applicant, where no examination is required, should not exceed £1 1s.

(5) No fee should be charged for a reply to the ordinary enquiries in cases in which the name of a medical practitioner has been given as a reference in his private capacity.

It was decided that an agreed report be prepared and submitted to the respective Associations, it being understood that, if the principle of standardized forms be accepted, the actual questions to be embodied in the forms should be decided in consultation.

The meeting then adjourned.

PAYMENT OF MEDICAL STAFFS OF HOSPITALS FOR PENSIONS WORK.

THE following resolution, which will be considered at the Annual Representative Meeting in June, has been passed by the Council:

That for all work for soldiers and sailors, whether discharged or not, for any disease or injuries connected with the war, undertaken at voluntary hospitals, the medical staffs should be adequately remunerated. In any case the remuneration should represent an addition of not less than 25 per cent. to the cost of maintenance of in-patients, and not less than 25 per cent. of the ascertained cost per patient per attendance for out-patients, the additional sum to be placed at the disposal of the medical staff; that in the case of special clinics (for example, aural and ophthalmic) the fee payable to the medical practitioner should not be less than the fee payable by the Ministry of Pensions for identical or similar services—namely, £2 2s. per session.

So far as in-patients are concerned the resolution is self-explanatory.

As regards out-patients, it might appear that the amount which will be produced is very small, but careful consideration will show that it may in fact be a fairly substantial sum. Supposing the ascertained cost per patient per attendance were 2s., then 6d. would be the amount to be paid into the medical pool for each time the disabled person attends as an out-patient. Many of these cases are not seen by a medical man at all, as, for example, in the case of an orthopaedic out-patient, where the patient simply attends on many occasions for massage or other treatment given by masseur, masseuse, or nurse. It has been found by experience that the percentage recommended has made available an amount sufficiently large to remunerate to their satisfaction those of the medical staff who attend disabled persons in the hospitals.

The whole matter is being discussed by the Hospitals Committee of the Association, the British Hospitals Association, and the Ministry of Pensions, and the resolution which is to be submitted to the Representative Body has been favourably considered by these bodies and is awaiting the decision of the Treasury.

It is now desired that the Divisions will give the subject their consideration and send their views to the Medical Secretary, either in the form of suggestions for the Hospitals Committee, which could receive attention before the issue of the Report of Council, or in the form of a motion for the Annual Representative Meeting. It is hoped that the Secretaries of Divisions in which this pension work is being carried on will put the subject down on their agenda for the next meeting, and specially ask the doctors attached to the hospitals to attend.

TRAINING OF MIDWIVES.

ON September 19th, 1919, the Board of Education issued a set of draft Regulations for the training of midwives with most of which every member of the profession will be in entire agreement. Paragraph 3 of the memorandum, however, says:

Under modern conditions a midwife should be competent not only to attend confinements but to advise her clients in regard to ante-natal conditions (other than those requiring medical attention), and the care of the newly-born child. It follows that in accordance with the requirements of the Central Midwives Board the curriculum should provide not only for the training of the student to follow the profession of the midwife in its narrow interpretation, but also for giving her a satisfactory knowledge of such subjects as the hygiene of pregnancy, the care and management of the infant, the best methods of encouraging breast feeding, hand feeding of infants, and some practical acquaintance with elementary hygiene, personal, domestic, and general. The student should also be made familiar with the work of maternity centres, infant welfare centres, and other similar institutions.

The Medico-Political Committee, while agreeing that it is desirable that midwives should be instructed in the hygiene of pregnancy, is of opinion that they should be given no responsibility for ante-natal conditions, for which skilled medical advice should always be sought; that midwives should be instructed that in all cases of pregnancy in which they are engaged for the confinement they should advise the patient to consult a doctor before the event; and that a suitable fee for this ante-natal examination should be included in the fees prescribed by the Ministry of Health.

The Committee would be glad if the Divisions would consider this matter and favour it with their comments, and would urge that in discussing the matter the opinion not only of general practitioners but of those concerned in training midwives should be sought.

British Medical Association.

CURRENT NOTES.

British Medical Association Lectures.

A LECTURE on "Vaccine Therapy" will be delivered by Mr. A. Fleming, F.R.C.S., at the meeting of the North Middlesex Division on April 21st. Sir Frederick Mott, K.B.E., F.R.S., will lecture on "The Early Symptoms and Diagnosis of Diseases of the Spinal Cord" at the meeting of the Plymouth Division on April 28th. Lieut.-Colonel R. McCarrison, I.M.S., will lecture on "Deficiency Diseases" at a meeting of the South Wales and Monmouthshire Branch to be held next month.

Surplus Library Books.

Honorary secretaries of Divisions and Branches which have libraries are informed that surplus books in the Library of the Association may be obtained by them on application to the Librarian, British Medical Association, 429, Strand, W.C.2, who will supply a list of such books.

Income Tax of Civilian Doctors on War Work.

Owing to the difficulty in interpreting the exact meaning of what constitutes war work several cases have been sub mitted to the Association with a view to obtaining a ruling as to whether the lower rate of income tax applied to them. The following four specific cases were therefore put to the Commissioners of Inland Revenue:

(1) A., a civilian practitioner, acts as a member of a recruiting board, practically to the exclusion of his private work.
(2) B. attends at a V.A.D. hospital daily and is paid for his attendance.
(3) C. attends daily at a war hospital and is paid a fixed sum per day.
(4) D., a woman doctor on a whole-time contract with the War Office, is detailed to attend W.R.A.F. personnel.

The question was asked, "Can any or all of these examples claim the lower rate of income tax?" The answer of the Commissioners was to the effect that they would make no objection in the case of examples 2 and 3, but that examples 1 and 4 were not considered to be performing service of a naval or military character which would entitle them to the reduced rate of income tax. The reduced tax of course only applies to such part of the income as is paid by the Treasury. The reply as regards 1 and 4 is not considered entirely satisfactory, and further inquiries are being made. It appears anomalous, for example, that a woman doctor on a whole-time contract who happens to be detailed to attend W.R.A.F.'s and Q.M.A.A.C.'s should not be entitled to the benefits mentioned, whereas if she were attending soldiers in a military hospital she would be.

Scientific Meetings: North of England Branch.

It is gratifying to learn that the revival of scientific meetings of the North of England Branch of the British Medical Association, which were discontinued during the war, has been most successful. That these meetings have lost none of their former popularity is shown by the average attendance of ninety at the October, November, and December meetings. The success of these post-graduate demonstrations has resulted in their extension under the joint auspices of the British Medical Association, the Council of the University of Durham College of Medicine, and the honorary staff of the Royal Victoria Infirmary, Newcastle-on-Tyne. The new scheme, of which particulars were given in last week's SUPPLEMENT, provides for weekly classes lasting for three months.

Medical Cinematograph Films.

The question of making more effective use of existing medical cinematograph films, as well as that of arranging for the preparation of further medical films, is under consideration by the British Medical Association. The Medical Secretary would be grateful if members in possession of, or having the control of, any films of special medical interest would kindly send him information as regards the subjects dealt with and the number of films.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, April 14th, in the Council Room, 429, Strand, London, W.C. 2.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

Motions for the Annual Representative Meeting.

Notices of Motion by Divisions, Constituencies, or Branches, for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

THE list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and Nomination Form, appeared in the SUPPLEMENT of January 24th, page 22. Separate ***Nomination Forms*** will be forwarded by the Medical Secretary on application by Branches, Divisions, or Members. The Nominations must be in the hands of the Medical Secretary ***not later than May 17th.***

BRANCH AND DIVISION MEETINGS TO BE HELD.

GLASGOW AND WEST OF SCOTLAND BRANCH.—Dr. A. Kennedy Glen, Honorary Secretary (Glasgow), gives notice that the Annual General Meeting of the Branch will be held in the Faculty Hall, 242, St. Vincent Street, Glasgow, on Wednesday, March 31st, at 4 p.m., when Dr. William Snodgrass will preside. Business: Honorary Secretary's Report. Honorary Treasurer's Report. Election of office-bearers. Consideration of proposal to hold Annual Meeting of the Association in Glasgow in 1922. Votes of thanks to past president and office-bearers. Demonstrations will be given (1) by Professor Carl Browning, on The Significance and Method of Determining Acetonuria; (2) by Dr. G. Haswell Wilson, on The Isolation of Tubercle Bacilli from Human Lesions: an Investigation on the Types of Tubercle Bacilli responsible for Disease.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—Dr. W. Paterson, Honorary Secretary (12, Craven Park Road, N.W.10) gives notice that a meeting of members and non-members will be held on Tuesday, March 30th, at 8.30 p.m., at St. Andrew's Parish Hall (Institute behind Church), High Road, Willesden Green. The business includes:—Agenda: Election of Representative for the Annual Representative Meeting, and consideration of the treatment of disabled soldiers as out-patients. The adjourned discussion on the general practitioner and municipal hospitals, clinics, etc. will be continued.

MIDLAND BRANCH: LINCOLN AND KESTEVEN DIVISION.—Dr. Godfrey Lowe, Honorary Secretary, Lincoln Division (42, Langworth Gate, Lincoln), gives notice that a meeting of members and non-members of the Lincoln and Kesteven Divisions will be held at Lincoln on Tuesday, April 27th, at 3 p.m. Dr. Alfred Cox, O.B.E., Medical Secretary, will attend and give an address, to be followed by a discussion. Further particulars will be announced later.

Meetings of Branches and Divisions.

GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW EASTERN DIVISION.

A MEETING of the Glasgow Eastern Division was held on February 26th, when Dr. GLAISTER, President, was in the chair. The HONORARY SECRETARY (Dr. J. Dunlop) reported with regard to the Conferences of Panel Committees held in London on November 23th and 29th, 1919, and in Edinburgh on February 11th, 1920. Communications from the central body were read and discussed. The Secretary was instructed to sign the copy of Revised Ethical Rules and return it to head office. It was decided to make an effort to join up with the Eastern Medical Society and ho'd the meetings jointly. On the suggestion of Dr. MCCUTCHEON it was decided to report to the Branch on the question of forming a medical club in Glasgow.

British Medical Association.

EIGHTY-EIGHTH ANNUAL MEETING, CAMBRIDGE, JUNE-JULY, 1920.

President: Sir T. CLIFFORD ALLBUTT, K.C.B., LL.D., M.D., F.R.S., Regius Professor of Physic, University of Cambridge.
Chairman of Representative Meetings: T. W. H. GARSTANG, M.A.Oxon., M.R.C.S.Eng., D.P.H.Vict. (Altrincham).
Chairman of Council: J. A. MACDONALD, M.D., M.Ch., LL.D., Hon. Physician, Taunton and Somerset Hospital.
Treasurer: G. E. HASLIP, M.D. (London).

PROGRAMME.

The President will give an address on Tuesday evening, June 29th, in the Senate House, followed by a reception in King's College by the Cambridge and Huntingdon Branch.

The REPRESENTATIVE MEETING will begin in the Examination Halls on Friday, June 25th, at 10 a.m.

The statutory ANNUAL GENERAL MEETING will be held at the Examination Halls on Tuesday, June 29th, at 2 p.m.

The Annual Dinner of the Association will be held in the Hall of St. John's College at 7.30 p.m. on Thursday, July 1st.

Religious services will be held in the University Church, Great St. Mary's, and in the Roman Catholic Church, at 5 p.m. on Wednesday, June 30th.

The Popular Lecture will be given by Dr. G. S. Graham-Smith, F.R.S., at 8.30 p.m. on Friday, July 2nd.

DEMONSTRATIONS.

Laboratory and clinical demonstrations will be given from 2.30 to 4.30 p.m. (Wednesday, Thursday and Friday). The Directors of demonstrations are:

Medicine: Dr. ALDREN WRIGHT, 2, Corpus Buildings, Cambridge.
Surgery: Mr. ARTHUR COOKE, M.B., B.Ch.Oxon., Grove Lodge, Cambridge.
Physiology: Professor J. N. LANGLEY, F.R.S., Physiological Laboratory, Cambridge.
Pharmacology: Professor W. E. DIXON, F.R.S., Pharmacological Laboratory, Cambridge.
Neurology: Dr. E. D. ADRIAN, Trinity College, Cambridge.
Pathology: Professor Sir G. SIMS WOODHEAD, Pathological Laboratory, Cambridge.

THE SECTIONS.

The Sections will meet from 10 a.m. to 1 p.m.

Sections meeting on three days: Wednesday, June 30, Thursday, July 1, and Friday, July 2.

MEDICINE.

President: Sir HUMPHRY D. ROLLESTON, K.C.B., M.D., F.R.C.P.
Vice-Presidents: THOMAS BEATTIE, M.D., F.R.C.P.; Professor JOHN B. BRADBURY, M.D., F.R.C.P.; Sir THOMAS J. HORDER, M.D., F.R.C.P.; F. W. BURTON-FANNING, M.D., F.R.C.P.; THOMAS LEWIS, M.D., F.R.S.
Honorary Secretaries: A. J. JEX-BLAKE, M.D., F.R.C.P. (13, Ennismore Gardens, London, S.W.7); W. E. HUME, M.D., F.R.C.P. (4, Ellison Place, Newcastle-on-Tyne); E. LLOYD JONES, M.D. (59, Trumpington Street, Cambridge).

SURGERY.

President: Sir GEORGE H. MAKINS, G.C.M.G., C.B., P.R.C.S.
Vice-Presidents: HARRY LITTLEWOOD, C.M.G., F.R.C.S.; Sir CUTHBERT S. WALLACE, K.C.M.G., C.B., F.R.C.S.; GEORGE EDWARD WHERRY, M.Ch., F.R.C.S.; DAVID PERCIVAL D. WILKIE, F.R.C.S.Edin.
Honorary Secretaries: WM. HENRY BOWEN, M.S., F.R.C.S. (24, Lensfield Road, Cambridge); G. E. GASK, C.M.G., D.S.O., F.R.C.S. (41, Devonshire Place, London, W.1); GORDON TAYLOR, O.B.E., M.S., F.R.C.S. (15, Harley Street, London, W.1).

NEUROLOGY AND PSYCHIATRY.

President: HENRY HEAD, M.D., F.R.S.
Vice-Presidents: GORDON M. HOLMES, C.M.G., M.D., F.R.C.P.; W. H. RIVERS RIVERS, M.D., F.R.S.; LEWIS E. SHORE, M.D.; T. GRAINGER STEWART, M.D., F.R.C.P.; THEODORE THOMPSON, M.D., F.R.C.P.
Honorary Secretaries: E. D. ADRIAN, M.D., M.R.C.P. (Trinity College, Cambridge); E. FARQUHAR BUZZARD, M.D., F.R.C.P. (78, Wimpole Street, London, W.1); GEORGE RIDDOCH, M.D. (10, Alba Gardens, Golders Green, London, N.W.4).

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S.
Vice-Presidents: J. A. ARKWRIGHT, M.D., F.R.C.P.; LOUIS COBBETT, M.D., F.R.C.S.; MERVYN H. GORDON, C.M.G., M.D.; T. S. P. STRANGEWAYS, M.R.C.S., L.R.C.P.
Honorary Secretaries: A. E. CLARK-KENNEDY, M.R.C.S., L.R.C.P. (Corpus College, Cambridge); A. E. GOW, M.D., F.R.C.P. (37, Queen Anne Street, London, W.1); HELEN INGLEBY, M.B., M.R.C.P. (35, Welbeck Street, London, W.1).

PHYSIOLOGY AND PHARMACOLOGY.

President: Professor F. GOWLAND HOPKINS, M.B., F.R.S.
Vice-Presidents: H. H. DALE, C.B.E., M.D., F.R.S.; Professor J. A. GUNN, M.D.; Professor D. NOËL PATON, M.D., F.R.S.; F. RANSOM, M.D.
Honorary Secretaries: D. V. COW, M.D. (The Bridge House, Great Shelford, Cambridge); EDWARD MELLANBY, M.D. (32, Addison Mansions, Kensington, London, W.14).

The following Sections meet on Wednesday only.

NAVAL AND MILITARY.

President: Colonel JOSEPH GRIFFITHS, C.M.G., M.D., F.R.C.S.
Vice-Presidents: Lieut.-Colonel E. J. CROSS, R.A.M.C.T.; Lieut.-Colonel R. H. ELLIOT, M.D., D.Sc., I.M.S.(ret.); Surgeon Commander H. W. B. SHEWELL, R.N.; Surgeon Rear Admiral A. GASCOIGNE WILDEY, C.B., R.N.
Honorary Secretaries: Major S. M. MACGREGOR, O.B.E., M.D., R.A.M.C.T. (Sanitary Chambers, Glasgow); Major H. B. RODERICK, O.B.E., M.Ch., M.D., R.A.M.C.T. (17, Trumpington Street, Cambridge); Lieut.-Colonel F. E. APTHORPE WEBB, O.B.E. (Grafton House, Maid's Causeway, Cambridge).

OBSTETRICS AND GYNAECOLOGY.

President: HERBERT WILLIAMSON, M.B., F.R.C.P.
Vice-Presidents: FREDERICK DEIGHTON, M.B.; J. PRESCOTT HEDLEY, M.Ch., F.R.C.S.; FRANCES IVENS, M.B., M.S.
Honorary Secretaries: MALCOLM DONALDSON, M.B., F.R.C.S. (145, Harley Street, London, W.1); W. R. GROVE, M.D. (St. Ives, Hunts).

TROPICAL MEDICINE.

President: Professor G. H. F. NUTTALL, M.D., F.R.S.
Vice-Presidents: BREADALBANE BLACKLOCK, M.D.; Lieut.-Colonel S. PRICE JAMES, M.D., I.M.S.; P. H. MANSON-BAHR, M.D.
Honorary Secretaries: CHARLES FREDERICK SEARLE, M.D. (71, Bridge Street, Cambridge); J. GORDON THOMSON, M.B. (24, Herne Hill, London, S.E.24).

The following Sections meet on Thursday only.

MEDICAL EDUCATION.

President: Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P.
Vice-Presidents: G. S. GRAHAM-SMITH, M.D., F.R.S.; Professor DAVID HEPBURN, C.M.G., M.D.; THOMAS W. SHORE, M.D.; S. SQUIRE SPRIGGE, M.D.; Professor PETER THOMPSON, M.D.
Honorary Secretaries: S. R. GLOYNE, M.D. ("Hatherley," Chalfont St. Giles, Bucks); Professor J. KAY JAMIESON, M.B. (Dean of Faculty of Medicine, Leeds).

VENEREAL DISEASES.

President: E. B. TURNER, F.R.C.S.
Vice-Presidents: Colonel L. W. HARRISON, D.S.O., M.B.; MORNA L. RAWLINS, M.B.
Honorary Secretaries: W. H. HARVEY, M.D. (The Dene, Great Shelford, Cambridge); OTTO MAY, M.D. (19, Well Walk, Hampstead, London, N.W.3).

The following Sections meet on Friday only.

ELECTRO-THERAPEUTICS.

President: ALFRED ERNEST BARCLAY, M.D.
Vice-Presidents: ROBERT KNOX, M.D.; ALFRED CHARLES JORDAN, M.D., M.R.C.P.
Honorary Secretaries: E. P. CUMBERBATCH, M.B., M.R.C.P. (15, Upper Wimpole Street, W.1); F. SHILLINGTON SCALES, M.D. ("Redcourt," Adams Road, Cambridge).

MEDICAL SOCIOLOGY.

President: G. E. HASLIP, M.D.
Vice-Presidents: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.; ADAM FULTON, M.B.; C. O. HAWTHORNE, M.D.; Professor BENJAMIN MOORE, D.Sc., F.R.S.
Honorary Secretaries: S. MORTON MACKENZIE, M.B. (9, Rose Hill, Dorking); C. M. STEVENSON, M.D. (90, Chesterton Road, Cambridge).

The Honorary Local Secretaries of the Meeting are J. F. GASKELL, M.D., F.R.C.P., The Uplands, Great Shelford, near Cambridge, and G. S. HAYNES, M.D., 58, Lensfield Road, Cambridge.

INSURANCE.

CORRESPONDENCE.

Unity and Trade Unionism.

SIR,—At a meeting this week of the Cheshire Local Medical and Panel Committee a resolution was carried by a majority that the Committee should advise its constituents to join the Medico-Political Union.

That is a decision which it behoves the British Medical Association to note, for it was dissatisfaction with the British Medical Association which was its main cause.

Although I voted in the minority against the decision, being a convinced opponent of any attempt to apply the Trades Union Act to our profession, I feel strongly that the way in which the matter was presented to the consideration of the Cheshire Committee could have had no other issue than the decision taken, and that so much of it as concerns the Association and its members should be set out in a letter for their consideration.

The way in which the matter was presented was: That it was introduced in an able and temperate speech by Dr. Gough, and seconded by Dr. Wm. Hodgson of Crewe. Dr. Hodgson represented Cheshire and North Wales on the Insurance Acts Committee during the year in which "M.25" was in preparation. His speech, in seconding the resolution, recapitulated various stages in the evolution of that document. During the whole year that he sat on the Insurance Acts Committee, he said, he had been isolated. He was not *persona grata*. He was "out" to carry out the behests of those who had sent him there, and he always found himself against a wall of opposition. The central influences of the Association were too closely connected with governmental circles for independent action in the interests of the profession. He got no support for his protests against the curtailment of the freedom of our craft. He moved resolution after resolution and got no seconder. He wrote articles and letters to the JOURNAL, which seldom, hardly ever, saw the light. Even his speeches in the Conference received the scantiest mention, and no effective report of his views could reach the profession through that one great medical paper by which the Association lives, and which should be the fair medium of communication for all who follow medicine.

And his views were by no means singular or peculiar. They were subsequently endorsed in point after point by the Conference of Panel Committees, and the things against which in the Insurance Acts Committee he had protested were in the Conference struck out. In regard to the obligation to attend midwifery, the proposal to subsidize new panel practitioners on their entry into practice, the limitation of lists, the transfer of practices, and many other matters, the very opinions which Dr. Hodgson had previously and unavailingly urged upon the Insurance Acts Committee afterwards proved to be the views of the majority of the Conference and the profession.

In debate the relation of personal experiences counts for much, and no one who heard Dr. Hodgson and knew his years of devoted service to the public and the profession could fail to be a sympathetic listener.

"I don't want to compare the British Medical Association with the Medico-Political Union," he said, "except to show the direction of effective combination which should be followed to secure the objects which are desirable for the profession. . . . How are we going to organize? I don't care what body it is so long as it will get the profession together in effective support. . . . What can we do with the British Medical Association? They cannot conspire! If it came to a serious fight their funds would be confiscated. The Medico-Political Union's funds would not be confiscated."

"There always gathers round the official ring support which likes to be on the winning side." He would plead, he continued, with a panel doctor to belong to some democratic body which can organize so as to get what it wants—some bond of brotherhood which can energize our opposition. "If we get this strength we can get what price we want for our services, and what conditions. We shall not want conditions which are not honourable."

Such an argument, rooted in personal experiences and delivered by a past master of oratorical persuasion, carried the day. It brushed aside any legal scruples as to the applicability of the Trades Union Act to doctors. It fastened attention on the one factor that was wanted—an organization that would really voice the opinions of general practitioners.

I am an opponent of Dr. Hodgson in the matter of trades unionism; but I do most sincerely endorse his view that a medical association representative of the profession should give full weight and publicity, patient tolerance, and consideration to all shades of medical opinion, both in the BRITISH MEDICAL JOURNAL and in the committees.

A little extra paper, Sir, spent in reporting opinions, even though they prove erroneous, will do much to increase the membership of the Britith Medical Association, and in the long run the unity of the profession for common action.—I am, etc.,

Holmes Chapel, March 20th. LIONEL JAS. PICTON.

*** Two points in Dr. Picton's letter call for notice by us. During the past two years we can trace the receipt of two communications only for publication from Dr. William Hodgson. One was published in the JOURNAL of June 7th, 1919. The other (which reached us on Monday, August 25th, 1919) would have occupied two pages of the JOURNAL, and we were not at that time in a position to provide the necessary space; it was found that the letter had been published in full in another periodical dated Friday, August 29th. In the preparation of reports of the Panel Conferences, as of other meetings published in this JOURNAL, the intention is to give an impartial account of the proceedings. With regard to the particular charge which our correspondent informs us Dr. Hodgson made before the Cheshire Local Medical and Panel Committee, we find on examination of the facts that it is in our judgement entirely unfounded.

In view of the statements regarding the Insurance Acts Committee we have sent a proof of Dr. Picton's letter to the Chairman of that Committee, whose reply follows:

SIR,—Dr. Picton reports in some detail statements said to have been made by Dr. W. Hodgson of Crewe. I have no reason to doubt the accuracy of this report, but the expediency of answering statements made in this fashion is doubtful. Several of the statements, as reported, are however untrue, and I am anxious emphatically to repudiate the charge of unfairness which is made against the Insurance Acts Committee.

Dr. W. Hodgson, of Crewe, was a member of that Committee for one year. At the end of that time he offered himself for re-election, and his constituents preferred to vote for another candidate. This appears to be the reason why Dr. Hodgson considers the Insurance Acts Committee unrepresentative; but, in the present stage of the development of political institutions, this is the usual democratic machinery. While Dr. Hodgson was a member of the Committee he was zealous in attending the meetings and in expressing his opinions about the matters under discussion. It is true that on a number of points he was in a minority of one, but he was always given the fullest opportunity of making his ideas known. I should not myself have described him, as Dr. Picton does, as a "past master of oratorical persuasion," but in my experience, both in the Insurance Acts Committee and at the Conferences of Panel Committees, Dr. Hodgson's rhetorical efforts have always been listened to with patient appreciation, and have been reported with relative fullness by you and with rather more than this elsewhere. Here, again, the real grievance seems to be not that he was not heard, but that he failed to persuade. It is not true, except in one instance, that the points he vainly urged on his colleagues of the Committee were afterwards adopted by the Conference in opposition to that Committee, and in this one instance Dr. Hodgson was not the sole exponent of these views of the Committee but was only one of a large minority.

Every member of the Insurance Acts Committee will, with Dr. Picton, "endorse the view that a medical association representative of the profession should give full weight and publicity, patient tolerance, and consideration to all shades of medical opinion"; and, so far as Dr. Hodgson represents one such shade, I can only affirm that, in committee and in conference, he has had all these things.—I am, etc.,

London, N., March 23rd. H. B. BRACKENBURY.

The Rural Mileage Grant.

SIR,—I think every rural panel doctor will have learnt with some dismay that the arbitrators' award is 11s. per head, and drawn cold comfort from the promise of mileage fees sufficient to balance the difference in cost between urban and rural panel work.

I am keeping records of mileage and of the number of visits to private and panel patients in my rural practice for the Ministry of Health. After reducing the number of my index cards by 16 per cent., the least average of inflation in the two county areas in which my practice lies, I find that the annual cost in mileage of each panel patient on my list is 1s. 4¾d. per head taking all together.

far and near. I append the figures for February last, and it will be evident that the allowance I have made for expenditure in travelling by car is as low as possible, and is likely in many years, and in many practices, to be greater.

Dr. Addison has stated recently that the mileage fund of £300,000 equals 5d. per head of the total insured population of the country. If the whole fund is equitably divided between the various panel areas entitled to claim, and if the rural insured population represents a little less than one-third of the total insured population, then the central mileage fund will just cover the out-of-pocket expenses of rural and semi-rural panel doctors in doing their work under the Insurance Acts. If the fund is unequally divided some areas will not receive enough, and if the proportion of rural to urban parts is one-third or greater no areas will receive enough to pay actual costs of doing the work, to say nothing of the value of time expended in travelling in rural practices.

I write earnestly to beg rural panel doctors to keep records and work out their costs on the lines of these I append to this letter and to forward them to the Insurance Acts Committee of the British Medical Association.

It is only by accumulating a good body of really fair and unassailable statistics on this point that it will be possible for the Insurance Acts Committee to prove the necessity of an increased grant for mileage, in the event—which appears to me to be probable—of the present fund proving at the end of this year to be inadequate for the purpose it is claimed it will achieve, that is, of equalizing the payment for work done as between rural and urban panel doctors.

Records should be commenced at once, for summer figures alone will not give the annual average.—I am, etc.,

Tanworth-in-Arden, March 18th. J. HENRY STORMONT.

Insurance Index Cards (January, 1920):

Warwickshire	450
Worcestershire	136
Total	586

Of these, allowing for inflation, I am paid for about 500.

February, 1920:

Total miles travelled	1,058
Visits paid—Private	461
,, ,, Insured	73

Proportion of private to insured, 6½ to 1.

Travelling Costs for annual mileage of, say, 10,000 with Ford car:

	£	s.	d.	£	s.	d.
Tyres, petrol, oil, grease (cost 3d. per mile) ...				125	0	0
Charges:						
Insurance	8	10	0			
Licences	3	8	0			
Repairs and spare parts	42	2	0			
Proportion of boy's wages	26	0	0			
Depreciation	50	0	0	130	0	0
				255	0	0
Private mileage costs (per annum)				221	0	0
Insurance mileage costs (per annum)				34	0	0

Cost per head for 500 insured patients for whom I am actually responsible and am paid 11s. = 1s. 4½d. per annum.

Insurance Remuneration.

SIR,—To those of us who have been able to read carefully the proceedings of the arbitration and Dr. Brackenbury's explanations of it two impressions stand out distinctly:

First, that the whole of the profession is deeply under an obligation to Dr. Brackenbury for so ably debating the point of view of the medical profession and for holding so high the aims of the profession at large and the standard of future panel work—far higher, apparently, than those held by the Ministry of Health.

Secondly, that if we are dissatisfied with the award of the arbitrators—as no doubt we justifiably are—we have no one to blame but ourselves, as the inability of the Insurance Acts Committee to convince the arbitrators that our claims were just was solely due to a want of reliable data to prove our case.

It is clear that if we are ever to obtain what we believe is fair and just payment for work done, we must keep such statistics *now* as will prove our just claims later on. Will the Insurance Committee now tell us what data they will require? They could be obtained each quarter by the Panel Committees—if practitioners prefer they could be rendered under a number or *nom de plume*—and it should be the duty of each Panel Committee to collect such data and place them at the disposal of the Insurance Committee. This scheme, if it is to be of any use, should be organized forthwith if the evidence is to be available when the terms of service are next reconsidered.

I believe many curious phenomena would be discovered, such as the higher percentage per head of attendances in rural districts over those of urban districts, the decreased visits during periods of high-employment periods as against consultations in such periods, etc.—I am, etc.,

Langford, Somerset, March 15th. ERNEST D. PINEO.

Testimonial to Dr. Brackenbury.

SIR,—As a desire has manifested itself that the great services rendered to the insurance profession by Dr. Brackenbury and his colleagues on the Reconstruction Subcommittee of the Insurance Acts Committee should be recognized, the Standing Committee of Group K have resolved themselves into a committee for the purpose of meeting this desire. The undersigned have been appointed secretaries to the fund. A circular letter has been sent to the secretaries of all Local Medical and Panel Committees for issue to the practitioners of their areas in the following terms:

A widespread desire has manifested itself to acknowledge in a substantial manner the work done for the profession by the Reconstruction Subcommittee of the Insurance Acts Committee. In order to afford the profession an opportunity of gratifying this desire, a central committee, consisting of Drs. H. J. Cardale, J. A. Angus, G. Cohen, C. F. T. Scott, C. E. Brunton, H. R. Brown, F. H. Dayus, and H. S. Beadles, has been formed, with Drs. B. A. Richmond and R. J. Farman (secretary and assistant secretary of the London Panel Committee) as secretaries of the fund. It is, of course, impossible adequately to express the gratitude of the profession for the work accomplished by Dr. Brackenbury and his colleagues; even those who may be somewhat disappointed at the results will recognize the vast amount of time which these busy practitioners have bestowed upon a particularly thankless task. I do not apologize for asking you to send me your subscription of 10s., for I am sure you would wish to be associated with this movement, which is receiving the whole-hearted support of the panel profession. It is intended that Dr. Cox shall participate in the proposed recognition.

Dr. Brackenbury's work was of such an outstanding character that recognition in his case would be of a special nature. It is hoped that all insurance practitioners will support this fund by sending their subscriptions to the secretaries of their Panel and Local Medical Committees at as early a date as possible.—We are, etc.,

B. A. RICHMOND,
ROBT. J. FARMAN,

Secretaries, Panel Committee for the County of London.

Staple House, 51, Chancery Lane, W.C., March 23rd.

SIR,—I should like to express my entire agreement with Dr. Hedley's letter in the SUPPLEMENT to the JOURNAL (March 20th, p. 83) as to the immense work of Dr. Brackenbury for the profession as Chairman of the Insurance Acts Committee, and also the greatness of our gratitude for it. I am not now in practice, but I was on the Norfolk panel from the start, and was also a member of the Panel Committee. I claim, therefore, to know something of the working of the Insurance Act, and I know that the grasp of the whole affair shown by Dr. Brackenbury could only have been acquired by considerable effort and at the cost of much time. I shall be pleased to subscribe to a testimonial.—I am, etc.,

Cheltenham, March 20th. LEGGE PAULLEY.

Insurance Work in Rural Areas.

SIR,—Herewith an interesting contrast. I am called to see a patient at the neighbouring village of N——. I get out my motor (it happens to be a sidecar, but let that pass). It is raining and blowing hard from the West. I grind 200 feet up out of the village on lowest gear (four right-angled corners and a 12-foot road), slither skidding down again to the head of the creek, across the bridge, up, with spinning wheel, another 200 odd feet above the water and down again to N——. At a modest estimate, say twenty minutes, and a cost of a shilling, and the same returning. It is just under 2 miles, so I get not one halfpenny as "mileage." True I could have got on oilskins, dragged down the dinghy and had a hard pull over against wind and rain. It would have taken longer, but I should have spent nothing except much physical energy and a bit more wear off the boat. Six hours out of every twelve, of course, the boat won't float! Still the tide *might* happen to fit.

A friend practising on the outskirts of a town some twenty miles away from here is called to a patient in a village three miles out. His practice is large enough for him to afford the protection of a car. He runs out along the main road, sees the patient, and is back inside twenty

minutes. He gets "mileage." In future, if the patient happens to be distant 0.01 over the three miles, he will get extra "mileage."

Let all practitioners in practices such as I have first hinted at do as I have done. When asked by their County Committee to give mileage distances, point out strongly in a covering letter that it is the nature and surfaces of the roads, not mere distance, that causes the expense of transport. It seems elementary to us, but we are ruled by town dwellers.—I am, etc.,

March 14th. "TRULY RURAL."

LOCAL MEDICAL AND PANEL COMMITTEES.

COUNTY OF LONDON.

AT its meeting on March 23rd the London Panel Committee by a standing vote expressed its great sense of loss at the death of Sir Robert Morant, who had always shown the greatest interest in the welfare of the medical profession and especially of insurance practitioners.

The Committee approved unanimously of the scheme prepared by the Standing Joint Committee for Group K for the recognition of the services rendered to insurance practitioners by Dr. H. B. Brackenbury and his colleagues on the Reconstruction Subcommittee of the Insurance Acts Committee, and pledged itself to do all in its power to make the scheme a success. Dr. Claude Taylor said that it was proposed to elicit a subscription if possible from all insurance practitioners and make a presentation to Dr. Brackenbury and his colleagues at a dinner to be held probably on the occasion of the next annual conference of Local Medical and Panel Committees. The Committee also passed a resolution regretting that Dr. Brackenbury had not been appointed a member of the Medical Consultative Council and hoping that this serious omission would be set right at the earliest opportunity. Dr. Coode Adams moved an amendment deleting the second part of this resolution on the ground that Dr. Brackenbury had not proved a successful negotiator in the matter of practitioners' remuneration and the new Regulations. The amendment found only two supporters. It was agreed to communicate the resolution to the Prime Minister, the Chairman of the Consultative Council, and the Minister of Health.

The Committee agreed upon the desirability of taking steps to secure an amendment to the clause of the Amending Act, 1913, providing for the administrative expenses of Panel Committees. It was urged that the Insurance Committee should be authorized to allot for the administrative expenses of the Panel Committee a sum not exceeding 1d. per annum in respect of each insured person, but that before any allotment exceeding the present ½d. was made a referendum should be taken among the insurance practitioners of the area, and no authority be given when more than 25 per cent. of the practitioners signified objection.

It was reported that the number of cases of complaints against practitioners dealt with by the Medical Services Subcommittee of the Insurance Committee during 1919 was 66, of which 42 were substantiated. Of these 42 the nature of the complaint in 14 was inability to obtain treatment; in 7, a charge made for treatment; in 6, refusal to treat; and in 5, neglect in treatment. Only 1 complaint was made by a practitioner against an insured person—for unseemly behaviour—and was substantiated.

EAST SUSSEX.

A WELL attended meeting of the Medical and Panel Committees for East Sussex was held at Lewes on March 16th. The scheme put forward by the London Committee in recognition of the services of members of the Reconstruction Committee of the Insurance Acts Committee in the recent arrangement of terms met with hearty approval, as also did a resolution of appreciation of the services of Dr. Williams-Freeman, the group representative in the same connexion. A number of practitioners were selected to keep the mileage accounts desired by the Ministry; and representatives and their deputies were appointed on the new Allocation Committee. A resolution was passed stating that the new record cards to be kept should be in the custody of the patient, whose duty it should be to produce them for entries when needed.

CERTIFYING FACTORY SURGEONS.

ABOLITION OF THE SIXPENNY FEE FOR EXAMINATION.

IN a note on the report issued by the Association of Certifying Factory Surgeons, published on March 6th, it was mentioned that representations had recently been made to the Chief Inspector of Factories respecting the inadequacy of the fees paid for medical examinations when granting certificates of fitness. When the fee was fixed at 6d. by a schedule attached to the Factory Act of 1878 it was strongly criticized as inadequate by the British Medical Association and the Royal Colleges in London. We are now glad to note that an Order, dated March 9th and coming into force on March 22nd, has been issued by the Secretary of State which has the effect of abolishing the sixpenny fee. The new scale is as follows:

When the examination is at the factory or workshop, 1s. for each person examined, with a minimum fee of 2s. 6d. for any one visit; and also, if the factory or workshop is more than one mile from the surgeon's central point, 6d. for each complete half-mile over and above the mile.

When the examination is not at the factory or workshop, but at the residence of the surgeon, or at some place appointed by the surgeon for the purpose, and that place as well as the day and hour appointed for the purpose has been published in the prescribed manner, 1s. for each person examined.

Although this change in the scale of fees will be welcome by certifying surgeons and approved by the profession generally, the new arrangement does not fully meet the case, as recently presented to the Chief Inspector of Factories. The minimum fee of 2s. 6d. for a visit to a factory, which was established so long ago as 1836, as the proper remuneration at that time, has not been altered, so that there will be no material benefit to the surgeon unless more than two persons are examined on any single occasion. The feeling among certifying surgeons appears to be that the purchasing value of 2s. 6d. was much greater in 1836 than that of 5s. in 1920, and that their request for the minimum fee to be fixed at 5s. is very reasonable. Although when five or more are examined, the fee would be the same with either the 2s. 6d. or 5s. minimum, as the average number examined at each visit hovers between two and three, it does not appear that the new arrangement will increase the total earnings to any great extent. As we previously pointed out, the certifying surgeon has full power to arrange with the employer respecting the amount of fees to be paid, and we anticipate that he will continue to do so.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: C. J. O'Connell to the *Crescent*, for Lyness Naval Base (temporarily); W. N. Blatchford to the *Weymouth* on commissioning; J. P. H. Greenhalgh to the *Lion* (temporarily); J. D. Keir to the *Crescent III*, for Admiralty Experimental Station, Shandon. Surgeon Lieutenant Commanders: A. J. Tozer to the *Hood*; J. H. Burdett to the *Surprise* on commissioning.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel and Brevet Colonel D. J. Collins to be temporary Colonel whilst an Assistant Director of Medical Services from July 22nd to August 31st, 1917, inclusive.

Lieut.-Colonel F. E. Gunter, D.S.O., relinquishes the temporary rank of Colonel.

Lieut.-Colonel W. J. Taylor retires on retired pay.

Temporary Lieut.-Colonel G. S. Jackson, C.B.E., D.S.O., T.D. (Major and Brevet Lieut.-Colonel, 7th Northumberland Fusiliers, T.F.) relinquishes his temporary commission.

Majors relinquish the temporary rank of Lieutenant-Colonel: D. Ahern, D.S.O., A. C. Osburn, D.S.O.

Temporary Major C. E. F. Mouat-Biggs to draw the pay and allowances of his rank from January 4th to 24th, 1920.

The following officers relinquish the acting rank of Major: Captain and Brevet Major T. A. Weston, Captains R. H. Lucas, O.B.E., M.C., S. H. Smith, W. T. Graham, L. S. C. Roche, M.C., temporary Captains N. McA. Gregg, M.C., F. O. Clarke, L. Anderson, D.S.O., C. B. Davies, M.C., R. B. Roe, E. J. Maxwell, P. McCool.

To be acting Majors: Captain and Brevet Major W. F. Christie, Captains F. R. Coppinger, O.B.E. (from June 1st, 1919, to January 3rd, 1920), W. B. Rennie, M.C., temporary Captain C. B. Jones.

Captain J. W. G. H. Riddel, M.C., resigns his commission.

Captain J. E. Hepper is seconded for service with the Egyptian Army.

Captain G. J. Keane, D.S.O., retires, receiving a gratuity, April 30th, 1919, and the notification in the *London Gazette* of February 4th, 1920, regarding this officer is cancelled.

Temporary Captain (acting Major) F. J. Fahy relinquishes the pay and allowances of his acting rank, April 16th, 1918, and his acting rank, April 18th, 1918.

To be temporary Captains: P. H. Shelley (late Surgeon Lieutenant, R.N.), M. J. Whelton.

The following officers relinquish their commissions:—Temporary Major J. L. Maxwell, on ceasing to be employed at the Graylingwell War Hospital, and retains the rank of Major. Temporary Captain G. W. Milne, O.B.E., on account of ill health contracted on active service, and is granted the rank of Lieutenant-Colonel. Temporary Captain H. C. Gibson, on account of ill health, and is granted the rank of Major. Temporary Captain A. C. Hancock, M.C., on account of ill health contracted on active service, and is granted the rank of Major. Temporary Captains, and retain the rank of Captain: T. W. Shaw (August 22nd, 1919, substituted for notification in the *London Gazette* of September 10th, 1919), J. K. Clarke, W. H. Swaffield, A. Leach, C. Dean, M.C., W. L. Locke, T. S. Goodwin, A. R. Jennings, W. Weir, H. M. Wilson, W. J. Thomas, R. K. H. Gillespie, W. C. Mayo, A. H. Manfield, Alfred Leitch, J. A. R. Thompson (on account of ill health caused by wounds), H. S. Sugars, D.S.O., M.C., R. A. C. Rigby, H. L. S. Griffiths

ROYAL AIR FORCE.

MEDICAL BRANCH.

Captain J. J. Sinclair relinquishes his commission on account of ill health contracted on active service, and is permitted to retain his rank.

Transferred to the unemployed list: Captain W. H. Anderson. Second Lieutenant H. W. Boot.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain (acting Major) E. J. Bradley, M.C., relinquishes the pay and allowances of his acting rank, March 14th, 1919, and relinquishes the acting rank of Major, April 1st, 1919.

Captain A. W. Wells resigns his commission.

Captain D. McEachran relinquishes his commission.

Captain J. W. Mann relinquishes his commission on account of ill health contracted on active service, and retains the rank of Captain.

Captain W. B. Foley, O.B.E., relinquishes the acting rank of Major.

Captains C. S. Parker and P. A. O'Brien relinquish their commissions on account of ill health and retain the rank of Captain.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captain (acting Lieut.-Colonel) J. M. A. Costello, M.C., relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed.

Captains (acting Majors) relinquish the acting rank of Major on ceasing to be specially employed: J. W. Dale, M.C. (December 28th, 1918, substituted for notification in the *London Gazette*, February 26th, 1919), J. St. G. Wilson, M.C., E. C. Hobbs, W. Appleyard (March 3rd, 1919).

Captain (acting Major) M. Coplans, O.B.E., D.S.O., relinquishes the rank of Major on ceasing to hold the appointment of Deputy Assistant Director of Medical Services, October 18th, 1919 (substituted for notification in the *London Gazette* of February 11th, 1920).

2nd London Sanitary Company.—Captain D. Smith is restored to the establishment. Lieutenant J. Ogilvie to be Captain.

3rd Southern General Hospital.—Captain R. E. Humphry relinquishes his commission on account of ill health contracted on active service and is granted the rank of Major.

4th Southern General Hospital.—Captain (Brevet Major) E. G. Smith is restored to the establishment.

West Lancashire Divisional Sanitary Section.—Captain A. Reid is seconded under paragraph 112, T.F. Regulations.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

Major A. E. Hodder, D.S.O., from 3rd North Midland Field Ambulance, to be Major.

The announcements in the *London Gazette* of the dates indicated regarding the following officers are cancelled: Captains W. M. Langdon (December 12th, 1918), D. M. Johnston, W. C. F. Harland (December 30th, 1918), W. Robertson, M.C. (January 7th, 1919), J. F. Ward and A. H. T. Andrew (December 18th, 1918), C. H. Bullen (January 13th, 1919), I. C. Keir and G. Candler (December 17th, 1918), H. L. Munro (January 22nd, 1919).

VOLUNTEER FORCE.

Temporary Lieut.-Colonels relinquish their commissions and are granted the honorary rank of Lieutenant-Colonel: Lancashire R.A.M.C.V.: E. Quayle, M.B.E. East Yorkshire R.A.M.C.V.: G. Easton (Honorary Colonel ret. T.F.).

Temporary Majors relinquish their commissions and are granted the honorary rank of Major:—Essex R.A.M.C.V.: J. White-Hopkins, K. S. Storrs (Captain T.F.R.). Glamorganshire R.A.M.C.V.: A. W. Anderson. Hertfordshire R.A.M.C.V.: T. P. G. Wells. Kent R.A.M.C.V.: P. G. Selby, G. T. Giddings, W. H. F. Noble, E. C. Warren, F. Brightman, W. F. Umney, A. Tennyson-Smith, H. Porter, E. D. Fitz-Gerald, G. L. Bunting, J. Sterry. Middlesex R.A.M.C.V. (Motor Ambulance Convoy): P. G. Darvil-Smith. Northamptonshire R.A.M.C.V.: E. H. Harries-Jones. Shropshire R.A.M.C.V.: G. Hollies, J. Lytle. Somerset R.A.M.C.V.: H. C. Bristowe. Surrey R.A.M.C.V.: C. S. Crichton. Sussex R.A.M.C.V.: W. Conway-Cooke, F. E. Richardson, A. C. Roberts (Lieut.-Colonel T.F.R.). East Yorkshire R.A.M.C.V.: A. H. Johnston, A. Wilson, H. D. Johns, A. T. Brand, V.D., (Surgeon Major ret. Vols.).

Temporary Captains relinquish their commissions and are granted the honorary rank of Captain:—Hampshire R.A.M.C.V.: F. C. Bottomley, A. C. D. Newton. Hertfordshire R.A.M.C.V.: P. G. H. Bayon. Kent R.A.M.C.V.: R. Wilkinson, H. W. Thomas, T. W. Hinds, R. M. H. Randell, A. C. Haslem, J. P. Henderson, S. A. E. Griffiths, F. E. Nichol, W. R. Brunton, W. F. H. Coke, P. J. Curtis, C. D. Outred, R. G. Wills, R. A. Walter, J. A. Meeke, J. M. Bennion, C. J. Evers, F. W. Gange, P. N. Randall, F. Fraser, T. W. Bailey, W. J. D. Best. Suffolk R.A.M.C.V.: W. F. Fryer, H. P. Sleigh, D. N. Seth-Smith, G. H. Ransome, M. H. Hannigan, G. I. T. Stewart, S. O. Eades, A. C. Young, G. R. Fox, F. C. Wetherell, E. A. C. Baylor, O. A. Clark, M.B.E., J. Aylen, E. J. C. Dicks. Surrey R.A.M.C.V.: A. S. Taylor. Sussex R.A.M.C.V.: A. P. Sherwood, J. B. Collins, S. P. Matthews. East Yorkshire R.A.M.C.V.: E. Harrison, J. L. Holt, A. H. Field, R. T. Forster, D. H. Davy, R. D. Bradford, W. L. Wyatt. West Riding R.A.M.C.V.: J. H. Rowe, C. H. Greenwood, W. H. Helm, C. L. Pattison, P. Rattray, H. W. Whiteley, J. D. Gray, R. F. C. Ward.

Temporary Lieutenants relinquish their commissions and are granted the honorary rank of Lieutenant:—Essex R.A.M.C.V.: C. F. Day. Glamorganshire R.A.M.C.V.: C. J. Wyatt. Gloucestershire R.A.M.C.V.: C. V. Knight. Hampshire R.A.M.C.V.: A. J. Stedman. Kent R.A.M.C.V.: S. Sills, L. R. Dence, W. R. J. Morris, H. O. Jones, F. Holgate-Smith, F. E. Hill. Northamptonshire R.A.M.C.V.: E. J. Jennings. Rutlandshire R.A.M.C.V.: J. S. P. Dickey. Suffolk R.A.M.C.V.: R. Rendall, J. Pawsey, H. G. Biddle. Sussex R.A.M.C.V.: E. H. Sweet, R. F. H. Newton, F. Skaife, F. J. Nicholls, F. S. Tidcombe. East Yorkshire R.A.M.C.V.: E. R. Wilson, J. Whiteside, H. Anthony, F. B. Bailey. West Riding R.A.M.C.V.: W. Hirst, J. Barclay, T. A. Caley, E. A. White, G. H. Menzies, J. P. O'Connell, O. H. Hudson, T. Johnstone, P. Bennett.

DIARY OF SOCIETIES AND LECTURES.

RÖNTGEN SOCIETY, *X*-Ray and Electrical Departments, St. Bartholomew's Hospital, E.C.—Tuesday, 8.15 p.m., General meeting.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m. Dr. Gosse: Difficulties in Diagnosis.

MANCHESTER ROYAL INFIRMARY—Tuesday, 4.30 p.m., Dr. W. E. Fothergill: Gynaecological Diagnosis.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily: 10 a.m., Ward visits; 2 p.m., In-patient and Out-patient Clinics and Operations. Saturday (March 27th), 10 a.m., Dr. Arthur Saunders: Diseases of Children; 2 p.m., Dr. Owen: Out-patients. Monday, Dr. Grainger Stewart: Medical Out-patients; 2 p.m., Mr. Donald Armour: Operations. Tuesday, 10 a.m., Dr. McDougal: Electrical Department; 2.30 p.m., Mr. Tyrrell Gray: Operations. Wednesday, 10 a.m., Mr. Banks Davis: Throat, Nose, and Ear Operations; 2 p.m., Mr. Gibb: Eye Department. Thursday, 2 p.m., Mr. MacDonald: Out-patients; 2 p.m., Mr. Bishop Harman: Eye Department. Friday, 2 p.m., Dr. Pritchard: Medical Wards; 2 p.m., Dr. Pernet: Skin Department.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

30 Tues. Willesden Division, St. Andrew's Parish Hall, High Road, Willesden Green, 8.30 p.m.

31 Wed. Glasgow and West of Scotland Branch: Annual General Meeting, Faculty Hall, 242, St. Vincent Street, Glasgow, 4 p.m.
London: Central Ethical Committee, 2 p.m.

APRIL.

1 Thurs. London: Grants Subcommittee, 11 a.m.
London: Organization Committee, 2 p.m.
Brighton Division, Sussex County Hospital, 4 p.m.: Clinical Demonstrations (General).

7 Wed. London: Finance Committee, 2.30 p.m.

14 Wed. London: **Council**.

20 Tues. London: Scrutiny Subcommittee, 2.30 p.m.

21 Wed. North Middlesex Division: Lecture by Mr. A. Fleming, F.R.C.S., on Vaccine Therapy.

27 Tues. Kesteven Division, Lincoln, 3 p.m.

28 Wed. Plymouth Division: Lecture by Sir Frederick Mott, K.B.E., F.R.S.: The Early Symptoms and Diagnosis of Diseases of the Spinal Cord.

APPOINTMENTS.

SHERA, J. E. P., M.D., L.R.C.P., Medical Superintendent, Somerset and Bath Asylum, Wells.

DISTRICT MEDICAL OFFICERS.—F. S. B. Fletcher, M.B., Ch.B.Edin. (Huddersfield Union), P. J. F. Garvey, M.B., Ch.B.Edin. (Wolstanton and Burslem Union), W. H. Hardy, M.B., B.Ch. Belf. (North Witchford Union), E. S. Jones, M.R.C.S., L.R.C.P. (Alton Union), G. W. L. Kirk, M.B., Ch.B. Leeds (Bellingham Union), P. T. Sutcliffe, M.B. (Stratford-on-Avon Union).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

LIVINGSTON.—At 47, Castle Street, Dumfries, on the 20th inst., the wife of George R. Livingston, M.D., F.R.C.S.E., a daughter.

TAYLOR.—On March 17th, at 54, Glenloch Road, Hampstead, to the wife of Charles Joseph Taylor, M.D., of Nuneaton, a son (Charles Louis).

MARRIAGE.

MCLEAN—FALLOWS.—At Cape Town, on 25th February, by the Rev. R. Whyte, M.A., B.D., David W. McLean, M.B., Ch.B.Edin., of Eversley, Annan, to Esther, second daughter of the late E. J. Fallows, of Birmingham.

DEATH.

BATTESON.—On March 18th, at 9, Coldershaw Villas, West Ealing, John Batteson, M.R.C.S.Eng., L.R.C.P.Edin., L.S.A., aged 77.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 3RD, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
MEMBERSHIP OF THE ASSOCIATION	93
RECONSTRUCTION OF THE TERRITORIAL MEDICAL SERVICE ...	93
SENIOR SURGEON COMMANDERS R.N.	93
INSURANCE STATISTICS	93
RIGHT OF APPEAL AGAINST REMOVAL FROM PANEL ...	93
ASSOCIATION NOTICES:	
MEETING OF COUNCIL	93
SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH	93
MOTIONS FOR THE ANNUAL REPRESENTATIVE MEETING ...	94
PROPOSED UGANDA AND EAST AFRICA BRANCHES	94
BRANCH AND DIVISION MEETINGS TO BE HELD	94
MEETINGS OF THE PROFESSION: THE TRADE UNION QUESTION AT CHICHESTER	94
INSURANCE:	
DINNER TO DR. BRACKENBURY BY THE MEMBERS OF THE INSURANCE ACTS COMMITTEE	95
COUNTY OF LONDON INSURANCE COMMITTEE	95
NAVAL AND MILITARY APPOINTMENTS	95
ASSOCIATION INTELLIGENCE	96
DIARY OF SOCIETIES AND LECTURES	96
APPOINTMENTS	96
BIRTHS, MARRIAGES, AND DEATHS	96

British Medical Association.

CURRENT NOTES.

Membership of the Association.

IN the period January 1st to March 6th, 1920, 801 new members have joined the British Medical Association. The number of members at the latter date was 21,774, showing a net increase of 419 as compared with the membership figure on December 31st last.

Reconstruction of the Territorial Medical Service.

THE Territorial Force Subcommittee has now arrived at certain conclusions with regard to the reorganization of the Medical Service of the Territorial Force. Until the publication of the White Paper by Mr. Churchill it was impossible to know what the views of the War Office were likely to be, and the Association was, therefore, not in a position to make criticisms. The opportunity has been taken to compare the Association's suggestions with those put forward in the White Paper, and the conclusion has been formed that the time is now opportune to carry the work a step further by communicating with the Director-General, Army Medical Service. Accordingly a letter embodying the views of the Association is being sent to the Director-General intimating that the Association would welcome an opportunity to elaborate its views by means of a deputation.

Senior Surgeon Commanders R.N.

At a meeting of the Naval and Military Committee, held on March 19th, further consideration was given to the question of senior surgeon commanders R.N. who are adversely affected by the new regulations for retirement and retired pay of naval officers. The Committee decided to continue to press for a revision of the regulations, and is urging the Admiralty to receive a deputation on the subject.

Insurance Statistics.

The Insurance Acts Committee, at its meeting on March 25th, referred to the executive the question of issuing to insurance practitioners a form showing certain particulars as to practice income and expenditure which could be used for the purpose of collecting statistics that may be wanted in the future. Experience shows that the lack of reliable figures has been a great handicap to the Committee on several occasions, and a determined effort is to be made to induce a large number of practitioners to keep figures in common form, so that if and when they are required they can be called in.

Right of Appeal against Removal from the Panel.

The November Conference of Local Medical and Panel Committees instructed the Insurance Acts Committee to take action on the first appropriate occasion to secure the right of appeal to the High Court of any practitioner whose name has been removed from the list. The Committee, taking advantage of the introduction of the National Health Insurance Bill, 1920, now before Parliament, has had an amendment drafted which it is asking Dr. A. C. Farquharson, M.P., to move. A notice as to the exact terms of this amendment and its place on the Order Paper will be given in a future issue, and those members of the profession who feel keenly on this subject should then write to their members of Parliament asking them to support the amendment.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, April 14th, in the Council Room, 429, Strand, London, W.C. 2., at 10 a.m.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An *Ernest Hart Memorial Scholarship*, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. *Three Research Scholarships*, each of the value of £150 per annum, for research into some subject relating to the causation, prevention, or treatment of disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1920. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1920–21 must be made not later than Saturday, May 29th, 1920, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of

the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

MOTIONS FOR THE ANNUAL REPRESENTATIVE MEETING.

Notices of Motion by Divisions, Constituencies, or Branches, for the consideration of the Annual Representative Meeting, proposing to make any addition to, or any amendment, alteration or repeal of any Regulation or By-law, or to make any new Regulation or By-law, or proposing material alteration of the policy of the Association in matters relating to the honour and interests of the profession or of the Association, must be published in the JOURNAL not later than April 24th, and for this purpose should be received by the Medical Secretary ***not later than April 10th.***

PROPOSED FORMATION OF UGANDA AND EAST AFRICA BRANCHES.

NOTICE is hereby given to all concerned of a proposal made by the Uganda Division that the East Africa and Uganda Branch, and the East Africa and Uganda Divisions, be discontinued, and that new Division-Branches as follows be substituted therefor:

1. East Africa Branch,
2. Uganda Branch,

the areas of the new Branches to be co-terminous with the areas of the East Africa and Uganda Protectorates respectively.

The matter will be determined in due course by the Council. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary not later than July 31st, 1920.

BRANCH AND DIVISION MEETINGS TO BE HELD.

KENT BRANCH: MAIDSTONE DIVISION.—Dr. Arthur C. Black, Honorary Secretary (Strettit Place, East Peckham, Paddock Wood, Kent), gives notice that at a meeting of the Division to be held at the West Kent Hospital on April 8th at 3 p.m., Dr. N. Robertson, Superintendent of the National Sanatorium, Benenden, will read a paper on early signs of phthisis.

MIDLAND BRANCH: LINCOLN AND KESTEVEN DIVISIONS.—Dr. Godfrey Lowe, Honorary Secretary, Lincoln Division (42, Langworth Gate, Lincoln), gives notice that a meeting of members and non-members of the Lincoln and Kesteven Divisions will be held at Lincoln on Tuesday, April 27th, at 3 p.m. Dr. Alfred Cox, O.B.E., Medical Secretary, will attend and give an address, to be followed by a discussion. Further particulars will be announced later.

MEETINGS OF THE PROFESSION.

THE TRADE UNION QUESTION AT CHICHESTER.

A MEETING was held at the Dolphin Hotel, Chichester, on March 9th, with Dr. EWART in the chair, when Dr. Stancomb, Vice-President of the Medico-Political Union, and Dr. Main, its Organizing Secretary, met all the practitioners of Chichester and endeavoured to form a Chichester Branch of his union.

Dr. STANCOMB moved a resolution:

> That, in view of the changes in the medical service of the country, it is essential that the profession should be solidly organized on a trade union basis, to enable it to negotiate effectively with the Government, and that a Chichester branch of the Medico-Political Union be now formed.

He spoke at some length, and argued that the great value of trade union registration consisted in the liberty it accorded to take certain lines of coercive and restrictive action that might be necessary to protect the efforts of a combination striving for better conditions, such as would, unless protected by the Trades Disputes Acts, be actionable under the common law dealing with conspiracy and libel. The necessity for taking action of this character to counter attempts to "blackleg" the medical profession had been only too painfully demonstrated. The extreme danger of applying such methods without legal sanction had been driven home by the "Coventry" disaster, and the resultant memorandum D 19 of the British Medical Association, which exposed a condition of pitiful impotence. The contention of Dr. Cox and others, based on erstwhile dubious legal opinion, that medical men were not "workmen" within the meaning of the Act, had since November, 1919, been settled on the highest authority, and no obstacle to a medical trade union could any longer be urged on this score. Medical trade unionism had the advantage of maximum power and minimum risk, in virtue of the highly technical and costly nature of a doctor's education, rendering "dilution" on a large scale impossible, and by reason of the fact that in "withholding labour" there would not be, at any rate, entire cessation of income, such as would be the case with ordinary industrial trade unions; neither would there be the same danger of public obloquy, since doctors would not withhold their service from the community, but only from the conditions of some exploiting authority.

The registration of the British Medical Association (proceeded Dr. Stancomb) excluded all trade union action, and its Articles of Association were expressly drawn up to comply with this limitation. To state publicly, therefore, on behalf of the British Medical Association (as Dr. Cox had said at Newcastle and Bournemouth), "We have done, are doing, and shall continue to do, all that a trade union can do," was surely to boast of action both illegal and dishonourable. Dr. Stancomb complained of the action of the Insurance Acts Committee of the British Medical Association with regard to its fraternal relations with "the other side" in connexion with the new Regulations (M. 25), its strenuous efforts to get this jointly begotten child adopted by the profession, and its consequent hopeless position for taking up a strong attitude in defence of the profession against gross imposition and injustice—for example, transfer of practice. He would prefer a lawyer who did not evidently represent both parties and who conducted negotiation with the knowledge of a force behind him capable of redeeming such negotiation from the farce of academic discussion. He was pleased to note that in palliation of their complete failure to move the Government on the vital point of transfer of practice the Insurance Acts Committee said, "The resources of civilization are not exhausted." Dr. Stancomb maintained that to constitute itself such a "resource" when everything else had failed was all the Medico-Political Union claimed in a conference with the British Medical Association on joint action. Readers of the report (SUPPLEMENT, February 21st, 1920, p. 39) might justly conclude that a working agreement came very near to achievement. About 70 per cent. of the members of the Union were also members of the Association. There was no question of rivalry or destruction. There was ample scope for both organizations, imbued with one policy—the best interest of the community and the medical profession. Dr. Stancomb believed that in the near future wiser counsels would prevail, the profession in times of great danger would not discard any constitutional advantage, and at long last the medical profession would be adequately equipped for its own protection, and that of the community which it served. Dr. MAIN seconded the resolution.

After a few questions had been asked and answered, and one doctor had said that, after hearing Dr. Stancomb, he was inclined to change his previously unfavourable opinion, Dr. GARRATT moved an amendment:

> That this meeting of medical practitioners of Chichester entirely disapproves of the adoption by the profession of trade union practices, and considers that the best interests of their body will be better advanced by making use of their experience, education, and ability to educate lay opinion; and that measures in this direction should be taken by the British Medical Association.

Dr. Garratt combatted, in turn, the various arguments of Dr. Stancomb. He said that the educated classes stated by him to have adopted trade unionism were the worst paid of all; and if this was the result of trade unionism he would have none of it. He quoted from the address of Dr. Kaye le Fleming (BRITISH MEDICAL JOURNAL, SUPPLEMENT, October 25th, 1919) extracts showing that, owing to their varied and diverse interests, individualistic habits and training, and general independence, doctors were the last people in the world likely to submit to trade union rule. As regards the alleged absence of necessity for any strike fund, he said that doctors entirely dependent on panel practice would lose at once payment for all not sick, including unallocated persons, and even the sick, having by their contributions earned the right to free treatment, and being generally out of work and without wage, probably would not pay. In fact, the entire panel income might be regarded as a dead loss. Strikes were not always successful as stated. While strikes of large powerful unions against small bodies of employers often succeeded, strikes even of combinations of such unions against the State and community never did. The employers of doctors were the State and community, and if the panel doctors struck, they—a pitifully small and inexperienced minority — must strike against all the resources of the Government, of the approved societies, and the working community at the same time. It was an entire delusion to suppose that doctors were one whit more essential to the community than the latter to the doctors, who were, in fact, daily dependent on the community for every necessary of life, and therefore such strike must fail. If picketing were practised it would not be of blacklegs by the doctors, but of doctors by the public. The fundamental error made by doctors from the first had been entire neglect to consider and win over lay opinion. The laity controlled votes, and nothing but votes were powerful with governments. Trained speakers like Dr. Stancomb should appeal to the laity. Dr. Garratt quoted an instance where doctors in West Sussex, by meeting a number of representatives of approved societies, had practically removed that iniquity of the 1915 regulations in regard to chronic cases, which the Association had then made no attempt to deal with but actually approved. If the Insurance Acts Committee had not been a success, the remedy lay in reform of that body. Dr. Stancomb had suggested that a trade union would have struck on the issue of a 17s. 6d. capitation fee. Dr. Garratt held that such action would have been a blunder of the first magnitude. Personally, he was entirely opposed to over-payment of panel work. It

could only, by discouraging consulting practice, research and public health work, lower the status of the profession. It would, moreover, tend to attract the wrong sort of men, and that in such numbers as would soon, by overcrowding and underselling, reproduce all those evils from which doctors were temporarily relieved, and which they most desired to avoid. As regards promoting fellowship as alleged, the doctors of Chichester, without the union, were as friendly as those of Southampton; and he feared that trade unionism would tend to introduce men with whom it would be less easy to be friendly. In conclusion, he expressed the opinion that trade unions were governed by extremists; their methods were crude and barbarous, the general public most thoroughly detested them, and he hoped that even the Labour Party, once it had learned wisdom by experience of office, would itself take measures to restrict such practices. It would be deplorable if the medical profession, with long and honourable traditions, going back ages before the birth of trade unionism, should then begin to take them up.

After short discussion, in course of which the Chairman expressed his admiration of the work of the British Medical Association, Dr. Garratt's amendment was seconded by Dr. Bostock, and carried. It was then put again as a substantive resolution and passed *nemine contradicente*.

The meeting closed with a vote of thanks to Dr. Stancomb for his trouble in coming, and for his able address.

INSURANCE.

DINNER TO DR. BRACKENBURY BY THE MEMBERS OF THE INSURANCE ACTS COMMITTEE.

ON March 25th the members of the Insurance Acts Committee entertained Dr. and Mrs. Brackenbury to dinner at the Grand Hotel, Charing Cross. The chair was taken by Dr. H. F. OLDHAM, one of the senior members of the Committee, and nearly the whole of the members were present. Letters of regret, expressing gratitude to Dr. Brackenbury for his services, were received from each of those who were absent.

The CHAIRMAN, in proposing the only toast of the evening, "The Chairman of the Insurance Acts Committee," said that the members of the Committee felt that the conclusion of the recent negotiations in respect of the new Regulations and remuneration was an appropriate time for them to express something of what they felt about Dr. Brackenbury and his work. As a chairman he was assiduous in his duties and always a master of his case, with the result that he had been a real leader of the Committee and of the profession. They recognized that Dr. Brackenbury, although a first-class fighting man, was much more than that. He was a statesman and he held the highest ideals as regards his profession. Nobody had put the claims of the general practitioner as the backbone of the medical service of the country more forcibly or more lucidly than Dr. Brackenbury had. The members of the Committee wished Dr. Brackenbury to have some tangible evidence of their admiration and on their behalf he presented him with a silver salver bearing the following inscription:

> Presented to HENRY BRITTEN BRACKENBURY, M.R.C.S., L.R.C.P., by the members of the Insurance Acts Committee, British Medical Association, March 25th, 1920, in grateful recognition and admiration of his work as Chairman during the years 1916–1920.

They welcomed Mrs. Brackenbury and desired to thank her for the way in which she must have helped her husband to enable him to sacrifice so much of his time and leisure in the interests of the profession, and he asked her to accept a silver card tray inscribed as follows:

> To Mrs. H. B. BRACKENBURY from the Insurance Acts Committee, British Medical Association, March 25th, 1920.

Dr. J. A. MACDONALD, Chairman of Council of the Association, said that, having been Chairman of the Committee before Dr. Brackenbury, he knew something of the work which it entailed. Though he had not had many opportunities of taking part in the work of the Committee recently, he had seen a good deal of Dr. Brackenbury's work on the Council of the Association, and had nothing but admiration for it. He wished to thank Dr. Brackenbury for the fine services he had rendered to the Association, for his activities had not been by any means confined to the Insurance Acts Committee, but had been given freely to other important committees of the Association.

Brief speeches were also made by Dr. DAIN, Dr. RIDLEY BAILEY; Dr. LINNELL, who specially voiced the gratitude of rural practitioners for the work Dr. Brackenbury had done for them; Dr. HUGH JONES, who spoke also for rural practitioners, and especially for those in North Wales, who, he said, had as great admiration of and gratitude for Dr. Brackenbury's work; Dr. MABEL RAMSAY, the representative on the Committee of the Women's Federation, who spoke for the Federation as well as for her own Panel Committee; and the MEDICAL SECRETARY, who said he owed a deep debt of personal gratitude to the guest of the evening for the enormous amount of work he had done which usually fell on a Secretary and which had been done at a time of exceptional strain on himself and staff.

Dr. BRACKENBURY, in replying, said that good artists always embellished the subject they were painting, and he had not previously realized how many good artists there were on the Insurance Acts Committee, for, after listening to the description of his character, he did not recognize himself. He had been gratified to hear that his fellow members proposed to entertain him at dinner, but he did not expect, and in fact was inclined to resent, the giving of a present to himself, for he had only been one of a band of workers, and if recognition were due at all it was due from the profession to the Committee as a whole. He was bound to say he had thoroughly enjoyed the work. In the course of considerable experience in public life he had always believed that the good committeeman was the man who brought his ideas into the common pool for the common good, and he had tried to be a good committeeman. He was very grateful for all that had been said about himself and his wife, and though the results of the negotiations they had carried on had not been all they had desired and expected, yet he thought the profession in general was satisfied that no effort on their part had been spared to place before the Government and the public the position of the general practitioner and his claims for recognition. He wished specially to thank Dr. Macdonald, who was Chairman of the Committee when he first joined it and had set an example there and elsewhere of chairmanship which was very difficult for any man to follow. The Committee was sorry that owing to the other claims on Dr. Macdonald's time they had not seen so much of him as they would have liked.

INSURANCE COMMITTEES.

COUNTY OF LONDON.

The late Sir Robert Morant.—The London Insurance Committee, at its meeting on March 25th, passed a vote of condolence with the relatives of the late Sir Robert Morant.

Large Panel Lists.—On the discussion of the new arrangements for the provision of medical benefit, Mr. P. ROCKLIFF complained that a list of 3,000, instead of being regarded as the extreme limit to be permitted only in very exceptional circumstances, was regarded as a normal figure, at all events for 1920 in London. Mrs. HANDEL BOOTH also complained that many doctors were not giving adequate service and were bringing the Act into disrepute. Mr. F. COYSH, chairman of the Medical Benefit Subcommittee, said that at the present time, out of 1,400 or more practitioners on the London panel, only seventy had lists of 3,000 or over, and, speaking generally, the men who had the largest lists were the most popular and efficient. Several of the medical members of the Committee pointed out that large lists had been forced on practitioners in crowded districts by penalizing those who limited their lists, and that the desirable thing was to induce the public to exercise more intelligence in the choice of doctor, instead of "running after" the man who had the largest list, with the idea that he was likely to be the best practitioner. Dr. LAURISTON SHAW said that with the present increase in numbers of medical students the position would adjust itself in the course of a few years.

Venereal Diseases.—A report was presented to the Committee surveying in a general way the position with regard to the treatment of venereal diseases. The Committee proposed to confer with the Panel Committee with a view to making joint representations to the Ministry of Health to secure that arrangements should be made for medical men and women with special gifts as public lecturers to deliver short addresses to carefully selected audiences on the health side of the question. It was agreed, with two dissentients—both of them medical members—that the Panel Committee should be asked to consider whether it was practicable and desirable that steps be taken to require all insurance practitioners to acquaint themselves with modern methods for the treatment of venereal diseases by post-graduate courses or otherwise; whether the surgeries of insurance practitioners were adapted for the adequate treatment of these diseases, and whether, under present conditions, an insurance practitioner had the necessary time to provide adequate treatment for these cases.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: C. H. Dawe to the *President*, additional, for W. T. Station, Bathurst; A. D. Spalding to the *Harebell*. Surgeon Lieutenant Commanders: C. M. R. Thatcher to the *Revenge*, for Physical and Recreation Training in First Battle Squadron (temporary); F. H. Stephens, O.B.E., to the *Calliope* on commissioning. Surgeon Lieutenants (temporary): G. B. Tarring to the *Douglas* on commissioning; J. A. Watson transferred to the permanent list (seniority October 20th, 1914).

ARMY MEDICAL SERVICE.

Lieut.-Colonel J. F. Martin, C.M.G., C.B.E., R.A.M.C., relinquishes the temporary appointment of D.A.D.G.

Major and Brevet Lieut.-Colonel H. V. Bagshawe, C.B.E., D.S.O., R.A.M.C., to be D.A.D.G.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. G. Gill, D.S.O., relinquishes the acting rank of Colonel.

Major C. R. L. Ronayne relinquishes the temporary rank of Lieutenant-Colonel.

Captain G. D'R. Carr, M.C., is seconded for service with the Egyptian Army.

The following relinquish the acting rank of Major: Captains O. B. Pratt, J. R. N. Warburton, M.C., E. C. Beddows, M.C., H. E. A. Boldero, temporary Captains J. Bamforth, G. F. Bird, M.C.

Captain E. W. Vaughan, D.S.O., M.C., to be temporary Major whilst specially employed.

A. T. Todd, O.B.E., late temporary Captain, to be temporary Major.

Captain T. J. Kelly, M.C., resigns his commission.

T. W. Smart to be temporary Lieutenant.

The following officers relinquish their commissions:—Temporary honorary Lieut.-Colonel W. R. Dawson, O.B.E., and retains the honorary rank of Lieut.-Colonel. Temporary Majors and retain the rank of Major: C. V. Mackay, H. D. Macphail (on ceasing to serve with the Northumberland War Hospital). Temporary Major H. H. Balfour, O.B.E. (Lieutenant-Colonel S.A.M.C.), on ceasing to serve with the South African General Hospital, Richmond. Temporary Captain Arthur J. Blake, M.C., and is granted the rank of Lieut.-Colonel. Temporary Captains and are granted the rank of Major: J. C. D. Allan, July 16th, 1919, and J. R. Pate, December 7th, 1919 (substituted for notifications in the *London Gazette*, August 16th, 1919, and January 19th, 1920, respectively), (acting Major) N. Dunn. Temporary Captains and retain the rank of Captain: W. H. Johnston, R. G. Smith, F. E. Webb, J. M. Morris (on ceasing to be employed with the Neath Section 3rd Western General Hospital), W. G. Riley, J. P. Crawford, P. L. Hope, F. D. Johnson, J. N. G. W. McMorris, E. Hesterlow, W. J. Lascelles, F. W. Watkyn-Thomas, R. G. Struthers, F. P. B. MacTavish, F. McG. Loughnane, J. Butterworth, J. W. Simon, T. G. Dickson, T. D. Morgan, F. W. Jackson, A. D. Moffat, M.C., F. W. Stuart, W. S. Booth, H. Somerville. Temporary Captains: W. F. G. Scott, C. A. Mason (on account of ill health).

ROYAL AIR FORCE.

MEDICAL BRANCH.

Transferred to unemployed list: Captain (acting Major) H. Gardiner-Hall, M.B.E.; Captain (acting Lieut.-Colonel) W. Darling, M.C.

The name of Flying Officer J. C. Smyth is as now described and not as stated in the *London Gazette* of August 19th, 1919.

INDIAN MEDICAL SERVICE.

Major N. E. H. Scott, C.I.E., has been posted as Civil Surgeon, Hazara (January 14th).

Lieutenant-Colonel J. C. H. Leicester, M.D., F.R.C.S., appointed permanently as Professor of Midwifery, Medical College, and Obstetric Physician and Surgeon of the Medical College and Hospitals, Calcutta (September 5th, 1919).

Captain E. S. Phipson, D.S.O., M.B., has been confirmed in the appointment of Health Officer, Simla (October 13th, 1918).

Captains to be Majors (February 1st): R. Knowles, W. E. Brierley, M.B., F.R.C.S., J. B. Lapsley, M.C., M.B., J. A. Shorten, M.B., R. B. S. Sewell, C. H. Fielding, M.B., W. L. Watson, O.B.E., J. W. Barnett, M.B., M. L. Puri, S. C. Pal, R. S. Townsend, M.C., M.B., R. B. Lloyd, M.B., A. C. Munro, M.D., A. G. Tresidder, M.D., G. G. Jolly, C.I.E., M.B., S. S. Yazifdar, J. J. H. Nelson, O.B.E., M.C., M.D., F.R.C.S.E., E. S. Phipson, D.S.O., M.B., F. F. S. Smith, M.D., T. C. Boyd, F.R.C.S.I.

Captain J. G. J. Green has been permitted to retire from the service on account of ill health (December 9th, 1919).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain A. Bulleid to be acting Major.

The following Captains relinquish their commissions: F. Oppenheimer, H. B Sherlock, M.C. (on account of ill health caused by wounds and retains the rank of Captain).

Captain J. E. E. de Robillard resigns his commission.

QUEEN MARY'S ARMY AUXILIARY CORPS.

Auxiliary Section, R.A.M.C. Attached.—Medical Controller G. E. Soltau relinquishes her appointment.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captain (acting Major) A. C. Walkin relinquishes the acting rank of Major on ceasing to be employed.

TERRITORIAL FORCE RESERVE.

The announcements concerning the following officers which appeared in the *London Gazette* of the dates indicated are cancelled: Captains N. F. W. Boeddicker (January 3rd and 17th, 1919), H. N. Crowe (December 31st, 1918), J. H. Hunter, M.C. (December 30th, 1918, and February 6th, 1919), (acting Major) A. C. Walkin (January 15th, 1919), D. A. Wilson (January 9th, 1919).

VOLUNTEER FORCE.

Temporary Lieut.-Colonels relinquish their commissions and are granted the honorary rank of Lieutenant-Colonel:—Durham R.A.M.C.V.: T. E. Hill. Kent R.A.M.C.V.: J. H. Yolland. Norfolk R.A.M.C.V.: G. H. Thompson. Northumberland R.A.M.C.V.: C. B. Palmer. Suffolk R.A.M.C.V.: A. W. Addinsell. Sussex R.A.M.C.V.: C. W. Owen, C.M.G., C.I.E. (Lieut.-Colonel ret. I.M.S.).

Temporary Majors relinquish their commissions and are granted the honorary rank of Major:—Durham R.A.M.C.V.: D. McF. Millar, M. Buchanan, J. T. Dickson. Hampshire R.A.M.C.V.: W. J. G. Cattell, W. J. Smyth. Lincolnshire R.A.M.C.V.: H. P. Berry (Major T.F. Res.). Norfolk R.A.M.C.V.: A. H. Meadows, J. K. Howlett, J. E. Linnell. Suffolk R.A.M.C.V.: H. G. Wood-Hill, H. E. Barnes, R. W. Mullock, J. R. Dobbin, J. F. C. Hossack, A. M. N. Pringle, C. K. Moseley, D. A. Carruthers. West Riding R.A.M.C.V.: H. G. Frankling, A. G. Reid.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Obstetrics and Gynaecology:* Thursday, 8 p.m., Specimens. Short Communications:—Dr. Williamson and Dr. Brockman: Extensive Fatty Change in Fibro-myomata. Lady Barrett: Case with High Ammonia Coefficient. Dr. Williamson: Value of Blood Transfusion before Operation in Severe Secondary Anaemia. Dr. A. C. Palmer: Rupture of the Vagina during Labour (with Specimens and Epidiascope Demonstration by Dr. Holland). Mr. T. G. Stevens: Sacculation of Gravid Bicornuate Uterus. Annual General Meeting, Friday, 8.15 p.m. *Section of Anaesthetics*, Friday, 8.30 p.m.: Discussion on Anaesthesia in Operations on the Thyroid Gland, to be opened by Mrs. Dickinson Berry.

POST-GRADUATE COURSES AND LECTURES.

SHEFFIELD UNIVERSITY, PATHOLOGICAL MUSEUM.—Wednesday, 4 p.m.: Professor Connell: Pathology of Bone Disease.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., Clinics, Operations (Out-patient Department is closed from April 1st to Tuesday, April 6th). Tuesday, 10 a.m., Dr. McDougal: Electrical Department; 2 p.m., Dr. Pernet: Skin Diseases. Wednesday, 10 a.m., Dr. Saunders: Diseases of Children; 2 p.m., Mr. Gibb: Eye Disease. Thursday, 2 p.m., Dr. Grainger Stewart: Nerve Disease; 2 p.m., Mr. Bishop Harman: Eye Department. Friday, 2 p.m., Dr. Morton: *X* Rays; Mr. Banks Davis: Throat, Nose, and Ear Diseases. Saturday, 2 p.m., Dr. Owen: Medical Cases.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Mediseca, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

1 Thurs. London: Grants Subcommittee, 11 a.m.
London: Organization Committee and Scrutiny Subcommittee (Joint Meeting), 2 p.m.
Brighton Division, Sussex County Hospital, 4 p.m.: Clinical Demonstrations (General).
7 Wed. London: Finance Committee, 2.30 p.m.
8 Thurs. Maidstone Division, West Kent Hospital, 3 p.m.
14 Wed. London: **Council**, 10 a.m.
15 Fri. London: Ministry of Health Committee.
20 Tues. London: Scrutiny Subcommittee, 2.30 p.m.
21 Wed. North Middlesex Division: Lecture by Mr. A. Fleming, F.R.C.S., on Vaccine Therapy.
27 Tues. Kesteven Division, Lincoln, 3 p.m.
28 Wed. Plymouth Division: Lecture by Sir Frederick Mott, K.B.E., F.R.S.: The Early Symptoms and Diagnosis of Diseases of the Spinal Cord.

APPOINTMENTS.

HOWELL, B. Whitchurch, F.R.C.S., Surgeon to the Royal Surgical Aid Society.

LAIRD, A. H., M.B.Dub., Officer in Charge *X*-ray and Electro-therapeutic Departments of the Coventry and Warwickshire Hospital.

CERTIFYING FACTORY SURGEONS.—J. A. Andrews, M.B. (Bovey Tracey District, co. Devon), H. A. C. Davidson, L.R.C.P. and S.Edin., L.R.F.P.S.Glas. (Coupar Angus District, co. Perth), H. D. Gasteen, L.R.C.P. and S.I., D.P.H. (Gamlingay District, co. Cambridge), R. T. Gilmour, M.R.C.S., L.R.C.P. (Maidenhead District, co. Berks), J. D. Hart, M.B., Ch.B. (North Walsham District, co. Norfolk), Dr. R. Miller (Stock District, co. Essex), P. H. Seal, M.B., B.S.Lond. (South Molton District, co. Devon), C. Tylor, M.D.Camb. (Long Melford District, co. Suffolk), C. M. Willmott, L.R.C.P. and S.Edin., L.R.F.P.S.Glas. (Leyland District, co. Lancaster); R. M. Yule, M.D.Aberd. (Lerwick District, co. Shetland).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

HORTON.—On March 27th, at 29, Westbourne Gardens, W.2, the wife of R. Lister Horton, F.R.C.S., of a son.

ISARD.—At 2, Arkwright Road, Hampstead, on March 18th, to Dr. and Mrs. C. V. Isard, of North Tawton, Devon, a daughter.

REINHOLD.—At the Anglo-American Hospital, Cairo, on March 6th, 1920, to the wife of Major C. Reinhold, M.C., I.M.S. (*née* Hayward), a son.

RICHARDS.—On March 23rd, at Castle Green, Llansawel, Carmarthenshire, to Dr. and Mrs. W. G. Richards, a son.

DEATH.

DANVERS.—On March 18th, at Mont-Boron, Nice, Herbert Danvers, M.D., formerly of Weymouth Street, London, W.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 10TH, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
THE LATE SIR ROBERT MORANT	97
PART-TIME PRISON MEDICAL OFFICERS	97
SPECIAL RESERVE R.A.M.C.	97
ASSOCIATION NOTICES:	
MEETING OF COUNCIL	97
BRANCH AND DIVISION MEETINGS TO BE HELD	97
INDIAN MEDICAL SERVICE: CONSOLIDATED RATES OF PAY ...	97
INSURANCE CORRESPONDENCE:	
THE PROPOSED TESTIMONIAL	98
ASSOCIATION INTELLIGENCE	98
DIARY OF SOCIETIES AND LECTURES	98
BIRTHS, MARRIAGES, AND DEATHS	98

British Medical Association.

CURRENT NOTES.

The late Sir Robert Morant.

THE Insurance Acts Committee at its meeting on March 25th passed a vote of condolence with Lady Morant and family, and instructed its chairman to convey to her the deep sense of loss felt by all those who, like the Insurance Acts Committee, had come into close contact with Sir Robert Morant.

Part-time Prison Medical Officers.

The present position of the negotiations is that, after several communications calling his attention to the urgent need for revision of the pay of the Prison Medical Service, the Home Secretary has replied that certain proposals regarding pay have been sent forward for the consideration of the Treasury, but that at present he is not in a position to make an announcement.

Special Reserve R.A.M.C.

The Naval and Military Committee has recently been in correspondence with the War Office concerning the position of Special Reserve officers. These officers are debarred from signing temporary contracts, and are therefore at a great disadvantage in respect of pay as compared with officers serving on such contracts. Such being the case, the War Office was asked to demobilize all Special Reserve officers who wished for demobilization. The reply of the War Office was to the effect that such officers were liable to be retained in the army till the statutory date of the termination of the war, and that, owing to the exigencies of the service, it was not anticipated that it would be possible to demobilize all such officers at an early date. It is understood that the recent notice in the press concerning demobilization in the Special Reserve applies only to those officers who have already been disembodied, and that it does not affect those who are at present serving.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, April 14th, in the Council Room, 429, Strand, London, W.C. 2, at 10 a.m.

BRANCH AND DIVISION MEETINGS TO BE HELD.

MIDLAND BRANCH: LINCOLN AND KESTEVEN DIVISIONS.—Dr. Godfrey Lowe, Honorary Secretary, Lincoln Division (42, Langworth Gate, Lincoln), gives notice that a meeting of members and non-members of the Lincoln and Kesteven Divisions will be held at Lincoln on Tuesday, April 27th, at 3 p.m. Dr. Alfred Cox, O.B.E., Medical Secretary, will attend and give an address, to be followed by a discussion. Further particulars will be announced later.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—Dr. E. Lewys-Lloyd, Honorary Secretary (Gothic House, Towyn, Merioneth) gives notice that the annual meeting of the Division will be held at Barmouth on Wednesday, April 14th.

INDIAN MEDICAL SERVICE.

Consolidated Rates of Pay.

ON March 12th the British Medical Association received a letter from the India Office stating that, after careful consideration in communication with the Government of India, the Secretary of State in Council proposed to sanction the incremental scale (set out below) of consolidated pay for all European officers of the Indian Medical Service, in civil or military employ, except those holding administrative appointments carrying fixed rates of pay higher than are admissible under this scale. For purposes of comparison the table shows also the scale in force before December 1st, 1918, and the scale in force since that date. [A further column has been appended showing the scale asked for by the British Medical Association.] The letter added that Mr. Montagu, Secretary of State for India, would be glad to learn whether the British Medical Association agreed generally in the scale and had any observations to make upon it. The letter was immediately acknowledged, the statement being made that a meeting of the Naval and Military Committee would be held at the earliest possible moment to consider the matter, and it was added:

I note that there is no reference in your letter to the questions of passages and pensions, and should be glad if any indication of the India Office's intentions concerning these two questions could be given before the date of the meeting of the Naval and Military Committee, namely, Friday, March 19th.

The Under Secretary of State for India, in his reply, wrote as follows:

The questions of passages and pensions referred to in your letter have not yet reached the stage at which a definite decision could be communicated to the British Medical Association, and for that reason these subjects were omitted from my previous letter. It is impossible to consider them apart from the larger case of the Indian Army as a whole, although it does not necessarily follow that the final decision will be the same for both services. The Secretary of State is in constant telegraphic communication with the Government of India on both these subjects, and hopes to make an announcement on them in the near future. Meanwhile he is anxious that they should not retard or complicate the more urgent matter of the pay of the Indian Medical Service.

On March 22nd a letter was sent by the Medical Secretary of the British Medical Association to the Under Secretary of State for India, stating that although in certain instances the full demands of the Association had not been met, the Naval and Military Committee considered the scale to be, on the whole, satisfactory:

I am, however, to point out that on the civil side there are certain appointments in the medical colleges, and in the bacteriological and sanitary departments, as well as in the jails, which carry allowances with them. No new rates of pay could prove acceptable which did not safeguard the officers holding such appointments. The Committee feels very strongly that these allowances must be treated as something quite apart from the general question of allowances, the maintenance of a horse, or the collateral charge of a *second* regiment, etc., and that they must be continued and proportionately increased (that is, 50 per cent.). If this is not done, cases will arise where officers holding such appointments will find themselves worse off than they were before, in spite of the general increase of pay. Such a result is bound to render the scheme unacceptable.

Then, again, there is the question of allowances for the officers in charge of the station hospitals. The extra work and responsibility such charges involve make it necessary that these allowances should be continued. It is not suggested that the Secretary of State intended to take any other course, but it

is desirable to have these matters settled in advance, without the possibility of misunderstanding afterwards.

I am to make it clear (1) that what the Association has in view is a 50 per cent. all round increase on the pay officers drew before the war, and (2) that it is felt that this increase should be safeguarded from any deductions or alterations whatsoever.

I am to express the hope that you will be in a position to assure the Association that not only the pay, but the question of passages and pensions has been placed on a satisfactory basis in time for an announcement to be made to that effect at our Annual Representative Meeting, which is to be held on June 25th at Cambridge. Such an announcement made at that particular time would receive a peculiarly wide publicity, and would have a most desirable effect on the prospects of the recruitment of officers for the service.

Rank and Year of Service.	Rates in Force before December, 1918.	Present Rates.	Proposed Rates.	Scale Asked for by Association.*
Lieutenants				
1	450	550	650	675
2	450	550	650	675
3	450	550	650	675
Captains				
4	550	700	800	825
5	550	700	800	825
6	600	750	800	900
7	600	750	950	900
8	650	800	950	975
9	650	800	950	975
10	650	800	1050	975
11	700	900	1050	1050
12	700	900	1050	1050
Majors				
13	800	1000	1200	1200
14	800	1000	1200	1200
15	800	1000	1200	1200
16	900	1150	1350	1350
17	900	1150	1350	1350
18	900	1150	1350	1350
19	900	1150	1500	1350
20	900	1150	1500	1350
Lieut.-Colonels				
21	1250	1550	1750	1875
22	1250	1550	1750	1875
23	1250	1550	1750	1875
24	1250	1550	1850	1875
25	1250	1550	1850	1875
over 25	1300	1600	1950	1950
Selected	1400	1750	2100	

* For the convenience of readers this column has been added to the table furnished by the India Office. The scales throughout are in rupees per mensem.

INSURANCE.

CORRESPONDENCE.

The Proposed Testimonial.

SIR,—We are desired by the members of the Conditions of Service Subcommittee of the Insurance Acts Committee to thank Drs. Richmond and Farman and their colleagues for the good will and appreciation shown in their letter which appeared in the SUPPLEMENT of March 27th, but the Subcommittee hopes the scheme outlined in that letter will not be persisted in. If the appeal were a failure it would be mortifying to all concerned. If it were successful the result would be hardly less embarrassing to the recipients of the presentation, for it would entirely alter their relations to their constituents. At present the Insurance Acts Committee is a body of men voluntarily giving up their time and energies to the service of their fellow insurance practitioners. The members of the committee are independent in a way they could hardly be if they were made the recipients of such a handsome present as the proposed appeal might be expected to produce. Besides, the Conditions of Service Subcommittee does not wish to be distinguished from the other members of the Insurance Acts Committee. Where all are willing and anxious to serve it does not seem proper to single out those who undertook a special task.

The Subcommittee is deeply grateful for the kindness which prompted the appeal, but trusts that its promoters will appreciate the sentiments which lead the Subcommittee to ask them to drop the project.—We are, etc.,

H. B. BRACKENBURY,
ALFRED COX.

April 5th.

WE are asked to state that Dr. Withers Green also spoke to the toast of the evening at the dinner given to Dr. Brackenbury by the Insurance Acts Committee (SUPPLEMENT, April 3rd).

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 5 p.m., Saturdays 10 to 1.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Mediseera, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

14 Wed. London: **Council**, 10 a.m.
South Carnarvon and Merioneth Division, Annual Meeting, Barmouth.
16 Fri. London: Ministry of Health Committee.
20 Tues. London: Scrutiny Subcommittee, 2.30 p.m.
21 Wed. London: Hospitals Committee, 3 p.m.
North Middlesex Division: Lecture by Mr. A. Fleming, F.R.C.S., on Vaccine Therapy.
22 Thur. London: Rural Practitioners Subcommittee, 2.30 p.m.
South Wales and Monmouthshire Branch, Carmarthen: British Medical Association Lecture by Lieut.-Colonel Robert McCarrison, I.M.S., on Deficiency Diseases.
27 Tues. Kesteven Division, Lincoln, 3 p.m.
28 Wed. Plymouth Division: Lecture by Sir Frederick Mott, K.B.E., F.R.S.: The Early Symptoms and Diagnosis of Diseases of the Spinal Cord.
29 Thur. London: Insurance Acts Executive Subcommittee, 2.30 p.m.
30 Fri. Bradford Division: Lecture by Dr. A. F. Hurst: Psychotherapy.

MAY.

17 Mon. *Last day for receipt of Nominations for Council.*

DIARY OF SOCIETIES AND LECTURES.

HARVEIAN SOCIETY, Maida Vale Hospital for Nervous Diseases. Thursday, 5.30 p.m., Clinical Meeting.

ROYAL SOCIETY OF MEDICINE.—*Section of Dermatology:* Thursday, 4.30 p.m., Cases. *Clinical Section:* Friday, 5 p.m., Cases. *Section of Electro-Therapeutics:* Friday, 8.30 p.m., Mackenzie Davidson Memorial Lecture by Professor Sir Ernest Rutherford: Development of Radiology.

POST-GRADUATE COURSES AND LECTURES.

MANCHESTER: ANCOATS HOSPITAL.—Thursday, 4 p.m., Mitral Incompetence and Ability to Work.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. W. Fletcher Shaw: Uterine Haemorrhage.

SHEFFIELD ROYAL INFIRMARY.—Wednesday, 4 p.m., Professor Connell: Clinical Cases of Bone Lesions.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Monday, 12.15 p.m., Dr. Burnford: Pathological Demonstration. 5 p.m., Dr. Arthur Saunders: Nephritis in Children. Tuesday, 12 noon, Mr. Tyrrell Gray: Demonstration of Fractures, etc. 5 p.m., Mr. Banks Davis: Clinical Lecture (I). Wednesday, 2 p.m., Mr. Addison: Operations. 5 p.m., Dr. Beddard: Practical Medicine (Lecture I). Thursday, 2 p.m., Mr. Bishop Harman: Irido-cyclitis. 5 p.m., Mr. Page: Anaesthetics. Friday, 2 p.m., Mr. Pernet: Skin Department. 5 p.m., Dr. G. C. Low: Examination of the Faeces in Tropical Diseases. Saturday, 12 noon, Dr. Sinclair: Surgical Anatomy of the Abdomen. 2 p.m., Dr. Owen: Medical Out-patients.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BURKE.—On March 29th, at Central Nursing Home, Dundee, to the wife of E. T. Burke, D.S.O., M.B., Ch.B., a son.

COLMER.—At the Woodside Nursing Home, Plymouth, on March 30th, the wife of Vyvian Colmer, M.R.C.S., L.R.C.P., of a daughter.

RYAN.—At Willoughbys, Astley, on the 2nd inst., the wife of S. H. Ryan, M.B., Ch.B., L.S.A., a son.

DEATHS.

HARRISON.—On the 31st ult., John Atkinson Harrison, M.B., C.M., O.B.E., of Hazelwood, Haslingden, aged 49. Interred at Haslingden Cemetery, Saturday, April 3rd.

HUNT.—At 4, Darlington Place, on March 3rd, Lieut.-Colonel John Percival Hunt, R.A.M.C.(ret.), in his 75th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 17TH, 1920.

CONTENTS.

	PAGE
British Medical Association.	
CURRENT NOTES:	
Visitation of Divisions	99
Special Intermediate Insurance Certificate	99
Postal Medical Officers	99
MEETINGS OF BRANCHES AND DIVISIONS	99
ASSOCIATION NOTICES:	
Election of Representative Body and Council	100
Scholarships and Grants in Aid of Scientific Research	100
Changes of Boundaries	100
Branch and Division Meetings to be held	100
INSURANCE CORRESPONDENCE:	
Appeals to the High Court	101
NAVAL AND MILITARY APPOINTMENTS	101
ASSOCIATION INTELLIGENCE:	
Reference and Lending Library	102
Departments	102
Diary of the Association	102
DIARY OF SOCIETIES AND LECTURES	102
APPOINTMENTS	102
BIRTHS, MARRIAGES, AND DEATHS	102

British Medical Association.

CURRENT NOTES.

Visitation of Divisions.

THE Medical Secretary has the following programme of visits to Divisions during the next fortnight:

April 20. Furness Division at Barrow.
April 21. Joint meeting of Kendal and Lancaster Divisions at Lancaster.
April 23. Conference with the workmen, the doctors of the Ebbw Vale Workmen's Medical Association, and representatives of the Welsh Board of Health, with a view to endeavouring to settle the difficulties which led to the doctors under the Association giving in their notices.
April 26. Great Yarmouth Division at Great Yarmouth.
April 27. Joint meeting of the Lincoln and Kesteven Divisions at Lincoln.
April 28. East Yorks Division dinner and meeting at Hull.

At each place, with the exception of Ebbw Vale, the Medical Secretary will deal with the current work of the Association, and questions are invited. Both members and non-members have been asked to attend the meetings.

Special Intermediate Insurance Certificate.

Rule 12 of the Certification Rules which govern the giving of certificates under the National Insurance Acts, provides for a special form of certificate to obviate the necessity for weekly certificates in chronic cases. Inquiries have been made as to when this new certificate will be available, and the Insurance Acts Committee wishes to remind practitioners that it was agreed with the Ministry of Health that this rule would not operate until the referees were in existence. It will be noted that subparagraph 2 of the rule says that questions in connexion with the certificate may be referred to the medical referee. The Insurance Acts Committee has been assured that the new certificate will be introduced as soon as possible after the new medical officers have got to work.

Postal Medical Officers.

Information has reached the British Medical Association that the Treasury has raised the capitation fee for postal medical officers to 13s. and that payment on this basis will be paid for the quarter ending March 31st, 1920. Thus the persistent efforts by the Association to improve this service are apparently bearing fruit. It is also stated that the fees for itinerants and emergency cases are under consideration. Some points will still remain for consideration, such as the proposed fees for inoculation against influenza and examinations for Civil Service candidates. These will be dealt with when the census of members of the British Medical Association who are postal medical officers has been completed.

Meetings of Branches and Divisions.

GLASGOW AND WEST OF SCOTLAND BRANCH.

AT the annual meeting of the Branch, held in the Faculty Hall on March 31st, with Dr. WILLIAM SNODGRASS in the chair, it was agreed to invite the Central Council of the Association to hold the annual meeting in 1922 in Glasgow, where it has not been held since 1888.

The secretary's report showed that 100 new members had been added in the course of the year. It was reported that the Overseas Club were co-operating with the Branch regarding the war memorial for members of the profession fallen on active service.

The following officers were elected:

President: Dr. Livingstone Loudon. *President-elect:* Dr. Robertson. *Vice-Presidents:* Dr. J. Laurie and Dr. W. Snodgrass. *Honorary Secretary:* Dr. A. Kennedy Glen. *Honorary Treasurer:* Dr. J. Wishart Kerr. Dr. Wishart Kerr and Dr. John Goff were unanimously chosen as Representatives of the City and Counties respectively.

After the business meeting Professor CARL BROWNING and Dr. G. HASWELL WILSON gave bacteriological and pathological demonstrations.

GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW EASTERN DIVISION.

THE annual general meeting of the Glasgow Eastern Division was held in Glasgow on March 30th, when Dr. GLAISTER, president, was in the chair. It was agreed to continue the scheme of holding joint meetings with the Eastern Medical Society.

The office-bearers for 1920 were elected as follows:

Chairman: Dr. P. McKellar Dewar. *Vice-Chairman:* Dr. Frank Martin. *Honorary Secretary and Treasurer:* Dr. James Dunlop. *Representative in Representative Body:* Dr. Thomas Russell. *Deputy Representative:* Dr. William Adam Burns.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.

A SPECIAL meeting of the Darlington Division was held at the Darlington General Hospital, Greenbank, on March 31st, 1920. There was a good attendance to hear an address by Dr. W. E. HUME, Physician to the Royal Infirmary, Newcastle-on-Tyne, on "Lessons learnt at the Pension Boards and their bearings on cases of heart trouble met with in private and insurance practices." Dr. Hume's interesting and practical address was the outcome of his four years' experience in France, during the last two of which he had charge of a large hospital dépôt set apart for heart cases only. At the conclusion of the address tea was provided by the medical staff of the hospital, and subsequently cases were shown and discussed.

SOUTHERN BRANCH: WINCHESTER DIVISION.

A MEETING of the Winchester Division was held at Winchester on March 17th, when Dr. J. LOCKHART LIVINGSTON, acting chairman, was in the chair. It was reported that invitations had been sent to all medical practitioners in the county of

Hampshire. On the motion of Dr. LOCKHART LIVINGSTON, seconded by Dr. BODINGTON, it was unanimously resolved that medical fees should be raised 50 per cent. above the pre-war standard.

SOUTH-WESTERN BRANCH: EXETER DIVISION.

THE annual meeting of the Exeter Division was held at the Royal Devon and Exeter Hospital on March 25th.

The HONORARY SECRETARY read the annual report and financial statement for the year 1919, together with the Representative's report with regard to matters on which he was instructed to vote at the last Annual Representative Meeting.

Dr. EAGER explained that, in accordance with instructions received at a previous meeting, he had been in communication with practitioners in areas of the Exeter Division from which no reply had been received to a letter sent to the local authority asking for a 33⅓ per cent. increase in remuneration to medical officers employed by them. A summary of the position, which had previously been drafted, was read by Dr. Eager, and he was requested to send a copy of the same to the Medical Secretary of the Association.

The following officers were elected for the ensuing year:

Chairman: Dr. M. Cutcliffe. *Vice-Chairman:* Dr. W. Gordon. *Honorary Secretary and Treasurer:* Mr. F. Norman Lock. *Representative in Representative Body:* Dr. F. Roper.

The CHAIRMAN expressed regret at Dr. Eager's resignation of the office of Honorary Secretary, and warmly thanked him for his services to the Division.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of members and non-members was held at St. Andrew's Hall, N.W.10. Dr. WHITEHALL COOKE presided. Dr. Paterson (Honorary Secretary) was appointed Representative of the Division for the Representative Meeting, and Dr. C. T. F. Scott (Vice-Chairman) Deputy Representative. Dr. Scott was also appointed Representative on Branch Council. Dr. Philip Smith was nominated for the Central Council. The adjourned discussion on hospitals and clinics was continued by Drs. AUTY, EMLYN, GILLBARD, ANDERSON SMITH, the CHAIRMAN, and Drs. TRAYLEN, TURNEY, and SCOTT. Dr. PATERSON said the general practitioner would welcome extra hospitals and clinics provided they were conducted in such a way as to help and not to interfere with his work, and were used only for specialist work and cases and for the instruction of mothers.

Dr. LORD, Assistant Medical Secretary, made an interesting statement of the general policy of the Association, and thought the trouble was largely due to misunderstanding. He pointed out that great changes in the relationship of the general practitioner to public health services were taking place; that the Association was determined to safeguard his position as far as possible; but that it was essential that he should help by taking an active interest in what was going on. There never was greater need for unity.

Dr. BUCHAN, M.O.H., replied to the discussion, and asked the practitioner to co-operate and not oppose. It was agreed to ask Dr. Buchan to meet the committee, and try to formulate a scheme to put before the authorities.

A hearty vote of thanks was accorded to Dr. Lord for his address.

Association Notices.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional ***Home Constituencies*** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the ***Oversea bodies,*** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out ***by General Meeting of the Constituency, or by postal vote.***

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

THE list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and Nomination Form, appeared in the SUPPLEMENT of January 24th, page 22. ***Nomination Forms*** will be forwarded by the Medical Secretary on application by Branches, Divisions, or Members. The Nominations must be in the hands of the Medical Secretary ***not later than May 17th.***

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An *Ernest Hart Memorial Scholarship*, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. *Three Research Scholarships*, each of the value of £150 per annum, for research into some subject relating to the causation, prevention, or treatment of disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1920. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1920–21 must be made not later than Saturday, May 29th, 1920, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

CHANGES OF BOUNDARIES.

AMALGAMATION OF SEVENOAKS WITH TUNBRIDGE WELLS DIVISION.

THE following change has been made in accordance with the Articles and By-laws, and takes effect as from the date of publication of this notice:

That the Sevenoaks Division of the Kent Branch be incorporated in the Tunbridge Wells Division of that Branch.

Representation in Representative Body.—Unaffected.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—The annual meeting for 1920 will take place at Southport on June 9th. The members will be entertained at lunch by the Southport Division, and after the President (Dr. Baildon, Southport) has given his address scientific papers will be read. A number of excursions are being arranged for the afternoon, and in the evening members will dine together. Members desiring to bring forward papers should communicate with the Branch Secretary, Mr. F. S. Heaney, F.R.C.S.I., 36, Rodney Street, Liverpool.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISIONS.—A general meeting of the Westminster and Holborn Divisions will be held at the St. James's Vestry Hall, Piccadilly, on Thursday, April 29th, at 5 p.m. Agenda: Revised Ethical Rules; Election of (*a*) Representatives, (*b*) Members of Council; Increase of Fees; Subdivision of Divisions.

MIDLAND BRANCH: LINCOLN AND KESTEVEN DIVISIONS.—Dr. Godfrey Lowe, Honorary Secretary, Lincoln Division (42, Langworth Gate, Lincoln), gives notice that a meeting of members and non-members of the Lincoln and Kesteven Divisions will be held at Lincoln on Tuesday, April 27th, at 3 p.m. Dr. Alfred Cox, O.B.E., Medical Secretary, will attend and give an address, to be followed by a discussion. Further particulars will be announced later.

INSURANCE.

CORRESPONDENCE.

Appeals to the High Court.

SIR,—In the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 3rd I notice that an amendment has been drafted, and that Dr. A. C. Farquharson, M.P., is being asked to move it, in connexion with the bill now before Parliament. The exact terms of the amendment are, however, not given.

I wish to emphasize the fact that not only must the right of appeal be given in case of removal from the panel list, but also in the event of heavy money penalties, for the one is not complete without the other.

I think a concise statement of the present position with regard to appeals to the High Court might here be given with advantage:

The Insurance Act of 1911 placed panel practitioners *unreservedly* in the power of the Commissioners, from whose decisions no appeal could be made to the High Court. The judges of the High Court could only hear a case if the Commissioners exceeded their jurisdiction, or, in other words, acted *ultra vires*, or if the procedure had not been correctly carried out. The Commissioners could, however, at any time introduce new Regulations, and which, if placed upon the table of the House of Commons for a brief period, became then, as it were, a part of the Act. In this way the Commissioners could very quickly convert points which were *ultra vires* into *intra vires*, and in this way panel men have been cut off from the High Court.

The principle here disclosed is fundamentally unsound, or as a judge would say, "bad in law." The British Constitution gives every man the inherent right to the Courts of Law, and, indeed, this is the only real safeguard which a citizen possesses.

These powers of the Commissioners are now vested in the Minister of Health, who has thus become an absolute autocrat where panel men are concerned. This autocracy is, however, contrary to the very spirit of the British Constitution.

It is interesting to note that the Minister of Health can be sued in court by any other citizen; but those whose characters and livelihoods are placed in his hands have no such remedy. It must be noticed also that this living of a panel doctor is not an appointment conferred on him by the State, but is the man's own practice, which he has either worked up with much labour or paid for by much capital. It should be noticed also that the break up of a doctor's panel would at the same time break up a very considerable portion of the private patients, for the two classes of patients are dovetailed in together.

No panel man in his right senses would waste his money in courts over trivialities, but at the same time it is absolutely necessary to keep a way open so that if real danger should beset him either by way of removal from list or by heavy money penalties, he can forthwith appeal on the merits of his case to the High Courts, like any other citizen.—I am, etc.,

Stalybridge, April 3rd. ADAM FOX.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Rear-Admiral G. A. Dreaper to R.N. Hospital, Chatham. Surgeon Commanders J. P. H. Greenhalgh to the *New Zealand* on *Lion* reducing; L. C. Rowan-Robinson to the *Eagle*; J. McCutcheon to the *Vernon*. Surgeon Lieutenant-Commander F. L. Smith to R.N. Hospital, Chatham. Surgeon Lieutenants promoted to rank of Surgeon Lieutenant Commanders: H. B. Parker, D.S.C., J. L. Priston, R. F. Quinton, M. J. Aitken, J. A. Maxwell, M. S. Moore, W. G. Thwaytes, C. E. Greeson, W. F. Beattie, H. W. Fitzroy-Williams, F. E. Fitzmaurice, T. J. O'Riordan, J. C. Kelly, D.S.C., J. M. Horan, G. M. Graham, F. C. Hunt. Surgeon Lieutenants W. J. Morris to the *Royal Sovereign*, F. L. H. MacDowel to the *Flinders*, H. L. Douglas to the *Fitzroy*, W. J. McB. Allan to the *Kellett*, A. G. McKee to the *Comus*. Surgeon-Lieutenant (temporary) W. B. Nicol to the *Orion*. Temporary Surgeon (R.N.V.R.) W. E. A. Sampson transferred to permanent list.

ARMY MEDICAL SERVICE.

Major-General A. A. Sutton, C.B., D.S.O., and Colonels F. R. Buswell, C.M.G., and J. D. Alexander, C.B E., D.S.O., retire on retired pay.

Colonel L. P. More is placed on half-pay.

Temporary honorary Colonel Sir J. Lynn-Thomas, K.B.E., C.B., C.M.G. (Major, ret., T.F.), relinquishes his temporary commission, and retains the honorary rank of Colonel.

Temporary Colonel A. Carless, C.B.E. (Major R.A.M.C.T.F.), relinquishes his temporary commission on reposting.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel P. H. Henderson, D.S.O., relinquishes the acting rank of Colonel.

Major Harry T. Wilson, D.S.O., relinquishes the temporary rank of Lieut.-Colonel (September 25th, 1919, substituted for the notification in the *London Gazette* of March 2nd, 1920).

Major and Brevet Lieut.-Colonel F. D. G. Howell, D.S.O., M.C., to be temporary Lieut.-Colonel whilst specially employed.

Major E. Gibbon, O.B.E., to be temporary Lieut.-Colonel whilst specially employed.

Major L. A. A. Andrews to be acting Lieutenant-Colonel.

The following relinquish the acting rank of Major:—Captain W. P. Croker. Temporary Captains: C. A. Dottridge, R. Scott, O. J. Day, M.C., P. Murphy, R. L. Crabb, L. G. Bourdillon, D.S.O., M.C., S. J. Higgins.

Temporary Captain (acting Major) H. F. N. Scott relinquishes the pay and allowances of his acting rank (November 11th, 1918), and relinquishes his acting rank (December 5th, 1918).

Temporary Captain H. S. Davidson relinquishes the acting rank of Lieutenant-Colonel.

Temporary Captain (acting Major) H. L. Mann to be acting Lieutenant-Colonel from September 25th, 1919, to February 24th, 1920, when he reverts to the temporary rank of Captain.

Temporary Captain J. G. M. Sloane to be acting Major from May 23rd to September 26th, 1919 (substituted for notification in the *London Gazette* of December 2nd, 1919).

The following Captains retire on receiving a gratuity: G. E. Dyas, M.C., J. Y. Moore, O.B.E.

Captain D. S. Buist is restored to the establishment.

Lieutenants (temporary Captains) to be Captains: A. H. Clarke, M.C., G. G. Drummond, D. R. Hennessy.

Lieutenant (temporary Captain) T. P. Buist is seconded for service under the Civil Administration of Mesopotamia, April 22nd, 1919 (substituted for notification in the *London Gazette* of October 27th, 1919).

Temporary Lieutenant W. N. Leak to be temporary Captain.

The notification in the *London Gazette* of August 30th, 1919, regarding temporary Captain A. McK. Bell is cancelled.

The following officers have relinquished their commissions: Temporary Lieut.-Colonel L. W. Rolleston, C.B.E., on ceasing to serve with the County of Middlesex War Hospital, and retains the rank of Lieutenant-Colonel. Temporary Majors and are granted the rank of Lieutenant-Colonel: T. M. Carter, O.B.E. (Lieutenant-Colonel T.F.R.), temporary Major (acting Lieutenant-Colonel) C. M. Row, and is granted the rank of Lieutenant-Colonel. Temporary Captains and are granted the rank of Major: E. J. Selby, O.B.E. (November 23rd, 1919, substituted for notification in the *London Gazette* of December 19th, 1919); (acting Major) A. J. Ferguson, A. W. Rattrie, M.C., L. ap I. Davies, M.C., C. Roche (on account of ill health contracted on service), D. C. Taylor, O.B.E., M.C., H. B. Wilson, O.B.E. Temporary Captains and retain the rank of Captain: G. T. Foster-Smith (May 25th, 1919, substituted for notification in the *London Gazette*, July 1st, 1919), C. L. Miller, I. W. Magill, (acting Major) C. B. Jones, H. A. Haig, J. Buchanan, H. R. S. Van Ryck de Groot, J. Wright, J. B. Fisher, J. H. K. Sykes, C. Samut, C. E. W. Wilmot, A. W. Hendry, N. W. Gilchrist, C. G. Munro, H. B. Taylor, F. A. Osburn (on account of ill health), W. H. Weir, C. H. Bryan, H. G. R. Jamieson, R. R. Watts, A. L. Home, J. H. Dove, B. G. Reynolds, T. W. Mason, T. A. Beddy (on ceasing to serve with the South African Native Labour Corps), J. B. Thackeray, M.C., W. A. Mahon, H. Baird, C. J. Morton, R. E. Illingworth, F. King, W. A. Cochrane, J. C. Ryan, H. A. Hancock, A. H. Ernst, J. L. Callaghan, H. F. T. Chambers, T. W. Pattinson, H. W. Catto, A. J. A. Peters, S. E. Elphick, C. P. S. Allingham, C. H. Cox, H. J. Cotter, M.C., J. H. Campain, P. H. Day, F. A. Stokes, G. A. Hayman, C. L. S. James, H. Spong, G. H. Roberts, W. A. Todd, A. Lundie, W. E. K. Coles, G. R. E. Colquhoun, F. R. Martin, H. M. Berry, H. E. C. Fox, C. H. Broomhead, T. Hamilton, E. J. Manning, W. R. Reeds, E. Evans, E. R. Barton, J. I. F. Knight, L. W. Jones, B. Muir, T. F. Pugh, F. A. Godson, A. H. Macklin, O.B.E., T. S. Forrest. Temporary honorary Captains and retain the honorary rank of Captain: B. E. Hawke, J. V. Ricci (December 29th, 1919, substituted for notification in the *London Gazette* of February 9th, 1920). Temporary Lieutenants and retain the rank of Lieutenant: W. M. Bristow, James Campbell.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Wing Commander C. B. Heald, C.B.E., relinquishes his temporary R.A.F. commission on ceasing to be employed.

Transferred to the unemployed list: Captain (acting Major) D. S. Stevenson, M.B.E. Captains S. I. Clark, A. K. Soutar, I. M. Thomson (April 23rd, 1919, substituted for notification in the *London Gazette*, May 9th, 1919), L. C. Smith.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel A. A. Watson, C.M.G., D.S.O., V.D., relinquishes the acting rank of Colonel on ceasing to be employed as A.D.M.S. of a Division.

Captain G. Young, M.C., relinquishes the acting rank of Major.

Captain E. A. Wilson to be acting Major from January 8th to February 28th, 1919.

The following Captains relinquish their commissions and retain the rank of Captain: G. E. Birkett, M.C., on account of ill health caused by wounds; R. N. Mackenzie and A. Robertson on account of ill health.

Lieutenant W. Y. Eccott to be Captain.

GENERAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain J. W. G. H. Riddel, M.C., late Captain R.A.M.C., to be Captain.

TERRITORIAL FORCE.

ARMY MEDICAL SERVICE.

Colonel C. P. Oliver, C.M.G., T.D., K.H.P., from T.F.R., to be Colonel.

The following Colonels to be A.D.M.S. to the divisions shown against their names:—Colonels: E. V. Gostling, D.S.O. (East Anglian Division), C. P. Oliver, C.M.G., T.D., K.H.P. (Home Counties Division), A. D. Ducat, D.S.O. (1st London Division), F. W. Higgs, C.B.E. (2nd London Division), J. Clay, C.B.E. (Northern Division), A. D. Sharp, C.B., C.M.G. (West Riding Division), E. A. Wraith, C.B.E., D.S.O. (North Midland Division), F. Kelly, C.B.E., T.D. (Highland Division), G. H. Edington, T.D. (Lowland Division), L. J. Blandford, C.B.E., T.D. (South Midland Division), R. Pickard, C.B., C.M.G., T.D. (Wessex

Division), C. H. Lindsay, C.M.G., D.S.O. (West Lancashire Division), W. Ranson, D.S.O. (East Lancashire Division), H. T. Samuel, D.S.O. (Welsh Division).

ROYAL ARMY MEDICAL CORPS.

Captain (acting Lieut.-Colonel) L. D. B. Cogan, D.S.O., relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed.

Captain (acting Major) W. J. Richards relinquishes the acting rank of Major on ceasing to be specially employed.

Captain A. Sutcliffe is restored to the establishment.

1st London General Hospital.—Major L. B. Rawling is seconded for duty with the 4th London General Hospital.

2nd London General Hospital.—Major L. E. Shaw is retired under paragraph 116, T.F. Regulations.

5th Northern General Hospital.—Captain E. W. Holyoak is restored to the establishment.

1st Southern General Hospital.—Major W. Kirkpatrick is restored to the establishment.

2nd Southern General Hospital.—Captain A. G. T. Fisher, M.C., is restored to the establishment.

3rd Scottish General Hospital.—The announcement regarding James Robert Campbell Greenlees which appeared in the *London Gazette* of August 18th, 1914, is cancelled.

TERRITORIAL FORCE RESERVE.

ARMY MEDICAL SERVICE.

Captain S. Maynard Smith, C.B., from 3rd London General Hospital, to be Colonel.

ROYAL ARMY MEDICAL CORPS.

Major C. A. Stidston, D.S.O., from 3rd North Midland Field Ambulance, to be Major.

The announcements regarding the following officers which appeared in the *London Gazette* of the dates indicated are cancelled: Captains S. McCausland, M.C. (January 14th and March 17th, 1919), D. Davidson, M.C. (December 21st, 1918), J. Downie, D.S.O. (January 10th, 1919), R. V. Favell (January 7th, 1919), D. F. Macrae (January 9th, 1919), G. B. Pearson (January 7th, 1919), W. J. Phillips (December 16th, 1918), G. H. Kirby (December 31st, 1918), W. M. Wilson (January 17th, 1919), W. Smartt (January 13th, 1919), M. C. Anderson (January 11th, 1919), A. E. Barnes (January 18th and February 11th, 1919), W. Smith (December 30th, 1918), W. Sneddon (January 14th and February 5th, 1919), E. W. Holyoak (January 11th, 1919), A. V. Maybury (January 14th, 1919), H. Stonehouse December 31st, 1918).

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Therapeutics and Pharmacology:* Tuesday, 4.30 p.m., Dr. Ransom: Action of Strontium on Frog's Heart. Dr. G. Graham: Source of Uric Acid excreted after Atophan. General Meeting of Fellows, Tuesday, 5 p.m. *Section of Pathology:* Tuesday, 8.30 p.m., Annual General Meeting. Dr. J. A. Murray: Autologous Grafting of an Adenocarcinoma of the Rabbit's Uterus. Dr. Topley: The Site of Formation of Antibodies. Dr. Lyon Smith: Direct Haemolysis; a Test for Bacterial Toxins and for the Estimation of Doses of Bacterial Vaccines. *Section of History of Medicine:* Wednesday, 5 p.m., Dr. Arnold Chaplin: History of Medical Education at the Universities of Oxford and Cambridge. Madame Panayotatou, Ph.D.: Baths and Bathing in Ancient Greece. *Section of Diseases of Children:* Friday, 4.30 p.m., Dr. D. H. Paterson: Three Cases of Renal Dwarfism. Dr. Parkes Weber: Suprarenal Tumour in a Child. *Section of Epidemiology and State Medicine:* Friday, 8.30 p.m., Dr. E. W. Goodall: Typhus in Poland, 1916-1919. Members of the Section who wish to attend the dinner at the Welbeck Palace Hotel at 7 p.m. should notify Dr. Major Greenwood, Lister Institute, Chelsea Gardens, S.W.1, by April 21st.

CHELSEA CLINICAL SOCIETY, St. George's Hospital Medical School.—Tuesday, 8.30 p.m., Dr. Kenneth Eckenstein: Experiences of the French Medical Service at the Front (illustrated by lantern slides).

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester Square, W.C.2.—Tuesday, 4.30 p.m.: Pathological Specimens and Cases.

POST-GRADUATE COURSES AND LECTURES.

MANCHESTER FRENCH HOSPITAL.—Thursday, 4.30 p.m., Dr. W. J. Leighton: Mastoid Disease.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. B. J. Rodway: Influence of Oral and Dental Lesions on General Medicine.

SALFORD ROYAL HOSPITAL.—Thursday, 4 p.m., Mr. Jefferson: Neuralgia.

SHEFFIELD ROYAL HOSPITAL.—Wednesday, 4 p.m., Professor Hall: Encephalitis Lethargica.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In-patient, Out-patient Clinics and Operations. Monday, 2 p.m., Mr. MacDonald: Surgical Out-patients; 5 p.m., Dr. Arthur Saunders: Parenchymatous and Mixed Nephritis. Tuesday, 10 a.m., Dr. Robinson: Gynaecological Operations; 5 p.m., Dr. Pernet: Pityriasis Rosea. Wednesday, 10 a.m., Mr. Banks Davis: Operations of the Throat, Nose, and Ear; 5 p.m., Mr. Addison: Acute Infective Osteomyelitis. Thursday, 10.30 a.m., Dr. Simson: Gynaecological Demonstration; 5 p.m., Mr. Page: Anaesthetics. Friday, 2 p.m., Dr. Morton: *X*-ray Department; 5 p.m., Dr. Burnford: Clinical Lecture with Cases. Saturday, 12 noon, Mr. Sinclair: Surgical Anatomy of the Abdomen; 2 p.m., Dr. Beddard: Visit to Medical Wards.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on an application to the Librarian, accompanied by 6d. for postage.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

20 Tues. London: Scrutiny Subcommittee, 2.30 p.m.
21 Wed. London: Hospitals Committee, 3 p.m.
North Middlesex Division: Lecture by Mr. A. Fleming, F.R.C.S., on Vaccine Therapy.
22 Thur. London: Insurance Acts Rural Practitioners Subcommittee, 2.30 p.m.
South Wales and Monmouthshire Branch, Ivy Bush Hotel, Carmarthen, 3 p.m.: Lecture by Lieut.-Colonel Robert McCarrison, I.M.S., on Deficiency Diseases.
27 Tues. Kesteven Division, Lincoln, 3 p.m.
28 Wed. Plymouth Division: Lecture by Sir Frederick Mott, K.B.E., F.R.S.: The Early Symptoms and Diagnosis of Diseases of the Spinal Cord.
29 Thur. London: Insurance Acts Executive Subcommittee, 2.30 p.m.
Westminster and Holborn Divisions, St. James's Vestry Hall, Piccadilly, 5 p.m.
30 Fri. London: Organization Committee.
Bradford Division: Lecture by Dr. A. F. Hurst: Psychotherapy.

MAY.

17 Mon. **Last day for receipt of Nominations for Council.**
19 Wed. London: **Council.**

APPOINTMENTS.

BOWER, E. Dykes, M.D.Durh., F.R.C.S.Edin., Consulting Ophthalmic Surgeon to the Gloucestershire Royal Infirmary.

DEMPSTER, David, M.C., M.B., Ch.B., Tuberculosis Officer and Assistant Medical Officer of the County of Perth.

GAMLIN, Raymond, M.B., B.Ch. Camb., Assistant Medical Officer of Health for the City of Nottingham.

HAMILTON, E. S. B., M.C., M.B., Ch.B.Edin., Certifying Factory Surgeon for the District of Salford and Stretford.

HOWELL, B. Whitchurch, F.R.C.S., has been appointed Assistant Surgeon to the Queen's Hospital for Children, Hackney Road.

JEWELL, W. H., O.B.E., M.D., B.S.Lond., D.P.H.Cantab., Surgeon for Ear, Nose, and Throat, the Royal Hospital, Richmond, S.W.

LAKIN, C. E., M.D., F.R.C.P., Physician to the Middlesex Hospital.

LESCHER, F., M.C., M.B., Ch.B. Camb., Assistant Honorary Physician, Derbyshire Royal Infirmary.

THORP, Eustace, O.B.E., L.R.C.P. and S.Edin., L.R.F.P.S.Glas., Assistant Medical Officer of Health for Sunderland.

LONDON HOSPITAL MEDICAL COLLEGE.—Joint Lecturers on Midwifery, Drs. Eardley Holland and Gordon Luker; Lecturer on Psycho-neuroses, Dr. Millais Culpin.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

HARE.—On April 9th, at Conyers House Nursing Home, Newcastle, the wife of Francis F. T. Hare, M.B., B.S., M.R.C.S., L.R.C.P., of twin sons.

MACKIE.—On April 11th, at 62, Worrall Road, Clifton, Bristol, the wife of Major F. P. Mackie, Indian Medical Service, of a son.

MIDDLEMISS.—On April 6th, 1920, at Settle, Yorkshire, the wife of G. W. Middlemiss, M.B., B.S., D.P.H., of a son.

MOWAT.—On April 4th, at Astley House, Bolton, to Dr. and Mrs. George Mowat, a daughter.

SHAW DUNN.—On April 11th, at a nursing home, to Professor and Mrs. Shaw Dunn (Williamina Abel, M.D.), Birmingham, daughter.

TERRY.—On April 1st, at 14, Barton Street, Gloucester, the wife of H. Cairns Terry, M.B., of a son.

MARRIAGE.

WATTHEWS—SINCLAIR.—At Edinburgh on April 3rd, 1920, by the Rev. H. Moffat Scott, John Wilfred, M.C., M.B., Ch.B., son of Dr. and Mrs. Watthews, of Holmfirth, near Huddersfield, to Johanna Geddes Cay, daughter of Mr. and Mrs. James A. Sinclair, Edinburgh.

DEATHS.

ALLAUN.—On the 12th inst., at his residence, 84, Shoot-up Hill, Cricklewood, Dr. Israel Allaun. Funeral will leave the above address at 11 a.m. on Wednesday morning for Willesden Cemetery.

ROPER.—On 3rd April, at "Colby," Lewisham Hill, S.E., Dr. Arthur Roper, in his 82nd year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 24TH, 1920.

CONTENTS.

	PAGE
British Medical Association.	
REPORT OF COUNCIL, 1919-20	103
APPENDIX I. FINANCIAL STATEMENT	127
APPENDIX II. RETURN OF ATTENDANCES AT COUNCIL AND COMMITTEE MEETINGS	134
APPENDIX III. OPINION OF COUNSEL ON THE DESIRABILITY OF THE ASSOCIATION BECOMING A FEDERATION OF MEDICAL BODIES	139
APPENDIX IV. EVIDENCE BEFORE THE DEPARTMENTAL COMMITTEE ON THE WORKMEN'S COMPENSATION ACT ...	140
APPENDIX V. EVIDENCE BEFORE THE COLONIAL MEDICAL SERVICES COMMITTEE	141
NOTICES OF MOTION FOR ANNUAL REPRESENTATIVE MEETING, 1920	143
ASSOCIATION INTELLIGENCE	146
ASSOCIATION NOTICES:	
MEETING OF COUNCIL	144
ELECTION OF REPRESENTATIVE BODY AND COUNCIL ...	144
SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH	144
SOUTH AFRICAN CONGRESS	144
BRANCH AND DIVISION MEETINGS TO BE HELD	144
INSURANCE:	
CORRESPONDENCE: PROPOSED COMPLIMENTARY DINNER TO THE INSURANCE ACTS COMMITTEE	144
LONDON PANEL COMMITTEE	145
NAVAL AND MILITARY APPOINTMENTS	145
DIARY OF SOCIETIES AND LECTURES	146
BIRTHS, MARRIAGES, AND DEATHS	146

SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

ANNUAL REPORT OF COUNCIL, 1919-20.

CONTENTS.

	Page
Preliminary	103
Finance	105
Organisation	108
Science	112
Medical Ethics	113
Ministry of Health	114
Medico-Political	114
National Health Insurance	120
Public Health and Poor Law	121
Hospitals	121
Naval and Military	122
Wales	123
Scotland	124
Ireland	125
Oversea Branches	126

Preliminary.

CAMBRIDGE MEETING.

1. The Council in submitting its Report for 1919-20 feels that it is voicing the opinion of all members in rejoicing at the fact that the first Annual Meeting after the War is to be held in Cambridge, and that the members of the Association are to have the long delayed opportunity of showing their President, Sir T. Clifford Allbutt, the esteem and affection felt for him by the British Medical Association.

ANNUAL MEETING, 1921.

2. The North of England Branch has invited the Association to hold its Annual Meeting at Newcastle-on-Tyne in 1921, and has nominated Dr. David Drummond as President-Elect.

The Council recommends :—

Recommendation.—That the Annual Meeting, 1921, be held at Newcastle-on-Tyne in July, 1921.

The Council recommends :—

Recommendation.—That David Drummond, C.B.E., M.A., M.D., D.C.L., F.R.C.P., Vice-Chancellor, and Professor Principles and Practice of Medicine, University of Durham, Consulting Physician Royal Victoria Infirmary, Newcastle-on-Tyne, be elected President of the Association for 1921-22.

ANNUAL MEETING, 1922.

3. The Glasgow and West of Scotland Branch has invited the Association to hold its Annual Meeting at Glasgow in 1922.

The Council recommends :—

Recommendation.—That the Annual Meeting, 1922, be held at Glasgow in July, 1922.

4. An invitation for 1922 was simultaneously received from the Dundee Branch, which, on hearing of the Glasgow invitation, placed itself entirely in the hands of the Council, stating that though it wished to have a visit from the Association it would be satisfied with whatever decision the Council arrived at. The Council has thanked the Dundee Branch for its invitation and its consideration.

HONOURS.

5. The Council has pleasure in announcing that during the present session honours have been conferred upon the following members of the Association :—

Peerage.

Sir Bertrand Dawson, G.C.V.O., K.C.M.G., C.B.

Baronetcy.

Mr. Gilbert Barling, C.B., Birmingham.

K.B.E.

Lieut.-Col. E. N. Thornton, S.A.M.C., Cape Town.

Knighthood.

Dr. Robert Charles Brown, Preston.
Dr. Josiah Court, Staveley, Derbyshire.
Dr. Henry J. Gauvain, Alton.
Dr. Fredk. J. Lister, Johannesburg.
Dr. Joseph C. Verco, Adelaide.

C.B.E.

Sir James Barr, Liverpool (Ex-President).
Dr. David Drummond, Newcastle-on-Tyne (President-Elect).
Dr. T. A. Goodfellow, Manchester (former Member of Council).
Lieut.-Col. H. S. Newland, D.S.O., Adelaide (former Member of Council).
Dr. Dawson Williams (Editor *B.M.J.*).

O.B.E.

Dr. H. W. Langley Browne, West Bromwich (former Chairman of Council).
Dr. E. J. Domville, Bridport (former Member of Council).
Dr. G. K. Smiley, Derby (present Member of Council).

M.B.E.

Dr. H. C. Mactier, Wolverhampton (present Member of Council).

Dr. H. Falconer Oldham, Morecambe (former Member of Council).

6. OBITUARY.

The Association has to deplore the loss of the following Members: —

Name.	Offices held.
Sir Barclay J. Baron, M.B., C.M.	A former President of the Bath and Bristol Branch, and Secretary of the Section Laryngology, 1889, and Vice-President in 1894.
Dr. Alfred George Bateman	Member of the Central Ethical Committee for many years, and of the Parliamentary Bills Committee.
Dr. James Mackenzie Booth	A former Honorary Secretary of the Aberdeen, Banff and Kincardine Branch, and Secretary of the Otology Section in 1892.
Dr. George William Kilner Crosland	A former Chairman of the Huddersfield Division of the Yorkshire Branch.
Dr. John Vere Charles Denning	A Member of the Council of the Metropolitan Counties Branch, and the Central Organisation Committee.
Dr. Thomas Hugh Dickson	Secretary of the Section of Navy, Army, and Ambulance, 1901.
Dr. Alexander George Duncan	A former Member of the Council of the Metropolitan Counties Branch.
Dr. Leslie Durno	A former Vice-President of the Metropolitan Counties Branch.
Dr. Robert Esler	At one time Member of the Parliamentary Bills Committee, and author of a "Guide to Belfast and the North of Ireland" for the use of the 1884 Annual Meeting.
Dr. T. M. Evans	Past President East York and North Lincoln Branch.
Dr. Frank Fowler	A Vice-President, and Secretary of the Dorset and West Hants Branch, and at one time a Member of the Central Council.
Mr. George Cooper Franklin, F.R.C.S.	President of the Association at the Leicester Meeting, 1905
Sir Thomas Fraser, M.D., F.R.S.	Secretary of Section Public Medicine, 1875; President of Section Pharmacology and Therapeutics, 1885; Address in Medicine 1898.
Dr. David Goyder	Former Member of Council and Public Health Committee; a former President of Yorkshire Branch.
Sir James Alexander Grant, K.C.M.G., M.D., F.R.C.P.	Was one of the few Honorary Members of the Association.
Dr. Henry Jones	Member of the Lancashire and Cheshire Branch Council.
Dr. Thomas Milne	A former President of the Aberdeen Branch.
Dr. Frank Nicholson, C.B.E.	President of the East Yorks and North Lincoln Branch.
Dr. John O'Keefe	Vice-Chairman of the Monmouthshire Division.
Dr. Thomas O'Neill	Secretary of the Bolton Division.
Sir William Osler, Bart., M.D., F.R.S.	At one time a Member of the Central Council, and gave the Address in Medicine at the Montreal Meeting in 1897.
Dr. T. H. Parkes Peers	A former Secretary and Representative of the Lambeth Division, and a Member of Central Committees.
Dr. William Powell	Vice-President of the Section of Medicine, 1907.
Dr. F. J. Smith	A former Member of the Central Council, and President of the Metropolitan Counties Branch; Secretary of the Section of Medicine, 1901, a Vice-President in 1912 and President in 1914.
Sir Edward Stirling, C.M.G., M.D., F.R.S.	President of the South Australian Branch in 1888.
Capt. A. C. Sturdy, M.C., R.A.M.C.	Honorary Secretary of the Horsham Division.
Dr. John Thomas Tibbles	Chairman of the Leicester Division and Vice-President of the Midland Branch.
Dr. C. R. Watson	Past Chairman of the Tunbridge Wells Division.
Dr. John Waugh	A former Chairman of the Bedfordshire Division.
Dr. George F. Welsford	A former Member of the Insurance Acts Committee.
Dr. Samuel H. West	Vice-President of the Section of Pathology and Bacteriology, 1892, and Vice-President of the Section of Medicine, 1901.
Dr. D. J. Williams	At one time a Member of the Central Council, and a former President of the South Wales and Monmouthshire Branch.
Dr. Evan Williams	A former President of the North Wales Branch.
Dr. Robert Morris Williams	Chairman of the North Carnarvon and Anglesey Division.
Dr. Charles Workman	Vice-President of the Section of Pathology, 1908.

Dr. Mary S. Acworth, Dr. James Adamson, Dr. T. G. Alderton, Dr. Charles Aldridge, Dr. Henry C. Allinson, Dr. C. Amarasuriya, Dr. William Angus, Col. Alfred Henry Anthonisz, R.A.M.C., Dr. Victor Asher, Dr. Thomas W. Atkinson, Capt. James Connor Maxwell Bailey, O.B.E., R.A.M.C., Fleet Surgeon G. A. S. Bell, R.N., Retired, The Hon. Sir John H. M. Beck, Dr. Maximilian R. G. Behrendt, Dr. A. B. Bennie, Dr. Charles M. Benson, Dr. Henry Keays Bentley, Dr. Guy Black, Dr. Cecil Blake, Dr. William T. Bolton, Dep.-Insp.-Genl. Walter Bowden, D.S.O., Dr. Cyril W. B. Bowdler, Dr. John A. Boyd, Dr. Michael A. Boyle, Major Richard James Bradley, I.M.S., Dr. Charles B. Braithwaite, Dr. Charles W. Bray, Dr. Alexander Bremner, Dr. William H. Brenton, Dr. James Broomhead, Dr. Forbes Brown, Dr. James E. M. Brown, Dr. Robert A. Buntine, Dr. Frederick J. Burge, Dr. Andrew Burgess, Dr. William Combe Burns, Dr. John Cahill, Dr. Hugh Logan Calder, Col. Robert Caldwell, A.M.S., Dr. William S. Carroll, Dr. A. W. Carter, Dr. John P. Cartwright, Dr. Robert Chalmers, Dr. Dorothy Chick, Dr. John Clare, Dr. Walter J. Clarke, Mr. Walter Thomas Clegg, Dr. Edward Francis Coghlan, Dr. Alexander R. Coldstream, Dr. Richard Mount Cole, Dr. Ashton N. Collier, Dr. William G. Coombs, Dr. William J. Corrigan, Dr. Ernest Tom Cox, Dr. Alexander David Crawford, Dr. R. Francis Craggs, Dr. Donald B. Crerar, Dr. William George Creswell, Major Howard Crossle, I.M.S., Dr. Edward Cuffey, O.B.E., Dr. Ernest Nicholson Cunliffe, Dr. Lionel Braim Daly, Dr. Harrington Wyndham Darrell, Sir J. Mackenzie Davidson, Dr. Harold R. L. Davies, Dr. Henry David Davy, Dr. Meredith Dawson, Dr. T. V. De Denne, Dr. William Diamond, Major George Magill Dobson, R.A.M.C., Dr. Thomas Dow, Dr. William Campbell Downs, Dr. Thomas Drapes, Dr. John Duff, Dr. Mordaunt G. Dundas, Dr. Edwin Lindsay Dunn Dr. William P. Dunsmore, Dr. Robert Dunsmuir, Dr. Francis Norman Victor Dyer, Dr. George K. Edwards, Dr. John Elliott, Col. Arthur Owen Evans, I.M.S., Dr. Sandbrook Falkner, Dr. Edward Fawcett, Dr. Henry Fawcett, Dr. E. G. Fearnsides, Surg.-Commander Frederick Fedarb, R.N., Surg.-Lieut. Edward Garlick Fisher, R.N., Dr. Denis L. FitzGerald, Dr. John C. Fox, Dr. Peter Fraser, Dr. Mendel Freedman, Dr. A. G. S. Friedmann, Dr. Andrew B. Fulton, Dr. John R. Gabe, Dr. William H. Gaunt, Dr. N. J. Gerrard, Dr. R. H. Gibbs, Dr. Elizabeth T. Gilchrist, Dr. R. F. Gill, Dr. Joseph A. Going, Dr. William B. Gordon, Dr. William R. Gould, Dr. George Richard Green, Dr. James Greensill, Major H. H. Griffith, S.A.A.M.C., Dr. William Growse, Mr. George Herbert Hamerton, Dr. Walter B. Hastings, Dr. David Havard, Dr. Herbert Hawker, Dr. Hu Ruskin Hancock, Dr. George Thomas Hankins, Dr. Peter H. Haylett, Dr. Frederick Hazell, Dr. John William Hembrough, Dr. Joseph Henry, Dr. Charles H. Hibbert, Dr. George A. Hicks, Dr. R. R. Higinbotham, Dr. James Hinshelwood, Dr.

G. Hodges, Dr. William M. Hope, Dr. Godfrey C. Horsman, Dr. Daniel Lovett Hubbard, Dr. George Osborne Hughes, Dr. Laurence Humphry, Dr. James Hunter, Dr. W. H. J. Huthwaite, Dr. J. Innes-Stephens, Dr. Richard C. Irvine, Lieut.-Col. Thomas Jackson, I.M.S., Dr. Alexander Jamison, Dr. George Johnston, Dr. George J. W. Johnston, Dr. Peter Jones, Dr. Herbert Woodley Joyce, Dr. Daniel O. Kerr, Dr. Charles M. G. Kitching, Dr. Frederick Knight, Dr. George H. Lang, Dr. Charles Robert Leader, Dr. Ralph Winnington Leftwich, Dr. James C. R. Lind, Dr. Arthur G. H. Lovell, Dr. Charles J. Lumpkin, Dr. George B. McCaul, Dr. T. W. McCubbin, Dr. William C. Macdonald, Dr. William E. Macfarlane, Dr. Thomas McGregor, Dr. John W. MacKay, Dr. Arthur Colin Mackenzie, Major Samuel Wilson McLellan, M.C., R.A.M.C., Dr. Peter McNabb, Dr. Archibald E. Malloch, Dr. John Marshall, Dr. Thomas Marshall, Dr. James Williamson Martin, Dr. William B. M. Martin, Dr. Edward Mathews, Dr. Paul Mathews, Dr. Thomas Graham Mathews, Dr. Henry Maturin, Dr. Gertrude E. Mead, Insp.-Genl. C. Adam Brunton Messer, R.N., M.D., Dr. David Melville, Dr. William J. K. Millard, Lieut.-Col. Grenville Edwin Moffet, Dr. Arthur R. Moody, Dr. Helen Moore, Dr. Robert A. Morton, Dr. George Murray, Dr. Wilfred Leech Myles, Dr. T. M. Nair, Dr. Richard W. Nesfield, Dr. Robert A. Nesham, Mr. Arthur Neve, F.R.C.S.Ed., Dr. Frederick W. Niesche, Dr. Adam T. Nisbet, Dr. John D. Nisbet, Dr. Thomas Niven, Dr. Reginald Leslie Norman, Dr. R. W. C. Norman, Dr. Richard Hill Norris, Dr. William Patrick O'Meara, Dr. W. J. J. O'Reilly, Dr. E. K. Overend, Dr. Benjamin A. Palmer, Lieut.-Col. Francis M. Parry, R.A.M.C, Dr. Lloyd D. Parry, Dr. Thomas G. Paterson, Dr. Arthur J. Pedley, Dr. A. E. Perkins, D.S.O., Dr. George Victor Perez, Dr. Josiah N. Phillips, Dr. Frederick K. Pigott, Dr. James Pinkerton, Dr. William A. Pitt, Dr. Rowland Pollock, Dr. George W. Potter, Dr. Thomas Proctor, Dr. Joseph Quirke, Dr. H. Rabl, Dr. Henry Ward Ramsay, Dr. Wyndham Randall, Dr. R. A. Reeve, Dr. James Crawford Renton, Dr. James Emerson Reynolds, Dr. William B. Robertson, Dr. Alexander Ross, Dr. Alexander M. Ross, Dr. Murdoch W. Ross, Dr. Simon Ryan, Dr. Thomas Ryan, Dr. John T. Samuel, Dr. Joseph Abraham Sanderson, Dr. Ernest Saxton, Dr. Aurel Schultz, Dr. Alexander Scott, Dr. Joseph S. Scott, Capt. Clement Perronet Sells, M.C., R.A.M.C. (T.F.), Dr. John D. Shapland, Dr. Harry Wynter Shettle, Dr. J. V. Shirgaokar, Dr. David Skinner, Dr. John F. Skrimshire, Dr. Charles C. Slorach, Dr. David M. Smith, Dr. Eric M. Smith, Dr. Oliver C. Smithson, Dr. Gerald M. Soper, Capt. H. South, A.A.M.C., Dr. William Spooner. Dr. Gilbert Patrick Staunton, Capt. William S. R. Steven, R.A.M.C., Major Norman W. Stevens, R.A.M.C., Sir Thomas Anderson Stuart, Dr. Harold Swole, Dr. Arthur W. Taylor, Dr. Robert Taylor, Dr. William H. Te Water, Dr. Edward Thomas, Dr. G. B. Thomas, Dr. Hugh J. Thomson, Dr. Robert G. Thomson, Dr. C. G. Thorp, Dr. Edwin Tipple, Dr. T. R. Travell, Dr. Arthur H. Trevor, Dr. G. W. Van Twest, Fleet-Surgeon C. Lyon Vasey, R.N., Ret., Staff-Surgeon John Verdon, R.N., Dr. Frank Waddington, Dr. Charles Henry Wakeham, Dr. Alfred E. Walker, Dr. William Kay Walls, Fleet-Surgeon Henry W. D. Walsh, R.N., Ret., Dr. John Ward, Dr. J. King Warry, Dr. John A. Webster, Dr. Francis Henry Weekes, Dr. J. B. St. V. Welch, D.S.O., Dr. Henry F. L. White, Dr. Charles A. Whyte, Dr. George Thomas Whyte, Dr. Friedrich Adolf Wille, Dr. Norman S. Williams, Dr. William Jones Williams, Dr. C. S. Willis, Dr. James Leslie Wilson, Lt.-Col. Robert Wilson, C.A.M.C., Dr. Charles E. Winckworth, Dr. O. E. Bruce Withers, Dr. T. J. Withers, Dr. Thomas Woodman, Dr. Robert E. Woolnough, Dr. Cyril H. Wright, Dr. Robert B. Wright, Dr. Alexander G. Young, Dr. James Young, Dr. Margaret C. W. Young, Dr. Ralph Young.

THE LATE CAPT. N. G. CHAVASSE, V.C., M.C., R.A.M.C.: GOLD MEDAL OF THE ASSOCIATION.

7. The Council, in 1919, decided to present the Gold Medal of the Association to the nearest relative of the late Capt. Noel Godfrey Chavasse, V.C., M.C., R.A.M.C., to whom the Victoria Cross and Bar were awarded in the following circumstances:—

"*Victoria Cross.*—For the most conspicuous bravery and devotion to duty. During an attack he tended the wounded in the open all day, under heavy fire, frequently in view of the enemy. During the ensuing night he searched for wounded on the ground in front of he enemy's lines for four hours. Next day he took one stretcher-bearer to the advanced trenches, and, under heavy fire, carried an urgent case for 500 yards into safety, being wounded in the side by a shell splinter during the journey. The same night he took up a party of twenty volunteers, rescued three wounded men from a shell-hole twenty-five yards from the enemy's trench, buried the bodies of two officers, and collected many identity discs, although fired on by bombs and machine-guns. Altogether he saved the lives of some twenty badly-wounded men, besides the ordinary cases which passed through his hands. His courage and self-sacrifice were beyond praise."—(*London Gazette*, October 26th, 1916.)

"Though severely wounded early in the action whilst carrying a wounded soldier, Capt. Chavasse refused to leave his post, and for two days not only continued to perform his duties, but in addition went out repeatedly under heavy fire to search for and attend to the wounded. During these searches, although practically without food during this period, worn with fatigue, and faint with his wound, he assisted to carry in a number of badly-wounded men over heavy and difficult ground. By his extraordinary energy and inspiring example he was instrumental in rescuing many wounded who would otherwise have undoubtedly succumbed. This devoted and gallant officer subsequently died of his wounds."—(*London Gazette*, September 14th, 1917.)

8. The Council is pleased to report that the parents of the deceased officer—the Right Rev. the Lord Bishop of Liverpool and Mrs. Chavasse—hope to be present at Cambridge to receive the Medal.

MAJOR ARTHUR MARTIN-LEAKE, V.C., F.R.C.S., R.A.M.C., GOLD MEDAL OF THE ASSOCIATION.

9. It is hoped also that Major Arthur Martin-Leake, V.C., F.R.C.S., R.A.M.C., who is now in India, may be able to be present at Cambridge to receive the Gold Medal awarded to him in 1915:—

"*Victoria Cross.*—For great devotion to duty and self-sacrifice at Vlakfontein, February 8th, 1902, when he went out into the firing line to dress a wounded man under very heavy fire from about forty Boers only 100 yards off. When he had done all he could for him he went over to a badly wounded officer, and while trying to place him in a more comfortable position he was shot three times. He only gave up when thoroughly exhausted, and then he refused water until other wounded men had been served."—(*London Gazette*, May 13th, 1902.)

"*Bar to Victoria Cross.*—For most conspicuous bravery and devotion to duty throughout the campaign, especially during the period October 29th to November 8th, 1914, near Zonnebeke, in rescuing, whilst exposed to constant fire, a large number of the wounded who were lying close to the enemy's trenches."—(*London Gazette*, February, 1915.)

ATTENDANCES AT COUNCIL AND COMMITTEE MEETINGS.

10. The Council submits in Appendix I. a list of attendances at Council, Committee and Sub-Committee meetings from July 26th, 1919, to April 1st, 1920.

Finance.

11. The revenue of the Association for the year ending December 31st, 1919, shows a substantial increase on the previous year, but the expenditure has increased in like proportion. (For Financial Statement *see* Appendix I.) The accounts for the year show a balance to credit of £5,204 13s. 2d., but nearly the whole of this is accounted for by the Government contribution of £5,000 towards the expenses of the Central Medical War Committee. This Committee was established at the instance of the British Medical Association in order to ensure that the military forces of the Crown should be adequately supplied with medical officers with due regard to the needs of the civil population. The Committee sat for nearly four years and assiduously discharged the delicate and onerous duties imposed upon it by Parliament, by the authorities of the Navy and Army, and by the Ministry of National Service. The Association met the heavy expenses of the Committee from year to year, as has been duly reported. The sum of £5,000 received from the Government as a contrition towards these expenses, incurred mainly in previous years, has been credited to the receipts of 1919 as the only convenient method of dealing with it, but this procedure tends to obscure the actual results of the year's working. Deducting this amount, most of which strictly accrued in previous years, the balance of income over expenditure in 1919 was £204 13s. 2d.; this compares with an excess of expenditure over income in 1918 of £1,333 15s. 7d. This is a result upon which the Association may be congratulated, in view of the persistent depressing effects on business of the after consequences of the war, of the great increase in the price of labour and materials, and the serious rise in the cost of living which the Association, like all other employers, has been compelled as far as possible to compensate.

12. An inspection of the Balance Sheet will show that it has been found advisable, in view of the general fall in the market value of all securities acquired before the war, to write off £1,376. Though eventually the fall in value may be regained, the only prudent course is to recognise the actual position. The sum of £1,000 has been written off for depreciation of premises; they are in good general condition but minor repairs could not be made during the war. As has been customary £200 has been written off for depreciation of the library, but only £100 has been written off for depreciation of the printing plant and type. The smallness of this amount is due to the fact that the *Journal* is now printed from stereotype. The life of the type is thus greatly lengthened, but there is entailed the disadvantage that it is much more difficult to reproduce photographs and skiagrams in a satisfactory manner.

REVENUE.

13. The receipts from the subscriptions of members show an increase of £2,241. In its annual report for 1917-18 the Council had to record a diminution of £1,276 in receipts from this source in 1917. Last year it could record an increase in 1918 of £260. It may be interesting to add that the amount received in 1919 was more than £1,000 above that received in 1916. In the *Journal* Account for 1919 an increase of over £8,800 in revenue is shown; this, in view of the unfavourable commercial conditions during the year must be considered a very gratifying result of the year's working.

GENERAL ASSOCIATION AND CENTRAL MEETING EXPENSES.

14. The general Association expenses (Abstract A) amounted in 1919 to £1,539, as against £7,763 in 1918; the reduction is due in the main to diminution in legal expenses. Last year a sum of £6,500 had to be provided in connection with the Pratt case; after this amount has been deducted from the sum disbursed last year the expenses in this abstract still show a diminution of nearly £300. In this account members will notice a subscription of one hundred guineas to the Fund for a memorial to the late Colonel E. F. Harrison, C.M.G., who was for many years analytical chemist to the *Journal* and made the analyses for *Secret Remedies* and *More Secret Remedies*. The remarkable work he did during the war in devising means to protect our soldiers from the poisonous gases introduced into warfare by the Germans, won for him the public recognition which those who were acquainted with his character and attainments knew he so well deserved.

15. As is shown in Abstract B the expenses of the Representative Meeting, Council, and the Secretaries' Conference, are higher by £1034; the increase is distributed over each of the three subheads. The expenses of the Central Committees increased by £553. The work of the Central Medical War Committee was brought to an end in March 1919, and its expenditure therefore shows a large diminution on that of the previous year. As already mentioned, a proportional part of this is to be counted as covered by the sum received from the Government in reimbursement of the Association's expenditure. The expenditure of the Scottish Committee has increased from £192 to £1,057, owing to the establishment of Scottish Office, with a whole-time Scottish Medical Secretary. Considerable increases are also shown in the expenditure of the Insurance Acts Committee, and the Central Ethical, Medico-Political, Naval and Military, and Organisation Committees. All these Committees had to deal with an unusual number of difficult and complex questions. The expenditure of the Irish Committee does not differ much from that of the previous year.

CENTRAL STAFF, PRINTING AND POSTAGE EXPENSES.

16. Details of the central printing, stationery and postage expenses are given in Abstract D; they show an increase of £840, due to the higher charges for printing and paper. In Abstract C giving the central premises expenses, it will be observed that the payments for rates, taxes, insurance and electricity, increased by £260.

17. In the central staff expenses (Abstract E) is shown an increase of £2,000, due in the main to increases in salaries to meet the increased cost of living and also to the establishment of the Intelligence Department, The total expenditure under this head in 1919 was £8,695, of which £5,670 represents the remuneration of the secretarial and clerical staff of the Medical Department. The amount taken under this head for the Financial and General Business Department is £2,421, the remainder of the expenditure of the staff of this department (£1,776) being debited to the *Journal* account.

SALARIES OF CLERICAL, EDITORIAL AND SECRETARIAL STAFFS.

18. The Council has thoroughly revised the scale of payment of the Clerical Staff and in doing so has consulted (as mentioned in paragraph 41) a Committee representative of the whole of that staff. The new scale classifies the clerks in four divisions in accordance with the responsibility undertaken and technical ability required, and consolidates the bonuses which have been paid during the past few years. It gives, approximately, an increase on the old scale of one hundred per cent. to the lowest class and fifty per cent, to the highest class, with a corresponding increase to the Head Clerk of each Department. The operation of the new scale dates back to January 1st, 1920.

19. In addition, a thorough revision of the Office Staff Superannuation Scheme is being made under Actuarial advice and in consultation with those concerned, and the Council hopes to be able to announce in its Supplementary Report that the new scheme has been established.

20. As regards the salaries of the Editorial and Secretarial Staff, the Council has, for the present, decided to continue the bonus system. As from January 1st, 1919, each official of the Association (that is those persons directly appointed by the Council with the exception of the Head Clerks) was given a temporary increase of twenty per cent. on his salary at that date, with the exception of the Editor who was given twenty-five per cent. The Council has decided to increase this bonus as from January 1st, 1920, to 33⅓ per cent. with the exception that the Deputy Medical Secretary and the Scottish Medical Secretary who only joined the staff in November, 1919, have been given as from April 1st, 1920, an increase of ten per cent. on the salaries at which they were appointed.

"JOURNAL" ACCOUNT.

21. In the paragraph under this heading in the Annual Report of 1918 it was stated that owing to the regulations of the Paper Controller and the high price of paper, the Council had found it necessary to reduce the total number of pages in the weekly issue of the *Journal* to 64, but that the number had been increased during the last five months of the year to 72. The number of pages in an issue was maintained at approximately this level for some months, but the situation having become somewhat easier, the number of pages in the weekly issues during the fourth quarter of 1919 was gradually increased, and several issues in that quarter contained 104 pages. This rendered it possible somewhat to increase the number of pages in the text and to make a larger increase in the pages allotted to advertisements. An upward tendency in the cost of production, however, became evident; the price of paper, which had declined, again began to rise, and all printing charges greatly increased. This increase included higher rates of wages to compositors and to all persons employed in the machine printing office. The increases varied, but may be taken to amount on the whole to at least 150 per cent. above pre-war charges. In these circumstances the Council at its meeting on December 17th, 1919, resolved that, save on exceptional occasions, the maximum number of pages in any issue of the *Journal* should not exceed 104. One effect of a weekly issue containing this number of pages is to increase the postal charges from the ½d. to the 1d. rate in the United Kingdom, and to cause a corresponding increase for copies sent to the Dominions, the Colonies, India, and foreign countries. In connection with this matter of the number of pages in the weekly issue of the *Journal* two considerations arise: the first is that the *Journal* has to take its share in discharging the two main functions of the Association—namely, on the one hand to promote the medical and allied sciences; and on the other, to maintain the honour and interests of the medical profession. In seeking to fulfil the one function the aim has been to supply members with a *Journal* which should present them with a current review of the progress of the science and practice of medicine. In the fulfilment of the other the Supplement is maintained in order to keep members informed of the course of the business of the Association and of the numerous directions in which it seeks to discharge its duties as the chief medico-political organisation of the profession. Much of this matter is of a character which would not be published so fully in a medical journal conducted purely as a commercial undertaking. The second point which has to be considered is the amount of space to be provided for advertisements. Much anxious consideration has been given to this subject by the Council, with the advice of the Journal Committee. The receipts from advertisements rose (in round numbers) from £17,760 in 1918 to £25,570 in 1919, an increase of £7,900. This, however, is not a net gain, since there must be set against it the cost of printing and paper; as a result of careful consideration it was determined to raise the scale of charges for advertisements as from the first issue of April, 1920. The effect of this decision cannot be wholly foreseen, but there is every reason to believe that it will result in a substantial increase in the net profit from this source. The Epitome of Current Medical Literature was restarted with the issue of September 27th, 1919. The number of pages of text, including Epitome and Supplement, in 1919 was 2,040, or rather less than two-thirds of the number published in 1914.

22. The proceedings of the Scientific Meeting in London arranged by the Association in 1919 were reported in abstract in the *Journal*; the full proceedings, together with information regarding the medical services in connection with the war, were issued in a separate octavo volume, which was supplied free to members on application; copies are still available. The price to non-members is 3s.

23. The cost of production of the *Journal*, including all printing charges, paper and postage, rose from £24,016 to £32,416, an increase of £8,400, to be accounted for partly by the larger number of *Journals* printed, but mainly by the increases in the cost of material and compositors' work, machining, etc. The total number of copies of the *Journal* printed during 1919 was over a million and a quarter. The stock of back numbers is very small; many are already out of print.

EDITORIAL.

24. The Editorial expenses were £5,919 or £900 more than in 1918. The increase is to be accounted for partly by increases of salary granted to meet the rise in the cost of living, and partly by increased expenditure on contributions, due to the reinstatement of various departments.

25. To meet the total cost of the production of the *Journal* £7,610 (curiously enough the same amount as last year) has been taken from members' subscriptions. This is a small decrease on the amount taken in 1917. From the apportionment of members' subscriptions printed below it will be seen that the amount with which the subscription is debited in respect of the production and delivery of the *Journal* is 7s. 7d.; out of this from three to four shillings are expended on postage. To non-members the charge for the same service in the United Kingdom is £2 16s. 0d. a year; outside the United Kingdom it is £3 0s. 0d. The receipts of the Association from the sale of *Journals* to non-members in 1919 amounted to £7,102, an increase of over £1,100 on the receipts from the same source in 1918.

26. The Council learnt with regret of the death, at the age of 70, on December 21st, 1919, of Mr. Charles Louis Taylor, who retired in April, 1917, from the position of Assistant Editor, which he had held since 1897. Altogether he had served for over 30 years on the editorial staff of the *British Medical Journal*. The Association was much indebted to him for his conscientious discharge of his routine duties and often brilliant writings on the history of medicine. Dr. W. E. Crowther, who was a Leeds student and was for some years engaged in general practice in Yorkshire, has been appointed Sub-editor. The indoor full time staff of the *Journal* is now restored to its customary strength, and consists of an Editor, Assistant Editor, and Sub-Editor.

APPORTIONMENT OF MEMBER'S SUBSCRIPTION.

27. The following tables show how the subscription of a member was apportioned towards defraying the expenses of the Association for the year ending 31st December, 1919:—

	£	£	s.	d.
General Association Expenses	1,539		1	7
Central Meeting Expenses	8,779		8	10
Central Premises Expenses	2,913		3	0
Central Printing, Stationery and Postage Account	2,387		2	5
Central Staff Expenses	8,695		8	9
Library Account	497			6
"Journal" Account Expenses	7,564		7	7
Grant to Scottish Committee	1,057		1	1
Grant to Irish Committee	853			10
Capitation Grants to Branches	3,072		3	1
Written off Premises, Investments, Plant and Type	2,676		2	9
Subscriptions written off	1,531		1	7
		£2	2	0

ESTIMATE OF EXPENDITURE AND RECEIPTS FOR 1920.

28. The following figures represent an approximate forecast of the probable expenditure and revenue for the current year:—

EXPENDITURE.

	1919		Estimate for 1920.
	£	£	£
General Association Expenses ...	1,539	2,661 Increase	4,200
Central Meeting Expenses	8,779	279 Decrease	8,500
Central Premises Expenses	2,913	337 Increase	3,250
Printing, Stationery, and Postage Expenses	2,357	113 Increase	2,500
Scottish Committee	1,057	443 Increase	1,500
Irish Committee	853	200 Increase	1,053
Central Staff Expenses	8,695	3,305 Increase	12,000
Capitation Grants	3,072	928 Increase	4,000
Arrears of Subscriptions	1,417	583 Increase	2,000
Reduction of Premises Account ...	1,000	—	1,000
Depreciation	2,676	1,076 Decrease	600
Library Account	500	—	500
"Journal" Account Expenses ...	41,015	4,985 Increase	46,000
Estimated Total Expenditure			87,103
Estimated Revenue, 1920			83,660
Estimated Deficit			£3,443

REVENUE.

	£	£	£
Subscriptions	38,473	2,527 Increase	41,000
Advertisements	25,571	5,429 Increase	31,000
Sundry sales of "Journal," etc. ...	7,833	1,167 Increase	9,000
Investments and Rent	2,646	14 Increase	2,660
			£83,660

PROPOSED INCREASE OF SUBSCRIPTION.

29. The indications given in this report of the effect which the universal depreciation in the valuation of money is having on the Association, as on all other bodies and persons, together with a careful study of the Financial Statement and Estimate for 1920 will, the Council believes, convince members that ordinary prudence demands that the subscription to the Association be raised. During the coming year expenses of every kind, already abnormal, will almost certainly increase, and with an estimated deficit of over £3,000 on the year's working for 1920, it seems clear either that the subscription must be increased or that the Association must face the possibility of having to curtail its work. The latter alternative will, the Council is certain, be at once rejected by the members.

The Council therefore recommends:—

Recommendation.—That the A.R.M. 1920 amend By-law 11 of the Association to read as follows:—

SUBSCRIPTION.

Amount.

11 (1). On and after the 1st of January, 1921, and except as hereinafter provided, the Annual Subscription to the Association shall be:—

(a) For a Member resident in any part of the United Kingdom—Three Guineas.

(b) For a Member resident elsewhere—Two Guineas.

Provided as follows:—

(c) In the case of a Member resident in the United Kingdom and admitted before the expiration of two years from the date of his registration under the Medical Acts, the Annual Subscription shall be One and a-half Guineas until the 31st of December next occurring after the expiration of the period of four years from the date of such registration.

(d) A Member admitted on or after the 1st of July in any year shall pay half his current Subscription for that year.

(2). For the purposes of this By-law a Member shall be deemed to reside in that place in which his ordinary place of abode is situate at the time at which according to the Regulations his subscription is considered due.

ROYAL COMMISSION ON THE INCOME TAX.

30. The appointment of a Royal Commission on the income tax afforded an opportunity of bringing to notice the inconveniences, due to complicated procedure in making returns, and the injustice frequently suffered by medical practitioners owing to the methods of assessment. A special Sub-Committee of the Finance Committee was appointed, and at its suggestion the Council requested the Treasurer (Dr. Haslip) to give evidence before the Royal Commission. The evidence in chief which he gave on behalf of the British Medical Association on October 9th, 1919, together with a note of the cross-examination, was published in the *British Medical Journal* of December 13th, 1919, page 783.

31. After pointing out the complications in the return for assessment of income-tax due to the introduction at various times of innumerable accretions, legislative and administrative, Dr. Haslip directed particular attention to a series of points:—namely, the objection to taking a three years' average for professional income: the injustice of the Inland Revenue's refusal to recognise depreciation allowances for motor cars, x-ray and other apparatus: the absence of any provision for granting an allowance in respect of depreciation of wasting assets: the inequality of the deduction allowed in respect of the rent of a dwelling-house used partly for professional purposes: the inconvenience due to the joint assessment of partnerships: and the inadequacy of the relief in respect of children. The report of the Royal Commission deals with all these matters and it is apparent that the Commissioners attached great weight to Dr. Haslip's evidence and considered fully all the points he raised.

32. On the first point, relating to the three years' average, the Commissioners state that they have no hesitation in recommending that a change should be made and the three years' average replaced by an assessment based on the previous year's income. With regard to depreciation allowances for cars and apparatus, the Commissioners observe that while "a business man is allowed a deduction for the depreciation of a motor car employed in his business a doctor whose practice may equally necessitate the use of a car is not entitled in law to any such

deduction." They recommend that the allowance should no longer be restricted to traders. With regard to wasting assets, for which the present income tax law makes no allowance the Commissioners lay down the principle that an allowance should be made for "inherently wasting material assets" where the anticipated life of the asset does not exceed thirty-five years. With regard to deduction to be allowed from the rent of a house partly used for professional purposes the Royal Commissioners advise that the general limitation to a sum not exceeding two-thirds of the annual value or rent should be retained, but that the Income Tax Commissioners should be empowered to grant a larger allowance in special circumstances where the application of the general rule would result in hardship, as in cases where a medical man is compelled for the purposes of his practice to reside in an expensive neighbourhood. The Commissioners recognise the validity of the objections made to the joint assessment of partnerships; they express the opinion that while the profits of the partnership as a whole should still be returned in one sum by the precedent acting partner and that he should be responsible for showing how this profit is divisible among the partners, it should be open to any partner to claim that his share of the partnership profits should be separately assessed, so that his private concerns may no longer be known to his fellow partners. In this way the Association's objection is met in substance, although the Commissioners advise that the Crown should retain the right to recover from a firm tax due from an individual partner—a contingency not likely often to arise. With regard to the relief in respect of children, the recommendations of the Commissioners are in the direction desired by the Association. The income limit is to be abolished and the allowance to be treated as a deduction from the gross income so that the rate of tax would be determined by reference to the amount of income left after the allowances had been made. The recommendations would carry relief in respect of children to ranges of income to which it is at present denied.

33. The Association is much indebted to the Special Committee, which had assistance from the Editor, but especially to Dr. Haslip for the pains he took in preparing and presenting the case for the remedy of grievances under which members of the profession have long suffered. The profession as a whole is to be congratulated on the results of the action taken on its behalf by the British Medical Association.

MANAGEMENT OF THE HEAD OFFICE.

34. Last session the Council, taking advantage of many changes which were occurring in the staff of the Association, appointed a small Committee to consider and report on the possibility of improvement of the arrangements under which the work of the Association in the Head Office is carried on. As a result of the report of this Committee the Council has appointed a permanent Committee called the Office Committee for the general administration and co-ordination of the work of the office. It consists of the Chairman of Council, Chairman of Representative Meetings and the Treasurer, together with the Editor, the Medical Secretary and the Financial Secretary and Business Manager.

35. The Committee serves a double purpose. By meeting frequently and having on it the chief Executive Officers of the Association and the chief officials, it acts as a sort of Board of Directors, dealing with questions which require prompt action and cannot wait for the meeting of a Committee or the Council (a function formerly carried out by the Chairman of Council), and it co-ordinates the work of the different departments of the Office. In view of the special nature of this work the Council decided that those members of the Committee who are not members of the Staff should be paid £5 5s. for each attendance.

36. It began its operations on July 30th, 1919, and has already proved exceedingly useful. Amongst other things, it has dealt with the condition of the office building, and has recommended certain alterations and improvements which are being carried out. For example, a great improvement has been made in the lighting of the Council Chamber and proposals are now under consideration for improving the Entrance Hall and utilising a part of the basement which has hitherto stood empty, partly as a store room and partly as a canteen for the office staff. The Committee also, at the request of the Finance Committee, drew up the new scale of salaries for the clerical staff to meet the new economic conditions, which the Council has adopted, as previously described.

37. The Committee also arranged for the devolution of the work of the Medical Secretary, the necessity for which had been evident for some time but which it was not possible to carry out until the end of the War allowed the provision of a full staff. As a result of this scheme the whole of the Committee work in the Medical Department is now distributed among the Deputy and Assistant Medical Secretaries, except the Secretaryship of the Council and of the Office Committee, which remain in the hands of the Medical Secretary. Much of the routine work hitherto carried on by the Medical Secretary has been transferred to others, thus leaving him free for supervision and more outside work.

Appointment of Deputy Medical Secretary.

38. Dr. G. C. Anderson of Methil, Fife, Secretary of the Fife Branch and a very experienced and active worker for the Association, was in September last appointed Deputy Medical Secretary in the place of Dr. James Neal now Secretary of the Medical Defence Union.

INTELLIGENCE DEPARTMENT.

39. Arising out of the suggestions of the Committee referred to in paragraph 34, an Intelligence Department has been created which is under the control of the Office Committee. The duties of this department are (a) to collect, record and supply information affecting the work of the Association (other than scientific), and (b) to conduct inquiry and research on any subject indicated by the Council, or a Committee, or the Editor or Medical Secretary (always excluding scientific subjects). The collection of this information has entailed the setting up of a press-cutting agency, which is proving exceedingly useful in enabling the office to keep in much closer contact with the press on questions of medico-political importance.

40. It is not intended that the Department shall supply information to individual members but only to the Editorial and Secretarial Staff, which, of course, will pass it on to the Council, Committees, or individual members as may be required. The Council believes that the new department will be of great service to the Association and, indeed, it has already proved its usefulness. The Council was fortunate in securing as head of the department Miss A. L. Lawrence, M.B.E., who had previously proved her suitability for the post by the excellent work she did in connection with the Central Medical War Committee.

STAFF COMMITTEE.

41. An interesting development is to be reported in the formation of a Staff Committee composed of representatives of the clerical and printing staff. It arose out of the desire of the Office Committee to ascertain whether the staff considered the proposals for a new scale of salaries satisfactory. The staff, on having this question put to them, with businesslike promptitude formed a Provisional Committee and presented a report which proved most useful, and the Office Committee was able to accept practically all its suggestions. The Provisional Committee suggested the formation of a permanent Staff Committee, which request the Council granted, as not only are there many domestic matters affecting only members of the staff which might usefully be dealt with by a representative Committee, but every now and then questions arise on which it is necessary or desirable for the Council to have the opinion of the staff, *e.g.*, the new Superannuation Scheme and the establishment and control of the proposed staff canteen. The Council is glad to acknowledge the help it has had from the staff in dealing with matters in which their co-operation is so essential, and has every reason to believe that the new scale of salaries, the proposed new Superannuation Scheme, and the staff canteen, will all tend to make the staff more contented with their position and prospects and even more interested than before in the welfare of the Association.

Organisation.

SPECIAL SUBSCRIPTIONS TO BRANCHES NOT IN UNITED KINGDOM.

42. The Council has considered a request made by the Australian Federal Committee, which represents all the six Branches of the Association in Australia, for such an alteration of By-law 15 of the Association as would give to each Oversea Branch full power to determine for itself, independently of the Council, what the amount of any special Branch subscription, additional to the ordinary subscription to the Association under By-law 11, should be. Realising that in some cases the circumstances of the Oversea Branches, and the cost of their work, differ materially from those in the United Kingdom, the Council is of opinion that the proposal of the Australian Federal Committee is a right and proper one, and should be given effect.

The Council recommends:

Recommendation.—That the A.R.M., 1920, amend By-law 15 of the Association to read as follows:—

"SPECIAL SUBSCRIPTIONS TO BRANCHES NOT IN THE UNITED KINGDOM.

15 (1) It shall also be competent for any Branch not in the United Kingdom, by Rule (approved as hereinafter mentioned), to require each member of such Branch to pay (in addition to his subscription to the Association and to any such special subscription) an annual subscription of such amount as may be deemed by such Branch to be necessary for defraying expenses occasioned by the special circumstances of such Branch, and not capable of being defrayed out of any grant from the funds of the Association made in pursuance of the By-laws.

(2) No such Rule shall have effect unless and until it shall have been approved by the Branch in accordance with the following provisions.

(3) Approval by the Branch may be given by a majority of not less than three-fourths of the Members present and voting at a General Meeting of the Branch specially convened to consider the proposed Rule, of which Meeting not less than twenty-one days' notice shall have been given to all the Members of the Branch."

QUESTION OF POSSIBILITY AND DESIRABILITY OF TAKING FURTHER POWERS UNDER THE CONSTITUTION OF THE ASSOCIATION WHEREBY IT MIGHT BECOME IN PART A FEDERATION OF MEDICAL BODIES.

43. The question of the desirability of taking further powers under the constitution of the Association whereby it might become a federation of medical bodies has, within the last few years—

(a) been raised by or arisen in respect of certain Branches or areas of the Association.

(b) been raised independently by resolutions of the Representative Body.

(A) QUESTION AS RAISED BY CERTAIN BRANCHES AND AREAS.

(i.) *By certain Australian Branches and by the Australian Federal Committee.*

44. The Australian bodies which have raised the question have been:—the Victorian Branch in 1893, the New South Wales Branch in 1895, the South Australian Branch in 1913, the Queensland Branch in 1914, and the Australian Federal Committee (a body formed with the approval of the Council of the Association in 1914, representing all the six Branches of the Association in Australia), in 1918.

45. The question raised by the four Branches named was not specifically that of the Association becoming a federation, of which its Branches would become federating units, but the cognate question of these respective Branches becoming each an incorporated body. The New South Wales Branch did in fact, in 1894, incorporate itself under the law of New South Wales. Upon that fact coming to the knowledge of the parent body, the position thus created was made the subject of a special agreement between the new body and the Association.

46. The main reason put forward by the Branches for asking for the permission of the Association to incorporate themselves was, stated briefly, that they would, as incorporated bodies, be in a position to carry out with much greater convenience and efficiency the work of the Association in Australia. In each case the Branch in question desired, although becoming an incorporated body, to remain a Branch of the Association. Such has, for practical purposes, been the case as regards the New South Wales Branch, neither the activities, efficiency nor loyalty of which have been in any way prejudicially affected by the fact that the Branch is, and has long been, an incorporated body. Counsel consulted in 1915 by the Council on the subject pointed out, however, serious legal and other difficulties, not up to then appreciated, such as might easily arise where a Branch of the Association became an incorporated body and attempted to remain at the same time a Branch of the Association. The Council drew the attention of the Branches in question to those difficulties, and, as a result, the proposals of the other Branches of the Association in Australia to become incorporated bodies remained in abeyance until 1918.

47. In that year the Council, as a result mainly of representations made to the Council by the President of the Australian Federal Committee (Dr. W. T. Hayward, C.M.G.), who was at that time in the United Kingdom and a Member of the Council, came to the conclusion, approved by the Representative Body in July, 1918, that efforts should be made to bring about a still more intimate and effective co-operation between the Oversea Branches and the parent body, based on the closest sentimental relationship, but with the loosest administrative bond. The Council therefore invited all the Oversea bodies of the Association to express their opinions on the subject.

48. Among the replies received, all of them helpful, and which have received the careful consideration of the Council, was an important reply by the Australian Federal Committee, on behalf of the Branches in Australia, in August, 1918, to the effect, *inter alia*:—

(a) That the Branches in Australia should be given as free a hand as possible in managing their own affairs; and that their affairs should cover the whole range permitted by the Memorandum of Association.

(b) That special Articles of Association and By-laws should be adopted, determining the position of the Branches in Australia, and in particular:—

(i.) Authorising the Branches in Australia to carry out any or all of the objects for which the Association is established, as set out in Clause 3 of its Memorandum of Association.

(ii.) That the Branches in Australia should, if they so desired, register conjointly as a Company under Federal Statute, or separately as Companies in their respective States, such Company or Companies to be limited by guarantee and not for profit, and to have all the powers necessary for giving effect to the objects of the Association, including, *inter alia*, power to sue and be sued, to purchase and otherwise acquire real and personal property and to dispose of the same, to establish and conduct (all the Australian Branches conjointly) a Journal to be the official organ of the Branches, and to invest and deal with moneys not immediately required.

(iii.) That the Branches in Australia should have power to determine by vote of their members, and without the approval of the Council of the Association, the amount to be paid by their members by way of annual subscription (including the sum prescribed by the By-laws of the Association to be paid to the latter).

(iv.) That there should be provision for a Federal Council of the Association in Australia, consisting of representatives of the Branches, to carry out on behalf of the Branches collectively in Australia the objects of the Association, and generally to have the powers and duties sought to be given by the Branches in Australia to the Australian Federal Committee of the Association.

49. In response, the Council informed the Australian Federal Committtee of the difficulties above referred to, sending the Committee a copy of the opinion obtained by the Council on the subject from Counsel in 1915, and full and free interchange of views has taken place. On behalf of the Branches in Australia, the Federal Committee has reiterated the hope that all such steps as may be practicable will be taken by the parent Association to give the Branches in Australia the fullest possible freedom in managing their own affairs, the Committee giving at the same time to the Council gratifying assurances of the strong desire of the Association in Australia to co-operate in the most cordial and intimate way with the parent body.

50. In this connection the Council draws attention to the proceedings of a meeting in connection with the Empire Parliamentary Association, reported in the *Times* of December 16th, 1919, at which Mr. Balfour emphasised the importance of an imperial policy such as would "increase unity of action and unity of sentiment" and not interfere with the "absolute autonomy of the great constitutional elements of this great community of nations." At the same meeting the Speaker of the House of Commons stated that progress had been made with the question of devolution; that it was hoped soon to submit to the House of Commons and the Country an actual scheme; and that, if that scheme were adopted, it would be the first stage towards the object which many at home and in the Dominions had in view, namely, a federation of the Parliaments of the British Empire.

51. It appears to the Council that these considerations apply also to the relationship between the Association and its Branches in the great self-governing Dominions. The Council thus came to the conclusion that as the desires expressed by certain Oversea Branches could not be met without the establishment of their practical independence, provision should, if possible, be made in the constitution of the Association whereby Branches of the Association in the Dominions which desired independence might obtain it, and be enabled to affiliate with the Association for such purposes as might be agreed upon in each individual instance, and that provision should be made at the same time for similar affiliation of independent medical associations elsewhere.

(ii.) *Question as raised by the Case of Ireland.*

52. As a result of a meeting representative of the whole of the medical profession in Ireland, including both members and non-

members of the Association (*see* Supplementary Report of Council, 1918-19, *B.M.J.* Supplement, July 5th, 1919, p. 8; and paras. 198-201 of this Report), the Council has lately had before it a proposal for uniting the Irish medical profession in one representative organisation, including the following suggestions made by an Irish deputation received by the Council in November 1919:—

"(1) One medical body for all Ireland.
(2) The name to be the Irish Medical Union or Association.
(3) The members of the Irish Medical Union or Association to be honorary members of the British Medical Association, with the following privileges:—

(a) Attendance at scientific meetings of the British Medical Association, including the Annual Meeting.
(b) The *British Medical Journal* (Irish News).
(c) The right to be enrolled as an ordinary member of the British Medical Association on taking up residence in Great Britain or the Colonies.
(d) Representation, without the right of voting, at the Annual Representative Meeting, and two representatives on the Council.
(e) Participation in scientific grants.
(f) Payment *per capita* for privileges requested (*e.g.* 21s. per head per annum).
(g) The new body to take over the finances of its own Central Offices, and Branch and Division expenses.
(h) The medico-political policy of the Irish profession to be decided by representative meeting summoned under the auspices of the Irish Medical Union or Association."

53. The Council came to the conclusion that whereas the desires expressed by the medical profession in Ireland could not be met except by formation of an independent Irish Medical Union or Association (probably a Limited Company), provision should, if possible, be made in the constitution of the British Medical Association whereby such Irish Medical Union or Association might be affiliated with the British Medical Association for such purposes, and upon such terms, as might be agreed upon.

(iii.) *Question as raised by the Case of South Africa.*

54. A similar question has been raised by recent proceedings of the Witwatersrand Branch of the Association. That Branch had under consideration about the beginning 1919 the question of the attitude of the medical profession in its area, and South Africa generally, towards contract medical practice. The Branch came provisionally to the conclusion that, to deal effectively with the evils of contract medical practice as affecting the profession, there should be in South Africa an association of medical practitioners of a national character; that the Articles of Association of such a body could be drawn up in such a manner as to include the objects of a definite trade union; that a national medical association could expect to include in its membership "every medical man practising in South Africa"; that the proposed South African Medical Association might both be a learned body, bringing together its members for interchange of professional and scientific views, and a union for protecting the interests of the profession; and that, if such a body were formed, it might be possible to arrange "some sort of affiliation with the British Medical Association, though at present there was no machinery for such a purpose in the British Medical Association Articles."

55. The attention of the promoters of the proposed new body was drawn to the fact that the work for which the proposed powers were desired was already being done by the British Medical Association throughout the Empire. The new body has been formed, but it is understood that many members of the British Medical Association in South Africa are exceedingly doubtful as to the wisdom of this duplication of organisations, and by no means convinced that the new Association can do anything the British Medical Association cannot do. None the less the Council came to the conclusion that, if possible, provision should be made in the constitution of the British Medical Association whereby it would be possible for such an outside body to federate or affiliate with the Association.

(B) Question as raised independently by Resolutions of the Representative Body.

56. On the initiative of the Brighton Division, the Representative Body already, in 1914 and 1915, had under consideration the question of the Association becoming also a federation for other medical bodies. Owing however to the War, effective consideration of the resolutions of the Representative Body on the subject had necessarily to be postponed. The Council has now given careful consideration to the broad principles involved therein. The resolutions in question were as follows:—

Annual Representative Meeting, 1914.

Minute 81.—Resolved: That it be referred to the Council to consider what alterations and additions to the Articles and By-laws and in the organisation of the British Medical Association in the United Kingdom would be necessary to allow of its becoming also a federation for other medical bodies formed to safeguard the interests of one or more sections of the medical profession, while allowing all such bodies to continue their separate existence, and to issue a report on the whole matter to the Representative Body.

Annual Representative Meeting, 1915.

Minute 47.—Resolved: That the Representative Body is of opinion, on the legal advice the Association has formerly received, that it is impossible for the Association so to extend its objects as to become in any manner a federation of medical societies.

Minute. 48.—Resolved: That the Representative Body would welcome any constitutional method whereby the Association, without interference with its own self-government, could come into closer relationship with other societies formed to safeguard the interests of any sections of the medical profession.

Minute. 49.—Resolved: That the Representative Body approve the principle of the Council adding to any Standing Committee of the Association a Member of the Association nominated by any society formed to safeguard the interests of any section of the profession which desires to become more closely associated with the Association and to work in closer co-operation with it, and instructs the Council to prepare drafts of the necessary alterations in the By-laws to carry this into effect.

Minute 52.—Resolved: That the Council be instructed to call into conference with itself certain other societies referred to in Minute 48 of this Meeting, with a view to determining how it might be possible to come into closer relationship with such other societies, and report to the next Annual Representative Meeting with drafts of the necessary alterations in the Articles and By-laws if any.

57. Minutes 47-52 of the Annual Representative Meeting 1915, quoted above, resulted from the consideration and approval by that Meeting of a report and recommendations of the Council as to the above Minute 81 of the Annual Representative Meeting, 1914. That report, and a previous report on the subject by the Representative of the Brighton Division, were published in the Annual Report of Council, 1914-15, (*B.M.J.* Supplement, May 8th, 1915, p. 198).

58. As regards the opinion stated in the above Minute 47 of the Annual Representative Meeting, 1915, the Association did not in 1915 take legal advice *ad hoc* on the question as then raised. In its recent consideration of the whole subject accordingly on behalf of the Council, the Organisation Committee, which has had the help of the Scrutiny Sub-Committee mentioned in para. 64 of this report, came to the conclusion that it was advisable to ascertain definitely from Counsel whether it was in fact "impossible" for the Association to become a federation of medical bodies.

59. It will be noted that the Minutes of the Representative Body, quoted above, raise the question of federation from a different aspect to that raised in Australia, Ireland and South Africa, for while as regards those areas the question is raised of the possible federation or affiliation of bodies representing the medical profession as a whole in parts of the British Empire overseas, the Minutes of the Representative Body raise the question of the possible affiliation of medical bodies representing the interests of sections of the profession, whether in the United Kingdom or elsewhere.

Case Submitted to Counsel, February, 1920.

60. The Organisation Committee accordingly submitted to Counsel (Messrs. C. E. E. Jenkins, K.C., and T. R. Colquhoun Dill), in February 1920, by instruction of the Council, a case dealing exhaustively with the question of federation, as the matter presented itself to the Association. Counsel were asked to advise as to what, if any, modification of the constitution of the Association could be made with a view to providing conditions, whether by "federation," "affiliation" or any other method, whereby an Oversea Branch, an incorporated body such as the one in Australia, such a body as those suggested for Ireland and South Africa, a scientific society representing the medical profession, or a medical body representing the interests of a section of the profession, could retain or secure such an amount of connection with the British Medical Association as would on the one hand give such Branches or bodies the

power and prestige which come to them from a definite, even if loose, association with the Association, and on the other, not prejudice the position of the Association, the present organisation of which is co-extensive with the Empire. In the case forwarded to Counsel, the fact was emphasised that what was especially in the mind of the Association in raising the subject was the desirability, and indeed the urgency, of giving to such Oversea Branches as desired it the utmost freedom, consistently with that close and effective co-operation between the Oversea bodies and the parent Association which all desired to safeguard, of managing their own affairs.

Opinion of Counsel.

61. As a result there has been received the appended joint opinion of the Counsel named, dated March 6th, 1920 (see Appendix III.). As will be seen therefrom, Counsel are of opinion that it is possible so to take further powers under the constitution of the Association that it would become in effect a federation of medical bodies without abandoning its present position as an Association of individual members of the medical profession. Counsel are of opinion that the change can be effected without alteration of the existing Memorandum of Association.

Proposals of the Council.

62. It appears to the Council that the joint opinion thus received warrants the Association in taking steps for alteration of the Articles and By-laws of the Association accordingly. The Council therefore recommends that the Representative Body authorise that the proposal contained in the joint opinion of Counsel be carried out, in such a way as would enable the Association to welcome as members thereof, on the new basis, those Oversea Branches which have already expressed, or which may in the future express, by adequate majorities, a desire for the utmost possible freedom in managing their own affairs.

63. The Council also proposes that, at the same time, provision should be made in the Articles whereby certain other classes of bodies, such as those mentioned in para. 52 of this report, could similarly become members of the Association. Each case would necessarily require to be settled on its merits.

The Council recommends:

Recommendation.—That the Association take steps to obtain further powers under its constitution, on the lines indicated in the joint opinion of Counsel (Messrs. C. E. E. Jenkins, K.C., and T. R. Colquhoun Dill), dated March 6th, 1920, whereby the Association may, without abandoning its present position as an Association of individual members of the medical profession, become in addition a federation of medical bodies.

Recommendation.—That the Representative Body instruct the Council:

(1) To arrange for there being held at an early date a conference of representatives of the Oversea Branches, especially the Branches in the Dominions, with representatives of the Association at home and with representatives of other bodies, if any, who in the opinion of the Council should be invited to such a conference, with a view to arriving, if possible, at a full agreement as to what should be the lines of the proposed new Articles and By-laws.

(2) To report further as soon as practicable to the Representative Body on the subject, with, if possible, such draft alterations of the Articles and By-laws as the Council may suggest with a view to taking further powers under the constitution of the Association in the way proposed.

(3) To arrange that the draft new Articles and By-laws shall *inter alia*:—

(a) Define the classes of organisations to be admissible, whether directly or by means of nominees, to membership of the Association. Such classes to include any portion of the Association which may incorporate itself separately but also desire admission on the new basis; and to include also medical bodies outside the Association, and bodies representative of the allied professions, anywhere within the Empire.

(b) Assign to the Representative Body the settlement of the general conditions of such membership, including decision as to what shall be the minimum numerical backing, within a body seeking to become such member of the Association, which shall render a request for such membership eligible for consideration.

(c) Assign to the Council the duty of submitting to the Representative Body, with a view to such membership, the name of any body proposing, or proposed by the Council, to become such member of the Association.

(d) Assign to the Representative Body the decision as to whether any individual body applying shall be admitted as such member of the Association, and if so upon what special conditions, if any, in the individual case.

Machinery of the Association.

64. The Council referred to the Organisation Committee Minute 167 of the Annual Representative Meeting, 1919, instructing the Council to make a scrutiny of the existing local and central machinery of the Association, with a view to discovery of any defects or deficiencies, and their correction, and to report with recommendations. Recognising the importance of the matter, the Organisation Committee has, with the approval of the Council, appointed a Special Sub-Committee to deal with it in the first instance. Sir Jenner Verrall, LL.D., who was a member of the Constitution Committee appointed by the Annual Meeting at Ipswich, 1900, is Chairman of the Sub-Committee. The Sub-Committee, which has already held 10 meetings, is reviewing systematically the constitution and machinery of the Association, and will in due course report to the Organisation Committee and the Council. The Council expects to report on the whole subject (which it will be observed is to a certain extent governed by any action that may be taken in regard to federation) to the Annual Representative Meeting, 1921.

Membership.

65. The following is a statement of the changes in the membership during the year December 31st, 1918, to December 31st, 1919, the figures for 1918 being given for comparison:—

(1918.			1919.		
New members ..	703		New members ..	2,276	
Arrears paid ..	147	850	Arrears paid ..	111	
			Withdrew resignations	5	2,392
Resignations .	251		Resignations ..	301	
Deaths	272		Deaths	334	
Arrears	593		Arrears	384	
Expelled	3	1,119			1,019
Decrease		269)	Increase		1,373

(Membership, December 31st, 1918 .. .. 19,982)
Membership, December 31st, 1919 21,355
,, April 4th, 1920 22,022

The Council regrets that through a mistake on the part of a temporary clerk, the membership figures given in the last Annual Report were overstated.

Machinery as to Arrears of Subscription.

66. The Council has given careful attention to the present By-law (13 (1)) dealing with the suspension from privileges of membership of members in arrears. At the present time a member who has not paid his subscription by the 31st December is, according to the By-law, suspended from all privileges of membership, and if at the end of the succeeding year his arrears are still unpaid, he ceases *ipso facto* to be a member. Members in arrears have in the past, however, been treated with a good deal of indulgence and have received the *Journal* and other privileges of membership for a good part of the second year of arrears.

67. The Council has come to the conclusion that the By-law had better be altered and, in its altered form, strictly carried out. The proposal is that a member whose subscription has not been paid on or before 31st December of the current year shall cease to be a member at the end of that year and that all privileges of membership shall be at once withdrawn; but that if he pays his arrears within three months he shall be reinstated without formal re-election.

The Council recommends:

That the A.R.M. 1920 amend By-law 13 (1) of the Association to read as follows:—

"*Arrears of Subscription—Cessation of Membership.*

13.—(1) If the subscription of a Member for any year shall not have been paid on or before the 31st of December in that year, he shall *ipso facto* (but save as otherwise provided by the Regulations and without prejudice to his liability to the Association) cease to be a Member as from that day. Provided that upon payment before the 31st day of March in the succeeding year of all subscriptions due from him he shall, if eligible, be restored to membership without re-election."

"CURRENT NOTES."

68. The Council has arranged to include in "Current Notes" a larger number of the subjects being dealt with by the Association, whether locally or centrally. Members who wish to keep in touch with events in the medical world are recommended to look at the "Notes" each week.

HANDBOOK.

69. The Council is arranging that a fresh edition of the Handbook, to include the decisions of the A.R.M. at Cambridge, shall be published in October.

NEW DIVISIONS AND BRANCHES.

70. During the year, Essex, Norfolk and Suffolk Branches have, by request of the East Anglian Branch, been formed to take the place of that Branch. It is of great interest to note that the East Anglian Branch was the earliest Branch of the Association, having been formed in 1836. From first to last the Branch did a great work for the Association and profession, and has thus set an excellent example to the newly formed Branches. A Willesden Division of the Metropolitan Counties Branch has been formed. The Council has also formed a Nyasaland Branch of the Association, of area coterminous with the Protectorate of that name.

FREQUENT MEETINGS OF DIVISIONS.

71. The Council wishes to emphasise the importance of regular and frequent Division meetings, and urges that each Division should provide by its Rules for meetings being held at least every two months, on a fixed day (*e.g.* third Tuesday of each month, or of alternate months). The Council has prepared a Model Rule for the purpose. Copies will be sent to Division Secretaries on application.

VISITATION OF DIVISIONS AND BRANCHES.

72. Although it is not yet possible to give complete effect to the Council's instruction that a member of the central staff shall visit each Home Division at least once in two years, every effort is now being made to visit the Divisions frequently. Any Executive Committee desiring such a visit is cordially invited to communicate with the Medical Secretary, when every effort will be made to meet the convenience of the Division as regards date and other points.

DIVISION AND BRANCH REPORTS FOR 1919.

73. On April 1st there were 88 Home Divisions and 24 Home Branches which had not reported for 1919. The Council wishes to remind the Division and Branch Executives and the members generally, of the great importance of the Annual Reports, and to ask them to satisfy themselves that their Division or Branch is not a defaulter in this respect. Without such a report it is difficult, often impossible, for the Council to make a grant. The names of Divisions and Branches which have not reported by May 19th, will be published in the Supplementary Report of the Council.

GROUPING OF DIVISIONS FOR ELECTION OF REPRESENTATIVE BODY, 1919-20.

(a) *Home Divisions.*

74. The Council has grouped the Home Divisions in constituencies for election of Representatives, 1920-21, in the same manner as for 1919-20, except that the North Northumberland Division of the North of England Branch and the new Willesden Division of the Metropolitan Counties Branch have been made independent constituencies. The list of constituencies was published in the *British Medical Journal* Supplement of January 24th, 1920.

75. The Council desires to remind Members that it is entirely within the power of constituencies to elect their Representatives by postal vote.

(b) *Oversea Divisions.*

76. The Council has made each Oversea Division and Division-Branch an independent constituency in the Representative Body.

GROUPING OF BRANCHES AND CONSTITUENCIES FOR ELECTION OF COUNCIL.

77. Under the authority conferred upon it by Standing Order of the Representative Body (Annual Representative Meeting, Minute 149, 1919), the Council has grouped the Branches and Constituencies for election of the Council, 1920-21, in the same manner as for 1919-20, the new Essex, Norfolk and Suffolk Branches taking the place of the East Anglian Branch.

ANNUAL CONFERENCE OF HONORARY SECRETARIES OF DIVISIONS AND BRANCHES.

78. The Annual Conference of Honorary Secretaries of Divisions and Branches will be held at Cambridge, on Wednesday, June 30th, at 3.0 p.m. Honorary Secretaries have been invited to give notice of matters to be raised.

CONFERENCES WITH OTHER MEDICAL BODIES.

79. In response to a request by the Association of Panel Committees the Council invited the following bodies to a Conference to discuss common action:—the Medico-Political Union, the National Medical Union, the Medical Parliamentary Committee (now the British Federation of Medical and Allied Societies), the State Medical Service Association, the Medical Women's Federation and the Association of Panel Committees. Conferences were held of which a full report was published in the Supplement of February 21st, 1920.

80. The Council regrets that owing to the attitude taken up by the Medico-Political Union the Conferences were rendered futile and the results were very disproportionate to the time occupied. The report shows that the representatives of the Association went to the extreme limit of concession in order to try to arrive at some basis for common action, but the M.P.U. would be content with nothing short of what virtually amounts to the dropping by the Association of its medico-political activities, which it suggested should be handed over to the Union. The absurdity of such a proposal is manifest, seeing that the objects for which the Association was formed to promote include the maintenance of the "interests of the medical profession." The Council on receipt of the report decided that no useful purpose would be served by further action.

Science.

SCIENTIFIC WORK OF ANNUAL MEETING 1920.

81. Certain alteration have been made in connection with the arrangements for the scientific work of the forthcoming Annual Meeting of the Association at Cambridge. The Council has decided that the work of the Sections should be made more objective, clinical and laboratory demonstrations being made a strong feature of their programmes; that the Sections should work three hours in the morning and a minimum of at least two hours in the afternoon, the afternoon work being wholly demonstration as was the case at the meeting held in London in April, 1919; that any advance in specialties, especially those bearing on general medicine and surgery, and on general practice, should be brought to notice by way of demonstrations; that the three-day sections be limited to five, viz:—Medicine, Surgery, Physiology and Pharmacology, Neurology and Psychiatry and Pathology and Bacteriology; that single day sections be held in:—Obstetrics and Gynaecology; Tropical Medicine, Naval and Military Medicine, Electro-Therapeutics and Radiology, Medical Education, Medical Sociology, and Venereal Diseases. Encouraged by the experience of the Special London Meeting the Council believes that this new arrangement will infuse more vitality and actuality into the scientific proceedings.

B.M.A. LECTURES ON CLINICAL AND SCIENTIFIC SUBJECTS.

82. Advantage has been taken by several Divisions and Branches of the arrangements, inaugurated this year, whereby the services of skilled lecturers are provided at the cost of the central funds. Whenever a Division or Branch expresses a wish for a lecturer it is asked to state the name of the lecturer desired, and the subject it wishes the lecturer to deal with. These lectures are becoming increasingly popular, and the Council hopes therefore greatly to extend the system.

83. The following is the list of the lectures which have been given since the commencement of the scheme:—

Lecturer's Name.	Title of Lecture.	Division or Branch
Dr. T. Lewis, F.R.S.	"Remarks on the management of heart cases in general."	Sheffield Div.
Sir Thomas Horder.	"Preventive Treatment in Influenza."	Southern Br.
Sir Humphry D. Rolleston, K.C.B.	"The dyspeptic and other remote symptoms associated with the presence of gall stones."	Norfolk Br.
Dr. Bernard Hart.	"Modern Methods of Treatment in Functional Nervous Disorders."	Nottingham Div.
Dr. A. F. Hurst.	"New Views on the Pathology, Diagnosis and Treatment of Gastric and Duodenal Ulcer."	Tunbridge Wells Div.
Dr. T. Lewis, F.R.S.	"The nature and significance of Auricular fibrillation."	Greenwich & Deptford Div.
Dr. A. Blackhall-Morison.	"The Passive Mechanical Factor in Heart Disease; its influence and management."	Edinburgh Br.

Lecturer's Name.	Title of Lecture.	Division or Branch.
Sir Frederick Mott, K.B.E.	"The early symptoms and diagnosis of Diseases of the Spinal Cord."	Plymouth Div.
Lieut.-Col. R. McCarrison.	"Deficiency Diseases."	South Wales & Monmouthshire Br.
Dr. A. F. Hurst.	"Psychotherapeutics."	Bradford Div.
Mr. A. Fleming, F.R.C.S.	"Vaccine Therapy."	North Middlesex Div.

Middlemore Prize.

84. The Council has decided that the Middlemore Prize, the object of which is to promote the progress of Ophthalmic Science, shall be awarded this year for the best Essay on "Perimetry (inclusive of Scotometry), its Methods and its Value to the Ophthalmic Surgeon." The result of the competition will be announced in the Supplementary Report.

Stewart Prize.

85. The objects of the Stewart Fund, endowed by the late Dr. A. P. Stewart, of London, are, first and as a general rule the recognition and encouragement of important work already done, or of researches instituted and promising good results, regarding the origin and spread of epidemic disease; secondly, the periodic selection by the Council of the Association, or by a Committee appointed by it, of such person or persons as they shall consider exceptionally qualified to undertake and conduct the investigation of such question or questions connected with the subject of epidemic disease as shall appear likely to yield important results. The Prize usually takes the form of an Illuminated Certificate and a cheque for £50. The Council decided that the Stewart Prize shall be awarded this year, and it is hoped that the final decision will be made shortly so that it may appear in the Supplementary Report of the Council.

Library Department.

86. Arrangements have been made for the Library being kept open for an experimental period until 6.30 on ordinary week-days and till 2 p.m. on Saturdays. The Council is gratified to note the rapidly extending use which is being made of the lending department.

Policy in Relation to Advertisements of Drugs and Foods.

87. Important questions frequently arise as to the genuineness of the claims made on pharmacological and pharmaceutical grounds for preparations, advertisements of which are offered for insertion in the *B.M.J.* The Council has therefore arranged that all such questions shall be referred to the Therapeutic Sub-Committee, with power to carry out any needful investigations.

Salvarsan, Neo-Salvarsan and other Allied Products.

88. The Council is of opinion that the position which obtains in this country, where no legal authority exists to enforce the testing of certain potent and dangerous chemical or biological products commonly used for hypodermic and intravenous injection, but not susceptible of standardisation by simple methods of analysis (*e.g.*, Salvarsan and kindred products), is unsatisfactory. The Ministry of Health has accordingly been requested to rectify this anomalous position by such legislation or administrative action as will ensure for this country that control of these preparations which already exists in other countries, and which under special regulations existed during the war.

State Grants for Scientific Investigation and Awards for Medical Discovery.

89. A Conjoint Committee of the Association and the British Science Guild has for some time past been considering the whole question of rewarding discoveries in order to encourage medical and other scientific investigation, and to discharge a moral obligation incurred by the public which reaps the benefit of private effort. A deputation consisting of the members of this Committee along with the medical Members of the House of Commons were received by the Lord President of the Council, Mr. A. J. Balfour, M.P., on March 2nd, when the views of the Joint Committee were laid before the Minister by Sir Clifford Allbutt on behalf of the Association, and by Sir Richard Gregory and Sir Ronald Ross on behalf of the British Science Guild. The deputation was most sympathetically received (*see* Report in *Journal*, page 346, March 6th, 1920), and the Council now awaits the decision of the Government.

Medical Ethics.

Professional Secrecy.

90. The Council has given consideration to the question of professional secrecy, so far as this question relates to venereal diseases. It has been suggested that, so far as these cases are concerned, there is a certain shifting of opinion regarding the established ethical principle that a medical man must not disclose the nature of a patient's disease to anyone else, except with the patient's consent.

91. In 1915 the Council went fully into the general question of professional secrecy, and was informed by the solicitor that apart from State Officials, such as Ministers of the Crown, Judges of the High Court, and others placed in positions of more or less supreme importance, the only class of persons who were enabled to claim to hold as absolutely inviolable from obligation to disclose statements made to them involving matters of criminal import or otherwise, were solicitors and barristers and ministers of religion. The solicitor went on to say that so far as the medical profession was concerned no such universally recognised protection attached to statements made to them by a patient, but that there was admittedly a certain degree of professional secrecy recognised as being associated with such statements, although a conflict of authority upon the decided cases prevailed as to the extent to which this could be carried. As a result of its consideration of this subject at that time the Council expressed the opinion :—

> "That a medical practitioner should not under any circumstances disclose, voluntarily, without the patient's consent, information which he has obtained from that patient in the exercise of his professional duties."

92. As regards the alleged shifting of opinion on the subject, the Council understands that some medical men hold the opinion that the above-named ethical principle does not apply to the same extent where the patient is suffering from venereal disease. For instance, it has been suggested that in the case of married people, when one partner is found to be suffering from venereal disease, the other has a right to be informed of the fact. Similarly, it has been urged that where a domestic servant in a household comprising children is found to be suffering from this disease the employer should be informed.

93. The Council is of opinion that, from the legal aspect, a claim could not be made that an obligation rests upon the medical man in such instances to disclose the confidence of his patient without the patient's consent, seeing that no protection is afforded him from legal consequences that may arise from his so doing. Apart from this, the Council is strongly against any relaxation of the immemorial tradition of the profession that the confidence of a patient must be regarded as sacred. Any relaxation of the kind, whether in respect of venereal disease or any other disease, must tend to deter the public from consulting medical practitioners in cases where it is necessary, in the interests of the community as well as of the individual, that they should do so.

94. The Council is of opinion that it would be advisable that the Representative Body should repeat the opinion expressed by it in 1915 :—

> **Recommendation.** — That the Representative Body express the opinion :
>
> That having considered the question of professional secrecy, more particularly with regard to venereal disease, the Representative Body reiterates the opinion that a medical practitioner should not, under any circumstances, disclose, voluntarily, without the patient's consent, information which he has obtained from that patient in the exercise of his professional duties.

The Profession and its Attitude in Relation to Secret Remedies.

95. The Council has recently had reported to it the circumstances concerning a Patent Medicine, the composition of which was not disclosed. Investigation showed that the remedy had been tried and recommended by a large number of registered medical practitioners. It would appear, therefore, that the profession does not generally appreciate the principle that it should not prescribe or use remedies the composition of which is not known to them.

96. It is well to remember that a Select Committee of the House of Commons went carefully into this question in 1914, and, guided largely by the Association's evidence, and on the strength of the Association's two books "Secret Remedies" and "More Secret Remedies," made recommendations including *inter alia* (i) the compilation of a register of manufacturers of secret and proprietary remedies, every such person to file an exact and complete statement of the ingredients of these

remedies with the Department which is to be set up to control the traffic; (ii) the institution of a Special Court or Commission with power to permit or prohibit, in the public interest, the sale and advertisement of any patent, secret, or proprietary remedy; (iii) the empowering of a Department to require the name and proportion of any poisonous or potent drug forming an ingredient of any remedy, to be exhibited on the label and the advertisement; (iv) the prohibition of sale (except the sale by a doctor's order) of medicines purporting to cure certain diseases.

97. The Representative Body decided in 1915 that the Association should endeavour to get legislation introduced which would embody the recommendations of the Select Committee on Patent Medicines, and the Medical Committee of the House of Commons has already been asked for its assistance to this end. It is believed that the Ministry of Health will shortly introduce a Bill on this subject, and the Association will naturally take a prominent part in the campaign that will undoubtedly follow. The Council is of the opinion, therefore, that the attitude of the organised profession on this subject should be stated quite definitely, and made public.

The Council recommends:—

Recommendation.—That the Representative Body express the opinion:

That a registered medical practitioner should not make use of, or recommend, any remedy of the composition of which he is not aware.

REVISED ETHICAL RULES.

98. There is still a number of Divisions and Branches which have not adopted the Revised Ethical Rules, as approved by the Representative Body 1919. The Council desires to remind those Divisions and Branches which have not yet done so that, so far as ethical matters are concerned, they are quite helpless. They will not be able to make use of the "Important Notice" in the *Journal* if need should arise locally, they will be unable to deal with any ethical dispute which may arise locally, for the settlement of which members would naturally turn to the Division; and by not placing themselves in the same position as other Branches and Divisions as regards Rules, they create a breach in the solidarity of the Association which is to be deprecated. The Council urges those Divisions and Branches which have not yet adopted the Revised Rules, to do so as soon as possible.

POWERS OF DIVISIONS AND BRANCHES IN RELATION TO MEDICAL APPOINTMENTS.

99. The Council, in consultation with the Solicitor, has prepared and is issuing a Memorandum of Instruction to Divisions and Branches, as to the powers exercisable by them in relation to medical appointments, and the procedure to be adopted in connection with the insertion of an "Important Notice" in the *Journal*.

Ministry of Health.

APPOINTMENT OF COMMITTEE.

100. The Council reappointed a Ministry of Health Committee for the purpose of considering and reporting from time to time what should be recommended to the Minister of Health as being the ideal system of medical and allied services which would receive the support of the profession and towards which the Government should work. Subsequently all members of the Association who were members of the Medical Consultative Council of the Ministry of Health and not already members of the Committee, were invited to become members thereof. With one or two exceptions where pressure of other work prevented acceptance of office on the Committee, the invitation was accepted, and it is believed that the free exchange of opinion which has taken place has been very useful in the elucidation of the difficulties which present themselves in any discussion of the reconstruction of the health service of the country.

MEDICAL CONSULTATIVE COUNCIL.

101. Dr. Addison on July 7th asked the Association to nominate ten persons who would be specially suitable if appointed by him to serve upon the Medical and Allied Services Consultative Council of the Ministry of Health. The Council had, in anticipation of some such request as this, previously selected thirty names which were approved by the Council at its meeting on June 25th, 1919. It therefore became necessary to cut down the thirty to ten, and accordingly the names of the following ten practitioners were forwarded to the Minister of Health as those selected by the Association for appointment upon the first Medical Consultative Council under the Ministry of Health:—Dr. T. Ridley Bailey (Bilston, Staffs.), Dr. H. B. Brackenbury (Stroud Green), Dr. C. Buttar (Kensington), Major-General Sir Bertrand Dawson, G.C.V.O., C.B., R.A.M.C., T. F. (Marylebone), Dr. C. E. S. Flemming (Bradford-on-Avon), Dr. T. W. H. Garstang (late Altrincham), Dr. G. E. Haslip (Westminster), Dr. J. A. Macdonald, LL.D. (Taunton), Mr. E. B. Turner (Kensington), Sir T. Jenner Verrall, LL.D. (Bath).

102. At a later date the Chairman of Council decided that for the information of the Minister the whole of the 30 names originally selected should be sent in, accompanied by a full statement of the qualifications which led the Association to submit the names, and this was done.

103. The following is the list of the members of the Council of Medical and Allied Services which will deal with the extension of medical, nursing and midwifery work:—Lord Dawson of Penn (Chairman), Col. C. J. Bond (Leicester), (Vice-Chairman), Mr. Norman G. Bennett, L.D.S., Eng. (British Dental Association), Professor R. A. Bolam (Newcastle-on-Tyne), Dr. Victor Bonney (Chelsea Hospital for Women), Professor T. E. Hill (Durham), Professor F. Gowland Hopkins (Cambridge, Official Analyst to the Home Office), Miss M. H. F. Ivens (Liverpool), Dr. Janet E. Lane-Claypon (King's College for Women, London), Dr. A. Linnell, (Northamptonshire), Dr. H. G. Dain (Birmingham), Dr. A. Fulton (Nottingham), Sir William S. Glyn-Jones (Secretary, Pharmaceutical Society), Dr. T. A. Goodfellow (Manchester), Dr. G. E. Haslip (Treasurer, British Medical Association), Dr. J. A. Macdonald (Taunton), Mr. E. W. Morris (Secretary, London Hospital), Dr. John Robertson (Birmingham), Dr. T. W. Shore (St. Bartholomew's Hospital), Professor Sir William Tilden, F.R.S.

Fifteen of the above are Members of the Association.

104. A communication was received from the Minister of Health dated 6th October, expressing his appreciation of the readiness with which the Association assisted him in the exercise of his responsibility for the appointments, and stating that the statements with which the Association had been so good as to furnish him had not only been of considerable value in enabling him to determine the original membership of the Council, but would also, he anticipated, be of service in the application of the provisions of Article 3 of the Order which relate to the periodical variation of the composition of the Councils, and of the provisions of Article 9, which enable Committees of a Council, including persons who are not members of the Council, to be appointed for the consideration of matters in relation to which it may prove requisite to supplement the special knowledge and experience possessed by the members of a Council themselves.

NATURE OF MEDICAL PROVISION TO BE MADE BY THE STATE.

105. The Committee has given considerable time and attention to the consideration of the question of the nature of the medical provision which should be made for the community or parts of it, and has had the benefit of the advice of various members of the teaching staffs of voluntary hospitals who attended one of its meetings to assist in the discussion of this subject. The President of the Royal College of Physicians, London, and the President of the Royal College of Surgeons, England, kindly assisted by inviting the attendance of certain hospital physicians and surgeons. It is not expedient to state the decisions of the Committee thus far arrived at, which of necessity are only of a provisional nature, and which will have to be considered in the light of the Interim Report of the Medical Consultative Council which is expected to be issued shortly; but it is hoped that a complete memorandum on this subject will be available for early issue to the Divisions.

Medico-Political.

TREATMENT OF SCHOOL CHILDREN AND MATERNITY AND CHILD WELFARE CENTRE FEES.

106. Arising out of consideration of the following Minute of the Annual Representative Meeting, 1919, and of requests from Divisions that certain fees should be fixed centrally, the Council is of opinion that the time has now arrived when the fees for the treatment of school children should be fixed centrally and not locally as decided by the A.R.M., 1915.

Minute 93.—Resolved: That in view of the fact that the purchasing power of the sovereign has been reduced, and is not likely in the near future to be greatly increased, it be an instruction to the Council to reconsider the salaries and fees approved of from time to time by the Representative Body for medical services, and to take all possible steps to have these adjusted proportionately.

The Council recommends:

Recommendation.—That the following fees for the treatment of school children be approved:—

(i) For treatment of minor ailments, two guineas per session of not more than 2½ hours;

(ii) For private practitioners doing ophthalmic work involving refractions, 10s. 6d. per case, or where cases are seen at clinics, three guineas per session not exceeding 2½ hours, in which not more than eight new cases shall be seen;

(iii) That a fee of not less than one-and-a-half guineas per case (including anaesthetist's fee) be paid for adenoid and tonsils operations, involving a general anaesthetic;

(iv) That the fee for other operations on eye, nose, ear and throat cases should be specially arranged for at a higher remuneration;

(v) That the fee for X-ray treatment for ringworm be three guineas per completed case where the practitioner provides his own apparatus, but where the apparatus is provided by the Local Authority, the fee to the practitioner should be two guineas;

(vi) That the foregoing fees (i-v) be exclusive of any fee paid to institutions for maintenance, etc., of patients.

(vii.) That any local variation in the above terms, before being adopted, be submitted to the Council for approval.

CONTRACT RATES FOR UNINSURED PERSONS.

107. In view of the increase to 11s. per annum of the capitation fee payable to medical practitioners under the National Health Insurance Acts and the raising of the income tax limit for non-manual workers insured under the National Insurance Acts to £250, the Council is of opinion that the Representative Body should amend its Minute 141 of 1913.

The Council recommends:

Recommendation.—That Minute 141 of the Annual Representative Meeting, 1913, with regard to the fees for attendance on uninsured persons be amended by (i) the deletion of the words "that is 9s. per annum including medicines" at the end of paragraph (1) (b), and (ii) the substitution of £250 for £104 in paragraph I. (c), so that the resolution would then read as follows:—

That the Representative Body adopt the following principles as essential to the formation of any schemes for the provision of medical attendance and treatment of uninsured persons:—

(1) That, in general in considering the necessity for obtaining the approval of the Council for schemes for the treatment of uninsured persons upon contract terms, the following principles and conditions must be adhered to:—

(a) Free choice of doctor by patient and of patient by doctor;

(b) Remuneration to be not less than that which is deemed by the Council to be equivalent to that paid in respect of insured persons;

(c) Persons with a total income from all sources of £250 per annum or upwards, or the dependents of any such person, not to be treated under contract terms at all.

(2) That the Representative Body realises that the conditions in certain areas will not allow of the above terms being obtained, and that in these circumstances, the approval of the Council may be given provisionally to a scheme involving a less payment when the local profession can show that the economic conditions in the area demand it.

(3) That one of the conditions necessary for the approval of schemes containing lower rates of payment shall be the inclusion amongst the rules, in a prominent position, of a statement that approval by the Association has been given to the rates only because of special economic conditions.

MINIMUM SALARIES FOR PUBLIC APPOINTMENTS.

108. In view of the depreciation in the value of money, which has led to the revision of salaries and wages in every branch of life, the Council feels that the time has come for the revision of the various minimum salaries laid down from time to time by the Representative Body. These salaries are for whole and part-time officers employed by public authorities, and their reconsideration has been undertaken in co-operation with the Society of Medical Officers of Health. The result is the scale which appears below, and which demands very serious consideration by the Divisions and Representative Body.

109. The new scale is a great advance on the old minimum salaries approved by the Representative Body and on the salaries at present paid by most local authorities, but if carefully examined in the light of present-day conditions and compared with the salaries of other professional men employed by those authorities, such as lawyers, engineers, and surveyors, it will be found that they are not more than the doctors holding these positions have a right to expect if they are to maintain their professional position and bring up their families properly. Nor are the increases as great, proportionally, as have been given to some other municipal servants.

110. If this scale is approved by the Representative Body the Council proposes to ask a Joint Committee of the Association and the Society of Medical Officers of Health to take charge of the case for improvement in the salaries of medical officers in the Public Health services and to report to the parent associations as to any steps that may be necessary to this end.

The Council recommends:

Recommendation.—That the following scales of minimum salaries for whole-time Medical Officers shall include all emoluments attaching to the office and represent the value of the whole-time services of Medical Officers in the various classes indicated.

Recommendation.—That the following scales of minimum salaries are nett, any expenses necessitated by the duties being provided in addition.

Class I.—*Whole-time Medical Officers of Health.*

Recommendation.—That the minimum salary to be paid to any whole-time Medical Officer of Health be as laid down in the following scale:—

Population of Administrative Area.	Minimum Salaries.	
Up to 50,000 ...	£800, rising to £1,000 within a period of not more than 5 years	With, in addition, Bonus according to the Civil Service Award in force for the time being.
50,001 to 100,000	£1,000, rising to £1,200 within a period of not more than 5 years	
100,001 to 200,000	£1,200, rising to £1,500 within a period of not more than 5 years	
200,001 to 500,000	£1,500, rising to £1,800 within a period of not more than 5 years	
Over 500,000 ...	£1,800	

Class II.—*Whole-time Assistant Medical Officers of Health.*

Recommendation.—That the following definition be adopted:—

Definition.—An Assistant Medical Officer of Health is a Medical Officer duly appointed as Assistant Medical Officer of Health by the Local Authority to assist the Medical Officer of Health in the general administration of the Health Department and the carrying out of the various Acts, By-laws, Orders, Rules, Regulations, etc., required to be or usually administered by the Medical Officer of Health; the title Assistant Medical Officer of Health to be limited to Medical Officers carrying out these general duties.

Recommendation.—That the minimum salaries of Assistant Medical Officers of Health be not less than £700, rising to £900 per annum within a period of not more than 8 years, with, in addition, a bonus according to the Civil Service Award in force for the time being.

Class III.—*Whole-time Senior Medical Officers in Charge of Departments.*

Recommendation.—That the following definition be adopted:—

Definition.—Senior Medical Officers in charge of Departments are Medical Officers directly responsible to the Medical Officer of Health or otherwise and having under their control one or more Medical Officers.

Recommendation.—That the minimum salaries of Senior Medical Officers in charge of:—

Port Sanitation,
School Medical Departments,
Tuberculosis Departments,
Mental Deficiency Departments,
Maternity and Child Welfare Departments,
Venereal Diseases Departments, or any other similar Department or combination of Departments,

be not less than £700, rising to £900 per annum within a period of not more than 8 years, with, in addition, a bonus according to the Civil Service Award in force for the time being.

Class IV.—*Whole-time Medical Officers employed in Departments.*

Recommendation.—That the following definition be adopted:—

Definition.—Medical Officers employed in Departments are Medical Officers without responsibility for the work of other Medical Officers.

Recommendation.—That the minimum salaries of Medical Officers employed in:—

Port Sanitation,
School Medical Departments,
Tuberculosis Departments,
Mental Deficiency Departments,
Maternity and Child Welfare Departments,
Venereal Diseases Departments, or any other similar Department or combination of Departments,

be not less than £500, rising to £750 per annum within a period of not more than 10 years, with, in addition, a bonus according to the Civil Service Award in force for the time being.

Class V.—*Whole-time Medical Officers in Hospitals and Sanatoria.*

(a) *Whole-time Medical Superintendent.*

Recommendation.—That the following definition be adopted:—

Definition.—A Medical Superintendent is a Medical Officer directly responsible to the Medical Officer of Health or otherwise and having under his control one or more Medical Officers.

Recommendation.—That the minimum salary be paid to any whole-time Medical Superintendent in charge of a Hospital or Sanatorium be as laid down in the following scale:—

No of Beds.	Minimum Salaries per anuum.	
Up to 250	£700, rising to £900 within a period of not more than 8 years.	With, in addition, Bonus according to the Civil Service Award in force for the time being.
251 to 500	£900, rising to £1,100 within a period of not more than 8 years.	
Over 500	£1,200.	

(b) *Whole-time Medical Officer.*

Recommendation.—That the following definition be adopted:—

Definition.—A Medical Officer employed in a Hospital or Sanatorium is a Medical Officer without responsibility for the work of other Medical Officers.

Recommendation.—That the minimum salary to be paid to any whole-time Medical Officer employed in a Hospital or Sanatorium of a Local Authority be £350 per annum, with, in addition, bonus according to the Civil Service Award in force for the time being.

Recommendation.—That where a number of Medical Officers are employed in a Hospital or Sanatorium, seniority be differentiated between any two successive medical officers by a salary difference of not less than £50 per annum, with, in addition, bonus according to the Civil Service Award in force for the time being.

Part-time Medical Officers.

Recommendation.—That part-time Medical Officers of Health be paid at the rate of £4 4s. per day according to the time devoted to their duties.

Recommendation.—That the remuneration of part-time Specialist or Consulting Officers be not less than £3 3s. per session not exceeding 2½ hours.

Recommendation.—That the scale of remuneration for part-time senior Medical Officers of Clinics set up under schemes for the diagnosis and treatment of Venereal Diseases be the same as that laid down for part-time Specialist Officers

Recommendation.—That the remuneration of all other part-time Medical Officers be not less than £2 2s. per session not exceeding 2½ hours.

General.

Recommendation.—That population means population at the latest Annual Report of the Registrar-General.

Recommendation.—That the number of beds be the number of beds for patients provided in the Hospital or Sanatorium.

Recommendation.—That no Medical Superintendent be rendered ineligible by reason of marriage and that sufficient room accommodation be provided.

Recommendation.—That existing Officers be placed according to the foregoing scales of Minimum Salaries as follows; (1) In the case of part-time appointments, the scale should be immediately applied in its entirety; (2) In the case of whole-time appointments the holder should immediately receive an increase of salary, and further increases should be arranged so as to place him in his appropriate place on the scale within a period of not more than three years.

Recommendation.—That no existing Officer be prejudicially affected by the operation of the foregoing scales of minimum salaries.

Recommendation.—That a conjoint Committee of the British Medical Association and the Society of Medical Officers of Health be formed to take charge of the case for improvement in the salaries of Medical Officers in the Public Health Services and to report to the Councils of the British Medical Association and of the Society of Medical Officers of Health as to any steps that may be necessary to this end.

FEES FOR MEDICAL EXAMINATIONS FOR LIFE INSURANCE.

111. The Annual Representative Meeting, 1919 (Minute 180), directed the Council to consider and report on the question of fees for medical examinations for life insurance, a subject which has engaged the attention of the Association on many occasions during the past eighteen years and on which it has always been found impossible to obtain anything like agreement on a policy. The Medico-Political Committee has on this occasion fully discussed the matter with the Life Offices Association, a body representative of all British Life Insurance Companies. The agreed report of that discussion appeared in the B.M.J. Supplement, March 27th, 1920, and the Divisions have been asked to forward their opinions on it, in order that, if necessary, the subject may be dealt with in the Supplementary Report.

Industrial Offices.

Recommendation.—That the fee for medical examination for industrial insurance be 5s. (minimum) or 10s. 6d., according to the form of report asked for.

Intermediate Offices.

Recommendation.—That as regards Intermediate Offices, that is, the ordinary branch of industrial offices and ordinary offices which issue policies whose average amount is small (for example, ordinary branch of Prudential and the Provident Mutual Life), the minimum fee for medical examination be 10s. 6d. for policies up to and including £100, and 21s. if over £100.

Ordinary Offices.

Recommendation.—That as regards Ordinary Offices the fee for medical examination be 21s., whatever the amount of the policy.

"Thrift" Policies.

Recommendation.—That the fee for a medical certificate (without medical examination) for children proposed for "thrift policies" remain at 10s. 6d.

Existing Fees Not to be Reduced.

Recommendation.—That in no case shall any reduction be made in any existing fee for medical examination for life insurance.

Forms of Report.

Recommendation.—That no attempt be made to standardize the guinea form of report, as there are only slight differences between the forms already in use in most British offices.

Modification of Objectionable Forms.

Recommendation.—That representations be made to the Life Offices Special Committee as to the modification of those forms which are objectionable from the medical examiners' point of view.

112. The above proposals represent the following considerable improvements on the present position:—

(*a*) About 35 companies will pay a guinea for insurances of £100 which previously only paid 10s. 6d. Of these companies, 20 are still paying 10s. 6d. where the sum assured is under £300, and 7 pay 10s. 6d. where the sum is under £500.

(*b*) There will be no reduction in any of the existing fees, and some of the intermediate fees will be levelled up—that is to say, a 3s. fee would go up to 5s., and a 7s. 6d. fee would go up to 10s. 6d.

(*c*) The 2s. 6d. fee for small industrial insurances disappears altogether, and is replaced by a 5s. fee.

113. The Council has made strong representations in favour of a general increase on all the pre-war fees and suggested a 50 per cent. increase on the guinea fee, but this the life assurance offices have absolutely refused to grant. They consider that they have made a great concession by the raising of the 10s. 6d. fee to a guinea, and they state that they will strenuously resist any attempt on the part of the profession to obtain a fee higher than a guinea for what they call a normal examination. They will in the future, as in the past, continue to pay higher fees for exceptional cases.

Diagnosis of Infectious Diseases.

114. Arising out of consideration of Minute 185 of the A.R.M. 1919, the Council recommends:

Recommendation.—That the suggestion in item 72 of the Agenda of the A.R.M., 1919, contained in the following Minute 185 of A.R.M., 1919, is not desirable:—

Minute 185.—Resolved: That the following items 71-75 of the Agenda be referred to the Council for consideration and action:—

72. Rider by Newcastle-upon-Tyne: That a fee of 2s. 6d. be paid for any specimens sent to bacteriological laboratories for diagnosis of suspected infectious disease, the above fee to include postage expenses.

Direct Representatives on the General Medical Council.

115. The Council is pleased to report that the candidates selected by the Representative Body, namely, Prof. R. A. Bolam, O.B.E., (Newcastle-on-Tyne), Dr. J. A. Macdonald, LL.D., (Taunton), Mr. E. B. Turner, F.R.C.S., (London), and Sir Jenner Verrall, LL.D. (Bath), were elected as Direct Representatives on the General Medical Council. The Council, however, is not at all satisfied with the amount of interest taken in the election and with the want of appreciation shown by many members of the Association of the fact that the candidates were chosen by the Association and had a right to expect that the machinery of the Association would be used vigorously so as to secure a result creditable both to the Association and to the candidates. The Council has determined that in the next election the campaign of the Association shall be based more upon the methods by which Parliamentary elections are conducted, namely, the appeal to the individual voter; that more use should be made of meetings of electors to be addressed by the Association's candidates, and that more time should be taken over the campaign. At an appropriate time the new plan of campaign will be placed before the Representative Body.

Increase of Private Fees.

116. Arising out of consideration of item 64 of the Agenda of the A.R.M., 1919, contained in the following Minute of the Annual Representative Meeting, 1919:—

Minute 180.—Resolved: That the following items 62-69 of the Agenda be referred to the Council for consideration and report:—

64. Rider by Sheffield and Rotherham, in connection with para. 102 of the Annual Report of Council (*B.M.J.* Supplement, May 3rd, 1919, p. 77): That owing to the increased cost of living and increased practice expenses this Meeting recommends that fees for medical attendance should be raised by a minimum of 50% (fifty per cent.) on the pre-war standard and that the Divisions be notified to this effect.

the Council reports that in a circular dated November, 12th, 1919, it recommended the Divisions to urge the practitioners in their areas to increase their pre-war fees by at least 50 per cent. and it has reason to believe that this has been done in most areas. Opportunity was taken by the Head Office to promulgate the policy of the Association in the lay press, with very good results.

Part-time Prison Medical Officers.

117. Representations have been made to the Home Secretary as to certain defects in the part-time Prison Medical Service. Officers in that Service have had no war bonus or improvement in their conditions and there is naturally great dissatisfaction among them. The Home Secretary was asked to receive a deputation, but declined to do so and asked for a statement of the grievances. A memorandum was accordingly sent containing the following suggestions for improvement: (a) that one guinea should be allowed for all reports as to the physical and mental condition of prisoners; (b) that a fee of two guineas should be paid for confinements in prison; (c) that there should be increase in pay, or at any rate a war bonus; (d) that provision should be made for someone to carry on the work during the annual holiday; and (e) that part-time Prison Medical Officers should have security of tenure. Several reminders have at last elicited the reply that the Home Secretary is in communication with the Treasury with reference to certain proposals regarding the remuneration of this Service and that he is not yet in a position to make a statement. The matter will not be allowed to rest.

Remuneration of Doctors Acting on Pensions Boards.

118. Representations were made to the Ministry of Pensions (pursuant to Minute 147 of the Annual Representative Meeting, 1919), that the payment of doctors acting on Pensions Boards should be two guineas instead of one guinea per session, and a deputation saw the Minister on 4th September, 1919, as reported in the *B.M.J.* Supplement of 13th September, 1919. The Minister decided to increase the fee to 1½ guineas per session, with an additional fee of 5/3 per session to the practitioners acting as Chairmen of the Boards, but declined to seek authority for an increase in the fees payable to specialists. The Minister was thanked for the substantial advance in the fee to be paid to members of Pensions Boards, though it did not reach the figure which the representatives of the Association were instructed to ask for, and he was informed that the Association regretted the decision as regards the fees payable to specialists. The question of the fees to specialists has recently again been taken up and it is understood that the question of raising these fees is now under consideration.

Fees to Medical Assessors to Ministry of Pensions.

119. As a result of representations made by the Association to the Ministry of Pensions the fee per session for Medical Assessors to that Ministry has been increased by 25 per cent. The Ministry justified the smaller increase (as compared with that given to the Pensions Boards) on the ground that assessors are virtually whole-time officers. The Sessional Medical Assessors have thanked the Association for the help given to them.

Fees for Medical Practitioners called in by Midwives.

120. The Ministry of Health issued the following circular to Medical Officers of Health and to the Association for comments:—

"1. It has been represented to the Minister of Health that the scale of fees prescribed by the Local Government Board under Section 14 of the Midwives Act, 1918, for payments by local supervising authorities to doctors called in by midwives needs amendment in certain respects.

2. The present scale is as follows:

	£	s.	d.
(1) Attendance at confinement requiring operative assistance and subsequent necessary visits during the first 10 days	2	2	0
(2) Attendance at confinement without operative assistance and subsequent necessary visits during the first 10 days	1	1	0
(3) Assistance for the administration of an anæsthetic	1	1	0
(4) Any visit not covered by (1), (2) and (3), including any necessary prescription:—			
Day (8 a.m. to 8 p.m.)	0	3	6
Night (8 p.m. to 8 a.m.)	0	7	6

with the addition of the mileage fee usual in the district.

3. The chief representations are (1) that it is undesirable to distinguish between operative and other confinements; (2) that a special fee should be prescribed for certain operations usually performed after the birth of the child for which the fees under (4) do not afford a sufficient remuneration, and (3) that in view of the rise in prices the fee for visits should be increased.

4. These points would be met by altering the scale to the following:—

	£	s.	d.
(1) Fee for all attendances at parturition (*i.e.* from the commencement of labour until the midwife leaves), whether operative interference or not is involved, including all subsequent vists during the period of confinement	2	2	0
(2) Fee for attendance of a second doctor to give an anæsthetic, whether at parturition or subsequently	1	1	0
(3) Fee for operative interference after parturition, *i.e.*, suturing the perineum ...	1	1	0
(4) Fee for visits to mother or child not included in 1—3.			
By day	0	5	0
By night	0	10	0

The usual mileage fee of the district to be paid for all attendances under this scale.

5. Before proceeding to prescribe a fresh scale, however, the Minister would be glad to avail himself of the advice of Medical Officers of Health of local supervising authorities, who have now had a year's experience of the operation of the scale. I should be much obliged, therefore, if you would kindly furnish me with your observations on the scale proposed in para. 4, and at the same time with notes of any difficulties which have arisen in practice which are not met by this scale.

6. Any statistics which you are able to send for the year 1919 on the following points will also be useful:—

(1) Number of cases in which a midwife has called in a doctor and total number of cases attended by midwives.

(2) Causes for which a doctor has been called in in each case.

(3) Number of cases in which the local supervising authority has recovered (a) the whole and (b) a part of the doctor's fee."

121. The following opinions were sent to the Ministry with a request that the Association would be glad to wait upon the Ministry by deputation in order to discuss the subject:—

(1) That the period of confinement should be considered to be ten days.

(2) That in para. 4 (1) the fee of £2 2s. is inadequate and should be £3 3s. to include the fee for suturing the perineum if the doctor has been called in during the labour.

(3) The visits for complications which extend beyond ten days but which have arisen during the ten days and out of confinement should continue to be paid for at the rates set out in paragraph 4 (4) and that the person responsible for paying those visits and attending the mother should be the doctor called in during the ten days on the advice of the midwife; but that if there has been no doctor during the ten days and the patient calls in her insurance practitioner, that practitioner should be responsible.

(4) If the patient is not an insured person, the patient should be responsible for the fees of the practitioner called in where the complication arises after ten days, and a doctor is called in and not the midwife; and that it be pointed out to the Ministry that there is apparently no State provision for this emergency.

(5) That the times inserted in paragraph 4 (4) should be:—

	s.	d.
By day (9 a.m. to 8 p.m.) ...	5	0
By night (8 p.m. to 9 a.m.) ...	10	0

(6) That in all cases it is desirable, where possible, that the fees should be paid directly by the patient to the doctor.

(7) That the fee for attendance at confinement should involve full medical responsibility for any attendance that may be necessary during ten days of the puerperium and that attendance at confinement should be interpreted to include cases where this begins for an immediately post-partum emergency.

The Council hopes that the deputation will be received in time for it to be reported upon in the Supplementary Report.

Fees for Examination of Recruits for Territorial Force.

122. A considerable amount of correspondence has been received dealing with the question of the fee of 2s. offered for the examination of recruits for the Territorial Force. The Council has made representations to the Territorial Force Associations with a view to the fee for this examination being increased to 2s. 6d. per examination.

Fees for Medical Witnesses.

123. The Council has made representations that the fee for medical witnesses giving evidence in the Assizes, County Court and Petty Sessions, should be two guineas; that, where applicable, there should be an additional qualifying fee of £1 1s.; that medical witnesses should not be required to attend the opening of the Assizes but should, if possible, be given twenty-four hours' notice of the actual time when they would be required to give evidence. The fees for giving evidence in the High Courts are still under consideration.

Scale of Doctors' Fees in Whitaker's Almanac.

124. The Council has considered the scale of doctors' fees which is published in Whitaker's Almanac, and is apparently often quoted as authoritative and has asked the publishers to amend that scale in accordance with the general increase in fees that has taken place

Workmen's Compensation Act.

125. Evidence was given by representatives of the Association before the Departmental Committee on the Workmen's Compensation Act on 22nd January, 1920. (See Appendix IV.) Arising out of the evidence given, the Departmental Committee asked for the opinion of the Association on the following matters:—

(1) Who should be responsible for the provision of specialist and institutional services for workmen under the Workmen's Compensation Act? Should the services be provided by the employer, by the Insurance Company, or by the State acting as agent for one or other?

(2) In what manner should the treatment of workers who are not entitled to medical treatment under the National Health Insurance Acts be provided?

In connection with the first question, the Council informed the Departmental Committee that it was of opinion that specialist services (that is those services which are outside the scope of ordinary competence and skill of a general practitioner) and further institutional treatment, should be provided for by the employer contracting through the State.

126. The reasons which influenced the Council in arriving at this decision, were as follows:—

(a) The provision of these extra services might be possible for a large employer of labour, but small employers would find it impossible unless by means of combination. It seems, therefore, to be more practicable for the State to set up some scheme whereby large and small employers alike could avail themselves of the opportunity of providing such services by contracting for these with the State.

(b) The provision of these extra services by the employer acting through an insurance company was not considered advisable, as the introduction of a party which must of necessity benefit financially by such provision cannot be in the interest of the employee.

(c) The State has already, through the Ministry of Pensions, set up a satisfactory scheme whereby such extra services and institutional treatment are provided in connection with the treatment of disabled soldiers and sailors.

127. The Council decided to take no action with regard to the second question asked by the Departmental Committee on the Workmen's Compensation Act. The subject is a complex one depending very largely on the proposals that may be made for reorganising the medical service of the country. It is felt that the question can best be discussed in connection with these proposals.

Fees Paid by Seamen's National Insurance Society.

128. In response to repeated requests to raise their scale of fees in accordance with the general increase of private practitioners' charges, the Seamen's National Insurance Society agreed that all doctors attending its members should be paid a bonus, taking the form of an additional 20 per cent. on the total of their quarterly bills as from January 1st, 1919. The Society was informed that this was accepted under protest and without prejudice, but that a further addition for 1920 would need to be considered when the fee payable to practitioners under the National Health Insurance Acts as from April 1st, 1920, was settled. An offer has since been received of a 50 per cent. increase on the scale of fees, and this is now under consideration.

FEE FOR NOTIFICATION OF INFECTIOUS DISEASES.

129. The Ministry of Health in its circular No. 37 (dated 20th December, 1919) stated that the fee for notification of infectious diseases would revert to 2s. 6d. at the date of the termination of the war as fixed by Order in Council. The issue of that Order depends on many political considerations, some of an international nature, and no indication has yet been received when it is likely to be issued.

MOTOR CAR TAXATION.—MOTOR SPIRIT.

130. The Council is awaiting the issue of the proposals of the Government with reference to alterations in the method of motor car taxation, and will take whatever action seems to be necessary in the interests of the profession.

131. After consideration of the following rider by Cleveland Division, referred by the A.R.M. 1919 for consideration and action, the Council has found itself unable to take any action in the matter :—

> 74. Rider by Cleveland : That the Association take immediate steps to ensure that medical practitioners be able to obtain motor spirit at commercial rates.

STATE REGISTRATION OF NURSES.

132. The Council is glad to report that after many years of hard work a Bill for the State Registration of Trained Nurses has been placed on the Statute Book. The Bill promoted by the Central Committee for the State Registration of Nurses reached the Committee stage, but at this point Dr. Addison, in the hope of eliminating all opposition, took charge of the case and brought in an agreed Bill on behalf of the Government. The Council views with great satisfaction the successful issue of the prolonged labours of the Central Committee on which the Association has been represented since its inauguration. The Central Committee has passed a very cordial resolution thanking the Association for its assistance. In response to a request from the Minister of Health, the following names were submitted for consideration for appointment to the General Nursing Council set up under the Act :—Mr. G. H. A. Comyns Berkeley, Dr. E. J. Domville, O.B.E., Dr. E. W. Goodall, O.B.E., and Sir Jenner Verrall, LL.D.

POSTAL MEDICAL OFFICERS.

133. Consequent on representations made by members who are Postal Medical Officers that insufficient recognition of the altered value of money has been made to members of the Service, the Postmaster-General was asked to receive a deputation on the subject. He declined and said he was in communication with the Association of Postal Medical Officers. That body was approached with a view to co-operation, but received the offer of the Association in such a manner as to preclude any further attempts of the kind. This is not the first time that offers of the Association to co-operate with that body in assisting those whose interests it is supposed to protect have been declined. It has been found difficult to ascertain how far that body really represents Postal Medical Officers, but it is believed that it only represents a comparatively small number—less than does the British Medical Association. Steps have now been taken to ascertain the number of Postal Medical Officers who are members of this Association, and it is intended, if the response by these members warrants it, to approach the Postmaster-General again, pointing out the right of the Association to speak for its members.

134. The capitation fee for Postal Medical Officers has been increased by three instalments from 8s. 6d. per annum to 13s. (including drugs); thus the constant pressure of the Association has apparently, at last, produced the effect desired. The long standing grievance as to "itinerants" is also reported as being under consideration.

DOCTORS' MOTOR CARS.

135. The difficulty of obtaining motor cars has been felt with particular severity by the medical profession, and especially by those members who had disposed of their cars on going on Military service or during their service, and who found themselves on their return unable to do their work with efficiency and comfort. An attempt was made therefore to secure for members of the Association priority of delivery by the manufacturers many of whom were very helpful. The following firms deserve mention for this courtesy :—

> Messrs. Ford Motor Co., Austin Motor Co., G.W.K., Ltd., Beardmore Motor Co., Morris Motors, Ltd., and G.N. Co.

The Ford Motor Company (England), Ltd., merit special mention in connection with this matter. They were most prompt and courteous and only withdrew the privilege of priority after a period of six months and when they found that they were inundated with orders from all sources. It was then decided, owing to the growing reluctance of all manufacturers to grant or continue this concession, to discontinue this work.

DEATH CERTIFICATION AND REGISTRATION, CORONERS' LAW AND SALE OF PROPRIETARY MEDICINES.

136. Since 1909, the Association has been working at the questions of reform of the law of Death Certification, of Coroners' Law, and of the sale of Proprietary Medicines. On the first two questions, the Association gave evidence before the Departmental Committee on Coroners' Law in 1909. That body reported in favour of certain reforms which did not go far enough for the Association, and the Representative Body in 1910 instructed further action to be taken. A Bill was introduced, but it was considered to be quite inadequate and was opposed by the Association, and was ultimately withdrawn. In spite of repeated efforts to secure further legislation nothing was done and then the war intervened. This session the matter has been taken up with the House of Commons Medical Committee. Two interviews have been held and that Committee has promised its help in approaching the Home Secretary and the Minister of Health. The Council hopes to be able to report further in its Supplementary Report. On the question of Proprietary Medicines the Association gave evidence before the Select Committee of the House of Commons, which reported in 1914 in a manner which was strongly appreciated by the A.R.M. of that year. The war again prevented any action being taken until this session. The House of Commons Medical Committee has cordially promised its support. Dr. Addison is believed to have a Bill in preparation and steps are being taken to place the views of the Association before him. In connection with these subjects, and with others of a similar nature, the Council wishes to express its satisfaction with the attitude of the House of Commons Medical Committee, which, under the Chairmanship of Sir Watson Cheyne, Bart., K.C.M.G., C.B., M.P., has been most helpful in medical matters involving possible legislation. Its first Secretary was Dr. A. C. Farquharson, M.P., who has been succeeded by Capt. W. E. Elliott, M.C., M.P., to both of whom the Association is indebted for many courtesies and much help.

TRAINING OF MIDWIVES.

137. On September 19th, 1919, the Board of Education issued a set of draft regulations for the training of Midwives, with most of which every member of the profession will be in entire agreement. Paragraph 3 of the memorandum, however, says :—

> Under modern conditions a midwife should be competent not only to attend confinements but to advise her clients in regard to ante-natal conditions (other than those requiring medical attention) and the care of the newly born child. It follows that in accordance with the requirements of the Central Midwives Board the curriculum should provide not only for the training of the student to follow the profession of the midwife in its narrow interpretation, but also for giving her a satisfactory knowledge of such subjects as the hygiene of pregnancy, the care and management of the infant, the best methods of encouraging breast feeding, hand feeding of infants, and some practical acquaintance with elementary hygiene, personal, domestic and general. The student should also be made familiar with the work of maternity centres, infant welfare centres, and other similar institutions.

138. The Council considered these draft regulations and the prefatory Memorandum thereto and decided :—

> (1) That while agreeing that it is desirable that midwives should be instructed in the hygiene of pregnancy, they should be given no responsibility for ante-natal conditions, for which skilled medical advice always should be sought.
>
> (2) That midwives should be instructed that in all cases of pregnancy in which they are engaged for the confinement they should advise the patient to consult a doctor before confinement, and that a suitable fee for this ante-natal examination should be included in the fees prescribed by the Ministry of Health.

These opinions were forwarded to the Ministry of Health and the Board of Education ; also to the Divisions for their consideration.

ACTION BY ASSOCIATION IN NATIONAL EMERGENCIES.

139. The Council has circulated to Divisions and Branches suggestions as to schemes for concerted action in regard to first aid treatment, etc. in the event of any national emergency that may arise.

CENTRAL EMERGENCY FUND.

140. This voluntary fund was created by the Council in 1905 to assist members of the profession in maintaining its interests against organised bodies of the community. For some time no grants have been made from it, but past experience shows how useful this fund can be in enabling individuals to face the financial difficulties that may be incurred by them when standing out for the policy recommended by the Association. The Council urges members to keep the fund well supported. An audited statement of the Fund appears among the financial statements in this report.

UNDER CONSIDERATION.

141. Question of income tax as affecting civilian medical practitioners and women practitioners employed on duties connected with the Admiralty, War Office, and Air Ministry.

142. Differences in war bonuses to male and female Assistant Medical Officers to the Metropolitan Asylums Board.

143. War Office fees for civilian medical practitioners attending soldiers.

144. Fees for Admiralty Surgeons and Agents.

National Health Insurance.

MEMBERSHIP OF INSURANCE ACTS COMMITTEE.

145. The new Constitution of the Insurance Acts Committee, adopted by the Representative Body in 1919, whereby non-members of the Association may be elected as a result of the voting by members of Local Medical and Panel Committees, has been well received by those chiefly concerned.

CONFERENCES OF REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES.

146. A Conference of Representatives of Local Medical and Panel Committees was held on July 16th, 1919, under the Chairmanship of Dr. J. A. Macdonald, when instructions were given to the Insurance Acts Committee as to the conditions of service of Insurance practitioners for 1920, and the procedure to be followed in connection with the consideration of the question of remuneration. A full report appeared in the Supplement to the *B.M.J.* of July 26th, 1919.

147. A further Conference was held on November 27th, 1919, under the Chairmanship of Dr. H. G. Dain (Birmingham), when the Committee was instructed as to the views of insurance practitioners on the question of the remuneration, etc., for 1920, and certain outstanding points in the Regulations. A report of the proceedings of this Conference appeared in the Supplement to the *B.M.J.* of December 6th, 1919.

1920 REGULATIONS.

148. The views of the July Conference were conveyed to the Ministry of Health and three interviews took place between representatives of the Insurance Acts Committee and the Ministry with respect thereto. Subsequently the draft Regulations were issued and were considered by Local Medical and Panel Committees who instructed their representatives in view of the Conference in November, 1919. After that Conference a deputation from the Committee met and discussed with representatives of the Ministry of Health on December 2nd, 1919, the views expressed by the Conference. The result of the Committee's efforts to secure amendments to the Regulations as desired by the Conference was published in M. 37, dated January 16th, 1920.

149. The outstanding difficulty remaining at the close of the negotiations on the Regulations was the unwillingness of the Ministry to accept the suggestion of the Conference that the Regulation concerning the transfer of practices on death or other vacancies should be left as before. The Ministry insisted on an alteration which was considered by many practitioners seriously to interfere with their reasonable expectation of ability to transfer panel patients to a successor in practice, but accepted a suggested alteration which modified the procedure in the case of death vacancies. This action on the part of the Ministry caused great dissatisfaction in various parts of the country, and led two or three Panel Committees to call for resignations from the doctors on the local panel. The Insurance Acts Committee intimated to Panel Committees that such individual action was to be deprecated inasmuch as the Conference accepted the Regulations as a whole though instructing the Committee to endeavour to secure alteration in some of the Regulations, of which the one in question was the chief. The Conference did not indicate that failing these alterations being secured service was to be refused. The Committee has expressed the view that by judicious local action the Panel Committees may secure in practice their main desire, that is, to preserve the reasonable expectation of transference of insured persons in the event of death or other vacancy, although this has not been secured by alteration of the Regulations. Time only can tell whether this view is correct, but all Panel Committees have accepted the situation, many of them, however, under strong protest.

REMUNERATION.

150. Following upon the discussion of this question which took place at the July, 1919, Conference of Representatives of Local Medical and Panel Committees, reasons were formulated as to why the remuneration of Insurance practitioners under the new conditions should be on a considerably higher scale than formerly, and the comments of Local Medical and Panel Committees were obtained thereon as well as their views as to what the new capitation fee should be. The figures so obtained varied from 30s. to 10s., and the Committee proceeded to discuss the remuneration question with representatives of the Ministry without mentioning any specific sum. As a result there was prepared and issued to Local Medical and Panel Committees in October, 1919, and published in *B.M.J.* Supplement of November 8th, 1919, a Memorandum (M. 22) being the case of Insurance practitioners for increased remuneration. On this followed an official reply from the Ministry (Supplement November 8th, 1919), and a rejoinder by the I.A.C. (Supplement, November 22nd, 1919).

151. These documents were discussed at the November Conference, when various instructions were given to the Insurance Acts Committee, the principal being to press for a capitation fee of 13s. 6d. In the event of the Government offer being deemed inadequate, the Committee was authorised to ask for an independent Arbitration Board to fix the capitation fee.

152. A deputation accordingly waited upon Dr. Addison on December 4th and placed before him the case of Insurance practitioners for increased remuneration. The proceedings of the deputation were reported in the *B.M.J.* of December 13th, 1919. On January 14th the Committee again met Dr. Addison, who offered on behalf of the Government a capitation fee of 11s. The whole day was spent on negotiations with the Minister upon the question. The result was stated in the letter from the Ministry dated 14th January, 1920, (M. 36), which appeared in the *B.M.J.* Supplement of January 17th, 1920. The report of the proceedings at the deputation on January 14th appeared in the *B.M.J.* Supplement of January 24th, 1920. The provisional settlement arrived at was that a capitation fee of 11s. should be paid during the period January to March, 1920, and that the question as to what should be the amount of the capitation fee under the new Regulations should be submitted to Arbitration.

153. The Arbitrators agreed upon were:—F. Gore Browne, Esq., K.C. (a Master of the Bench of the Inner Temple), Chairman: Sir Richard Vassar Smith, Bt. (President of the Council of the Institute of Bankers, Chairman of Lloyds' Bank, Ltd.), and J. C. Stamp, Esq., C.B.E., D.Sc., Fellow Royal Statistical Society (Secretary to Explosives Trades, Ltd., Member of the Royal Commission on Income Tax). They met on March 3rd. The case for insurance practitioners was stated by Drs. H. B. Brackenbury, H. G. Dain, A. Linnell and the Medical Secretary. The formal case presented by the Insurance Acts Committee (*B.M.J.* Supplement, February 25th, 1920) and observations by the Government thereon (*B.M.J.* Supplement, March 6th, 1920) were before the Board. The proceedings were fully reported in the *B.M.J.* Supplement, March 13th, 1920, and the Award, dated 5th March, was that the amount should be 11s., as offered by the Government.

APPRECIATION OF ACTION OF COMMITTEE AS REGARDS REMUNERATION.

154. The Committee has received many resolutions from Panel Committees in all parts of the country, expressing approval of the way the negotiations have been conducted so far. A few contrary opinions have been expressed, but the Committee has reason to believe that, though the amount awarded was a disappointment, the general conduct of the case by the Committee has materially strengthened the confidence of insurance practitioners in the Committee and in the Association.

1919 WAR BONUS.

155. The Committee secured for insurance practitioners a war bonus for 1920 of 30 per cent. (up to a maximum of £150) on the insurance income of those practitioners whose net professional income did not exceed £500; 20 per cent. to those whose income did not exceed £1,200; and 15 per cent. to those whose income was beyond this, with a maximum of £300 in the two last-named classes.

DISTRIBUTION OF CENTRAL POOL: MILEAGE GRANT.

156. The Distribution Committee set up to deal with the question of the distribution of the Insurance Central Pool (which included four practitioners nominated by the Insurance Acts Committee, with two additional practitioners nominated by the Insurance Acts Committee to deal with the distribution of the mileage pool), has issued its report. The Committee, after having taken into consideration all the facts, figures and circumstances brought to its notice, has decided the proportions in which the Central Pool should provisionally be distributed for 1920 amongst the Insurance areas. When the balance of the fund is ascertained, the question of its distribution will, it is expected, be referred to the Distribution Committee with instructions to review the apportionment of the provisional Fund in the light of such later figures as may be available, and to arrange the distribution of the balance so as to give effect to such modifications, if any, in the previous apportionment as may appear to be desirable. The Committee also recommended, in connection with such review, that special attention be given to temporary residents.

157. Part of this Committee's reference was also to report upon the distribution of the Central Mileage Fund for England and Wales, which, it will be remembered, has been assessed at £300,000 (as against a previous total Fund of about £34,000 for England and Wales) with a proportionate increase for Scotland. Generally speaking, no mileage would be payable in respect of attendances upon insured persons residing in urban districts with a population of over 10,000. Returns are being obtained from practitioners showing the number of insured persons on their lists at January 1st, 1920, resident from the practitioner certain varying numbers of miles, one unit being assigned to each resident for two, but not more than three miles from the doctor, two units for each resident more than three but not more than four, and so on. When this information is obtained it is expected that it will be referred to the Distribution Committee, who will utilise it in the final distribution of the whole Mileage Fund between the different areas.

JOINT MEDICAL AND PHARMACEUTICAL COMMITTEE.

158. The Committee has arranged with the Pharmaceutical Society of Great Britain at the request of that body, to set up a small Joint Committee of insurance practitioners and insurance chemists for the discussion, as and when necessary, of matters of interest to both parties.

MEDICAL RECORDS.

159. The Ministry of Health and the Scottish Board of Health have appointed an Inter-Departmental Committee to consider and advise them as to the form of Medical Record to be prescribed under the conditions of service for medical practitioners contained in the new Medical Benefit Regulations, having due regard to the clinical purposes (including the remedial value to the patient of maintaining a suitable record of his case) as well as to the administrative and the statistical purposes which such records may be adapted to serve. (For full composition of Committee, *see* p. 74, *B.M.J.* Supplement, March 13th, 1920.)

NATIONAL HEALTH INSURANCE BILL—PROCEDURE ON APPEAL.

160. As a result of the following Minute 104 (a) of the November Conference of Local Medical and Panel Committees:—

> 104 (a).—Resolved: That any person aggrieved by the removal of his name from the list may, within three months after the date on which notice is given to him by the Minister that his name has been so removed, appeal to the High Court, and on any such appeal the High Court may give such directions in the matter as it thinks proper, including directions as to the costs of the appeal, and the order of the High Court shall be final and conclusive and not subject to an appeal to any other court,

an amendment to the National Insurance Bill 1920 has been drafted and Dr. A. C. Farquharson, M.P., has kindly consented to move it at the appropriate time. It is hoped that it may be possible thereby to remove a grievance which has been felt strongly by a certain section of the profession.

Public Health and Poor Law.

ROYAL SANITARY INSTITUTE CONGRESS.

161. The Council has appointed the following gentlemen, who have intimated their intention of being present at the Congress of the Royal Sanitary Institute, to be held in Birmingham 19th to 24th July, 1920, to act as representatives of the Association at that Congress:—Prof. Bostock Hill, Dr. Herbert Jones, Dr. E. Lewys-Lloyd, Dr. E. H. Snell and Dr. G. C. Trotter.

VACCINATION.

162. The Council has informed Dr. Drury, of the Jenner Society, that as that Society depends for its funds mainly on lay support and must continue to be largely a lay body if it is to exercise its due influence on the public, the Association cannot wholly identify itself with its management, but will continue to give it such active support as is possible in its working.

163. The Association has received a cheque for £22 2s. 1d., the balance of the funds of the Imperial Vaccination League, which is being held in reserve for any propaganda work that may be necessary in support of vaccination.

PUBLIC HEALTH AND POOR LAW APPOINTMENTS.

164. The Association has taken vigorous action in connection with numerous Public Health and Poor Law appointments in order that the policy of the Association in these matters should be carried into effect, and, with a few exceptions, its efforts have been successful.

SALARIES OF PUBLIC MEDICAL OFFICERS.

165. As a result of repeated circulars and letters from the Association to local authorities with a view to obtaining increases of the salaries paid to Public Medical Officers throughout the country, reports have been received that up to 4th March, 1920, action has been taken by local authorities as follows:—

(i.) Salary increased by 33 1/3 per cent. or over ...	667
(ii.) Salary increased by less than 33 1/3 per cent. ...	239
(iii.) Civil Service Bonus (Awards 84 and 101) granted	67
(iv.) No action taken	129
(v.) Miscellaneous (replies which do not fall under the above headings, *i.e.*, where exact amount of increase is not stated, etc.)	271
(vi.) Formal acknowledgements	70

SUPERANNUATION OF HEALTH OFFICERS.

166. The Ministry of Health has been asked to receive a deputation from the Association, the Society of Medical Officers of Health, and the Sanitary Inspectors' Association, with a view to placing before the Ministry certain conclusions arrived at on consideration of the Report of the Departmental Committee on Superannuation. The Ministry has asked in the first place for a memorandum containing these views, and this is in course of preparation.

SECURITY OF TENURE OF HEALTH OFFICERS.

167. In 1915, certain promises on the subject of Security of Tenure of Health Officers, were made by the President of the Local Government Board to a deputation from the Association, and the Ministry of Health has been reminded of these promises, and asked what action it proposes to take in the matter.

Hospitals.

PAYMENT OF MEMBERS OF STAFFS OF VOLUNTARY HOSPITALS FOR THE TREATMENT OF DISCHARGED DISABLED SOLDIERS AND SAILORS.

168. The Council considered following Minute 195 of the A.R.M. 1919:—

> That for all work for sailors and soldiers, whether discharged or not, for any diseases or injuries connected with the War, undertaken at voluntary hospitals, the medical staffs should be adequately remunerated,

and has come to the conclusion that the method of remuneration suggested in the following recommendation will be satisfactory. Representations to this effect have been made to the British Hospitals Association and the Ministry of Pensions, and it is hoped that the recommendation will be accepted by the Treasury.

The Council recommends:—

> **Recommendation.**—That for all work for soldiers and sailors, whether discharged or not, for any disease or injuries connected with the War, undertaken at voluntary hospitals, the medical staffs should be adequately remunerated. In any case the remuneration should represent an addition of not less than 25 per cent. to the cost of maintenance of in-patients, and not less than 25 per cent. of the ascertained cost per patient per attendance for out-patients, the additional sum to be placed at the disposal of the medical staff; that in the case of special clinics (*e.g.*,

Aural and Ophthalmic) the fee payable to the medical practitioner should not be less than the fee payable by the Ministry of Pensions for identical or similar services, viz., £2 2s. per session.

HOSPITAL MEDICAL OFFICERS TO THE MINISTRY OF PENSIONS.

169. The Council has had under consideration the question of the salaries and terms and conditions of service of the various posts of Medical Officers to Pensions Hospitals established under the Ministry of Pensions, and has made representations to the Ministry especially with reference to the necessity of increasing the lodging, fuel and light allowance from £100 to £150 per annum for whole-time officers of hospitals.

UTILISATION OF POOR LAW HOSPITALS FOR PAYING PATIENTS.

170. It was brought to the notice of the Council that the Guardians of a Poor Law Hospital have proposed that their institution might be used for the benefit of all classes, and that paying patients might be admitted for operation and nursing, each patient having his own surgeon and paying his fee. The Ministry of Health has ruled that operations must be performed by the appointed staff of the institution. The Council has expressed the opinion that there should be free access to such a hospital for all recognised surgeons in the district whether on the Staff of the hospital or not.

STATE-AIDED HOSPITALS IN TASMANIA.

171. The Government of Tasmania has for some time past been aiming at the nationalisation of hospitals and the admission of rich and poor alike, both classes thus having the benefit of the honorary services of the medical staff. The members of the profession in Tasmania took exception to the gratuitous treatment of well-to-do patients and approached the Government with reference to this question, but with no success. Considerable correspondence passed between the Tasmanian Branch of the British Medical Association and the Prime Minister and several Conferences were held, when the whole matter was discussed. Little or no success attended the efforts of the B.M.A. representatives and as a consequence of the refusal of the Government to introduce a clause in the Hospital Bill excluding well-to-do patients, it was decided to ask the honorary members of State-Aided Hospitals to resign. Resignations were accordingly lodged although it was intimated to the Boards of Management of the Hospitals concerned that the Staffs would continue to attend emergency cases until suitable arrangements could be made. The resignations were accepted by the Hospital authorities, who at the same time expressed high appreciation of the services which had been rendered by the honorary staffs.

172. The Tasmanian Government passed an Act of Parliament providing for the admission of rich and poor alike to general hospitals, and in order to overcome the difficulty of staffing such hospitals, passed a Medical Act permitting American medical practitioners to register. At the request of the Tasmanian Branch an "Important Notice" appeared in the *Journal* with respect to this question. Subsequently, however, the Tasmanian Branch requested that the notice be discontinued, owing to the fact that the State had passed an amendment to the Medical Act by which it is made illegal for any person, association, or company or body of persons to directly or indirectly prevent or endeavour to prevent or aid in preventing in any way whatsoever any medical practitioner, nurse, or other person, applying for and accepting or holding any appointment or position in any State-Aided Hospital or charitable institution. The Tasmanian Branch has been asked for a statement upon the whole subject, as the precedent established is considered by the Council to be very serious.

Naval and Military.

NOMINATION OF SERVICE MEMBERS TO SERVE ON THE COUNCIL.

173. The term of the present representatives of the Services on the Council expires at the end of the A.R.M. 1920. The Council therefore submits, in accordance with By-law 52 (2), the following nominations for election by the Representative Body of Members of Council representing the Services:—

Recommendation.—That the following representatives of the Services on the Council be appointed for the period 1920-23:—

(a) Royal Naval Medical Service:—
Surgeon-Capt. E. H. Meaden, C.M.G., R.N. (ret.),
(b) Royal Army Medical Service:—
Lt.-Gen. Sir W. Babtie, V.C., K.C.B., K.C.M.G.
(c) Indian Medical Service:—
Col. Sir W. J. Buchanan, I.M.S. (ret.).

The Council will nominate a representative of the R.A.F.M.S. in its Supplementary Report.

PENSIONS OF SENIOR SURGEON-COMMANDERS, R.N.

174. On January 1st, 1920, the Admiralty introduced a new scale of pensions for retired medical officers, whereby, *inter alia*, officers of the rank of Surgeon-Commander are compulsorily retired at the age of 50, the maximum pension being £600 (representing an increase of about 10 per cent. on the old pension of Surgeon Commanders). The attention of the Association was drawn by Naval Members to the fact that a large number of senior Surgeon-Commanders were adversely affected by these new provisions. The officers so affected had, in fact, entered the Service on the understanding that they would be allowed to serve until they reached the age of 55. By the scheme for earlier compulsory retirement, therefore, these officers would lose the chance of promotion to the rank of Surgeon-Captain and an increased pension, as well as a period of five years service on their highest rate of pay.

175. This question was accordingly taken up with the Admiralty, and it was suggested that in order to remove the injustice the scheme for compulsory retirement should be postponed for a year, or that the maximum pensions should be abolished as a temporary measure for five years, *e.g.*, until the age of retirement nominally reaches 50. The Admiralty refused to do anything. They stated that it was recognised that in adopting the new regulation there must be cases of individual hardship, but it would not be practicable to legislate specially for such individual cases. The Council felt that it could not allow the matter to rest where it was, as there was a strong feeling among the officers affected that they were not being treated in accordance with the spirit of the Jerram-Halsey Report. The Council has therefore pressed that the Lords of the Admiralty shall receive a deputation on the subject.

PENSIONS OF RETIRED MAJORS AS AFFECTED BY THE NEW RATES OF PAY R.A.M.C.

176. In September 1919 a new Royal Warrant was issued laying down the pay and allowances for officers of the Regular Army. The fact that a medical officer had had a long and costly professional training previous to joining the Service was recognised so far as the full rates of pay were concerned. In the matter of half pay and pensions, however the rates of pay are practically uniform throughout the Army. It appears that a major of 20 years' service received £365 per annum under the old rates, whereas under the new he will only receive £321. The Council immediately drew the attention of the War Office to this anomaly, and pointed out that it regarded it as extraordinary that officers should be faced with a decrease in pension, whereas in view of the increased cost of living, a substantial increase could confidently have been expected. The War Office replied that the matter was receiving attention and that the Council's point would not be lost sight of. The Council has since pressed the matter for immediate attention in view of the dissatisfaction that exists among the officers concerned.

SERVICE OF TEMPORARY COMMISSIONED OFFICERS R.A.M.C. COUNTING TOWARDS PROMOTION, PENSIONS, ETC.

177. Under A.C.I. 1310, 1918, it was laid down that the service of temporary commissioned officers should not count towards promotion, pensions, and increments of pay, where such officers transferred to permanent commissions. The Council has obtained from the War Office a promise that this injustice will be remedied and an A.C.I. to that effect is shortly expected.

THE £60 GRATUITY.

178. The Council has also successfully taken up with the War Office a question connected with the £60 gratuity given to R.A.M.C. officers under temporary contract. Soon after the Armistice the War Office found a difficulty in obtaining enough medical officers to meet requirements. A new contract was therefore offered, the terms of which were more favourable than those of the old one. A number of officers who had already served for some months on the old contract changed over to the new, chiefly because the new contract promised certain demobilisation at the end of six months. Under the old contract these officers were entitled to a gratuity of £60 for satisfactory service for a year or any part thereof, even if only for a day. They were informed, on application to their agents, that under the new conditions, they could only be credited with a pro rata gratuity of £5 per month. Complaints soon reached the Association, and the Council decided to ask the War Office if

it intended to adhere to its decision; and, if the answer were in the affirmative, to seek legal opinion thereon. The Council was informed, however, that the full gratuity would be paid to all the officers in question who signed the new contract before 6th December, 1919.

THE ASSOCIATION AND MEDICAL SERVICES OF THE TERRITORIAL FORCE.

179. The Council has had under consideration Minute 63 of the A.R.M., 1919, concerning the question of the reoganisation of the Medical Services of the Territorial Force, which was necessitated by post-war requirements, and appointed a special Sub-Committee to deal with the subject. The Sub-Committee has given the matter very careful consideration and has discussed many reforms that have been suggested to it both in correspondence and by its members. After careful consideration of the points referred to in the White Paper as to the future of the Territorial Army from the medical point of view the Sub-Committee decided to put before the D.G.A.M.S. considerations as to certain basic principles. A deputation has accordingly been arranged.

INDIAN MEDICAL SERVICE.

180. The Representative Body at its 1919 Meeting, gave instructions that the Association should use its influence in securing officers for the Indian Medical Service on being satisfied that satisfactory arrangements had been made as to increased pay and improved conditions of service.

181. At the time of the 1919 meeting although the Government of India had granted an increase of 33⅓ per cent. on grade pay, there was a widespread feeling amongst the officers of the Service that this was inadequate, seeing that the increase of pay was to a large extent neutralised by the abolition of certain allowances. The Council did not, therefore, feel justified in embarking upon a campaign to obtain recruits for the service, and sought a further interview with Mr. Montagu, which took place on October 30th, 1919. (A full report of the proceedings was published in the *B.M.J.* Supplement of November 8th, 1919.) The Secretary of State was asked for the following improved conditions:—(1) 50 per cent. increase of total pre-war pay; (2) increased pensions for retired officers to meet the present high cost of living; (3) steamer passages backwards and forwards to India for all officers of the I.M.S. going out, retiring or travelling on leave.

182. The Council endorsed the action of the Deputation and informed Mr. Montagu in December, 1919, that the Association could hold out no hope of even these terms being successful unless they were adopted within the next six months. On March 11th, 1919, Mr. Montagu intimated to the Council the rates of consolidated pay which he proposed to sanction for all European officers serving in the I.M.S. in civil or military employ, except those holding administrative appointments which carry fixed rates of higher pay than were admissible under the proposed scale. It was clear to the Council that the new proposals were a great advance, and were on the whole satisfactory, but it was not certain that such allowances on the civil side as those paid to Professors of Bacteriology, Pathology and Sanitation, etc., and officers in charge of jails, were to be continued. Without these allowances the officers concerned would find themselves worse off, in spite of the general increase.

183. The Council has, therefore, informed the Secretary of State that although it considers the scale to be, on the whole, satisfactory, it is of opinion that the above allowances must be continued and proportionately increased by 50 per cent. The Council has expressed the hope that the Secretary of State may be in a position to enable the Council to make an announcement, in time for the A.R.M. at Cambridge, that the question of pay, together with passages and pensions, has been satisfactorily settled, in which case, of course, the Association would encourage by every means in its power, members of the profession to seek admission to the Service.

SHORT SERVICE OFFICERS FOR THE I.M.S.

184. Owing to a great shortage of officers in the Indian Medical Service, many officers, long overdue for leave, were unable to obtain relief. The Council, therefore, suggested to the Secretary of State for India that a number of temporary commissioned officers should be appointed, and suggested terms which it thought would attract the right kind of applicant. A communique has since been issued by the Government of India offering a two year contract with pay at the rate of Rs. 700 per mensem, with free passage out and home, and an opportunity of joining the service permanently if found suitable—terms which the Council considered quite satisfactory.

ACTION TAKEN ON BEHALF OF INDIVIDUAL SERVICE MEMBERS.

185. Post-war conditions have brought about many difficulties affecting individual Service Members or small classes of such Members. The Council has given these difficulties full consideration, and has taken up many cases with the Authorities with no small amount of success. The following may be quoted as a typical instance of the action taken:—

> A Lieut.-Colonel in the I.M.S. complained that under the new scale of Indian Medical Service pay he was actually receiving less than that which he received before the 33⅓ per cent. increase was granted. This was brought to the notice of the Secretary of State for India, with the result that the pay which this officer claimed was due to him has been conceded.

MEDICAL OFFICERS IN HOSPITAL SHIPS AND THE 1914-15 STAR.

186. Medical Officers who had served on Hospital ships in the Mediterranean during the period for which the 1914-15 Star was awarded were not originally awarded this Star. The Council therefore took the matter up with the War Office, and pointed out that these officers were entitled to the Star inasmuch as they were serving in the submarine zone. As a result of the Council's action the Star was awarded to the officers concerned.

DEMOBILISATION OF SPECIAL RESERVE OFFICERS.

187. The Council has been made aware of the dissatisfaction that exists among officers of the Special Reserve owing to the fact that they are unable to obtain demobilisation. Representations were made to the War Office, who pointed out that these officers are liable to serve till the statutory end of the war is declared.

Wales.

188. The Welsh Committee which was formed in 1913, was prevented by the War from commencing operations until this session. It has met twice and appointed Dr. W. B. Crawford Treasure as Chairman, and Dr. E. Lewys-Lloyd as Honorary Secretary.

WELSH CONSULTATIVE COUNCIL.

189. As there is now a Welsh Board of Health with a Consultative Council, there will doubtless be many matters of purely Welsh concern which will need consultation between the Board of Health and some body representative of the Welsh medical profession. The Board has already recognised the Committee by asking it to nominate general practitioners for the Consultative Council and two of its nominees (Dr. W. E. Thomas and Dr. Hugh Jones) have been appointed.

CONSTITUTION OF COMMITTEE.

190. The Council feels that the present position of the Welsh Committee is not entirely satisfactory so far as concerns its capacity for representing every part of Wales. It consists of the Secretaries of the two Welsh Branches; the two members of Council who represent Wales; one member appointed by the North Wales Branch; two appointed by the South Wales and Monmouthshire Branch; and one appointed by those members of the Shropshire and Mid-Wales Branch who are resident in Wales—a total (excluding the *ex-officio* members) of 8. The Council is of opinion that the Committee would be more directly representative if it consisted of those members of the Council who represent Wales or parts of it, together with one representative of each Division in Wales elected as the Division may choose. As there are at present 8 Divisions in Wales and it is probable there will shortly be another, the total membership of the Committee (excluding *ex-officio* members) would be 11 as against 8.

The Council therefore recommends:—

> **Recommendation.**—That the Schedule to the By-laws as to the Welsh Committee be amended (1) by omitting in the second column ("Additional Members *ex-officio*") the words "The Secretaries of the North Wales and the South Wales and Monmouthshire Branches," and (2) by altering the fifth column ("Otherwise appointed") to read as follows:—"One member appointed by each Division wholly situate in Wales, including Monmouthshire."

REARRANGEMENT OF WELSH DIVISIONS.

191. There was a strong expression of opinion from all parts of Wales at the last Annual Representative Meeting in favour of a greater representation of Wales on the Council. At the present time Wales is represented by one member elected

by the North Wales, South Wales and Monmouthshire, and Shropshire and Mid-Wales Branches; and by another member elected by the Grouped Representatives of the constituencies comprised in the following Branches:—Birmingham, Staffordshire, North Wales, Shropshire and Mid-Wales, and South Wales and Monmouthshire. The Council has given careful consideration to this question and has decided that the first step must be the inclusion in a purely Welsh Division of those members in Montgomeryshire and Radnor who are at present attached to the Shropshire and Mid-Wales Branch. This will require some rearrangement of areas. The wishes of the members concerned are being ascertained on this matter. When it can be said that Wales and Monmouthshire form one complete unit it is hoped that the alterations in the composition of the Council, likely to be necessitated by changes in connection with Ireland, and by the general revision of the Articles and By-laws that is now going on, may make it possible to allocate two seats on the Council to Wales, one for North Wales and the other for South Wales including Monmouthshire.

Paid Organiser for Wales.

192. The Council has considered proposals from the Monmouthshire Division and the South Wales and Monmouthshire Branch suggesting that a whole-time medical organiser should be appointed for Wales and Monmouthshire, or in the alternative that some member of the Central Staff should give the most part of his time to organising work in Wales, though not necessarily residing there. The Council came to the conclusion that such a scheme was at present impracticable, as the number of members in Wales would not justify the expense, but in view of the special difficulties affecting South Wales and of the large experience the Medical Secretary has of those questions, the Medical Secretary has been asked to give as much of his time to Welsh affairs as he feels to be necessary.

Medical Schemes in South Wales.

193. Grave concern has been felt during the past year at the recrudescence of Medical Schemes in certain areas in South Wales. The Schemes vary in detail but possess one common characteristic, namely, the desire of the workmen to extinguish private practice and get the doctors under the control of a committee. To all such Schemes the Association is pledged to offer an uncompromising resistance, and the Divisions concerned with the help of the Head Office are doing all in their power to help the local profession to resist extinction as independent practitioners. The Welsh Committee has approached the Welsh Board of Health, and will, if necessary, apply to the Minister of Health to ascertain how far these bodies intend to encourage the promotion of such Schemes. There is a marked contrast between the encouragement which seems to have been given by Insurance Committees and the Insurance Commissioners in Wales to these Schemes and the way in which in England they have been kept severely to the provisions of the 1911 Act. The Council is convinced that such Schemes are detrimental to the interests both of the public and the profession, and will discourage them in every legitimate way.

Scotland.

194. Dr. John Goff was appointed Chairman for the session 1919-20, Dr. C. S. Young, Vice-Chairman, with Dr. R. C. Buist as Hon. Secretary.

Devolution of Scottish Business.

195. An important development falls to be recorded this year—the establishment of a Scottish Office and the appointment of a whole-time Scottish Medical Secretary. This step, decided upon by the Council in 1914, was postponed until the end of the War and taken up at the earliest possible date thereafter. Offices in every way suitable for the purpose were secured, and Dr. James R. Drever was appointed Scottish Medical Secretary, and took up his duties on 1st November, 1919. The Committee is assured that these arrangements have met with the general approbation of Scottish members. Careful consideration has been given to the question of further devolution of Scottish business, and the recommendations of the Council thereon are now before members (see below). The Committee wishes it to be clearly understood that this question has been brought into prominence by force of circumstances and not from any separatist movement on the part of either the Committee or the profession in Scotland. The Committee is not aware of any desire amongst members in Scotland for independence. The trend of recent legislation, however, and the tendency towards separate administration for Scotland, make it imperative that the Scottish Committee should have fuller power bestowed upon it, and this carries with it the corollary that the Committee itself should be reconstituted on a more representative basis. It is quite certain that the various health problems which are calling for solution will be tackled separately in Scotland, and just as administration for existing Acts of Parliament is now separate, so also future legislation will be quite distinct, and may run on altogether different lines in the two countries.

196. The Scottish Board of Health has shown great willingness to consult with the Scottish Committee and its Sub-Committees, and it is necessary that the Scottish Committee should have somewhat full powers in order that its influence with the Board may have due weight. It is not to be expected that a Government Department will negotiate with a Committee, if every decision of that Committee must first obtain the approval of the Council before it can be presented to them. There will certainly be many occasions on which the Board will desire from the Scottish Committee a definite pronouncement of Scottish opinion on various problems. It is necessary therefore that the Committee should be in a position to provide this promptly and authoritatively. At the same time the Committee realises that it must be bound by the general policy of the Association, as expressed by the Representative Body, and that it must not be in its power to prejudice the general interests of the Association and of the profession by taking any action which might have its reflex effect elsewhere than in Scotland. The Council has been assured that the recommendations made in paras. 198 and 199 are sufficient to meet the requirements of the case.

197. Apart from this and from the question of the revision of terms of service under the National Health Insurance Acts which has absorbed so much attention during the past year, the Committee has dealt with many problems affecting the interests of members. In common with other representative bodies it was invited to submit names of persons suitable for election to the Consultative Councils (Medical and Allied Services, and Highlands and Islands). Of the 15 medical members of the former Council three were nominated by the Scottish Committee, and of the three medical members of he latter two were so nominated.

198. On the initiative of the Scottish Committee the Council has agreed that the Committee be given more power of initiative and of action, subject always of course to any policy laid down by the Representative Body. In order that the Committee may be placed in this position the Council makes the following recommendation:—

The Council recommends—

Recommendation.—That the A.R.M., 1920, amend the schedule to the By-laws, as to the Scottish Committee:

(1) By omitting, in the second column ("Additional members *ex officio*"), the words:—

"The Secretary of each Scottish Branch";

(2) By inserting, in the fifth column ("Otherwise appointed"), the words:—

"Members appointed by the Divisions in Scotland grouped in such manner as shall from time to time be prescribed by the Council";

(3) By altering the sixth column ("Duties, Powers, etc.," of the Scottish Committee) to read as follows:—

"To consider all matters specially concerning Scotland and, in conformity with the decisions of the Representative Body, deal with all such matters. It shall meet at such place and time as the Committee itself may direct. The Committee shall have power to add to its number not more than four Members specially qualified to assist in the business of the Committee."

199. The following is the scheme of election of the Committee which the Council, subject to the opinion of the Divisions and Representative Body, has approved:—

(i.) The Scottish Divisions will directly elect their representatives on the Scottish Committee.

(ii.) The Divisions will be grouped for the purpose as follows:—

		No. of Members.
Group I.	The Divisions comprised within the Aberdeen and Northern Counties Branches	344
Group II.	The Divisions comprised within the Dundee, Perth, Fife and Stirling Branches	334
Group III.	The Divisions comprised within the Edinburgh Branch...	400
Group IV.	The Glasgow City Divisions ...	396

Group V. The remaining Divisions in the Glasgow and West of Scotland Branch, and the Dumfries and Galloway Division 472

(iii.) One representative will be assigned to every completed 150 of membership, and this will give two representatives to each of the first four Groups and three to the fifth Group.

(iv.) The election will be by postal vote, conducted by the Scottish Office after nomination by the constituencies.

The complete Committee will therefore consist of 25 members, *i.e.*, 4 *ex officio* members; the 6 members of Council who represent Scottish Branches; 11 directly elected representatives; and not more than 4 members co-opted by the Committee as being specially qualified to assist in its business.

COLLIERY AND PUBLIC WORKS' SURGEONS' COMMITTEE.

200. This Committee, with which the Scottish Committee is in active co-operation, has concluded protracted negotiations with the Miners' Union, as a result of which :—

(a) The Committee is recognised by the Miners' Union as representing all practitioners engaged in Colliery practice in Scotland.

(b) A uniform flat rate, applicable to all areas in Scotland, has been agreed to, of 3½d. per week per worker, for medical attendance upon dependants, with an additional 1d. per week per worker where medicine is supplied.

(c) Joint Committees—central and local—are to be set up.

HIGHLANDS AND ISLANDS SUB-COMMITTEE.

201. The Sub-Committee has put forward to the Board of Health representations for better terms and conditions of service for practitioners serving under the special Highlands and Islands Scheme, and for the removal of certain grievances under which the Committee is informed practitioners suffer. At the time of reporting, the reply of the Board had not been received.

FEES TO PRACTITIONERS CALLED IN ON THE ADVICE OF MIDWIVES.

202. The Committee has submitted to the Board of Health the following scale of fees :—

(1) That the fee for attendance at confinement should involve full medical responsibility for any attendance that may be necessary during ten days of the puerperium and should be two guineas, whether operative procedure is or is not needed; that attendance at confinement should be interpreted to include cases where this begins for an immediate post-partum emergency.

(2) That the fee for an anæsthetist when required should be one guinea.

(3) That other attendance during pregnancy or the puerperium should be paid by fee according to scale.

(4) That the responsibility of the local authority should be co-extensive with the responsibility of the midwife acting under her rules.

(5) That the fee for attendance at abortion or miscarriage be two guineas.

Ireland.

CHAIRMAN AND VICE-CHAIRMAN OF IRISH COMMITTEE.

203. Dr. J. S. Darling, Lurgan, Co. Armagh, and Dr. Denis Walshe, Craigue, Co. Kilkenny, were re-elected Chairman and Vice-Chairman respectively.

ORGANISATION OF THE PROFESSION IN IRELAND.

204. A meeting of delegates, representative of the whole profession in Ireland, was held in Dublin on June 3rd, 1919. That meeting appointed a Joint Organisation Committee (Ireland), consisting of :—Five members of the Irish Medical Association, nominated by the Council of that Association; five members of the B.M.A., nominated by the Irish Committee of the B.M.A; five members of the Irish Medical Committee (a body representing the whole medical profession in Ireland, including the medical schools), nominated by the Irish Medical Committee; together with the Irish Medical Secretary and the Secretary of the I.M.A.

205. The meeting of delegates gave the Joint Organisation Committee (Ireland) the following reference :—

(1) To consider the question of uniting the Irish medical profession in one representative organisation, and the best method of attaining that object;

(2) To submit their recommendations and alternative minority suggestions to the entire profession in the form of a referendum;

(3) To take the necessary action to establish such representative body on the lines indicated in the referendum, suggest Articles of Association, etc., etc. The incidental preliminary expenses to be met by the body when established;

(4) That in such representative body as may be agreed on, Dr. Hennessy and Mr. Gick (Secretary Irish Medical Association) be respectively "Medical Secretary" and "Secretary" at rates of remuneration not less than they now receive from their respective Associations.

206. The Joint Organisation Committee (Ireland) was duly appointed in accordance with the instructions of the meeting of delegates held on June 3rd, 1919. The Committee held its first meeting in Dublin on July 29th, 1919, and unanimously agreed on the following headings :—

(1) One Medical Body for all Ireland.

(2) The name of the Medical Body to be the Irish Medical Union or Association.

(3) The members of the Irish Medical Union or Association to be honorary members of the British Medical Association, with the following privileges :—

(a) Attendance at scientific meetings of the British Medical Association, including the Annual Meeting.

(b) The *British Medical Journal*—Irish news—in the form of a periodical Irish supplement.

(c) The right to be enrolled as an ordinary member of the British Medical Association, on taking up residence in Great Britain and the Colonies. *Note.*—This provision was chiefly meant by the Committee to help in recruiting the membership of the British Medical Association.

(d) Representation, without the right of voting, at the Annual Representative Meeting, and two representatives on the Council of the British Medical Association.

(e) Participation in scientific grants.

(4) Arrangement for the payment per capita for the privileges requested.

(5) The new body to take over the finances of its own Central Offices, Branch, and Division expenses.

(6) The medico-political policy of the Irish profession to be decided by representative meetings summoned under the auspices of the Irish Medical Union or Association.

207. The Council on November 15th, 1919, received a Joint Irish deputation which explained the position as regards medical organisation in Ireland. Arising out of the views expressed by the Council, a meeting of the Joint Organisation Committee (Ireland) was held on January 6th, 1920. The members of the deputation who were present and who had conferred with the Council of the B.M.A. stated the result of the conference with the Council. That the Council should hesitate to go to the expense of altering the Articles and By-laws of the Association without some guarantee as to what would be the action of the Irish profession towards affiliation on the terms proposed was considered reasonable by the Committee. In the circumstances it was decided that the Chairman, Mr. R. J. Johnstone, and Dr. J. M. Day should prepare a statement which would be embodied in a referendum submitted to the Irish profession with regard to the proposed new Medical Body and the conditions of its affiliation with the British Medical Association. It was, however, considered that it would be advisable to submit, in the first instance, the referendum and accompanying statement to the meetings of the profession summoned to meet to consider the Report of the Irish Public Health Council. That Report is expected at an early date, but until it is made available to the public it will not be possible to organise meetings of the profession in Ireland to consider it.

IRISH PUBLIC HEALTH COUNCIL.

208. The Irish Public Health Council has been meeting regularly for the past five months under the Chairmanship of Dr. E. C. Bigger. Judging from the summarised reports of the proceedings of that Council in the Press it would appear that the Council has done an immense amount of work and that there are good grounds for hoping for a valuable report, for the most part of an unanimous character.

IRISH MEDICAL COMMITTEE.

209. At the meeting of delegates, representative of the whole Irish profession, held in Dublin on June 3rd, 1919, a resolution was unanimously passed authorising the Irish Medical Committee, constituted under the various resolutions of meetings of delegates, to represent the Irish medical profession in regard

to proposed legislative measures affecting the interests of the profession, and in regard to the interests of the profession generally. Of the three medical members representing Irish medical interests on the Irish Public Health Council, two were selected from the nominations of the Irish Medical Committee in its capacity as representative of the Irish medical profession. The Irish Medical Secretary still continues to act as Honorary Medical Secretary of the Irish Medical Committee, through which, for reasons previously explained, most of the Irish medico-political work has been done in recent years.

POOR LAW MEDICAL OFFICERS' SALARIES.

210. For the past five years the Irish Committee of the Association has been urging the Local Government Board (Ireland) to exercise their statutory powers to fix salaries for Poor Law medical officers in those Unions in which the Board of Guardians had failed to give their medical officers adequate salaries. It is, therefore, a source of much satisfaction to the Committee and the Council to find that the Local Government Board has, within the past year, fixed salaries by Sealed Order for Poor Law medical officers in some of the more recalcitrant Poor Law Unions. The Irish Medical Secretary has been kept very busy attending meetings in different parts of Ireland urging the claims for improved salaries of medical officials. His efforts were invariably attended with almost unexpected success. In many Unions scales were passed with a minimal salary of £300, reaching, after ten or fifteen years' service, a maximum of £400 per annum, with retrospective application. It is to be regretted, however, that the Local Government Board has not, so far, sanctioned a higher initial salary than £250, or a maximal salary higher than £350.

Oversea Branches.

RELATIONSHIP BETWEEN THE OVERSEA BODIES AND THE PARENT ASSOCIATION.

211. As a result of valuable suggestions received from some of the Oversea bodies, especially the Australian Branches and their Federal Committee, in response to a letter addressed by the Council to the Oversea bodies on the subject, gratifying progress has been made as regards a preliminary survey of means whereby the co-operation between the parent Association and its bodies overseas could be made still more close and effective, the Oversea branches at the same time being placed in possession of full power of managing their own affairs. The Council reports the proposals on this subject in paras. 43–63 of this Report.

WELCOME TO OVERSEA MEMBERS VISITING THE UNITED KINGDOM.

212. The Council has arranged to make each year, in co-operation with the local Entertainment Committee and otherwise, provision for special recognition by the parent body, of prominent members of the Oversea Branches visiting this country in an official capacity, and that such special recognition shall include (1) invitations to such members, including the Oversea Representatives at the Annual Representative Meeting, to attend the Annual Dinner as the guests of the Association, and (2) any other special hospitality that can be offered.

VISITS OF REPRESENTATIVES OF THE ASSOCIATION TO THE OVERSEA BRANCHES.

213. As will be remembered, the Chairman of Council, in 1914, visited, on the invitation of the Branches in Australia and New Zealand, both these Countries on behalf of the Association. He was most hospitably received, met with a warm and cordial welcome, and the visit had the direct result of increasing the interest taken by those Branches in the work at home and by the parent body in the work and welfare of its fellow-members beyond the seas. The Council is gratified to have received from the South African Branches an invitation that a representative of the home Association should visit that Country, and the Council hopes that it may soon be possible to arrange for such a visit.

TERMS AND CONDITIONS OF SERVICE OF MEDICAL OFFICERS IN THE COLONIAL MEDICAL SERVICES.

214. In its Annual Report for 1918-19 (*B.M.J.* Supplement, May 3rd, 1919, p. 86), the Council drew attention to (1) the deep and widespread discontent prevailing among the medical officers of the Protectorates in East Africa as to the terms and conditions of service there, (2) the steps taken by the Association for redress of those grievances, (3) the increased rates of remuneration authorised in Memorandum 99 of the Colonial Office of February, 1919, and (4) the still outstanding discrepancy between the remuneration of the medical officers of the East African Protectorates and those of the West African Medical Staff. The Council continued to press the matter upon the attention of the Secretary of State for the Colonies.

215. In November 1919, the Secretary of State appointed a Colonial Medical Services Committee, with the following reference :—

> To consider the position of the medical services of the various colonies and dependencies, with a view to maintaining and increasing the supply of candidates and to securing contentment within the service; and to consider whether the principle of assimilating the medical service of neighbouring colonies may usefully be extended, and if so, how far, and by what means.

216. The Council arranged to place evidence before the Committee, and accordingly addressed, through "Current Notes," requests to the Oversea Branches, Colonial medical officers, and others interested, to send to the Council any further points which it was desired should be included in the evidence of the Association. In response, some 30 Branches and former and present medical officers, communicated with the Medical Secretary on the subject. Preliminary to settlement of the evidence to be placed by the Association before the Colonial Medical Services Committee, there was also held, on February 19th, 1920, a Conference of the Dominions Committee with as many Colonial medical officers (serving or retired), as were available in the United Kingdom, together with certain other members of the profession known to have special experience of the terms and conditions of the Colonial medical services. The Conference, believed to be the first conference held of representatives of the Colonial medical services generally, proved most valuable. As a result of its deliberations there was forwarded to the Colonial Medical Services Committee the appended Memorandum of Evidence (*see* Appendix V). Verbal evidence in support of the Memorandum was, on February 23rd, given before the Committee, on behalf of the Association, by Dr. J. H. Goodliffe, Medical Officer and Dr. R. L. Van Someren, Senior Medical Officer, Uganda Protectorate, the Medical Secretary, and the Assistant Medical Secretary (Dr. A. D. Macpherson).

217. In view of the strong consensus of opinion of the Conference in favour of a limited system of grouping of the medical services of the Colonies, the Council had no alternative but to abandon, as regards the representations being made to the Colonial Medical Services Committee, the proposal contained in paras. 226-8 of the Annual Report of the Council, 1918-19, (*B.M.J.* Supplement, May 3rd, 1919, page 86) and approved by the Annual Representative Meeting 1919, for establishment of a general medical service for the whole of the territories in Africa administered by the Colonial Office. The Council is convinced that, as matters at present stand, an amalgamated medical service for East and West Africa is impracticable. The grouping recommended by the Council, as an immediately practicable step, is set out in paras. 43-6 of the Memorandum of Evidence. As will be seen, the Council has pressed, *inter alia*, for formation of an East African Medical Service to include the whole of the Protectorates of that area (British East Africa, Nyasaland, Somaliland, Uganda and Zanzibar), and any contiguous territories ultimately absorbed. The case of the West African Medical Staff affords an example of the advantages to all concerned obtainable by the grouping system. In urging upon the Colonial Medical Services Committee, especially in the oral evidence submitted, the need for that reform, as well as for many other, the Council is confident that work of real value to both the profession and the public has been done. The Colonial Medical Services Committee has not yet reported, but developments will be watched with a view to further action.

PENSIONS OF MEDICAL OFFICERS RETIRED FROM THE COLONIAL SERVICES.

218. In view of the greatly altered value of money, the question was taken up with the Colonial Office of the urgent need for increase of the pensions of medical officers retired from the Colonial services. The Colonial Office has replied that the matter is under consideration and that it is hoped to arrive at a decision soon, but that that decision will affect all pensioners, medical and otherwise.

J. A. MACDONALD,

Chairman of Council.

April 14th, 1920.

British Medical Association.

Balance Sheet 31st December, 1919.

Dr. Cr.

LIABILITIES.

1918 £		1919 £ s. d.	£ s. d.
1,161	To Subscriptions paid in advance	906 4 6	
994	„ Advertisements ditto	1,390 13 11	2,296 18 5
161	„ Contributions	299 8 0	
40	„ Engraving	59 17 1	
1,462	„ Printing Journal	749 6 8	
2,684	„ Paper for Journal	1,374 13 2	
971	„ Miscellaneous Printing...	1,487 15 3	
252	„ Stationery	439 11 9	
53	„ Repairs	120 12 7	
360	„ Legal Charges	29 19 6	
600	„ Rates, Taxes, Insurance and Electricity	639 7 7	
11	„ Plant and Type...	11 15 11	
1	„ Sundries	7 5 0	
42	„ Library Books	43 5 10	
28	„ Repairs and Hire of Typewriter Machines	6 10 2	
			5,269 8 6
8,506	„ **Overdraft at Bank**		4,110 1 11
58	„ Exhibition Account Reserve per contra		58 16 4
	„ **Total Liabilities**		11,735 5 2
135,544	„ **Surplus Account**—		
	Balance on January 1st, 1919	134,210 17 8	
Loss	Balance of Income over Expenditure for 1919 brought		
1,333	from Revenue or Profit and Loss Account ...	5,204 13 2	
134,210	**Balance being total of Excess of Assets over Liabilities** ...		139,415 10 10
			£151,150 16 0

ASSETS.

1918 £			1919 £ s. d.
4,151	By Subscriptions in arrear		3,448 5 3
3,065	„ Advertisements „		4,093 0 2
634	„ Sundry Sales		815 12 3
208	„ Furniture and Fittings		208 18 10
1,594	„ Library		1,521 10 7
414	„ Plant and Type		372 0 5
5,303	„ Paper Stock		1,488 1 7
412	„ Accrued Rent, Insurance, etc.		523 1 1
121	„ Cash at Office		137 2 9
	„ Cash on Deposit		5,000 0 0
	„ Investments—		
126,516	„ Freehold—429, Strand, Agar Street, and Harvey's Buildings ...	125,516 6 9	
1,000	Less Amount written off	1,000 0 0	
			124,516 6 9
7,128	„ £3,200 Bank of England Stock @ 193¼	6,184 0 0	
3,216	„ £6,400 Midland Railway Consolidated 2½% Perpetual Guaranteed Preferential Stock @ 43½	2,784 0 0	
			8,968 0 0
58	„ Exhibition Account—Cash at Bank		58 16 4
			£151,150 16 0

(The above Assets do not include the unexpended Balances of Capitation Grants held by the various Branches.)

Revenue or Profit and Loss Account for the Year ending 31st December, 1919.

	1918. £ s. d.	1919. £ s. d.
General Association Expenses ... ... *Abstract A* ...	7,763 6 11	1,539 2 8
Central Meeting Expenses ... ... ,, *B* ...	8,349 19 11	9,836 14 3
Central Premises Expenses ... ... ,, *C* ...	2,738 4 4	2,913 8 5
Central Printing, Stationery, and Postage Expenses ,, *D* ...	1,548 9 1	2,387 18 9
Central Staff Expenses ... ... ,, *E* ...	6,672 12 1	8,695 1 7
Library Account ... ... ,, *F* ...	477 1 11	497 13 9
Journal Account Expenses ... ... ,, *G* ...	32,184 5 6	41,015 4 3
Grant to Irish Committee ... ... ,, *H* ...	707 6 3	853 2 7
Capitation Grants to Branches	1,861 12 0	3,072 7 0
Subscriptions Written off for Deaths	166 10 6	114 3 0
Arrears Written off	1,869 8 4	1,417 14 6
	£64,338 16 4	£72,342 10 9
Written off Investments ... ... —		1,376 0 0
Written off for Depreciation of Premises ... 1,000 0 0		1,000 0 0
Library—Written off towards Depreciation ... 200 0 0		200 0 0
Plant and Type—Ditto 100 0 0		100 0 0
	1,300 0 0	2,676 0 0
Balance of Income over Expenditure—Carried to Balance Sheet ...	—	5,204 13 2
	£65,638 16 4	£80,223 3 11

	1918. £ s. d.	1919. £ s. d.
Subscriptions	36,232 5 4	38,473 6 1
Journal Account, Total Receipts ... ... See *Abstract G* ...	24,573 14 4	33,404 5 0
Interest on Investments received and accrued	407 17 11	433 7 7
Rent received and accrued	2,209 3 2	2,212 14 0
Appreciation in Investments	872 0 0	—
Returned Scientific Grant	10 0 0	49 8 6
Received from Jenner Society and Imperial Vaccination League ...		194 13 2
,, ,, H.M. Government		5,000 0 0
,, ,, Exhibition Account		455 9 7
Excess of Expenditure over Income carried to Balance Sheet	1,333 15 7	—
	£65,638 16 4	£80,223 3 11

Abstract H.

Irish Committee.

Financial Statement for the Year ending 31st December, 1919.

1919.	£ s. d.	£ s. d.
By Rent, Rates, Taxes, Light, &c.	52 6 6	
,, Printing and Stationery	14 14 6	
,, Postages, &c.	10 13 1	
,, Sundries	28 11 2	
		106 5 3
,, Salaries—Irish Medical Secretary	600 0 0	
,, ,, Clerk...	52 0 0	
		652 0 0
,, Travelling Expenses	—	94 17 4
		853 2 7
,, Balance from 1918	—	207 6 3
		£1,060 8 10

J. SINGLETON DARLING, *Chairman.*
THOMAS HENNESSY, *Irish Medical Secretary.*

1919.	£ s. d.
To Contributions from Central Funds of B.M.A.	1,060 8 10
	£1,060 8 10

Abstract A.

General Association Expenses.

	1918. £ s. d.	1919. £ s. d.
Auditors' Fee	157 10 0	157 10 0
Bank Charges	55 13 3	62 11 3
Donation to Charing Cross Hospital	10 10 0	10 10 0
Subscription to Belgian Doctors' and Pharmacists' Fund	105 0 0	—
Corporation Duty	195 15 10	—
Subscription and Entrance Fee, The Faculty of Insurance	4 4 0	2 2 0
Interest on Overdraft	64 5 1	—
Medical Directories	—	12 12 0
Legal Expenses	122 0 3	269 16 10
Do. Do. Pratt Case	6,501 14 1	—
Repairs and Hire of Typewriter Machines	58 7 0	22 8 8
Office—Petty Cash	307 1 4	292 13 8
Parliamentary Papers	3 17 10	20 14 9
Research Scholarships	—	225 0 0
Scientific Grants	50 0 0	115 0 0
Stamping Subscription Receipt Books	49 5 0	50 0 0
Rent of Telephones	66 5 0	71 5 0
Sundries	11 18 3	21 18 6
Memorial to Col. E. F. Harrison	—	105 0 0
Gratuity to deceased clerk's wife	—	100 0 0
	£7,763 6 11	£1,539 2 8

Abstract B.

Central Meetings Expenses.

	1918. £ s. d.	£ s. d.	1919. £ s. d.	£ s. d.
REPRESENTATIVE MEETING—				
Railway Fares	379 13 8		511 12 5	
Printings	224 4 6		256 4 0	
Sundries	42 13 6		50 10 0	
		646 11 8		818 6 5
COUNCIL—				
Railway Fares	504 3 5		861 3 9	
Printings	584 3 6		970 8 6	
Sundries	54 9 2		—	
		1,142 16 1		1,831 12 3
RAILWAY FARES, SECRETARIES' CONFERENCE	—		—	173 19 4
		1,789 7 9		2,823 18 0

Committees.

Arrangements Committee—				
Railway Fares	—		11 19 3	
Printing, etc.	—		101 5 0	
				113 4 3
Central Ethical Committee—				
Railway Fares	29 17 6		68 12 3	
Printings, &c.	35 3 0		336 6 0	
Postages	—		10 10 7	
		65 0 6		415 8 10
Central Medical War Committee—				
Railway Fares	86 11 2		—	
Printings	649 0 6		82 3 6	
Typists and Clerical Assistance and Assistants	2,146 15 0		437 7 11	
Postages	155 0 0		40 0 0	
Travelling	7 9 3		—	
Stationery	271 0 0		66 5 0	
Sundries	—		—	
		3,315 15 11		625 16 5
Dominions Committee—				
Railway Fares	1 8 6		14 1 8	
Printing	6 1 0		35 2 6	
		7 9 6		49 4 2
Election Returns Committee—				
Railway Fares	—		9 9 9	
Printings	6 14 0		4 18 6	
		6 14 0		14 8 3
Carried forward		**£5,184 4 8**		**£4,041 19 11**

Committees—*continued.*

	1918. £ s. d.	£ s. d.	1919. £ s. d.	£ s. d.
Brought forward		5,184 4 8		4,041 19 11
Finance Committee—				
Railway Fares	55 3 5		49 15 6	
Printings, &c.	82 14 0		98 8 6	
		137 17 5		148 4 0
Hospitals Committee—				
Railway Fares	18 10 6		65 19 3	
Printings, &c.	7 16 6		10 9 0	
		26 7 0		76 8 3
Insurance Acts Committee—				
Railway Fares	759 1 1		993 11 4	
Printings	841 0 0		1,284 3 6	
Sundries	86 3 10		50 19 6	
Postages	—		192 5 9	
		1,686 4 11		2,521 0 1
Journal Committee—				
Railway Fares	—		32 19 0	
Printings	9 19 6		38 1 6	
		9 19 6		71 0 6
Medico-Political Committee—				
Postages	—		103 13 1	
Railway Fares	159 19 5		203 9 10	
Printings	97 2 0		273 11 6	
		257 1 5		590 14 5
Ministry of Health Committee—				
Railway Fares	70 11 9		82 17 0	
Printings	53 5 0		57 6 6	
		123 16 9		140 3 6
Naval and Military Committee—				
Railway Fares	40 10 5		108 18 11	
Printings	23 7 0		96 15 6	
Reporting	4 0 0		—	
		67 17 5		205 14 5
Non-Panel Committee—				
Railway Fares	14 7 0		—	
Printings	4 16 0		—	
		19 3 0		—
Organisation Committee—				
Railway Fares	50 11 8		125 1 2	
Printings, &c.	395 10 11		423 11 6	
Postages and Addressing	—		91 11 6	
Travelling	—		34 4 0	
Maps and Charts	—		17 18 6	
		446 2 7		692 6 8
Parliamentary Elections Committee—				
Railway Fares	10 14 0		9 11 4	
Printings	74 0 0		11 2 6	
		84 14 0		20 13 10
Public Health Committee—				
Railway Fares	59 19 10		112 7 4	
Printings, &c.	27 1 0		28 11 0	
		87 0 10		140 18 4
Science Committee—				
Railway Fares	—		59 19 9	
Printings	4 14 0		45 1 6	
Framed Notices to Medical Schools	22 3 3		—	
		26 17 3		105 1 3
Scottish Committee—				
Special Grant	100 0 0		554 6 4	
Printings, &c.	92 10 2		38 19 0	
Railway Fares	—		159 3 9	
Furniture for Scottish Office	—		136 0 10	
Late Clerk's Salary and Expenses	—		35 19 4	
Scottish Medical Secretary	—		133 6 8	
		192 10 2		1,057 15 11
Special Minimum Salaries Sub-Committee—				
Railway Fares	—		—	
Printings	—		6 7 6	
				6 7 6
Welsh Committee—				
Railway Fares	—		15 5 8	
Printings	—		3 0 0	
				18 5 8
		£8,349 19 11		£9,836 14 3

Abstract C.]

Central Premises Expenses.

	1918.	1919
	£ s. d.	£ s. d.
Cleaning Offices	330 18 11	363 16 7
Coals, Coke and Wood	141 11 6	173 5 6
General Repairs and Upkeep	424 16 10	283 19 8
Rates, Taxes, Insurance, and Electricity	1,840 17 1	2,102 6 8
	£2,738 4 4	£2,913 8 5

Abstract D.]

Central Printing, Stationery and Postage Expenses.

	1918.	1919.
	197 12 5	525 2 9
General Printing		
Office—General Postage :—		
Finance Department	304 19 1	403 5 6
Medical Department	200 0 0	445 18 6
Stationery	845 17 7	1,013 12 0
	£1,548 9 1	£2,387 18 9

Abstract E.]

Central Staff Expenses.

	1918.		1919.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Late Financial Secretary and Business Manager ...	550 0 0		—	
Present Financial Secretary and Business Manager ...	551 10 0		720 0 0	
Clerical Staff, General Association, Journal, Subscription and Advertisement Departments	3,198 19 8		3,478 1 7	
		4,300 9 8		4,198 1 7
Less Proportion of Salaries debited to Journal Account		2,107 18 0		1,776 15 3
		2,192 11 8		2,421 6 4
Medical Secretary	1,100 0 0		1,320 0 0	
Late Deputy Medical Secretary	750 0 0		525 0 0	
Do. Do.	—		133 6 8	
Assistant Medical Secretary (1)	102 0 0		554 0 0	
Do. Do. (2)	462 10 0		585 0 0	
Clerical Staff, Medical Department	1,584 9 5		2,414 12 6	
		3,998 19 5		5,531 19 2
Contribution to Office Staff Superannuation Fund ...		375 0 0		375 0 0
TRAVELLING EXPENSES :—				
Finance Department		—		4 0 0
Medical Department		43 5 7		137 13 10
Insurance (Fidelity Guarantee)		62 15 5		59 17 9
Intelligence Department, &c.		—		165 4 6
		£6,672 12 1		£8,695 1 7

Abstract F.]

Library Account.

1919.		£ s. d.
Jan. 1.	To Balance	1,594 2 0
	,, Purchase of Books	85 1 1
	,, Binding Books	29 6 0
	,, Furniture	12 11 0
	,, Salary—Librarian	356 0 0
	,, ,, Librarian's Clerk	126 2 0
	,, Printing and Postage of Circulars, &c.	5 0 1
	,, Subscriptions to H. K. Lewis's Library	10 11 8
	,, Medical Register	10 6
		£2,219 4 4

1919.		£ s. d.	£ s. d.
Dec. 31.	By Salary—Librarian	356 0 0	
	,, ,, Librarian's Clerk	126 2 0	
	,, Printing and Posting of Circulars, &c.	5 0 1	
	,, Subscriptions to H. K. Lewis's Library	10 11 8	
			497 13 9
	Amount written off for Depreciation		200 0 0
	Balance carried to Balance Sheet		1,521 10 7
			£2,219 4 4

[SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

JOURNAL ACCOUNT.

Income and Expenditure Account for the year ending 31st December, 1919.

	1918.		1919.	
EDITORIAL.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries:—Editor	1,500 0 0		1,875 0 0	
,, Late Assistant Editor—Pension and Grant	550 0 0		520 0 0	
,, Assistant Editor	821 1 8		1,041 1 8	
,, Late Sub-Editor	227 10 0		170 0 0	
,, Temporary Assistance...	—		50 0 0	
,, Clerical Staff...	891 5 0		937 6 3	
Contributions:—Late Assistant Editor	42 13 0		31 12 0	
,, Late Sub-Editor	—		13 0	
,, Editor's Clerk	50 15 0		52 6 6	
,, Irish Medical Secretary	3 6 0		2 4 6	
,, General	563 11 6		773 16 0	
Engraving	73 8 5		166 15 4	
Reporting	104 19 0		63 14 0	
Legal Charges	2 13 4		1 17 2	
Postage	34 4 7		45 0 0	
Analyses	2 2 0		—	
Travelling, Telephone, Parliamentary Papers, and Sundries...	63 2 11		98 4 11	
Advance Slips circulated to the Press	9 0 0		6 16 6	
Compiling Indexes for JOURNAL and SUPPLEMENT ...	65 0 0		65 8 6	
Editorial Petty Cash	8 15 5		12 6 1	
		5,013 7 10		5,919 2 5
MANAGERIAL.				
JOURNAL—Compositors' Wages, Machining, &c. ...	8,350 9 5		11,804 18 6	
,, Paper	11,738 18 3		15,000 14 6	
SUPPLEMENT—Compositors' Wages, Machining, &c. ...	230 4 2		792 12 0	
,, Paper	502 0 0		736 0 0	
Postage for Dispatch of JOURNAL	3,194 19 10		4,082 10 5	
Address Bands for JOURNAL	262 14 9		133 15 9	
Proportion of Manager's and Clerks' Salaries	2,107 18 0		1,776 15 3	
General Postage	166 12 6		202 3 6	
Printings	117 2 6		149 5 0	
Reprints	200 19 9		164 4 11	
Stationery (Ledgers, Letter Books, &c.)	155 12 6		168 18 0	
Insurance	132 9 1		61 6 3	
Sundries	10 16 5		22 17 9	
		27,170 17 2		35,096 1 10
		£32,184 5 0		£41,015 4 3

	1918.		1919.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Advertisements	17,668 13 0		25,571 5 5	
Sundry Sales—Journals	5,947 19 5		7,102 0 1	
,, Pamphlets, &c.	354 13 6		153 18 5	
,, Reprints	282 10 7		216 7 9	
,, "Secret Remedies"	0 3 0		—	
,, "More Secret Remedies" ...	50 17 4		23 13 3	
Sale of Waste	75 9 1		17 11 1	
Discounts on Machining, &c.	193 8 5		314 9 0	
		24,573 14 4		33,401 5 0
Balance from Subscriptions for the cost of production and issue of the JOURNAL...		7,610 10 8		7,610 19 3
		£32,184 5 0		£41,015 4 3

Having examined the Balance Sheet, dated 31st December, 1919, and Accounts with the books and vouchers of the Association, except as regards the Irish Committee Account, and having received all the information and explanations we have required, we report that the Balance Sheet is, in our opinion, properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Association according to the best of our information and the explanations given to us and as shown by the books of the Association.

We have verified the Investments of the Association on General Account and on account of the Trust Funds shown and of the Office Staff Superannuation Fund, and we have verified the possession by the Bankers of the Association of the Deeds of the Freehold Property.

G. E. HASLIP, M.D.,
Treasurer.

W. E. WARNE,
Financial Secretary and Business Manager.

PRICE, WATERHOUSE & CO.,
3, Frederick's Place, Old Jewry, London, E.C.,
1st April, 1920.

Central Insurance Defence Fund.

FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

Account of Receipts and Payments for Year ending 31st December, 1919.

ADMINISTRATION ACCOUNT.

RECEIPTS.	£ s. d.	£ s. d.	PAYMENTS.	£ s. d.	£ s. d.
To Balance from 1918	7 3 11		By Drug Tariff Sub-Committee's Expenses	6 6 0	
			,, Balance	0 17 11	
	£7 3 11				£7 3 11

COMPENSATION ACCOUNT.

	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To Balance from 1918	12,723 4 7		,, Income Tax on Interest	6 3 0	
,, Repayment of Loans	200 0 0		,, Balance, being money unexpended on Compensation Account	13,384 13 6	
,, Interest	467 11 11				
	£13,390 16 6				£13,390 16 6

STATEMENT OF AVAILABLE FUNDS.

	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To Unexpended Balances, 31st December, 1919—			By Cash with Bankers—		
,, Administration Account	0 17 11		,, Current Account	207 0 1	
,, Compensation Account	13,384 13 6		,, Deposit Account	1,254 0 0	
					1,461 0 1
			,, 5% War Loan 1929-47, £12,550 at cost		11,924 11 4
	£13,385 11 5				£13,385 11 5

Medical Representation in Parliament Fund.

1919.		£ s. d.	£ s. d.	1919.		£ s. d.	£ s. d.
Jan. 1.	To Balance from 1918		319 2 6	Dec. 31.	To Cash at Bankers—Current Account	5 3 2	
Dec. 31.	,, Subscriptions and Donations	128 12 6			Deposit ,,	450 0 0	
,,	,, Deposit Interest	7 8 2					
			136 0 8				455 3 2
			£455 3 2				£455 3 2

Insurance Acts Central Pool.

1919.		£ s. d.	£ s. d.	1919.		£ s. d.	£ s. d.
Jan. 1.	To Balance from 1918		236 18 0	Dec. 31.	To Cash at Bankers—Current Account	4 10 0	
Dec. 31.	,, Subscriptions	13 8 0			Deposit ,,	250 0 0	
,,	,, Deposit Interest	4 4 0					
			17 12 0				254 10 0
			£254 10 0				£254 10 0

We have compared the above three accounts of receipts and payments with the books and vouchers of the Funds and find them correct. We have verified the War Loan held by the Bank and Bank Balances at the 31st December, 1919.

PRICE, WATERHOUSE & CO.,
3, Frederick's Place, Old Jewry, London, E.C.,
1st April, 1920.

Remittances received on behalf of Medical Benevolent Funds for the Year ending 31st December, 1919.

Royal Medical Benevolent Fund.

1919.		£ s. d.	1919.		£ s. d.
Dec. 31.	To Subscriptions and Donations	751 17 6	Dec. 31.	By Cheques sent to Treasurer	751 17 6

Royal Medical Foundation of Epsom College.

1919.		£ s. d.	1919.		£ s. d.
Dec. 31.	To Subscriptions and Donations	461 7 6	Dec. 31.	By Cheques sent to Treasurer	461 7 6

Royal Medical Benevolent Fund Society of Ireland.

1919.		£ s. d.	1919.		£ s. d.
Dec. 31.	To Subscriptions and Donations	26 8 6	Dec. 31.	By Cheques sent to Treasurer	26 8 6

War Emergency Fund.

1919.		£ s. d.	1919.		£ s. d.
Dec. 31.	To Subscriptions and Donations	43 3 6	Dec. 31.	By Cheques sent to Treasurer	43 3 6

Central Emergency Fund.

FOR WHICH THE MEDICO-POLITICAL COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

Financial Statement for the Year ending 31st December, 1919.

1919.		£ s. d.	£ s. d.	£ s. d.	1919.		£ s. d.	£ s. d.	£ s. d.
Jan. 1.	To Balance—				Dec. 31.	By Cash with Bankers—Current Account	2 0 7		
	,, Cash at Bank	81 0 0				,, ,, ,, Deposit ,,	429 10 0		
	,, Deposit Account	212 10 0						431 10 7	
			293 10 0			,, Income Tax		3 0 0	
	,, National War Bonds at Cost		500 0 0						434 10 7
	,, War Saving Certificates		387 10 0			,, National War Bonds at Cost		500 0 0	
				1,181 0 0		,, War Saving Certificates		387 10 0	
	,, Subscriptions and Donations from 1st January to 31st December, 1919		109 14 6						887 10 0
	,, Interest		31 6 1						
				141 0 7					
				£1,322 0 7					£1,322 0 7

We have compared the above five accounts with the Books and Vouchers of the Funds relating thereto and find them correct. We have verified the Investments of the Funds and the Balances held by the Bankers at the 31st December, 1919.

G. E. HASLIP, M.D.,
Treasurer.

W. E. WARNE,
Financial Secretary and Business Manager.

PRICE, WATERHOUSE & CO.,
3, Frederick's Place, Old Jewry, London, E.C.,
1st April, 1920.

APPENDIX II.

RETURN OF ATTENDANCES.

At Council, Committee, and Sub-Committee Meetings, from the Annual Representative Meeting, 1919, to April 1st, 1920 inclusive.

(Prepared pursuant to Standing Orders.)

COUNCIL MEETINGS.

Chairman: Dr. J. A. MACDONALD.

NAME.	ATTENDANCES. Actual.	Possible.
President: Sir T. Clifford Allbutt, K.C.B., LL.D., F.R.S., Cambridge	1	5
Chairman of Representative Meetings: Dr. T. W. H. Garstang, London ...	5	5
Chairman of Council: Dr. J. A. Macdonald, LL.D., Taunton	5	5
Treasurer: Dr. G. E. Haslip, London ...	5	5
Babtie, Lieut.-Gen. Sir Wm., V.C., K.C.B., Godalming	3	5
Barnes, Dr. J. A. P., London	5	5
Barr, Sir James, C.B.E., Liverpool ...	4	5
Beadles, Dr. H. S., London	5	5
Bolam, Prof. R. A., O.B.E., Newcastle-on-Tyne	4	5
Brackenbury, Dr. H. B., London ...	5	5
Bristowe, Dr. H. C., Wrington, Somerset	3	5
Coombe, Mr. Russell, Sidmouth	3	5
Dawson, The Rt. Hon. Lord, London ...	2	5
Doolin, Dr. W., Dublin	—	5
†Drever, Dr. J. R., Edinburgh	1	2
Eccles, Lieut.-Col. W. McAdam, London	2	5
Elliot, Lieut.-Col. R. H., London ...	3	5
Farquharson, Dr. A. C., M.P., London...	1	5
Fothergill, Dr. E. R., Hove	5	5
Fulton, Dr. Adam, Old Basford	3	5
Giusani, Dr. J., Cork	1	5
Goff, Dr. J., Bothwell	5	5
Greenlees, Dr. T. D., Fordingbridge ...	5	5
Harman, Mr. N. Bishop, London ...	5	5
Johnson, Dr. I. W., Bury	3	5
Johnstone, Mr. R. J., Belfast	1	5
Langdon-Down, Dr. R., Hampton Wick	5	5
Lucas, Mr. Albert, Birmingham... ...	3	5
‡Lumley, Fleet-Surg. F. D., R.N. ...	1	2
Mackenzie, Dr. S. Morton, Dorking ...	4	5
Mactier, Dr. H. C., M.B.E., Wolverhampton	5	5
Manknell, Dr. A., Bradford	4	5
Mills, Dr. John, Ballinasloe	—	5
Nason, Dr. E. Noel, Nuneaton	3	5
Pearson, Dr. C. M., Edinburgh	2	5
Robertson, Dr. C. E., Glasgow	3	5
Shaw, Dr. W. Fletcher, Manchester ...	1	5
Sheahan, Dr. D. A., Portsmouth ...	5	5
Smiley, Dr. G. K., O.B.E., Derby ...	2	5
Smyth, Dr. W. Johnson, Bournemouth...	5	5
*Snodgrass, Dr. W., Glasgow	2	2
Stevens, Dr. John, Edinburgh	5	5
§Sutcliffe, Surg.-Com. P. T., R.N. ...	—	1
Treasure, Dr. W. B. Crawford, Cardiff ...	3	5
Turner, Mr. E. B., London	4	5
Turner, Dr. E. O., Great Missenden ...	3	5
Verrall, Sir Jenner, LL.D., Bath ...	5	5
Young, Dr. C. S., Dundee	2	5

*Appointed November, 1919.
†Resigned November, 1919.
‡Resigned November, 1919.
§Appointed January, 1920.

COMMITTEES.

FINANCE COMMITTEE.

Chairman: THE TREASURER.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	2	—	—	2	2
Chairman of Representative Meetings	ex-officio	1	2	—	—	1	2
Chairman of Council ...	ex-officio	1	2	—	4	1	6
Treasurer	ex-officio	2	2	5	5	7	7
Buttar, Dr. C., London		2	2	4	5	6	7
Eccles, Lt.-Col. W. McAdam, London		1	2	—	—	1	2
Flitcroft, Sir T., Bolton... ...		1	2	—	—	1	2
Fulton, Dr. Adam, Nottingham ...		—	2	—	—	—	2
Galloway, Sir James, K.B.E., London		2	2	—	—	2	2
*Hall, Dr. C. Herbert, Watford ...		2	2	—	—	2	2
*Hawthorne, Dr. C. O., London ...		2	2	—	—	2	2
Moore, Dr. Milner M., Eastbourne ...		2	2	—	—	2	2
Smyth, Dr. W. Johnson, Bournemouth		2	2	—	—	2	2
Verrall, Sir Jenner, LL.D., Bath ...		2	2	3	4	5	6
Chairman of Organisation Committee (Mr. Russell Coombe)...		—	2	—	—	—	2
Chairman of Journal Committee (Mr. Albert Lucas)		—	2	—	—	—	2
Chairman of Medico-Political Committee (Mr. E. B. Turner)		2	2	—	—	2	2
Chairman of Central Ethical Committee (Dr. R. Langdon-Down)		—	2	4	4	4	6
Chairman of Insurance Acts Committee (Dr. H. B. Brackenbury)		1	2	—	—	1	2

* Representatives of Journal Committee.

CENTRAL ETHICAL COMMITTEE.

Chairman: DR. R. LANGDON-DOWN.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
President	ex-officio	—	3	—	—	—	3
Chairman of Representative Meetings	ex-officio	3	3	4	4	7	7
Chairman of Council ...	ex-officio	—	3	—	—	—	3
Treasurer	ex-officio	—	3	—	—	—	3
Biggs, Dr. M. G., London		2	3	3	4	5	7
Ewart, Dr. J. H., Eastbourne		3	3	4	4	7	7
Goff, Dr. John, Bothwell		3	3	—	—	3	3
Jordan, Dr. J. Furneaux		2	3	—	—	2	3
Kerr, Dr. J. Wishart, Glasgow ...		2	3	—	—	2	3
Langdon-Down, Dr. R., London ...		3	3	3	4	6	7
Lee, Dr. P. G., Cork		3	3	—	—	3	3
Lodge, Dr. G. H., Rotherham		2	3	—	—	2	3
Moore, Dr. Milner M., Eastbourne ...		2	3	2	2	4	5
Neal, Dr. James, London		3	3	2	2	5	5
Orton, Dr. John, Coventry		3	3	—	—	3	3
Turner, Dr. E. O., Gt. Missenden ...		3	3	—	2	3	5

JOURNAL COMMITTEE.

Chairman: Mr. ALBERT LUCAS.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	2	—	—	—	2
Chairman of Representative Meetings	ex-officio	1	2	—	—	1	2
Chairman of Council ...	ex-officio	—	2	—	—	—	2
Treasurer	ex-officio	2	2	1	1	3	3
Bolam, Prof. R. A., O.B.E., Newcastle-on-Tyne		1	2	—	—	1	2
Dawson, The Rt. Hon. Lord, London ...		1	2	—	—	1	2
Hall, Dr. C. Herbert, Watford... ...		1	2	—	—	1	2
Hawthorne, Dr. C. O., London ...		2	2	1	1	3	3
Lucas, Mr. Albert, Birmingham ...		2	2	1	1	3	3
Willock, Dr. E. H., Croydon		2	2	—	—	2	2
Chairman of Central Ethical Committee (Dr. R. Langdon-Down)		—	2	—	—	—	2

ORGANISATION COMMITTEE.

Chairman: Mr. RUSSELL COOMBE.

NAME		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	3	—	—	—	3
Chairman of Representative Meetings	ex-officio	3	3	13	15	16	18
Chairman of Council ...	ex-officio	—	3	—	—	—	3
Treasurer	ex-officio	1	3	3	13	4	16
Barnes, Dr. J. A. P., London		1	3	10	15	11	18
*Buist, Dr. R. C., Dundee		1	2	2	4	3	6
Coombe, Mr. Russell, Sidmouth ...		2	3	8	15	10	18
Dryland, Dr. L. W., Kettering ...		1	3	3	4	4	7
§Falconer, Dr. J. F., N. Ormesby ...		1	1	7	9	8	10
§Flemming, Dr. C. E. S., Bradford-on-Avon		1	1	7	9	8	10
Fothergill, Dr. E. R. Hove		3	3	9	9	12	12
§Harman, Mr. N. Bishop, London ...		—	1	12	13	12	14
*Henry, Dr. R. Wallace, Leicester ...		—	2	9	13	9	15
§Langdon-Down, Dr. R., London ...		—	1	3	5	3	6
Lankester, Dr. C. P., Guildford ...		3	3	—	—	3	3
Mackenzie, Dr. S. Morton, Dorking ...		3	3	9	13	12	16
§Verrall, Sir Jenner, LL.D., Bath ...		2	2	9	9	11	11
Walker, Dr. J. F., Southend-on-Sea...		2	3	4	9	6	12
Willock, Dr. E. H., Croydon		3	3	—	2	3	5
†Chairman of Dominions Committee (Greenlees, Dr. T. D.)		2	2	—	—	2	2

*Co-opted October, 1919.
†Co-opted for consideration of question of Federation.
§Co-opted for consideration of Scrutiny Sub-Committee Minutes.

MEDICO-POLITICAL COMMITTEE.

Chairman: Mr. E. B. TURNER.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	3	—	—	—	3
Chairman of Representative Meetings	ex-officio	3	3	4	7	7	10
Chairman of Council, ...	ex-officio	1	3	—	1	1	4
Treasurer	ex-officio	—	3	—	1	—	4
Bailey, Dr. T. Ridley, Bilston		3	3	5	5	8	8
Bone, Dr. J. W., Luton...		2	3	4	4	6	7
Brackenbury, Dr. H. B., London ...		3	3	3	4	6	7
Farquharson, Dr. A. C., M.P., London		—	3	2	6	2	9
Flemming, Dr. C. E. S., Bradford-on-Avon		3	3	1	3	4	6
Fulton, Dr. Adam, Nottingham ...		2	3	2	7	4	10
Harman, Mr. N. Bishop, London ...		3	3	4	6	7	9
Henry, Dr. R. Wallace, Leicester ...		3	3	1	3	4	6
Mactier, Dr. H. C., M.B.E., Wolverhampton		3	3	6	7	9	10
Stevens, Dr. J., Edinburgh		3	3	—	—	3	3
Turner, Mr. E. B., London (and as Chairman of Public Health Committee)		3	3	8	9	11	12
Verrall, Sir Jenner, LL.D., Bath ...		3	3	2	3	5	6
*Chairman of Public Health Committee (Dr. E. J. Domville)		1	2	2	2	3	4

*Ceased to be Chairman of P. H. Committee under By-law 70.

PUBLIC HEALTH COMMITTEE.

Chairman: Dr. E. J. DOMVILLE, afterwards Dr. T. W. H. GARSTANG.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
President	ex-officio	—	3	—	—	—	3
Chairman of Representative Meetings	ex-officio	3	3	2	2	5	5
Chairman of Council ...	ex-officio	—	3	—	—	—	3
Treasurer	ex-officio	—	3	—	—	—	3
Dearden, Dr. W. F., Manchester ...		2	3	2	3	4	6
Domville, Dr. E. J., O.B.E., Bridport		3	3	2	2	5	5
Green, Dr. A. Withers, London ...		3	3	2	2	5	5
Heggs, Dr. T. B., Sittingbourne ...		2	3	2	3	4	6
Jones, Dr. Herbert, Hereford		3	3	3	3	6	6
Keenan, Dr. T. F., London		1	3	—	2	1	5
Lewys-Lloyd, Dr. E., Towyn		3	3	3	3	6	6
Lyndon, Dr. A., O.B.E., Hindhead ...		3	3	1	2	4	5
Manknell, Dr. A., Bradford		3	3	2	2	5	5
Snell, Dr. E. H., Coventry		3	3	2	3	5	6
Trotter, Dr. G. C., Paisley		3	3	3	3	6	6
Westcott, Dr. W. Wynn, London ...		—	3	—	2	—	5

SCIENCE COMMITTEE.

Chairman: THE PRESIDENT.

NAME.		ATTENDANCES. Com. Meeting Actual.	Com. Meeting Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible	Total. Actual.	Total. Possible.
President	ex-officio	1	1	1	2	2	3
Chairman of Representative Meetings	ex-officio	—	1	—	—	—	1
Chairman of Council ...	ex-officio	—	1	—	—	—	1
Treasurer	ex-officio	—	1	1	1	1	2
Bolton, Dr. Chas., London		—	1	1	1	1	2
Campbell, Dr. H. J., Dartmouth ...		1	1	1	1	2	2
Elliot, Lt.-Col. R. H., London... ...		—	1	—	—	—	1
Haldane, Prof. J. S., Oxford		—	1	1	1	1	2
Martin, Prof. C. J., C.M.G., London...		1	1	2	2	3	3
Moore, Prof. B., London		1	1	1	1	2	2
Stockman, Prof. Ralph, Glasgow ...		—	1	—	1	—	2

INSURANCE ACTS COMMITTEE.

Chairman: DR. H. B. BRACKENBURY.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
President	ex-officio	1	8	—	—	1	8
Chairman of Representative Meetings	ex-officio	5	8	1	1	6	9
Chairman of Council ...	ex-officio	1	8	—	—	1	8
Treasurer	ex-officio	3	8	1	1	4	9
§Bailey, Dr. T. Ridley, Bilston		8	8	8	8	16	16
§Brackenbury, Dr. H. B., London ...		8	8	9	9	17	17
§Cowie, Dr. H. G., London		5	8	6	7	11	15
Dain, Dr. H. G., Birmingham		8	8	7	8	15	16
*Darling, Dr. J. Singleton, Lurgan ...		—	4	—	—	—	4
§Dewar, Dr. M., Edinburgh		4	4	—	—	4	4
Divine, Dr. J., Hull		5	8	—	—	5	8
Drever, Dr. J. R., Edinburgh		2	8	4	6	6	14
§Forbes, Dr. Alex., Sheffield		8	8	1	1	9	9
Fothergill, Dr. E. R., Hove		7	8	5	7	12	15
§Fry, Dr. P. V., Halifax		5	8	3	7	8	15
*Genge, Dr. G. G., London		3	4	—	—	3	4
§Goff, Dr. John, Bothwell		8	8	—	1	8	9
Green, Dr. A. Withers, London ...		7	8	—	—	7	8
Harman, Mr. N. Bishop, London ...		1	2	—	—	1	2
Hill, Prof. A. Bostock, Birmingham ...		4	8	—	—	4	8
*Hodgson, Dr. W., Crewe		3	4	—	—	3	4
Hunter, Dr. J., Edinburgh		5	8	—	—	5	8
§Jones, Dr. Hugh, Dolgelly		4	4	—	—	4	4
§Lankester, Dr. C. P , Guildford ...		4	4	—	—	4	4
§Linnell, Dr. A., Towcester		8	8	7	8	15	16
§Lockett, Dr. T. Wood, Melksham ...		8	8	2	2	10	10
§Miles, Dr. T. G., Ruardean		4	4	—	—	4	4
§Oldham, Dr. H. F., M.B.E., Morecambe		8	8	—	—	8	8
§Palmer, Dr. C. J., Mansfield Woodhouse		8	8	1	1	9	9
§Panting, Dr. C. H., London		6	8	1	1	7	9
§Radcliffe, Dr. Frank, Oldham		7	8	—	—	7	8
Ramsay, Dr. Mabel, Plymouth... ...		7	8	—	—	7	8
§Rutter, Dr. H. L., M.B.E., Newcastle-on-Tyne		5	8	5	6	10	14
§Williams-Freeman, Dr. J. P. Andover .		8	8	8	8	16	16
Treasure, Dr. W. B. Crawford, Cardiff		5	8	—	1	5	9

*Membership ceased November, 1919.
§Appointed November, 1919.

HOSPITALS COMMITTEE.

Chairman: Prof. R. A. BOLAM.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	2	—	—	—	—
Chairman of Representative Meetings	ex-officio	1	2	—	—	—	—
Chairman of Council ...	ex-officio	—	2	—	—	—	—
Treasurer	ex-officio	—	2	—	—	—	—
Bolam, Prof. R. A., O.B.E., Newcastle-on-Tyne		2	2	—	—	—	—
Campbell, Dr. H. J., Dartmouth ...		2	2	—	—	—	—
Domville, Dr. E. J., O.B.E., Bridport		1	2	—	—	—	—
Eason, Dr. J., Edinburgh		1	2	—	—	—	—
Eccles, Lt.-Col. W. McA., London ...		—	2	—	—	—	—
Galloway, Sir James, K.B.E., London		1	2	—	—	—	—
Harman, Mr. N. Bishop, London ...		2	2	—	—	—	—
Johnson, Dr. I. W., Bury		1	2	—	—	—	—
Morison, Mr. A. E., O.B.E., Sunderland		2	2	—	—	—	—
Parker, Dr. G, Bristol		2	2	—	—	—	—
Shaw, Dr. W. Fletcher, Manchester ...		—	2	—	—	—	—
Wallace, Sir Cuthbert, K.C.M.G., London...		1	2	—	—	—	—

NAVAL AND MILITARY COMMITTEE.

Chairman: Lt.-Col. R. H. ELLIOT, I.M.S. (retd.)

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	4	—	—	—	4
Chairman of Representative Meetings	ex-officio	3	4	—	—	3	4
Chairman of Council ...	ex-officio	1	4	—	—	1	4
Treasurer	ex-officio	1	4	—	—	1	4
Annis, Major E. G., London		4	4	4	5	8	9
Babtie, Lt.-Gen. Sir Wm., V.C., K.C.B., K.C.M.G., Godalming ...		3	4	2	2	5	6
Biggs, Lt.-Col. G. N., London... ...		—	4	—	—	—	4
Buttar, Dr. C., London		4	4	5	5	9	9
Elliot, Lt.-Col. R.H., I.M.S. (retd.) London...		4	4	5	7	9	11
Henchley, Maj. A. R., D.S.O., Droitwich		3	4	4	5	7	9
*Lumley, Fleet Surg. F. N., R.N. ...		1	1	—	—	1	1
Todd, Major D. F., Sunderland ...		—	4	1	5	1	9
§Sutcliffe, Surg.-Gen. P. G., Stratford-on-Avon		1	2	—	—	1	2

* Resigned November, 1919.
§ Appointed December, 1919.

DOMINIONS COMMITTEE.

Chairman: Dr. T. DUNCAN GREENLEES.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	2	—	—	—	—
Chairman of Representative Meetings	ex-officio	1	2	—	—	—	—
Chairman of Council ...	ex-officio	1	2	—	—	—	—
Treasurer	ex-officio	—	2	—	—	—	—
Benson, Surg.-Gen. P. H., Jersey ...		1	2	—	—	—	—
Cantlie, Sir James, K.B.E., London ...		1	1	—	—	—	—
Clark, Dr. Francis, Wokingham ...		1	2	—	—	—	—
Elliot, Lt.-Col. R. H., I.M.S. (retd.), London...		1	2	—	—	—	—
Greenlees, Dr. T. D., Fordingbridge ...		2	2	—	—	—	—
Morier, Dr. C. G. D., London		2	2	—	—	—	—

*Appointed Feb., 1920.

SCOTTISH COMMITTEE.

Chairman: Dr. J. R. DREVER, afterwards Dr. JOHN GOFF.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	3	—	—	—	3
Chairman of Representative Meetings	ex-officio	—	3	—	—	—	3
Chairman of Council ...	ex-officio	—	3	—	—	—	3
Treasurer	ex-officio	1	3	—	—	1	3
*Anderson, Dr. G. C., Fife		1	1	1	1	2	2
Buist, Dr. R. C., Dundee		2	3	1	1	3	4
Drever, Dr. J. R., Edinburgh		2	2	2	2	4	4
Dyer, Dr. E., Alloa		2	3	—	—	2	3
Fraser, Dr. T., Aberdeen		1	3	—	—	1	3
Glen, Dr. A. Kennedy, Glasgow ...		3	3	—	—	3	3
Goff, Dr. John, Bothwell		3	3	2	2	5	5
Hume, Dr. J., Perth		3	3	1	1	4	4
Moir, Dr. J. Munro, Inverness		1	3	—	—	1	3
Pearson, Dr. C. M., Edinburgh ...		3	3	—	—	3	3
Robertson, Dr. C. E., Glasgow ...		3	3	1	1	4	4
Stevens, Dr. John, Edinburgh		3	3	2	2	5	5
Young, Dr. C. S., Dundee		3	3	—	—	3	3
Eason, Dr. John, Edinburgh		2	3	—	—	2	3
Milln, Dr. G. H. S., Dundee		—	3	—	—	—	3
Smith, Dr. F. K., Aberdeen		2	3	—	—	2	3
†Dickson, Dr. D. Elliot, Fife		2	2	—	—	2	2
†Miller, Dr. A. C., Fort William ...		1	2	—	—	1	2
†Rorie, Dr. D., Cults		1	2	—	—	1	2
§Snodgrass, Dr. W., Glasgow		1	1	—	—	1	1

* Resigned October, 1919.
† Co-opted October, 1919.
§ Appointed December, 1919.

IRISH COMMITTEE.

Chairman:

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	—	1	—	—	—	—
Chairman of Representative Meetings	ex-officio	—	1	—	—	—	—
Chairman of Council ...	ex-officio	—	1	—	—	—	—
Treasurer	ex-officio	—	1	—	—	—	—
Grace, Dr. P., Kilkenny		—	1	—	—	—	—
Giusani, Dr. J., Cork		—	1	—	—	—	—
Mills, Dr. John, Ballinasloe		—	1	—	—	—	—
Johnstone, Mr. R. J., Belfast		1	1	—	—	—	—
Crymble, Mr. P. T., Belfast		—	1	—	—	—	—
Doolin, Mr. W., Dublin...		—	1	—	—	—	—
Corby, Dr. H., Cork		1	1	—	—	—	—
Darling, Dr. J. S., Lurgan		1	1	—	—	—	—
Murphy, Dr. W. W., Inch		1	1	—	—	—	—
Power, Dr. J., Cahir		1	1	—	—	—	—
Ryan, Dr. J. V., Carlow		1	1	—	—	—	—
Walshe, Dr. D., Craigue		1	1	—	—	—	—
Warnock, Dr. H. T., Donegal		—	1	—	—	—	—
Lee, Dr. P. G., Cork		—	1	—	—	—	—

WELSH COMMITTEE.

Chairman: Dr. W. B. CRAWFORD TREASURE.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
President	ex-officio	—	2	—	—	—	—
Chairman of Representative Meetings	ex-officio	—	2	—	—	—	—
Chairman of Council ...	ex-officio	—	2	—	—	—	—
Treasurer	ex-officio	—	2	—	—	—	—
Drinkwater, Dr. H., Wrexham ...		2	2	—	—	—	—
Lewys-Lloyd, Dr. E., Towyn		1	2	—	—	—	—
Mactier, Dr. H. C., Wolverhampton ...		2	2	—	—	—	—
Marks, Dr. L. Freeman, Mumbles ...		2	2	—	—	—	—
Murray, Dr. J., Llandrindod Wells ...		2	2	—	—	—	—
Price, Dr. D. R., Ammanford		2	2	—	—	—	—
Thomas, Dr. W. E., Ystrad Rhondda		1	2	—	—	—	—
Treasure, Dr. W. B. Crawford, Cardiff		2	2	—	—	—	—

OFFICE COMMITTEE.

Chairman: CHAIRMAN OF COUNCIL.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
Chairman of Council ...	ex-officio	7	8	—	—	—	—
Chairman of Representative Meetings	ex-officio	8	8	—	—	—	—
Treasurer	ex-officio	8	8	—	—	—	—

SPECIAL MINISTRY OF HEALTH COMMITTEE.

Chairman: Mr. E. B. TURNER.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
President	ex-officio	—	6	—	—	—	—
Chairman of Representative Meetings	ex-officio	6	6	—	—	—	—
Chairman of Council ...	ex-officio	3	6	—	—	—	—
Treasurer	ex-officio	3	6	—	—	—	—
Brackenbury, H. B., London		6	6	—	—	—	—
Cardale, Dr. H. J., London		4	6	—	—	—	—
Dill, Dr. J. F. Gordon, O.B.E., Hove ...		6	6	—	—	—	—
Dawson, The Rt. Hon. Lord, London ...		2	6	—	—	—	—
Domville, Dr. E. J., O.B.E., Bridport		6	6	—	—	—	—
Eccles, Lt.-Col. W. McAdam, London ..		2	6	—	—	—	—
Flemming, Dr. C. E. S., Bradford-on-Avon		6	6	—	—	—	—
Fothergill, Dr. E. R., Hove		6	6	—	—	—	—
Fry, Dr. P. V., Halifax		2	6	—	—	—	—
Harman, Mr. N. Bishop, London ...		6	6	—	—	—	—
Verrall, Sir Jenner, LL.D., Bath ...		6	6	—	—	—	—
Turner, Mr. E. B., London		6	6	—	—	—	—
Jones, Dr. Hugh, Dolgelly		5	5	—	—	—	—
Badcock, Mr. J. H., London		4	6	—	—	—	—
Bailey, Dr. T. Ridley, Bilston		6	6	—	—	—	—
Williams, Dr. E. C. P., London... ...		5	6	—	—	—	—
Hill, Prof. Bostock, Birmingham ...		3	6	—	—	—	—
Dain, Dr. H. G., Birmingham		4	5	—	—	—	—
Linnell, Dr. A., Towcester		2	6	—	—	—	—
Bolam, Prof. R. A., O.B.E., Newcastle-on-Tyne		1	4	—	—	—	—
Fulton, Dr. Adam, Nottingham ...		1	1	—	—	—	—
Hill, Dr. A. Eustace, Darlington ...		1	4	—	—	—	—
Ivens, Miss M. H. F., Liverpool ...		1	4	—	—	—	—
Maclean, Dr. E. J., Cardiff		1	4	—	—	—	—
Thomas, Dr. W. E., Ystrad Rhondda		2	2	—	—	—	—
Jones, Dr. D. Rocyn, Newport		1	2	—	—	—	—
Bennett, Mr. N. G., London		—	5	—	—	—	—
Shore, Dr. T. W., O.B.E., London ...		—	5	—	—	—	—

JOINT R.B. and COUNCIL ELECTION RETURNS COMMITTEES.

Chairman: CHAIRMAN OF COUNCIL.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
Chairman of Representative Meetings	ex-officio	—	1	—	—	—	—
Chairman of Council ...	ex-officio	1	1	—	—	—	—
Treasurer	ex-officio	1	1	—	—	—	—
Biggs, Dr. M. G., London		1	1	—	—	—	—
Campbell, Dr. H. J., Dartmouth ...		1	1	—	—	—	—
Coombe, Mr. Russell, Sidmouth ...		1	1	—	—	—	—
Henry, Dr. R. Wallace, Leicester ...		1	1	—	—	—	—
Lucas, Mr. Albert, Birmingham ...		1	1	—	—	—	—
Turner, Mr. E. B., London		1	1	—	—	—	—
Brackenbury, Dr. H. B., London ...		—	1	—	—	—	—
Darling, Dr. J. S., Lurgan		—	1	—	—	—	—
Domville, Dr. E. J., O.B.E., Bridport		—	1	—	—	—	—

ANNUAL MEETING ARRANGEMENTS COMMITTEE.

Chairman: CHAIRMAN OF COUNCIL.

NAME.		ATTENDANCES. Com. Meetings. Actual.	Com. Meetings. Possible.	Sub-Com. Meetings. Actual.	Sub-Com. Meetings. Possible.	Total. Actual.	Total. Possible.
President	ex-officio	—	1	—	—	—	—
Chairman of Representative Meetings	ex-officio	1	1	—	—	—	—
Chairman of Council ...	ex-officio	1	1	—	—	—	—
Treasurer	ex-officio	1	1	—	—	—	—
Bolam, Prof. R. A., O.B.E., Newcastle-on-Tyne		1	1	—	—	—	—
Dixon, Prof. W. E., F.R.S., Whittlesford		1	1	—	—	—	—
Gaskell, Dr. J. F., Gt. Shelford ...		1	1	—	—	—	—
Haynes, Dr. G. E., Cambridge ...		1	1	—	—	—	—
Cooke, Mr. A., Cambridge		1	1	—	—	—	—
Martin, Prof. C. J., F.R.S., London ...		1	1	—	—	—	—
Turner, Mr. E. B., London		1	1	—	—	—	—
Webb, Dr. A., O.B.E., Cambridge ...		1	1	—	—	—	—
Wallace, Sir Cuthbert, K.C.M.G., London		1	1	—	—	—	—
Rolleston, Sir Humphrey, K.C.B., London		1	1	—	—	—	—
Woodhead, Prof. Sir German S., O.B.E., Cambridge		—	1	—	—	—	—

SPECIAL COMMITTEE re MINIMUM SALARIES FOR APPOINTMENTS.

Chairman: Dr. E. J. DOMVILLE, afterwards, Chairman of Representative Meetings.

NAME.	ATTENDANCES.					
	Com. Meetings.		Sub-Com. Meetings.		Total.	
	Actual	Possible	Actual	Possible	Actual	Possible
Chairman of Representative Meetings	1	1	—	—	—	—
Chairman of Council	1	1	—	—	—	—
Bailey, Dr. T. Ridley, Bilston	3	3	—	—	—	—
Brackenbury, Dr. H. B., London ...	2	3	—	—	—	—
Domville, Dr. E. J., O.B.E., Bridport	3	3	—	—	—	—
Farquharson, Dr. A. C., M.P., London	1	1	—	—	—	—
Fulton, Dr. Adam, Old Basford ...	—	2	—	—	—	—
Kaye, Dr. J. R., Wakefield	1	2	—	—	—	—
Langdon-Down, Dr. R., London ...	1	1	—	—	—	—
Snell, Dr. E. H., Coventry	3	3	—	—	—	—
Turner, Mr. E. B., London	3	3	—	—	—	—
Verrall, Sir Jenner, LL.D., Bath ...	1	3	—	—	—	—

APPENDIX III.

JOINT OPINION OF MR. C. E. E. JENKINS, K.C., AND MR. T. R. COLQUHOUN DILL ON QUESTION OF POSSIBILITY AND DESIRABILITY OF ALTERING THE CONSTITUTION OF THE ASSOCIATION SO THAT IT MIGHT BECOME, WHOLLY OR PARTLY, A FEDERATION OF MEDICAL BODIES.

1. On the main question on which we are asked to advise, we are of opinion that it is possible so to alter the constitution of the British Medical Association that it may become in effect a federation of medical bodies without abandoning its present position as an Association of individual members of the medical profession. And we are of opinion that this can be effected without any alteration of the existing Memorandum of Association, and therefore without any application to the Court.

2. It is hardly for us to express an opinion as to the desirability of taking the course suggested. But the facts placed before us afford considerable ground for supposing that the adoption of such a course would go far towards meeting the desire of certain Branches (particularly those in the Oversea Dominions and in Ireland) for greater independence and freedom of action, while at the same time preserving the status and prestige of the parent Association.

3. Subject to any restrictions imposed by its own Regulations, it is open to any Company registered under the Companies, etc., Act, 1908, to admit any individual or any other corporation to membership. There is nothing in the existing Memorandum of Association of the British Medical Association to prohibit this. It does not in any way deal with membership, and the objects stated in Clause 3 are quite compatible with the admission to membership of incorporated bodies connected with the medical profession or the medical and allied sciences, or of individuals who, although not qualified for membership under existing Article 3, might be considered as desirable members as nominees of or otherwise representing the interests of unincorporated Associations of a similar character.

4. If the proposal were adopted it would be necessary for the Association in general meeting to pass and confirm special resolutions making considerable alterations in the present Articles of Association.

Article 3 would have to be altered so as to provide for three classes of Members, viz. :—

(I.) Medical Practitioners as at present, and

(II.) Incorporated organisations having objects similar to those of the Association. The precise definition of the classes of organisation admissible to membership would require careful consideration. We suggest that it should be wide enough to include separately incorporated Branches of the Association (whether within or without the United Kingdom) and other incorporated bodies (whether consisting of members of the Association or not) concerned with the welfare of the medical profession or of allied professions (such as nursing) or with the promotion of the medical and allied sciences. Approval by some body representing the Association (we suggest the Council) ought to be made a condition of admission to membership, and the approving body might be permitted to impose conditions of membership which might be either general or applicable to a particular organisation seeking admission. Of course the bodies so admitted to membership must be empowered by their own regulations to become members of such a body as the Association.

(III.) Individuals, not eligible for membership under (i.) but whom it might be desired to admit as nominees representing the interests of unincorporated associations of a similar character to the Corporations referred to in (ii.). In this connection it will be remembered that an unincorporated association cannot itself be a member of a company registered under the Companies Act. A member must be a legal entity, that is, an individual or a corporation.

Many consequential alterations of the Articles and the By-laws would be necessary. In fact there should be a separate set or separate sets of provisions applicable to classes (ii.) and (iii.) and dealing with subscriptions (which might be on a capitation basis), termination of membership, expulsion, rights of voting at meetings, and of representation on the Representative Body and the Council. Other matters as to which special treatment for classes (ii.) and (iii.) would be required would no doubt suggest themselves in the course of the revision of the Articles and By-laws.

It would also, we think, be desirable to insert in the Articles some provision as to the dissolution of Branches of the Association. The present Article 12 does not extend to this. In the event of a Branch becoming incorporated the new corporate body would be a member of the Association and would probably include amongst its own members the persons who were members of the Branch. These persons would pay subscriptions to the new corporate body, and would not be likely to pay an additional subscription to the parent Association. In such a case it would be unnecessary and probably impracticable to continue the organisation of the Branch and it would be desirable to dissolve it. But of course it would be open to the members of a dissolved Branch to remain members of the Association if they wished.

5. The alteration of the Articles and By-laws in the manner suggested is a domestic matter which would concern the members of the Association only. None of the bodies which have in the past opposed the efforts of the Association to obtain increased powers would have any voice in this matter or any power to oppose the change. The change does not in fact involve any increase in the existing powers.

6. The admission to membership of an organisation which was itself a trade union would not involve any breach by the Association of the proviso to Clause 3 of the Memorandum of Association. If the Articles were altered as suggested there would not, in our opinion, be any legal objection to such an organisation becoming a member.

7. We are strongly of opinion that the Association will best consult its own interests and those of the profession by remaining incorporated. As some of the advantages of incorporation we may point out that a Corporation is a legal entity with a recognised status, capable of holding property and contracting, suing, and being sued in its own name: its members and officers are not personally responsible for its acts or liable under its contracts, and the whole liability of any member is limited (in the case of such a corporation as the Association) to the amount of his annual subscription and the amount of his contribution (in the improbable event of a winding-up) as fixed by the Memorandum.

In the case of an unincorporated society property must be vested in a fluctuating body of trustees, and contracts must be entered into by trustees or officers or other agents who must necessarily incur personal liability in so doing. These disabilities must have the effect of hampering and restricting the operations of the Society.

For the Association to revert to the position of such a Society after having enjoyed the advantages of incorporation for many years would, in our opinion, be a retrograde step involving the abandonment of a large part of its dignity and prestige and the loss of many of its present facilities for carrying on its work.

6th March, 1920.

APPENDIX IV.

MEMORANDUM OF EVIDENCE GIVEN BEFORE THE DEPARTMENTAL COMMITTEE ON THE WORKMEN'S COMPENSATION ACT ON BEHALF OF THE BRITISH MEDICAL ASSOCIATION.

I.—THE POSSIBILITY OF INCLUDING IMMEDIATE MEDICAL AND SURGICAL TREATMENT AFTER AN ACCIDENT AS PART OF THE BENEFIT TO WHICH AN INJURED WORKMAN IS ENTITLED.

1. Immediate medical and surgical treatment is already provided for under the National Health Insurance Act. Under the new regulations which are expected to come into force as from April 1st, 1920, every injured workman will be entitled to medical or surgical treatment by any panel practitioner in an emergency, even although his own panel doctor is not available.

2. There are, however, certain juveniles who do not come under the scope of the National Health Insurance Act, viz.: those juveniles who are employed and who have not attained the age of 16. For immediate treatment for these cases the employer should be responsible.

3. There are numerous cases of injury the treatment of which beyond first aid is outside the scope of ordinary competence and skill of an ordinary panel practitioner, and therefore outside the agreement of an insurance practitioner with the Insurance Committee. These cases are, wherever possible, sent to some institution where the necessary treatment can be provided, and it is the duty of any panel practitioner to advise where such treatment can be obtained. It happens in many cases that the injured person objects to being sent to an institution rather than to his own home, and this matter is dealt with under III. B. para. 7.

4. It should be incumbent upon the employer to provide such first aid appliances as are necessary; and the arrangements in this connection should be under the direction and inspection of the medical referee. The employer should be compelled to put in charge of the first aid department someone who is trained in the subject. The onus of the provision of proper transport should be upon the employer.

5. In the case of big works where there are large numbers of employees it would be to the benefit of the employer to provide immediate medical and surgical treatment by appointing a suitable doctor or doctors to carry out this work.

II.—THE TREATMENT AND TRAINING OF THE WORKMAN WHO HAS SUFFERED SERIOUS INJURY AS THE RESULT OF AN ACCIDENT, WITH A VIEW TO HIS RETURN TO SUITABLE EMPLOYMENT.

A.—Treatment.

6. Adequate and efficient treatment of minor as well as serious injuries is essential in order that an injured person may be able to return to his former employment or to some other suitable occupation. Many minor injuries are inadequately treated because there are not at present facilities in every district for proper treatment. In many districts where there are hospitals for the treatment of serious cases, no provision is made for the treatment of minor cases, *e.g.*, by massage, electricity, etc. There are many injuries which it is practically impossible to treat efficiently at home and which can only be attended to by persons trained in that particular work. For instance, a practitioner of ordinary competence and skill cannot be considered to have the necessary knowledge to enable him to treat certain injuries by massage and electricity. It is of course incumbent upon him to advise the injured workman where he *can* obtain such treatment, but it often happens that there are no facilities of the kind available within a reasonable distance.

7. There are many cases which would benefit materially if certain recommended treatment were accepted by the patients. Where such recommended treatment is not accepted by the patient the same should be referred to the medical referee whose decision (after consultation with the injured person's own medical attendant) should be final. Compensation should be reduced if the injured workman unreasonably refuses to undergo such treatment. (Examples in explanation of this point will be given by the witnesses).

8. It should be the employer's duty to supply the necessary appliances such as artificial limbs, trusses, etc. which are considered to be necessary by the medical referee.

B.—Training.

9. Where a workman is permanently disabled from following his own occupation or so disabled that his earning power is permanently reduced the medical referee should certify to this effect and state for what class of work he is fit to be trained.

10. Use might be made of the institutions which have been set up by the Ministry of Pensions in order that the injured workman might be trained with a view to his return to suitable industrial work.

III.—THE PLACE OF THE DOCTOR OR SURGEON IN THE PROCEDURE FOR DECIDING DISPUTED CASES, WHETHER AS WITNESS, MEDICAL REFEREE, OR ASSESSOR.

A.—Medical Witness.

11. No attempt should be made to dispense with the evidence of the patient's own doctor.

12. In any disputed case (disputed owing to conflicting medical evidence) the medical evidence should not be heard in open Court but the whole facts of the case should be submitted to a medical referee appointed by the State and the medical witnesses should be summoned before the medical referee and speak to the facts of the case as they appear to them.

13. In a disputed case either party should be permitted to have the case discussed in this manner *i.e.* as far as the medical aspect of the case is concerned. The opinion of the medical referee might be final or an appeal could be allowed to a Board of Medical Referees. If the above procedure were adopted it would tend to prevent such circumstances as:—

(*a*) Unnecessary expenditure of money.

(*b*) Cases of neurasthenia the result of long drawn-out litigation on points of medical evidence alone. A Neurosis very often rests upon the idea of the injury rather than upon the injury itself.

(*c*) The eliciting of untrue opinions, the result of forensic craft.

(*d*) Distrust of the employer by the workman who imagines that the doctor who is engaged by the employer will always act against the interests of the workman.

14. Opportunity should always be given to a doctor representing the deceased's family or trade union and a doctor representing the employer to be present at a post mortem.

B.—Medical Referee.

15. Should be appointed by the State.

16. Should be thoroughly competent in this branch of work.

17. Should have the supervision and control of all first aid appliances and arrangements.

18. Should be available for consultation if required by the injured person's doctor.

19. Should decide all cases which are disputed on medical grounds, his decision in this case to be binding on either party, with the exception that an appeal might be allowed to a board of medical referees.

20. To decide in cases where pre-existing disease is a factor, and to assess the percentage of incapacity in connection with same.

21. Should have the power to enforce treatment after consultation with the injured person's own doctor and to reduce benefit if treatment is refused.

22. Should decide as to whether or not such appliances as artificial limbs, trusses, etc., are necessary.

23. Should advise as to the suitable treatment and training which he considers necessary in order to fit the injured person to return to suitable employment.

C.—Medical Assessor.

24. Would not be necessary if the procedure outlined above were adopted, but should present arrangements hold, whereby disputed cases are decided in open Court then the medical assessor should be summoned in all cases where medical evidence is to be taken.

25. It should not be optional for the judge to say whether or not the medical assessor is to be present.

26. It should be for the medical assessor to decide on points of conflicting medical evidence.

IV.—THE POSSIBILITY OF ESTABLISHING A PERCENTAGE SCALE OF INCAPACITY, COMPENSATING PHYSICAL INJURY ACCORDING TO NATURE OF INJURY, OCCUPATION, AND AGE OF INJURED PERSON.

27. Difficulties here are very great but the adoption of such a scheme might be possible in one or two specific instances such as loss of an eye, total or partial loss of a limb or some well defined injury but even in these cases the injured person's wage-earning capacity differs according to the nature of his work. The experience of the Ministry of Pensions might be useful.

28. The establishment of a percentage scale of incapacity would mean the cross-indexing of every bone and joint with every trade or vocation, for instance, by taking say, the right hand, the use of which in every trade would have to be gone into and a percentage value established on each digit.

29. Possibly the best plan would be to postpone such a scheme for a time, for, were treatment and training obligatory, there would later on be more satisfactory data which would serve as a guide in this connection.

V.—WHEN SHOULD COMPENSATION COMMENCE?

This is not primarily a medical question, but a few observations may not seem to be out of place.

30. The present method whereby compensation is not paid until the workman has been off work for 14 days is liable to misuse. Quite apart from any question of malingering, for in the Association's opinion there is no great amount of malingering, it is only in accordance with our knowledge of human nature to suppose that a workman who is able to resume his work on the 12th day will be tempted to make the most of his condition in order to receive compensation as from the first day of his accident.

31. It would be a benefit to employer and to employee alike if compensation were paid from the fourth day for the following reasons:—

(*a*) The injured workman who is tempted to make the most of his condition in order to come within the 14 days' rule will probably resume work much sooner.

(*b*) It would prevent the injured workman continuing his employment in the belief that his injury will not last long enough for him to obtain compensation under the 14 days rule. There are instances where this has happened with bad results. Had the patient been in a position to claim compensation earlier by stopping his work then he might have prevented a condition arising which would cause him to claim compensation for a longer period. In such a case both the employer and employee would benefit.

(*c*) Payment of compensation from the fourth day would obviously be of benefit to the employee as he would be in receipt of compensation sooner.

To pay compensation from the first day would cause endless clerical work and would be impracticable in view of the many trivial cases which last for one or two days.

32. Payment of compensation, no matter when commenced should not be held as an admission of liability. There may be many cases where medical evidence would prove that liability should not be admitted. If payment of compensation could be made without prejudice it would be an advantage.

APPENDIX V.

MEMORANDUM OF EVIDENCE PLACED BY THE BRITISH MEDICAL ASSOCIATION BEFORE THE COLONIAL MEDICAL SERVICES COMMITTEE (APPOINTED IN NOVEMBER, 1919, BY THE SECRETARY OF STATE FOR THE COLONIES), ON 23RD FEBRUARY, 1920.

1. The reference to the Colonial Medical Services Committee is:—

"To consider the position of the Medical Services of the various Colonies and Dependencies, with a view to maintaining and increasing the supply of candidates, and to securing contentment within the Services; and to consider whether the principle of assimilating the medical services of neighbouring Colonies may usefully be extended, and if so, how far, and by what means."

2. The information contained in this Memorandum is mainly based upon information obtained from the Colonial Branches of the Association. The Committee will no doubt make due allowance for the way in which the information has had to be gathered—the difficulties and delays in communication, the fact that obviously it is very difficult to submit witnesses with firsthand evidence: and that it is in some cases impossible for the Association to give the names of those who have supplied the information.

3. The British Medical Association has approximately 6,500 members outside the United Kingdom, including a large proportion of the members of the Medical Services of the various Colonies and Dependencies, who look to it to voice their grievances and protect their interests.

4. The Association proposes to place before the Committee:

(i.) some points which according to information placed at the disposal of the Association, militate against contentment within the Service and make it unlikely that a proper supply of candidates will be maintained, with suggestions as to remedies;

(ii.) the opinion of the Association as to assimilation of the Medical Service of neighbouring Colonies.

I. DEFECTS LEADING TO DISCONTENT IN THE SERVICE.

5. These may be grouped under the heads:—

(A) The nature of the work and the conditions of service;

(B) Pay, allowances and pensions.

(A) NATURE OF THE WORK AND CONDITIONS OF SERVICE.

Need of Fuller and Clearer Statement of Conditions of Service.

6. The full nature of the contract made by entrants into the Service is often not understood by them. Many members of the Service are discontented because they now realise that the pensions attainable are not what they thought they would be when they entered, or because the opportunities for private practice are less than they expected.

7. Doubtless many of these impressions are due to want of proper care and foresight on the part of applicants, but the Association believes there is a need for a more careful statement in black and white of the exact terms, conditions and prospects of the Service, including all privileges to be enjoyed by the medical officer. In some cases there appears to be no formal written contract between the Secretary of State or Local Government and the Medical Officer. It should be impossible for this to happen.

INSUFFICIENT INSPECTION OF WORK, AND HELP BY SUPERIOR OFFICERS: WANT OF INTIMATE TOUCH WITH COLONIAL OFFICE.

8. *More frequent inspection* of the work of scattered officers is strongly recommended. More frequent visits by the superior administrative officers would be welcomed by the medical officers. At present there is perhaps a tendency to judge them too much by their reports. All officers are not equally good at making the best of themselves on paper.

9. In addition to this visitation, the Association strongly recommends the appointment of one or more *Inspectors or Travelling Commissioners* who should be officials of the Colonial Office and should spend part of their time travelling and part in the Colonial Office. They should be men with large tropical experience and outstanding reputation in the Service. These officers would be liaison officers between the Services of the different Colonies and the Colonial Office and its Advisory Committee; they would be able to take a wide view of the needs and possibilities of the Service and would be able to impress that view both at the centre and at the periphery.

10. The above considerations lead the Association to press for much wider publicity for the present *Advisory Committee to the Colonial Office*. The existence of that Committee seems to be scarcely known to officers in many parts of the Service; apparently its main dealings up to the present have been with the West African Service. The Association strongly recommends that the Medical Services in all the Colonies be kept in touch with the Committee and that its scope and influence be extended as widely as possible.

NEED FOR MORE HOSPITAL AND OTHER BUILDINGS AND EQUIPMENT, ALSO PATHOLOGICAL FACILITIES.

11. Before the war the Association was given to understand that in many areas the *hospital and dispensary facilities were insufficient*. That deficiency is now still more marked. The Association would urge that reports on this point be called for and given the most favourable consideration possible.

12. There is apparently need for *standardisation of the supply of equipment*, both drugs and appliances, and surgical instruments and hospital equipment. This matter should receive the attention of the Advisory Committee.

13. The need for *increased Pathological facilities* and *Pathological staff* is being more and more recognised in all countries. These facilities are deficient probably in every Colony.

OPPORTUNITIES FOR PRIVATE PRACTICE.

14. The offer of opportunities for private practice has played a great part in attracting medical men to some of the posts with the smaller salaries. But the Association has good reason to believe that this factor is losing its attraction because medical officers find that the private practice is often very small and sometimes it is limited by conditions which make it very unattractive. For example, in Grenada, the Government tariff of fees for attendance on "labourers," has tended to place a very low value on fees in private practice. Many who are better situated financially than the "labourer," regard the Government tariff as a standard of medical remuneration and demur to the payment of reasonable fees. The Government of Grenada not long ago appointed a Committee to formulate a tariff of fees for private practice. This tariff has not been officially enforced, but the Association considers that any attempt to regulate the fees for private practice is bound to lead to discontent and is a mistake, inasmuch as it interferes with that elasticity as regards charges which enables the doctor to attend the deserving at lower rates by charging people who are well able to afford a higher fee.

15. From the amount of correspondence which the Association has had on this subject, together with its experience in the kindred case of the Indian Medical Service, it believes that it is very important that no undue restriction should be put on the right of private practice. The public who are not entitled to the medical officer's services as a right, welcome the opportunity of access to a well-qualified man, and the fact that the official income can be increased by private practice is a stimulus to good men to enter the Service and to endeavour to earn a reputation while in the Service.

16. The Association therefore recommends (a) that where private practice is allowed, it should not be whittled down by restrictions; (b) that official tariffs should not be framed for people who are able to pay for and look after themselves; and (c) that no objection should be raised to medical officers increasing their fees for private practice to meet the present economic conditions.

QUALIFICATION FOR SERVICE.

17. The Association is concerned to learn that in the West Indies vacancies are frequently filled by the appointment of holders of American diplomas. This procedure is not calculated to strengthen British influence in the West Indies.

STATUS OF MEDICAL OFFICER.

18. The Association believes that it is very desirable that in order to establish and maintain the status of the Service, the Director of Medical Services of a Colony or Protectorate should be *ex-officio* a member of its Legislative and Executive Councils, where such bodies exist.

RESTORATION OF PRE-WAR PERSONNEL.

19. No stone should be left unturned to restore, and, in many cases, increase the pre-war personnel. The difficulties of this are realised. There is a shortage in the supply of doctors which will continue for a few years, and there are plenty of posts available at home at salaries which are better than those offered for even more responsible work in the Colonial Medical Service. The consequence is a shortage of entrants which is very hard on the overworked members of the staff, and consequently prejudicial to the efficiency of their work, and makes them discontented. The knowledge that those in the Service are discontented, quickly spreads, and once a Service gets "under a cloud" it takes a considerable time, even after everything has been done to remove grievances, before it begins again to attract the right kind of recruit.

OPPORTUNITIES FOR SPECIALIZATION.

20. Specialization needs to be recognised in the Colonial Medical Services to a much greater extent than it is at present. There are few areas so small as to be able to do without Surgical Specialists, Pathologists, Radiologists, Ophthalmologists and Specialists in Venereal Disease. Officers should be encouraged to fit themselves by special study for such posts, which should carry with them extra pay.

HOUSING.

21. A scarcity of suitable houses is reported from many quarters. It is realised that this is inevitable in present circumstances, but the Association considers that all the Colonial Governments should make themselves responsible for providing houses for all their Medical Officers.

SANITARY DEPARTMENT.

22. The evidence at the disposal of the Association leads it to believe that the Colonial Office seems to attach insufficient importance to the Sanitary Department of some of the Services. There is evidence that in East Africa for example the *personnel* is inadequate, leading to the medical officers having to do work which could quite well be done by subordinates.

Strong complaints have been received as to the lack of qualified British Sanitary Inspectors in many Services. The Association believes a certain number of these inspectors to be necessary for the sake of discipline and example, and even where natives have been trained as inspectors. The British Sanitary Officers who are employed are believed to be very insufficiently paid, with poor prospects as regards promotion and pension, and overworked.

THE NURSING STAFF.

23. An adequate staff for this important auxiliary service is naturally a matter of great concern to those interested in the Services of the Colonies. The Association trusts that the Committee will report in favour of a considerable development of this Service in every Colony. The matrons and sisters should be thoroughly well trained British Nurses, with a salary and prospects of pension which will induce women of that kind to accept service. They should be given plenty of help from native sources.

STAFF OTHER THAN MEDICAL OFFICERS AND NURSES.

24. There is reason to believe that in many districts the native staff (other than nursing) for assisting the doctors is insufficient. The need for more adequate clerical assistance has frequently been mentioned to the Association.

LEAVE.

25. This importance question is bound up with the restoration of pre-war *personnel*. Until the cadre is complete there will be constant dissatisfaction in the Service owing to the inability to get leave.

26. The Association has abundant evidence that the opportunities for leave are at present insufficient. Its experience in regard to the Colonial Services in previous years, and the Indian Medical Service during the past year or two, has convinced it that there can be no contentment in any Foreign Service unless there are proper arrangements for local, home, and study leave.

27. The Association feels that there is no need to elaborate this point further, except to emphasize the growing importance which is attached to study leave as a factor in improving the status and efficiency of a Service.

PROMOTION.

28. There is much discontent caused by difficulties as regards promotion, and these seem to the Association to be inherent in a Service, most of the units of which are so small. The ideal way of getting rid of these difficulties would be by the establishment of one Colonial Medical Service, but the Association realises that this is, at present at any rate, unattainable.

29. A great deal of relief would be given by adopting the grouping system referred to in a later paragraph. Generally speaking, the Association believes there should be more interchange of medical officers wherever possible, and that the records and capabilities of individual officers should be brought regularly before the Advisory Committee, which might do much in the way of facilitating interchange and promotion.

30. If the Committee is not convinced of the practicability of the grouping system, the grievances connected with the lack of promotion must be met by more liberal salaries, with equitable grading.

31. Incidentally the Association would suggest that the Army System should be adapted to the Medical Service, and that the Annual Confidential Report of the Principal Medical Officer should be sent to the subordinate concerned for his information and initialling.

32. Attention is called to the delay which frequently occurs in filling senior posts. As an example, the P.M.O. of Uganda retired in February, 1918, with one year's leave on full pay due to him. During that year the D.P.M.O. did the work

of the P.M.O. without extra pay, and a S.M.O. did the D.P.M.O.'s work. The P.M.O. finally retired in February, 1919, and the post was not filled until July. The Deputy's post was not filled until December, and apparently the vacant S.M.O.'s post has not yet been filled, though the Governor and the Acting P.M.O. recommended a medical officer for the post in April, 1919.

(B.) Pay, Allowances and Pensions.

33. The Association fully recognises the impossibility of fixing any scheme which would be appropriate to every Colonial Medical Service. It is convinced that the present payments are inadequate, even with the war bonuses that have been granted. The cost of living has mounted rapidly in practically every part of the world, and the Association is not aware of any place in which the bonus has placed the recipient even approximately in his pre-war position.

34. The Association recommends that the salaries of Colonial Medical Officers should be revised throughout and brought into line with those in the Army, Navy and Indian Medical Services, and would recommend that there should be at least a 50 per cent. increase on pre-war salaries (including emoluments).

35. The Association wishes to point out that the granting of bonuses, welcome as they have been, has led in the case of the Colonial Services to a new hardship. The war bonus is not pensionable and therefore an officer who retires now and has his pension based on pre-war salary, is placed in an almost impossible position.

36. In a later paragraph the Association refers to action it has taken in regard to pensions of men already retired, but it would strongly urge that steps be taken to prevent more persons being added to that aggrieved class. This grievance should be remedied by an all-round increase of salaries as above suggested. If this cannot be brought about immediately, war bonuses should at once be merged into salaries.

37. The pensions would of course increase with the salaries. On this point the Association would urge that all Colonial medical appointments filled from this country should be pensionable. It is understood that there are still some few non-pensionable posts in the Service. The Association is of opinion that all salaried members of a Foreign Medical Service, on whose time the Government has the first claim, should be entitled to a pension.

38. The question of gratuities should also be placed upon a firm basis. Certain anomalies at present exist which should be got rid of. For example, in Eastern Africa owing to the decision to postpone the operation of the gratuity principle until (at the earliest) 1921, a medical officer with service between twelve and eighteen years would receive no extra gratuity for the period he has served over twelve years, and has necessarily to serve until (at least) 1921 in order to be in a position to claim any gratuity.

39. The Association would suggest that gratuities be on the following scale:—After nine years' service, £1,000; after twelve years' service, £1,250; and for every year from twelve to eighteen years' service an additional £100 gratuity. (These amounts are stated in pre-war values. They should be increased on same scale as pensions to meet the de-valuation of money).

The pension should be capable of being claimed as a right after eighteen years' service, irrespective of age.

Existing Pensions of Retired Colonial Medical Officers.

40. The Association has for some time been urging upon the Colonial Office the need for increase of pensions of medical officers who have retired from the Colonial Service, in view of the greatly altered value of money resulting from the war. The Colonial Office replied that the majority of the Colonial Governments had replied to a communication addressed to them to the effect that they hoped a decision would be arrived at in the near future, but that as the decision would affect all pensioners, medical or otherwise, difficult questions of considerable complexity were involved in the case of the less opulent colonies.

41. The Association realises that this is a very wide-reaching and difficult question, but it comes within the purview of the Committee because the popularity of a Service depends largely upon its history. If a Service gets a reputation for behaving shabbily to the men in its service, the best men fight shy of entering it. If, on the contrary, the Service acts equitably or even generously to the men who have served it well, it can depend with confidence on a supply of the right men.

42. The Association would therefore be glad if the Committee could do anything to hasten the equitable settlement of this question, which is one of the deepest concern to many men who have served the Empire well and who have a right to expect it to help them in economic circumstances over which they have no control.

II.—Question as to Assimilation of Medical Services of Neighbouring Colonies.

43. As previously stated, the Association considers that the ideal would be one general Colonial Medical Service, but as the difficulties seem at present to be insuperable, the Association would strongly recommend that there should be a system of grouping of the Services of Colonies working under similar conditions. Thus, for example, the East Africa, Uganda, Nyasaland, Somaliland and Zanzibar Protectorates, with any adjacent territories ultimately absorbed, would obviously form a suitable group.

44. The Association would point to the good example of what has been done in West Africa as a vindication of this suggestion. The advantages of such grouping are great, particularly as bearing on leave and promotion. Such a group would be large enough for the creation of an *esprit de corps* which cannot exist in very small Services.

45. The Association would advise a considerable extension of this grouping scheme. For example there might be a West Indian Group; a Mediterranean and Minor Colonies Group; a West African Group; an East African Group; and an Eastern Asia Group.

46. The Association attaches a good deal of importance to this suggestion, which it hopes will receive the earnest consideration of the Committee.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CAMBRIDGE, 1920.

By Uganda Division:

That the Representative Body, being of opinion that the time has come when officers of His Majesty's Colonial Services should be accorded the same privileges as other officers of His Majesty's Services, amend By-law 7 to read as follows:

7. Notwithstanding anything contained in either of the two last preceding By-laws, officers of the Navy, Army, Air Force, Indian and Colonial Medical Services on the Active List are eligible for election through the Council or a Branch without any such certificate as therein mentioned.

By Coventry Division:

That the Representative Body is of opinion that the suggested remedy for existing financial straits of hospitals, namely, to demand contributions in aid of their maintenance from the patients, fundamentally alters the basis of the relationship hitherto existing between the Honorary Medical Staffs and the subscribers; and refers the question to the Council for consideration and report.

By Willesden Division:

That the Representative Body instructs the Council of the Association to consider what steps can be taken to deal with the undue advertising of drugs in various forms, for self-medication.

By Nottingham Division:

1. That the time has arrived when the Association should deal with the question of the medical attendance on miners' families, and endeavour to establish a minimum uniform rate throughout the kingdom.

2. That the salary of the Medical Secretary be raised to £2,000 per annum, and that of his Assistants pro rata.

Notice to Divisions and Branches.

The Supplementary Report of Council to the Representative Meeting will appear in the Supplement of May 29th, 1920.

Notices of Motion and Amendment by Divisions and Branches for consideration by the Annual Representative Meeting will be published in the Supplement as they are received, but none can be published later than June 12th, for which purpose they must be received by the Medical Secretary *not later than the first post on Monday, June 7th.*

It will be possible, however, to include in the Agenda for the Annual Representative Meeting all Notices of Motion and Amendment which are received by the Medical Secretary *not later than the first post on Monday, June 14th, 1920.*

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, May 19th, in the Council Room, 429, Strand, London, W.C. 2.

ELECTION OF REPRESENTATIVE BODY OF THE ASSOCIATION, 1920–21.

Constituencies in Representative Body.

THE list of the provisional **Home Constituencies** for election of the Representative Body, 1920–21, appeared in the SUPPLEMENT of January 24th, page 21.

As intimated to all the **Oversea bodies,** the Council has made each Oversea Division and Division-Branch, possessing an Honorary Secretary and the necessary organization, an independent Constituency.

Election of Representatives and Deputy-Representatives.

The Representatives and Deputy-Representatives in the Representative Body must be elected not later than May 28th, and their names notified to the Medical Secretary not later than June 4th.

The Council draws special attention to the fact that it is entirely within the discretion of each Constituency to decide whether the election of its Representative(s) and Deputy-Representative(s) shall be carried out **by General Meeting of the Constituency, or by postal vote.**

Date of Annual Representative Meeting at Cambridge.

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

ELECTION OF COUNCIL OF THE ASSOCIATION, 1920-21.

THE list of the Groups of Branches in the United Kingdom for election of twenty-four members of the Council, 1920–21, and Nomination Form, appeared in the SUPPLEMENT of January 24th, page 22. **Nomination Forms** will be forwarded by the Medical Secretary on application by Branches, Divisions, or Members. The Nominations must be in the hands of the Medical Secretary **not later than May 17th.**

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An *Ernest Hart Memorial Scholarship*, of the value of £200 per annum, for the study of some subject in the department of State Medicine.

2. *Three Research Scholarships*, each of the value of £150 per annum, for research into some subject relating to the causation, prevention, or treatment of disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1920. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1920–21 must be made not later than Saturday, May 29th, 1920, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

THE SOUTH AFRICAN CONGRESS.

THE South African Congress of the British Medical Association will be held in Durban in October next, when the Natal Coastal Branch will be the hosts, and the officers and council will form the local organizing committee.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—Dr. M. J. Oliver, Honorary Secretary, St. Boswells, gives notice that the annual meeting of the Division will be held in the Railway Hotel, Newton St. Boswells, at 3 p.m. on Wednesday, May 19th. Business: Annual report and accounts; Appointment of Officers; Medical Parliamentary Fund; Local Emergency Schemes; Life Insurance Fees; Instructions to Representatives to Representative Meeting; Fees of Medical Officers to Post Office; Election to Council; Recruitment of Members; Medical Staffs of Hospitals, Pension Work.

LANCASHIRE AND CHESHIRE BRANCH.—The annual meeting for 1920 will take place at Southport on June 9th. The members will be entertained at lunch by the Southport Division, and after the President (Dr. Baildon, Southport) has given his address scientific papers will be read. A number of excursions are being arranged for the afternoon, and in the evening members will dine together. Members desiring to bring forward papers should communicate with the Branch Secretary, Mr. F. S. Heaney, F.R.C.S.I., 36, Rodney Street, Liverpool.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISIONS.—A general meeting of the Westminster and Holborn Divisions will be held at the St. James's Vestry Hall, Piccadilly, on Thursday, April 29th, at 5 p.m. Agenda: Revised Ethical Rules; Election of (*a*) Representatives, (*b*) Members of Council; Increase of Fees; Subdivision of Divisions.

MIDLAND BRANCH: LINCOLN AND KESTEVEN DIVISIONS.—Dr. Godfrey Lowe, Honorary Secretary, Lincoln Division (42, Langworth Gate, Lincoln), gives notice that a meeting of members and non-members of the Lincoln and Kesteven Divisions will be held at the Lindum Restaurant, Lincoln, on Tuesday, April 27th, at 3 p.m. Dr. Alfred Cox, O.B.E., Medical Secretary, will attend and give an address, entitled "Some reflections on what an organization of medical men should be and should do." A discussion will follow. Tea will be provided.

INSURANCE.

CORRESPONDENCE.

THE INSURANCE ACTS COMMITTEE.

Proposal for a Complimentary Dinner.

SIR,—The letter signed by Drs. Brackenbury and Cox published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 10th, 1920, page 98, was discussed at a meeting of the Standing Committee of Group K on April 15th, 1920.

Regret was expressed that the Insurance Acts Committee are not willing to agree that the scheme for a testimonial to Dr. Brackenbury and his colleagues as outlined in our letter of March 23rd, 1920, should proceed on the suggested lines. Whilst fully appreciating the reasons why such a scheme should not be proceeded with, and having regard to the response already made to our appeal, it was felt that some representative means should be adopted whereby the feelings of the profession might find expression. It was decided not to proceed with any testimonial without the consent of the proposed recipients, but it was the opinion of the Committee that a dinner should be held on the night of the next Conference of Panel Committees and Local Medical Committees, and

that the Insurance Acts Committee and Dr. Cox should be entertained as guests. It was decided for this purpose to ask all Panel Committees to subscribe a sum equivalent to 1s. per insurance practitioner in each area.

It is hoped that Panel Committees will nominate their delegates to the Conference as their representatives at the dinner.

The probable date of the dinner will be October 21st, but as arrangements have to be made some time in advance we hope to hear from the secretaries to Panel Committees at as early a date as possible.—We are, etc.,

B. A. RICHMOND,
ROBT. J. FARMAN,
Secretaries.

51, Chancery Lane,
London, W.C.2, April 20th.

Register of Insured Persons.

SIR,—I make no apology for once more calling upon the authorities concerned to endeavour, on the lines indicated by me on several previous occasions, to get a correct register of insured persons. And may one express the hope that doctors on the panel will actively interest themselves in this subject? If they do not, they might find that the present capitation fee will be reduced to about 8s., for the muddle in the matter of medical cards and "title to benefit" is more muddly than ever. It would be interesting to know the total of the numbers that have been taken off our lists in London under the Suspense Scheme. I estimate the number at not under 300,000. But, Sir, since the date those lists were compiled or sent out (October, 1918) the number of persons of whom there is no trace must have doubled. How could it be otherwise when, until quite recently—and in respect of a person removed from my list in October, 1918, because of his death—the Insurance Committee have continued to send me every three months the official form requesting a report as to the man's occupation, temperature, pulse rate, sputum, if any, etc., etc. Now, Sir, I, not being in partnership with Sir Conan Doyle, M.D., simply could not furnish the details. And I wish to suggest that if the facts asked for are considered important, the London Insurance Committee should create a post—a special one, with, of course, a specialist's remuneration—and invite Sir Conan Doyle to take on the job. We might then learn something about the "diseases" the departed suffer from—the ills we wot not of—and at least the unfortunate public would be spared the cost of paper, printing, postages, and clerks' wages, all of which are matters of moment in these times, and all of which in this connexion are now wasted.

I think this idea is good, and I make a present of it to the Ministry of Health and the London Insurance Committee; and I hope, Sir, that you will think it good enough to let it see the light in your columns.

One hears it rumoured that the "domiciliary" treatment of tuberculous people is to be done away with. We cannot too soon be rid of all tragic farces. But, should one be misinformed, I would like to make the suggestion that, instead of the doctor in charge of a case being asked to furnish three-monthly reports upon it, the health authority should require the patient to present himself to the doctor every three months for examination. Then the doctor would be in a position to send a report. Under the present conditions the doctor is often unable to say whether the patient is still alive, as the insured person under domiciliary treatment seldom goes near his doctor unless he "has got a cold or a touch of the 'flu.'" But my suggestion, were it adopted, requires a correct register, and a correct register can only be arrived at by the adoption of my other suggestion—namely, enforcement of those clauses of the Insurance Acts which lay obligations upon the approved societies and upon insured persons. Until these clauses are enforced there is one person in the community who will continue to pay for breach of the law, and that person is the panel doctor. —I am, etc.,

A. R. EATES.

London, W.1, April 18th.

LONDON PANEL COMMITTEE.

Post-graduate Instruction.

FOR the benefit of London insurance practitioners it is proposed to hold a course of lecture-demonstrations on laboratory methods in connexion with the prevention, diagnosis, and treatment of disease at Charing Cross Hospital on Thursday in each week at 9.30 p.m. The lectures will be given during May, June, and July by Dr. W. W. C. Topley, Director of the Pathological Laboratories, Charing Cross Hospital. The fee for the course will be £3 3s., payable in advance to the Secretary of the London Panel Committee, Dr. B. A. Richmond, Staple House, 51, Chancery Lane, W.C.2. A certificate of attendance will be given to those attending the class lectures. Negotiations are proceeding which it is hoped will result in other courses being arranged in the near future.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: J. G. Wallis to the *Impregnable*, additional, for Technical Staff of Commander-in-Chief, Devonport, as Naval Health Officer; W. L. Hawkins to the *Canterbury*; P. T. Nicholls to the *Wildfire*, for Sheerness Barracks and Yard; W. L. Martin, O.B.E., to the *Valiant*; G. G. Vickery, O.B.E., to Portland Hospital; W. R. Harrison, O.B.E., to the *Temeraire*; J. Bourdas to the *Curlew* on commissioning. Surgeon Lieutenant Commanders: H. E. Scargill to the *Ark Royal*; F. C. Wright to the *Erin* (temporary); H. E. Perkins to R.N. Hospital, Portland; Surgeon Lieutenant M. B. Macleod to the *Banbow*, for general duties and ophthalmic specialist duties as requisite. Surgeon Lieutenant (temporary) G. L. Ritchie transferred to the Permanent List, seniority January 8th, 1915.

ARMY MEDICAL SERVICE.

Major-General James Thomson, C.B., C.M.G., retires on retired pay.

Major-General J. B. Wilson, C.B., C.M.G., from half-pay list, is restored to the establishment.

Colonel W. E. Hardy is placed on the half-pay list.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel and Brevet Colonel C. B. Lawson retires on retired pay.

Lieut.-Colonel F. F. Carroll, D.S.O., is restored to the establishment.

Lieut.-Colonels A. J. MacDougall, C.M.G., and C. J. O'Gorman, D.S.O., relinquish the temporary rank of Colonel.

Lieut.-Colonel J. P. Silver, C.B.E., D.S.O., retires on retired pay on account of ill health contracted on active service.

Lieut.-Colonel H. A. Davidson, D.S.O., and Major and Brevet Lieut.-Colonel W. F. Tyndale, C.M.G., D.S.O., relinquish the acting rank of Colonel.

The following relinquish the acting rank of Lieut.-Colonel: Major and Brevet Lieut.-Colonel B. A. Craig, Majors R. N. Hunt, D.S.O., H. W. Russell, O.B.E., C. J. Wyatt, Captain and Brevet Major R. E. Barnsley, Captain F. W. M. Cunningham, D.S.O.

Majors to be acting Lieutenant-Colonels: G. B. F. Churchill from June 12th to November 23rd, 1919, T. J. Wright, D.S.O.

Temporary Captain (acting Major) F. R. Kirkham to be acting Lieutenant-Colonel.

The following relinquish the acting rank of Major: Captains C. Clarke, D.S.O., R. F. O'F. Dickinson, O.B.E., M. B. King, M.C., J. W. G. H. Riddel, M.C., A. L. Robertson, O.B.E.; temporary Captains P. K. McCowan, F. R. Brown.

To be acting Majors: Temporary Captains R. R. K. Paton (June 12th, 1919), C. H. Booth (April 2nd, 1919), S. Campbell (April 16th, 1919); Captains J. H. M. Frobisher (from January 4th, 1918, to October 15th, 1919), J. T. Scrogie (from February 10th, to October 15th, 1919), R. O'Kelly (June 12th, 1919), C. C. Jones (from July 5th to December 3rd, 1919).

Captain P. A. With is seconded for service under civil administration of Mesopotamia (January 1st, 1917, substituted for notification in the *London Gazette*, October 27th, 1919).

Captains F. C. Davidson, M.C., and R. B. Phillipps, retire, receiving a gratuity.

Captain R. H. Williams is placed temporarily on the half-pay list on account of ill health contracted on active service.

The notifications regarding Captain J. H. M. Frobisher and temporary Lieutenant G. A. Fothergill, which appeared in the *London Gazette* of February 11th, 1919, and March 9th, 1920, respectively, are cancelled.

The following officers have relinquished their commissions:—Temporary Lieut.-Colonel A. G. P. Gipps and retains the rank of Lieut.-Colonel. Temporary Majors and retain the rank of Major: T. W. Shaw, E. B. C. White on ceasing to be employed at the Welsh Metropolitan War Hospital, December 20th, 1919 (substituted for notification in the *London Gazette* of February 20th, 1920). Temporary Captains and are granted the rank of Major: J. Hewat (November 15th, 1919 (substituted for notification in the *London Gazette* of December 19th, 1919), W. V. Mackskie, M.C., T. M. Crawford, (acting Major) R. McRae, S. A. W. Munro, M.C., (acting Major) B. G. Brooke. Temporary Captains and retain the rank of Captain: J. Keay, G. A. Crowe, R. Svensson, D.S.O., M.C., R. T. St. J. Brooks, R. A. Wright, H. R. Souper, G. Bateman, W. H. W. Meyharter, M. Horan, F. B. Penfold, J. P. F. Waters, F. C. S. Bradbury, A. King, G. F. Hardy, M.C., J. G. Castellain, J. G. Ingouville, R. Lindsay, A. L. Robinson, F. Green, G. G. Old, A. Willatt, E. M. Balthaser, C. S. Wynne, M.C., J. Whitelaide, A. H. H. Barclay, W. T. Munro, T. P. Hutchison, R. H. Rains, E. A. Gilkes, P. A. Dykes, E. D. Wellburn, E. Clarke, W. E. Stevenson, O. Carlyle, F. J. H. Begg, E. J. Blewitt, H. B. Waller, R. C. Macpherson, H. W. Bernard, E. S. B. Eames, T. W. Parry, S. Nockolds. Temporary Captain H. Gardiner-Hill on transfer to R.A.F. Temporary Lieutenant G. A. Fothergill and retains the rank of Lieutenant.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Transferred to the unemployed list: Captains H. G. Anderson, M.B.E. (May 31st, 1919), L. W. Shelley, D.S.O. (July 1st, 1919).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major M. R. Taylor, D.S.O., relinquishes his commission on account of ill health caused by wounds, and is granted the rank of Lieutenant-Colonel.

Captain (acting Major) C. J. Rogerson, M.C., to be acting Lieutenant-Colonel.

Captains J. Swan, M.C., C. Armstrong, and A. F. L. Shields relinquish the acting rank of Major.

Captain W. U. D. Longford to be acting Major from June 24th to October 4th, 1919.

INDIAN MEDICAL SERVICE.

The services of Major R. E. Wright, M.D., have been placed at the disposal of the Madras Government.

Lieut.-Colonel H. Austen Smith, C.I.E., M.B., appointed to officiate as Inspector-General of Civil Hospitals, Bihar and Orissa.

Colonel P. C. H. Strickland granted combined leave for eight months with effect from December 19th, 1919.

Lieut.-Colonel J. Entrican appointed Inspector-General of Civil Hospitals, Burma, s.p.t. with effect from December 19th, 1919.

Lieut.-Colonel D. McCay, M.D., granted combined leave for eight months with effect from March 15th.

Major J. D. Sandes, M.B., appointed to officiate as Professor of Materia Medica and Clinical Medicine, Medical College, Calcutta, and second physician Medical College Hospitals during the absence of Lieut.-Colonel McCay.

Lieutenant P. J. Walsh, M.B. (deceased) has been promoted to the rank of Captain with effect from March 30th, 1915.

Lieut.-Colonel R. P. Wilson, F.R.C.S., D.P.H., appointed permanently to be Professor of Surgery, Medical College, Calcutta, and Surgeon to the College Hospitals, vice the late Lieut.-Colonel C. R. Stevens, M.D., F.R.C.S.

Lieut.-Colonel F. P. Connor, D.S.O., F.R.C.S., appointed to be Professor of Clinical and Operative Surgery, Medical College, Calcutta, and Surgeon to the College Hospitals, vice Lieut.-Colonel R. P. Wilson.

Captain G. F. Graham, M.D., to be Major (February 1st, 1920).

The services of Major S. W. Jones, O.B.E., have been placed permanently at the disposal of the Government of Bombay.

Lieut.-Colonel R. A. Needham, C.I.E., D.S.O., Deputy Director-General Indian Medical Service, granted eight months' combined leave, with effect March 19th.

Lieut.-Colonel H. Ross, O.B.E., Assistant Director-General Indian Medical Service (Stores), appointed to officiate as Deputy Director-General Indian Medical Service.

Lieut.-Colonel A. A. Gibbs, Medical Store Keeper to Government, Lahore Cantonment, appointed to officiate as Assistant Director-General Indian Medical Service (Stores).

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Major T. L. Fennell, T.D., to be acting Lieutenant-Colonel whilst specially employed.

Captain (acting Major) N. M. Fergusson relinquishes the acting rank of Major on ceasing to be specially employed.

Captain (acting Major) M. U. Wilson, M.C., relinquishes the acting rank of Major on vacating the appointment of D.A.D.M.S., August 27th, 1919.

1st London General Hospital.—Lieut.-Colonel Sir A. E. Garrod, K.C.M.G., F.R.S., is retired under paragraph 116 T.F. Regulations, and is granted the honorary rank of Colonel.

1st Western General Hospital.—Captain J. L. Roberts is restored to the establishment.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

The announcements regarding the following officers, published in the *London Gazette* of the dates indicated, are cancelled: Captains (acting Major) N. M. Fergusson (December 17th, 1918), T. Higson (December 21st, 1918), J. W. M. Jamieson (January 18th, 1919), W. W. J. Lawson (January 14th, 1919), H. B. Low (February 18th, 1919), F. W. Schofield (January 13th, 1919), R. D. Cran (January 16th, 1919), A. C. Lawrence (January 15th, 1919), F. H. Lacey (January 3rd, 1919).

VOLUNTEER FORCE.

Temporary Captains and Adjutants relinquish their commissions and are granted the honorary rank of Captain:—Kent R.A.M.C.V.: G. R. F. Stilwell. Northumberland R.A.M.C.V.: C. A. Morton.

Temporary Captains relinquish their commissions and are granted the honorary rank of Captain:—Durham R.A.M.C.V.: A. Dougall, W. G. Thompson. Lincolnshire R.A.M.C.V.: D. J. M. Bone, V.D. (honorary Major retired T.F.).

Temporary Lieutenants relinquish their commissions and are granted the honorary rank of Lieutenant:—Devonshire R.A.M.C.V.: H. J. Edwards. Durham R.A.M.C.V.: N. Philipson, A. D. Kelly, S. G. Mostyn, M. Fletcher, R. Gardner.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Monday, 8 p.m., Mr. Gerald B. Ash: Pathology of Pyorrhoea. Mr. H. Stobie: Infection about the Apex of the Tooth. *Section of Medicine:* Tuesday, 5.30 p.m., Annual General Meeting.

POST-GRADUATE COURSES AND LECTURES.

MANCHESTER: ANCOATS HOSPITAL.—Thursday, 4.30 p.m., Dr. Renshaw: Chemical and Bacteriological Examination of the Urine in Disease.

MANCHESTER FRENCH HOSPITAL.—Thursday, 4.30 p.m., Dr. A. C. Magian: Hysterectomy after Specific Infection.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. F. Westmacott: Early Diagnosis of Carcinoma of the Larynx.

SHEFFIELD ROYAL HOSPITAL.—Wednesday, 4 p.m., Professor Arthur Hall: Bacterial Endocarditis.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In-patient, Out-patient Clinics and Operations. Monday, 2 p.m., Mr. Bishop Harman: Eye Department; 5 p.m., Dr. Morton: CO_2 Snow. Tuesday, 12 noon, Mr. Tyrrell Gray: Fractures; 5 p.m., Mr. Banks Davis: Lecture. Wednesday, 2 p.m., Mr. Donald Armour: Surgical Cases; 5 p.m., Mr. Addison: Ventral Hernia. Thursday, College closed. Friday, 2.30 p.m., Dr. Pritchard: Medical Cases; 5 p.m., Dr. Burnford; Lecture. Saturday, 10 a.m., Dr. Arthur Saunders: Diseases of Children; 2 p.m., Dr. Owen: Out-patients.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

27 Tues. Kesteven Division, Lincoln, 3 p.m.

28 Wed. London: Science Committee, 2.30 p.m.
Plymouth Division: Lecture by Sir Frederick Mott, K.B.E., F.R.S.: The Early Symptoms and Diagnosis of Diseases of the Spinal Cord.

29 Thur. London: Insurance Acts Executive Subcommittee, 2.30 p.m.
Westminster and Holborn Divisions, St. James's Vestry Hall, Piccadilly, 5 p.m.

30 Fri. London: Organization Committee (*provisional*).
Bradford Division: Lecture by Dr. A. F. Hurst: Psychotherapy.

MAY.

17 Mon. **Last day for receipt of Nominations for Council.**

19 Wed. London: **Council.**
South-Eastern Counties Division, Edinburgh Branch, Annual meeting, Railway Hotel, Newtown St. Boswells, 3 p.m.

APPOINTMENTS.

DE COURCY, T. L., B.A., M.D. Dubl., Honorary Ophthalmic Surgeon to Royal Southern Hospital, Liverpool.

DOWNES, Harold, M.B.Edin., L.R.C.P.E., F.G.S., Medical Officer of Health to the Chard Rural District.

FALKNER, H. G., O.B.E., L.R.C.P. and S.I., Certifying Factory Surgeon for the Lynton District, co. Devon.

LADELL, R. G. M., M.B., Ch.B., Medical Officer in Charge of Functional Nerve Cases at the Ministry of Pensions Hospital, Hollymoor, Birmingham.

RYLE, J. A., M.D., M.R.C.P., Assistant Physician to Guy's Hospital.

SLESINGER, E. G., O.B.E., M.S., F.R.C.S., Assistant Surgeon to Guy's Hospital.

WINTON, W. B., M.D., B.C., M.R.C.P., Assistant Physician at the Hospital for Diseases of the Skin, Blackfriars.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BUCHAN.—On April 14th, 1920, at 326, Brownhill Road, Catford, London, the wife of C. J. B. Buchan, M.B., Ch.B.Glasg., of a daughter.

CHESTERMAN.—On April 17th, at Esher House, Beechen Cliff, Bath, the wife of Clement C. Chesterman, O.B.E., M.B., B.S., M.R.C.S., L.R.C.P., D.T.M. and H., of a son.

JOLLY.—On April 18th, at the Dudley Nursing Home, Hyde Terrace, Leeds, the wife of R. H. H. Jolly, M.D., B.S.Lond., D.P.H., of a son.

PINNOCK.—On April 12th, the wife of Dudley Denham Pinnock, F.R.C.S., a son.

THOMPSON.—On April 17th, at Heysham House, Chorley Old Road, the wife of J. Hilton Thompson, M.D., of a son.

MARRIAGE.

MARSHALL—CREE.—On March 22nd, 1920, at All Saints' Garrison Church, Lucknow, India, by the Rev. Canon R. Irwin, D.S.O., M.C., John Stuart Marshall, D.S.O., Major 35th Sikhs, General Staff, Presidency Brigade, Calcutta, son of J. J. Marshall, Esq., J.P., of Yelverton, Devon, and Alice Deborah, only daughter of Major-General G. Cree, C.B., C.M.G., and Mrs. Cree.

DEATH.

ALLEN.—William Allen, M.D., who passed away on April 11th, 1920, at Derwent House, Shotley Bridge. Interred at the Friends' Burial Ground, Benfieldside, on Thursday, April 15th, 1920.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 1ST, 1920.

CONTENTS.

PAGE

British Medical Association.

CURRENT NOTES:
- TAXATION OF MOTOR CARS 147
- INCREASED POSTAL RATES 147
- HOSPITAL SURVEY 147
- CONTROL OF SALVARSAN AND ALLIED PRODUCTS 147
- THE DISPUTE AT EBBW VALE 148
- PAYMENT OF HOSPITAL STAFFS FOR TREATMENT OF DISABLED SOLDIERS AND SAILORS... 148

ASSOCIATION NOTICES 148

PAGE

MEETINGS OF BRANCHES AND DIVISIONS 149

INSURANCE:
- NEW TERMS AND CONDITIONS OF SERVICE FOR SCOTLAND ... 149

NAVAL AND MILITARY APPOINTMENTS... 149

ASSOCIATION INTELLIGENCE 150

DIARY OF SOCIETIES AND LECTURES 150

APPOINTMENTS 150

BIRTHS, MARRIAGES, AND DEATHS 150

In an Inset to the Supplement information is given regarding the Annual Meeting at Cambridge—e.g., The Annual Exhibition of Surgical Instruments, Drugs, Food, etc.; the Programme; Arrangements for Accommodation; List of Lodging Houses (with prices) and Hotels.

British Medical Association.

CURRENT NOTES.

Taxation of Motor Cars.

IN the JOURNAL of April 24th, p. 576, it was stated that the Chairman of the Medico-Political Committee of the British Medical Association had requested the Chancellor of the Exchequer to receive a deputation with regard to the proposed changes in motor car taxation set forth in the Budget. The Chairman pointed out that the medical profession would be injuriously affected in several directions. Their cars are used exclusively for purposes of their practice, and many of them have cars whose power is much exaggerated by the R.A.C. formula. The calculation of horse-power on that formula is unfair because it ignores the length of stroke and relies upon the diameter of the piston and the number of cylinders. Moreover, medical practitioners in sparsely populated districts are often practically compelled to keep two cars to avoid risk of breakdown in one. A similar communication was sent also to the Secretary of the Committee of Medical Members of the House of Commons. The Parliamentary Subcommittee met the medical members of Parliament at the House of Commons on Monday evening, April 26th, in order to discuss this matter. It was most strongly represented that the new taxation would be extremely hard upon medical men, because whereas in the past they were given a rebate on the petrol tax and had only to pay half rates for motor cars, in the future, according to the new proposals, no such concessions would be made. The medical members of Parliament were most sympathetic and promised to support the views expressed in every way possible. The Chancellor of the Exchequer, in response to the request to receive a deputation to discuss the proposals, has referred the Association to the Minister of Transport, Sir Eric Geddes, and it is hoped, with the assistance of the medical members of Parliament, to arrange an interview with him at an early date.

Increased Postal Rates.

The new postal rates which are shortly to be brought into force in accordance with the announcement of the Chancellor of the Exchequer in his Budget speech will tend seriously to increase the current expenditure of the British Medical Association. The BRITISH MEDICAL JOURNAL is circulated to members by post and the increase of the minimum charge for postage on Journals sent to addresses within the United Kingdom will entail additional expenditure which may be estimated at not far short of £1,500 a year, if, indeed, it does not exceed that amount. The increase on the postage of letters will affect the departments of the Medical Secretary, the Financial Secretary and Business Manager, and the Editor, taken together, probably to the extent of about £300 a year. The total increase of expenditure of the Association on postage will be therefore about £1,800 a year. The inland rates for printed papers will be increased so soon as the foreign rate can be increased, but this last increase will depend upon the decision of the International Congress which meets at Madrid in October. The charge for inland postcards is also to be raised at the same time to 1½d. Altogether the changes foreshadowed will at a moderate estimate entail upon the Association increased expenditure of at least £2,000 a year.

Hospital Survey.

At the request of the Chairman of the Hospitals Committee, Sir Napier Burnett, K.B.E., Director of Hospitals Service to the Joint Council of the British Red Cross Society and Order of St. John, attended a meeting of the Hospitals Committee held on April 21st to explain the scheme of the British Red Cross Society for assisting the voluntary civil hospitals throughout the country. Sir Napier Burnett said that, as the essential step must be to ascertain the existing facts, he had been engaged upon a hospital survey (excluding London and Scotland) which he hoped to complete by the end of April. It would contain (*a*) data showing the volume of work done during the year 1919 in each individual hospital; (*b*) the financial position of each hospital, showing ordinary income and expenditure, invested funds, annual cost per bed, etc.; and (*c*) maps showing the hospital situation in each county, including the ratio of beds to population. The Joint Council proposed to assist by a public appeal through the press, by an appeal and personal canvass of business firms, through the great national collecting agencies known during the war as "Our Day" organization, by obtaining allocation of percentages wherever gate money is collected at football and cricket matches, race meetings, theatres, music halls, and cinemas. Other points dealt with included those set out in the original statement put out by the Council some months ago—namely, (1) co-operative buying of hospital commodities; (2) co-ordinating of hospitals into groups with a central "key" hospital and smaller county and cottage hospitals in each group, with a working arrangement as to transport of patients, distribution and selection of patients, and centralizing of bacteriological and pathological work; (3) the collection and circulation of statistical and other hospital information; (4) the establishment of pre-hospital and post-hospital convalescent homes.

Control of Salvarsan and Allied Products.

In connexion with paragraph 88 of the Annual Report of the Council, which appeared in the SUPPLEMENT last week, the following letter was addressed to the Ministry

of Health from the Medical Secretary's department of the British Medical Association:

I understand that during the war manufacturers and importers of such products as salvarsan, neo-salvarsan, and other allied products had to obtain a licence from the Board of Trade to suspend enemy patents covering them. In every such licence was a clause imposing the obligation to have every batch tested by an authority approved by the Board. With the signature of peace this power of control became doubtful, but for the time being the control remained effective on manufacturers other than the German patentees. Under the Sankey judgement the latter can now import their products without any obligation for an equivalent control.

The Council of the Association is therefore of the opinion that the position which obtains in this country, where no legal authority exists to enforce the testing of certain potent and dangerous chemical or biological products, commonly used for hypodermic and intravenous injection, but not susceptible of standardization by simple methods of analysis, is unsatisfactory; and urges upon the Ministry the necessity of taking steps to rectify this anomalous position by such legislation or administrative action as will ensure for this country the control of these preparations which already exists in other countries.

The Minister of Health has since appointed a committee "to consider and advise upon the legislative and administrative measures to be taken for the effective control of the quality and authenticity of such therapeutic substances offered for sale to the public as cannot be tested adequately by direct chemical means." The committee consists of the following members:

Sir Mackenzie D. Chalmers, K.C.B., C.S.I. (Chairman).
Dr. H. H. Dale, C.B.E., F.R.S., Head of Department of Biochemistry and Pharmacology under Medical Research Council.
Mr. G. F. McCleary, Medical Officer, Ministry of Health.
Dr. A. B. Maclachlan, Assistant Secretary, Ministry of Health.
Dr. C. J. Martin, C.M.G., D.Sc., F.R.C.P., F.R.S., Director, Lister Institute of Preventive Medicine.
Secretary: Dr. E. W. Adams, O.B.E., Ministry of Health, Whitehall, S.W.1.

The Dispute at Ebbw Vale.

As a result of the conference at Ebbw Vale on April 23rd an agreement was arrived at between the local doctors and the Ebbw Vale Workmen's Medical Society. Practically all the doctors in the Ebbw Vale district are employed by this society, which is an approved institution under the National Insurance Acts. The doctors gave the society notice that their contract would cease on April 1st, 1920, unless the society before that time raised the capitation fee paid for dependants to correspond with the recent increase in the insurance capitation fee. The committee declined to consider the terms suggested by the doctors, who accordingly ceased work as they had said, promising, however, to give attendance in emergencies. The workmen's leader thereupon called the workmen out, as he did not consider they had a sufficient guarantee of attendance in case of accidents, and the consequent dislocation of industry in the neighbourhood aroused much interest throughout Wales. After a few days the doctors agreed to resume work for a month on the old terms, pending a round-table conference between the workmen's committee and the local practitioners, at which the Medical Secretary of the British Medical Association should be present to represent the doctors. It was also arranged that a representative of the Monmouthshire Insurance Committee and a representative of the Welsh Board of Health should be present, not officially but in a friendly capacity. The conference lasted for nearly four hours, and resulted in the following agreement:

All non-insured adult workers to pay 11s. a year instead of 7s. as before; boys between 14 and 16 to pay 7s. a year as before; a sum of 22s. a family a year to be paid instead of 17s.

It was also agreed that a small joint subcommittee, to which the Secretary of the Monmouthshire Insurance Committee would act as adviser, should be set up to work out a plan to ensure that the lists on which the doctors are paid shall be more accurate, and that the administrative arrangements shall not throw any more clerical work on the doctor than is absolutely necessary.

Payment of Medical Staffs of Civil Hospitals for Treatment of Disabled Soldiers and Sailors.

The Hospitals Committee of the Association has requested the Minister of Pensions, Mr. Ian Macpherson, to receive a deputation upon the above subject, when it is proposed to lay before him the views of the Committee as expressed in the following resolution which has been adopted by the Council:

That for all work for sailors and soldiers, whether discharged or not, for any disease or injuries connected with the war, undertaken at voluntary hospitals, the medical staffs should be adequately remunerated. In any case the remuneration should represent an addition of not less than 25 per cent. to the cost of maintenance of in-patients, and not less than 25 per cent. of the ascertained cost per patient per attendance for out-patients, the additional sum to be placed at the disposal of the medical staff; that in the case of special clinics (for example, aural and ophthalmic) the fee payable to the medical practitioner should not be less than the fee payable by the Ministry of Pensions for identical or similar services—namely, £2 2s. per session.

General Association Expenses.

In paragraph 14 of the Annual Report of Council, printed in the SUPPLEMENT of April 24th, it was stated, under the heading "General Association Expenses," that after £6,500 in connexion with the Pratt case had been deducted from the sum disbursed in 1918, the expenses in Abstract A for 1919 still showed a *diminution* of nearly £300 as compared with 1918. As the figures in the abstract of accounts clearly show, there was in fact an increase of £276.

Council Attendances.

In the list of attendances of members of the Central Council of the Association appended to the Annual Report of Council Dr. H. C. Bristowe (Wrington, Somerset) is shown as having attended three out of a possible five meetings. Dr. Bristowe was not a member of the Council at the time of the first meeting, and therefore attended three out of the four meetings to which he was called.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, May 19th, in the Council Room, 429, Strand London, W.C. 2.

REPRESENTATIVE MEETING.

DATE.

THE Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

NOTICES OF MOTION AND AMENDMENT BY DIVISIONS AND BRANCHES.

The Supplementary Report of Council to the Representative Meeting will appear in the SUPPLEMENT of May 29th, 1920.

Notices of Motion and Amendment by Divisions and Branches for consideration by the Annual Representative Meeting will be published in the SUPPLEMENT as they are received, but none can be published later than June 12th, for which purpose they must be received by the Medical Secretary *not later than the first post on Monday, June 7th.*

It will be possible, however, to include in the Agenda for the Annual Representative Meeting all Notices of Motion and Amendment which are received by the Medical Secretary *not later than the first post on Monday, June 14th, 1920.*

ANNUAL GENERAL MEETING.

THE Annual General Meeting will be held at Cambridge on Tuesday, June 29th, 1920, at 2 p.m. Business: (1) Minutes of last Meeting. (2) Appointment of auditors. (3) Report of election of President.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—Dr. W. Paterson, Honorary Secretary (12, Craven Park Road, N.W.10), gives notice that the annual meeting of the Willesden Division will be held on Tuesday, May 4th, at 8.30, at St. Andrew's Parish Hall (Institute behind Church), High Road, Willesden Green. Agenda: Election of Officers; Fees for Life Insurance Examinations and other business in BRITISH MEDICAL JOURNAL SUPPLEMENT, March 27th; Report of Council.

MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.—Dr. R. Wallace Henry, Honorary Secretary (6, Market Street, Leicester), gives notice that a meeting of the Division will be held in the new Medical Institute Rooms, Public Medical Service Buildings, Bond Street, Leicester, to-day, Saturday, May 1st, at 3.30 o'clock. Agenda: Election of Deputy Representative; Discussion on Appendicitis, to be opened by Dr. T. C. Clare and Mr. W. I. Cumberlidge; Consideration of (1) Fees for Life Insurance, (2) Payment of Medical Staffs of Hospitals for Pensions Work.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—Dr. M. J. Oliver, Honorary Secretary, St. Boswells, gives notice that the annual meeting of the Division will be held in the Railway Hotel, Newton St. Boswells, at 3 p.m. on Wednesday, May 19th. Business: Annual report and accounts; Appointment of Officers; Medical Parliamentary Fund; Local Emergency Schemes; Life Insurance Fees; Instructions to Representatives to Representative Meeting; Fees of Medical Officers to Post Office; Election to Council; Recruitment of Members; Medical Staffs of Hospitals, Pension Work.

Meetings of Branches and Divisions.

YORKSHIRE BRANCH: BRADFORD DIVISION.

Dinner and Presentation.

THE annual dinner of the Bradford Division of the Association was held at the Great Northern Victoria Hotel, Bradford, on April 16th. There was a good muster of the medical men of the area and, including guests, eighty-six sat down to dinner.

The chief guest was Sir W. Arbuthnot Lane, Bt., and the Lord Bishop of Bradford and the City Coroner (Mr. Hutchinson) were also present as guests. After the toast of "The King" had been honoured, Mr. BASIL HALL proposed the health of the chief guest in a felicitous and racy speech. Sir ARBUTHNOT LANE, in his reply, thanked the Division for inviting him to attend their dinner as chief guest and said how much pleasure it gave him to be present. In the course of the speech he made a very striking statement to the effect that whenever a certain dictum is universally accepted as being true, it most probably is not so, and he gave as an illustration the old universally accepted idea that cases of cleft palate should never be operated on under 4 years of age, or else the results would be catastrophic. Sir Arbuthnot pointed out that in the face of this he had operated upon infants of only a few weeks, and even days old, with very happy results.

During the course of the evening a presentation of a silver cigar and cigarette box was made by the members of the Division to Dr. J. Beattie Dunlop, the retiring honorary secretary, in recognition of his great services during ten years of office. Dr. OLIVER made the presentation and spoke of Dr. Dunlop's capabilities as a Secretary and of the wonderful fund of varied information which he had amassed. Dr. DUNLOP replied and expressed his gratitude and appreciation of the gift. Mr. COLIN MACKENZIE, O.B.E., sang a humorous song and Dr. H. P. SHACKLETON, O.B.E., gave an exhibition of legerdemain, both of which were greatly appreciated.

INSURANCE.

NEW TERMS AND CONDITIONS OF SERVICE FOR SCOTLAND.

THE following information has been issued to the Secretaries of Local Medical and Panel Committees in Scotland by the Scottish Secretary of the British Medical Association:

The Conference of Scottish Local Medical and Panel Committees authorized the Insurance Acts Subcommittee to negotiate for new terms of service as from April 1st, 1920, and to accept on behalf of the profession any sum not less than that fixed by the Arbitration Board for England. The Subcommittee met the Board on March 30th and were informed that the Board was prepared to accept the Arbitration Award of 11s., and, acting on the instruction of the Conference, the Subcommittee accepted that offer. The other resolutions passed by the Conference were also discussed with the Board and some of them were accepted by the latter. In respect of others, the Board gave assurances as to their interpretation and scope, which the Subcommittee regard as satisfactory. The points of difference between the Scottish and the English Regulations are few and comparatively unimportant, and, looking to the whole circumstances, the Insurance Acts Subcommittee feels justified in advising the profession to accept the terms and conditions now offered. The Regulations will shortly be available in their final form, and the draft Allocation and Distribution Schemes will be issued soon to Panel Committees by Insurance Committees, in time to allow for full consideration before the new Regulations come into force on July 1st.

Mileage.

A sum of £55,000 has been allotted by the Treasury in respect of mileage in the Lowlands of Scotland for 1920, and in addition the present "Necessitous Districts" Grant will also be continued. The Rural Practitioners Subcommittee has discussed with the Board the various conditions under which the grant will be distributed, and has agreed to the following: Mileage will be paid for all distance beyond two miles; and the inter-areal distribution of the funds will be on a graded scale, allowing an increasing number of units for each mile beyond two. In order to obtain the necessary figures for the calculation, practitioners are to be asked to send in, as soon as possible, on a form to be supplied, particulars as to the distance from the doctor's residence of each insured person on his list. It is recognized that lists are inaccurate, but it may be presumed that the inaccuracy is fairly uniform, and no other basis for distribution is at present available. The Subcommittee therefore urges upon practitioners the necessity of sending in these returns.

With regard to the estimation of the amount of the grant for future years, it is proposed that practitioners participating in the Mileage Grant should keep a record of the miles actually travelled in visiting insured persons. It was originally proposed that these records should be kept by only 10 per cent. of the practitioners, but the Subcommittee, after careful consideration, came to the conclusion that it would be more fair, as well as according a better basis for estimation, to ask all practitioners concerned to keep records. Without some such record, it is quite impossible to base any exact claim for cost and time spent in travelling, and the Subcommittee hopes that practitioners will recognize the necessity of keeping the records carefully. The trouble involved will be compensated if it results in a really equitable mileage payment. It has been agreed upon also that mileage shall be paid on the basis of distance from the doctor of choice, not from the nearest doctor, as at present.

Scottish Office,
6, Rutland Square, Edinburgh,
April 2nd, 1920.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: W. Bastian to the *Victory* for R. N. Barracks, Portsmouth; C. H. Dawe to the *President*, additional, for Bathurst W.T Station, in charge; M. T. Male, R. H. McGiffin, O.B.E., J. R. A. Clark Hall, H. M. Braithwaite, and G. D. Welsh to the *President* for R. N. College, Greenwich, for three months' senior officer's course; E. S. Miller to the *Warspite;* H. A. Kellond-Knight to the *Excellent* (temporary). Surgeon Lieutenant (temporary) E. C. W. Cooke to the *Sandhurst*.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commanders promoted to Surgeon Commanders: R. J. Willan, O.B.E., M.V.O., V.D., A. R. Brailey, F. W. Smith, W. K. Wills, C.B.E., R. J. E. Hanson, O.B.E., E. J. Steegman, O.B.E., W. B. Betenson, W. D. Cowburn, H. Reah, W. E. Harker, O.B.E. Surgeon Lieutenants promoted to Surgeon Lieutenant Commanders: C. F. H. Atkinson, R. H. H. Jolly, C. S. McK. Murison, T. D. McEwan, T. L. Ellis, G. H. S. Milln, D. A. Macpherson, W. E. Bleadon, L. S. Ashcroft, C. J. G. Taylor, W. P. Harrison, J. R. H. Turton, D. Lorimer, O.B.E., D. P. D. Wilkie, O.B.E., F. S. Hewett, M.V.O., A. E. W. Hird, E. R. Sircom, J. B. Ronaldson, C. O'B. Ryan, T. Turner, T. B. Dixon, H. Chitty, F. H. Watson.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel F. S. Penny, C.M.G., D.S.O., relinquishes the temporary rank of Colonel.

The following relinquish the acting rank of Lieut.-Colonel:—Major and Brevet Lieut.-Colonel C. R. Sylvester-Bradley. Temporary Major A. G. Aspland (on ceasing to command a medical unit). Captain and Brevet Major P. S. Tomlinson, D.S.O. Temporary Captain J. F. Robertson (March 2nd, 1919, substituted for the notification in the *London Gazette* of March 22nd, 1919).

Major E. B Lathbury, O.B.E., and Captain and Brevet Major R. E. Barnsley, M.C., to be acting Lieutenant-Colonels.

The following relinquish the acting rank of Major:—Captain and Brevet Major W. F. Christie. Captains: R. S. Cumming, M.C., H. Bedingfield, and W. B. Rennie, M.C. Temporary Captains M. Bates, O.B.E., Andrew Grant, O.B.E., F. R. Sturridge, M.C., H. G. Kilner, W. D. Cruickshank (November 20th, 1919, substituted for notification in the *London Gazette* of January 24th, 1920), A. E. Atkinson.

To be acting Majors:—Captains D. H. C. MacArthur, O.B.E., S. D. Robertson. Temporary Captain C. R. B. Von Braun.

Captain A. L. Aymer resigns his commission and is granted the rank of Major.

The following officers relinquish their commissions:—Temporary Major T. P. Devlin and retains the rank of Major. Temporary Captain and Brevet Major A. E. Boycott, January 7th, 1919, and retains the brevet rank of Major (substituted for notification in the *London Gazette*, June 20th, 1919). Temporary Captains and are granted the rank of Major: (Acting Major) J. A. Mackenzie, W. C. Sharpe. Captain W. Tudhope on account of ill health contracted on active service and retains the rank of Captain. Temporary Captains and retain the rank of Captain: M. A. Kirton, D. A. H. Moses, M.C., A. G. W. Thomson, H. G. E. Williams, P. J. O'Brien, A. J. Chillingworth, E. W. Blake, J. J. H. Ferguson, M.C., H. E. Gray, S. Wyborn, J. Menton, D. C. Norris, F. W. Rigby, R. B. Robson, D. M. Cox, G. H. F. Graves (on account of ill health contracted on active service), D'A. I. Hamilton (on account of ill health), J. S. Martin, W. L. Thomas, H. O'H. O'Neill, F. G. Cross, K. R. C. Hallowes, E. G. Grove (on ceasing to be employed at the Lord Derby War Hospital), H. J. Knox, F. A. Ross, T. F. Lumb, E. Sakoschansky, E. Lewis, W. Bannatyne, W. Boyd.

ROYAL AIR FORCE.

MEDICAL BRANCH.

H. B Porteous (Captain R.A M.C.T F.) is granted a temporary commission as Captain (October 1st, 1918), and to be acting Major whilst specially employed, October 21st, 1918 (substituted for notification in the *London Gazette*, December 3rd, 1918).

Transferred to the unemployed list:—Captains: P. E. Williams (June 13th 1919, substituted for notification in the *London Gazette*, July 25th, 1919), H. S. Baker, J. B. Barnett, D. C. Farquharson, A. Thompson, A St. J. Hennessy A. J Davoren, G. McK. Thomas, C. F. Eminson, H. L. H. Greer, W. Lumley, D. J. Cannon, M. Hyman. Lieutenant R. H. Parry.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captains A. L. Giblin and C. A. Maguire relinquish their commissions on account of ill health contracted on active service, and retain the rank of Captain.

Captains relinquish the acting rank of Major: H. D. Rollinson, O.B.E., M. Stewart, G. H. Stevenson, O.B.E., M.C., J. A. Hill, J. A. Stewart, M.C.

Captain J. P. Bracken to be acting Major from November 11th, 1919, to January 22nd, 1920.

Captain C Lovell, M.C., relinquishes the temporary rank of Major on ceasing to command a medical unit.

OVERSEAS CONTINGENTS.

SOUTH AFRICAN MEDICAL CORPS.

Temporary Captains relinquish their commission on ceasing to be employed, and retain the rank of Captain: P. J. Monaghan, H. J. Hollis.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captain F. W. K. Tough, T.D., to be Major.

3rd London General Hospital.—Captain S. H. Warren relinquishes his commission on account of ill health contracted on active service and retains the rank of Captain.

South Midland Divisional Sanitary Section.—Captain (acting Major) W. H. Davison relinquishes the acting rank of Major on vacating the appointment of D.A.D.M.S., November 26th, 1918.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

The announcements regarding the following officers, published in the *London Gazette* of the dates indicated, have been cancelled:—Captains: J. R. Chalmers and B. G. Ewing (December 31st, 1918), R. W. Nevin, G. Eustace, M.C., W. S. Forbes, J. D Lickley, and J. Fenton (January 14th, 1919), T. H. Peyton, D.S.O., M.C (January 16th and March 4th, 1919, A. H. Pinder (January 13th, 1919), T. J. Thomson, T. L. Ashforth, J. Gutch, and A. Mowat (January 9th, 1919), H. C. H. Bracey (January 18th, 1919), C. S. Brebner, D.S.O. (January 10th and February 6th, 1919), (acting Major) W. H. Davison (December 17th, 1918), N. Gebbie (January 23rd and February 5th, 1919), F. Harvey (January 16th, 1919), W. J. Lacy-Hickey, M.C. (January 22nd, 1919), W. Bailey-Thomson (April 22nd, 1920), (acting Major) L. A. Dingley (January 11th, 1919), J. F. Dixon (May 11th, 1917).

INDIAN MEDICAL SERVICE.

The services of Major H. R. Dutton have been placed permanently at the disposal of the Government of Bihar and Orissa with effect from November 4th, 1919.

Captain R. B. Lloyd, M.B., appointed to officiate as Chemical Examiner, Bengal and Professor of Chemistry in the Medical College, Calcutta.

Major F. A. Barker, M.B., O.B.E., Senior Medical Officer and Civil Surgeon, Port Blair, appointed to hold charge of the office of Superintendent of the Cellular and Female Gaols, Port Blair.

Brevet Lieut.-Colonel T. S. B. Williams granted combined leave for eight months.

Major-General P. Hehir, C.B., C.M.G., C.I.E., M.D., F.R.C.S.E., permitted to retire from the service with effect from December 8th, 1919.

DIARY OF SOCIETIES AND LECTURES.

RÖNTGEN SOCIETY, 11, Chandos Street, W.1.—Tuesday, 8.15 p.m., Special General Meeting. Professor Sidney Russ: Some Problems in the Action of Radiation upon Tissues.

ROYAL SOCIETY OF MEDICINE.—*Subsection of Orthopaedics* (*Section of Surgery*): Tuesday, 5 p.m., Cases; 5.30 p.m., Annual General Meeting. *Section of Surgery*: Wednesday, 4.30 p.m., Specimens; 5.30 p.m., Annual General Meeting. *Section of Obstetrics and Gynaecology* (conjointly with the North of England and Midland Obstetrical and Gynaecological Society): Thursday, 10.30 a.m., Discussion on Treatment of Ante-partum Haemorrhage, to be opened by Dr. Hastings Tweedy; 2 p.m., Annual General Meeting, followed by discussion on Rupture of the Caesarean Section Scar in Subsequent Pregnancy and Labour, to be opened by Dr. Munro Kerr and Dr. Eardley Holland; 7.30 p.m., dinner at Great Central Hotel (tickets 10s. 6d.). *Section of Laryngology*: Friday, 4 p.m., Cases; 4.45 p.m., Annual General Meeting.

POST-GRADUATE COURSES AND LECTURES.

MANCHESTER FRENCH HOSPITAL.—Thursday, 4.30 p.m., Dr. N. C. Haring: Diagnosis of Pneumonia and Conditions Simulating It.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Mr. J. P. Buckley: Some Practical Points on Lower Limb Stumps and Artificial Limbs.

ROYAL EYE HOSPITAL, Southwark, S.E.—Tuesday, 5 p.m., Mr. Cargill: Syphilis of the Eye.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Tuberculosis:—Monday, 5 p.m., Dr. H. E. Symes Thomson: Historical. Tuesday, Wednesday, Thursday, and Friday, 5 p.m., Dr. W. E. C. Dickson: Bacteriology and Pathology.

SALFORD ROYAL HOSPITAL.—Thursday, 4.30 p.m., Mr. Smalley: Examination of the Ear, Throat, and Nose in General Practice.

SHEFFIELD ROYAL HOSPITAL.—Wednesday, 4 p.m., Professor Arthur Hall: Gall Stones.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In-patient, Out-patient Clinics and Operations. Monday, 2 p.m., Dr. Granger Stewart: Out-patients; 5 p.m., Dr. Morton: X-Ray Therapy. Tuesday, 10 a.m., Dr. Robinson: Gynaecological Operations; 5 p.m., Dr. Pernet: Lupus and Syphilis. Wednesday, 11.30 a.m., Mr. MacDonald: Cystoscopy; 5 p.m., Dr. Beddard: Practical Medicine. Thursday, 10.30 a.m., Dr. Simson: Gynaecology; 5 p.m., Mr. Bishop Harman: Cataract. Friday, 2.30 p.m., Mr. Addison: Surgical Cases; 5 p.m., Sir R. Armstrong-Jones: Mental Disease. Saturday, 10 a.m., Dr. Arthur Saunders: Diseases of Children; 12 noon, Mr. Sinclair: Surgical Anatomy of Abdomen.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

30 Fri. Bradford Division: Lecture by Dr. A. F. Hurst: Psychotherapy.

MAY.

1 Sat. Leicester and Rutland Division, Public Medical Service Buildings, Bond Street, Leicester, 3.30 p.m.

4 Tues. London: Scrutiny Subcommittee, 2.30 p.m.
Willesden Division Annual Meeting, St. Andrew's Parish Hall, High Road, Willesden Green, 8.30 p.m.

5 Wed. London: Medico-Political Committee, 2 p.m.

6 Thurs. London: Dominions Committee, 3 p.m.

11 Tues. Buckingham Division, Aylesbury: Lecture by Sir James Galloway, K.B.E., C.B.

17 Mon. **Last day for receipt of Nominations for Council.**

19 Wed. London: **Council.**
South-Eastern Counties Division, Edinburgh Branch, Annual meeting, Railway Hotel, Newtown St. Boswells, 3 p.m.

APPOINTMENTS.

BARLOW, H. Cecil, M.B.Lond., L.R.C.P., M.R.C.S., Honorary Physician to the Lincoln County Hospital.

COFFIN, S. W., M.R.C.S., L.R.C.P., Anaesthetist to the Hospital for Diseases of the Throat, Golden Square.

DUPRÉ, Frances Jane (Mrs.), M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer of Health for the County Borough of Oldham, Lancashire.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BARCLAY.—On April 20th, the wife of J. Hamilton Barclay, M.S., F.R.C.S., 4, Jesmond Road, Newcastle-on-Tyne, of a son.

FARNFIELD.—On April 14th, the wife of J. S. Farnfield, M.R.C.S., L.R.C.P.Lond., 187, Ashburnham Road, Hastings, of a son.

ORR-EWING.—On April 17th, at Heathfield, Broad Clyst, nr. Exeter, the wife of Archd. Orr-Ewing, M.A., M.B.Cantab., of a son.

MARRIAGE.

SUNDERLAND—BROWN.—At St. Leonard's Parish Church, Ayr, on April 14th, by the Rev. John Ellis, B.D., assisted by the Rev. A. Crawshaw, brother-in-law of the bridegroom, R. A. S. Sunderland, M.R.C.S., L.R.C.P., son of the Rev. S. Sunderland, Muswell Hill, to Annie Brown, daughter of the late John Brown of Ruglan, Kilkerran, Ayrshire, and Mrs. Brown, 8, Wattfield Road, Ayr.

DEATHS.

GILL.—On April 16th, suddenly, at Shaftesbury House, Formby, near Liverpool, in his forty-second year. Eustace Stanley Hayes Gill, M.B., Ch.B.Liverp., the dearly loved husband of Edith Mary Gill, and the well beloved and only son of Dr. and Mrs. Stanley Gill.

SAUNDERS.—On April 19th, at 19, Devonshire Place, Jesmond, Newcastle-on-Tyne, the residence of his son, Dr. W. E. Roper Saunders, William Saunders, M.R.C.S.Eng., L.M.S.S.A.Lond.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 8TH, 1920.

CONTENTS.

PAGE

British Medical Association.

CURRENT NOTES:
- MOTOR CAR TAXATION: DEPUTATION TO THE MINISTRY OF TRANSPORT ... 151
- UTILIZATION OF POOR LAW HOSPITALS ... 151
- INDIVIDUAL ASSISTANCE ... 151

TERRITORIAL MEDICAL SERVICE: DEPUTATION TO THE DIRECTOR-GENERAL, ARMY MEDICAL SERVICE ... 152

ASSOCIATION NOTICES ... 153

MEETINGS OF BRANCHES AND DIVISIONS ... 153

INSURANCE:
- DISTRIBUTION OF MILEAGE GRANT ... 153

NAVAL AND MILITARY APPOINTMENTS ... 154

ASSOCIATION INTELLIGENCE ... 154

DIARY OF SOCIETIES AND LECTURES ... 154

APPOINTMENTS ... 154

BIRTHS, MARRIAGES, AND DEATHS ... 154

British Medical Association.

CURRENT NOTES.

Motor Car Taxation.

A DEPUTATION from the British Medical Association on the taxation of motor cars was received at the Ministry of Transport on May 4th. It was headed by Mr. E. B. Turner, F.R.C.S., Sir Malcolm Morris, K.C.V.O., and Dr. T. Ridley Bailey; Dr. Nathan Raw, M.P., and Dr. G. E. Elliot, M.P., were also present. In the absence of the Minister, Sir Eric Geddes, who was detained, the deputation was received by the secretary, Sir Francis Dunnell, K.C.B., with whom was Sir Henry Maybury, K.C.M.G., chairman of the Taxation Committee.

Mr. Turner began by saying that the report of Sir Henry Maybury's committee appeared to those for whom he spoke to impose a heavy additional, and in some ways an unfair, burden upon the medical profession. He then gave details of the use of motor cars for professional purposes. From his experience as chairman of a section of the Central Medical War Committee, he found that the average yearly mileage of a practitioner, taking the country as a whole, was 7,500, which meant the consumption of 500 gallons of petrol a year. Hitherto a doctor paid three guineas for tax and £6 5s. duty for this amount of petrol. During the war many doctors ran their cars to destruction, and even at the present time matters in this respect were not normal. It was impossible during the war to buy English cars, and many doctors had to purchase cars from American manufacturers, who gave them priority in delivery. A doctor using one of these cars, of, say, 20 h.p., would pay £11 12s. a year more than he did before, and that was a big penalty upon a man the use of whose car was, as to 99 per cent., professional and essential to the community. Moreover, a great many doctors, especially in districts where roads were bad, had to have two cars, or even three, in commission. The new method of taxation would bear unjustly on the medical profession as compared with those who used their cars for pleasure. He pleaded for a return to the *status quo* so far as doctors were concerned. Sir Malcolm Morris raised the question of motor ambulances, but Sir Henry Maybury said that it was not proposed to place any tax at all on ambulances.

Sir Francis Dunnell said he would lay the views of the deputation before the Minister, but he was bound to point out that if any exceptions were made to the general abolition of rebates, other classes also would claim special treatment. Some discussion took place on the validity of the figures mentioned, and Mr. Turner agreed that he had not taken into his estimate any concessions which petrol companies might make. Sir Henry Maybury remarked that when the rebate to doctors was first instituted no commercial car had to pay licence duty. Every commercial car was now laid under tribute, and the position had entirely altered with the wide development of motor transport. Under the new Budget the commercial motor car was estimated to yield a larger sum to the revenue by some £50,000 than the pleasure car would yield, so that a great part of the new revenue would come from commercial cars of every kind. He also suggested that a doctor with more than one car might reasonably be accounted affluent, but this was at once contested by the deputation. Dr. Ridley Bailey, in explaining the fallacy, gave an illustration of special hardship in the case of a Staffordshire practitioner. Sir Henry Maybury remarked that the Staffordshire roads were the worst in England, and that the new revenue from taxation would enable road improvements to be made, with consequent relief to motor car users. At the close of the proceedings Sir Francis Dunnell again undertook to lay the facts before the Minister.

Utilization of Poor Law Hospitals.

The Hospitals Committee of the Association is at present considering the question of the utilization of Poor Law hospitals to meet general needs, and is anxious to obtain information with regard to any schemes which are being formulated in connexion therewith. Members are invited to send to the Medical Secretary any particulars or suggestions which would help the Committee in its deliberations.

Individual Assistance.

An interesting gratuity case has just been decided in favour of a member as a result of representations made to the War Office by the British Medical Association. A Territorial Force medical officer who had been called up at the commencement of hostilities resigned after fourteen months' service in order to release his partner, a younger man, who was fit for general service. It was clearly understood by the War Office that this action was taken on the understanding that the junior partner would replace the officer who was resigning. The action was also taken on the advice of the Local Medical War Committee, which ruled that both these medical men could not be spared from the district. When an application for gratuity was made by the medical officer who had resigned it was refused on the ground that he had resigned voluntarily. The assistance of the Association was sought, with the result that the gratuity has been paid. This affords another instance of what can be done for individual members who seek the assistance of the Association when they are in difficulty.

TERRITORIAL MEDICAL SERVICE.

DEPUTATION TO DIRECTOR-GENERAL, ARMY MEDICAL SERVICE.

SIR JOHN GOODWIN, K.C.B., C.M.G., D.S.O., Director-General Army Medical Service, received at the War Office on April 15th a deputation from the British Medical Association with regard to certain questions relating to the reorganization of the Territorial Force.

There were present:

Lieut.-General Sir T. H. J. C. Goodwin, K.C.B., C.M.G., D.S.O., D.G.,A.M.S.
Colonel Sir E. S. Worthington, K.C.V.O., C.B., C.M.G., A.M.S.
Lieut.-Colonel E. C. Montgomery-Smith, C.M.G., D.S.O., T.D., A.M.S.

Dr. C. Buttar, Chairman of Territorial Force Subcommittee.
Major G. Annis, R.A.M.C.(T.).
Colonel L. Blandford, C.B.E.
Dr. J. A. Nixon, C.M.G.
Dr. C. Courtenay Lord, Assistant Medical Secretary.
Dr. N. G. Horner, Assistant Editor, BRITISH MEDICAL JOURNAL.

Dr. BUTTAR, introducing the subject for which the deputation had met the Director-General, explained that the Territorial Force Subcommittee of the Naval and Military Committee had under consideration the question of the reorganization of the Territorial Army for two reasons:

1. In the hope that the British Medical Association might be of help in the establishment of a satisfactory Force in peace time.
2. With a view to the civilian profession rendering proper assistance in the expansion of that Force which might be necessary should a national emergency arise.

Before dealing with the points which had been submitted in writing to the Director-General, Dr. Buttar said there was one question upon which the deputation would like information: "Was it intended that, in the event of an emergency, the Regular Army should be expanded at the same time as the Territorial Army, or would the expansion only take place through the latter?"

In reply, the DIRECTOR-GENERAL said that this matter was under consideration by the Army Council. It had been urged by his Department that this expansion should take place solely through the Territorial Army, but the Army Council held very strongly that the conditions for the Medical Department should not differ from those which obtained for the rest of the Army. The matter was therefore being considered by the Army Council from the point of view of the Army as a whole, and, of course, he was not in a position to state what decision would be arrived at. Dealing with the anomaly which had arisen during the late war, and which was the cause of such serious dissatisfaction—namely, the higher rates of pay for temporarily commissioned medical officers than those received by Territorial and Special Reserve medical officers—Sir John Goodwin said he had made recommendations to the Army Council that in future it must be absolutely assured that medical officers of the Territorial Force and Special Reserve must receive the same pay and allowances as officers of the Regular Army, and that temporarily commissioned medical officers (if such were appointed) must in no case obtain higher rates of pay and allowances. He had urged very strongly that the temporary commission system should be abolished, but here again the matter was under consideration, and he could not forecast the decision of the Army Council. The Director-General next took up one by one the suggestions submitted by the Subcommittee.

With regard to:

(1) That the Territorial Army should be represented on the Staff of the D.G., A.M.S., by a senior officer who should have the title of D.D.G., and should have the rank of not less than that of Major-General.

This immediately raised two difficulties. There was at present no officer of the Territorial Army in the War Office, with the exception of the Earl of Scarborough, who held the rank of Major-General. To carry this proposal into effect would entail an enormous increase of expenditure. Moreover, the idea would be running quite counter to the present view held by the Army Council, which was to avoid most strongly anything in the nature of water-tight compartments or duplication of staffs. This proposal would entail separate channels for both the Regular and Territorial Armies, and it would mean that the scheme would have to be carried into effect throughout the whole of the War Office, from the Army Council downwards. It would be extremely difficult to carry this proposition into effect.

As to:

(2) That the Territorial Army should be represented on the different branches of the Medical Directorate by an adequate number of Territorial medical officers.

Here again a separate administration would have to be instituted for the Territorial Army, and this would raise insuperable financial difficulties. He had already decreased his directorate by 40 per cent., and was endeavouring to reduce it still further. If suggestion No. 2 were carried into effect, his staff would have to be brought up to pre-war strength.

As to:

(3) That the Territorial Army Medical Service should consist of two classes of officers: (*a*) Active List; (*b*) Reserve.

He was in agreement.

As to:

(4) That the medical officers on the active list should be carried on three general lists: (i) Field units; (ii) technical units; (iii) general hospitals.

This was already laid down. It was proposed that regimental medical officers, field ambulance, and casualty clearing station officers should be posted, on joining, to regiments, field ambulances, and casualty clearing stations. All regimental medical officers would be available for posting to field ambulances or casualty clearing stations as captains or majors, and would be shown in their proper seniority on the divisional list. They would all be available for selection to commands and higher ranks. Senior officers would be on a general list for all divisions showing ranks, stations, etc. For the staffing of general hospitals a special list by division areas would be maintained. Officers would be posted to the hospital in their area, and would obtain their promotion by time. Majors would be given posts in hospitals; if there were no vacancies they would go to the reserve as trained officers and be liable to recall for posts in hospitals or casualty clearing stations. These lists would also show officers of higher ranks available as consultants.

As to:

(5) That an age limit should apply to each rank.

This already applied, the age limit being 45; 50, and 55 for captains, majors, and lieutenant-colonels respectively.

As to:

(6) That medical officers of casualty clearing stations should be selected on a team basis, and arrangements should be made for training them in military duties.

This was being done.

As to:

(7) That all special medical officers, such as pathologists, *x*-ray specialists, and hygienists, should be carried on the technical units list, and medical officers on this list should be represented on the medical directorate.

This was either done or was in process of being carried out. The Director-General thought that the suggestion of the deputation, that the list should include all specialists, including those on the staff of hospitals, was a matter which could easily be met. Regarding the representation of these officers on the medical directorate, the same difficulty was encountered here as that of which he had previously spoken.

As to:

(8) That the *à la suite* system should be abolished.

A Committee had been appointed to go into this matter, for he recognized that the *à la suite* system contained grievous anomalies upon which marked improvements must be effected.

As to:

(9) That no medical officer should be placed on the General Hospital List under a given age, nor until he has reached the rank of Captain.

A general discussion took place on this proposal. The Director-General thought that the difficulties involved in the subject might be overcome, if the men who had done approved service in the war were to be regarded as being available for admission to the General Hospital List; thereafter appointments would only be made to this list from those officers who had done military training.

As to:

(10) That the training in Officers' Training Corps should be altered, and should be of a military rather than a professional character.

This was a question which had been studied and discussed by his Department for many months. There were many arguments both for and against the proposal.

Dr. BUTTAR, replying to the Director-General, said that what the Subcommittee had in mind with regard to proposals 1 and 2 was not that there should be two armies, for it recognized that that was quite impossible, but that service in the Territorial Army might be more attractive if Territorial officers felt they had a channel of their own which dealt with Territorial matters exclusively.

Sir JOHN GOODWIN said that the Territorial Army already had its own representative at the War Office in A.M.D., 1, and he hoped that this would meet the views of the officers concerned. He regarded it as essential that the Territorial Army should not be run entirely independently of his Department, as otherwise the Director-General would be quite ignorant of what was going on. There was nothing he himself was more anxious to secure than that the Territorial Army Medical Service should work smoothly and efficiently in every way. He was under the impression that a good deal of feeling had arisen in regard to the temporarily commissioned officers. Endeavours had been made at various times during the war to rectify anomalies on this point, but—as might be readily understood—it was difficult to alter policy while active operations were in progress. He had been considering this matter very carefully, and had put forward recommendations which he hoped would be approved by the Army Council.

Dr. BUTTAR raised the question of recruiting in times of emergency. The DIRECTOR-GENERAL said he regarded this as a most important subject. He would be very glad indeed if the Subcommittee would consider this question and discuss it with him. He realized its enormous importance and the difficulties involved, and was in agreement that there should be some civilian professional organization by means of which the army could be furnished with doctors should the emergency arise. He would be very happy to have the Subcommittee's views.

After thanking the Director-General for the kind and sympathetic manner in which he had received them, the deputation withdrew.

Association Notices.

MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, May 19th, in the Council Room, 429, Strand, London, W.C. 2., at 10 a.m.

REPRESENTATIVE MEETING.

DATE.

THE Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

NOTICES OF MOTION AND AMENDMENT BY DIVISIONS AND BRANCHES.

The Supplementary Report of Council to the Representative Meeting will appear in the SUPPLEMENT of May 29th, 1920.

Notices of Motion and Amendment by Divisions and Branches for consideration by the Annual Representative Meeting will be published in the SUPPLEMENT as they are received, but none can be published later than June 12th, for which purpose they must be received by the Medical Secretary *not later than the first post on Monday, June 7th.*

It will be possible, however, to include in the Agenda for the Annual Representative Meeting all Notices of Motion and Amendment which are received by the Medical Secretary *not later than the first post on Monday, June 14th, 1920.*

ANNUAL GENERAL MEETING.

THE Annual General Meeting will be held at the Examination Halls, Cambridge, on Tuesday, June 29th, 1920, at 2 p.m. Business: (1) Minutes of last Meeting. (2) Appointment of auditors. (3) Report of election of President.

BRANCH AND DIVISION MEETINGS TO BE HELD.

NORTH OF ENGLAND BRANCH.—Dr. Jas. Don, Honorary Secretary (1, Grove Street, Newcastle-on-Tyne), gives notice that a meeting of the medical profession within the area of the North of England Branch will be held in Newcastle-on-Tyne on Thursday, May 13th, to initiate preparations for the annual meeting of the Association to be held in Newcastle-on-Tyne in 1921.

ESSEX BRANCH.—The spring meeting of the Essex Branch will be held at the Saracen's Head Hotel, Chelmsford, on Wednesday, May 26th, at 12 o'clock. Members wishing to show cases or read papers should communicate with Dr. B. W. Nicholson, East Lodge, Colchester.

SOUTH-WESTERN BRANCH: EXETER DIVISION.—Dr. Norman Lock, Honorary Secretary (5, Barnfield Crescent, Exeter), gives notice that a general meeting of the Division will be held on Friday, May 14th, at 2.30 p.m., at the Royal Devon and Exeter Hospital.

Meetings of Branches and Divisions.

NORTHERN COUNTIES OF SCOTLAND BRANCH: INVERNESS DIVISION.

A MEETING of the Inverness Division was held at the Northern Infirmary on April 3rd, when Dr. A. C. BALFOUR was in the chair.

The Division approved of the necessity for action in national emergencies, and a committee of the Division was appointed to confer with the local authorities in the area so as to formulate a scheme.

The terms submitted in the joint report on fees for life assurance (SUPPLEMENT, March 27th, 1920) were agreed to as a suitable basis for discussion at the Annual Representative Meeting, 1920.

It was resolved to ask Dr. Drever, Scottish Secretary British Medical Association, to lay before the Scottish Committee of the British Medical Association the necessity for approaching the Scottish Prisons Board to increase the salaries of prisons medical officers by 50 per cent. on a pre-war basis, and for taking up the same question with the respective authorities regarding the salaries of medical officers holding public health, Poor Law, and similar public appointments.

The honorary secretary was instructed to write to Dr. Drever, informing him of the great dissatisfaction of the doctors all over the Highlands, and especially in the multiple areas, with the remuneration received for attendance on patients and for mileage under the Highlands and Islands scheme, the sums received individually being quite inadequate to recompense the doctor for his work.

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.

A MEETING of all the medical practitioners in the Rochdale Division area was held at Rochdale on April 13th, when Dr. Alfred Cox, O.B.E., the Medical Secretary, gave an address on the British Medical Association and its work. Questions were invited and answered by Dr. Cox.

The annual meeting of the Division was subsequently held, when the annual report was read; the financial statement showed a balance in hand of £3 11s. 10d. at December 31st, 1919.

The following officers were elected for the ensuing year:

Chairman: Dr. Bateman. *Vice-Chairman:* Dr. Geddes. *Honorary Secretary and Treasurer:* Dr. J. Melvin. *Auditor:* Dr. Harris. *Representative in Representative Body:* Dr. Lord. *Deputy Representative:* Dr. J. Melvin.

INSURANCE.

DISTRIBUTION OF MILEAGE GRANT.

IN reply to an inquiry by the Medical Secretary with regard to the delay in payment to rural doctors of sums on account of mileage for 1920, the Ministry of Health has replied as follows:

The position is that a circular letter was issued to Insurance Committees on January 20th requesting that certain particulars should be furnished which are essential before the distribution of the Central Mileage Fund can be proceeded with. The letter contained the following paragraph:

> For the purpose of the distribution of the main portion of the Central Mileage Fund it will be necessary for committees to obtain, as soon as practicable, from the doctors practising in rural portions of the committee's area the statistics referred to in paragraph 35 of the report.

Certain other particulars were also required with regard to districts where the difficulties are of an exceptional character. Although this circular letter was issued over three months ago, we have only so far received the main particulars from less than one-third of the counties. It is important that the doctors who are concerned should realize that the distribution of the fund cannot be determined by the Distribution Committee, or any payments made by way of instalments, until the necessary particulars have been received from the several areas; and delay on the part of any doctors in sending in particulars is, therefore, reflected in a delay in the making of payment to rural practitioners generally. We are issuing the necessary official reminders, but you may consider it worth while to invite the attention of rural doctors generally to the subject. As soon as the particulars are received no time will be lost in laying them before the Distribution Committee for examination and for their recommendations.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Captains W. Bett, M.V.O., J. Shand and J. Chambers, C.M.G., promoted to the rank of Surgeon Rear Admiral. Surgeon Commanders A. J. Wernet to R.N. College, Greenwich, for three months' hospital course; W. P. Hingston to the *Coventry* as Squadron Medical Officer (on transfer of flag); A. Davidson to the *Curfew*; A. Gaskell, C.B., O.B.E., to the *President*, for duty with Medical Director-General Admiralty (temporary); W. P. Walker to the *Canada*; E. S. O. Sawdy to R.N. Hospital, Pembroke Dock (temporary). Surgeon Lieut. Commander H. H. Ormsby to the *Castor* (on transfer of flag). Surgeon Lieutenant G. A. M. Anderson, promoted to the rank of Surgeon Lieutenant Commander. Surgeon Lieutenants H. F. Stephen to the *Beaufort*; F. R. McCambley to the *Victory*, for R.N. Barracks, Portsmouth.

ARMY MEDICAL SERVICE.

Colonel W. E. Hardy retires on retired pay (April 12th, 1920—substituted for notification in the *London Gazette*, April 14th, 1920).

Temporary Colonel Sir A. Chance, C.B.E., relinquishes his commission and retains the rank of Colonel.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonels retire on retired pay: J. H. Brunskill, D.S.O., O.B.E., H. A. Davidson, D.S.O., S. J. C. P. Perry, W. L. Baker, J. G. Churton, T. Biggam.

Lieutenant-Colonel B. Forde, C.M.G., is placed on retired pay.

Major Norman D. Walker, O.B.E., to be temporary Lieutenant-Colonel whilst specially employed.

Major M. P. Leahy is placed on retired pay on account of ill health caused by wounds. (August 26th, 1919—substituted for notification in the *London Gazette*, August 25th, 1919.)

The following officers relinquish the acting rank of Lieutenant-Colonel: Major T. J. Potter, O.B.E., Captain C. H. K. Smith, M.C.

Major L. A. A. Andrews relinquishes the acting rank of Lieutenant-Colonel. (September 23rd, 1919—substituted for notification in the *London Gazette*, December 2nd, 1919.)

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

11 Tues. London: Standing Subcommittee, Central Ethical Committee, 2.30 p.m.
Buckingham Division, Aylesbury: Lecture by Sir James Galloway, K.B.E., C.B.

12 Wed. London: Finance Committee, 2.30 p.m.

13 Thurs. London: Naval and Military Committee, Territorial Force Subcommittee, 3 p.m.
North of England Branch, Newcastle-on-Tyne.

14 Fri. Exeter Division, Royal Devon and Exeter Hospital, 2.30 p.m.

17 Mon. **Last day for receipt of Nominations for Council.**

19 Wed. London: **Council**, 10 a.m.
South-Eastern Counties Division, Edinburgh Branch, Annual meeting, Railway Hotel, Newtown St. Boswells, 3 p.m.

21 Fri. Preston Division: 8.30 p.m., Lecture by Dr. W. Blair Bell: Ductless Glands.

23 Wed. Essex Branch, Saracen's Head Hotel, Chelmsford, 12 o'clock.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Monday, 8 p.m., Annual Meeting; 9 p.m., Annual Oration by Sir D'Arcy Power, K.B.E., on The Rev. John Ward and Medicine. Presentation of Fothergillian Medal (1917) to Sir Leonard Rogers, C.I.E., M.D.

ROYAL SOCIETY OF MEDICINE.—*War Section*: Monday, 5.30 p.m., Annual General Meeting. Surgeon Captain Bassett-Smith, R.N.: Scurvy, with special reference to prophylaxis in the Royal Navy. *Subsection of Proctology* (*Section of Surgery*): Wednesday, 5.30 p.m., Annual General Meeting. *Section of Neurology*: Thursday, 8.30 p.m., Annual General Meeting. Dr. S. A. Kinneir Wilson: Decerebrate Rigidity in Man and the Occurrence of Tonic Fits. *Clinical Section*: Friday, 5 p.m., Cases; 5.30 p.m., Annual General Meeting.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—Friday, 8.30 p.m., Dr. Edward J. Wood: Pellagra from the Standpoint of a "Deficiency Disease."

POST-GRADUATE COURSES AND LECTURES.

MANCHESTER FRENCH HOSPITAL.—Thursday, 4.30 p.m., Dr. A. C. Magian: Silver Salvarsan in the Treatment of Syphilis.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. Donald E. Core: Hysteria and Certain Indications for its Treatment.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., Operations, Medical and Surgical Clinics, etc. Monday, 2.30 p.m., Mr. Banister: Gynaecological. Tuesday, 9.45 a.m., Lieut.-Colonel R. H. Elliot: Selected Eye Cases and Operations; 2.15 p.m., Dr. Whiting: Selected Cases of Heart Disease; 3.15 p.m., Mr. Howell Evans: Scrotal Tumours; 4.30 p.m., Mr. Carson, Lecture: Surgical Diseases of the Pancreas. Wednesday, 2.30 p.m., Dr. Oliver: Dermatological. Thursday, 2.30 p.m.: Eye Cases, Mr. Fleming; Radiology, Dr. Metcalfe. Friday, 2.30 p.m., Dr. C. E. Sundell: Diseases of Children. Saturday, 3 p.m., Mr. Carson: Selected Surgical Cases.

ROYAL EYE HOSPITAL, Southwark.—Wednesday, 5 p.m., Mr. Letchworth: Eye Diseases due to Nephritis and other Toxaemias.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Lectures on Tuberculosis, 5 p.m.:—Monday, Dr. W. E. C. Dickson: Bacteriology and Pathology. Tuesday, Dr. H. Sutherland: Epidemiology. Wednesday, Dr. A. Abrahams: Etiology. Thursday and Friday, Dr. D. Barty King: Symptoms.

SALFORD ROYAL HOSPITAL.—Thursday, 4.30 p.m., Dr. Dyson: Tuberculosis of the Skin.

SHEFFIELD UNIVERSITY PATHOLOGICAL MUSEUM.—Wednesday, 4 p.m., Professor Connell: Pathology of Everyday Lesions of the Intestine.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith.—Daily, 10 a.m., Ward Visits; 2 p.m., In-patient, Out-patient Clinics and Operations. Monday, 12.15 p.m., Dr. Burnford: Pathological Demonstration; 5 p.m., Mr. Donald Armour: Cervical Ribs. Tuesday, 10 a.m., Dr. McDougal: Electrical Department; 5 p.m., Mr. Tyrrell Gray: Appendicitis. Wednesday, 2 p.m., Mr. Gibb: Eye Department; 5 p.m., Dr. Owen: Congenital Morbus Cordis. Thursday, 10.30 a.m., Dr. Simson: Gynaecological Demonstration; 5 p.m., Mr. Bishop Harman: Cataract Operations. Friday, 2 p.m., Dr. Pritchard: Medical Wards; 5 p.m., Sir Robert Armstrong-Jones: Mental Disease. Saturday, 10 a.m., Dr. Arthur Saunders: Diseases of Children; 12 noon, Mr. Sinclair: Surgical Anatomy of the Abdomen.

APPOINTMENTS.

BOURNE, Geoffrey, M.B.Lond., M.R.C.P., Physician to the East London Hospital for Children, Shadwell.

CANE, Leonard B., M.D. Cantab., B.C., M.R.C.S.Eng., L.R.C.P.Lond., Honorary Physician to Peterborough Infirmary.

D'EWART, John, M.B.Lond., M.R.C.S., Medical Superintendent, Booth Hall Infirmary for Children, Manchester, E.

EDGE, William, M.R.C.S., L.R.C.P., Assistant Medical Officer, Booth Hall Infirmary for Children, Manchester, E.

VINING, C. W., M.D., B.S.Lond., M.R.C.P., D.P.H., Assistant Physician in charge of Children's Department, General Infirmary, Leeds.

WILSON, A. H., L.R.C.S., L.R.C.P.Edin., D.P.H.Lond., M.O.H. and Assistant School Medical Officer, East Wilts Combined Districts.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

COX.—April 30th, at Hazeldean Nursing Home, Manchester, to George Lissant Cox, M.D.Cantab., of Preston, and Mrs. Cox, a daughter.

DICK.—On May 2nd, 1920, at 4, Filey Road, Scarborough, to Dr. and Mrs. J. R. Dick, a son.

KILNER.—On April 21st, at 15, Albert Crescent, Bury St. Edmunds, the wife of H. Goff Kilner (late Major R.A.M.C., Croix de Guerre), of a daughter.

MOFFET.—On April 30th, at 86, Manley Road, Whalley Range, Manchester, to Dr. W. P. and Mrs. Moffet, a son.

MARRIAGES.

COOPER—MACNIVEN.—At 13, Cluny Drive, Edinburgh, on April 30th, by the Rev. John A. Duke, B.D., Morningside U.F. Church, Captain Duncan Gordon Cooper, M.B., Ch.B., Indian Medical Service, to Helen Gould Donaldson, youngest daughter of John Macniven.

EDEN—BARFORD.—On Wednesday, April 28th, at All Saints' Church, Leamington Spa, by the Rev. C. T. B. McNulty, M.A., Vicar of Holy Trinity, assisted by the Rev. Fredk. Feist, Dr. Louis T. Eden, Coventry, son of Mr. James R. Eden, Edinburgh, to Lilian Mary, eldest daughter of Mr. and Mrs. H. W. Barford, Coventry.

DEATHS.

CROMBIE.—At Park House, North Berwick, on May 1st, 1920, John Liddle Crombie, M.D., aged 77.

MARTIN.—On April 21st, at 45, Grange Road, London, S.E., F. G. Clifton Martin, M.R.C.S.Eng., L.R.C.P., L.S.A.Lond.

PARSONS.—On April 27th, Philip Harry Parsons, L.R.C.P., L.R.C.S. Edin., L.F.P.S.Glasg. (Melbourne University and R.C.S.Edin.), of 6, Foulis Terrace, South Kensington, S.W.9, aged 47, the beloved husband of Mary Parsons.

SMITH.—Jessie Irvine, aged 50, the beloved wife of A. G. L. Smith, M.R.C.S., L.R.C.P., at The Cabin, Crick, Rugby, April 27th, 1920. At rest.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 15TH, 1920.

CONTENTS.

	PAGE
THE GENERAL PRACTITIONER AND THE HEALTH SERVICES. Address by Dr. H. B. BRACKENBURY ...	155
MEETINGS OF BRANCHES AND DIVISIONS	157
ASSOCIATION NOTICES	157
INSURANCE CORRESPONDENCE	157
DIARY OF SOCIETIES AND LECTURES	158
ASSOCIATION INTELLIGENCE	158
APPOINTMENTS	158
BIRTHS, MARRIAGES, AND DEATHS	158

The Supplementary Report of Council to the Representative Meeting will appear in the Supplement of May 29th. The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m. The Annual General Meeting will be held at the Examination Halls, Cambridge, on Tuesday, June 29th, at 2 p.m.

THE GENERAL PRACTITIONER AND THE HEALTH SERVICES.

AT a meeting of the West Herts and Watford Medical Society, held on April 28th, Dr. H. B. BRACKENBURY (Chairman of the Insurance Acts Committee) gave an address on "The relation of the general practitioner to public health services."

Dr. Brackenbury said that by the public health services they were beginning to mean not merely the services which they had been accustomed to consider in the past as belonging to the sphere of preventive medicine, but all State-organized and supported services which had to do with the health of the community. They must not forget that they meant not only the preventive side but the clinical side, which was so rapidly developing. Because of that development the general practitioner was becoming more and more involved in those services, both with regard to his professional expert knowledge and in the effect which the extension of those clinical services might have upon his financial and economical well-being. They would have, in the course of the next few weeks probably, the interim report of the Medical Consultative Council to the Ministry of Health, which would outline a fairly complete scheme for the development of the public health services at the instance of the State for all sorts of people, of dental treatment, laboratory facilities, nursing and maternity services, and clinics of all kinds. He knew nothing of that report, except what he had been able to gather from the indiscretions, calculated or otherwise, of people on the Council, or from things they had said or refrained from saying in certain circumstances on various committees where they had been discussing cognate subjects.

It was of vast importance that the whole mind of the profession should be brought to bear upon the report, because it would gravely affect the future development of the public services and the relation of various interests thereto. As a help towards such consideration he intended to speak of the requirements which the general practitioner might reasonably ask from the community on the one hand, and the requirements which the community might reasonably ask from the practitioner on the other, and to embody these in a series of propositions with some comments thereupon. More and more the general practitioner was being taken out of what had been his almost traditional isolation, and was coming more and more into touch with his fellow practitioners and with the various administrative appointments made by the State. That was a modern tendency which was bound to grow, and when a scheme was put before them by a responsible body they must consider its essential points with fairness and concentration, and not waste their time in discussing details which did not matter so much.

His first proposition was that the practitioner was the essential agent in any complete public health service, and that domiciliary attendance and treatment was the only foundation on which the systematic provision of other kinds of treatment could properly be based. He had known specialists and medical officers of health who a few years ago would have disputed that proposition, but it had now been completely and officially recognized. They had to have the proper type of general practitioner, the man who really felt what his position was, what his profession was, what his opportunities were, and who did the best he could to live up to them. Dr. Brackenbury quoted Sir George Newman's description of the practitioner, as appearing in his memorandum on medical education, and in his memorandum on the practice of preventive medicine. Such being the character and importance of the general practitioner as set forth in official memoranda by the chief medical officer of the chief departments of State concerned with public health, he thought they might congratulate themselves on the position and recognized importance of the general practitioner, and he thought they had a right to quote such high requirements when any question of the proper remuneration from the State arose. No public health services, preventive or clinical, could possibly get on without the practitioner's full co-operation, and the first thing that the State had to do was to provide general practitioner treatment for those persons who were unable to provide it for themselves, before it could with any propriety set up any other services of a different type wanting specialist attention or residential attention, of which the public might be allowed to take advantage.

His second proposition was that, speaking generally, and except in cases of emergency, it should be only on the recommendation of a general practitioner that any branch of the service other than domiciliary treatment should be available. Supposing they had all those other services, specialist and consultant services, laboratory facilities, and the public had free access to them without having to go by way of the general practitioner, what an enormous waste of public money there would be! It should not be merely a practitioner who was working under the Insurance Acts who might send his insured persons for these extra services, but *any* general practitioner. That would safeguard the position of the general practitioner very largely indeed; it would be an economy to the State, and a help to the patients. This gave rise to an important problem which the profession must face. There were three classes of the public who might want to take advantage of such further provision. There were the insured persons, about whom there was no difficulty; there was the fairly well-to-do person who could afford to have a family doctor; and there was the class of poor persons really in the same economical position as insured persons, but who did not happen to be technically employed, and who therefore at present had no State help towards domiciliary treatment. If they laid down the proposition, which he thought was vital, that no one should have access to these further services provided by the State except on the recommendation of a general practitioner, it involved their acquiescence in the further provision by the State of general practitioner services of some kind for those persons not already provided for by the Insurance Acts who were not in a position to provide their own practitioner—the dependants of many insured persons, and others.

There were other requirements which were reasonable on their part with regard to the various types of further provision that the State was going to make. His third

proposition was that if treatment of a non-specialist character at a clinic was provided by a public authority, that treatment should in all cases be carried out by, or under arrangements approved by, the general practitioners who were attending the patients or their families in their own homes; and that the ordinary treatment of tuberculosis, the ordinary work of a maternity and child welfare clinic, the treatment of minor ailments at a school clinic, should always be regarded as of a non-specialist kind. Such clinics were, of course, already established, and there would be a considerable extension of them. He said nothing about the administrative or inspectorial side, but if clinics were established of a non-specialist character, the practitioners of the locality should either do the clinical work themselves or have a paramount voice in determining the method by which the work should be done.

His fourth proposition was that where clinics of a specialist type were established four things were essential: First, the clinical medical staffs should, except in a few exceptional cases, be appointed on a part-time basis and remunerated on a time basis or on a case basis; secondly, a medical committee should take an important part in the selection of those staffs; thirdly, general practitioners, if possessed of the necessary qualifications, should be eligible for appointment on the staffs; and fourthly, all general practitioners should be given opportunities of taking some suitable part in the work. With regard to the first point, the limitations of time and place made it impossible to allow everybody to take part in the work, and this involved a selection by someone mainly on behalf of the persons who were paying the salaries. The comment upon that was that a medical committee should take a paramount part in the selection, which should not be entirely at the sweet will of a lay committee. On the third point, it was by no means difficult for a general practitioner to be largely competent in some specialty or other. It was quite common for a general practitioner to be a first-class operative surgeon; he had almost perforce to become a very expert obstetrician, and it was not difficult for him to become a specialist, not perhaps of the highest expert type, but of quite a high expert type in throat, nose, ear, and eye. Then, on the fourth point, in order that general practitioners might have an opportunity of developing this specialism and becoming competent, they should have full opportunities of taking part in the work of the special clinics.

As to residential institutional provision—hospital provision commonly so called—his fifth proposition was that when the State was providing that kind of treatment there should be local hospitals in which these three conditions prevailed: (1) the medical attendance would be carried out by the general practitioners of the locality, whether such treatment be of the ordinary or more specialist character; (2) the question of fees for medical and surgical treatment therein (whatever be the arrangements for maintenance) would be a matter of arrangement in each case between the doctor and patient; (3) some suitable provision would be made for maternity cases. If the State were going to make complete hospital provision for the whole of the population they said that the most urgent matter required, looking at the country as a whole, was the provision of local general practitioner hospitals. There ought to be an immense development of such hospitals in which any doctor of the locality would be able to send any of his patients, and be able to follow them in and treat them himself, or if the case was such that he did not feel competent to treat it himself, to have one of his fellow practitioners with him. There were general practitioners who were perfectly competent to undertake most cases, but did not undertake any sort of major surgery, and they could have colleagues, who were still general practitioners, to do the operations in the hospital for them, and make such arrangements as were suitable, quite privately, as to the medical fees that were paid for that attention inside the hospital. He did not touch upon the question of the cost of maintenance of the patient. In some cases the provision of maternity wards was most urgently required, and they could very well be established in a separate block in connexion with the local hospital of the type he had indicated.

His next proposition was that where more central hospitals for cases of a more special character were established, the staffing of such institutions (except in the case of teaching hospitals) should be arranged in the same way as in the case of the specialist clinics. The staffing should be done on exactly the same principles. They must select competent doctors to be on the staff part time, paid for the work they did on behalf of the community, whether part of a voluntary hospital or not. A general practitioner, if he showed his competence to do that particular kind of work, ought to be eligible equally with the specialist for appointment on that staff, and all general practitioners ought to be allowed to take a suitable part in the work of the institution. What were the criteria by which the appointing committee, medical or otherwise, could judge of the eligibility of a general practitioner for such appointments of a special character, whether at the specialist clinics or at the central hospital? If a man had taken certain diplomas or done some work in certain specialties, either in the course of his university training or as a post-graduate matter, that by itself would not be considered qualification. There had been a good many complaints about newly qualified persons setting up in these appointments as specialists. He thought the biggest outcry had been at some of the tuberculosis appointments, where young men almost fresh from the hospitals had been appointed and regarded by the people who appointed them, and expected to be regarded by the practitioners of the neighbourhood, as specialists, when they were nothing of the kind. They should take into consideration special or post-graduate study if combined with some active practice of the specialties in question, and that would at once make eligible for appointment all those doctors who had held hospital appointments already. They must have, too, local recognition by the general practitioners of competence in a professional capacity. They would find that there were doctors who were quite competent in some of these specialties who had yet had no special post-graduate study, but who were, in fact, recognized by their local colleagues as being worthy of consulting in the capacity of specialists.

His next proposition was that on the staff of every medical school there should be at least one general practitioner for the purpose of giving instruction in the duties, opportunities and routine of general practice, and in medical ethics, and to review the whole field of medicine in its proper perspective. He did not believe that anybody could do that except the general practitioner. It was outrageous, as he looked upon medical education, that general practitioners should be, as a matter of course, ruled out from the teaching staffs of the big medical schools. He quite agreed that most of the teaching appointments ought to be held by the highly skilled specialists, but to have the whole of the staff without an experienced, able, and properly appointed and selected general practitioner to instruct the students in some of the things they ought to be instructed in seemed to be most improper, and they ought to insist that in future every fully equipped medical school should have on its teaching staff at least one such general practitioner.

His last proposition on this side of the case was that a sufficient number of post-graduate schools should be established entirely separate from the ordinary medical schools, and, beyond that, access for educational purposes of every practitioner to any institution of whatever kind which received public money should be secured.

Those were the things which he thought they as general practitioners had a right to look for in any complete scheme of State provision of a public health service. On the other hand, the community would say, "What are the things which the general practitioner himself must undertake to be and to do?" The first thing he should say was that the general practitioner must be prepared to take reasonable advantage of such means as were provided to maintain and improve his professional knowledge and skill. If they had these post-graduate schools, all these institutions open for reasonable access for educational purposes, the general practitioner must be expected to take advantage of them. It would not do for him to sit still and stagnate, and expect to be treated as though he had not sat still and stagnated. There were a great many practitioners who did not do that, but who with acute minds, large practices, wide interests, a fair amount of reading, and conversation with their brethren at clinical meetings, did get on very well and did improve without actually undertaking a definite course of study. But he doubted if even that would be quite enough in future. He was inclined to think there would have to be some definite course of study undertaken by practitioners in order to keep themselves well abreast of the times.

His second requirement was that the general practitioner must be prepared to take a full and proper part in matters of public hygiene and preventive medicine generally. They did not want different classes of medical men, with a different kind of education in each given instance, largely separated from one another. They had to remember that the medical officer, the general practitioner, the specialist, had all gone through the same course

of training to become registered medical practitioners. Moreover, he thought that the community had a right to maintain that its idea of public hygiene was somewhat different than had been assumed in times past. They had not merely to prevent a healthy body deteriorating and acquiring disease, but they must help in keeping a healthy body up to the height of its possibilities. Every member of the community ought to be helped and taught and encouraged to make the most of his healthy body, not merely to be content not to be ill. They wanted to co-operate to a greater extent with those administrative officers who were actually appointed to look after the health of the community, and to be intimately concerned, not with personal and domestic hygiene only, but with public hygiene also.

His third requirement was that the general practitioner must be prepared to take such part in clinical research as his abilities and opportunities allowed, and to participate in any organized inquiry as far as might be required of him. It was beginning to be recognized that the only man really in a position to advance medicine much in future was the general practitioner. Research in laboratories and hospitals he would not say had done as much as it could do, but he thought had nearly carried matters as far as it could entirely by itself; and it was only by watching the beginnings and the whole course of disease in individuals and communities that we should advance much in medical research and knowledge. At the present time not everybody could do this or had the opportunity to do it. The way in which they were taught years ago was wrong; their medical outlook was improper in its direction. They were not educated to take full advantage of all the opportunities they had in the way of clinical research in their ordinary daily routine. But the opportunities were there, and they were of enormous importance from the point of view of the community, and this was a place that nobody else but the general practitioner could possibly fill. In so far as the general practitioner individually was qualified and had the opportunity of engaging in such research, he thought it would be reasonable of the State to expect it from him. There could be no satisfactory research without records of some kind, and if anything of that sort was to be done they would have to submit to the requirement that records of some kind or another might properly be asked from them in certain circumstances.

His fourth requirement was that the general practitioner must cultivate increasing co-operation with his colleagues, especially in team work, and work of various kinds in association with those administering public services. The general practitioner was losing his individualistic standpoint to a great extent, and was learning to consider the members of his profession not as rivals but as colleagues. By team work he did not mean the co-operation of the general practitioner with a series of specialists, all working together as a team, but a series of general practitioners working together. They could easily have a body of three or four practitioners doing practically the whole of the work of their practices between them, one specializing in one direction and one in another.

His last requirement was that the general practitioner must be prepared to accept some supervision in certain directions by an administrative service in those matters in which he was acting on behalf of the community. That went very much against the grain, perhaps, and it could be made to mean something which was objectionable. But if they were recognized by the State as doing this work, and if their demands as to the general conditions were granted, then so far as they were doing work on behalf of the community they must allow a professional administrator to be appointed who would say that the common work was adequately and properly done. He did not mean that there should be interference with the details of clinical treatment of an individual. It was possible to have a reasonable and proper general supervision of work done by practitioners on behalf of the State, by an administrative officer who would be, as a rule, the medical officer of the locality, with various subordinate whole-time officers. If such officers were entirely confined to administrative and inspectorial work, and if the clinical work was left absolutely in the hands of the practitioners, then he thought, as far as administrative supervision in a moderate and appropriate way was concerned, they would have to recognize it. If the State set up a public health service, and it did not comply with their main demands, they ought to oppose it for all they were worth as a united profession. On the other hand, they must say they were prepared to do all they could in encouraging the men who were in the service to maintain a high standard of professional work, with such restrictions and liabilities and calls upon them as the State might reasonably ask for.

Meetings of Branches and Divisions.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH: LANCASTER DIVISION.

THE Medical Secretary (Dr. ALFRED COX) addressed a meeting of the medical men resident in the areas of the Kendal and Lancaster Divisions of the Association, held in the County Hotel, Lancaster, on April 21st, when Dr. OLDHAM (Chairman of the Lancaster Division) presided, and there was an excellent attendance. About thirty gentlemen lunched with Dr. Cox, and at the meeting this number was augmented to fifty. The address dealt with the work done by the Association in recent years, and reference was made to the vital changes impending in the profession. Questions were invited and various topics of special interest to those present were raised and commented on. Adverse criticism came from one or two speakers, chiefly on the grounds that the British Medical Association was asking them to work the National Health Insurance Scheme, which they did not like. Others declared that the regulations and the amount of clerical work the panel system demanded were irritating and unnecessary.

Dr. COX answered his critics incisively, while his replies and comments on points raised by others met with general acceptance. A vote of thanks for the address was proposed by Dr. JOHNSON (Treasurer of the Branch) and seconded by Dr. MCCALLUM (Chairman of the Kendal Division) in eulogistic terms. This was unanimously and most heartily passed.

MIDLAND BRANCH: LINCOLN DIVISION.

A WELL attended meeting was held at Lincoln on April 27th, when Dr. ALFRED COX, O.B.E., Medical Secretary, gave an address on "Some reflections on what an organization of medical men should be and should do." Dr. Cox raised many interesting points, and his address was listened to with the closest attention. A discussion followed in which a large proportion of those present took part. The members afterwards had tea together. Owing to the bad weather very few of the members of the Kesteven Division, which had been invited to join, were able to be present.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

ESSEX BRANCH.—The spring meeting of the Essex Branch will be held at the Saracen's Head Hotel, Chelmsford, on Wednesday, May 26th, at 12 o'clock. Members wishing to show cases or read papers should communicate with Dr. B. W. Nicholson, East Lodge, Colchester.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—Dr. J. Livingstone Loudon, Honorary Secretary (Hamilton), gives notice that the annual meeting of the Lanarkshire Division will be held in St. Enoch's Station Hotel, Glasgow, on Wednesday, May 19th, at 3 p.m. Business: Secretary's and Treasurer's annual report. Election of (1) officers; (2) Representative to Representative Meetings. Matters referred to Divisions (see SUPPLEMENT, April 24th). Revised ethical rules procedure. Other business.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—The annual general meeting of the Lambeth Division will be held at the Bethlem Royal Hospital on Wednesday, May 19th, at 4 p.m.

INSURANCE.

CORRESPONDENCE.

The Capitation Fee.

SIR,—On p. 120 of Report of Council in the SUPPLEMENT of April 24th, referring to remuneration of panel doctors, it is stated, par. 152, that "the provisional settlement arrived at was that a capitation fee of 11s. should be paid during the period of January to March, 1920," and in par. 153, "The award was that the amount should be 11s."

As this is a matter of great importance to doctors on the panel I would take it as a favour if you or the Medical Secretary would in next week's JOURNAL plainly and unambiguously state whether this is correct. I ask for the publication in the JOURNAL as the matter does not seem clear to doctors whom I have discussed the matter with, and who remember the calculations put forth when the Act came in which never realized. Capitation, according to dictionaries, means each person on a list. I would be obliged for an answer to each question:

1. Is the 11s. to be paid for each person on one's list without deduction?
2. Are we to be paid for people over 70?
3. Are we to be paid 11s. for the incapacitated?
4. Are we to be paid 11s. a year for women who have married and have ceased to be employed, but who are eligible for medical attendance for a considerable time afterwards?

By inserting this letter and the answers you would confer a favour on many besides yours, etc.,

Chelsea, April 24th. (Signed) JAMES HAMILTON, M.D.

*** The Medical Secretary replies as follows:

The general answer to the above letter is that the sum of 11s. is paid into the Central Medical Benefit Fund in respect of *every insured person* who is entitled to medical attendance and treatment under the Health Insurance Acts. With a view to being satisfied on this point the Conference of Representatives of Local Medical and Panel Committees appointed in 1918 an actuary of its own choice to inquire into the whole machinery of the constitution of the Central Fund. The actuary in question (Mr. S. G. Warner—then president of the Institute of Actuaries) reported that the profession might feel assured that the operations by which the Central Pool was instituted were actuarially sound and the results equitable, and this report was accepted and approved by the April, 1918, Conference. The answers to the specific questions are: (1) No. The list can never be taken as absolutely accurate. The payment to each doctor will be his share of the local pool estimated on the basis of the size of his list. (2) Yes. (3) Yes. (4) Payment will be made for the period during which they remain eligible for medical benefit.

THE INSURANCE ACTS COMMITTEE.

Proposal for a Complimentary Dinner.

SIR,—I believe the BRITISH MEDICAL JOURNAL is broad-minded enough to open its correspondence columns even to members whose views differ from those of the Standing Committee of Group K.

May I say that I think these complimentary dinners are a mistake? The profession as a whole has just sustained another disastrous defeat at the hands of a tyrannical Minister, who will not be slow to take further advantage of a helpless enemy. The Insurance Acts Committee no doubt did its best, but from the ordinary panel practitioner's point of view the results of its labours are, to say the least of it, disappointing.

It can scarcely be denied that the rank and file who work the Act are now in a very much worse position than they were before the war. They have more work, less liberty, and less pay. (The present capitation fee of 11s. is only equivalent to 5s. as compared with 7s. in pre-war days.)

This is a time of humiliation for the profession, when fasting rather than feasting should be the order of the day. Personally, I should strongly object to subscribing even so small a sum as 1s. towards a complimentary dinner which is nothing but a commemoration of our defeat.—I am, etc.,

Okehampton, Devon, April 27th. T. STRETHILL WRIGHT.

DIARY OF SOCIETIES AND LECTURES.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tuesday, 4.30 p.m., Cases.

MEDICO-PSYCHOLOGICAL ASSOCIATION, 1, Wimpole Street, W.1.—Thursday, 3 p.m., Sir J. Crichton-Browne, F.R.S.: Maudsley Lecture.

ROYAL SOCIETY OF MEDICINE.—Tuesday, 5 p.m., General Meeting of Fellows. *Section of History of Medicine:* Wednesday, 5 p.m., Annual General Meeting. Paper:—Dr. Withington: Medical Terms in "Liddell and Scott." *Section of Dermatology:* Thursday, 4.30 p.m., Cases; 5 p.m., Annual General Meeting. *Section of Otology:* Friday, 5 p.m., Annual General Meeting. Notes on Cases by Mr. H. Bedford Russell, Mr. J. S. Fraser, and others. *Section of Electro-Therapeutics:* Friday, 7.30 p.m., Annual Dinner at Langham Hotel. Election of Officers and Council.

SOCIETY OF SUPERINTENDENTS OF TUBERCULOSIS INSTITUTIONS, 122, Harley Street, W.—Monday, 4 p.m., General Meeting.

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Monday and Wednesday, 4 p.m., Dr. R. S. Frew: Care of the Healthy Child. Monday and Thursday, 4.30 p.m., Mr. H. A. T. Fairbank: Deformities. Tuesday, 11.30 a.m., Dr. F. Langmead: Pituitary Disorders. Tuesday and Friday, 4 p.m., Mr. O. L. Addison: Tuberculosis of Bones and Joints. 5 p.m., Dr. D. N. Nabarro: Pathological Investigations. Wednesday, 4 p.m., Mr. A. T. Pitts: Dental Sepsis.

MANCHESTER FRENCH HOSPITAL.—Thursday, 4.30 p.m., Dr. A. C. Magian: Silver Salvarsan in the Treatment of Syphilis.

MANCHESTER ROYAL INFIRMARY.—Tuesday, 4.30 p.m., Dr. Donald E. Core: Hysteria and Certain Indications for its Treatment (continued).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Monday, 2 to 3.30 p.m., Dr. Collier: Out-patients; 3.30 p.m., Dr. Aldren Turner: Neuroses. Tuesday, 2 to 3.30 p.m., Dr. Grainger Stewart: Out patients; 3.30 p.m., Dr. Risien Russell: Ward Cases. Wednesday, 2 p.m., Mr. Sargent: Sequelae of Head Injuries; 3.15 p.m., Mr. Scott: Menière's Disease. Thursday, 2 to 3.30 p.m., Dr. Farquhar Buzzard: Out-patients; 3.30 p.m., Dr. Aldren Turner: Psycho-neuroses. Friday, 2 to 3.30 p.m., Dr. Gordon Holmes: Out-patients; 3.30 p.m., Dr. Collier: Ward Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., Operations, Clinics, etc. Monday, 2.30 p.m., Mr. Banister: Gynaecological. Tuesday, 9.45 a.m., Lieut.-Colonel R. H. Elliot: Eyes; 2.15 p.m., Mr. C. H. Hayton: Catarrhal Deafness; 3.15 p.m., Dr. J. Metcalfe: Radiological Diagnosis; 4.30 p.m., Dr. R. Murray Leslie: Pulmonary Tuberculosis in Children. Wednesday, 2.30 p.m., Dr. Oliver: Dermatological. Thursday, 2.30 p.m.: Eye Cases, Mr. Fleming; Radiology, Dr. Metcalfe. Friday, 2.30 p.m., Dr. C. E. Sundell: Diseases of Children. Saturday, 3 p.m., Mr. Carson: Cases.

ROYAL EYE HOSPITAL, Southwark.—Friday, 5 p.m., Mr. Dorrell: Eye Diseases due to Disease of the Nose and Accessory Sinuses.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Tuberculosis, 5 p.m., Monday, Tuesday, Wednesday, and Thursday:—Dr. R. Murray Leslie: Physical Signs. Friday, Dr. A. C. Jordan: Radioscopy.

SALFORD ROYAL HOSPITAL.—Thursday, 4.30 p.m., Dr. Gibson: Modern Treatment of Syphilis.

SHEFFIELD ROYAL INFIRMARY.—Wednesday, 4 p.m., Professor Connell: Clinical Cases—Abdominal Lesions.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-Patient Clinics and Operations. Monday, 2 p.m., Dr. Grainger Stewart: Out-patients; 5 p.m., Mr. Donald Armour: Abdominal Drainage. Wednesday, 11.30 a.m., Mr. MacDonald: Cystoscopy; 5 p.m., Dr. Beddard: Practical Medicine. Thursday, 10.30 a.m., Dr. Simson, and 5 p.m., Dr. Drummond Robinson: Gynaecology. Friday, 12.15 p.m., Dr. Burnford: Applied Pathology; 2 p.m., Mr. Banks Davis: Throat, Nose, and Ear Diseases. Saturday, 10 a.m., Dr. Arthur Saunders: Diseases of Children; 12 noon, Mr. Sinclair: Surgical Anatomy.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

17 Mon. **Last day for receipt of Nominations for Council.**

19 Wed. London: **Council**, 10 a.m.

South-Eastern Counties Division, Edinburgh Branch, Annual meeting, Railway Hotel, Newtown St. Boswells, 3 p.m.

19 Wed. Lambeth Division, Annual Meeting: Bethlem Royal Hospital, 4 p.m.

Lanarkshire Division, Annual Meeting: St. Enoch's Station Hotel, Glasgow, 3 p.m.

21 Fri. Preston Division: 8.30 p.m., Lecture by Dr. W. Blair Bell: Ductless Glands.

26 Wed. Essex Branch, Saracen's Head Hotel, Chelmsford, 12 o'clock.

APPOINTMENTS.

DYSON, William, O.B.E., M.D., Honorary Dermatologist to the Manchester Royal Infirmary.

HARRIES, E. H. R., M.D.State Med. Lond., D.P.H., Medical Superintendent of Birmingham City Hospital, Little Bromwich.

HEEKES, John W., M.B., B.S.Lond., M.R.C.S., Surgeon to Out-patients at the Royal Hospital, Richmond.

HERZFELD, Miss Gertrude M. A., M.B., Ch.B., Junior Surgeon to the Edinburgh Hospital for Women and Children.

LEITCH, J. N., M.B., B.S.Lond, M.R.C.S., L.R.C.P., Medical Officer in charge Electrical Department, Queen Mary's Hospital for Children (M.A.B.), Carshalton, Surrey, and Clinical Assistant Electrical Department, St. Bartholomew's Hospital, London.

PRICE, Frederick W., M.D., F.R.S.Edin., Physician to the National Hospital for Diseases of the Heart.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTH.

MALLAM.—On May 4th, at 23, Hatchlands Road, Redhill, the wife of Dalton Mallam, M.R.C.S., L.R.C.P., of a son.

DEATH.

MORROW.—On May 3rd, at his residence, Heathside, Mount Pleasant Road, Newton Abbot, Devon, Ringland Morrow, M.B., late of Bush Hill Park, Enfield, aged 47 years.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 22ND, 1920.

CONTENTS.

British Medical Association.

	PAGE
CURRENT NOTES:	
Minimum Salaries for Public Medical Officers	159
Work of the Medico-Political Committee	159
Insurance Practitioners' Right of Appeal	159
Pensions of Medical Officers retired from the Colonial Services	160
Panel Lists in Glasgow	160
Individual Advice to Members of the Association	160
Hours of Opening of the Library	160
MEETINGS OF BRANCHES AND DIVISIONS	160
MINISTRY OF HEALTH: New Medical Appointments	165
NAVAL AND MILITARY APPOINTMENTS	165
ASSOCIATION INTELLIGENCE	166

	PAGE
ANNUAL MEETING AT CAMBRIDGE:	
Programme of Proceedings	**161**
ASSOCIATION NOTICES:	
Annual Representative and Annual General Meetings	163
Election of Council: Nominations	163
Notices of Motion and Amendment for the Annual Representative Meeting	164
INSURANCE:	
London Panel and Insurance Committees	165
DIARY OF SOCIETIES AND LECTURES	166
APPOINTMENTS	166
BIRTHS, MARRIAGES, AND DEATHS	168

The Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m. The Annual General Meeting will be held at the Examination Halls, Cambridge, on Tuesday, June 29th, at 2 p.m. The Programme of the Scientific Sections appears at page 161.

British Medical Association.

CURRENT NOTES.

Minimum Salaries for Public Medical Officers.

The attention of practitioners who intend to devote themselves to the Public Medical Services is directed to the fact that at the present time no advertisement is accepted by the *British Medical Journal*, the *Lancet*, or the *Medical Officer* for an assistant medical officer of health, assistant school medical officer, assistant tuberculosis officer, or other similar post, at a salary less than £500 per annum, exclusive of all travelling and office expenses. The result of this decision has been that most local authorities are offering that salary for these posts; but some, regardless apparently of present economic conditions, are trying to induce practitioners to accept less, and for this purpose are advertising in the lay press. It cannot be too strongly impressed upon young practitioners that, speaking generally, any advertisement of a medical post which appears only in the lay press should be regarded with caution. Intending applicants are therefore advised to make inquiries of the Medical Secretary, 429, Strand, W.C.2, before applying for any post which they see advertised in the lay press and not in the medical press, and to assist the British Medical Association in its efforts to maintain the standard of medical remuneration by refraining from applying for any posts such as those specified above at a less net salary than £500 per annum.

Work of the Medico-Political Committee.

The Medico-Political Committee of the British Medical Association, at its meeting on May 5th, gave consideration to the following important matters: (1) Fees for medical witnesses at assizes: Efforts are being made to get these fees raised, and a report was received that a 50 per cent. advance became operative last March. (2) Pay and conditions of the Postal Medical Service: It was decided to approach the Postmaster-General again with a view to receiving a deputation. (3) Income Tax of women doctors giving whole-time service to the War Office and attending the W.R.A.F., etc.: It appears that the lower rate of income tax is only allowed to women doctors who attended soldiers, and steps are being taken to obtain it for those those who attended the W.R.A.F., etc. (4) Scale of fees for Seamen's National Insurance Society: After prolonged pressure by the Association this Society has offered to increase its fees by 50 per cent., and the offer has been accepted. (5) Part-time Prison Medical Officers: A report was received that certain proposals as regards improvement of pay are before the Treasury, and that in these circumstances the Home Secretary is not yet in a position to make a statement; also that a prison medical officer on a salary of £80 per annum had resigned owing to inadequacy of pay, and that he had been offered £150 to stay on. (6) Dispute between the Gaslight and Coke Company's Employees Benefit Society and its doctors: Approval was given to the attendance by the Deputy Medical Secretary at a conference between the doctors and the Benefit Society representatives. (7) New motor car taxation: A report was received that the representatives of the Association had met the medical Members of Parliament to discuss what action should be taken, and that later the views of the Association had been laid before the Ministry of Transport by a combined deputation of medical Members of Parliament and representatives of the Association, as recorded in this column on May 8th. (8) Fees for medical men called in on the advice of midwives: A report was received that a deputation from the Association had interviewed Dr. Janet Campbell at the Ministry of Health on the subject of fees for medical men called in on the advice of midwives; that certain suggestions had been made by the Ministry of Health, some of which met proposals already made by the Association in correspondence; that the deputation had pointed out that there would be considerable difficulty in persuading the medical men in all areas to accept a lower flat-rate fee than three guineas; and that the Ministry would consider the points raised by the Association's representatives and endeavour to come to a final decision in time for the meeting of Council on May 19th.

Insurance Practitioners' Right of Appeal to High Court.

In November, 1919, the Panel Conference resolved:

> That any person aggrieved by the removal of his name from the list may, within three months after the date on which notice is given to him by the Minister that his name has been so removed, appeal to the High Court, and on any such appeal the High Court may give such directions in the matter as it thinks proper, including directions as to the costs of the appeal, and the order of the High Court shall be final and conclusive, and not subject to an appeal to any other court.

In December last the attention of the Ministry of Health was drawn to the above resolution when this and other matters arising out of the Conference were placed before it. It was pointed out, however, that legislation would be necessary to give effect to the resolution, and as the Insurance Acts Committee was informed that there

would probably be an Insurance Bill before the House in the near future, it was decided to have an amendment moved dealing with this proposal.

The National Health Insurance Bill, 1920, was introduced into the House of Commons on March 1st, and came before Standing Committee "A" on April 27th. Dr. A. C. Farquharson, M.P., at the request of the Insurance Acts Committee, proposed the following new clause which had been drafted by counsel:

Right of Appeal by Medical Practitioner.

(1) Any medical practitioner aggrieved by a decision of the Minister, or of any special body through which the powers and duties of the Minister, under Section 15, Subsection 2 (*b*) of the Act of 1911, are exercised, to remove his name from any list of medical practitioners, may appeal against the decision to the High Court within the time, and in the manner, and on the conditions directed by the rules of court.

(2) The costs of any such appeal shall be in the discretion of the court, and no appeal shall be allowed from any order or decision of the court in any such appeal.

The Minister of Health would not accept the amendment, and the proposal was negatived. A full report of the proceedings appeared in the JOURNAL of May 8th, p. 615. The bill has passed through Committee, and the Report stage was taken in the House of Commons on May 13th (see Parliamentary Notes on p. 717 of JOURNAL). The amendment was again proposed, this time by Captain W. E. Elliot, M.P. (Secretary of the House of Commons Medical Committee). The secretaries of all Local Medical and Panel Committees and of Divisions and Branches were asked by the Association to do their utmost to bring pressure to bear upon their local members of Parliament to support the amendment.

Pensions of Medical Officers retired from the Colonial Services.

As a result of representations made by the British Medical Association to the Secretary of State for the Colonies, as to increase of the pensions of medical officers retired from the colonial services, the Association has received from the Colonial Office particulars of the increases of pensions granted by various colonial Governments to retired officials, including medical officers, on account of conditions brought about by the war. In forwarding the memorandum, the Assistant Under-Secretary of State explained that the question of the increases to be granted was left to the several colonial governments to decide according to their varying circumstances. The substance of the information thus obtained will be published in the Supplementary Report of the Council (SUPPLEMENT of May 29th, 1920). A copy of the memorandum is being sent to each oversea Branch, as well as to each member of the Association who communicated with the Council in connexion with the evidence to be placed by the Association before the Colonial Medical Services Committee appointed by the Secretary of State. The memorandum will also be sent to any other member of the Association serving in or retired from the Colonial Medical Service who expresses a wish to have one. The whole matter is receiving the attention of the Council.

Panel Lists in Glasgow.

A bombshell has been dropped amongst Glasgow practitioners by the action of the Glasgow Insurance Committee in fixing the maximum number of insured persons to be attended by one medical practitioner at 1,500. Great indignation has been expressed by the Glasgow insurance practitioners, as a large number of them will be seriously affected by this drastic and arbitrary ruling. There are in all 343 doctors on the panel in Glasgow and 94 of these have lists of over 1,500. Indignation meetings have been held, and a committee has been appointed to interview the Scottish Board of Health in the hope that the Board may see fit to bring pressure to bear upon the Insurance Committee in this matter. There are a number of areas in Scotland where the Panel Committees and the Insurance Committees have agreed on a 2,000 limit, but we know of no instance where such a low limit as 1,500 has been agreed upon or even suggested. Any communications upon the subject should be addressed to the Scottish Medical Secretary of the British Medical Association, Dr. J. R. Drever, 6, Rutland Square, Edinburgh, who, together with the Insurance Acts Subcommittee (Scotland), is assisting the Glasgow practitioners in this matter.

Individual Advice to Members of the Association.

At a meeting recently addressed by the Medical Secretary it was suggested that he and his colleagues should seek to serve the members of the Association as general advisers or "friends in need" in medical matters. Dr. Cox replied that this had always been their ambition, and that no day passed without interviews with members seeking for such advice as might be expected to be forthcoming from men whose experience in dealing with the medical profession was necessarily very large. Many of the letters received, both by the Medical Secretary and the Editor, ask for such advice, and much of the Librarian's time is spent in assisting on matters within his sphere. The officials of the Association look on it not only as part of their duty, but as a pleasure, to give any advice or assistance to members that is within their power.

Hours of Opening of the Library.

Members who use the Library of the Association should note that it is now open till 6.30 each evening, instead of till 5 p.m. On Saturdays it closes at 2 p.m. These extended hours are being tried as an experiment, and note will be taken as to whether, judged by the advantage that may be taken of them, the longer hours are desired by members generally.

Meetings of Branches and Divisions.

NORTHERN COUNTIES OF SCOTLAND BRANCH: CAITHNESS AND SUTHERLAND DIVISION.

First Annual Dinner.

THE first annual dinner of the Caithness and Sutherland Division of the British Medical Association took place at Thurso on April 1st. There was a large and representative gathering of the profession, and among the guests were Sir Archibald Sinclair, Lord Lieutenant of Caithness, Mr. D. Keith Murray, and ex-Provost Durran. The chair was taken by Dr. SIMPSON of Golspie. Mr. DAVID COGHILL proposed the toast of the Caithness and Sutherland Division of the British Medical Association, and Dr. ASHER, in reply, stated that the object of the gathering had been to get the medical practitioners of the northern counties to meet together in order to further their better acquaintance. He was particularly gratified by the presence of the Lord Lieutenant of the county, and Lady Sinclair. Dr. SCLATER proposed the "Service members," and the CHAIRMAN and Dr. KENNEDY replied. The dinner was a great success, and the hope was expressed that it would become an annual event in the history of the Division.

LANCASHIRE AND CHESHIRE BRANCH: PRESTON DIVISION.

THE annual general meeting of the Preston Division was held on April 20th, when Dr. COLLINSON presided.

The financial statement and the Voluntary Fund Account were read and passed.

The following officers were elected:

President: Dr. Collinson (re-elected). *Vice-Presidents:* Dr. Duckworth (re-elected), Dr. W. H. Irvin-Sellers. *Representative in Representative Body:* Dr. W. H. Irvin-Sellers. *Deputy Representative:* Dr. W. H. Pimblett. *Honorary Secretary and Treasurer:* Dr. W. Sykes.

The ethical rules were unanimously accepted. In the main the meeting agreed with the recommendations as to fees for medical examination for life insurance, but considered that there should be a sliding scale for the larger insurance policies. The meeting, while in agreement with the outlined scheme for action by the Association in national emergencies, decided to take no local action. It was considered that some steps should be taken by the Association for remuneration in the event of practitioners being called upon. The meeting agreed with the resolution regarding payment of medical staffs of hospitals for pension work, and also with the Medico-Political Committee on the question of training of midwives. It was suggested that the Division should have a regular monthly meeting, either scientific or otherwise, during the next winter session.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.

A MEETING of the North Middlesex Division was held at Wortley Hall, Finsbury Park, on April 21st, when Dr. GEORGE COHEN was in the chair. Non-members and also members of neighbouring Divisions had been invited to attend.

A highly interesting lecture was given by Mr. A. FLEMING, F.R.C.S., of the Inoculation Department, St. Mary's Hospital, Paddington, on "Vaccine therapy," which was requested to be forwarded for publication in the JOURNAL.

Dr. T. A. B. Barnes was nominated for a seat on the Council of the Metropolitan Counties Branch, and Drs. Brackenbury and Barnes were elected as Representatives of the Division on the Representative Body.

British Medical Association.

EIGHTY-EIGHTH ANNUAL MEETING, CAMBRIDGE, JUNE-JULY, 1920.

President: Sir T. CLIFFORD ALLBUTT, K.C.B., LL.D., M.D., F.R.S., Regius Professor of Physic, University of Cambridge.
Chairman of Representative Meetings: T. W. H. GARSTANG, M.A.Oxon., M.R.C.S.Eng., D.P.H.Vict.
Chairman of Council: J. A. MACDONALD, M.D., M.Ch., LL.D., Hon. Physician, Taunton and Somerset Hospital.
Treasurer: G. E. HASLIP, M.D. (London).

PROGRAMME.

The President will give an address on Tuesday evening, June 29th, in the Senate House, followed by a reception in King's College by the Cambridge and Huntingdon Branch.

The REPRESENTATIVE MEETING will begin in the Examination Halls on Friday, June 25th, at 10 a.m.

The statutory ANNUAL GENERAL MEETING will be held at the Examination Halls on Tuesday, June 29th, at 2 p.m.

By kind invitation of the Master and Fellows of St. John's College, the Annual Dinner of the Association will be held in the Hall of St. John's College at 8 p.m. on Thursday, July 1st.

A service will be held in the University Church, Great St. Mary's, on Tuesday, June 29th, at 5 p.m. Mass will be celebrated in the Roman Catholic Church, Hyde Park Corner, at 9 a.m., on Wednesday, June 30th.

The Popular Lecture will be given by Dr. G. S. Graham-Smith, F.R.S., on "Flies," at 8.30 p.m. on Friday, July 2nd.

DEMONSTRATIONS.

Laboratory and clinical demonstrations will be given from 2.30 to 4.30 p.m. (Wednesday, Thursday, and Friday). The Directors of demonstrations are:

Medicine: Dr. ALDREN WRIGHT, 2, Corpus Buildings, Cambridge.
Surgery: Mr. ARTHUR COOKE, M.B., B.Ch.Oxon., Grove Lodge, Cambridge.
Physiology: Professor J. N. LANGLEY, F.R.S., Physiological Laboratory, Cambridge.
Pharmacology: Professor W. E. DIXON, F.R.S., Pharmacological Laboratory, Cambridge.
Neurology: Dr. E. D. ADRIAN, Trinity College, Cambridge.
Pathology: Professor Sir G. SIMS WOODHEAD, Pathological Laboratory, Cambridge.

THE SECTIONS.

The scientific business of the meeting will be conducted in twelve sections, which will meet on the days indicated.

The President, Vice-President, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting or declining, any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech may exceed seven minutes.

Papers are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

Demonstrations will take place on Wednesday, Thursday, and Friday (June 30th, July 1st and 2nd) afternoons from 2.30 to 4.30 p.m.

The following twelve Sections have been authorized by the Council:

The Sections will meet from 10 a.m. to 1 p.m.

Sections meeting on three days: Wednesday, June 30, Thursday, July 1, and Friday, July 2.

MEDICINE.

President: Sir HUMPHRY D. ROLLESTON, K.C.B., M.D., F.R.C.P.

Vice-Presidents: THOMAS BEATTIE, M.D., F.R.C.P.; Professor JOHN B. BRADBURY, M.D., F.R.C.P.; Sir THOMAS J. HORDER, M.D., F.R.C.P.; F. W. BURTON-FANNING, M.D., F.R.C.P.; THOMAS LEWIS, M.D., F.R.S.

Honorary Secretaries: A. J. JEX-BLAKE, M.D., F.R.C.P. (13, Ennismore Gardens, London, S.W.7); W. E. HUME, M.D., F.R.C.P. (4, Ellison Place, Newcastle-on-Tyne); E. LLOYD JONES, M.D. (59, Trumpington Street, Cambridge); J. ALDREN WRIGHT, M.D., M.R.C.P. (Director of Demonstrations, 2, Corpus Buildings, Cambridge).

The following programme has been arranged:

June 30th (Morning Session).—Discussion on the Diagnosis of Nervous Disorders of the Stomach and Intestines. To be opened by Dr. A. F. HURST, followed by Sir Clifford Allbutt, Dr. Charles Bolton (London), Dr. Langdon Brown (London), Dr. Maurice Craig (London), Dr. R. G. Gordon (Bath), Mr. H. Tyrrell Gray (London), Dr. R. Hutchison (London), Dr. Craven Moore (Manchester), Dr. R. J. Buchanan (Liverpool), Dr. E. Hobhouse (Brighton), Dr. W. J. Tyson (Folkestone), Dr. J. A. Nixon (Bristol), and others.

In the afternoon Mr. J. Barcroft will demonstrate Methods of Analysing the Gases of the Blood and Alveolar Air.

July 1st (Morning Session).—Discussion on the Present Position of Vitamines in Clinical Medicine. To be opened by Professor F. G. HOPKINS, followed by Sir James Barr (Liverpool), Dr. S. M. Copeman (London), Dr. Corry-Mann (London), Dr. A. Croft Hill (London), Dr. C. J. Martin (London), Dr. Eric Pritchard (London), Dr. J. C. Drummond (London), Mr. A. Harden (London), Lieut.-Colonel McCarrison, I.M.S., Dr. R. L. Mackenzie Wallis (London), Dr. G. F. Still (London), Dr. W. H. Willcox (London), Dr. Leonard Williams (London), and others.

July 2nd (Morning Session).—Discussion on the Clinical Significance and Course of Subacute Bacterial Endocarditis. To be opened by Sir THOMAS HORDER, followed by Dr. Carey Coombs (Bristol), Dr. J. M. Cowan (Glasgow), Dr. H. S. French (London), Dr. A. G. Gibson (Oxford), Dr. A. E. Gow (London), Dr. A. J. Hall (Sheffield), Dr. J. Hay (Liverpool), Dr. F. J. Poynton (London), Dr. H. J. Starling (Norwich), Dr. W. E. Hume (Newcastle), and others.

An exhibition of specimens illustrating the subject of this discussion will be held in the Pathological Museum.

SURGERY.

President: Sir GEORGE H. MAKINS, G.C.M.G., C.B., P.R.C.S.

Vice-Presidents: HARRY LITTLEWOOD, C.M.G., F.R.C.S.; Sir CUTHBERT S. WALLACE, K.C.M.G., C.B., F.R.C.S.; GEORGE EDWARD WHERRY, M.Ch., F.R.C.S.; DAVID PERCIVAL D. WILKIE, F.R.C.S.Edin.

Honorary Secretaries: W. H. BOWEN, M.S., F.R.C.S. (24, Lensfield Road, Cambridge); ARTHUR COOKE, F.R.C.S., Grove Lodge, Cambridge (Demonstration Secretary); G. E. GASK, C.M.G., D.S.O., F.R.C.S. (41, Devonshire Place, London, W.1); GORDON TAYLOR, O.B.E., M.S., F.R.C.S. (15, Harley Street, London, W.1).

The following programme has been arranged:

June 30th (10 a.m.).—Discussion: Surgical Treatment of Gastric Ulcer. To be opened by Sir BERKELEY G. A. MOYNIHAN, K.C.M.G., C.B., and Dr. CHARLES H. MAYO. (12 noon).—Paper: Mr. FRANK KIDD, Treatment of Calculi of the Lower Third of the Ureter.

July 1st (10 a.m.)—Discussion: Surgical Treatment of Cancer of the Rectum. To be opened by Mr. W. ERNEST MILES and Mr. GREY TURNER. (12 noon).—Paper: Lieut.-Colonel R. H. ELLIOT, Diagnosis of Glaucoma.

July 2nd (10 a.m.)—Discussion: End-Results of Injuries to the Peripheral Nerves treated by Operation. To be opened by Sir WILLIAM THORBURN, K.B.E., C.B., C.M.G., and Mr. PERCY SARGENT, C.M.G., D.S.O. (12 noon).—Paper: Mr. HERBERT TILLEY, Inflammatory Lesions of the Nasal Accessory Sinuses from the Standpoint of the General Physician and Surgeon.

Demonstrations will be given in the afternoons by Major Meurice Sinclair, C.M.G., on the Treatment of Fractures; by Mr. H. D. Gillies, C.B.E., and Mr. Percival Cole, on Plastic Surgery of the Face; by Mr. Herbert Tilley, on Endoscopy of the Lower Air Passages and Gullet, and by Mr. Arthur Cooke, on the Technique of Blood Transfusion.

NEUROLOGY AND PSYCHIATRY.

President: HENRY HEAD, M.D., F.R.S.

Vice-Presidents: GORDON M. HOLMES, C.M.G., M.D., F.R.C.P.; W. H. RIVERS RIVERS, M.D., F.R.S.; LEWIS E. SHORE, M.D.; T. GRAINGER STEWART, M.D., F.R.C.P.; THEODORE THOMPSON, M.D., F.R.C.P.

Honorary Secretaries: E. D. ADRIAN, M.D., M.R.C.P. (Trinity College, Cambridge); E. FARQUHAR BUZZARD, M.D., F.R.C.P. (78, Wimpole Street, London, W.1); GEORGE RIDDOCH, M.D., M.R.C.P. (10, Alba Gardens, Golders Green, London, N.W.4).

The following preliminary arrangements have been made:

June 30th (Morning Session).—Discussion on the Early Signs of Nervous Disease and their Interpretation. To be opened by HENRY HEAD, M.D., F.R.S.

July 1st (Morning Session).—Discussion on Dementia Praecox and its Relation to other Conditions. To be opened by BERNARD HART, M.D.

July 2nd (Morning Session).—Discussion on Psychotherapy. To be opened by T. A. ROSS, M.D.

Demonstrations are being arranged for two afternoons; particulars will be announced later.

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S.

Vice-Presidents: J. A. ARKWRIGHT, M.D., F.R.C.P.; LOUIS COBBETT, M.D., F.R.C.S.; MERVYN H. GORDON, C.M.G., M.D.; T. S. P. STRANGEWAYS, M.R.C.S., L.R.C.P.

Honorary Secretaries: A. E. CLARK-KENNEDY, M.R.C.S., L.R.C.P. (Corpus College, Cambridge); A. E. GOW, M.D., F.R.C.P. (37, Queen Anne Street, London, W.1); HELEN INGLEBY, M.B., M.R.C.P. (44, Welbeck Street, London, W.1).

The following discussions have been arranged during the mornings:

June 30th.—Atrophy of the Liver. To be opened by Professor STUART MCDONALD, M.D., F.R.C.P. (Newcastle-upon-Tyne).

July 1st.—The Present Position of Cancer Research. To be opened by J. A. MURRAY, M.D., Director, Imperial Cancer Research Fund.

July 2nd.—The Bacteriology of Cerebro-spinal Meningitis. To be opened by J. A. ARKWRIGHT, M.D., F.R.C.P., Assistant Bacteriologist, Lister Institute of Preventive Medicine. (A collection of specimens to illustrate the subject under discussion will be available.)

The afternoons will be devoted to meetings of the Pathological Society of Great Britain and Ireland, when papers will be read and demonstrations given.

PHYSIOLOGY AND PHARMACOLOGY.

President: Professor F. GOWLAND HOPKINS, M.B., F.R.S.

Vice-Presidents: H. H. DALE, C.B.E., M.D., F.R.S.; Professor J. A. GUNN, M.D.; Professor D. NOËL PATON, M.D., F.R.S.; F. RANSOM, M.D.

Honorary Secretaries: D. V. COW, M.D. (The Bridge House, Great Shelford, Cambridge); EDWARD MELLANBY, M.D. (32, Addison Mansions, Kensington, London, W.14).

The following provisional arrangements have been made:

June 30th.—Discussion on Acidosis in Disease. To be opened by Professor F. GOWLAND HOPKINS, F.R.S.

July 1st.—Discussion on the Physiology and Treatment of Denervated Muscle. To be opened by Professor J. N. LANGLEY, Sc.D., F.R.S.

July 2nd.—Discussion on Quinine and its Derivatives. To be opened by Professor W. E. DIXON, F.R.S.

The following Sections meet on Wednesday only.

NAVAL AND MILITARY.

President: Colonel JOSEPH GRIFFITHS, C.M.G., M.D., F.R.C.S.

Vice-Presidents: Lieut.-Colonel E. J. CROSS, R.A.M.C.T.; Lieut.-Colonel R. H. ELLIOT, M.D., D.Sc., I.M.S.(ret.); Surgeon Commander H. W. B. SHEWELL, R.N.; Surgeon Rear Admiral A. GASCOIGNE WILDEY, C.B., R.N.

Honorary Secretaries: Major A. S. M. MACGREGOR, O.B.E., M.D., R.A.M.C.T. (Sanitary Chambers, Glasgow); Major H. B. RODERICK, O.B.E., M.Ch., M.D., R.A.M.C.T. (17, Trumpington Street, Cambridge); Lieut.-Colonel F. E. APTHORPE WEBB, O.B.E. (Grafton House, Maid's Causeway, Cambridge).

The following programme has been arranged:

June 30th.—10 a.m., Discussion on the Army Medical Service and its Relation to the Education and Training of Newly Qualified Medical Men, to be opened by the PRESIDENT. Papers on interesting subjects relating to the war will be read, particulars of which will appear later. 2.30 p.m., The Naval, Military, and Air Force Medical Services will exhibit the new inventions and equipments that arose during the Great War. Each department will be fully represented, and each will be in charge of an officer who will be prepared to demonstrate and explain the exhibits.

OBSTETRICS AND GYNAECOLOGY.

President: HERBERT WILLIAMSON, M.B., F.R.C.P.

Vice-Presidents: FREDERICK DEIGHTON, M.B.; J. PRESCOTT HEDLEY, M.Ch., F.R.C.S.; FRANCES IVENS, M.B., M.S.

Honorary Secretaries: MALCOLM DONALDSON, M.B., F.R.C.S. (145, Harley Street, London, W.1); W. R. GROVE, M.D. (St. Ives, Hunts).

June 30th.—Discussion on Puerperal Sepsis. (1) Mr. VICTOR BONNEY (London): Introductory paper. (2) Mr. H. BECKWITH WHITEHOUSE (Birmingham): Surgical Treatment of Uterus in Puerperal Sepsis. (3) Dr. A. E. GOW (London): Intravenous Protein Therapy in Treatment of Puerperal Septicaemia. (4) Dr. LEITH MURRAY (Liverpool): Use of Serums and Vaccines in the Treatment of Puerperal Sepsis.

July 1st.—At 10 a.m. there will be a joint session with the Section of Electro-Therapeutics to discuss the Treatment of Fibroids by *X* Rays.

Dr. R. Mackenzie Wallace will give a demonstration of the diastase reaction.

TROPICAL MEDICINE.

President: Professor G. H. F. NUTTALL, M.D., F.R.S.

Vice-Presidents: BREADALBANE BLACKLOCK, M.D.; Lieut.-Colonel S. PRICE JAMES, M.D., I.M.S.; P. H. MANSON-BAHR, M.D.

Honorary Secretaries: CHARLES FREDERICK SEARLE, M.D. (67, Bridge Street, Cambridge); J. GORDON THOMSON, M.B. (24, Herne Hill, London, S.E.24).

The following programme has been arranged:

June 30th (Morning Session).—Papers: (1) Problem of Filariasis, by Drs. STEPHENS and YORKE. (2) Rôle of *F. bancrofti* in the Production of Lymphatic Obstruction and a Consideration of Elephantiasis from the Pathological Standpoint, by Dr. G. C. LOW and Dr. P. H. MANSON-BAHR, D.S.O. (3) The Effects of Vitaminic Deprivation on the Endocrine Organs, with Special Reference to Wet Beri-beri and Epidemic Dropsy, by Lieut.-Colonel ROBERT MCCARRISON, I.M.S.

Demonstrations.—In the afternoon there will be the following demonstrations: (1) Parasitic Worms, by Dr. R. T. Leiper. (2) Exhibition Collection of all known species of Tsetse Flies, with demonstration dealing with the Morphology and Bionomics, by Professor Newstead. (3) Demonstration of the use of the Mobile Laboratory for Malarial Inquiries in England, by Colonel S. P. James. (4) Paintings illustrating the Treatment of Leprosy, by Lieut.-Colonel Sir Leonard Rogers, C.I.E., F.R.S., I.M.S.

The following Sections meet on Thursday only.

MEDICAL EDUCATION.

President: Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P.

Vice-Presidents: G. S. GRAHAM-SMITH, M.D., F.R.S.; Professor DAVID HEPBURN, C.M.G., M.D.; THOMAS W. SHORE, M.D.; S. SQUIRE SPRIGGE, M.D.; Professor PETER THOMPSON, M.D.

Honorary Secretaries: S. R. GLOYNE, M.D. ("Hatherley," Chalfont St. Giles, Bucks); Professor J. KAY JAMIESON, M.B. (Dean of Faculty of Medicine, Leeds).

The following programme has been arranged:

July 1st (10 a.m. to 1 p.m.).—Address by the PRESIDENT. Discussion: Preliminary Scientific Education in the Medical Curriculum. Openers: Prof. S. J. HICKSON, D.Sc., F.R.S. (Biology); Prof. ARTHUR KEITH, M.D., F.R.S. (Anatomy); Prof. Sir ERNEST RUTHERFORD, D.Sc., F.R.S. (Physics); Prof. J. LORRAIN SMITH, M.D., F.R.S. (Pathology); Prof. A. SMITHELLS, C.M.G., F.R.S. (Chemistry).

VENEREAL DISEASES.

President: E. B. TURNER, F.R.C.S.

Vice-Presidents: Colonel L. W. HARRISON, D.S.O., M.B.; MORNA L. RAWLINS, M.B.

Honorary Secretaries: W. H. HARVEY, M.D. (The Dene, Great Shelford, Cambridge); OTTO MAY, M.D. (19, Well Walk, Hampstead, London, N.W.3).

The following programme has been arranged:

July 1st (10 a.m.).—Discussion on Venereal Diseases in Women and Children: (1) Dr. MORNA RAWLINS: Treatment of Venereal Disease in Women. (2) Dr. LEONARD FINDLAY: Venereal Diseases in Children.

Demonstrations.—In the afternoon there will be a clinical demonstration at the Venereal Diseases Clinic, Addenbrooke's Hospital, and a laboratory demonstration in the Medical Schools under the direction of Mr. J. E. Barnard.

The following Sections meet on Friday only.

ELECTRO-THERAPEUTICS.

President: ALFRED ERNEST BARCLAY, M.D.

Vice-Presidents: ROBERT KNOX, M.D.; ALFRED CHARLES JORDAN, M.D., M.R.C.P.

Honorary Secretaries: E. P. CUMBERBATCH, M.B., M.R.C.P. (15, Upper Wimpole Street, W.1); F. SHILLINGTON SCALES, M.D. ("Redcourt," Adams Road, Cambridge).

The following programme has been arranged:

July 2nd.—Presidential address by Dr. A. E. BARCLAY: Place of the Radiologist in Medicine. Discussion on the Diagnosis and Treatment of Paralysis caused by Nerve Injury, to be opened by Mr. H. S. SOUTTAR, F.R.C.S. Papers: Dr. ROBERT KNOX, Tumours of the Chest; Dr. HOWARD HUMPHRIS, Use of the Melted Paraffin Wax Bath and the Tungsten Arc Light; Dr. E. P. CUMBERBATCH, Treatment by Diathermy of Intravesical Growths and Ulcers of the Urinary Bladder; Professor J. GOODWIN TOMKINSON, M.D., X-ray Therapy in Oriental Sore; Dr. S. GILBERT SCOTT, Diagnostic Value of the Renal Outlines and the Method of Determining the Relation of Abnormal Shadows to them. Joint Discussion with Section of Obstetrics and Gynaecology, on Treatment of Uterine Fibroids, to be opened by Dr. ROBERT KNOX on July 1st at 10 a.m.

MEDICAL SOCIOLOGY.

President: G. E. HASLIP, M.D.

Vice-Presidents: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.; ADAM FULTON, M.B.; C. O. HAWTHORNE, M.D.; Professor BENJAMIN MOORE, D.Sc., F.R.S.

Honorary Secretaries: S. MORTON MACKENZIE, M.B. (9, Rose Hill, Dorking); C. M. STEVENSON, M.D. (90, Chesterton Road, Cambridge).

July 2nd (10 a.m.).—Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P., will open a discussion on The Future of Medical Practice, dealing with the subject from the point of view of the State. The discussion will be continued by Sir WILMOT HERRINGHAM, K.C.M.G., C.B., M.D., F.R.C.P., from the standpoint of the Consultant; Dr. ALFRED LINNELL from that of the General Practitioner; Professor F. GOWLAND HOPKINS, F.R.S., D.Sc., F.R.C.P., from that of Medical Research, and Mr. E. W. MORRIS, C.B.E., House Governor London Hospital, from that of The Hospitals.

PATHOLOGICAL MUSEUM.

Committee: Sir GERMAN SIMS WOODHEAD, K.B.E. (Chairman), Dr. L. COBBETT, Dr. G. S. GRAHAM-SMITH, Dr. W. H. HARVEY, Mr. T. S. P. STRANGEWAYS, and Dr. H. B. RODERICK, M.Ch. (Honorary Secretary).

The Pathological Museum arranged in connexion with the meeting will occupy a central position in two temporary buildings in the first court of the Medical Schools. It is proposed to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers in the various Sections. (2) Specimens and illustrations relating to any recent research work. (3) Individual specimens of special interest or a series illustrating some special subject. (4) Instruments or appliances relating to clinical diagnosis and pathological investigation. There will also be a series of exhibits illustrative of war specimens, arthritis, cerebro-spinal meningitis, and parasitology. So far as practicable each section will be under the charge of a demonstrator, but exhibitors will have an opportunity of demonstrating their own specimens.

Communications regarding material for exhibition should be addressed to Dr. H. B. Roderick, at the Surgical Department, Medical School, Cambridge.

ENTERTAINMENTS.

In addition to the reception given in King's College by the Cambridge and Huntingdon Branch of the British Medical Association on Tuesday evening, after the delivery of the President's address, the Vice-Chancellor of the University will hold a reception at Emmanuel College on Wednesday at 9 p.m. The Mayor of Cambridge will give a reception on Thursday afternoon at Christ's College at 4.30 p.m. On Friday evening, at 9 p.m., a reception will be given at Trinity College by the Master and Fellows.

EXCURSIONS.

On Saturday there will be an excursion to Newmarket, where the King's stables will be visited, a river expedition to the Fen, and possibly other excursions which will be notified in due course.

GOLF.

The Gog Magog Golf Club has made members of the British Medical Association honorary members during the meeting. An honorary member will be allowed to introduce other visitors, including ladies, on payment of the green fee. The competition for the Ulster cup will take place on Thursday, July 1st. Entries, with particulars of club and handicap, should be sent to the captain of the club, Dr. W. S. Cole, Latham Road, Cambridge. It is proposed to arrange a ladies' competition on Friday morning.

The Honorary Local Secretaries of the Meeting are J. F. GASKELL, M.D., F.R.C.P., The Uplands, Great Shelford, near Cambridge, and G. S. HAYNES, M.D., 58, Lensfield Road, Cambridge. Communications should be addressed to them at the Medical Schools, Cambridge.

Information regarding accommodation in Colleges, Lodging Houses, and Hotels was given in the SUPPLEMENT of May 1st.

Association Notices.

REPRESENTATIVE MEETING.

DATE.

THE Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

NOTICES OF MOTION AND AMENDMENT.

The Supplementary Report of Council to the Representative Meeting will appear in the SUPPLEMENT of May 29th, 1920.

Notices of Motion and Amendment by Divisions and Branches for consideration by the Annual Representative Meeting will be published in the SUPPLEMENT as they are received, but none can be published later than June 12th, for which purpose they must be received by the Medical Secretary *not later than the first post on Monday, June 7th.*

It will be possible, however, to include in the Agenda for the Annual Representative Meeting all Notices of Motion and Amendment which are received by the Medical Secretary *not later than the first post on Monday, June 14th.*

ANNUAL GENERAL MEETING.

THE Annual General Meeting will be held at the Examination Halls, Cambridge, on Tuesday, June 29th, 1920, at 2 p.m. Business: (1) Minutes of last Meeting. (2) Appointment of auditors. (3) Report of election of President.

COUNCIL, 1920-21.

NOTICE is hereby given that nominations for candidates for election as Members of Council ***by Grouped Representatives*** for the year 1920-21, under By-law 46 (*c*), will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting on Friday, June 25th, 1920. Each nomination must be on the prescribed form (A.R.M. 10), copies of which will be forwarded by the Medical Secretary on application. The voting papers will be issued at the Representative Meeting.

ELECTION OF 24 MEMBERS OF COUNCIL BY BRANCHES IN UNITED KINGDOM.

THE following is a list of the nominations received:

Group.	Branches in Group.	Candidates nominated.	No. of Seats.
A	North of England. North Lancashire and South Westmorland	Professor R. A. BOLAM, O.B.E. (Newcastle-on-Tyne)	1
B	Yorkshire	Dr. A. FORBES (Sheffield) Dr. A. MANKNELL (Bradford)	1
C	Lancashire and Cheshire	Sir JAMES BARR, M.D., LL.D., C.B.E. (Liverpool) Dr. FRANK RATCLIFFE (Oldham)	2
D	East Yorks and North Lincoln. Midland	Dr. G. K. SMILEY, O.B.E. (Derby)	1
E	Cambridge and Huntingdon. Norfolk. Essex. Suffolk. South Midland	Dr. E. O. TURNER (Great Missenden) Dr. J. F. WALKER (Southend-on-Sea)	1
F	Birmingham Staffordshire	Dr. H. C. MACTIER, M.B.E. (Wolverhampton)	1
G	North Wales. Shropshire and Mid Wales. South Wales and Monmouthshire	Dr. W. B. CRAWFORD TREASURE (Cardiff)	1
H	Metropolitan Counties	Dr. J. A. P. BARNES (London, N.) Dr. H. S. BEADLES (West Ham) Dr. C. BUTTAR (Kensington) Lord DAWSON OF PENN, G.C.V.O., K.C.M.G. (Marylebone) Lieut.-Colonel W. MCADAM ECCLES (Marylebone) Mr. N. BISHOP HARMAN (Marylebone) Dr. C. O. HAWTHORNE (Marylebone) Dr. HARVEY HILLIARD (Westminster) Dr. WM. PATERSON (Harlesden)	4
I	Bath and Bristol Gloucestershire West Somerset Worcestershire and Herefordshire	Dr. H. C. BRISTOWE (Wrington, Somerset)	1
J	Dorset and West Hants. South-Western. Wiltshire	Mr. RUSSELL COOMBE (Sidmouth)	1
K	Oxford and Reading. Southern	Dr. D. A. SHEAHAN (Portsmouth)	1
L	Kent. Surrey. Sussex	Dr. E. R. FOTHERGILL (Hove) Dr. ARNOLD LYNDON (Hindhead)	1
M	Aberdeen. Northern Counties. Dundee. Perth	Dr. B. CRUICKSHANK (Nairn) Dr. DAVID LAWSON (Banchory) Dr. C. S. YOUNG (Dundee)	1
N	Edinburgh. Fife	Dr. JOHN STEVENS (Edinburgh)	1
O	Glasgow and West of Scotland (4 City Divisions)	Dr. WM. SNODGRASS (Glasgow)	1
P	Glasgow and West of Scotland (5 County Divisions). Border Counties. Stirling	Dr. JOHN GOFF (Bothwell)	1
Q	Connaught. South-Eastern of Ireland	Dr. DENIS WALSHE (Graigue, Kilkenny)	1
R	Leinster	Dr. REGINALD C. PEACOCKE, O.B.E. (Blackrock, co. Dublin)	1
S	Munster	Dr. J. GIUSANI (Cork)	1
T	Ulster	Mr. R. J. JOHNSTONE (Belfast)	1
			24

Voting papers will be posted on Saturday, May 22nd; they are returnable Monday, June 7th, first post. The result will be published in the JOURNAL of June 12th.

NOTICES OF MOTION AND AMENDMENT BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, 1920.

By Southport Division:

Publication of a History of the Association.

That the Representative Body instruct the Council to take steps to prepare a concise history of the Association, its foundation and past achievements, its present activities and aims, for issue to members and sale to the public.

By West Bromwich Division:

Minimum Salaries for Public Appointments.

1. That, until the scale of salaries for Health Officers, as recommended by the Council of the British Medical Association, is adopted generally by local Health Authorities, the Association should advise all Medical Schools to warn medical students as to the insufficiency of pay, promotion, etc., in the Public Health Service.

2 That the term of eight years recommended in the scale of fees for whole-time Medical Superintendents of Poor Law and other Institutions is too long.

3. That in the scale of fees recommended in the case of Medical Superintendents further additions be made for greater number of beds than 500.

By Willesden Division:

Salaries of Medical Secretaries.

That the Medical Secretaries be paid according to the following scale:

Assistant Medical Secretaries £800, with annual increase of £50 up to £1,250.

Deputy Medical Secretary £1,250, with annual increase of £50 up to £1,500.

Medical Secretary £1,500, with annual increase of £50 up to £1,750.

Present incumbents to be paid at the rate to which they would now be entitled had the scale been in force at the date of their appointment.

By Durham Division:

Fees for Medical Treatment of School Children.

That the fee for adenoids and tonsils operations (para. 106 (iii) of Annual Report, page 115, SUPPLEMENT, April 24th, 1920) should be in accordance with the number of cases done at a session.

Minimum Salaries for Public Appointments.

That the fourth Recommendation under "General" *re* Minimum Salaries for Public Appointments (para. 110 of Annual Report of Council, page 116) is not sufficiently explicit and that the following be substituted:

That existing officers be placed according to the foregoing scale of minium salaries as follows:

(i) In the case of part-time appointments the scale should be immediately applied in its entirety.

(ii) In the case of whole-time appointments the holder should immediately receive an increase of salary which shall bring him up to the minimum, with further increases according to the length of service, which shall place him in his appropriate place in the scale recommended by the Association.

(iii) That the minimum salaries of Senior Medical Officers in charge of Departments (see para. 108 of Annual Report) shall, as in the case of whole-time M.O.H.'s, be graded in accordance with the population of the Administrative Area, and shall not be less than £700, rising to £900 by annual increments of not less than £25, with an addition of bonus according to Civil Service Award in force for the time being.

Fees for Medical Practitioners called in on the Advice of Midwives.

That in connexion with the fees for medical practitioners called in on the advice of midwives (para. 121 (3) and (4) of Annual Report), in all cases where complications arise after the tenth day, and where medical attendance is necessary, the fee for such treatment shall be paid to the doctor.

Fees for Medical Witnesses.

That the fees for Medical Witnesses set out in para. 123 of the Annual Report of Council should be 3 and 2 guineas respectively.

Fee for Notification of Infectious Diseases.

That the Representative Meeting instruct the Council to press for the immediate reversion to the 2s. 6d. fee for the notification of infectious diseases (see para. 129 of Annual Report).

By Aberdeen Division:

Fees for Medical Examinations for Life Insurance.

That in cases examined elsewhere than in the practitioner's consulting room, at the request of the Insurance Company or its Agent, a mileage fee be paid in addition to the examination fee. (Para. 111, Annual Report of Council.)

Ordinary Offices.

That as regards ordinary offices the fee for Medical Examination be 21s., except for policies of £500 and upwards, the fee for which ought to be on a higher scale, proportionate to the amount of policy. (Para. 111, Annual Report of Council.)

By Kensington Division:

Greater Prominence for Recommendations Involving New Principles.

That the Council, in cases where a new principle is involved, as in the case of payment of some of the members of the Office Committee, should put such proposed changes in a prominent part of their Report, where it would readily meet the eye, emphasizing their reasons for such new departure.

Railway Fares, etc., of Non-Members Serving on Standing Committees.

That the railway fares and other expenses of non-members of the Association who serve on Standing Committees should not be paid by the Association.

By South Essex Division:

Tuberculous Mortality; Inquiry into Effect of National Insurance Act on Nutrition of Poor.

That this meeting calls attention to the slackening of the fall in tuberculous mortality from 1896 onwards, culminating in an actual rise in the death rate after the Insurance Act; and resenting its enforced association with a measure which prima facie seems, and on strict investigation may be proved to be, prejudicial to the national health, and instructs the Council to institute an inquiry into the effect of the Act upon the nutrition of the poor.

By City Division:

Expenses of Divisions.

That it be an instruction to the Council to take steps for higher contributions being made to the Divisions.

By South-West Wales Division:

Unqualified Medical Practice.

That in the opinion of the Representative Body, serious steps should be taken in the public interest by the Association to bring to the notice of Parliament the injurious effects of unqualified practice in medicine and surgery.

By Belfast Division:

Federation or Affiliation.

That (in connexion with paras. 43–62 of the Annual Report), pending further particulars, no change be made so far as the present relationship of Ireland to the rest of the United Kingdom is concerned.

Minimum Salaries for Public Appointments.

That the minimum salaries of whole-time assistant medical officers of health (see Class II) be the same as those recommended for whole-time medical officers of departments (see Class IV).

That the definition of whole time senior medical officers in charge of departments (see Class III) end at the word "otherwise."

That the definition of whole-time medical superintendent (see Class V) end at the word "otherwise."

BRANCH AND DIVISION MEETINGS TO BE HELD.

ESSEX BRANCH.—The spring meeting of the Essex Branch will be held at the Saracen's Head Hotel, Chelmsford, on Wednesday, May 26th, at 12 o'clock. Lecture by Dr. Henry MacCormac, C.B.E., Middlesex Hospital, on "Some observations on the treatment of syphilis."

LANCASHIRE AND CHESHIRE BRANCH.—The annual meeting for 1920 will take place at Southport on June 9th. The members will be entertained at lunch by the Southport Division, and after the President (Dr. Baildon, Southport) has given his address scientific papers will be read. A number of excursions are being arranged for the afternoon, and in the evening members will dine together.

METROPOLITAN COUNTIES BRANCH.—Mr. N. Bishop Harman and Dr. J. A. Percival Barnes (Honorary Secretaries) give notice that the annual general meeting of the Branch will be held at 429, Strand, W.C.2, on Friday, June 18th, at 4 p.m. Business: (1) Report of scrutineers as to the election of new officers. (2) Annual report of Council. (3) President's Address, by Dr. E. W. Goodall, O.B.E.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—Dr. J. Livingston, Honorary Secretary, gives notice that the annual meeting of the Branch will be held on Wednesday, June 9th, at 3.15 p.m., in the Furness Abbey Hotel, Barrow. Business: Report of Council. Election of officers. President's address, by Dr. A. F. Rutherford: "Experiences of an ambulance train commander." The President invites members to tea.

SOUTHERN BRANCH: SOUTHAMPTON DIVISION.—Dr. H. G. G. Nelson (20, London Road, Southampton), Honorary Secretary, gives notice that the annual meeting of the Division will be held at the Royal South Hants and Southampton Hospital on Wednesday, May 26th, at 9 p.m. Business: To elect (1) officers, (2) Representatives on Branch Council, (3) Executive Committee, (4) Representative in Representative Body. To receive annual report of Executive Committee. To consider business of Annual Representative Meeting and instruct Representative.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—Dr. A. E. Larking (Castle Street, Buckingham), Honorary Secretary, gives notice that the adjourned annual meeting of the Division will be held on Tuesday, June 1st, at the Red Lion Hotel, High Wycombe, at 2.15 p.m. All medical men are invited. Agenda: Annual report of Council. Instructions to Representative. Resolution proposed by Dr. A. E. Larking:

That this Division learns with surprise and regret that, in spite of the efforts made by the British Medical Association to safeguard the interests of medical men who joined the R.A.M.C., several cases have come to notice in which patients attended whilst the the medical man was away on service are still being retained by the practitioner who remained at home. This Division calls upon the Council to take the necessary steps in this matter, as the men concerned, although feeling deeply, are unwilling to make the first move.

Paper by Mr. C. A. Joll, Consulting Surgeon Royal Bucks Hospital, on "Diagnosis and treatment of abdominal emergencies."

MINISTRY OF HEALTH.

NEW MEDICAL APPOINTMENTS.

IN pursuance of the decision of the Minister of Health to enlarge the scope of the medical side of the Ministry, especially in connexion with tuberculosis, general sanitation and epidemiology, venereal disease, international health work and administration generally in connexion with infectious disease and the work of port sanitary authorities, Dr. Addison has made the following additional appointments to the Medical Staff of the Ministry:

James Fairley, M.D., D.P.H.; J. Alison Glover, O.B.E., M.D., D.P.H.; F. W. Higgs, C.B.E., M.D.; A. A. Jubb, M.D., D.Sc.; R. Bruce Low (Junior), M.R.C.S.; A. T. McWhirter, M.B., Ch.B.; A. C. Parsons, M.R.C.S., D.P.H.; G. Raffan, M.D., F.R.C.S.Ed.; A. B. Smallman, C.B.E., D.S.O., M.D., D.P.H.; P. G. Stock, C.B., C.B.E., M.R.C.S., D.P.H.; E. L. Sturdee, O.B.E., M.R.C.S.; F. N. White, C.I.E., M.D.; D. J. Williamson, M.D., D.P.H.; W. P. Yetts, O.B.E., M.R.C.S.

INSURANCE.

LONDON PANEL COMMITTEE.

Election of Panel Committee.—At the meeting of the London Panel Committee on April 27th it was stated that the London Insurance Committee had under consideration the question of reprinting and revising the London Insurance Pharmacopoeia, and the Panel Committee agreed to share the cost of the revised edition jointly with the Insurance Committee, provided that all insurance practitioners in the county received a copy free of charge.

LONDON INSURANCE COMMITTEE.

Remuneration of Medical Practitioners.—At the meeting of the London Insurance Committee on April 22nd it was stated that the Minister of Health had decided, in accordance with the appropriate article of the Medical Benefit Regulations, to make a provisional determination of the Central Practitioners' Fund, which would be subject to review at the end of the year, though it was added that it must not be assumed that the final determination of the fund would necessarily result in any additional payment to insurance practitioners. The amount of the Central Practitioners' Fund was provisionally determined for England for the whole year 1920 as £6,250,000, and after making reservation for the payment of accounts for the treatment of invalided sailors and soldiers, the net amount available for the first quarter for distribution amongst insurance practitioners was £1,500,000. This sum had been apportioned among Insurance Committees on the basis recommended by the Distribution Committee, and the proportion due to London was 13.93 per cent., or £209,250. From this amount payments made to the Panel Committee to meet its administrative expenses had to be deducted. The necessary work in connexion with the settlement of practitioners' accounts for the first quarter of the year was now proceeding, and it was hoped that the settlement would be made very shortly.

Pharmaceutical Service.—A scheme for securing a proper pharmaceutical service has been prepared jointly by the Insurance Committee and the Pharmaceutical Committee and approved by the Minister of Health. A joint subcommittee comprising members of the two bodies has been established, whose duty it will be to make arrangements to carry into effect a proposed scheme whereby the chemists will undertake that dispensary facilities at one or more shops shall be available in all districts in the county until the normal closing time (8 p.m.), and on Sundays and holidays for sufficient time and at such hours as the circumstances of the district require, having regard to the hours at which medical practitioners are necessarily occupied in seeing patients in such districts. A double dispensing fee is to be paid in respect of each prescription dispensed by the chemist outside the hours of service, if such prescription is marked "Urgent" by the doctor.

Limitation of Lists.—A motion was proposed by Mr. Harold Swann that when an insurance practitioner had obtained on his list, either by acceptance or assignment, the maximum number of 3,000 insured persons fixed by the allocation scheme, he should be precluded from undertaking private practice. After some discussion the motion was withdrawn; but a motion by Mr. Rockliff was carried, instructing the Medical Benefit Subcommittee to bring before the full committee the subject of the renewal of the agreement with the Panel Committee as regards the limitation of numbers on the lists of insurance practitioners in ample time for an opinion to be expressed as to the terms upon which such an agreement should be renewed.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Rear Admiral W. Bett, M.V.O., to R.N. Hospital, Haslar. Surgeon Captain W. H. S. Stalkartt to R.N. Hospital, Plymouth. Surgeon Commanders: F. Cock to R.N. Sick Quarters, Shotley (temporary); H. R. H. Denny to Plymouth Hospital; B. R. Bickford, D.S.O., to the *Vivid*, additional (temporary), for R.M. Camp, Renney, Wembury; A. F. Fleming, D.S.O., to H.M. Dockyard, Devonport (temporary). Surgeon Lieutenant Commanders: A. T. Rivers, C. J. Aveling, J. M. Hayes, P. B. Egan, F. H. Stephens, O.B.E., S. Bradbury, K. H. Hole, and G. F. Syms promoted to the rank of Surgeon Commander, Surgeon Lieutenants A. G. Taylor to the *Orion*, W. E. Heath to the *Argus*. Surgeon Lieutenant (temporary) J. L. Lamond to the *Greenwich*.

ARMY MEDICAL SERVICE.

Major-General L. E. Anderson, C.B., retires on retired pay.

Colonel J. D. Ferguson, C.M.G., D.S.O., is placed on half-pay.

Temporary Colonel Sir A. W. Mayo-Robson, K.B.E., C.B., C.V.O. (Major R.A.M.C.T.F.), relinquishes his temporary commission on reposting.

Colonel Lancelot P. More is placed on half pay, March 2nd, 1920 (substituted for notification in the *London Gazette*, April 7th, 1920).

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel F. S. Walker, C.B.E., retires on retired pay.

The following relinquish the acting rank of Lieutenant-Colonel: Major P. C. T. Davy, C.M.G., temporary Captain J. R. C. Greenlees, D.S.O. (April 19th, 1919), temporary Major W. E. Home, O.B.E. (December 30th, 1919), temporary Captain A. J. Blake, M.C.

Major P. J. Marett to be temporary Lieutenant-Colonel whilst specially employed.

The following officers relinquish the acting rank of Major: Temporary Captains N. E. Kendall (September 23rd, 1919—substituted for notification in the *London Gazette*, December 2nd, 1919), C. D. Faulkner, B. Knowles, M.C., O. R. L. Wilson, D. Fisher, J. R. Griffith, C. L. Spackman, W. E. R. Dimond, N. A. A. Hughes, Captains A. E. Richmond, O.B.E., T. J. Hallinan, S. Fenwick, M.C.

Captains to be acting Majors: P. J. Ryan, M.C., W. H. O'Riordan, M.C. (from February 10th to April 22nd, 1920).

Captain J. J. Molyneux is placed on the half-pay list on account of ill health.

The name of temporary Captain C. G. Monro is as now described, and not as in the *London Gazette*, March 30th, 1920.

The notifications regarding the following officers which appeared in the *London Gazette* of the dates indicated are cancelled:—Major J. E. H. Gatt (January 21st and March 11th, 1920). Temporary Captains: S. W. G. Ratcliffe (May 1st, 1919), J. A. MacKenzie (April 23rd, 1920).

Captain W. T. Hare, M.C., resigns his commission, and is granted the rank of Major.

Captain J. S. McCombe, D.S.O., to be acting Major from February 25th to December 15th, 1918, inclusive.

Lieutenants (temporary Captains) to be Captains: G. H. Barry, M. McG. Russell, F. G. L. Dawson.

H. Bell, late C.A.M.C., and E. S. Joske, late Captain A.A.M.C., to be temporary Captains.

Late temporary Captains to be temporary Captains: G. Cock (seniority from January 14th, 1915); T. W. Mason (seniority April 26th, 1916).

The following officers relinquish their commissions: Temporary Majors and retain the rank of Major: H. E. L. Canney, W. S. Haughton, C. L. Williams. Temporary Captains and are granted the rank of Major: Andrew Grant, N. E. Kendall, C. C. de B. Daly, O.B.E., R. Massie, O.B.E., J. H. Peek, H. N. Webber, S. E. Picken, M.C., (acting Major) M. Fitzmaurice-Kelly. Temporary Captains and retain the rank of Captain: E. D. Heyliger, P. Black, W. Forsyth, W. N. H. Bell, D. J. Bedford J. S. Williamson, J. Lascelles, T. D. Miller, J. L. Meynell, H. W. Hues, R. Hodson, M.C., E. G. B. Carpenter, E. R. Holborow, J. J. Robertson, W. S. I. Robertson, M. Dockrell, C. L. Spackman, J. H. Marshall, W. G. Hopkins, T. R. Fulton, S. W. Milner, A. C. Meek, J. M. Anderson, D. O. Richards, H. S. Stockton, T. G. Elsworth, H. G. Parker, T. B. Vaile, W. J. F. Symons, N. B. Laughton, J. S. K. Smith, S. W. H. Stuart, A. F. Sanderson, V. D. Pennefather, F. Shearar, G. B. Buckley, M.C., A. P. Mitchell, A. H. Holmes, J. F. O'Mahoney, R. G. Higgen, G. H. Winch, A. Hines, S. Broderick, H. Hannigan, C. C. Brewis, D. F. Brown, L. W. Evans, M.C., R. C. Poyser, R. B. Johnson, T. J. Cobbe, B. C. Haller, L. O. Weinman, D. Miller, M. D'Albon, W. L. G. Davies, J. McGarrity, R. Lawrence, J. Wylie, M.C., G. W. Ronaldson, F. B. Macdonald, F. B. Pinniger, T. S. Allen, T. E. Banister, E. L. Hopkins, P. S. Blaker, R. C. T. Evans, W. Fleming, R. W. D. Hewson, J. A. Ireland, J. A. Gilfillan, H. M. Drake, C. G. Whorlow, H. H. McClelland, P. C. Davie. On account of ill health contracted on active service: F. E. Sprawson, W. J. Adams, C. C. Okell, M.C., R. L. Hughes, C. R. Macleod, M.C. Temporary Captain J. E. Ainsley on transfer to the I.M.S.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Lieut.-Colonel G. N. Biggs (Major R.A.M.C., T.F.) relinquishes his temporary R.A.F. commission on return to army duty and is permitted to retain the rank of Lieut.-Colonel.

L. Game is granted a temporary commission as Flight Lieutenant.

Flight Lieutenant T. D. J. A. Fuller relinquishes his commission on ceasing to be employed and is permitted to retain the rank of Captain.

Transferred to the unemployed list: Captains J. P. Hennessy, J. Ferguson, R. W. Pritchard, C. E. Thwaites, A. W. P. Pirie, Lieutenants E. L. Sergeant and G. G. Goury, V.C.

Captain O. P. V. MacCormack and Captain (acting Major) A. A. Atkinson, R.A.M.C.(S.R.) relinquish their commissions on account of ill health caused by wounds, and are permitted to retain the rank of Captain and Major respectively.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

To be Lieut.-Colonels and to command the field ambulance shown against their names: Major J. M. G. Bremner, O.B.E. (2nd East Anglian), Major (Brevet Lieut.-Colonel) D. Rorie, D.S.O. (2nd Highland), Major (Brevet Lieut.-Colonel) E. B. Bird, D.S.O. (3rd Wessex), Major A. E. Kidd, O.B.E., T.D. (3rd Highland), Major A. Callam, D.S.O. (2nd East Lancashire), Major E. H. Cox, D.S.O. (3rd East Lancashire), Major J. W. Leitch, D.S.O. (1st Lowland), Major J. W. Keay (3rd Lowland), Major T. A. Barron, D.S.O. (1st North Midland), Major D. L. Fisher, D.S.O. (2nd Northumbrian), Major P. R. Ash (3rd Northumbrian), Major F. Whalley, D.S.O. (2nd West Riding), Major T. Donovan (1st Welsh), Major C. L. Isaac (3rd Welsh), Captain J. F. MacIntosh (1st Highland), Captain A. T. Falwasser, D.S.O. (1st Home Counties), Captain H. G. G. Mackenzie, D.S.O. (3rd Home Counties), Captain C. S. Brebner, D.S.O. (1st London), Captain R. E. Bickerton, D.S.O. (2nd London), Captain R. M. Vick, O.B.E. (3rd London), Captain J. MacMillan, D.S.O., M.C. (5th London), Captain H. K. Dawson, D.S.O. (6th London), Captain J. F. Dixon (2nd North Midland), Captain J. Miller, D.S.O., M.C. (3rd North Midland), Captain R. A. Broderick, D.S.O., M.C. (2nd South Midland), Captain T. A. Green, D.S.O. (3rd South Midland), Captain W. Lister (1st West Riding).

The following officers relinquish the acting rank of Lieut.-Colonel on ceasing to be specially employed:—Major (acting Lieut.-Colonel) T. L. Fennell, T.D., Captain (acting Lieut.-Colonel) W. Blackwood, D.S.O. (December 18th, 1918).

Lieut.-Colonel (Brevet Colonel) W. Howorth, T.D., resigns his commission and retains his rank with permission to wear the prescribed uniform.

Major C. J. Martin, O.B.E., to be acting Lieutenant-Colonel whilst specially employed.

Major W. G. Mitchell is restored to the establishment (July 16th, 1919).

Captains (acting Majors) relinquish the acting rank of Major on ceasing to be specially employed: D. E. Finlay (December 15th, 1918), T. P. Caverhill (December 26th, 1918), R. D. Langdale-Kelham, C. E. W. McDonald, A. Wilson, and L. N. Reece (August 13th, 1918), W. J. Purves, M.C. (December 14th, 1918), J. G. McKinlay (March 29th, 1919).

Captains resign their commissions and are granted the rank of Major: G. B. Buchanan, A. Cambell, and C. E. H. Milner.

Captain R. Burgess, D.S.O., M.C., resigns his commission and is granted the rank of Lieutenant-Colonel.

The announcements regarding Captain (acting Major) A. M. Jones published in the *London Gazette* of October 29th and December 8th, 1919, are cancelled.

Captains resign their commissions and retain the rank of Captain: T. W. H. Downes, T. P. Edwards, and C. C. Philip.

Captain (Brevet Major) C. W. Rowntree resigns his commission and retains the rank of Captain and Brevet Major.

Captain F. R. Humphreys to be Major.

3rd London General Hospital.—Major Sir A. W. Mayo-Robson, K.B.E., C.B., C.V.O., is restored to the establishment on ceasing to hold a temporary commission in the A.M.S.

1st Northern General Hospital.—Major (acting Lieut.-Colonel) D. W. Patterson, O.B.E., relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed. Captain (acting Major) W. T. Harkness relinquishes the acting rank of Major on ceasing to be specially employed.

4th Scottish General Hospital.—Captain (acting Major) J. Henderson relinquishes the acting rank of Major on ceasing to be specially employed (December 17th, 1918).

5th Southern General Hospital.—Captain (acting Lieut.-Colonel) J. H. P. Fraser, M.C., relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed (December 19th, 1918).

1st Western General Hospital.—Captain T. P. McMurray is restored to the establishment.

3rd Western General Hospital.—Captain (acting Major) E. Reid relinquishes the acting rank of Major on ceasing to be specially employed (August 11th, 1919).

Sanitary Service.—Captain L. R. Tosswill, O.B.E., to be Major.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Urology:* Thur., 8.30 p.m., Paper: Modern Progress in Urinary Surgery, by Sir Peter Freyer (President of the Section). *Section for the Study of Disease in Children:* Fri., 4.30 p.m., Annual General Meeting. Exhibition of Cases. *Section of Epidemiology and State Medicine:* Fri., 8.30 p.m., Annual General Meeting. Paper: "The apparent rate of disappearance of diphtheric bacilli from the throat after an attack of the disease," by Dr. Percival Hartley and Professor C. J. Martin, F.R.S. Members wishing to dine together before the meeting (Welbeck Palace Hotel, 7 p.m.) are requested to notify Dr. Major Greenwood, Lister Institute, Chelsea Gardens, S.W.1, by May 26th.

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Dr. F. Langmead: Tues., 11.30 a.m., Disorders of the Thyroid Gland—Lymphatism; Fri., 11.30 a.m., Infantilism. Wed., 4 p.m., Mr. A. T. Pitts: Dental Sepsis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Tues., 2 to 3.30 p.m., Dr. Grainger Stewart: Out-patients; 3.30 p.m., Dr. Greenfield: Cerebro-spinal Fluid. Wed., 2 p.m., Mr. Armour: Tumours of Spinal Cord (I); 3.15 p.m., Mr. Scott: Menière's Disease. Thur., 2 to 3.30 p.m., Dr. Farquhar Buzzard: Out-patients; 3.30 p.m., Dr. Aldren Turner: Ward Cases. Fri., 2 to 3.30 p.m., Dr. Gordon Holmes: Out-patients; 3.30 p.m., Dr. Greenfield: Cerebro-spinal Fluid.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., Operations, Clinics, etc. Mon., 2.30 p.m., Mr. Banister: Gynaecological. Tues., 9.45 a.m., Lieut.-Colonel R. H. Elliot: Eyes; 2.15 p.m., Mr. Howell Evans: Catheters; 3.15 p.m., Dr. Oliver: Cutaneous Disorders; 4.30 p.m., Lecture, Dr. Manson-Bahr: Diagnosis of Tropical and Subtropical Fevers. Wed., 2.30 p.m., Dr. Oliver: Dermatological. Thur., 2.30 p.m.: Eye Cases, Mr. Fleming; Radiology, Dr. Metcalfe. Fri., 2.30 p.m., Dr. C. E. Sundell: Children. Sat., 3 p.m., Mr. Carson: Cases.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Mon., 5 p.m., Dr. H. Mowat: Radiography. Tues., Dr. H. E. Symes-Thompson: Acute Pulmonary Tuberculosis. Wed., Dr. R. Murray Leslie: Differential Diagnosis. Thur., Dr. H. E. Symes-Thompson: Classification. Fri., Dr. J. H. Drysdale: Prognosis.

SALFORD ROYAL HOSPITAL.—Thur., 4.30 p.m., Dr. Jenkins: Collection of Pathological Material.

SHEFFIELD ROYAL INFIRMARY.—Wed., 4 p.m., Professor Arthur Hall: Diagnosis of Nervous Diseases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-Patient Clinics and Operations. Tues., 10 a.m., Dr. Drummond Robinson: Gynaecological Operations; 5 p.m., Mr. Tyrrell Gray: Gastric Ulcer. Wed., 10 a.m., Dr. Arthur Saunders: Children; 2 p.m., Dr. Morton: X Rays. Thur., 2 p.m., Mr. Bishop Harman: Eyes; 5 p.m., Mr. Baldwin: Practical Surgery. Fri., 10 a.m., Mr. Steadman: Dental; 5 p.m., Sir Robert Armstrong-Jones: Mental Disease (Lecture III). Sat., 12 noon, Mr. Sinclair: Surgical Anatomy; 2 p.m., Dr. Owen: Out-patients.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

21 Fri. Preston Division: 8.30 p.m., Lecture by Dr. W. Blair Bell: Ductless Glands.

25 Tues. London: Scrutiny Subcommittee, 2.30 p.m.

26 Wed. Essex Branch, Saracen's Head Hotel, Chelmsford, 12 noon. Lecture by Dr. Henry MacCormac, C.B.E., on Some Observations on the Treatment of Syphilis.
Southampton Division, Annual Meeting, Royal South Hants and Southampton Hospital, 9 p.m.

JUNE.

1 Tues. Buckinghamshire Division, Adjourned Annual Meeting, Red Lion Hotel, High Wycombe, 2.15 p.m.

9 Wed. London: Ministry of Health Committee.
London: Propaganda Subcommittee, 2.15 p.m.
Lancashire and Cheshire Branch, Annual Meeting, Southport.
North Lancashire and South Westmorland Branch, Annual Meeting, Furness Abbey Hotel, Barrow, 3.15 p.m.

18 Fri. Metropolitan Counties Branch, Annual Meeting, 429, Strand, W.C.2, 4 p.m.

APPOINTMENTS.

ALLAN, Francis J., M.D., Lecturer on Public Health, Westminster Hospital Medical School.

PARSONS-SMITH, Basil T., M.D., M.R.C.P., Assistant Physician to the National Hospital for Diseases of the Heart.

PYBUS, Frederick C., M.S., F.R.C.S., Assistant Surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne.

SPENCE, D. Leigh, M.A., M.B.Cantab., M.R.C.S., L.R.C.P., (1) Certifying Factory Surgeon for Melksham, (2) Medical Officer of Health, Melksham Urban District.

SYLK, Miss Ellen, M.B., M.R.C.S., House-Surgeon at the Great Northern Central Hospital, Holloway.

VAILE, T. B., M.R.C.S., L.R.C.P., Anaesthetist to the Cancer Hospital, Assistant Anaesthetist to the Italian Hospital, and House Anaesthetist, Royal Dental Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTH.

CANE.—On May 14th, to Dr. and Mrs. L. B. Cane, Minster Precincts, Peterborough—a daughter.

DEATH.

TREVES.—On May 18th, at 49, Gloucester Terrace, W.2, Wilfrid Warwick, O.B.E., B.A., M.B., B.C Cantab., F.R.C.S., late Major R.A.M.C., only son of the late Edward Treves, M.R.C.S., of Hove.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 29TH, 1920.

CONTENTS.

PAGE

British Medical Association.

SUPPLEMENTARY REPORT OF COUNCIL:
- PRELIMINARY ... 167
- FINANCE ... 167
- ORGANIZATION ... 167
- SCIENCE ... 168
- MEDICO-POLITICAL ... 168
- PUBLIC HEALTH AND POOR LAW ... 170
- HOSPITALS ... 170
- OVERSEAS BRANCHES ... 170
- APPENDIX A.—SUPERANNUATION OF MEDICAL OFFICERS OF HEALTH ... 171
- APPENDIX B.—SUMMARY OF INCREASES IN CIVIL SERVICE PENSIONS NOW GIVEN BY COLONIES ... 172

ANNUAL MEETING AT CAMBRIDGE:
- ARRANGEMENTS FOR ACCOMMODATION ... 174
- REVISED LIST OF LODGING HOUSES ... 174

ASSOCIATION INTELLIGENCE ... 178

PAGE

CURRENT NOTES:
- MOTOR CAR TAXATION ... 173
- PANEL LISTS IN GLASGOW ... 173
- SENIOR SURGEON COMMANDERS R.N. ... 173
- COLONIAL COMMISSIONS FOR VENEREAL DISEASE PROPAGANDA 173
- A MEDICAL OFFICER OF HEALTH'S SALARY ... 173
- COUNCIL ELECTION ... 174

ASSOCIATION NOTICES:
- ANNUAL REPRESENTATIVE AND ANNUAL GENERAL MEETINGS 176
- BRANCH AND DIVISION MEETINGS TO BE HELD ... 176

INSURANCE:
- CORRESPONDENCE ... 176
- NATIONAL INSURANCE ACT, 1920 ... 177

NAVAL AND MILITARY APPOINTMENTS ... 177

DIARY OF SOCIETIES AND LECTURES ... 178

APPOINTMENTS ... 178

BIRTHS, MARRIAGES, AND DEATHS ... 178

SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

SUPPLEMENTARY REPORT OF COUNCIL, 1919—20.

Preliminary.

OBITUARY.

213. The following is a supplementary list of members whose death the Association has to deplore :—

Name.	Offices held in the Association.
Dr. A. J. Chalmers ...	A former President, Secretary, and Representative of the Ceylon Branch and Vice-President of the Section of Tropical Medicine, 1912.
Dr. John Alfred Codd ...	A former President of the Staffordshire Branch, a former Secretary and Chairman of the South Staffordshire Division, and Vice-President of the Section of Electro-therapeutics, 1911.
Surgeon Herbert Danvers, R.N., Ret.	A Member of the Ship Surgeons Sub-Committee.
Sir Kendal Franks, C.B. ...	Vice-President, Sub-Section Laryngology and Physiology, 1894.
Dr. John A. Harrison, O.B.E.	Local Secretary for the Haslingden Area of the Bury Division, and a Member of the Division Executive Committee.
Dr. Joseph William Hunt ...	Vice-President of Metropolitan Counties Branch and Chairman of various Committees thereof.
Mr. Arthur George Wright...	President of the Section of Surgery in 1907, Vice-President in 1902, and Secretary in 1894.

Dr. Alfred Adams, Dr. Alex. S. Aitchison, Dr. Israel Allaun, Dr. Ernest J. Bray, Dr. James Crooks, Dr. Alex. Cruickshank, Dr. Thomas Sidney Davies, Dr. E. S. H. Gill, Dr. Claude P. R. Harvey, Mr. Thomas B. Henderson, Dr. Edward B. Holland, Dr. Duncan F. Hunter, Dr. Cottingham G. Johnson, Dr. Peter Lynch, Dr. Edwin A. Maling, Dr. Joseph Henry Marsh, Dr. Francis G. C. Martin, Dr. James Middleton, T.D., Dr. W. S. Morrow, Dr. John Morton, Dr. N. M. O'Donnell, Dr. George J. Saunders, Dr. William Saunders, Dr. Samuel H. Shaw, Dr. Charles C. Smith, Dr. William Stewart, Major Norman Wells, O.B.E., I.M.S., Dr. John C. Wright.

Finance.

OFFICE STAFF SUPERANNUATION SCHEME.

(Continuation of para. 19 of Annual Report, page 106.)

214. The new Superannuation Scheme, which supersedes the scheme begun in 1906, has now been approved by the Council after submission to the Staff Committee. The Council has every reason to believe that it will satisfy those chiefly concerned. It covers all present members of the clerical and superior printing staffs who care to join it, and the membership will be compulsory on all joining that staff in future unless the Council decides, for special reasons, to exempt any particular person. The annual contribution of the Council under the new scheme will be roughly £820 as against a previous contribution of £375. The staff will contribute about £420 as compared with about £160.

PROPOSED INCREASE OF SUBSCRIPTION.

(Continuation of para. 29 of Annual Report, page 107.)

215. It has been suggested that it would be helpful if the reasons for the proposed increase in subscription, which were stated broadly in the Annual Report, were given in more detail. The Council proposes to publish such a statement shortly in the Supplement and to include it in the documents for discussion at the Annual Representative Meeting.

Organisation.

DIVISION AND BRANCH REPORTS FOR 1919.

(Continuation of para. 73, p. 112, of Annual Report.)

216. Of the 187 Divisions and 38 Branches in Great Britain, 132 Divisions and 29 Branches have (up to May 19th) reported for 1919. The following is a list of the non-reporting Divisions and Branches :—

Divisions:—Argyllshire, Barnsley, Bishop Auckland, Blackburn, Bolton, Bristol, Cardiff, Chester, Croydon, Chelsea,

Denbigh and Flint, Dumfries and Galloway, Durham, East Cornwall, East York, East Herts, Folkestone, Finchley and Hendon, Gateshead, Great Yarmouth, Glasgow Southern, Guildford, Halifax, Hastings, Hartlepools, Hexham, Isle of Man, Islands, Isle of Wight, Mid-Essex, Monmouthshire, North Carnarvon and Anglesey, North Middlesex, North Northumberland, North-West Essex, Norwich, Richmond, Rochester, Chatham and Gillingham, Rotherham, Salford, Shetland, South Shields, Stockton, South Carnarvon and Merioneth, Swansea, South-West Essex, Tower Hamlets, Walsall, Warwick and Leamington, Wakefield, Pontefract and Castleford, Wandsworth, Wimbledon. Woolwich and Lewisham, West Norfolk, York. *Branches*:—Aberdeen, Bath and Bristol, Birmingham, Border Counties, East York and North Lincoln, North Wales, Perth, Surrey, West Somerset.

Science.

REMUNERATION OF LABORATORY AND RESEARCH WORKERS.

217. The Council has obtained a considerable amount of information from laboratory and research workers in various parts of the country as to their conditions of employment and remuneration received. The information so obtained points to the fact that in very many cases the salaries received by this class of worker are most inadequate. The Council feels that, in view of the importance of research work, efforts should be made to raise the rate of the minimum salaries for these posts so that fair opportunities of a career may be afforded to those desirous of becoming laboratory and research workers.

The Council recommends :—

Recommendation.—That the minimum commencing salary of a medically qualified laboratory or research worker, who is permanently employed as such, should not be less than £500 per annum.

STEWART PRIZE.

(*Continuation of para. 85 of Annual Report, page 113.*)

218. The Council has decided to award the Stewart Prize for 1920 to Miss Harriette Chick, D.Sc., in recognition of her own work and that of the band of scientific women associated with her in the investigations into the means of preventing Scurvy and Beri-Beri in armies and among populations suffering privations.

219. Dr. Chick has been an assistant in the Department of Experimental Pathology at the Lister Institute since 1906; her early researches were concerned with the theory of disinfection. When, towards the end of 1915, there were indications that our troops in certain theatres of war were suffering from Scurvy and Beri-Beri, Dr. Chick gave her services to the War Office and India Office; she instituted and directed a band of workers at the Lister Institute, and a number of facts were collected which afforded data enabling the military authorities to select the most manageable additions to the diet of the troops. Among other points elucidated was the fact that during the germination of seeds the anti-scorbutic principle is produced so rapidly that germination for twenty-four hours prior to cooking is sufficient. This observation was of great practical importance, as it rendered it possible to supply the anti-scorbutic element of diet to the troops without adding to transport. The addition of germination pulses to the diet was the only scorbutic element available to the troops at Archangel during the winter of 1918-19, and was completely successful. Observations were made also on the anti-scorbutic value, weight for weight, of food, fresh or dried, or otherwise preserved; they were of value not only in deciding what additions should be made to the diet of troops, but also those which should be made to the diet of infants reared on dried or preserved milk. Incidentally it was discovered that the lime was much inferior to the lemon as an anti-scorbutic; the good effects obtained in the navy in the early part of the nineteenth century was due to the use of lemon juice, not lime juice. In the autumn of 1919, Dr. Chick, accompanied by Miss Dalyell, went to Vienna to give assistance to the medical profession there in regulating diets, and the observations already made upon the relation of diet to certain diseases—rickets, scurvy and osteo-malacia—prevailing there, are throwing great light upon the subject. The feeding experiments on animals made by Miss Chick and her colleagues demanded minute care, and were often prolonged for five or six months. The information they have yielded is of permanent scientific value.

MIDDLEMORE PRIZE.

(*Continuation of para. 84 of Annual Report, page 113.*)

220. The Council has decided that the Middlemore Prize for 1920 be awarded to Harry Moss Traquair, M.D., F.R.C.S.E., D.P.H., of Edinburgh, for his essay on "Perimetry (inclusive of Scotometry), its methods and its value to the Ophthalmic Surgeon."

Lt.-Col. R. H. Elliot, I.M.S. (ret.), and Sir George Berry, LL.D., M.B., were good enough to act as adjudicators in connection with the award of the prize, and they report as follows :—

> "We have no hesitation in awarding the first place to 'Bee' (the nom-de-plume of Dr. Traquair), whose treatment of the subject is exhaustive; whose acquaintance with the various methods of perimetry is wide and practical; whose judgment is critical; and whose appreciation of the limitations of methods of subjective examination shows strong common sense.
>
> At the same time, we should like to place on record our appreciation of the high value of the other three papers, all of which, in our opinion, reached prize standard."

CONTROL OF THERAPEUTIC SUBSTANCES WHICH CANNOT BE TESTED ADEQUATELY BY DIRECT CHEMICAL MEANS.

221. The Council has empowered Prof. W. E. Dixon, O.B.E., F.R.S., on behalf of the Association, to give evidence before the Committee appointed by the Ministry of Health to consider and advise upon the legislative and administrative measures to be taken for the effective control of the quality and authenticity of such therapeutic substances offered for sale to the public as cannot be tested adequately by direct chemical means.

Medico-Political.

FEES FOR MEDICAL PRACTITIONERS CALLED IN ON THE ADVICE OF MIDWIVES.

(*Continuation of paras. 120 and 121 of Annual Report, pages 117-8.*)

222. A deputation from the Association, consisting of Dr. H. B. Brackenbury (Chairman, Maternity and Child Welfare Sub-Committee), Dr. C. E. S. Flemming, the Medical Secretary, and Dr. Lord (Assistant Medical Secretary), was received on 30th April, 1920, by representatives of the Ministry of Health with regard to the representations of the Association for the amendment of the 1915 scale of fees for doctors called in on the advice of midwives.

The following scale was presented to the Deputation as the Ministry's alternative to the Association's representations :—

1. Fee for all attendances of a doctor at parturition (*i.e.*, from the commencement of labour until the child is born), whether operative interference or not is involved, including all subsequent visits during the first ten days, inclusive of the day of birth ... ... £2 2s. 0d.

2. Fee for attendance of a second doctor to give an anæsthetic, whether on account of abortion or miscarriage, at parturition or subsequently ... ... £1 1s. 0d.

3. Fee for suturing the perineum or for the removal of adherent or retained placenta or for the treatment of an emergency arising from or subsequently to parturition, and including all subsequent necessary visits ... ... £1 1s. 0d.

This fee not to be payable when the fee under 1 is payable.

4. Fee for attendance at an abortion or miscarriage; including all subsequent necessary visits ... £1 1s. 0d.

5. Fee for visits to mother or child not included under 1—4 :

Day (9 a.m. to 8 p.m.)	...	5s.
Night (8 p.m. to 9 a.m.)	...	10s.

6. The usual mileage fee of the district to be paid for all attendances under 1—5 of this scale.

7. No fee shall be paid by the Local Supervising Authority :—

(1) where the doctor has agreed to attend the patient under arrangement made by or on behalf of the patient or by any Club, Medical Institute or other Association of which the patient or her husband is a member.

(2) where the doctor receives or agrees to receive a fee from the patient or her representative.

(3) in respect of any services performed by the doctor after the expiry of one month after the day of birth.

8. The cost of the provision of medicine shall not be included in any fee payable under this scale and shall not be chargeable to the Local Supervising Authority.

223. The following alterations were provisionally agreed by both parties subject to subsequent approval by the Minister :—

Paragraph 1 was agreed to (subject to the reservation of the amount of the fee) with the substitution of "assistance" for "interference."

Paragraph 3. Objection was made to the footnote to this paragraph and the Ministry agreed to consider the possibility of the elimination of this footnote or the substitution of a uniform two-and-a-half-guinea fee.

It was pointed out by the Deputation that there would be great difficulty in getting the profession to accept the scale on any flat rate lower than three guineas.

Paragraph 4 was amended to read : "Fee for attendance at or in connection with an abortion or miscarriage, including all subsequent necessary visits during the first ten days one guinea."

Paragraph 7. It was agreed to omit sub-paragraph (3).

Paragraph 8. It was agreed to omit this paragraph.

224. The following proposed amended scale of fees has since been received from the Ministry (dated May 17th, 1920) :—

1. Fee for all attendances of a doctor at parturition (*i.e.* from the commencement of labour until the child is born), whether operative assistance or not is involved, including all subsequent visits during the first ten days inclusive of the day of birth ... ... £2 2s. 0d.

2. Fee for attendance of a second doctor to give an anæsthetic, whether on account of abortion or miscarriage, at parturition or subsequently ... ... £1 1s. 0d.

3. Fee for suturing the perineum, for the removal of adherent or retained placenta, for exploration of the uterus, for the treatment of post partum hæmorrhage or for any operative emergency arising directly from parturition, including all subsequent necessary visits during the first ten days inclusive of the day of birth £1 1s. 0d.

This fee not to be payable when the fee under (1) is payable.

4. Fee for attendance at or in connection with an abortion or miscarriage, including all subsequent necessary visits during the ten days after and including the first visit ... ... £1 1s. 0d.

5. Fee for visits to mother or child not included under (1)-(4) :—

Day (9 a.m. to 8 p.m.)	...	5s.
Night (8 p.m. to 9 a.m.)	...	10s.

6. The usual mileage fee of the district to be paid for all attendance under (1)-(5) of this scale.

7. No fee shall be payable by the Local Supervising Authority :—

(1) Where the doctor has agreed to attend the patient under arrangement made by or on behalf of the patient or by any Club, Medical Institute, or other Association of which the patient or her husband is a member.

(2) Where the doctor receives or agrees to receive a fee from the patient or her representative.

(3) In respect of any services performed by the doctor after the expiry of one month after the day of birth.

225. The Ministry has also stated that it cannot see its way to omit the footnote to para. 3 of the scale.

226. The Council recommends :—

Recommendation.—That the R.B. express the following opinions :—

(A) That the fee of £2 2s. 0d. suggested in para. 1 of the Ministry of Health's proposed amended scale of fees for medical practitioners called in on the advice of midwives is too small to enable the Association to urge practitioners to respond to these calls in areas or cases where they are unwilling to do so;

(B) That para. 7 (2) of the scale should be modified in the interests alike of the patient, the local authority and the practitioner, so as to provide that the difference, if any, of the fee agreed between the practitioner and patient as compared with that payable by the authority, should be paid by the authority; and

(C) That in connection with para. 7 (3), it would be preferable to limit the obligation not by a period of time but by a definition of the illness as one arising out of the confinement.

Fees for Medical Witnesses at Assizes.

(*Continuation of para. 123 of Annual Report, page 118.*)

227. As a result of representations on this matter, the Lord Chancellor has stated (i.) that the costs which might be allowed for attendance of witnesses—whether professional or otherwise—in criminal cases are regulated by Orders made by the Secretary of State under Section 5 of the Criminal Justice Administration Act, 1851 and Section 10 of the Costs in Criminal Cases Act, 1908, and under these Regulations, until recently, the amount which might be allowed to a professional witness was a guinea; (ii.) that this amount had been increased by 50 per cent. as from March 25th last by Witnesses Allowance Order 1920, Statutory Rules and Order 1920, No. 354/L6; (iii.) that the Lord Chancellor had been in communication with the Lord Chief Justice and they did not consider that it would be possible to make rules whereby medical witnesses would not be required to attend the opening of the Court but would be given twenty-four hours notice of the time when they would be required to give evidence; (iv.) that the practice of judges on circuit is always to show great consideration for the convenience of medical witnesses and that it frequently happens that particular days are fixed for the trial of cases so as to suit the arrangements of medical witnessess; (v.) that it is the usual custom at most assize towns to take the pleas of guilty on the first day and it is, therefore, essential that all witnesses should be in attendence on that day; and (vi.) that the duty of giving notice to witnesses is presumably in the hands of those conducting the prosecution in each case and their Lordships have no jurisdication to intervene in the matter.

Seamen's National Insurance Society.

(*Continuation of para. 128 of Annual Report, page 118.*)

228. The Council has to report that the Seamen's National Insurance Society has decided, subject to the approval of the Ministry of Health, to increase its scale of fees to medical practitioners by 50 per cent. as from 1st April, 1920, and the Society has been informed that the increase is considered by the Association to be acceptable.

Taxation of Motor Cars.

(*Continuation of paras. 130 and 131 of Annual Report, page 119.*)

229. Immediately the proposals contained in the Budget became known, steps were taken to bring to the knowledge of the Government the Association's views on the question of taxation of doctors' motor cars. A combined deputation of representatives of the Association and Medical Members of Parliament was received by the Ministry of Transport on May 4th, 1920, when representations were made that medical practitioners, in this matter, should be left *in statu quo*, namely, liable to pay only half tax.

230. The representatives of the Ministry stated that they did not think that the Minister of Transport would be able to recommend this concession to the medical profession, as it had definitely been decided that, except for motor ambulances and fire engines which would be exempted altogether, there should be no rebate in any case; that this was the first time commercial vehicles had been taxed and that if any exception were made in the case of medical practitioners it was certain that other classes of the population could and would make representations for similar concessions and in all probability would be able to put up as good a case as that which had been made out for the medical profession. This decision has since been confirmed by a letter from the Minister in which he declares his intention of making no concessions whatever, other than the two mentioned above.

231. The Minister in a reply (dated May 18th, 1920) states that he is unable to make any concessions in respect of such practitioners and that the necessity in certain cases of keeping more than one car is not confined to medical practitioners; that should a medical practitioner require to keep two cars, this must be regarded as a necessary part of his professional equipment, and the interest on his capital outlay, the cost of garage accommodation and the licence duty are all part of his professional expenses.

A strong plea was thereupon put in on behalf of doctors the nature of whose practices compel them to keep two cars, and who are by no means necessarily the best able to stand additional taxation.

State Registration of Nurses; General Nursing Council.

232. The Council has to report that the following nominees of the Association have been appointed by the Minister of Health as members of the General Nursing Council set up under the Nurses Registration Act, 1919 :—

Sir Jenner Verrall, LL.D., and Dr. E. W. Goodall, O.B.E.

POSTAL MEDICAL OFFICERS.

(Continuation of paras. 133 and 134 of Annual Report, page 119.)

233. The Council has to report (i.) that in reply to a "Current Note," 102 Members of the Association reported that they were Postal Medical Officers; seven of them stated that they were also members of the Association of British Postal Medical Officers; (ii.) the analysis of complete lists of Postal Medical Officers shows (a) approximate total number of Postal Medical Officers, 2,500, (b) of these, 1,650 are Members of the British Medical Association; (iii.) information has been received (a) that the capitation fee for Postal Medical Officers has been increased to 13s.; (b) that the fees for the treatment of itinerants are under consideration with a view to increase, and (iv.) that certain points still remain to be considered of which the following are the most important:—(a) fee for examination of civil servants (at present 10s. 6d.); (b) fee for inoculation against influenza (present fee offered is 2s. 6d. to cover the two inoculations); (c) periodical examinations for cycling duties, and (d) fees for emergency visits.

234. The Council has again asked the Postmaster-General to receive a deputation.

LONDON COUNTY COUNCIL (GENERAL POWERS) BILL; ESTABLISHMENTS FOR MASSAGE OR SPECIAL TREATMENT.

235. The L.C.C. (General Powers) Bill has been considered by the Council and representations were made to the L.C.C., that Clause 17 (Old Clause No. 24) of this Bill should be modified so as to remove therefrom certain objectionable features as to the certification of medical practitioners who desire to set up establishments for massage, etc., thereby to some extent duplicating disciplinary powers already exercised by the General Medical Council. The attention of the Committee of Medical Members of Parliament and the General Medical Council was also directed to this matter.

236. The L.C.C. agreed to amend the Clause so as to remove its most objectionable features, and the Association has accordingly withdrawn its opposition. The old Clause demanded that any practitioner desiring to carry on an establishment for massage or special treatment should obtain a certificate signed by two practitioners to the effect that the establishment would not be carried on for immoral purposes and that he was qualified to carry on an establishment for massage. Under the amended Clause all he will have to get is a certificate signed by two practitioners saying that he is a suitable person to carry on such an establishment at the premises used therefor.

GASLIGHT AND COKE COMPANY'S EMPLOYEES' BENEFIT SOCIETY.

237. The Medical Officers to the Gaslight and Coke Company's Employees' Benefit Society recently approached the Association with a view to obtaining an increase of their remuneration for work for this Society. On the advice of the Association, these officers applied for an increase from 7s. 6d. to 24s. per family, per annum, to include medicine and attendance, and decided that unless their demands were granted they would, subject to 80 per cent. of their number assenting, resign their appointments to this Society. 85 per cent. of the Medical Officers have signed forms of resignation. After a good deal of pressure the Society agreed to receive a deputation from its Medical Officers accompanied by the Deputy Medical Secretary, and this was received by representatives of the Society on May 17th, 1920.

238. The claims of the Medical Officers were stated and their intention to resign if the terms finally decided upon by them, after consideration of certain points raised by the Society (namely, 21s. per family), were not granted. The matter is being referred to the members of the Society.

Public Health and Poor Law.

BREAD AND FOOD REFORM LEAGUE.

239. The Council, on consideration of a request from the Bread and Food Reform League, decided to send resolutions to the Prime Minister and Minister of Health in support of the action of the League, urging that the existing laws against adulteration of food be carried fully into effect, and that if it is found necessary, further legislation be introduced to protect meal flour and bread from deterioration and adulteration.

SUPERANNUATION OF HEALTH OFFICERS.

(Continuation of para. 166 of Annual Report, p. 121.)

240. In response to the request of the Ministry of Health to receive a Memorandum of the views of the British Medical Association, the Society of Medical Officers of Health, and the Sanitary Inspectors' Association on the question of Superannuation of Health Officers formed after consideration of the Report of the Departmental Committee on Superannuation, the attached Memorandum (*see* Appendix A) has been forwarded as embodying the views of the British Medical Association and the Society of Medical Officers of Health on this matter. The Sanitary Inspectors' Association have forwarded their Memorandum direct to the Ministry.

Hospitals.

PAYMENT OF MEMBERS OF STAFFS OF VOLUNTARY HOSPITALS FOR THE TREATMENT OF DISCHARGED AND DISABLED SAILORS AND SOLDIERS.

(Continuation of paras. 168 and 169 of Annual Report, pp. 121, 122.)

241. The Committee has been in communication with the Ministry of Pensions and the British Hospitals Association with regard to payment of members of staffs of voluntary hospitals for the treatment of discharged and disabled sailors and soldiers, and has ascertained that the following are the chief points which have been agreed upon between the Ministry and the British Hospitals Association:—

In-patients.

1. That for a general well-equipped hospital the Ministry of Pensions will pay 9s. per head per day. For all other hospitals it will pay 7s. per head per day.

2. In other hospitals which can show by their accounts that their expenses are over 9s. a day and who have medical schools attached or other educational facilities, the Ministry of Pensions will pay up to 11s.

Out-patients.

3. For ordinary orthopædic out-patients where the Ministry of Pensions supplies medical supervision it will pay a rate of 1s. 6d. per attendance.

4. In cases where the hospitals supply medical supervision the Ministry of Pensions will pay 2s.

5. For special cases, for example, aural, ophthalmic, cardiac, tropical disease, etc., where it is necessary for the doctor to see the patient each time he attends, the Ministry of Pensions will pay a flat rate of 3s., which will cover all charges.

6. In cases where hospitals open a clinic (orthopaedic for officers, the Ministry of Pensions will pay 3s. per attendance with a separate arrangement to pay for medical supervision, which must not exceed the rate of 2s. per attendance.

242. The Committee asked the Ministry of Pensions to receive a deputation which was received on May 13th, 1920. The Minister stated that he had made a contract with the British Hospitals Association acting on behalf of the hospitals concerned, and could not deal with the medical profession direct. The Council is taking the matter up with the British Hospitals Association. As regards the allowance in lieu of lodging, etc., the Minister has increased it to £130 per annum.

243. The Council has authorised the Hospitals Committee to take action in negotiating with the British Hospitals Association in view of the reply of the Minister of Pensions to the deputation mentioned in the foregoing paragraph, and has also empowered the Committee to convene in various centres throughout the country, conferences of members of medical staffs of Voluntary Hospitals with a view to acquainting them with the position in regard to the payment of medical staffs of Voluntary Hospitals and the dangers of the continuance of the present unsatisfactory position.

Oversea Branches.

SOUTH AFRICAN MEDICAL CONGRESS.

(Continuation of para. 213 of Annual Report, page 126.)

244. In response to the invitation (since repeated) received from the last South African Medical Congress and the South African Committee in 1913, the Council has appointed Dr. J. A. Macdonald, LL.D. (Chairman of Council), to attend, as representative of the Home Association, the South African Medical Congress which is being held at Durban in October of this year, and has asked Dr. Macdonald to combine with that visit, visits to the South African Branches.

245. From the invitation received from the two bodies of the Association named, the Council knows that the representative of the parent body will have a warm welcome, both at the Congress and from the South African Branches and their Federal Committee, and the Council is confident that the attendance of the delegate of the home Association in South Africa will help to make even more close and cordial the bond of fellowship and the mutual help and co-operation between the Association in South Africa and at home.

TERMS AND CONDITIONS OF SERVICE OF MEDICAL OFFICERS IN THE COLONIAL SERVICES.

(Continuation of paras. 214-7 of Annual Report, page 126.)

246. The Council has reason to believe that the report of the Colonial Medical Services Committee, appointed by the Secretary of State for the Colonies, which completed some time ago its taking of evidence, may be published in June. All the questions raised by the Association in its evidence before that Committee are being carefully watched by the Council.

PENSIONS OF MEDICAL OFFICERS RETIRED FROM THE COLONIAL SERVICES.

(Continuation of para. 218, page 126, of Annual Report.)

247. As a result of repeated representations made by it to the Secretary of State for the Colonies as to the need for increase of the pensions of medical officers retired from the Colonial Services, the Council has received from the Colonial Office particulars of the increases of pensions granted by various Colonial Governments to retired officials, including medical officers, on account of conditions brought about by the war. In forwarding the memorandum, the Assistant Under-Secretary explains that the question of the increases to be granted was left to the several Colonial Governments to decide according to their varying circumstances. There is appended to this report (*see* Appendix B) a brief summary of the increases so far given. Copies of the complete memorandum are being sent to each Oversea Branch, and to each member who assisted the Association in preparing the evidence placed by the Association before the Colonial Medical Services Committee. A copy of the memorandum will also be sent on application to any other member of the Association in, or retired from, the Colonial Medical Service. The Council is enquiring into the question of those Colonies and Protectorates where the increase of pension is small, as well as into the cases in which no increase has been declared.

UNDER CONSIDERATION.

248. Leave regulations and pay in the medical services of East Africa.
249. "Medical Farming" in the East Africa Protectorate.
250. Duty allowance of Colonial medical officers.

New South Wales Branch.

Membership.

251. The Branch membership is now 1,200, an increase of 64 as compared with 1919.

ROLL OF HONOUR AND ACTIVE SERVICE LIST.

252. The Roll of Honour contains the names of 33 practitioners whose deaths were directly attributable to their war service. The Active Service List contains the names of 518 members of the Branch.
253. Steps are being taken to establish a permanent memorial, which it is hoped will be worthy of the Association.
254. The list of honours received for war service has been prepared. The number of medical recipients for New South Wales is 152, including Order of the Bath, 3; Order of St. Michael and St. George, 8; Order of the British Empire, 13; Distinguished Service Order, 47; Military Cross, 73; Bar to Military Cross, 4; French, Italian and Serbian honours, 6.

WAR EMERGENCY ORGANISATION.

(a) *Protection of Practices of Members on Active Service:*

255. In only one case has there been resistance to the decision of the Branch Council under the rule made by the Branch in August, 1914. Under that rule, with a view to conserving the interests of members of the Branch on Active Service, the other members individually engaged, in the event of being called upon to fill their positions or attend their patients, to restore these to them upon their return to civil practice so far as in their power to do so. In the case referred to, the decision was against the intervening practitioner, a newcomer to New South Wales after the commencement of the war.

(b) *Medical Officers' Relief Fund (Federal).*

256. The amount contributed in New South Wales to the Medical Officers' Relief Fund inaugurated by the Australian Federal Committee is £5,268.

PNEUMONIC INFLUENZA EPIDEMIC.

257. Through the Consultative Council appointed from the membership of the Branch, and otherwise, the Branch assisted the authorities in coping with the severe influenza epidemic. The Branch arranged for advisory medical staffs for the Relief Depots in Sydney and its suburbs, and rosters of practitioners were also appointed for domiciliary attendance on patients both in the metropolitan area and throughout the State in connection with these depots. The services of the Association were also utilised in carrying on the work of Inoculation Depots, and in the staffing of the extensive system of Emergency Hospitals.

CONTRACT PRACTICE: FRIENDLY SOCIETY LODGES.

258. The approved common form of agreement with Friendly Society Lodges has continued to serve its purpose. Lodges which since the date of introduction of that form (1914) have administered their medical benefit independently of members of the Association have, in certain areas, now adopted the agreement.
259. During the year the Branch regulations in respect of contract practice and the Friendly Society Lodges have been amended to provide (1) that no member shall meet any deputation of Friendly Society Lodge members in regard to the common form of agreement, without first obtaining the consent of the Committee of the Local Association of the Branch, (2) that when a member has been approached by a Lodge to accept appointment as a Medical Officer, he shall apply to the Local Association, and (3) the form of contract medical certificate has been amended to provide for a signed declaration by the Friendly Society member to the effect that income does not exceed £208 per annum, and that if the income shall at any time exceed £312 per annum, the member shall thereupon cease to be entitled to the services of the Medical Officer.

BACTERIOLOGICAL PRODUCTS AND SERA.

260. At an extraordinary general meeting in December, 1919, the Branch protested against the Government prohibition of the importation of bacteriological products and sera, as being against the interests of the community and the profession. This protest has been endorsed by the Federal Committee on behalf of all the Australian Branches. Both protests have been conveyed to the Authorities.

J. A. MACDONALD,
Chairman of Council.

APPENDIX (A).

SUPERANNUATION OF MEDICAL OFFICERS OF HEALTH.

MEMORANDUM OF THE VIEWS OF THE BRITISH MEDICAL ASSOCIATION, AND THE SOCIETY OF MEDICAL OFFICERS OF HEALTH, FORWARDED TO MINISTER OF HEALTH, MAY 4TH, 1920.

Conclusions arrived at by the British Medical Association after consideration of the Report of the Departmental Committee on Superannuation:—

(1) That it is desirable that a uniform Scheme of Superannuation should be introduced applicable to persons employed by the Local Authorities in England and Wales.

(2) That it be very strongly urged that Local Government Officers of 55 years and upwards should not be excluded from the provision of the Scheme; they have for years past been expecting the Government to provide them with Superannuation or Retiring Allowances; to exclude Local Government Officers of 55 years of age with nothing more than optional provision will have the effect of retaining in the Local Government Service the older officials. It is submitted that on economic grounds it would be better that the Fund should bear the cost of including these officers and securing earlier retirement in preference to the continuance in service for many years of a large number of officers who are beyond the high water mark of efficiency.

(3) That paragraphs 28 and 71 of the Report of the Departmental Committee on Superannuation of Persons Employed by Local Authorities in England and Wales are not reconcilable, paragraph 28 in the opinion of the Association being a statement of the very best reasons for the Superannuation Scheme, and paragraph 71 deliberately excluding officers who are 55 years of age at the commencement of the Scheme.

(4) That the Association strongly objects to the suggestion (contained in paragraph 33 of the Report of the Departmental Committee), that an officer should satisfy

the Local Authority that he has made adequate provision for old age and invalidity before he can "contract out" of the Scheme. The suggestion in the Report means that the Local Government Officer will have to disclose the whole of his private position. All that appears necessary is the inclusion in the Bill of the ordinary Contracting Out Clause whereby an officer may, within a specified time, say definitely whether he intends to take advantage of the Scheme or not.

(5) That in the event of the Scheme not applying to those over 55 years of age at its commencement, Local Authorities should be required to grant pensions at the full rate suggested in the Report (compulsory retirement at 65, after, say 20 years' service on the half-rate system, would leave many in financial difficulty) within certain limits to existing employees in respect of back service and in respect of future service rendered by employees who are over 55 years of age at the commencement of the Scheme. Such pensions in these circumstances should not be charged upon the Superannuation Fund, but should be paid out of current rates or revenue.

(6) That the Association has no knowledge of any Scheme of Superannuation which has been carried out in the same way as it is proposed this Scheme should be carried out, especially in regard to the age of participants in the Scheme and to the exclusion of the senior officers.

(7) That the Association urges that every Local Government Officer should be fully entitled to the benefits of the Scheme upon its inauguration, and that all back service should count in the officers' favour.

(8) That the Scheme should be compulsory upon all Local Authorities, and upon all persons employed by them in an established capacity, with the exception of the police, teachers pensionable under the School Teachers (Superannuation) Act, 1918, certain firemen, persons employed in asylums and certified institutions.

(9) That the Association disagrees with the following paragraph 4 of the Summary of Principal Conclusions and Recommendations of the Departmental Committee:—

> 4. A State-financed Scheme cannot be justified, but local authorities should receive State aid towards superannuation in respect of semi-national services. In such services the cost of superannuation should be included in the expenditure on which the grant is based. (Paragraphs 34-39.)

(10) That (with regard to para. 5 of the Summary of Principal Conclusions and Recommendations of the Departmental Committee) the Association considers that the Medical Officers of Health should be no worse off in respect of Superannuation than teachers and other classes who do not pay contributions towards Superannuation, and that the Superannuation Scheme, so far as it concerns Medical Officers of Health, should be on a non-contributory basis, and failing adoption of this, the Association considers that employees respecting whose salaries one-half is or can be paid out of State funds, should only be called upon to pay one-third of the contributions to the Scheme, the remaining two-thirds being found by the Local Authority and the State. The fact that all Local Authorities do not avail themselves of the power to obtain a refund from the Exchequer Grants of one-half the salary of a Medical Officer of Health does not affect the amount of service required of him by the Central Health Authority or the amount rendered by him. Further, that in the matter of contributions to the Scheme the medical employees should not be at a disadvantage when compared with Poor-Law and Asylum Medical Officers under their respective schemes.

(11) That the Superannuation Scheme should not be less favourable to Medical Officers of Health than the Schemes for other bodies of public employees.

(12) That officers should have the option of retiring at age 60, irrespective of length of service, and in support of this it is pointed out that several classes—for example, Medical Officers of Health—are unable to complete 40 years' service by the time they reach 60 years of age owing to their late entry into the service, and that they should not be compelled to continue beyond 60 years of age if they desire to retire on a pension in proportion to the actual number of years' service.

(13) That for the following reasons it is impossible for a Medical Officer of Health to retire on full pension at 60 years of age. He qualifies at 21 years of age at the earliest, he takes the D.P.H. (as required by law for certain M.O.H. work) at 22 years of age, then it is desirable that he should have at least two or three years' general experience before entering into Public Medical Service. This would make his age at least 25 before entering the service, which, plus 40 years, makes 65 years the earliest age at which he could retire.

(The Society of Medical Officers of Health desire the following addition to paragraph (13):

"at which he could retire on full pension. In the circumstances the Society is of opinion that five years should be added to the number of years served by a medical officer subject to a maximum of forty years.")

(14) That retirement at 65 years of age should be made compulsory and without option to Local Authorities to continue service beyond that age. This would facilitate promotion, and would on the whole secure more efficient service.

(15) That the Association strongly opposes the closing of the Fund for 10 years, and urges the Government to provide for all existing Local Government Officers to retire on a pension according to their length of service.

(16) That the remaining suggestions in paragraph 42 of the Report of the Departmental Committee having reference to the benefits to be provided, should be supported.

(17) That provided the main recommendations of the Association be adopted, Schemes under Local Acts should cease to apply to new entrants, who should come into the general scheme. Existing employees, pensionable under Local Act Schemes, should have the option to transfer to the new Scheme on terms to be framed by the Local Authority concerned and approved by the appropriate Government Department.

(18) The Association desires to point out that every full-time State-paid doctor has superannuation except the Medical Officer of Health.

(19) Attention is also called to the fact that the period of earning capacity of Medical Officers of Health is shorter than that of other Municipal Officers owing to the longer period required for the completion of their special training.

(20) The average pre-war salary of a whole-time Medical Officer of Health was less than he could have earned in general practice and was not sufficient to enable him to make adequate provision for retirement in his own savings. This is especially the case as regards those Medical Officers of Health whose conditions of appointment require them to pay the expenses of their office, including travelling, office, clerical, postages, etc., which increase in amount almost year by year without corresponding increase in salary.

APPENDIX (B).

SUMMARY OF INCREASES IN CIVIL SERVICE PENSIONS NOW GIVEN BY COLONIES, AS CONTAINED IN MEMORANDUM, DATED APRIL, 1920, FORWARDED BY THE SECRETARY OF STATE FOR THE COLONIES TO THE BRITISH MEDICAL ASSOCIATION.

(*Note.*—In each case the larger percentage is on the smaller salaries.)

(I.) WEST INDIES:

(1) *Windward Islands:* 10 per cent. to 25 per cent.
(2) *British Guiana:* Up to 20 per cent.
(3) *Falkland Islands:* 20 per cent. to 25 per cent.
(4) *Leeward Islands:* No increase.
(5) *British Honduras:* An increase up to 20 per cent. probable.

(II.) MEDITERRANEAN:

(6) *Malta:* Home Civil Servants Award.
(7) *Gibraltar:* Treasury Scale.
(8) *Cyprus:* 10 per cent. to 40 per cent.

(III.) WEST AFRICA:

(9) *Gold Coast, Sierra Leone and Gambia:* 15 per cent. to 25 per cent.
(10) *Nigeria:* 15 per cent. to 25 per cent.

(IV.) SOUTH AFRICA:

(11) *Basutoland, Bechuanaland, Swaziland:* 17.5 per cent. to 30 per cent. (but less for single officers without dependents).

(V.) EAST AFRICA:

(12) *East Africa, Zanzibar:* 15 per cent. to 25 per cent.
(13) *Nyasaland, Somaliland, Uganda:* Home Civil Service Award of December 19th, 1919; 30 per cent. to 40 per cent.

(VI.) EASTERN COLONIES:

(14) *Hong Kong:* 10 per cent. to 33 per cent.
(15) *Straits Settlements and Federated Malay States:* 20 per cent. to 25 per cent.
(16) *Ceylon:* Up to 33 per cent.
(17) *Mauritius:* 15 per cent. to 60 per cent. to residents in the Colony. Position of pensioners in England under consideration.

Note.—In Colonies and Protectorates not mentioned above, no increase of pension granted.

British Medical Association.

CURRENT NOTES.

Motor-Car Taxation.

THE Medico-Political Committee, as recorded in this column, has made representations to the Ministry of Transport on the subject of the new motor-car taxation. Special representations were made on behalf of the doctor with two cars. The reply of the Minister was to the effect that no concessions could be made to medical motorists as no preference was now being given to owners of commercial vehicles. He was also of opinion that a medical practice requiring two cars could easily bear the additional expense, and that the quarterly licence would provide adequate relief. Sir W. Joynson-Hicks has recently asked a question on the same subject in the House of Commons, and obtained a similar and very emphatic reply. The statement that the quarterly licence will compensate the user of two cars is not convincing, nor can it be accepted as a fact that the keeping of two cars denotes a lucrative practice, and this the Association has told the Minister in a final attempt to change his views on this subject. The matter is reported more fully in the Supplementary Report of Council published in this week's SUPPLEMENT.

Panel Lists in Glasgow.

We reported in this column last week the state of feeling among Glasgow practitioners at the action of the Glasgow Insurance Committee in fixing 1,500 as the maximum number of insured persons to be attended by one doctor. At the request of the Panel Committee the Scottish Medical Secretary prepared a reasoned statement of the case against the proposed limitation for submission to the Scottish Board of Health, and arranged for a deputation to meet the Board along with representatives of the Insurance Committee. At the interview the matter was fully discussed, and the Board advised the two committees to try to come to an understanding. As a result of this, the Panel Committee representatives agreed to recommend the acceptance of a limit of 2,000 net. This recommendation was considered at a meeting of practitioners held on May 24th, when it was resolved to "request the Board of Health to determine a figure not substantially short of the 3,000 which all the negotiations led them to expect." The Scottish Board of Health has intimated that it has fixed the limit at 2,000, the number on a practitioner's list being determined by dividing the total amount paid to him for a quarter by one-fourth of the annual capitation fee.

Senior Surgeon Commanders R.N.

On January 1st, 1920, the Admiralty introduced new regulations for pay and pensions of medical officers, R.N., whereby, *inter alia*, officers of the rank of surgeon commander are compulsorily retired at the age of 50, the maximum pension being £600—representing an increase only of about 10 per cent. on the old pension of surgeon commanders. The attention of the British Medical Association was drawn by naval members to the fact that a large number of senior surgeon commanders were adversely affected by these new provisions. The officers so affected had, in fact, entered the service on the understanding that they would be allowed to serve until they reached the age of 55. By the scheme for earlier compulsory retirement, therefore, these officers would lose the chance of promotion to the rank of surgeon captain and an increased pension, as well as forfeiting a period of five years' service on the highest rate of pay as surgeon commander. This question was accordingly taken up with the Admiralty, and it was suggested that in order to mitigate the grievance the scheme for compulsory retirement should be postponed for a year, or that the principle of maximum pension should as a temporary measure be withdrawn for five years—that is, until the age of retirement normally reaches 50. The Admiralty's reply was to the effect that it was recognized that in adopting the new regulation there must be cases of individual hardship, but it would not be practicable to legislate specially for individual cases. The Council pressed the Admiralty to reconsider their decision, but this they absolutely decline to do, their policy in this matter being definitely fixed. This refusal on the part of the Admiralty to give a sympathetic hearing to officers who consider that they have a good cause for complaint has given rise to much dissatisfacton. There is a strong feeling among naval medical officers that they have not been treated in accordance with the spirit of the Jerram-Halsey Report, which inspired hopes of liberal additions to pensions. These have not been fulfilled, at any rate so far as the medical branch is concerned. Those who have been relegated to the retired list, anything from one to five years before they expected to be retired in accordance with the conditions on which they joined the service, feel that they have been unjustly treated; and the Admiralty will find that such incidents are not forgotten when efforts are being made to secure recruits. So far as the Association is concerned, the only prospect now of effective action is by approaching the Admiralty in cases of admitted individual hardship.

Colonial Commissions for Venereal Disease Propaganda.

We learn that the campaign against venereal disease is being extended to the Crown Colonies and Protectorates. It is known that the medical services so far have had a difficult task in dealing with this scourge, and that their difficulties have been intensified since the war. The authorities, recognizing this, have invited the National Council for Combating Venereal Diseases to dispatch two commissions under the aegis of the Colonial Office, one travelling east and the other travelling west. The object of the commissions is to take to the Colonial authorities information and materials for dealing with the question both from the medical and educational standpoint, so that the benefit of recent experience gained in this country may be made available to all interested in the medical and administrative efforts to reduce the incidence of these diseases. The commissions will consist of one lay and one medical member. The medical member is to give post-graduate courses to the local medical profession, under the auspices of the various Colonial Medical Services. On the Western tour the medical commissioner would be required to demonstrate the Wassermann technique; although desirable, this would not be absolutely necessary for the Eastern voyage. In addition to the technical medical instruction, the medical commissioner would be invited to give addresses of a more general character to lay audiences, and would therefore need to be in sympathy with the social and administrative policy of the National Council. We are informed that a selection committee is now considering the names of those who are willing to act as commissioners, and that the matter must be decided within the next few weeks. All travelling expenses and a small honorarium are offered; the commissioner would be absent from the country on one commission for six months and on the other for eight months, starting about September. The final selection of medical commissioners has not been made; names of applicants should be sent to the National Council for Combating Venereal Diseases, 80, Avenue Chambers, Southampton Row, London, W.C.1. The British Medical Association has been asked to facilitate the work of the commissions, and to invite the local profession to make the visits as useful as possible. The oversea Divisions of the Association in the areas to be visited have accordingly been requested to do all they can to help the commissioners.

A Medical Officer of Health's Salary.

A medical officer of health recently sought the assistance of the British Medical Association with a view to obtaining an increase in his salary. His first application for an increase had been refused by his council. The Medical Secretary then wrote to the council, pointing out that the

application was quite justifiable in view of the present cost of living, and asked that it should be reconsidered. The reply was that as the doctor was only appointed for the duration of the war the question of salary would be gone into when a permanent appointment was made. The council was told that the explanation was very unsatisfactory and that no other local authority, so far as was known, had attempted to evade giving an increase of remuneration on the ground that the post was temporary. As the result of this letter the clerk has written to say that the salary has been increased by 33⅓ per cent.

Council Election.

Dr. C. S. Young of Dundee, who, together with Drs. B. Cruickshank of Nairn and David Lawson of Banchory, was a candidate for election on the Council by the members of the Aberdeen, Northern Counties, Dundee and Perth Branches, has withdrawn his candidature. The voting papers containing the names of the three candidates had, however, been posted prior to the receipt of the withdrawal, but, as the election is carried out on the system of the single transferable vote, the withdrawal will not necessitate a fresh election. All "first choices" for Dr. Young will be ignored in the count.

EIGHTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association,

CAMBRIDGE, 1920.

THE Annual Representative Meeting will begin in the Examination Halls on Friday, June 25th, at 10 a.m. The statutory Annual General Meeting will be held in the Examination Halls on Tuesday, June 29th, at 2 p.m. Sir Clifford Allbutt will give his Presidential Address to the Association on Tuesday evening, in the Senate House.

The scientific work of the meeting will be conducted in twelve Sections. The Sections will meet in the New Museums on Wednesday, June 30th, Thursday, July 1st, and Friday, July 2nd. The mornings will be devoted to discussions, and the afternoons to laboratory and clinical demonstrations. The programme of proceedings in the Sections was printed in last week's SUPPLEMENT.

The Annual Dinner.

The Master and Fellows of St. John's College have very kindly invited members of the Association to dine in Hall at 8 p.m. on Thursday, July 1st, as guests of the College. As the seating accommodation is limited to 200 it will be necessary to ballot for tickets. Members who would wish to accept this invitation should therefore send in their names to the local secretaries before June 25th.

ARRANGEMENTS FOR ACCOMMODATION.

THE arrangements are now complete for the accommodation of members of the Association for the Annual Meeting at Cambridge from June 25th to July 3rd. The authorities of each college have kindly placed at the disposal of the local committee a large number of undergraduates' rooms. The accommodation in hotels is already fully booked. A list has been prepared of a large number of lodgings usually occupied by undergraduates, only those situated within half a mile or so of the Reception Room (in the Guildhall) being included.

COLLEGES.

Only those members who are unaccompanied by ladies can be given rooms in a college. Each member will be assigned a set of undergraduate's rooms, with the services of a college bedmaker or gyp, and with breakfast, luncheon, tea, and dinner served in the College Hall at the inclusive charge of 14s. 6d. per diem.

An attempt will be made to assign to a particular college members who are specially interested in the work of the same Section, but it will not be possible to carry this out completely.

Those members who wish to stay in a college should address their applications to:

The General Secretaries, British Medical Association,
The Medical School, Cambridge,

not to a particular college, and they are invited to state, if they wish to do so, in which Section they are particularly interested. It is important they should give the date of their arrival. Cambridge men who desire to stay in their old college should apply without delay and state which is their college. The authorities of Newnham College have kindly offered to accommodate the lady members of the Association with rooms and meals at the inclusive charge of 10s. 6d. a day; application should be made only to the General Secretaries.

Rooms are still available in many of the colleges, but early application should be made.

LODGINGS.

Members who wish to stay in lodgings should write directly to the lodging-house keepers. The list of lodgings printed below will be revised and republished so that only those still available will appear in the list. When they have made their arrangements members are requested to inform the General Secretaries what their Cambridge address will be.

It will be noticed that many of the lodging-houses are unable to provide luncheon, and most of them unable to provide dinner. A few of the colleges will be able to admit to luncheon and to dinner members (and ladies accompanying them) staying in lodgings, but the number of seats in these college halls being strictly limited, tickets for these meals must be obtained beforehand. Details as regards the issue of these tickets will be given in the Reception Room during the meeting.

MEALS.

Meals may be obtained in the following hotels, restaurants, and cafés:

Hotels.—The University Arms: Lunch 3s. 6d.; dinner 6s. The Red Lion: Lunch 3s. 6d.; dinner 5s. 6d. The Blue Boar: Lunch 3s. 6d.; dinner 5s. 6d. The Bull.

Cafés.—The King's: Lunch 2s. to 3s.; dinner 4s. Matthew's: Lunch à la carte; dinner 5s. Livingstone: Lunch 2s. to 2s. 6d.; dinner 4s. Dorothy Cafés.

REVISED LIST OF LODGING HOUSES.

Practically all the lodging-house keepers will supply breakfast, most luncheon, and those marked with an asterisk dinner. It is particularly requested that when writing to engage rooms members will specify what meals they require to be provided. The prices in the following list generally refer to one person per diem; terms should be arranged definitely in advance.

	Sitting Rooms.	Single Bed.	Double Bed.
*Mrs. Bush, 16, Parker St....	2; 2/6	1; 2/-	1; 2/-
Mrs. Brown, 13, Emmanuel Rd. ...	1; 2/-	1; 2/6	1; 2/6
*Mrs. Maile, 9, Parker St.	2; 3/-	1; 3/-	1; 3/-
Mrs. Foister, 14, Corona Rd.	2; 2/6	3; 2/6	
*Mrs. Cann, 14, Parker St....	2; 2/6	2; 2/6	
Mrs. Wilson, 35, Market Hill	3; 3/-	1; 3/-	2; 3/-
Mrs. North, 4, Green St.	2; 1/6	2; 2/6	
*Mrs. White, 24, Victoria St.	2; 2/6	2; 2/6	2; 3/-
*Mrs. Shadbolt, 11, Parker St.	2; 2/6	2; 2/6	1; 3/-
*Mrs. Tickner, 23, Green St.	1; 2/6	1; 2/6	
Mrs. Hall, 20, Mawson Rd.	2; 2/6	1; 2/6	1; 2/6
Mrs. Gawthrop, 5, Clare St.	1; 2/-	—	1; 2/3
Mrs. Frost, 53, Carlyle Rd.	1; 2/-	—	1; 2/6
Mrs. Meaby, 22, Victoria Park	1; 2/6	1; 2/-	
Mrs. Redding, 4, Tennis Court Rd. ...	1; 3/-	1; 3/-	
Mrs. Hallett, 43, Marlowe Rd.	1; 2/6	1; 2/-	
Mrs. Godfrey, 5, Market Hill	3; 2/6	2; 2/-	1
Mrs. Bunn, 50, Park St.	1; 3/-	1; 3/-	
Mrs. Litchfield, 33, Grantchester St. ...	2; 2/6	2; 2/6	1; 2/6
Mrs. Horspool, 6, Parker St.	1; 3/6	2; 2/6	
Mrs. Giffen, 17, Clarendon St.	2; 3/-	2; 2/6	
Mrs. Rawson, 28, Portugal Pl.	2; 1/6	3; 3/6	
*Mrs. Taylor, 53, Mawson Rd.	1; 3/-	1; 2/6	1; 2/6
Mrs. Jeffery, 6, Earl St.	2; 3/-	1; 2/6	1; 2/6
Mrs. Bright, 51, Maid's Causeway ...	3; 2/6	2; 2/6	1; 2/6
*Mrs. Newson, 54, Sidney St.	4; 3/-	2; 3/-	3; 3/-
Mrs. Stanley, 1, Milton Rd.	1; 3/-	—	1; 1/6
Mrs. Kinnel, 12, Trumpington St. ...	4;	3;	1;
Mrs. Teebit, 15, Bateman St.	2; 3/-	1; 3/-	2; 3/-
Mrs. Burgess, 3, Short St.	2; 4/-	1; 3/-	1; 3/-
*Mrs. Laurie, 52, Bridge St.	3; 2/6	5; 3/6, 5/-	
Mrs. Summers, 76, Searle St.	1; 2/6	— 2/6	1; 5/-
Mrs. Howlett, 6, St. John's Rd.... ...	3; 2/6	3; 2/6	
*Mrs. Bartholmew, 18, Warkworth St.	1; 2/6	1; 2/-	1; 2/6
*Mrs. Jolly, 29, Victoria Park	1; 2/-	1; 2/-	
Mrs. Collins, 29, Bateman St.	2; 2/6	2; 2/6	
Mrs. Coates, 28, Kimberly Rd.	1; 2/-	—	1; 2/6
Mrs. Squires, 27, Kimberly Rd.... ...	1; 2/-	—	1; 2/6
*Mrs. Catling, 2, Earl St.	3; 2/-	2; 2/-	2; 2/-
Mrs. Mitchell, 17, Hertford St.	1; 3/-	—	2; 3/-
*Mrs. Frank, 62, Park St.	3; 3/6	3; 2/-	1; 3/-
Mrs. Davey, 32, Trinity St.	4; 3/-	3; 3/-	1; 3/-
*Mrs. Thompson, 19, Portugal Pl. ...	2; 2/6	3; 3/6	

	Sitting Rooms.	Single Bed.	Double Bed.
Mrs. Miller, 8, Herbert St.	1; 2/6	1; 2/-	
Mrs. Trezise, 33, Thompson's Lane ...	2; 2/6	2; 2/6	1; 5/-
Mrs. Taylor, 6, St. Clement's Gdns., Thompson's Lane	2; 2/6	2; 1/6	1; 1/6
*Mrs. Dockerill, 71, Maid's Causeway ...	1; 3/-	3; 3/-	
Mrs. Gantrey, 13, Grantchester St. ...	2; 3/3	3; 3/-	1; 3/9
Mrs. Wortham, 2, Bateman St. ...	1; 3/-	2; 3/-	1; 3/-
*Mrs. Douglas, 36, Alpha Rd.	2; 2/6	1; 2/6	1; 2/6
Mrs. Butterfield, 107, King St.	2; 2/-	2; 2/-	2; 2/-
Mrs. Bradley, 22, St. John's Rd. ...	2; 2/6	1; 3/-	2; 5/-
*Mrs. Tompson, 9, Clarendon St. ...	2; 4/6	2; 3/-	1; 4/-
Mrs. Russell, 9, North Ter., Jesus Lane	1; 1/9	2; 1/1	
Mrs. Clark, 24, Malcolm St.	3; 3/3	3; 3/3	
*Mrs. Snelling, 129, Victoria Rd. ...	1; 2/6	1; 2/6	1; 2/6
Mrs. Tree, 36, Searle St.	1; 2/-	—	1; 2/3
Mrs. Howell, 12, Tenison Rd.	1; 3/-	—	1; 4/-
Mrs. Griffiths, 40, New Sq.	3; 3/6	—	3; 2/-
Mr. Halls, 50, Carlyle Rd.	1; 3/-	—	1; 2/6
*Mrs. E. George, 10, Eltisley Av. ...	2; 3/-	1; 2/6	1; 3/6
Mrs. Butcher, 26, Portugal St.	2; 2/6	2; 2/6	1; 2/6
Mrs. Frost, 9, Willow Walk	1; 1/-	2; 2/-	1; 3/-
Mrs. Ashman, 42, Maid's Causeway ...	2; 2/6	—	2; 2/6
Mrs. Summers, 81, Hertford St. ...	2; 2/6	1; 2/6	1; 5/-
*Mrs. Bradley, 6, Warkworth St. ...	2; 2/6	1; 2/6	1; 5/-
Mrs. Redfern, 10, Malcolm St.	3; 3/-	2; 3/-	1; 3/-
Mrs. Mason, 18, Castle St.	1; 1/6	1; 1/6	
Mrs. Flack, 17, Magrath Av.	1; 3/-	2; 3/-	
Mrs. Tupling, 1, Park Parade	3; 3/-	2; 2/6	2; 4/-
Mrs. Sargent, 5, Bateman St.	3; 2/6	2; 2/6	1; 2/6
Mrs. Layton, 61, Mawson Rd.	1; 3/-	1; 3/-	
*Mrs. Biggs, 2, Corona Rd....	2; 2/-	—	2; 2/6
Mrs. Murphy, 57, Park St....	1; 2/6	—	1; 2/6
*Mrs. Anable, 16, Herbert St.	1; 2/6	1; 2/6	1; 2/6
Mrs. Kelk, 5, Holland St.	1; 2/-	1; 2/-	
Mrs. Castle, Hardwick Cottage, Hardwick St.	1; 3/-	1; 2/6	
Mrs. Bowman, 4, Fitzwilliam St. ...	2; 2/-	1; 2/-	1; 2/-
Mrs. Waller, 6, Alpha Rd...	1; 3/-	1; 3/-	
*Mrs. Mackenzie, St. Aubyns, Hardwick St.	2; 2/6	2; 2/6	
Mrs. Gillings, 48, Hertford St.	1; 3/-	1; 2/6	1; 2/6
Mrs. Ward, 48, Searle St.	1; 3/6	—	1; 3/6
*Mrs. Peachy, 8, Pretoria Rd.	1; 2/6	1; 2/6	1; 2/6
Mrs. Negus, 8, Corona Rd.	2; 2/6	2; 2/6	
Mr. Baldry, 38, Park Side...	3; 3/-	3; 3/-	
Mrs. Hyde, 31, Magrath Avenue ...	1; 3/-	1; 3/-	1; 5/-
Mrs. Watt, 3, Richmond Ter., Thompson's Lane	1; 3/-	2; 3/-	
Mrs. Todd, 78, Hertford St.	1; 2/6	—	1; 2/6
Mrs. Porter, 54, Trumpington St. ...	2; 2/6	3; 4/-	2; 3/-
Mrs. Dennison, 16, Corona Rd. ...	2; 2/6	1; 2/6	
*Mrs. Steam, 62, Kimberly Rd. ...	2; 2/6	1; 2/-	1; 2/6
*Mrs. Ashman, 3, Little St. Mary's Ter.	2; 1/6	2; 2/6	1; 2/6
Mrs. Aves, 17, Earl St.	1; 2/6	1; 2/6	1; 2/6
Mrs. Banham, 49, Park St.	1; 2/-	1; 3/6	1; 2/6
Mrs. Barker, Addison, Hardwick St....	1; 2/-	1; 2/6	1; 2/6
Mrs. Shoote, 21, Grantchester St. ...	1; 2/-	2; 2/6	
Mrs. Males, 6, Richmond Ter., Thompson's Lane	1; 2/6	1; 2/6	
Mrs. Darkin, 25, Malcolm St.	3; 3/-	2; 3/-	1; 3/-
Mrs. Westwood, 23, Clare St.	2; 2/6	1; 2/6	1; 2/6
Mrs. Beale, 1, Earl St.	2; 3/-	2; 3/-	1; 3/-
*Mrs. Moore, 5, Beaconsfield Ter., Victoria Rd.	2; 3/6	2; 2/6	—
Mrs. White, 4, St. Edward's Passage...	1; 1/6	2; 4/-, 3/-	—
*Mr. Skinner, 12, Trumpington St. ...	4; 3/-	3; 3/-	1; 3/-
*Mrs. Gatwood, 12, Tennis Court Rd. ...	2; 3/6	2; 3/6	1; 3/6
*Mrs. Clark, 26, Humberstone Rd. ...	1; 5/-	—	1; 6/-
Mrs. Eyres, 44, Victoria Park	1; 5/3	1; 5/3	1; 5/3
Mr. Newman, 7, Fitzwilliam St. ...	3; 4/-	3; 4/-	
Mrs. Driver, 27, Malcolm St.	2; 3/6	3; 3/6	2; 5/-
*Mrs. Wesson, 28, Malcolm St. ...	3; 5/-, 4/6, 3/6	2; 3/6	2; 5/6
Mrs. Hales, 68, Hertford St.	1; 5/-	—	1; 5/-
*Mrs. Day, 11, Glisson Rd.... ...	2; 4/- 5/-	1; 3/-	3; 4/-
Mrs. Chapman, 4, Victoria St.	2; 3/6	2; 4/-	
Mrs. Tebbs, 18, Emmanuel Rd.... ...	2; 5/-	2; 4/6	1; 4/6
*Mrs. Judge, 2, Humberstone Rd. ...	1; 5/6	1; 5/-	
Mrs. Holmes, 15, Trumpington St. ...	3; 3/6	3; 3/-	
*Mrs. Elliott, 61, Panton St.	2; 4/-	2; 4/-	
Mrs. Clarke, 12, Marlowe Rd.	1; 4/-	—	1; 3/6
Mrs. Dibblin, 53, Victoria Rd.	1; 3/6	1; 3/-	1; 5/-
Mrs. Harrison, 54, Montagu Rd... ...	1; 5/-	—	2; 5/-
Mrs. Grover, 8, Thompson's Lane ...	1; 3/-	—	1; 3/-
Mrs. Scudamore, 13, St. John's Rd. ...	1; 3/-	1; 4/-	2; 7/6
*Mrs. Smith, 15, Carlyle Rd.	2; 6/-	1; 3/-	2; 5/-
Mrs. Chapman, 10, Castle St.	3; 3/6	1; 2/6	2; 2/6
Mrs. Wood, 19B, Victoria St.	2; 4/-	—	2; 3/-
Mrs. Wesson, 37, Bateman St.	2; 5/-	2; 4/-	
*Mrs. Pleasance, 8, Bridge St.	2; 4/-	1; 3/6	1; 3/6
Mrs. Lawrence, 10, Garden Walk ...	1	—	1
*Mrs. Lyon, 19, New Sq.	2; 3/6	2; 3/-	
*Mrs. Derby, 6, Corn Exchange St. ...	3; 5/-	2; 5/-	1; 5/-
Mrs. Newman, 19, Earl St.	1; 5/-	1; 5/-	
Mrs. Warner, 27, St. Andrews St. ...	2; 4/-	2; 3/6	
*Mrs. Rudkin, 23, Orchard St.	1; 3/6	—	1; 3/6
Mrs. Adams, 14, Montagu Rd.	1; 5/-	1; 5/-	1; 5/-
Mrs. Osbourne, 34, Richmond Terr., Thompson's Lane	2; 3/-	1; 3/-	1; 5/6
*Mrs. Gray, 23, Grantchester St. ...	1; 3/6	1; 3/6	
Mrs. Bailey, 11, Victoria Pk.	2; 2/6	—	2; 7/6
Mrs. Darby, 68, Trumpington St. ...	4; 4/-	3; 4/-	1; 4/-
Mrs. Bourne, Portugal Place	3; 5/-	3, 4; 5/-	
*Mrs. Beasley, 50, Tenison Rd.	2; 4/-	1; 4/-	1; 4/-
Mrs. Reynolds, 30, Petty Cury	6; 5/-	6; 5/-	4; 5/-
*Mrs. Austin, 11, Benet St.	3; 5/-	3;	1;
*Mrs. Casey, 15, Emmanuel Rd.... ...	2; 3/-	1; 2/6	2; 3/6
Mrs. Frost, 32, Thompson's Lane ...	1; 5/-	—	1; 5/-
Mrs. Oyston, 37, Trinity St.	3; 5/-	3; 5/-	1; 5/-
Mrs. Baker, 27, Trumpington St. ...	2; 3/6	3; 3/-	
Mrs. White, 143, Chesterton Rd. ...	3; 3/6	—	3; 3/6
*Mrs. Charter, 135, Victoria Rd. ...	2; 5/-	1; 5/-	1; 5/-
*Mrs. Quinton, 30, Magrath Av.... ...	2; 5/-	—	1; 5/-
*Mrs. Sharp, 11, Jordan's Yard	2; 5/-	—	2; 5/-
*Mrs. Elmer, 2, Richmond Terrace, Thompson's Lane	1; 5/-	—	1; 5/-
*Mrs. Traylen, 4, Short St.	1; 4/-	2; 3/-	

	Sitting Rooms.	Single Bed.	Double Bed.
*Mrs. Caldecoat, 2, St. John's Rd. ...	2; 5/-	—	2; 5/-
Mrs. Pratt, Portugal Pl.	3; 5/-	4; 5/-	
*Mrs. Benton, 71, Lensfield Rd.	2; 2/-	—	2; 4/6
Mrs. Goode, Portugal Pl.	3; 5/-	3; 5/-	
Mrs. Pratt, 13, St. John's St.	2; 5/-	2; 3/-	
Mrs. Trigg, 71, Jesus Lane	3; 5/-	3; 4/-	1; 4/-
*Mrs. Frost, 1, Tennis Court Terr. ...	1; 3/6	2; 3/-	
Mrs. Alderton, 70, Jesus Lane	3; 5/-	3; 3/-	2; 4/-
Mrs. Symons, 7, Downing Pl.	2; 3/-	2; 5/-	
Mrs. Drewett, 32, Hobson St.	4; 5/-	4; 5/-	
Mrs. Forsdyke, 22, Tenison Rd. ...	1; 3/6	1; 3/-	1; 4/-
Mrs. Wedgwood, 24, Marlowe Rd. ...	1; 6/-	—	1; 4/-
Mrs. Pate, 18, Fitzwilliam St.	2; 4/6, 5/6	1; 3/-	2; 4/- 3/6
Mrs. Adams, 4, Melbourne Pl.	1; 3/6	—	1; 3/-
Mrs. Allgood, 3, Merton St.	1; 5/-	1; 3/6	2; 3/6
Mrs. Wright, 13 Warkworth St. ...	2; 6/-	1; 5/-	2; 3/6
Mrs. Hancock, 11, Holland St.	1; 4/-	2; 3/-	(gentlemen only)
Mrs. Holmes, 5, Trumpington St. ...	3; 3/6	3; 3/-	
Mrs. Clarke, 12, Marlowe Rd., ...	1; 4/-	—	1; 3/6
Mrs. Wallis, 35, Thomson's Lane ...	2; 5/-	1; 3/-	1; 5/-
Mrs. Carter, 14, Richmond Terrace, Thompson's Lane...	2; 5/-	2; 2/6	
Mrs. Hunt, 4, Little St. Mary's Lane ...	2; 3/6	3; 3/-	1; 3/-
Mrs. Stubbins, 176, Trumpington St. ...	3; 5/-	2; 3/-	1; 3/-
*Mrs. Ellis, 14, New Sq.	2; 2/6	2; 3/6	
*Mrs. Ayres, 26, Earl St.	3; 5/-	2; 5/-	1; 5/-
Mrs. Taylor, 6, Holland St.	2; 3/6	1; 3/6	1
Mrs. Blackwick, 16, Victoria Pk. ...	1; 2/6	1; 5/-	1; 7/6
Mrs. Prime, 2, Silver St.	3; 4/-	5; 3/6	2; 4/6
*Mrs. Cracknell, 28, Park Side	2; 4/-	2; 3/6	1; 4/6
Mrs. Pont, 33, Park Side	4; 7/6	5; 2/6	2; 2/6
*Mr. Baker, 7, All Saints' Passage ...	4; 2/6	2; 3/6	2; 5/-
Mrs. Smee, 65, Jesus Lane	4; 5/-	3; 3/6	1; 4/-
Mrs. Loveridge, 4, Round Church St....	2; 3/6	2; 4/-	1; 8/-
Mrs. Bayliss, 46, Eltisley Avenue ...	2; 5/-	2; 3/6	
*Mr. Dickerson, 6, Grantchester St. ...	1; 3/-	1; 3/6	1; 3/6
Mrs. Stevenitt, 4, Park Parade	2; 3/-	2; 2/6	1; 4/-
Mr. Pilbeam, 25, Park Parade	2; 2/6, 1/6	1; 3/6	1; 5/-
Mrs. Leeland, 47, Eltisley Av.	2; 5/-	1; 2/6	1; 5/-
*Mrs. R. Jones, 12, Mill Lane	7; 5/6	4; 3/6	3; 3/6
Mrs. Rolph, 8, St. John's Rd.	2; 5/-	1; 5/-	1; 5/-
Mrs. Stanley, 23, Ferry Path	1; 5/-	1; 5/-	
Mrs. Thompson, 14, King's Parade ...	3; 5/-	3; 2/-	2; 3/-
Mrs. Coe, 1, St. John's Rd.	2; 2/6	3; 3/6	1; 5/6
*Mrs. Fuller, 61, Kimberly Rd.	2; 5/-	1; 3/6	1; 5/-
*Mrs. Bailey, 10, Earl St.	2; 4/-	1; 4/-	2; 5/-
Mrs. Smith, 26, Malcolm St.	1; 5/-	1; 3/-	1; 5/-
Mrs. Davis, 1, Mill Lane	2; 6/6, 5/-	1; 3/6	3; 7/6
Mrs. Powter, 17, Portugal Pl.	1; 3/6	1; 3/6	1; 3/6
Mrs. Child, 50, Bridge St.	3; 3/6	8; 4/-	3; 4/-
Mrs. Sadler, 3, Tennis Court Ter. ...	1; 4/6	1; 4/6	
Mrs. O'Hare, 5, St. Edward's Passage	3; 4/-	2; 3/6	1; 3/6
Mrs. Hollingsworth, 9, Little St. Mary's Lane	2; 3/6	2; 3/6	1; 5/6
Mrs. Bates, 25, Hill's Rd....	1; 5/-	2; 2/6	
Mrs. Clark, 79, Chesterton Rd.	2; 6/-	3; 4/-	
Mrs. Webb, 15, Victoria Park	1; 5/-	—	1; 5/-
*Mrs. Barnes, 36, Maid's Causeway ...	3; 5/-	2; 2/6	1; 3/6
Mrs. Martin, 12, Melbourne Pl. ...	1; 3/6	1; 3/-	1; 3/-
Mrs. Wade, 6, Victoria Park	1; 5/-	1; 5/-, 7/-	
Mrs. Buck, 16, Portugal Pl.	1; 3/-	—	1; 5/-
Mrs. Reynolds, 1, Merton St.	1; 5/-	1; 3/6	1; 3/6
Mrs. Wakeling, 19, St. John's Rd. ...	2	2; 4/-	2; 5/6
*Mrs. Burbage, 1, Springfield Rd. ...	2; 1/6	2; 3/6	1; 5/-
Mrs. Fowell, 62, Jesus Lane	2;	2; 4/-	3; 5/-
Mrs. Hill, 29, Bridge St.	3; 5/-	3; 5/-	
Mrs. Simmonds, 76, Milton Rd. ...	2; 5/-	2; 5/-	
Mrs. Overton, 4, Merton St.	2; 5/-	2; 3/-	1; 3/-
Mrs. Thomas, 48A, Bridge St.	2; 4/6, 3/6	1; 3/6	2; 4/6
Mrs. Rogers, 37, Sidney St.	11; 6/6	11; 5/-	
Mrs. Law, 8, Victoria St.	3; 4/-	2; 3/-	2; 4/-
*Mrs. Jones, 19, Silver St.	3; 5/-	2; 5/-	1; 5/-
Mrs. Moore, 9, Magrath Av.	2; 5/-	1; 4/-	1; 4/-
Mrs. Burgess, 3, Victoria St.	2; 4/-	1; 3/-	1; 3/-
*Mrs. Skinner, 4, Castle St.	2; 5/-	—	2; 5/-
Mrs. Nightingale, 20, Clare St.	1; 4/-	1; 3/-	
Mrs. Jacobs, 23, Malcolm St.	4; 6/-, 5/- 3/6	2; 3/6	1; 5/-
*Mrs. Johnson, 25, Portugal St.	1; 4/-	—	1; 3/6
Mrs. Judd, 14, Milton Rd.... ...	1; 5/-	1; 3/6	1; 3/6
Mrs. Chandler, 8, Downing Pl.	3; 5/-	3; 3/-	
Mrs. Macarthy, 12, Park Parade ...	1 or 2; 6/-	—	1 or 2; 4/-
*Mrs. Walker, 10, Park St.	2; 5/-	1; 4/-	1; 5/-
*Mrs. Mapson, 11, Fitzwilliam St. ...	2; 4/6	2; 3/-	
Mrs. Bennett, 12, Bateman St.... ...	1; 3/-	1; 2/6	1; 3/6
Mrs. Anstie, 66, Jesus Lane	3; 5/-	1; 3/6	3; 4/-
*Mrs. Gray, 1, Warkworth Ter.	3; 2/6	3; 3/6	3; 4/6
Mrs. Donald, 51, Bridge St.	3; 3/6	3; 3/6	
Mrs. Males, 8, Richmond Ter.	2; 5/-	2; 5/-	
Mrs. King, 34, Pretoria Rd.	1; 5/-	—	2; 5/-
*Mrs. Dunn, 9, Fitzwilliam St.	2; 3/6	1; 2/-	1; 2/-
*Mrs. Bennett, 17, Bridge St.	4; 2/-	6; 3/6	
Mrs. Hills, 18, New Square	2; 3/6	2; 3/-	
Mrs. West, 47, Humberstone Rd. ...	1; 3/6	1; 3/6	1; 3/6
*Mr. Taylor, 8, Christ's lane	2; 3/6	1; 3/6	1; 3/6
Mr. Addison, 5, Park Parade	3; 3/6, 3/- 2/6	2; 2/6, 2/-	1; 4/-
Mr. Twinn, Burrell's Walk	1; 3/-	—	1; 3/-
Mrs. Johnson, 25, Portugal St.	1; 4/-	—	1; 3/6
*Mrs. Coward, 46, Maid's Causeway ...	2; 4/-, 3/6	1; 3/-	1; 2/6
*Mrs. Elliot, 7, Eltisley Av.	2; 4/6	2; 4/-	
*Mrs. Darby, 15, St. John's Rd.	3; 4/-	2; 4/-	1; 4/-
*Mrs. Stonebridge, 43, Belvoir Rd. ...	2; 5/-	—	2; 3/6
Mrs. Harris, 14, Trumpington St. ...	1; 6/-	3; 3/-	
Mrs. Hill, 4, Richmond Ter.	1; 5/-	1; 2/6	
*Mrs. Nutley, 12, Christ's Lane	2; 5/-	1; 3/6	1; 7/6
*Mrs. Barrell, 105, Victoria Rd.	2; 4/-	1; 4/-	1; 5/-
Mrs. Hardwick, 20, Portugal Pl. ...	3; 5/-	3; 5/-	
*Mrs. Dickerson, 13, Earl St.	2; 4/-	2; 4/-	1; 5/-
Mrs. Hedge, 3, Portugal Pl.	1; 4/-	1; 3/6	
Mrs. Kelt, 12, St. John's St.	3; 4/6	1; 2/6	2; 3/6
Mrs. Watts, 10, Victoria Park	1; 5/6	—	1; 5/-
Mrs. Ankin, 7, Richmond Ter.	1; 5/-	2; 3/6	
Mrs. Johnson, 10, Magrath Av.... ...	2; 4/-	—	2; 4/-
*Mr. A. Banham, 44, Pretoria Rd. ...	1; 5/-	1; 3/6	1; 5/-

	Sitting Rooms.	Single Bed.	Double Bed.
*Mrs. Pratt, 58, Jesus Lane	2; 3/-, 4/-	3; 3/-	1; 4/-
Mrs. Hardwick, 24, Fitzwilliam St. ...	3; 5/-	3; 5/-	2; 5/-
Mrs. Sill, 4, Pembroke St.	2; 5/-, 4/-	2; 4/-	5/-
*Mrs. Gooby, 37, Earl St.	2; 5/-	2; 5/-	1; 5/-
Mrs. Webb, 14, Trinity St.	2; 5/-	3; 3/-	1; 5/-
Mrs. Turner, 12, Victoria Park	1; 5/-	1; 5/-	
Mrs. Golding, 21, Clare St., ...	1; 4/-	2; 3/-	(gentlemen only)
Mrs. Cox, 47, Jesus Lane	2; 3/-	1; 3/-	2; 5/-
Mrs. Hardwick, 31, Bateman St. ...	2; 5/6	—	2; 5/6
Mrs. C. Robinson, 15, St. John's St. ...	2; 6/-	4; 4/-	
Mr. A. C. Taylor, 34, Station Rd. ...	2; 5/-	—	2; 6/-
Mrs. Gadsby, 25, Victoria	2; 5/6	1; 5/6	1; 5/6
*Mrs. Thurston, 3, Bridge St.	5; 6/-	3; 5/-	2; 6/6
Mr. Knappet, 92A, Castle St.	1; 5/6	1; 7/6	
Mrs. C. Clark, 4, St. Andrews St. ...	4; 10/-	2; 5/-	2; 5/-
Miss Turner, 31, Jesus Lane	3; 8/-	3; 6/6	1; 11/-
Mr. A. E. Pink, 62, Eltisley Av. ...	2; 10/-	1; 7/6	1; 10/-
Mrs. Sarah Tweed, 55, Bridge St. ...	2; 7/6	3; 5/-	2; 7/6
Mrs. Berry, 18, Grantchester St. ...	1; 6/-	1; 6/-	1; 6/-
*Mr. A. G. Smith, 8, Parker St.	2	2; 5/3	2; 7/6
Mrs. Robinson, 3, Post Office Terr. ...	2; 5/-, 6/-	—	2; 6/-
Mrs. Cambridge, Lyndhurst, Christ's Piece	2; 4/9	—	1; 4/9
Mrs. Meek, 60, Maid's Causeway ...	1; 7/6	1; 5/-	1; 7/6
Mrs. Ponder, 6, Benet St.	3; 6/-	4; 4/-	1; 4/-
Mrs. Taylor, 23, Victoria Park	1; 5/3		2; 5/3
Mrs. Lewis, 26, Pretoria Rd.	1; 6/-	—	1; 6/-
Mrs. Patman, 31, Pretoria Rd.	1; 6/-	—	1; 6/-
*Mrs. Doo, 40, Belvoir Rd.	1; 7/-, 5/-	—	1; 7/-, 5/-
Mrs. Ridgley, 84, Mawson Rd.	1; 10/-	1; 10/-	1; 10/-
Mrs. Scott, 96, Tenison Rd.	2; 10/6, 7/6	1; 2/6	2; 5/6, 3/6
Mrs. Robson, 12, Guest Rd.	1; 10/-	2; 3/-	
Mr. Freestone, 60, Tenison Rd.	1; 10/-	—	1; 10/-
*Mr. Penton, 48, New Sq.	3; 15/-	2; 15/-	2; 15/-
*Mrs. Edwards, 107, Mawson Road ...	1; 15/-	—	1; 15/-
Mr. A. Slater, 6, Portugal St.	2; 8/-	1; 5/-	1; 5/-
Mr. Smith, 4, St. John's Rd.	3; 5/-	1; 5/-	1; 10/-
Mrs. Ambrose, 30, New Sq.	2; 5/-	2; 5/-	1; 7/6
Miss Jacobs, 23, Malcolm St.	4; 6/-, 5/-, 3/6	2; 3/6	1; 5/-
*Mrs. Game, 13, Carlyle Rd.	2; 6/-		5/-
Mrs. Allen, 12, Bridge St.	1; 5/-	—	1; 7/6
Mrs. Plowman, 59, Chesterton Rd. ...	2; 7/6	2; 5/-	1; 7/6
*Mrs. Banham, 1, Guest Rd.	2; 10/6	2; 10/6	2; 15/6
Mrs. Foster, 22, Aylestone Rd.	2; 7/6	—	2; 7/6
*Mrs. Kitley, 20, Kimberly Rd.	2; 6/-	1; 3/-	1; 3/-
*Mrs. Struggles, 72, Jesus Lane	4; 5/6	2; 4/-	2; 6/6
*Mrs. Burgess, 43, Hertford Street ...	2; 5/6	1; 3/6	1; 3/6
Mrs. Wilkins, 4, Maid's Causeway ...	3; 12/6	2; 6/-	2; 6/-
Mrs. Moden, 26, Trinity St.	16 sit., 10/ to 30/-; 12 sing. b., 8 dble. b., 5/- to 12/6		
Mrs. Southcott, 8, St. Clements Gdns.	3; 10/-	4; 5/-	1; 5/-
Mr. Roff, 28, Bridge St.	2; 3/-	1; 3/-	2; 6/-
*Mrs. Pilbeam, 9, Portugal St.	2; 7/6	3; 3/6	
*Mrs. Harvey, 11, Christ's Lane	3; 5/-	2; 3/6	2; 7/6
Mrs. Germany, 61, Jesus Lane	3; 7/6	4; 3/6	
Mrs. Sell, 9, Christ's Lane	1; 15/-	1; 15/-	1; 15/-
Mrs. Allen, 13, Downing Pl.	2; 7/6	1; 5/-	2; 7/6

Rooms with Breakfast included in Price.

(The prices given are per head per day.)

	Sitt. Room.	Sing. Bed.	Dbl. Bed.	Prices.
*Mrs. Wade, 1, Silver St.	4	4	3	12/6
Mr. Parmenter, 25, Jesus Lane ...	4	2	3	17/6
Mrs. Harradine, 5, Portugal St. ...	2	—	4	7/6 (12/6 for 2)
Mrs. Wilkinson, 13, Garden Walk, Victoria Rd.	1	1		5/-
*Mrs. Dunlop, 25, Victoria Rd.	2	2	1	12/6
*Mrs. Payne, 7, Jesus Lane	3	5	2	12/6
*Mrs. Spence, 42, New Sq.	1	—	1	15/-
Mrs. Makias, 1, Little St. Mary's Lane	3	4	2	12/6
Mrs. Goff, 3, King's Parade	2	3	1	12/6
*Mrs. Rush, 12, King's Parade	2	4	2	12/6
Mrs. Mansfield, 76, King St.	1	1		7/-
*Mrs. Langley, 15, King's Parade ...	2	4	2	12/6
Mrs. Carder, 21, Ferry Path	1	2	3	16/-
*Mrs. Smith, 25, Belvoir Rd.	1	—	1	15/- (2 persons)
Mrs. Wade, 49, Bridge St.	4	3	2	12/6
Mrs. Manning, 2, Pembroke St. ...	4	3	1	7/6
Mrs. Jackson, 8, King's Parade ...	4	3	3	12/6
*Mrs. Mason, 3-4, Market Hill	3	3	2	12/6
*Mrs. Mason, 16-21, Market Hill ...	15	16	8	10/6
Mrs. Cox, 140, Hill's Rd.	1	1		12/6
Mrs. Bryan, 4, King St.	1	1		7/-
Mrs. Weeds, 20, Holland St.	2	1	1	5/6

Mr. Coppins, The Hermitage, Silver St.—8 bed-sitting rooms, 2 sets (1 bed and 1 sitting room), 1 double bedroom, 2 bathrooms, public dining room, public lounge. *Prices:* Bedroom, use of public rooms, bath, boots, breakfast, and light lunch, 10/6 per head per day.

Association Notices.

REPRESENTATIVE MEETING.

DATE.

THE Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

NOTICES OF MOTION AND AMENDMENT.

Notices of Motion and Amendment by Divisions and Branches for consideration by the Annual Representative Meeting will be published in the SUPPLEMENT as they are received, but none can be published later than June 12th, for which purpose they must be received by the Medical Secretary *not later than the first post on Monday, June 7th.*

It will be possible, however, to include in the Agenda for the Annual Representative Meeting all Notices of Motion and Amendment which are received by the Medical Secretary *not later than the first post on Monday, June 14th.*

ANNUAL GENERAL MEETING.

THE Annual General Meeting will be held at the Examination Halls, Cambridge, on Tuesday, June 29th, 1920, at 2 p.m. Business: (1) Minutes of last Meeting. (2) Appointment of auditors. (3) Report of election of President. (4) Report of election of President-Elect.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—The annual meeting for 1920 will take place at Southport on June 9th. The members will be entertained at lunch by the Southport Division, and after the President (Dr. Baildon, Southport) has given his address scientific papers will be read. A number of excursions are being arranged for the afternoon, and in the evening members will dine together.

METROPOLITAN COUNTIES BRANCH.—Mr. N. Bishop Harman and Dr. J. A. Percival Barnes (Honorary Secretaries) give notice that the annual general meeting of the Branch will be held at 429, Strand, W.C.2, on Friday, June 18th, at 4.30 p.m. Business: (1) Report of scrutineers as to the election of new officers. (2) Annual report of Council. (3) President's Address, by Dr. E. W. Goodall, O.B.E.

METROPOLITAN COUNTIES BRANCH: STRATFORD DIVISION.—Dr. Harold S. Beadles, Honorary Secretary, gives notice that a general meeting of the profession will be held at the Educational Offices, Stratford, on Thursday, June 3rd, at 9 p.m., when the Right Hon. Lord Dawson of Penn, G.C.V.O., M.D., Chairman of the Medical Consultative Council, will open a debate on the Interim Report of the Medical Consultative Council, Ministry of Health.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—Dr. J. Livingston, Honorary Secretary, gives notice that the annual meeting of the Branch will be held on Wednesday, June 9th, at 3.15 p.m., in the Furness Abbey Hotel, Barrow. Business: Report of Council. Election of officers. President's address, by Dr. A. F. Rutherford: "Experiences of an ambulance train commander." The President invites members to tea.

SUSSEX BRANCH.—Hastings: Dr. W. Langdon Brown will give a lecture on June 15th at 4.45 p.m. on Diabetes in Relation to the Ductless Glands.

INSURANCE.

CORRESPONDENCE.

Remuneration of Medical Practitioners.

SIR,—I desire to thank the Medical Secretary for his explicit answers to my queries (SUPPLEMENT, May 15th, p. 157). The short answer "No" to the question whether 11s. were paid for each insured person on a list proves the inaccuracy of the report of Council. The report of the London Insurance Committee on page 165 of last week's SUPPLEMENT shows how part of the pool is spent.

Two points of great interest arise out of Dr. Cox's answer. Was the actuary's report published, and can one get a copy of it? Secondly, as no stamped contribution cards are required for those over 70 or for the incapacitated, or for the married women who have ceased to contribute, from whence are their contributions to the pool derived?

I trust the Medical Secretary will oblige by clearing up these points. After seven years one would think Insurance Committees ought to be able to say with some degree of accuracy: "There are so many on your list at the end of each quarter for whose treatment you are responsible; you will be paid so much for each one, and besides at the end of the year your proportion for those who have not chosen a panel doctor." Hoping for a reply.—I am, etc.,

London, W., May 23rd. JAMES HAMILTON.

*** The Medical Secretary replies as follows: Dr. Hamilton will find information on the points he raises in the Actuary's Report, a copy of which is being sent to him. It was circulated to every Local Medical and Panel Committee in 1918, and they were told that they could have as many copies as they wished for circulation to their constituents. It was announced in the SUPPLEMENT of April 20th, 1918, that copies could be obtained gratuitously on application.

Right of Appeal to the Courts.

SIR,—The Insurance Act of 1911 placed all panel practitioners unreservedly in the power of a Government department. Major Farquharson, M.P., on behalf of panel practitioners, moved an amendment to the Insurance Bill now before the House, as follows:

NEW CLAUSE.—(Right of appeal by Medical Practitioner).

"(1). Any medical practitioner aggrieved by a decision of the Minister, or of any special body through which the powers and duties of the Minister, under Section Fifteen, Subsection (2) (b) of the Act of 1911, are exercised, to remove his name from any list of medical practitioners, may appeal against the decision to the High Court within the time and in the manner, and on the conditions directed by the rules of court.

"(2). The costs of any such appeal shall be in the discretion of the court, and no appeal shall be allowed from any order or decision of the court in any such appeal."

This was refused by the Minister of Health, and was negatived.

On the report stage o fthe bill the amendment was again proposed, this time by Captain Elliot, M.P., Secretary for the House of Commons Medical Committee.

The case of the panel doctors is very similar in many ways to that of the De Keyser Hotel proprietors. The Government takes over for State purposes private enterprise and capital and denies compensation by right, and in the case of the doctors allows no appeal to the courts. If the Indemnity Bill had been passed the proprietors of De Keyser's Hotel would have had no appeal likewise. The Indemnity Bill would have placed them outside the law in the same way that the Insurance Act of 1911 placed panel practitioners outside the law—namely, by taking away their right of appeal to the High Court.

All citizens should watch very closely this insidious process going on in these times of tampering with the Magna Charta and undermining the ancient and indefeasible right of every citizen to seek justice in the courts.—I am, etc.,

Stalybridge, May 16th. ADAM FOX.

SIR,—Dr. Brackenbury, at the meeting of the Local Medical and Panel Committees held last November, explained very carefully and fully that service under the Commissioners was a special service into which a man entered of his own free will, and which he could resign when he chose; that the Commissioners were answerable for the efficiency of that service; that if the continuance of a certain practitioner in that service was detrimental to it the Commissioners had a perfect right to dismiss him; that any appeal to a court of law was unjustifiable. After such a strong direction the chairman had no alternative but to throw out the resolutions from Stockport, Portsmouth, and Cheshire, and to allow the senseless resolution from Brighton to pass.

The new clause as drafted by counsel, which we are urged to invite our members of Parliament to support, is, of course, a great improvement. But is it a question that matters? The Ministry of Health, as far as insurance practice is concerned, has virtually absorbed the disciplinary powers of the General Medical Council. We hear a great deal to-day about Magna Charta, but we know perfectly well that there is not, and that there never was, any appeal from the decisions of the General Medical Council. Why, then, all this talk to-day?—I am, etc.,

Exeter, May 23rd. J. PEREIRA GRAY.

NATIONAL INSURANCE ACT, 1920.

THE Ministry of Health makes the following announcement:

The National Health Insurance Bill, which has just received the Royal assent, makes important changes in the benefits and contributions under the Health Insurance Scheme to operate from July 5th next. The object of the changes is to provide for an increase in the rates of benefits in view of the fall in the value of money. The normal rate of sickness benefit will be raised from 10s. to 15s. a week in the case of men, and from 7s. 6d. to 12s. a week in the case of women; disablement benefit will be raised from 5s. a week to 7s. 6d. for both men and women; and the amount of maternity benefit will be raised from 30s. to 40s. In order to provide for the increase of benefits the joint weekly contribution is to be increased from 7d. to 10d. in the case of men and from 6d. to 9d. in the case of women, of which the employer's portion will normally be 5d. in each case. In certain cases where low wages are paid the employer will pay a larger and the worker a smaller portion of the joint contribution. The contribution cards from the week beginning July 5th next must in all cases be stamped at the rate of 10d. a week for men and 9d. for women; stamps of these values will be on sale at post offices.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

The following Lieutenant-Colonels and Brevet Colonels relinquish the acting rank of Colonel: J. C. Connor, C.M.G., J. A. Hartigan, C.M.G., D.S.O.

Major C. P. Thomson, D.S.O., retires, receiving a gratuity, January 1st, 1918 (substituted for the notification in the *London Gazette*, January 7th, 1918).

Major H. H. J. Fawcett, D.S.O., relinquishes the acting rank of Lieutenant-Colonel (February 8th, 1919).

Major T. E. Harty, D.S.O., to be acting Lieutenant-Colonel.

The following temporary Captains relinquish the acting rank of Major: C. C. Forsyth, M.C., J. E. Thompson, C. R. B. Von Braun, W. Gemmill, R. Millar (January 6th, 1919), H. T. L. Roberts (August 11th, 1919), A. H. Macklin, O.B.E. (October 17th, 1919).

Captain E. A. Strachan to be acting Major, January 4th, 1918 (substituted for notification in the *London Gazette*, January 30th, 1919).

Captains H. J. Bower and G. Jackson, M.C., resign their commissions.

The name of temporary Captain Robert F. Higgin is as now described, and not as printed in the *London Gazette* of April 29th, 1920.

J. P. Bonfield, M.C., late Captain C.A.M.C., and R. W. D. Hewson, late temporary Captain, to be temporary Captains.

The following officers relinquish their commissions:—Temporary Major R. H. Bremridge, O.B.E., and retains the rank of Major. Temporary Captain F. R. Brown, O.B.E., and is granted the rank of Major. Temporary Captains and retain the rank of Captain: J. P. Grainger, E. H. Dendy, C. R. B. Eyre, J. W. Steel, H. Daw, H. A. Lane, W. A. McLeod, J. W. Riddoch, M.C., C. K. T. Hewson, A. J. Beattie, R. Gellatly (on ceasing to serve with the Huddersfield War Hospital, March 19th, 1919—substituted for notification in the *London Gazette*, April 29th, 1919), G. V. Fiddian, T. Craig, H. F. N. Scott (March 20th, 1919—substituted for notification in the *London Gazette*, May 1st, 1919), H. G. Watters. On account of ill health contracted on active service: T. Perrin.

ROYAL AIR FORCE.

MEDICAL BRANCH.

Transferred to unemployed list: Captains H. J. Leviseur, W. G. Robertson, and E. T. D. Fletcher.

Flying Officer J. Fanning to be Flight Lieutenant.

INDIAN MEDICAL SERVICE.

The promotion to the rank of Captain of the following officers has been antedated to March 30th, 1915: J. D. Wilson, M.B. (since deceased), L. A. P. Anderson, Brevet Major W. C. Paton, M.C., M.B., J. B. Hance, M.B., S. Gordon, M.C., H. K. Rowntree, M.C., M.B., G. V. Thomson, M.B., B. F. Eminson, M.B., A. Kennedy, S. D. Ratnagar (since deceased), C. McIver, J. C. John, O.B.E., M.B., R. R. M. Porter, M.C., M.B., R. Sweet, D.S.O., M.B., E. Calvert, M.B., J. R. D. Webb, O.B.E., F. Phelan, A. C. Macrae, M.B., N. C. Kapur, A. H. C. Hill, J. F. Holmes, N. K. Bal, M.C., H. S. G. Haji, M.C., S. S. Sokhey, M.B., A. K. Sinha, M.B. (since deceased), S. Doraisamy, A. Seddon, M.B., J. Findlay, M.B., W. C. Spackman, M.B., J. C. De, M.B., N. M. Mehta, R. M. Easton, M.B., C. H. P. Allen, R. V. Martin, G. H. Mahony, M.B., G. Covell, M.B., Brevet Major W. R. Stewart, K.R. Rao, J. G. O. Moses, M.B., H. Chand, M.C., V. Mahadevan, A. C. L. O. Bilderbeck, M.B., J. W. Van Reenen, M.B., B. F. Beatson, M. J. Roche, M.C., M.B., N. D. Puri, P. C. Roy, M.B., M. Das, M.C., J. B. Vaidya, J. M. R. Hennessy, A. G. Cowper, W. M. Lupton, H. H. Brown, C. H. N. Baker, M.C., J. W. Pigion, M. L. Treston, P. Vieyra, M.B., B. M. Mitra, P. Savage, A. Chand, M.B., R. Lee, M.B., N. S. Jatar, D.S.O., T. S. Sastry, M.B., Jamal-ud-din, M.B., F. B. Chenoy (since deceased), S. B. Venugopal, C. de C. Martin, M.B., J. H. Smith, M.B.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain P. S. Vickerman, O.B.E., relinquishes the temporary rank of Lieutenant-Colonel.

The following Captains relinquish their commissions: P. F. A. Grant, F. Griffith, L. K. Ledger, G. R. McRobert, E. W. Mann, and J. Lanigan, on account of ill health contracted on active service, and retain the rank of Captain.

Captains F. E. Feilden and J. I. Watson relinquish their commissions on account of ill health caused by wounds, and retain the rank of Captain.

Captain J. P. Charnock relinquishes his commission on account of ill health, February 5th, 1920, and is granted the rank of Major (substituted for notification in the *London Gazette* of February 4th, 1920.)

Captains relinquish the acting rank of Major: Clark Nicholson, M.C., J. J. McI. Shaw, M.C., R. P. Starkie, J. Purdie, M.C., T. G. Fleming, M.C., Idris D. Evans.

The notifications regarding Captain C. R. McIntosh in the *London Gazette* of March 22nd and May 16th, 1919, are cancelled.

The notification in the *London Gazette* of September 19th, 1919, regarding the promotion to Captain of Lieutenant George W. C. Dunlop is cancelled.

GENERAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

A. L. Aymer, W. T. Hare, M.C., and H. J. Bower, late Captains R.A.M.C., to be Captains.

OVERSEAS CONTINGENTS.

SOUTH AFRICAN MEDICAL CORPS.

The undermentioned relinquish their temporary commissions on account of ill health:—Lieut.-Colonels and retain the rank of Lieut.-Colonel: P. S. Clark, D.S.O. (June 17th, 1918), R. L. Girdwood, D.S.O. (January 23rd, 1919). Major W. Gilbert (February 7th, 1918), and is granted the rank of Lieut.-Colonel. Majors and retain the rank of Major: J. Hunter (July 16th, 1917), R. C. M. Hoare (February 3rd, 1919), F. S. Jones (May 30th, 1919), F. Pershouse (February 9th, 1918), P. St. J. Wilkinson (November 5th, 1917). Captains and retain the rank of Captain: R. T. Gordon (December 14th, 1917), A. P. M. Anderson (June 24th, 1918), C. J. Battle (March 13th, 1918), C. P. Bligh-Wall, O.B.E. (March 28th, 1919), T. L. Blackburn (July 28th, 1919), I. J. Block, O.B.E. (November 9th, 1918), H. J. Brady (March 3rd, 1919), A. H. de W. Budler (September 28th, 1918), T. P. Dowley (March 26th, 1917), J. Duncan (February 28th, 1919), K. Fox (October 26th, 1917), C. Grant (April 30th,

1918), A. L. Gurney (November 18th, 1916), E. Hill, M.C. (April 19th, 1918), T. J. Howell (March 22nd, 1919), E. W. Ingle (March 14th, 1919), A. M. B. Jassinowsky (January 21st, 1918), A. H. Lawrence (November 11th, 1917), R. L. Lloyd, M.C. (October 31st, 1917), J. J. Louwrens (October 25th, 1917), G. M. Mackay (March 29th, 1919), P. E. Millard (March 7th, 1918), J. A. Mulvany (October 17th, 1917), J. D. Murdoch (December 16th, 1917), W. Paisley (October 24th, 1916), P. Parnell (June 16th, 1917), W. A. Rail (May 2nd, 1917), J. Rauch (July 14th, 1919), C. D. Roberts (June 29th, 1917), J. Rose (January 22nd, 1918), C. L. Seccombe (December 22nd, 1917), S. F. Silberbauer (February 4th, 1918), St. J. Stanwell (May 8th, 1917), L. V. Tebbs (April 14th, 1918), J. C. Venniker (March 10th, 1917), J. R. Whyte (February 2nd, 1917), H. Wolff (August 15th, 1917).

Temporary Major T. A. Fuller relinquishes his commission on ceasing to be specially employed, March 3rd, 1919, and retains the rank of Major.

The following officers relinquish their commissions and retain the rank of Captain: Captain H. Fayle, M.C. (March 26th, 1920), on account of ill health contracted on active service. Temporary Captains: R. P. McNeill, M.C. (February 15th, 1918), W. H. Watson, M.C., on ceasing to be specially employed (February 10th, 1919). H. Wolff to be temporary Captain, seniority from April 10th, 1916 (substituted for notification in the *London Gazette*, December 16th, 1916).

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Major (Brevet Lieut.-Colonel—acting Colonel) H. A. Leebody, T.D., relinquishes the acting rank of Colonel on vacating the appointment of A.D.M.S.

Captains (acting Lieut.-Colonels) relinquish the acting rank of Lieut.-Colonels on ceasing to be specially employed: J. Tait, November 14th, 1919 (substituted for notification in the *London Gazette*, February 23rd, 1920), T. S. Allan.

Captains C. Jephcott and E. L. Meynell resign their commissions and retain the rank of Captain.

4th London General Hospital.—Major A. Carless, C.B.E., resigns his commission and is granted the rank of Colonel.

TERRITORIAL FORCE RESERVE.

ARMY MEDICAL SERVICE.

Colonel S. S. Hoyland, V.D., having attained the age limit, is retired and retains his rank, with permission to wear the prescribed uniform.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel (Brevet Colonel) H. W. Webber resigns his commission and retains his rank.

Major W. Kirkpatrick, from 1st Southern General Hospital, to be Lieutenant-Colonel.

The announcements regarding the following officers published in the *London Gazette* of the dates indicated are cancelled: Captains (acting Lieut.-Colonels) W. Blackwood, D.S.O., and J. H. P. Fraser, M.C. (January 10th, 1919). Captains (acting Majors) T. P. Caverhill (January 17th, 1919) and D. E. Finlay (January 7th, 1919), J. Henderson and W. J. Purves (January 9th, 1919), Captains J. A. Mathers (January 9th, 1919), M. Wilks (January 14th, 1919), A. W. Berry (January 10th, 1919), F. H. Davies (January 29th, 1919), D. R. Harris (January 17th, 1919), D. Lamb (January 17th and March 17th, 1919), A. M. Johnson (January 7th and February 21st, 1919), J. Livingston (January 15th, 1919), W. R. Pierce (January 28th, 1919), A. J. Presslie (January 7th, 1919), A. Greene (January 18th, 1919), W. L. Hibbert and W. J. Wilkinson (December 31st, 1918), J. Howard (January 10th, 1919), J. E. G. Thomson, M.C. (January 11th and March 17th, 1919), M. Dixon (January 10th, 1919).

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Monday, 8 p.m., Annual General Meeting. Mr. C. A. Clark: Relation of Teeth to the Floor of the Antrum. *Section of Psychiatry:* Tues., 8.30 p.m., Annual General Meeting. Dr. D. Forsyth: Psychoanalysis in Early Paranoid Dementia. *Section of Obstetrics and Gynaecology:* Thurs., 8 p.m., Dr. Philip Turner: Ruptured Pedicle of Subperitoneal Fibroid; Dr. Ford Anderson: Rupture of the Uterus; Dr. Fletcher Shaw and Dr. Burrows: Radium in Advanced Carcinoma of Cervix; Mr. Gordon Ley: Pathology of Accidental Haemorrhage.

POST-GRADUATE COURSES AND LECTURES.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. G. R. Murray: Thyroid Gland and its Functions.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Out-patient Clinics, 2–3.30 p.m. daily, except Wed. and Sat. Mon., 3.30 p.m., Mr. Paton: Visual Fields. Tues., 3.30 p.m., Dr. Risien Russell: Ward Cases. Wed., 2 p.m., Mr. Armour: Tumours of Spinal Cord. Thurs., 3.15 p.m., Dr. Greenfield: Pathology of Nerve Cell and Peripheral Nerves. Fri., 3.30 p.m., Dr. Hinds Howell: Ward Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tuesday, 2.15 p.m., Mr. N. Fleming: External Eye Diseases; 3.15 p.m., Dr. Drinkwater: Dental Anaesthesia; 4.30 p.m., Dr. Sundell: Disturbances of Sleep in Children.

ROYAL EYE HOSPITAL, Southwark, S.E.—Wed., 5 p.m., Mr. Griffith: Neurology of Vision.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.1.—Mon., 5 p.m.: Dr. E. Symes Thompson: General Treatment—Therapeutics. Tues., Dr. A. Abrahams: Dietetics. Wed., Dr. H. Sutherland: Chemotherapy. Thurs., Tuberculin Treatment. Fri., Artificial Pneumothorax.

SHEFFIELD ROYAL HOSPITAL.—Wed., 4 p.m., Professor Arthur Hall: Diagnosis of Nervous Disease (II).

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-Patient Clinics and Operations. Mon., 12.15 p.m., Dr. Burnford: Pathological; 5 p.m., Mr. Donald Armour: Subphrenic Abscess. Tues., 10 a.m., Mr. Steadman: Dental; 5 p.m., Dr. R. J. Reece: Public Health. Wed., 2 p.m., Mr. Addison: Operations; 5 p.m., Dr. Owen: Pulse Irregularities. Thurs., 10.30 a.m., Dr. Simson: Gynaecological; 5 p.m., Mr. Baldwin: Practical Surgery. Fri., 2 p.m., Mr. Banks Davis: Throat, Nose, and Ear; 5 p.m., Mr. MacDonald: Enlarged Prostate. Sat., 10 a.m., Dr. Arthur Saunders: Children; 12 noon, Mr. Sinclair: Surgical Anatomy.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh; (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

28 Fri. London: Hospitals Committee, 11.30 a.m.
Representatives of British Hospitals Association, 12 noon.

JUNE.

1 Tues. Buckinghamshire Division, Adjourned Annual Meeting, Red Lion Hotel, High Wycombe, 2.15 p.m.

3 Thurs. London: Naval and Military (Territorial Force) Subcommittee, 3 p.m.
Stratford Division, Educational Offices, Stratford, 9 p.m.

8 Tues. London: Scrutiny Subcommittee, 2.30 p.m.

9 Wed. London: Journal Committee, 2.30 p.m.
London: Ministry of Health Committee.
London: Propaganda Subcommittee, 2.15 p.m.
Lancashire and Cheshire Branch, Annual Meeting, Southport.
North Lancashire and South Westmorland Branch, Annual Meeting, Furness Abbey Hotel, Barrow, 3.15 p.m.

12 Sat. Northern Counties of Scotland Branch, Annual Meeting, Station Hotel, Elgin, 12.15 p.m.

15 Tues. Sussex Branch, Hastings, 4.45 p.m., Lecture by Dr. W. Langdon Brown: Diabetes in Relation to the Ductless Glands.

16 Wed. London: Finance Committee, 2.30 p.m.

17 Thurs. Bedfordshire Division, Annual Meeting, Swan Hotel, Bedford, 3 p.m.; Luncheon, 1.30 p.m.

18 Fri. London: Central Ethical Standing Subcommittee, 2.30 p.m.
Metropolitan Counties Branch, Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.

APPOINTMENTS.

ADAM, James Robertson, M.B., Ch.B., D.P.H., County and District Medical Officer of Health, Orkney, and Medical Officer, Burgh of Kirkwall.

GUPTA, P. L., M.B., Ch.B. St. And., House-Surgeon to the Macclesfield Infirmary.

HANNAY, M. G., M.D., F.R.C.P.E., Honorary Assistant Physician to St. John's Hospital for Diseases of the Skin.

HUNT, E. R., M.D., B.Ch., M.R.C.P., Honorary Assistant Physician, Royal Sussex County Hospital, Brighton.

POOLER, H. W., M.B., Ch.B., M.R.C.S., L.R.C.P., Visiting Medical Officer to the Morton District Hospital.

SHARPE, F. A., M.D., D.P.H., Medical Officer of Health for Preston.

SUTCLIFFE, J., M.R.C.S.Eng., L.R.C.P.Edin., Resident Medical Superintendent of Cheadle Royal Hospital for Mental Diseases, Cheadle, Cheshire.

WILLIAMS, F. S., M.B., B.S.Lond., Medical Officer of Health for the Urban District of Wednesfield, Staffordshire.

ST. THOMAS'S HOSPITAL.—The following house appointments are announced:—Casualty Officers and Resident Anaesthetists: D. G. Churcher, M.R.C.S., L.R.C.P., R. M. Humphreys, B.A., M.B., B.Ch.Oxon., R. C. P. Whitcombe, B.A.Cantab., M.R.C.S., L.R.C.P., W. G. Woolrich, B.A.Cantab., M.R.C.S., L.R.C.P. Resident House-Physician: P. C. Brett, M.R.C.S., L.R.C.P. Resident House-Surgeons: A. H. J. Smart, B.A., M.B., B.Ch.Cantab., M.R.C.S., L.R.C.P., E. P. Brockman, B.A.Cantab., M.R.C.S., L.R.C.P. Obstetric House-Physicians: H. L. Garson, O.B.E., M.C., B.A.Cantab., M.R.C.S., L.R.C.P., R. C. Cooke, D.S.O., M.C., M.R.C.S., L.R.C.P. Ophthalmic House-Surgeons: J. D. M. Cardell, M.R.C.S., L.R.C.P., H. W. H. Holmes, B.A.Cantab., M.R.C.S., L.R.C.P. Clinical Assistants: Throat, C. H. C. Byrne, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; Skin, W. A. Low, M.C., M.R.C.S., L.R.C.P.; Children's Medical, W. A. Low, M.C., M.R.C.S., L.R.C.P.; Electrical and X-Ray Department, F. G. Spear, B.A.Cantab., M.R.C.S., L.R.C.P., H. S. Le Marquand, M.R.C.S., L.R.C.P., E. E. Carter, M.R.C.S., L.R.C.P.; Tuberculosis Department, F. B. Hobbs, B.A.Cantab., M.R.C.S., L.R.C.P., A. C. V. Gossett, B.A.Cantab., M.R.C.S., L.R.C.P. Several other house officers have received an extension of their appointment.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTH.

NEWMAN.—On the 17th inst., at Lyndhurst, Willenhall, to Charles Frederick Newman, M.R.C.S., L.R.C.P., and Mrs. Newman (*née* Macaulay), a daughter.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 5TH, 1920.

CONTENTS.

BRITISH MEDICAL ASSOCIATION. PAGE

REASONS FOR RECOMMENDING AN INCREASE IN MEMBERS' SUBSCRIPTIONS 179
CURRENT NOTES:
COUNCIL ELECTION 180
SALARIES OF MEDICAL OFFICERS OF LOCAL AUTHORITIES ... 180
ASSISTANTS IN PANEL PRACTICE 180
NOTICES OF MOTION FOR THE ANNUAL REPRESENTATIVE MEETING 180
ASSOCIATION NOTICES:
ANNUAL REPRESENTATIVE MEETING 181
CHANGES OF AREAS OF DIVISIONS 181
BRANCH AND DIVISION MEETINGS TO BE HELD 182
MEETINGS OF BRANCHES AND DIVISIONS 182

General Medical Council: PAGE
PRESIDENT'S ADDRESS... 183
IRISH DISPENSARY DOCTORS AND THE PROPOSED NEW MOTOR TAXES 185
CORRESPONDENCE:
TAXATION OF MOTOR CARS 185
NAVAL AND MILITARY APPOINTMENTS... 185
DIARY OF SOCIETIES AND LECTURES 186
ASSOCIATION INTELLIGENCE 186
APPOINTMENTS 186
BIRTHS, MARRIAGES, AND DEATHS 185

REASONS WHICH HAVE ACTUATED THE COUNCIL IN RECOMMENDING AN INCREASE OF THE ANNUAL SUBSCRIPTION.

1. IN the Annual Report (SUPPLEMENT, April 24th, 1920, p. 107) the Council recommended the Representative Body to increase the present subscription by 50 per cent., giving as its reasons the general experience as to depreciation in the value of money and increase in practically all forms of expenditure, as shown in the Financial Statement for 1919 and the Estimate for 1920.

2. As there has been a request for more details, the following are offered for the consideration of members in general and the Representative Body in particular:

Estimated Expenditure for 1920	**£87,103**
Estimated Income for 1920	**£83,660**
Estimated Deficit	**£3,443**

Comparison of Financial Statements of 1918 and 1919.

3. Compositors' wages, machining, etc., increased nearly £4,000; the cost of paper went up about £3,500. Central Staff expenses were increased about £2,000, and the Capitation Grants to Branches increased from £1,861 in 1918 to £3,072 in 1919. Owing to increased Council and Committee activities after the war the cost of the meetings of those bodies increased by about £2,300. Against these increased expenses of roughly £13,000 there was an increase in subscriptions of about £2,000 and an increase from advertisements and sale of the JOURNAL of about £9,000, that is, £11,000 in all; otherwise there would have been a heavy deficit for the year. But even with these increases in income, had it not been for the Government donation of £5,000 in acknowledgement of the Association's expenditure on the Central Medical War Committee the balance in favour of the Association would only have been £204 13s. 2d. instead of £5,204 13s. 2d.

What is the Probable Expenditure for 1920?

4. The Council puts on one side as out of the question the possibility of curtailing the activities of the Association. All experience goes to show that members will continue to expect more work and better work, and this must be paid for. Let each member ask himself what source of expenditure he would suggest should be curtailed. Is it the size or efficiency of the JOURNAL? Everybody would protest against such a step. Is it the medico-political activities? Members have come more and more to depend on the Association as the one body capable of defending their interests and stating their point of view, and any falling off in this work would undoubtedly lead to loss of influence and membership. From all sides comes a demand for the development of the scientific and social side of the work of the Association, which has for the last six years been largely in abeyance.

5. An examination of the estimate of expenditure and receipts, on page 107 of the SUPPLEMENT of April 24th, 1920, shows that on a conservative estimate almost every item of ordinary Association expenditure may be expected to increase—some of them heavily. There is as yet no prospect of a fall in prices—in fact, everything points to further increases in the cost of nearly everything the Association uses. Paper is now 7¾d. a pound as against 1½d. in 1913, and the best judges think the maximum has not yet been reached. The new postage rates will hit the Association hard, and will very materially upset the estimated increase of only £113 in printing, postage, and stationery. There are, in addition, certain new items of expenditure for 1920, all of which have been incurred in direct response to the demands of our members. These are (*a*) the Scottish Office, with its whole-time Secretary, which will cost over £1,200 a year; (*b*) the Intelligence Department, costing approximately £700 to £800 a year; (*c*) the newly-established British Medical Association Lectures, which will cost probably £200 in 1920, a sum which will be increased as the demand for the lectures increases, as it seems likely to do. The increase in expenditure in 1920, estimated in the Annual Report as probably £11,500, may quite easily prove to be £14,000 or £15,000.

What Increases in Revenue may be Expected in 1920?

6. If the subscription be not raised we may fairly expect a net increase of 1,000 members in 1920, which at the present rates of subscription would bring an additional income of about £2,500. The rates for advertisements have recently been increased as far as was thought expedient. The full effect of this increase will not be seen in 1920 owing to the long contracts entered into with some of the advertisers, but it is hoped that the advertisement revenue may increase by nearly £5,500 in 1920. The sales of the JOURNAL and other smaller sources of revenue will, it is estimated, bring another increase of about £1,200. That is to say, that if the subscription be not raised and our anticipations as to the other items are realized we may expect to receive about £9,000 more revenue in 1920 than in 1919.

7. Comparing this with the estimate of expenditure it will be seen that unless we can find some new source of revenue, or can make considerable economies we shall be left at the end of 1921 with an adverse balance of *at least* £2,500, making no allowance for any further increase of prices that may occur.

Possible Economies.

8. As to possible economies, it is to be noted:

I. (*a*) During the past year great care has been taken in

fixing the size of the JOURNAL so as to save paper, machining, and postage. By keeping the number of pages as often as possible below 92, about £50 a week is saved in postage alone. (*b*) The free list of the JOURNAL has been greatly reduced. (*c*) The address bands used for the JOURNAL have been reduced in size, and this has saved about 100 per cent. in the cost of paper for that purpose. (*d*) The JOURNALS of members in arrears are now stopped much sooner than before, thus reducing the items of paper, printing, and postage.

II. (*a*) Free use has been made of duplicating machinery, thus saving a good deal in printing. (*b*) There will only be one issue of the Handbook for the Cambridge Meeting instead of a daily issue, and this will be a considerable saving. (*c*) Though the work of the office steadily increases, the number of the staff has increased but slightly, and every effort is made to keep this item of expenditure as low as possible consistent with efficiency.

What is likely to be the Effect of the Increase on the Funds and Membership of the Association?

9. The number of resignations of membership in the last nineteen years is as follows:

1901	344	1911	484
1902	603	1912	715
1903	538*	1913	2,675‡
1904	460	1914	2,417
1905	477	1915	934
1906	485	1916	747
1907	1,050†	1917	437
1908	584	1918	251
1909	496	1919	301
1910	411		

* Subscription raised from 21s. to 25s.
† Controversy over application for Charter.
‡ Subscription raised to £2 2s.

It will be seen that, leaving out of account the years 1907 and 1912-15 inclusive, when, in addition to the rise in subscription, other abnormal influences were at work, the average number of resignations was 472. If all the resignations in 1913 above that average were ascribed to the increased subscription (which would not be in accordance with the facts), then it may be said that the last increase cost the Association 2,200 members. The membership of the Association is now well over 22,200; if we assume that 2,200 leave on this occasion we should be left with a membership of 20,000. Allowing 7,000 for oversea members and those who pay a reduced fee as junior members of the profession, the Association would have 13,000 guineas of additional income. A smaller increase would, of course, meet the immediate needs of the case, but the Council considers that the ambition of the Association should be not only to make ends meet, but to have a reserve for any contingency that may arise. Such a reserve would enable the Council to meet, without further increase of subscription, the inevitable demand on the part of members that their Association should undertake fresh duties and develop fresh methods for meeting the changing needs of the medical profession.

British Medical Association.

CURRENT NOTES.

Council Election.

THE following have been elected to the Central Council as the result of the voting in the five contested elections of members of Council by the grouped Branches:

Metropolitan Counties Branch: Lord Dawson of Penn, Dr. C. Buttar, Dr. J. A. P. Barnes, and Lieut.-Colonel W. McAdam Eccles.

Cambridge and Huntingdon, Norfolk, Essex, Suffolk, and South Midland Branches: Dr. E. O. Turner (Great Missenden).

Kent, Surrey, and Sussex Branches: Dr. E. R. Fothergill (Hove).

Yorkshire Branch: Dr. A. Forbes (Sheffield).

Aberdeen, Northern Counties, Dundee and Perth Branches: Dr. D. Lawson (Banchory).

Particulars of the voting will be published next week.

Salaries of Medical Officers of Local Authorities.

In December, 1919, a circular letter, of the nature of a reminder, was sent by the British Medical Association to the local authorities throughout the country with regard to raising the salaries of their medical officers. Up to May 20th last 1,478 replies were received. Of these, 690 stated that the salary had been increased by 33⅓ per cent. or more, 244 that the salary had been increased by less than 33⅓ per cent., 67 that the Civil Service bonus (Awards 84 and 101) had been granted; and 130 that no action had been taken. Of the remainder, 277 sent replies not falling under the above four headings, omitting, for instance, to state the exact amount of the salary; and 70 formal acknowledgements were received. In a good number of cases in which the application of the medical officer for the increase had been refused, pressure applied by the head office of the Association has brought about a reversal of the previous decision and an increase has been given. In the course of correspondence it came to light that some local authorities had taken no action on the circular owing to the fact that the medical officers themselves had not made an application. In such case the Authority would have some reason to assume that the medical officer was satisfied with his remuneration. Medical officers who have made no applications and have received no increase in salary may find this worth noting.

Assistants in Panel Practice.

The Insurance Acts Committee on May 27th considered the position brought about under the 1920 Regulations when the names of assistants employed by insurance practitioners are placed upon the Medical List, and the question of insured persons being accepted by assistants and placed upon their lists. The Committee was of opinion that these are not matters to be left to the ordinary professional agreement between principal and assistant, and it was felt that they should be discussed further with representatives of the Ministry of Health, and reported upon to the next meeting of the Committee.

NOTICES OF MOTION AND AMENDMENT BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, 1920.

By Bristol Division:

The Profession and its Attitude in Relation to Secret Remedies.

That the recommendation contained in para. 97 of the Annual Report be amended by the substitution of the words "the principal ingredients are not divulged" for the words "he is not aware."

By Mid-Cheshire Division:

Medical Practitioners and the General Medical Council.

That this meeting is of opinion that in the event of a personal complaint from an aggrieved member being received with regard to illegal interference by the General Medical Council, the Council of the Association shall take the matter up vigorously; and failing the receipt of such personal complaint the Council shall press for a decision on the general question of such illegal interference.

By Mid-Staffs Division:

Life Insurance Examinations.

That this meeting does not accept the principle of a modified examination for life insurance, seeing that the responsibility of the medical man in deciding the prospect of life is the same in all cases whatever the amount of the policy, and irrespective of the form or length of the medical report required; and that the fee for all such reports should be one guinea.

By Portsmouth Division:

Recovery of Arrears of Subscription.

That the Council be instructed to consider the advisability of By-law 13 (1) (as recommended in para. 67 of the Annual Report) being further amended so as to provide that in the event of a member's subscription being a year overdue, the Solicitor of the Association be instructed to take action to recover the same.

Professional Secrecy.

That the Representative Body express the opinion that the medical profession should be placed on the same footing as to professional secrecy as clergy, barristers, and solicitors, and that the Association take every means to bring this about (*Amendment to Recommendation contained in para. 94 of Annual Report*).

By Reigate Division:

Fees for Life Insurance Examinations.

That all insurance fees be increased by 50 per cent.

That the fees for all Life Insurance Examinations should be proportional to the sums insured.

By Bournemouth Division:

Fees for Life Insurance Examinations.

That the minimum fee for medical examination for industrial insurance be 7s.

By Lambeth Division:

Payment of Medical Staffs of Hospitals for Pensions Work.

That for all work for soldiers and sailors, whether discharged or not, for any disease or injuries connected with the war undertaken by Voluntary Hospitals the Medical Staffs should be adequately remunerated. In any case, the remuneration should represent an addition of not less than 25 per cent. to the cost of maintenance of in-patients and not less than 25 per cent. of ascertained cost per patient per attendance for out-patients, the additional sum to be placed at the disposal of the Medical Staff; that in the case of Special Clinics (for example, Aural and Ophthalmic) the fee payable to the medical practitioner should not be less than the fee payable by the Ministry of Pensions for identical or similar services, namely, £2 2s. per session.

By Glasgow Southern Division:

Payment of Medical Staffs of Hospitals for Pensions Work.

That in view of the fact that the word "maintenance," as used in connexion with the treatment of in-patients, usually excludes the cost of drugs, dressings, nurses' salaries, etc., the words "and treatment (' exclusive of medical salaries ')" be inserted after the word "maintenance," and that the same principle be observed in calculating the cost of out-patient attendance.

By Exeter Division:

Proposed Increase of Subscription.

That the subscription to the Association be increased to 2½ guineas.

Treatment of School Children and Maternity and Child Welfare Centre Fees.

That para. 106 (i) of the Annual Report of Council be amended to provide that a fee of one guinea be chargeable where the session or time involved is one hour or less.

By Southport Division:

Fees for Life Insurance Examinations.

That the fee for medical examinations for policies of £100 in Intermediate Offices be £1 1s.

Fees for Medical Practitioners called in on the advice of Midwives.

That in cases where a practitioner is called in by a midwife the onus of payment should lie with the local health authority.

By West Suffolk Division:

Motor Car Tax.

That the British Medical Association request the Government to provide that in the case of medical men who keep two motor cars tax should be paid on one car only, provided that an undertaking be given that only one car be used at any one time.

Arrears of Subscription.

That the Council be instructed to consider the advisability of members, whose subscription for any year is not paid, being given four weeks' notice that if their subscription for that year is not paid on or before December 31st of that year they will cease to be members of the Association.

Minimum Salaries for Public Appointments.

That part-time medical officers of health be paid on the basis of area and population involved, and not by time, as suggested by Council. (Para. 108 of Annual Report.)

By Perth Division-Branch:

Motor Car Tax.

That this meeting desires the tax on motors to be adjusted in the same manner as at present—namely, not more than 50 per cent. of the usual tax to be charged from doctors.

By West Herts Division:

Hospital Staffs and Coroners' Law.

That the Association press upon the members of the House of Commons Medical Committee the injustice of the present state of the law which precludes the payment to the honorary medical staffs of hospitals of fees for giving evidence at inquests and making *post-mortem* examinations by order of the coroner on persons who are brought in dead or who die in hospital, and that they urge them to do their best to get the law amended. (Para. 136 of Annual Report.)

By Cardiff Division:

Motor Car Tax.

That in the opinion of this meeting the fairest way to tax motor locomotion is by a tax on motor spirit.

That this meeting protests against the proposal to tax medical men on an additional car where more than one car is kept for purely professional purposes.

Payment of Medical Profession.

That the attention of the Annual Representative Meeting be directed to the fact that the 11s. per capita under the National Health Insurance Acts brings the profession little more than the amount received when the profession received 7s. plus fees, for attending invalided sailors, soldiers, and marines.

By South Staffs Division:

Treatment of School Children and Maternity and Child Welfare Centre Fees.

That "two guineas" be substituted for "one and a half guineas" (in connexion with para. 106 (iii) of the Annual Report).

By Mid-Cheshire Division:

Hospital Staffs and Coroners' Law.

That the injustice, under which the honorary staffs of the hospitals are compelled to make *post-mortem* examinations, and give evidence in the coroner's courts without any fee, should be remedied by an alteration of the Coroners' Act, and that in any alteration of the Coroners' Act the Council be instructed to make representations that the fees for *post-mortem* examinations and evidence should be reconsidered, as at present they are entirely inadequate.

By Cleveland Division:

Supply of Motor Spirit.

That the Council be instructed to approach the wholesale distributors of motor spirit with a view to securing that medical practitioners be supplied with motor spirit at the same rate as that charged to traders.

By Guildford Division:

Medical Certificate of Inability to Attend School.

That where an Elementary School Authority requires a medical certificate of the inability of a child to attend school, the fee for such certificate shall be paid by the Education Authority.

Association Notices.

REPRESENTATIVE MEETING.

DATE.

THE Annual Representative Meeting at Cambridge will begin on Friday, June 25th, at 10 a.m.

NOTICES OF MOTION AND AMENDMENT.

Notices of Motion and Amendment by Divisions and Branches for consideration by the Annual Representative Meeting will be published in the SUPPLEMENT as they are received, but none can be published later than June 12th, for which purpose they must be received by the Medical Secretary *not later than the first post on Monday, June 7th.*

It will be possible, however, to include in the Agenda for the Annual Representative Meeting all Notices of Motion and Amendment which are received by the Medical Secretary *not later than the first post on Monday, June 14th.*

CHANGES OF AREAS.

PROPOSED AMALGAMATION OF DOVER AND FOLKESTONE DIVISIONS.

NOTICE is hereby given to all concerned of a proposal made by the Kent Branch for amalgamation of the Dover and Folkestone Divisions of the Branch, the new Division to be known as "the Dover and Folkestone Division."

The matter will be determined in due course by the Council. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, W.C.2, not later than July 5th, 1920.

SUGGESTED CHANGES OF AREAS.

PROPOSED ADJUSTMENT OF AREAS OF ROTHERHAM AND SHEFFIELD DIVISIONS.

NOTICE is hereby given to all concerned of a proposal made by the Rotherham and Sheffield Divisions to adjust the common boundary of the two Divisions so as to include within the area of the Rotherham Division the following townships: Rawmarsh, Parkgate, Wentworth, Thrybergh, Goldthorpe, Kimberworth, Maltby, Templeborough, Dinnington, Thorpe Hesley, Whinney Hill, Kilnhurst, Greasboro', Bramley, Wath, Laughton, and Wickersley.

The matter will be determined in due course by the Council. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, London, W.C.2, not later than July 5th, 1920.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—The annual general meeting of the Branch will be held at the County Hotel, Carlisle, on Friday, June 18th, at 4.15 p.m. Business: (1) Election of officers; (2) Report of Branch Council; (3) Ethical Rules; (4) Presidential address by Dr. G. R. Livingstone, Dumfries.

EDINBURGH BRANCH.—The annual meeting of the Edinburgh Branch will be held in the Hall of the Royal College of Surgeons, Nicolson Street, on Friday, June 18th, at 4 p.m. Tea will be served at 3.45 p.m. Business:

Report of Branch Council. Treasurer's financial statement. Election of office-bearers for 1920-21. Election to annual vacancy on the Board of Management of the Queen Mary Nursing Home. Proceedings of Scottish Committee: (1) Proposed alteration of reference to Committee increasing its powers; (2) proposed reconstitution of Committee. (3) Annual Report of Council and Annual Representative Meeting.

KENT BRANCH.—The seventh annual meeting of the Kent Branch will be held at the Cliftonville Hotel, Margate, on Saturday, June 12th, at 2 p.m. Agenda: Receive (1) report of election of officers for 1920-21, (2) annual report and financial statement; appoint auditors; other business. The President-elect, Mr. W. G. Sutcliffe, O.B.E., F.R.C.S., kindly invites members to lunch at the Cliftonville Hotel at 1 p.m. The annual meeting will be held at 2 p.m., after which the President will give his inaugural address. A visit will subsequently be made to the Royal School for Deaf and Dumb Children, where tea will be provided. No dinner will be held, but there will be an opportunity to visit the various attractions in the town. Members intending to be present at the lunch are asked to notify Dr. H. M. Raven, Broadstairs, not later than June 8th.

LANCASHIRE AND CHESHIRE BRANCH.—The eighty-fourth annual meeting of the Branch will be held at the Prince of Wales Hotel, Southport, on Wednesday, June 9th. 12.30 p.m., luncheon (at the invitation of the Southport Division); 1.30 p.m., Branch Council meeting; 1.45 p.m., meeting. Presidential address by Dr. F. J. Baildon, entitled "The Status of the Medical Profession." After the transaction of business, communications will be made by: Dr. William Wilson, on national control of suppurative otitis media; Dr. J. C. Matthews, treatment of diabetes; Mr. Newbolt, complications of suprapubic prostatectomy; Dr. Robert Buchanan and Mr. Arthur Evans, diaphragmatic hernia of stomach; Mr. John Morley and Dr. J. M. Woodburn Morison, diagnosis and operative treatment of cancer of stomach; Dr. Walter C. Oram will give a demonstration of radiograms illustrating diseases of the stomach. 3.45 to 7 p.m., visits and excursions; 7.30 p.m., dinner at Prince of Wales Hotel (tickets, not including wines, 10s. 6d. each; morning dress).

METROPOLITAN COUNTIES BRANCH.—Mr. N. Bishop Harman and Dr. J. A. Percival Barnes (Honorary Secretaries) give notice that the annual general meeting of the Branch will be held at 429, Strand, W.C.2, on Friday, June 18th, at 4.30 p.m. Business: (1) Report of scrutineers as to the election of new officers. (2) Annual report of Council. (3) President's Address, by Dr. E. W. Goodall, O.B.E.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Division will be held at the Willesden Municipal Hospital, Brentfield Road (Dog Lane), on Friday, June 11th, at 3.30 p.m. The Health Committee of the Council has kindly thrown open the hospital for inspection, and will provide tea.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—Dr. J. Livingston, Honorary Secretary, gives notice that the annual meeting of the Branch will be held on Wednesday, June 9th, at 3.15 p.m., in the Furness Abbey Hotel, Barrow. Business: Report of Council. Election of officers. President's address, by Dr. A. F. Rutherford: "Experiences of an ambulance train commander." The President invites members to tea.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—Dr. Munro Moir, Honorary Secretary (18, Ness Bank, Inverness), gives notice that the annual meeting of the Branch will be held in the Station Hotel, Elgin, on Saturday, June 12th, at 12.15 p.m. The Aberdeen, Banff, and Kincardine Branch will also meet there on the same day, and the members of the two Branches will have luncheon together after the business meetings.

SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.—Dr. E. R. Fasnacht, Honorary Secretary (116, Hurst Grove, Bedford), gives notice that the annual meeting of the Division will be held on Thursday, June 17th, at 3 p.m., at the Swan Hotel, Bedford. Agenda: Receive the Annual Report. Election of Officers and Representatives. Mr. Victor Bonney, F.R.C.S., will read a paper on "Modern methods in the treatment of difficult labour." The chairman, Dr. W. G. Nash, invites the members of the Division to luncheon at the Swan Hotel, Bedford, at 1.30 p.m. Members who wish to accept Dr. Nash's invitation are asked to intimate their intention not later than Thursday, June 10th.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The fiftieth annual meeting of the South Wales and Monmouthshire Branch will be held at the Y.M.C.A., Cardiff, on Thursday, June 10th, at 3.30 p.m. Mr. W. J. Greer, F.R.C.S., will give his Presidential address on "The first minute book of the Branch."

SUSSEX BRANCH.—A meeting of the Sussex Branch will be held at the Eversfield Hotel, St. Leonards-on-Sea, on Tuesday, June 15th, at 4.45 p.m., when a British Medical Association Lecture will be delivered by Dr. W. Langdon Brown, F.R.C.P., Physician to St. Bartholomew's Hospital, on "Diabetes in relation to the ductless glands." All members of the profession in Hastings and St. Leonards and members of the Sussex, Kent, and Surrey Branches of the Association are invited.

Meetings of Branches and Divisions.

LANCASHIRE AND CHESHIRE BRANCH: ST. HELENS DIVISION.

THE annual meeting of the St. Helens Division was held on May 11th.

The following officers were elected:

Chairman: Dr. C. H. Wild. *Vice-Chairman:* Dr. J. H. Dow. *Honorary Secretary and Treasurer:* Dr. F. J. Knowles. *Representative in Representative Body* (conjoined with Warrington): Dr. F. P. Bassett.

It was resolved:

That the best thanks of this Division be accorded to the Insurance Acts Committee and the officials of the British Medical Association for their strenuous work in connexion with the 1920 Insurance Act, and that they be congratulated on the satisfactory results attained.

The annual report of Council, 1919-20, was discussed and the Divisional Representative instructed thereon. The suggested increase of the members' annual subscription to £3 3s. received full support.

It was agreed that a local scheme for the transfer of practices could, and would, be formulated, as suggested in M. 21, 1919-20, which would meet the difficulties presented in the matter.

With regard to the right of appeal of practitioners to the High Courts (National Insurance Act, 1920) it was decided that the unanimous support of the Division should be given to the British Medical Association in dealing with this proposal in every way, and the Honorary Secretary was instructed to keep in touch with the local members of Parliament and endeavour to secure their interest and aid.

It was arranged that the annual conjoint meeting of the St. Helens and Warrington Divisions should be held on May 20th at the Town Hall, Earlestown.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.

THE annual meeting of the Division was held on May 11th, when Dr. FERGUSON was in the chair.

The following officers were elected:

Chairman: Dr. Ferguson. *Vice-Chairman:* Dr. Naden. *Representative on Branch Council:* Dr. Bowden. *Honorary Secretary and Treasurer:* Dr. T. A. Murray.

Some discussion (preparatory to the joint meeting with St. Helens) in the report of Council took place. During the war, and since, the members of the Division living in the Widnes portion of the area have been unable to attend meetings owing to the train service being very much reduced.

SOUTH-WESTERN BRANCH: PLYMOUTH DIVISION.

AT a meeting of the Plymouth Division, held on May 15th, the following business was transacted:

Dr. S. Noy Scott was appointed Representative in the Representative Body.

It was suggested that the annual subscription should be 2½ guineas rather than £3 3s. The report of Council on fees for examination for life insurance and fees for medical men called to aid of midwives was approved. The question of federation or affiliation was discussed, and it was resolved that the decision of the Annual Representative Meeting be accepted.

The Honorary Secretary was instructed to write to the three members of Parliament for Plymouth asking them to support the amendment of Captain Elliot regarding practitioners' right of appeal to the High Court of Justice. It was resolved that the annual payment for non-insured members of friendly societies be all raised to that paid for insured members. Cases were quoted in which some local districts had willingly agreed to pay 15s. and 13s. 6d. *plus* mileage in addition, per member.

The Honorary Secretary was instructed to write to the Town Council of Plymouth, expressing astonishment at the inadequate fee offered by them for the services of a temporary part-time school medical officer, which was at the rate of £32 per annum for each weekly session of two hours; and to point out that the meeting considered that no less than £2 2s. per session of two hours should be offered.

WILTSHIRE BRANCH.

A MEETING of the Wiltshire Branch was held on May 26th.

On the question of club fees the following amounts of remuneration were agreed upon:

Adults: 11s. and 2s. drugs. Mileage 1s. per mile over two miles one way per visit, to be paid by patient at the time. Old age pensioners and necessitous persons (according to the opinion of the medical practitioner): 10s. inclusive of drugs and mileage. Children, at a flat rate (each child counting): 6s. inclusive of drugs; mileage same as for adults.

Dr. C. E. S. Flemming was reappointed the Representative of the Salisbury, Swindon, and Trowbridge constituency in the Representative Body.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1920.

Tuesday, June 1st, 1920.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

THE one hundred and eleventh session of the General Council of Medical Education and Registration was opened on June 1st, at 2 p.m.

PRESIDENT'S ADDRESS.

Sir DONALD MACALISTER said:

Never before, I think, has the President had to record the retirement of so many as nine members of the Council in one year. Four, as I mentioned last November, left us after the summer session. I intimated also that two much-valued members, Dr. Langley Browne and Dr. Latimer, having decided not to stand for re-election, would retire at the end of 1919. To their names three others have now to be added. Dr. David N. Knox, of the Glasgow Royal Faculty, after more than ten years of loyal and effective service, resigns office on the ground, I regret to say, of his need for rest in order to the recovery of his health. Sir Bertram Windle has at different times represented two universities on the Council. His experience as an administrator enabled him to give valuable aid on more than one important committee, while his terse and incisive speech often gave point to our debates and clearness to our decisions. He has now been called to a responsible post in Canada. His letter of resignation contains expressions of regard for his colleagues of the Council and of regret for his severance from them, which will be echoed in this chamber. Sir Charles Tomes, our Treasurer since 1904, and our chief counsellor in matters of dental administration, retires from his place as a Crown Member, on the completion of an exceptionally prolonged term of twenty-two years. Members of the Executive, Finance, and Dental Committees know best the prudence, devotion, and goodwill which he brought to bear upon their work; but all of us must be aware of the debt the Council owes him for his wise management of its property and funds, and for the secure financial position to which he has guided it through difficult times. His colleagues of the Executive deemed it a privilege to entertain him at a complimentary dinner last February, and to express to him on behalf of the whole Council their grateful acknowledgements and good wishes on his retirement. Sir Almeric Fitzroy was present as Clerk to the Privy Council, and cordially joined in thanking Sir Charles for the manner in which he had fulfilled his commission from the Lord President.

New Members.

We have, however, to welcome the coming as well as to speed the parting guests, and in your name I offer a cordial greeting to the new members who join us at this time. The Royal Faculty sends us its ex-President, Dr. James A. Adams, long and honourably known as a surgeon and a surgical teacher in the Glasgow School of Medicine. Dr. R. A. Bolam, of Newcastle, and Mr. E. B. Turner, of London, have been elected by the practitioners of England and Wales to serve with our colleagues, Sir Jenner Verrall and Dr. Macdonald, as Direct Representatives. By their manifold activities on behalf of the profession in its public relations they have won for themselves the position of trusted leaders and advisers. They have wide knowledge of medical opinion and aspiration, and we shall count on profiting by it in our future deliberations.

The Crown has appointed Mr. Norman G. Bennett, M.A., M.B., and L.D.S., in place of Sir Charles Tomes. He has filled with conspicuous ability important offices in the British Dental Association and at the Royal Dental Hospital. As he is fully conversant with the questions that under impending legislation will have to be faced by the Council and by the dental profession, his accession to our body is timely and helpful. It gives me special pleasure to greet him as an old pupil of St. John's College, Cambridge.

Honours.

His Majesty has been graciously pleased to confer honours on several of our members, for services within and without the Council. The Knight-Commandership of the Order of the British Empire has been bestowed on Sir James Hodsdon, C.B.E., and the Commandership on Colonel Waring, Dr. Caton, and Dr. Langley Browne. Mr. Cockington also, our Assistant Secretary, in merited recognition of the public work for the medical services done by him when he was Acting Registrar, during Colonel King's absence on military duty, has been appointed Officer of the same Order. Mr. Harold Griffiths, one of the Registrar's staff, has returned with the rank of sergeant, after serving for four years in Great Britain, Syria, and Egypt.

Ministry of Health.

Under the Ministries of Health Acts, Consultative Councils, for the purpose of advising the respective Ministers in regard to medical and allied public services, have been constituted in the three kingdoms, and are already at work. To all of them members of this Council have been appointed, and it will thereby be kept in touch with their activities. A number of draft and other Orders in Council under the Acts have been transmitted for its consideration to the Executive Committee; but so far none of these have dealt with questions other than administrative and formal. On May 17th, however, an Order in Council was issued, which gives effect to a suggestion of the Anatomy Acts Committee forwarded by the Executive Committee, and providing for the transfer to the Minister of Health of the duties performed in England and Wales by the Home Secretary in relation to the Anatomy Acts. It is confidently hoped that the new arrangement will lead to much-needed improvements in the provision made for the practical teaching of anatomy and surgery.

Nurses Registration.

Acting on your instructions, I was enabled by the courtesy of the Lord President to call the attention of the English Minister of Health to an apparent omission from the Nurses Registration Bill introduced by him. No provision was made, as in the Midwives Acts, for communicating the Rules framed by the General Nursing Council to the Executive Committee before approval by the Minister. Dr. Addison considered the point, but decided that such a provision was in this case unnecessary, as the rules in question, unlike those of the Central Midwives Board, do not purport to "regulate the practice" of nurses, but deal mainly with details of administration. Moreover, such rules have, unlike those for midwives, to be laid before Parliament prior to approval. The Minister accordingly did not favour any amendment of the bill in the sense suggested, and the Lord President concurred in his view. The point will, however, have to be kept in mind, should it hereafter be proposed to make rules, under statutory authority, for "regulating the practice" of nurses in surgical and medical cases, as that of midwives is regulated in obstetrical cases. Sir Jenner Verrall has been appointed a member of the General Nursing Council for England, and will no doubt keep us informed on the subject.

Date of Election of Direct Representatives.

The Right Hon. Sir Henry Craik, K.C.B., one of the members of Parliament for the Scottish Universities, has, with the approval of the Privy Council Office, reintroduced Lord Morley's Bill of 1912 for the purpose of extending the time allowed for proceedings in preparation for the election of direct representatives, and of providing that in general such elections shall fall to be held simultaneously. Should the measure pass into law considerable economies on the part of the branch councils and of candidates will be effected, and the convenience of the electors will be better served.

Proposed Amendment of Dentists Act.

The promised legislation for the amendment of the Dentists Act has not yet been initiated in Parliament, though it is stated officially that draft bills are soon to be introduced. It appears that one bill, made on behalf of the Privy Council, will be required to deal with dental registration, inasmuch as registration is common to the whole United Kingdom, and in a sense to the Dominions also; and that other measures, promoted by the several Ministries of Health, will be necessary to give effect, in their respective divisions of the kingdom, to such proposals for the improvement of dental service in relation to

the health of the people as are set forth in the Report of the Departmental Committee on Dental Practice. The Council has already considered these proposals and expressed its opinion of them in detail. It will be necessary to instruct either the Executive Committee, or a special committee appointed for the purpose, to watch the progress of legislation during the summer, and to take such steps as may be required to ensure that due account is taken of your conclusions.

Dangerous Drugs Bill.

The Home Secretary has brought up in the House of Commons a Dangerous Drugs Bill, intended to give effect to the International Opium Convention signed at The Hague in 1912. By the Treaty of Versailles this country bound itself to bring the Convention into force within twelve months. The bill imposes restrictions on the import, export, manufacture, and sale of opium, cocaine, etc., with the object of preventing dangerous abuse of these drugs in this country and abroad. Among other things it gives power to the Government to make regulations for the issue by medical practitioners of prescriptions containing any such drug, and for the dispensing of such prescriptions. During the war similar regulations were in operation, with the general approval of the profession. The question of their continuance has now assumed an international aspect. The profession, which best knows the nature and extent of the evil, will probably be the first to welcome wisely devised measures for checking it, even if these embody some restrictions upon professional freedom.

Standards for Drugs not Amenable to Ordinary Assay.

While the *British Pharmacopoeia*, 1914, was in preparation, the Pharmacopoeia Committee empowered me to approach the Government with the suggestion that a public national institute should be established for the purpose of testing and fixing standards in the case of therapeutic serums, vaccines, and other substances used in medicine and sold to the public, for which the ordinary methods of assay employed in the *Pharmacopoeia* were inapplicable. It was deemed at the time impracticable, without such official endorsement as a public institute might provide, to lay down "biological" or "physiological" tests in the *Pharmacopoeia* in addition to those which might be carried out by pharmacists and analysts under ordinary conditions. On inquiry in 1910 and 1911, it was ascertained that the Government departments concerned were not prepared to assume the financial and other responsibilities proposed. The Minister of Health has now, however, appointed a committee, under the guidance of Sir Mackenzie D. Chalmers, K.C.B., as chairman, to advise on the measures to be taken for the effective official control of the therapeutic substances in question. Last week I was called, as chairman of the Pharmacopoeia Committee, to give evidence on the subject before this committee. I explained the views held by us, and commended to the Government the provisions of the United States laws and regulations as a suitable model for this country in the matter. The *U.S. Pharmacopoeia*, 1916, with whose compilers we were in constant correspondence during its preparation, had been enabled, by the establishment of institutes authorized by the public health service, to include characters and tests for serums, vaccines, etc., which correspond to officially controlled standards.

The Number of Names on the Registers.

The new *Medical Register* confirms the forecast on which I ventured in November. On the Home List only 872 practitioners were registered in 1919, but no fewer than 450 were registered in the Colonial and Foreign Lists. The result is that the total number (1,322) of new names is higher than in any year since 1915.

The proportion of women practitioners increases, and is likely to increase rapidly during the next year or two. I learn, however, on good authority that their services are in less demand than during the war, and that newly-qualified women are finding difficulty in obtaining suitable opportunities for professional work. Supply and demand will no doubt adjust themselves in time; but, in view of the large entry of women students, it is proper to warn those concerned that, in the meantime, individual disappointments may be encountered. The women students who are now well advanced in their curriculum may not all at once find openings for practice after attaining to qualification. The profession of medicine is, in regard to women, affected like other occupations by the return to civil life of large numbers of ex-service men as students and practitioners. To these men the country owes special consideration, and they ought to receive it. But inevitably they tend to displace a proportion of the women who so capably carried on the work of the profession during their absence abroad.

The *Medical Students Register* indicates that the depletion of our professional ranks by the wastage of the war will in a few years be much more than made good by the addition of newly qualified men. No fewer than 3,420 medical students (men and women) were registered in 1919, as compared with 1,600 in 1914. The number of registrations, indeed, exceed by over 1,000 the highest previously recorded—namely, in 1891, when for special reasons the number rose to 2,405. The sudden increase cannot at once be met by a corresponding expansion of our educational resources, and the strain thrown upon the medical schools of the country is therefore, for the time, excessive. There is reason to think that most of the schools would welcome an ebb in the tide of applicants for admission, until it is seen that the profession can absorb the large numbers aspiring to enter it, and until more adequate provision is made for their effective instruction and training. In the departments of anatomy and operative surgery, of midwifery, and of clinical medicine, the existing provision is no longer fully adequate to the new demands.

The *Dentists Register* is stationary. The figures for the last three years are respectively 130 (1917), 131 (1918), 128 (1919). But there is an assured prospect of an advance by the end of 1922, for the number of dental students entered on the *Register* in 1919 has risen to 612, as compared with 294 in 1914.

In order more clearly to mark the sources of supply, an improvement has been made in the *Medical* and *Dentists Registers*, whereby the numbers of practitioners added respectively to the Home, Colonial, and Foreign Lists are set forth in separate tables.

Inspection of Examinations.

The cycle of inspections of qualifying examinations, ordered by the Council, has been begun. Some of the reports have been already received, and will be considered by the proper committees during this session. For the public health examinations we have been fortunate to secure the services, as our inspector, of Dr. Robert Bruce Low, C.B., lately assistant medical officer of the English Local Government Board. For the final examinations for medical degrees and diplomas our inspectors are Dr. Howard H. Tooth, C.B., C.M.G., in Medicine; Sir Hector C. Cameron, C.B.E., in Surgery; and Sir William J. Smyly, in Midwifery. Members of the Council have also been good enough to act as visitors at one or more examinations, and as provided in the Standing Orders they will present their separate reports to the committees concerned. It is probable that these committees may think it desirable to postpone the presentation of full reports on the results of inspection and visitation until a number of the documents, sufficient for purposes of comparison, are in their hands. Meanwhile confidential copies of the inspectors' reports will be circulated, as soon as they are ready, to members of the Council for their information. In this way all members will have been placed in possession of the materials on which the committees' reports are based by the time that these are submitted for general discussion by the Council.

Medical Education and Examination.

The Education Committee will have reports to bring up on certain important subjects remitted to it. These include—the question of instruction in medical ethics and the relations of practitioners to the State, the teaching of practical midwifery, and the place assigned to the preventive aspects of medicine in the curriculum of professional study. The latter report must raise large questions, which affect every part of the curriculum. The indications are that, by general consent, the time is approaching for some "reconstruction" in respect of the extent and content of the several stages and departments of the five years' medical course. Many valuable memorandums on the subjects have been received from teaching

and qualifying bodies. When to these are added the reports on the inspection and visitation of examinations, the Council will have ample materials both for a survey of existing conditions and for a reconsideration of its own standing resolutions on professional education and examination.

The Examination Committee will submit analyses of the annual tables furnished by the licensing bodies. These latter, in order to save the heavy cost of printing, I have referred directly to the Committee. It may be that you will find the analyses sufficient for insertion in the Minutes, the actual returns being kept in the archives for the use of members and others who desire to refer to them. The Committee will also report on the practice of the licensing bodies in respect of teaching and examination in ophthalmology, with reference to the Council's resolution of last year.

Finance.

The Council's finances are in a better state than we had reason to expect. The treasurers were able to report for 1919 a surplus of income over expenditure of £874, due on the one hand to the increased return from registrations on the Colonial List and from the advantageous sale of property in Hanover Square, and, on the other, to careful control of expenses, including those attending the recent elections. Expenses, however, in spite of the best of management, cannot fail to grow in these times. The exceptional charges due to the cycle of inspections will fall to be met in this and the succeeding year, and the expected dental legislation is certain to involve us in heavier administrative expenditure. For these reasons the treasurers, with the support of the Council and the co-operation of the staff, will still have to exercise the care and prudence in the management of our resources which were so constantly applied to it by Sir Charles Tomes.

Penal Business.

There is little business of a penal kind for this session, the cases for inquiry having for the most part been the subject of investigation by other tribunals. Thus, though very important educational and other matters will be brought up for your consideration, and must be properly and fully discussed, the whole sitting need not be a long one.

IRISH DISPENSARY DOCTORS AND THE PROPOSED NEW MOTOR TAXES.

WE have received from Dr. C. H. Foley (Ardrahan, co. Galway) the following communication on the subject of the proposed new taxation of motor cars as this affects Irish dispensary practitioners:

Through your columns we would beg to draw the attention of Irish dispensary doctors to the fact that, as most of them, owing to the nature of their districts, use Ford cars and cars of high horse-power, the proposed taxation of £1 per horse-power will hit them too heavily. In some backward districts where hiring is not certain to be obtained, and where there are no facilities for repairs, some doctors have two Fords, a second car, or a motor cycle, the object being to have one always fit for the road, owing to the difficulty and delay in getting repairs effected; the proposed tax in such circumstances is a great injustice. For be it known that, owing to the increased cost of living, it is only by a speeding up unknown to a previous generation of medical men that a dispensary doctor in a large rural district can escape from being forced to a whole-time attention to dispensary work.

In asking for signatures to a protest against this tax being imposed on us, we do so for the following reasons:

1. Guardians are not taxed for motor ambulances; then the cars of dispensary doctors doing the same class of work as the ambulances should also be exempt.

2. The present average dispensary salary is, in gross income, £200; when to the new tax is added the cost of petrol and tyres and running repairs, the actual out-of-pocket expense to be incurred is really prohibitive.

3. It is anticipated, by the protest of English motorists against the new tax, that though the present tax of 6d. (and 1d. for collection) on petrol will be removed, the Oil Trusts will, according to their custom and owing to the cry raised about petrol scarcity, advance the price of petrol.

4. We point out that we consider it is no longer just that we should be forced to accept two standards as governing our salaries—namely, both by the Treasury and boards of guardians (to the latter there are some splendid exceptions), we must still accept as equitable and just the salary paid us in 1902 or in the year known as the standard year. This is standard one. Both by the Treasury and boards of guardians it is not recognized that this standard salary if just and equitable in 1902 is no longer so, owing to the new standard in the cost of living created by the war, a standard met by a rise of wages in all spheres of labour and service. The Treasury, which under the Medical Charities Acts pays half the dispensary doctors' salary, still pays only the half of that salary as it stood in the standard year 1902. That payment averaged £60 to £70 per annum, but now it is proposed in new taxation to demand back from each dispensary doctor in difficult poor districts £20 to £44 of that grant, leaving the gross salary at the same standard.

5. In very many cases the gross salary is to-day the same as in 1898. In others—as to some of the undersigned—it is but £50 more; and boards of guardians have refused to make increases, though recognizing that the war standard now stands according to the Food Controller at 146 per cent. higher for cost of living than in the pre-war year. In other cases, owing to a higher intelligence, boards of guardians have increased, in 1919 and 1920, dispensary doctors' salaries by 50 per cent.

6. We ask whether it is just that the Treasury and Irish boards of guardians should maintain a medical service under two standards—a 1898 standard of salary and a 1920 standard cost of living—and force us to pay this new tax for the privilege of earning a salary not including expenses, based on the 1898 standard.

7. We point out that it is impossible to envisage this proposed tax except in the way we do, placing it in its proper position, towards our average salaries on the one side, and our work and expenses on the other.

8. The action of boards of guardians in refusing just claims for increase of salaries has placed on dispensary doctors an unjust burden, forcing them to make up the loss on dispensary work by recouping themselves at the expense of their private patients. In the present instance the putting of this tax on the doctors who cannot recover any of it on fixed salaries would mean another system of indirect taxation of the people.

9. We point out that while the Treasury keep their recoupment fixed on the standard year of 1902, our working expenses should also be kept on the same standard year, and that the net income of 1898 in its cost of living value free of tax should be the equitable standard for us as public servants in 1920.

10. We protest against being taxed for services under the Medical Charities Act as long as the net income received for these services does not amount to the minimum income tax figure.

11. We claim that as dispensary doctors all our expenses in working the Medical Charities Act should be paid, half by the Treasury and half by the guardians, and a new standard net income salary based on the quality of our work fixed, as the present gross income is misleading. Or until such is done we should be allowed on taxes on motors in our possession; half the total assessment relief in respect of the Medical Charities Act, of the tax remaining. We who are not and cannot be whole-time private practitioners should be granted in common with whole-time private medical practitioners and veterinary surgeons a similar concession to that granted them.

12. At present we are the only public officials, not alone not granted travelling expenses, but subject to such travelling expenses and costs (which can be vouched for by each doctor's records) as fully fulfils that purpose of gross income to successfully hide from the public view and from that of recently qualified men the amount of net income thought equitable and just payment to trained medical men. Because of this cheapness the medical service is decried, and its individual units classed as they appear in those vehicles for conveying ideas to the general public—"The Irish Novel of the National Idea," by such writers as G. A. Birmingham, and in a still more recent work by E. E. Lysaght.

13. Against this unfair lampooning, against the cheapness, against this injustice, Irish medical leaders have striven and will strive, but the conditions are largely due to the apathy of the dispensary medical men themselves. Can they look to metropolitan medical men whose income arises from discontent with a local medical man who is denied those means of keeping abreast of medical progress by the very cheapness of his wage—less than a labourer's? Can they look to farmers' associations now forming a trade union so well represented on the various boards? Can they look to the friendly societies under the Insurance Act? Can they look to the Treasury with its standard year of 1902? Will they look to themselves?

Names of protesters should be sent to:

C. H. FOLEY,
Ardrahan, co. Galway (*Connaught*).
P. STEPHENSON,
Carrick-on-Suir, co. Tipperary (*Munster*).
W. W. MURPHY,
Coolgreany, Inch, co. Wexford (*Leinster*).
W. LYLE,
Stewartstown, co. Tyrone (*Ulster*).

CORRESPONDENCE.

Taxation of Motor Cars.

SIR,—The Chancellor of the Exchequer has definitely refused to grant any concessions to medical men in his new motor taxation measure.

Those of us who are engaged in panel practice, especially those in country districts, have a very legitimate grievance,

in that we have to use our cars for Government work and are to be made to pay a heavy tax for doing so.

Surely this is a proper time for us to make a definite stand and say to the Government, "Unless you give us the old concessions we shall refuse to carry on your National Health schemes."

Because the Government have defeated us in our legitimate request for a fair capitation fee for panel work, that is no reason why we should meekly accept every attempt to put us under their heel.—I am, etc.,

GEO. SMITH SOWDEN, M.A., M.B.

Kirkby Stephen, May 30th.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders F. Cock to the *Adamant*, J. St.J. Murphy and J. H. Lightfoot to the *Thunderer*. Surgeon Lieutenant Commander J. A. O'Flynn to the *Coventry*. Surgeon Lieutenant (temporary) A. Craig to the *Warspite* for dental duties in squadron.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieut.-Colonel F. J. Brown, Reserve of Officers, and Major E. V. Aylen, D.S.O., relinquish the temporary rank of Lieutenant-Colonel.

The following relinquish the acting rank of Lieutenant-Colonel: Majors (Brevet Lieut.-Colonel) T. S. Coates, O.B.E. (February 17th, 1919), Norman E. Dunkerton (May 7th, 1919), (Brevet Lieut.-Colonel) H. V. Bagshawe, C.B.E., D.S.O. (February 3rd, 1920). Temporary Major J. J. Abraham, D.S.O.

Captain T. J. Hallinan is seconded for service under the civil administration of Mesopotamia, April 1st, 1920 (substituted for notification in the *London Gazette*, July 1st, 1919).

The following officers relinquish the acting rank of Major: Captains (Brevet Majors) A. T. J. McCreery, M.C., C. D. K. Seaver, H. G. Trayer. Temporary Captains R. Massie, O.B.E., W. T. Currie, H. B. Graham, D.S.O., M.C., A. G. Gilchrist.

Captain A. S. Cane, D.S.O., O.B.E., to be temporary Major whilst specially employed.

Temporary Captain A. Brown, O.B.E., to be acting Lieutenant-Colonel.

W. H. Johnston from Unattached List T.F. to be temporary Lieutenant August 11th, 1914 (substituted for notification in the *London Gazette*, August 20th, 1914).

ROYAL AIR FORCE.

MEDICAL BRANCH.

Transferred to the unemployed list: Captains G. C. Hall, V. I. Levy, W. A. Pocock.

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Thurs., 5 p.m., Dr. A. F. Hurst: Croonian Lecture (I): Psychology of the Special Senses and their Hysterical Disorders.

ROYAL SOCIETY OF MEDICINE.—*Section of Ophthalmology:* Wed., 8 p.m., Clinical Evening. Cases, 9.30 p.m. Annual General Meeting.

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Mon. and Thurs., 11 a.m., Dr. R. Hutchison: Disorders of Digestion and Nutrition; 9.15 a.m., Dr. Theodore Thompson: Diseases of the Central Nervous System; 5.15 p.m., Mr. T. Higgins: Surgical Disorders of Nasopharynx and Annexa. Tues. and Fri., 5 p.m., Dr. D. N. Nabarro: Pathological Investigations; 5.15 p.m., Mr. G. Waugh: Common Surgical Disorders.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. G. R. Murray: Examination of the Thyroid Gland and its Functions (continued).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Out-patient Clinics, 2-3.30 p.m. daily, except Wed. and Sat. Mon., 3.30 p.m., Mr. Paton: Visual Fields. Tues., 3.30 p.m., Dr. Greenfield: Tissue Reactions to the Central Nervous Lesions. Wed., 2 p.m., Mr. Sargent: Cerebral Tumour. 3.15 p.m., Dr. Collier: Syringomyelia. Thurs., 3.30 p.m., Dr. Farquhar Buzzard: Encephalitis. Fri., 3.30 p.m., Dr. Tooth: Tabes Dorsalis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., Operations, Clinics, etc. Mon., 2.30 p.m., Mr. Banister: Gynaecological. Tues., 9.45 a.m., Lieut.-Col. R. H. Elliot: Eyes; 2.15 p.m., Mr. Benians: Protective Mechanisms; 3.15 p.m., Mr. Hayton: Syphilis of Upper Respiratory Tract; 4.30 p.m., Lecture, Sir F. W. Mott: Diagnosis of Functional Paralysis. Wed., 2.30 p.m., Dr. Oliver: Dermatological. Thurs., 2.30 p.m.: Eye Cases, Mr. Fleming; Radiology, Dr. Metcalfe. Fri., 2.30 p.m., Dr. Sundell: Children. Sat., 3 p.m., Mr. Carson: Cases.

ROYAL EYE HOSPITAL, Southwark, S.E.—Wed., 5 p.m., Mr. Griffith: Psychology of Vision.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.1.—5 p.m.: Dr. A. W. Stott—Mon., Pleurisy; Tues., Haemoptysis; Fri., Meningitis. Dr. Barty King—Wed., Complications. Mr. Harold Maut—Thurs., Laryngeal Tuberculosis.

SHEFFIELD ROYAL INFIRMARY.—Wed., 4 p.m., Professor Connell: Lesions of Fingers and Colles's Fracture.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-Patient Clinics and Operations. Mon., 2 p.m., Mr. Bishop Harman: Eyes; 5 p.m., Dr. Grainger Stewart: Syphilis of Nervous System. Tues., 12 noon, Mr. Tyrrell Gray: Fractures; 5 p.m., Dr. R. J. Reece: Small-pox. Wed., 12 noon, Mr. Sinclair: Abdominal Diagnosis; 2 p.m., Mr. Armour: Surgical Cases. Thurs., 10.30 a.m., Dr. Simson: Gynaecological; 5 p.m., Mr. Baldwin: Practical Surgery. Friday, 10 a.m., Dr. McDougal: Electrical; 5 p.m., Mr. MacDonald: Stricture. Sat., 10 a.m., Dr. Saunders: Children; 2 p.m., Dr. Owen: Out-patients.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lendin Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

8 Tues. London: Scrutiny Subcommittee, 2.30 p.m.

9 Wed. London: Journal Committee, 2 30 p.m.
London: Ministry of Health Committee.
London: Propaganda Subcommittee, 2.15 p.m.
Lancashire and Cheshire Branch: Annual Meeting, Prince of Wales Hotel, Southport. Luncheon 12.30 p.m.; Branch Council 1.30 p.m.; Meeting 1.45 p.m., Excursions 3.45 to 7 p.m., Dinner 7.30 p.m.
North Lancashire and South Westmorland Branch, Annual Meeting, Furness Abbey Hotel, Barrow, 3.15 p.m.

10 Thurs. South Wales and Monmouthshire Branch, Annual Meeting, Y.M.C.A., Cardiff, 3.30 p.m.

11 Fri. Willesden Division, Willesden Municipal Hospital, Brentfield Road, 3.30 p.m.

12 Sat. Kent Branch, Cliftonville Hotel, Margate, 2 p.m.
Northern Counties of Scotland Branch, Annual Meeting, Station Hotel, Elgin, 12.15 p.m.

15 Tues. Sussex Branch, Eversfield Hotel, St. Leonards-on-Sea, 4.45. Lecture by Dr. W. Langdon Brown: Diabetes in Relation to the Ductless Glands.

16 Wed. London: Finance Committee, 2.30 p.m.

17 Thurs. Bedfordshire Division, Annual Meeting, Swan Hotel, Bedford, 3 p.m.; Luncheon, 1.30 p.m.

18 Fri. London: Central Ethical Standing Subcommittee, 2.30 p.m.
Border Counties Branch, Annual Meeting, County Hotel, Carlisle, 4.15 p.m.
Edinburgh Branch, Annual Meeting, Hall of Royal College of Surgeons, Nicolson Street, 4 p.m.; tea 3.45 p.m.
Metropolitan Counties Branch, Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.

APPOINTMENTS.

BURDON-COOPER, J., M.D., B.Sc., F.R.C.S.Ed., D.O.Oxon., Lecturer in Physiological Optics, Department of Ophthalmology, University of Oxford.

DENT, Mrs. Patricia, M.B., B.S.Lond., Assistant Medical Officer for Maternity and Child Welfare, and Assistant to the School Medical Officer for the County Borough of Wolverhampton.

PRYCE, Ethel G. M., M.D.Glasg., Assistant Medical Officer of Health and Assistant School Medical Officer, Kesteven District.

RUDDOCK-WEST, T., M.B., B.S Durh., D.P.H.Camb., Assistant Medical Officer of Health, Surrey County Council, Kingston.

RYLAND, Archer, F.R.C.S.Ed., Oto-laryngologist to the Whipps Cross Infirmary, Leytonstone, E.

WILLIAMS, H. Lloyd, L.D.S., M.R.C.S., Consulting Dental Surgeon to the West London Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BODY.—May 24th, Mrs. T. M. Body, Dowlais House, Middlesbrough—a son.

HALL.—At 11, Battery Place, Rothesay, Bute, on 30th May, the wife of J. Stewart Hall, M.B., D.P.H., of a daughter.

POLHILL.—To Montagu C. Polhill, M.R.C.S., L.R.C.P., and Mrs. Polhill, on May 22nd, at 43, Clevedon Mansions, Lissenden Gardens, N.W.5—a son, Peter Montagu.

MARRIAGE.

SYKES—PRESTON.—1st June, 1920, at Holy Trinity Church, Scarborough, by the Rev. H. Drown, Dr. Frank Sykes, stepson of Dr. Walker and Mrs. Walker, of Batley, to Bessie Colbert, elder daughter of the late Mr. J. T. Preston, Dennistoun, Glasgow, and of Mrs. Preston, of 14, Grosvenor Road, Scarborough. At Home, Garfield House, Otley, Yorkshire, 25th and 26th August.

DEATH.

MITCHELL.—At Auchreddie House, New Deer, Aberdeenshire, Dr. Andrew Mitchell, in his 72nd year.

ENGAGEMENT.

GRAEME ANDERSON—HOOD.—The engagement is announced between Major H. Graeme Anderson, M.B.E., M.D., Ch.B., F.R.C.S., Surgical Consultant to the Royal Air Force, of 75, Harley Street, W., and Gladys, elder daughter of Charles Hood, of Hatch End, Middlesex.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 12TH, 1920.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

CURRENT NOTES:
- HOSPITALS AND PENSION WORK ... 187
- DR. BRACKENBURY AS A PARLIAMENTARY CANDIDATE ... 187
- MEMBERSHIP OF THE ASSOCIATION ... 187

COUNCIL ELECTION: RESULT OF VOTING ... 187

NOTICES OF MOTION FOR THE ANNUAL REPRESENTATIVE MEETING ... 188

ASSOCIATION NOTICES ... 189

MEETINGS OF BRANCHES AND DIVISIONS ... 189

PAGE

General Medical Council:
- DISCUSSION OF REPORT BY THE EDUCATION COMMITTEE ON THE TEACHING OF THE PREVENTIVE ASPECTS OF MEDICINE ... 189

NAVAL AND MILITARY APPOINTMENTS ... 193

DIARY OF SOCIETIES AND LECTURES ... 194

ASSOCIATION INTELLIGENCE ... 194

DIARY OF THE ASSOCIATION ... 194

BIRTHS, MARRIAGES, AND DEATHS ... 194

British Medical Association.

CURRENT NOTES.

Hospitals and Pension Work.

As a result of a conference between representatives of the British Hospitals Association and the Hospitals Committee, an agreement has been arrived at whereby the British Hospitals Association is to recommend to the governing bodies of voluntary hospitals, and the British Medical Association is to recommend to the medical staffs of voluntary hospitals, that payment to the medical staffs of these institutions for the treatment of discharged disabled soldiers and sailors should represent one-fifth of the total gross amount received by the hospital from the Ministry of Pensions. Although experience may show that a flat rate is not the most desirable method of payment for such services, the Hospitals Committee feels that this method should be adopted for a period, as it is eminently desirable that the principle of paying the medical staffs of voluntary hospitals should be firmly established in view of the probable extension of such work in connexion with the treatment of other patients for whom the State or some local authority is responsible.

Dr. Brackenbury as a Parliamentary Candidate.

The medical profession will be interested to hear that Dr. H. B. Brackenbury has been selected as the prospective Liberal candidate for the East Walthamstow Parliamentary Division, and all those who know of his great labours for the profession, his great capacity for work, and the efficiency with which he deals with any task that comes to his hand, will wish him success in his candidature. The Parliamentary Elections Committee, which acts on behalf of the Council of the British Medical Association as trustees for the Medical Representation in Parliament Fund, met last week and resolved that the support of the Fund should be given to Dr. Brackenbury. An appeal will shortly be made to the original subscribers to the Fund and to other members of the profession who are interested in securing suitable medical candidates for seats in Parliament.

Membership of the Association.

The members of the British Medical Association on March 6th, 1920, numbered 21,774; on June 5th, 1920, the number was 22,275. During the three months there was thus a net increase of 501 in the membership of the Association.

COUNCIL ELECTION.

THE following is the detailed result of the voting in the five contests in connexion with the election of twenty-four members of Council by the grouped Branches. The names of those elected were given in a Current Note last week.

Metropolitan Counties Branch.

The voting paper contained the names of nine candidates for the four vacancies. The voting was on the single transferable vote system. Out of 2,719 voting papers issued, 694 were returned, of which 4 were spoilt. The quota was therefore 139, that is, 690 divided by 5—one more than the total number of seats to be filled. The result of the first count was:

Dr. J. A. P. Barnes	81	
Dr. H. S. Beadles	55	
Dr. C. Buttar	132	
Lord Dawson of Penn	172	Elected
Lieut.-Colonel W. McAdam Eccles	97	
Mr. N. Bishop Harman	38	
Dr. C. O. Hawthorne	63	
Dr. Harvey Hilliard	22	
Dr. W. Paterson	30	
	690	

Lord Dawson's votes exceeding the quota by 33, he was declared elected. It then became necessary to transfer Lord Dawson's surplus 33 votes. The whole of his 172 papers were examined, and the distribution of the 33 surplus votes, according to the second preferences indicated, resulted as follows:

Dr. Barnes	+ 2 = 83	
Dr. Beadles	+ 1 = 56	
Dr. Buttar	+ 4 = 136	
Lord Dawson	− 33 = 139	Elected
Lieut.-Colonel McAdam Eccles	+ 13 = 110	
Mr. Bishop Harman	+ 6 = 44	
Dr. Hawthorne	+ 5 = 68	
Dr. Hilliard	+ 1 = 23	
Dr. Paterson	+ 1 = 31	
	690	

No candidate having secured the necessary quota of 139 votes, the papers of the lowest candidate—Dr. Hilliard—were distributed. This third count resulted as follows:

Dr. Barnes	+ 4 = 87	
Dr. Beadles	+ 3 = 59	
Dr. Buttar	+ 6 = 142	Elected
Lord Dawson	= 139	Elected
Lieut.-Colonel McAdam Eccles	+ 2 = 112	
Mr. Bishop Harman	+ 4 = 48	
Dr. Hawthorne	+ 1 = 69	
Dr. Hilliard	− 23 = —	
Dr. Paterson	+ 2 = 33	
Non-transferable	+ 1 = 1	
	690	

Dr. Buttar having received 142 votes was declared elected. His surplus of 3 being less than the difference between the votes of the next two lowest candidates (Dr. Paterson and Mr.

Harman) the papers of Dr. Paterson, the lowest, were distributed. The result of this count was:

Dr. Barnes	+ 16	...	103
Dr. Beadles	+ 4	...	63
Dr. Buttar		...	142 Elected
Lord Dawson		...	139 Elected
Lieut.-Colonel McAdam Eccles ...	+ 3	...	115
Mr. Bishop Harman	+ 6	...	54
Dr. Hawthorne	+ 3	...	72
Dr. Hilliard		...	—
Dr. Paterson	− 33	...	—
Non-transferable	+ 1	...	2
			690

No further candidate having secured the quota, Mr. Bishop Harman's votes were distributed. The fifth count produced the following result, but still did not give any candidate the necessary quota:

Dr. Barnes	+ 9	...	112
Dr. Beadles	+ 4	...	67
Dr. Buttar		...	142 Elected
Lord Dawson		...	139 Elected
Lieut.-Colonel McAdam Eccles ...	+ 17	...	132
Mr. Bishop Harman	− 54	...	—
Dr. Hawthorne	+ 14	...	86
Dr. Hilliard		...	—
Dr. Paterson		...	—
Non-transferable	+ 10	...	12
			690

Dr. Beadles's votes were then distributed, which gave Dr. Barnes and Lieut.-Colonel Eccles the necessary quota, and they were declared elected:

Dr. Barnes	+ 31	...	143 Elected
Dr. Beadles	− 67	...	—
Dr. Buttar		...	142 Elected
Lord Dawson		...	139 Elected
Lieut.-Colonel McAdam Eccles ...	+ 10	...	142 Elected
Mr. Bishop Harman		...	—
Dr. Hawthorne	+ 8	...	94
Dr. Hilliard		...	—
Dr. Paterson		...	—
Non-transferable	+ 18	...	30
			690

Cambridge and Huntingdon, Norfolk, Essex, Suffolk, and South Midland Branches.

The two candidates for the election of one member of Council by the above group were Dr. E. O. Turner (Great Missenden) and Dr. J. F. Walker (Southend-on-Sea). Out of 797 voting papers issued, 206 were returned, one of which was spoilt. The voting was 127 for Dr. Turner and 78 for Dr. Walker. Dr. Turner was therefore elected.

Kent, Surrey, and Sussex Branches.

Dr. E. R. Fothergill of Hove, and Dr. A. Lyndon of Hindhead, were the candidates in the above group. Out of 1,042 voting papers issued 282 were returned, one being spoilt. Dr. Fothergill, securing 176 votes against Dr. Lyndon's 105, was elected.

Yorkshire Branch.

The candidates here were Dr. A. Forbes of Sheffield, and Dr. A. Manknell of Bradford. 419 voting papers were returned out of 883 issued. Dr. Forbes secured 219 votes against Dr. Manknell's 200 and is therefore elected.

Aberdeen, Northern Counties, Dundee, and Perth Branches.

The voting paper for this Group contained the names of Dr. B. Cruickshank of Nairn, Dr. D. Lawson of Banchory, and Dr. C. S. Young of Dundee. Dr. Young having withdrawn after the posting of the voting papers all "first choices" in his favour were ignored and the "second choices" taken. Out of 490 papers issued 178 were returned—two being spoilt. The voting was 108 for Dr. Lawson and 68 for Dr. Cruickshank, the former being elected.

NOTICES OF MOTION AND AMENDMENT BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, 1920.

By Dundee Division-Branch:

Reduced Subscription for Practitioners of Same Address.

That the Council be instructed to consider the advisability of making provision whereby, in the case of practitioners co-resident otherwise than in institutions, those other than the first may for membership pay a subscription of 2 guineas, and one copy only of the JOURNAL be sent to the common address.

Minimum Salaries for Public Appointments.

That the following words be added to the definition of whole-time senior medical officers in charge of departments:

"In Scotland this shall apply to school medical officers responsible directly to the Education Authority whether or not they have other medical officers under their control."

That the following words be added to the last recommendation of Council as to minimum salaries for public appointments:

"That the Conjoint Committee include representatives of the School Medical Officers' Associations of England and Scotland."

By Brighton Division:

Payments to Members of Office Committee.

That as the payment of £5 5s. per attendance to those members of the Office Committee who are not members of the staff (see para. 35 of Annual Report) does not appear to be sanctioned by the Articles of Association and By-laws, such payments be at once discontinued, and no such payments be made until the necessary alterations in the Articles and By-laws have been made, and the sanction of the Representative Body obtained.

By Denbigh and Flint Division:

Certificates for Non-attendance of School Children.

That the Representative Body is of the opinion that certificates for non attendance of school children at school, required by school authorities, should be paid for at the rate of 1s. each by the local education authority, and instructs the Council to communicate with the Ministry of Education with a view to making this universal.

By South-Eastern Counties, Edinburgh:

Restriction of Expense.

That care be taken to restrict expense on the JOURNAL and circulars printed by the Association.

By Leicester and Rutland Division:

Portion of Grants to Divisions to be Earmarked for Social Work.

That it be an instruction to the Council when allocating grants to the Divisions to allocate a special amount per head which is to be earmarked for the development of the social side of the Association.

Work of the Association and the "Supplement."

That it be an instruction to the Council to ensure a more adequate setting forth of the current work of the Association in the SUPPLEMENT of the JOURNAL week by week.

By Liverpool Division:

Fees for Treatment of School Children.

That the recommendation of Council contained in para. 106 of Annual Report be amended—(*a*) by the insertion of the words "at Clinics or Welfare Centres" after "children" in the second line; and (*b*) by the deletion of the words "for at a higher remuneration" at the end of para. (iv).

By Maidstone Division:

Increase of Subscription.

That "2½ guineas" be substituted for "three guineas" in para. 1 (*a*) of the proposed amended By-law 11.

"Secret Remedies."

That the report on "Secret Remedies" be continued and brought up to date.

Capitation Fee and Conditions of Service under National Health Insurance Acts.

That, whilst conscious of and grateful for the labours of the Insurance Acts Committee, this meeting places on record its opinion that the British Medical Association authorities made a grave error in allowing the Health Minister to concentrate attention on the capitation fee and pass over the vitally important matter of conditions of service (see para. 154 of Annual Report).

By Edinburgh and Leith Division:

Proposed Increase of Subscription.

That this meeting approve of Clause (1) (*a*) of the proposed new By-law 11 being amended to provide for an increase of the annual subscription up to £2 10s., making, however, a strong recommendation to economy, especially in the matter of stationery; but in the event of the Insurance Acts Committee and the Insurance Acts Subcommittee of Scotland being financed from the Central Defence Fund, no increase be made in the annual subscription.

By English Division (Border Counties Branch):

Fee for Notification of Births.

That a fee should be paid to the medical profession for notifying births.

By Birmingham Central Division:

Fees for Medical Examinations for Life Insurance.

That the fee for medical examination and report in all ordinary cases of life insurance for £100 or over be not less than 1½ guineas. (Para. 111 of Annual Report.)

Payment of Members of Staffs of Voluntary Hospitals for Treatment of Discharged Disabled Soldiers and Sailors.

That this Annual Representative Meeting cannot approve of any scheme of remuneration for medical services which is based on the costs of maintenance or administration. (Para. 168 of Annual Report.)

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—The annual general meeting of the Branch will be held at the County Hotel, Carlisle, on Friday, June 18th, at 4.15 p.m. Business: (1) Election of officers; (2) Report of Branch Council; (3) Ethical Rules; (4) Presidential address by Dr. G. R. Livingstone, Dumfries.

EDINBURGH BRANCH.—The annual meeting of the Edinburgh Branch will be held in the Hall of the Royal College of Surgeons, Nicolson Street, on Friday, June 18th, at 4 p.m. Tea will be served at 3.45 p.m. Business:

Report of Branch Council. Treasurer's financial statement. Election of office-bearers for 1920–21. Election to annual vacancy on the Board of Management of the Queen Mary Nursing Home. Proceedings of Scottish Committee: (1) Proposed alteration of reference to Committee increasing its powers; (2) proposed reconstitution of Committee. (3) Annual Report of Council and Annual Representative Meeting.

METROPOLITAN COUNTIES BRANCH.—Mr. N. Bishop Harman and Dr. J. A. Percival Barnes (Honorary Secretaries) give notice that the annual general meeting of the Branch will be held at 429, Strand, W.C.2, on Friday, June 18th, at 4.30 p.m. Business: (1) Report of scrutineers as to the election of new officers. (2) Annual report of Council. (3) President's Address, by Dr. E. W. Goodall, O.B.E.: The Report of the Consultative Council.

SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.—Dr. E. R. Fasnacht, Honorary Secretary (116, Hurst Grove, Bedford), gives notice that the annual meeting of the Division will be held on Thursday, June 17th, at 3 p.m., at the Swan Hotel, Bedford. Agenda: Receive the Annual Report. Election of Officers and Representatives. Mr. Victor Bonney, F.R.C.S., will read a paper on "Modern methods in the treatment of difficult labour." The chairman, Dr. W. G. Nash, invites the members of the Division to luncheon at the Swan Hotel, Bedford, at 1.30 p.m.

SUSSEX BRANCH.—A meeting of the Sussex Branch will be held at the Eversfie'd Hotel, St. Leonards-on-Sea, on Tuesday, June 15th, at 4.45 p.m., when a British Medical Association Lecture will be delivered by Dr. W. Langdon Brown, F.R.C.P., Physician to St. Bartholomew's Hospital, on "Diabetes in relation to the ductless glands." All members of the profession in Hastings and St. Leonards and members of the Sussex, Kent, and Surrey Branches of the Association are invited.

Meetings of Branches and Divisions.

DORSET AND WEST HANTS BRANCH.

THE annual meeting of the Dorset and West Hants Branch was held at the County Hospital, Dorchester, on May 19th, when Dr. E. KAYE LE FLEMING was in the chair.

The new officers took office as follows:

President: Dr. P. S. B. Wetherall. *Vice-Presidents:* Drs. P. A. Ross and N. Flower. *Honorary Secretaries:* Drs. Walter Asten and C. Grey-Edwards.

The revised ethical rules were adopted.

Dr. WETHERALL delivered the Presidential address on "Delirium tremens and the morphine habit: their treatment and after-care."

The following resolution was unanimously passed:

This meeting of the Dorset and West Hants Branch of the British Medical Association wishes to express its high appreciation of the work of the Insurance Acts Committee during the past year, and desires to place on record its deep sense of indebtedness and sincere gratitude to the Chairman, Dr. H. B. Brackenbury, for the conspicuous ability, strenuous devotion, and unflagging energy which he displayed in conducting the recent negotiations with the Ministry of Health and the Arbitrators on behalf of the whole profession.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

THE annual meeing of the Division was held at Newton St. Boswells on May 19th, when Dr. LUKE was in the chair.

The Honorary Secretary and Treasurer presented the annual report and the financial statement for the year 1919.

The following officers were elected:

Chairman: Dr. A. D. Fleming. *Vice-Chairman:* Dr. P. Henderson. *Representative in Representative Body:* Dr. William Blair. *Deputy Representative:* Dr. S. Davidson. *Honorary Secretary and Treasurer:* Dr. M. J. Oliver.

Dr. A. D. FLEMING then took the chair vacated by Dr. Luke, and proposed a vote of thanks to the latter for his services during the past year, which was warmly accorded by the meeting.

The Medical Parliamentary Fund was discussed, and it was decided to let the fund drop, with the proviso that the Division should be prepared to support any particular candidate for Parliament when the time came. The Secretary was instructed to return the contributions which had been received.

The meeting agreed that the Representative should press for as high fees for life insurance examination as were consistent with not diminishing the amount of business to be done in providing insurance companies with medical reports on lives to be insured.

The meeting proceeded to consider the Annual Report of the Council. The Secretary directed attention to a number of paragraphs of the report. The Secretary was instructed to convene four meetings a year, two for business and two for clinical discussions, together with one social meeting, the Annual Meeting. It was unanimously agreed to adopt the ethical rules as approved by the Representative Meeting, 1919. The meeting approved of the proposals of the Council as stated in the report, and instructed the Representative to support these to the best of his ability.

It was unanimously resolved to send to Dr. Brackenbury and to Dr. Cox, Medical Secretary, an expression of appreciation by the Division of the work done by them in negotiating with the Ministry of Health in connexion with the rates of remuneration of panel practitioners.

ESSEX BRANCH: NORTH-EAST ESSEX DIVISION.

AT a meeting of the North-East Essex Division held at Colchester on May 25th the annual report of Council was discussed and the recommendations approved. The revised ethical rules were adopted. Dr. Agnes Estcourt-Oswald was elected the Representative in the Representative Body.

METROPOLITAN COUNTIES BRANCH: GREENWICH AND DEPTFORD DIVISION.

THE annual meeting of the Division was held on May 26th. The new ethical rules were adopted. The annual report of the Council of the Association, published in the SUPPLEMENT of April 24th, was considered and approved, and the Representative was instructed.

The following officers were elected:

Chairman: Dr. Charles Wallis. *Chairman-elect:* Dr. Annis. *Secretary:* Dr. John Round. *Representative in Representative Body:* Dr. Bhabha.

SOUTHERN BRANCH: SALISBURY DIVISION.

THE annual meeting of the Division was held at Salisbury on May 19th, when Dr. J. E. GORDON was in the chair.

The following officers were elected:

Chairman: Dr. Kempe. *Vice-Chairman:* Dr. A. W. K. Straton. *Secretary:* John Armitage. *Representatives on Branch Council:* Dr. Ord and Dr. March. Dr. Flemming was nominated as Representative of the Division, Dr. Gordon as Deputy Representative.

The annual report was read and the balance sheet produced.

The matters referred to the Division were then considered, and it was decided to support the recommendations of the Council. Revised ethical rules were adopted. The question of raising the subscription to the Association was discussed, and it was decided that this Division did not approve of the proposed increase.

A vote of thanks to Dr. Gordon for his services as Chairman of the Division for the last six years was carried with acclamation. A resolution was passed recording the great loss the Division has sustained through the death of Drs. Browne and Henderson.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1920.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

THE TEACHING OF PREVENTIVE MEDICINE.

THE Council on June 3rd and 4th discussed at great length a further report presented by the Education Committee on the teaching of the preventive aspects of medicine.

The report by the Education Committee was in continuation of an interim report presented at the last session. Appendices to the two reports contained replies from thirty out of thirty-eight teaching bodies to a circular letter on the subject addressed to them by the Council. The report now presented also made continual reference to Sir George Newman's *Memorandum on Medical Education in England*. It was explained that what the Committee had in view in their investigation was the education of the general practitioner, and the question had been approached from the point of view that it was possible that the future general practitioner was not receiving such a training as would qualify him to diagnose and treat disease in its very earliest manifestations, and that not sufficient importance was being attached to the recognition of what might be called the pre-morbid state and the necessity devolving upon the practitioner of taking measures to eliminate influences affecting individuals professionally under his care which threatened to produce disease. The replies received indicated in their general tenor that present-day training did not concern itself sufficiently with these important parts of the practitioner's duty.

The questions raised concerned practically the whole of the curriculum, its length, contents, the proper distribution of these amongst the several teachers, and the successive years of study, and the methods of teaching and examinations. As for the length of the curriculum, none of the replying bodies proposed that the teaching period should be extended, although many spoke of an overloaded curriculum. With regard to the co-ordination of studies, the Committee quoted with approval Sir George Newman's opinion that the anatomist, the physiologist, and to some extent the pathologist (who were not themselves dealing with clinical study and treatment) could not give the necessary clinical instruction—Sir George Newman was speaking particularly of obstetrics—and that the student was not fitted to appreciate the instruction unless he was actually in presence of the living clinical evidences; the Committee added that if this was true of obstetrics it was probably true of all the departments of clinical study. The importance of the proper co-ordination of studies was emphasized in many of the replies, and the consideration of the Council was invited to the general principles on which co-ordination of studies should be based. As to the contents of the teaching course, the vast increase of medical knowledge augmented the difficulties of the teacher, and now there was danger that the scientific spirit and scientific methods of instruction might be forgotten. The more serious difficulties might be overcome if it was generally agreed that from the teachers in the earlier sciences (meaning all except clinical subjects) no more was expected than that they should impart to their students an intelligent and scientific appreciation of the subjects they professed.

The Committee then went on to consider whether the teaching of the subjects preparatory to clinical study could be made lighter and less exacting on the student, and, at the same time, better adapted to his future needs. Advantage would be gained were the minimum age of entrance raised to 18. The last two years of the student's school life might be largely devoted to chemistry and physics, and a pass certificate in these subjects of the higher standard might be accepted for some portion of the work in inorganic chemistry and general physics in the school of medicine. This would lessen the pressure in the first year of the curriculum and increase the time available for the study of anatomy and physiology. The courses in the preliminary sciences must necessarily be general in their nature. Anatomy should be taught as a science, an end in itself, not as a clinical study, but as a preparation for such study. The teaching of anatomy could be simplified and improved. As for physiology, it could not be said that too much time was given to this subject, but a modification and rearrangement of the work might indirectly be of assistance. A practical course dealing with the employment of physiological methods in the study of the normal human being might be instituted with advantage. With regard to other subjects, the replies indicated an opinion that bacteriology was sufficiently taught, though in pathology some of the bodies admitted deficiencies, particularly as regards etiology and the recognition for preventive purposes of the earliest indications of disease. The Committee postponed a detailed consideration of the teaching arrangements in surgery, medicine, and midwifery, and asked for discussion on the principal matter as to whether or not the teaching of the earlier sciences could be so modified as to give the clinical teachers a more adequate opportunity than they possessed at present of satisfactorily overtaking their subjects.

Dr. MACKAY, Chairman of the Committee, in moving the adoption of the report, described the events which had led up to the reference of this subject to the Committee. The speaker reviewed the general character of the report, and said that his Committee was anxious to study further the methods whereby the whole curriculum might be revised in the light of this discussion. The Committee would be guided by the views expressed by the Council.

After Dr. MCVAIL had seconded the adoption of the report, the Council resolved itself into Committee in order that the discussion might cover as wide a range as possible and be unfettered by rules of procedure.

Sir NORMAN MOORE said that the object of the whole inquiry was to lay down a course of study whereby in five years a man might become thoroughly qualified to practise his profession. It was important to remember that certain limitations were imposed by the time factor. Many people would favour a lengthening of the curriculum, but he did not think that, in the present state of the country and of practice, the medical student ought to be forced to undergo a longer training than five years. That being the period, what were the objects to be kept in mind during those five years? It was sometimes said that the object of professional education was to enlarge the mind. Of course it enlarged the mind, but the problem in this case was to get the mind enlarged in a particular direction—that, namely, of medicine and its applications. Of each item in the curriculum they must ask, Will this, at the end of five years, enable a man better to practise his profession? The medical curriculum as it stood at present was divided into three stages, or four if the previous general education of the student were included. With regard to this previous general education, he thought that so long as the student was well educated it did not signify what elements his study had included. The thing that was important here was the opening of the mind to general knowledge. As for the earlier sciences—namely, chemistry, physics, and biology—he would like to hear a discussion on these from the point of view of what the mind retained of the teaching in these subjects. How much of these subjects remained in the mind of physicians and surgeons? It might be found that only slight traces of chemistry and physics so remained. Then anatomy and physiology ought to be taught so as to bring out in the mind of the student the relation of these subjects to the practice of his profession. The way in which anatomy had been treated had varied very much, and in particular the methods of studying anatomy had been changed by the extreme scarcity of bodies for dissection. But it was important that in both these subjects there should be not only a retention in the mind of what the textbooks said or what the experiments showed, but also a drawing out from the facts and observations of what might be called the scientific application. He believed that with the aid of good anatomists and physiologists a great saving of the student's time might be effected. It seemed so obvious when the subject was first taken up that physiology must be of the most profound service to every physician and surgeon that one was inclined to give it a greater relative part in the curriculum than was perhaps justified. In the third part of the curriculum the student came near the actual practice of his profession. The student felt when this period arrived that every day of his study was a day well spent; he was learning to observe, he was seeing the relation to practice of his previous study. The speaker wished to impress upon the Council the need for considering the whole subject from the point of view of producing a thoroughly trained medical man—a man capable of finding out about disease, and of treating it once it had been discovered.

Sir JAMES HODSDON doubted whether the fifth year was fulfilling the purpose for which it was intended. Upon that fifth year there had been a gradual encroachment. The tendency had crept in to teach in watertight compartments, and teachers in certain subjects in the earlier part of the curriculum were apt to teach as though their students were going to be specialists. As for the method of teaching, he thought there were too many lectures; what was wanted was more practical work. He thought also, with regard to examinations, that the way in which the student's work was done all through his course should be placed on record, and the record be available when he came up for examination. He also suggested that it might be possible to curtail the earlier subjects so as to give more time for the final, or at all events to arrange the earlier subjects so as to secure better co-ordination between these and the subjects taken later.

Sir JOHN MOORE said that he had felt in recent years that the five years' curriculum had been a retrograde step so far as the attainment of knowledge by the student was concerned. The great object in view in the mind of the student was to pass the next examination, and for the purpose of passing that examination the student was prepared to sacrifice a great deal of clinical learning. In his own hospital it was the rarest thing for a student other than the clinical clerk to take personal charge of individual patients, or to pay an afternoon visit to the patients he had seen in the morning. The multiplicity of examinations was essentially mischievous. When there were but two examinations—the half M.B. and the final M.B.—the running after special subjects was not known, and a great deal more time was allowed to the hospital. The place for ancillary sciences and scientific teaching was in the school. He would postpone entrance on the five years' curriculum at all events to the age of 17. That would be quite early enough for a man to enter upon the grave

responsibilities of the study of medicine, and it would enable him to qualify at 22. It was disheartening to a clinical teacher to be told morning after morning that the student must run away to learn vaccination or something else when he ought to be attending almost exclusively to his hospital work.

Sir GEORGE NEWMAN agreed with Sir Norman Moore that in considering the medical curriculum they should consider the product, and that the product should be a clinical product. It was necessary to face a new situation with regard to the demands which the State was making upon the medical man. Beginning with the Poor Law, the State had gone on to public health services, and from these to a whole group of specialized health services. The State was now making a demand upon between two-thirds and three-fourths of the profession, whereas formerly it made a demand upon perhaps one-fourth. These demands in the main were clinical. He would view with the greatest concern any attempt to divorce State medical work from clinical work. The true basis of State medical service was a sound clinical training. How was this clinical product to be secured? In the first place, he would put in a plea for the importance of the preliminary science subjects in relation to clinical medicine and surgery. He thought it desirable to strengthen these science subjects rather than weaken them. Chemistry, physics, and biology were continually becoming more closely allied to clinical work. Chemistry and physics during the last five or six years had taken a new place in this respect. Sir George Newman went on to lay down six points for consideration in connexion with that broad and generous revision—he would not say revolution—of the curriculum which the time was more than ripe for the Council to discuss. His six points were: (1) The curriculum ought to be lightened at both ends. We were not giving our students time to think or digest. True culture or learning was never forthcoming on the principle of the general scrimmage. (2) An endeavour should be made to co-ordinate the preliminary scientific and intermediate subjects with each other and with the clinical, and to make the preliminary scientific subjects much more applied. (3) The reorganization of clinical teaching must be considered. He was quite prepared to say that in America and Germany he had seen no clinical teaching to compare with the best in this country, but our clinical teaching wanted reorganization so that the clinical teacher was in a position to give his best, and not a mere residuum. (4) He would like to see the provision of ampler education in four or five particular subjects—namely, venereal diseases, tuberculosis, maternity and infant welfare, orthopaedics, and mental diseases. There was no solution of the venereal problem in this country unless the practitioners were equipped to handle it. Clinics were a palliative provision in the meantime. Venereal disease would never be eradicated until it was handled in private practice. Its roots were deep socially, and involved something far beyond the narrow medical factor. Hardly any problem gave him more anxiety in his official work than the problem of venereal diseases. But it all came back to the private practitioner. The same could be said of tuberculosis. The way out was not to create professorships of venereal disease or of tuberculosis. The students had got to be brought right up against fundamentals. (5) There must be some kind of post-graduate equipment, first for dealing with specialisms, secondly, for ensuring the continued education of the student. (6) He would put in a plea for a reform of the examination system. The examination system must follow the training, not lead it. It must include the preparation of the student, not exclude it. It must represent not a hazard but a certainty. It must be an instrument by which the centre of gravity was thrown upon the curriculum rather than upon the examination room itself. This would alter the whole outlook for the student. He would see that his education was not a scrimmage for an uncertain goal, but a course of study for a final destiny. And he would come to his cases in hospital with an entirely new spirit. (Applause.)

Sir GILBERT BARLING regarded the report as in some respects an accusation against the clinical teachers of this country that they had not taught their students on the lines of preventive medicine. But English clinical teachers had done preventive work, and the implication that they had not done this kind of work was unfair. As for the curriculum, he thought that anatomy ought to have more time, and not less. Matters could be improved by giving more time to essential subjects. The students might acquire a certain knowledge of chemistry and physics before they came to them, but they would still require teaching in organic chemistry or biochemistry. Nothing could be cut out of the clinical curriculum, and whether they adopted the remedy now or not, the obvious recourse would be to a longer curriculum in the future than at present.

Dr. NORMAN WALKER described the conditions of medical education in the United States, from which he had lately returned. He said that there the student must have had four years' secondary school education and two years' collegiate education, which included chemistry, physics, and biology, and also a foreign language, and having passed this, he came under his medical curriculum, which lasted for four years. But he was not admitted to the examination of the National Board of America until he had done one intern year in hospital. The supply of bodies for dissection was ample in America for anatomical purposes, and all the students in the class were able to dissect the same part at the same time; also there were more reasonable laws regarding vivisection. A great amount of stress was laid upon embryology, and he was also struck by the emphasis upon neurology. All students in the first year began their instruction in neurology and carried it on sometimes into the second or third. Bacteriology was emphasized too, and much attention was given to biochemistry, in which subject most of the schools had a whole-time professor. The pathology he did not think was any better than in this country. The students in America were better organized than ours and they worked harder and for longer hours. From the clinical system in the States we had less to learn. In America there seemed to be subjects in which the number of lectures was overdone, but he came home more convinced that a certain number of lectures was essential in order to turn out good practitioners. Then, again, there was co-operation between the university and the city and state. The city supported the university and paid the salaries, and the university medical faculty was responsible for the treatment of the people in the city. He was told that there were no difficulties, and that all border-line cases were provided for in the agreement. He was much struck by the benefits of the clinic nurse and her staff, who went out among the patients in the city and saw that the prescribed treatment was carried out. On the general subject of the report Dr. Walker said that chemistry, physics, and biology ought to be done before the student began medicine. There was a way of lengthening the curriculum quite close at hand—namely, by increasing the period of study in the year. Thirty-two weeks out of fifty-two was not a very large proportion to ask of the student. In the University of Minnesota the sessions went on all the year round, and were so arranged that each student had seven weeks' holiday. There was no profession or trade in which the holidays of the apprentices were so long as in medicine. It was true that professors could not be always teaching, but more and better paid assistants to the professors were needed to take the extra classes. Some subjects might be spread over a longer time. In America the instruction went on continuously. As for graduate instruction, in one State the professors (who were appointed and paid by the State) made arrangements with the medical societies in the State—the professor in ophthalmology, for instance, making arrangements with the ophthalmological society—to go down to a particular centre on a given day and hold a clinic, to which all the doctors could bring their patients. That was part of his duties as professor in the university, and the plan had the advantage of diffusing knowledge among the country doctors and of benefiting the people immensely. There was no school in the world equal to the Mayo Clinic, Rochester, N.Y., where they had a system of post-graduate instruction covering three years, and the work was done in the most admirable and thorough manner.

Dr. RUSSELL WELLS said it was important that stock should be taken of the present position, its deficiencies and its excellences. He wondered whether it had occurred to the members of the Council on what an extremely low literary preliminary test a man could enter a hospital. Such a minimum was refused by the solicitors, the

accountants, the auctioneers and estate agents, and every other professional body, yet the profession on which the medical student entered was one requiring very considerable intellectual attainments. He thought that if chemistry, physics, and biology were to be transferred to a pre-medical period, a higher preliminary standard must be required to start with. He also raised objections to a system whereby the physiologist might be engaged at the same time in teaching students physiology for medicine and teaching other students pure physiology for a B.Sc. While the fundamental chemical facts might very well be taught in the first year, chemistry ought to run through the whole course, and he would like to see some form of biological chemistry in the final examination. Some form of physiology also might run through the entire course.

Dr. J. C. McVAIL pointed out that with regard to the lengthening of the curriculum the Council was in a curiously difficult position, because one set of facts held good in the case of dental education and another set in the case of medical education. The number of qualified dentists was not nearly large enough for the needs of the country, and therefore it was necessary to be very careful in adding at all to the dental curriculum, whereas in the case of medical education the schools were now overcrowded. From the Council itself an admirable committee of anatomists could be formed to go thoroughly into the teaching of anatomy, and similar committees might deal with physiology, surgery, pathology, and public health, and, with co-opted members, with chemistry and physics also.

Sir ARTHUR CHANCE thought that sufficient attention had not been paid in the report to the efficiency of the teachers. Teachers were apt to think themselves exempt from human frailties, but the fact remained that although they might know much about their subjects, they were not on that account competent teachers. He did not know in Ireland one competent professor who received half as much as he could make in practice, and evidently the provision of efficient teachers by encouraging and rewarding suitable men was a matter to be taken into consideration. As for the curriculum, he thought that if the preliminary sciences were to be put in the earlier stage, effective measures must be taken to ensure that the education then given was thoroughly sound.

Professor HARVEY LITTLEJOHN said that the General Medical Council itself was largely responsible for the present position of medical teaching, for during the last fifty years, instead of giving a lead as it had done previously, it had kept back the medical teaching bodies. The teaching bodies had been prepared for years for a change in the curriculum, but were bound down by the regulations of the Council, and in the opinion of many this had not been of advantage. It would be greatly to the good if they could get rid of watertight compartments in teaching. Anatomy, for instance, should not necessarily be finished by a certain time. With regard to what Dr. Norman Walker had said, the speaker hoped we were not going to sit slavishly at the feet of American educationists, as we had done in the case of German educationists; Professor Flexner in his report had pointed out many directions in which British methods of teaching were ahead of those in America. Even the co-operation of the city and the university, as Dr. Flexner had remarked, already existed here; while in Germany the *Praktikant* did not get his degree until he had served as an intern in the hospital, so that the idea of the interne year was not peculiar to America.

Dr. J. A. MACDONALD spoke from the point of view of the general practitioner. It was difficult for him, without experience of teaching, to know where the fault lay, whether the examination was not severe enough to eliminate the incapable, or the education not sufficiently thorough to give the men required. In his own student days the teaching was not practical enough. He was taught physics and chemistry and anatomy and physiology, but the inter-relation of these subjects was not pointed out. At that time there were not enough teachers for the work, and this was still true, in his opinion; the education in the hospitals would never be brought to the height it should reach until the staffs were quadrupled, not necessarily by the multiplication of professors, but by the employment of competent assistants.

Professor H. R. DEAN spoke of the overcrowded curriculum. Discussions had taken place in Manchester with the main result that many new subjects were put forward for a place, while the teachers of existing subjects had seized the opportunity, naturally, to extend their own claims. Something must be done in the way of omission and shortening. Those courses might be shortened which consisted exclusively or almost so of lectures. Useful textbooks were in existence, and what the student wanted was a great deal more time for practical work in the laboratory and the hospital ward. There was also much overlapping of subjects, and he would like to see a committee of co-ordination set up in each medical school in which the teachers could meet together and learn the field that each should actually cover. In many medical schools students were taught their physics and chemistry along with engineering students. What they should be taught was the kind of physics which would help them to understand medicine. Medical students should be taught in separate classes, and taught not, say, medical chemistry, but chemistry suitable for medical students—a very different thing. Chemistry and physics were more important in the first years than biology, because a great deal of biology could be got in the departments of anatomy and physiology. In the last year of the curriculum much time was apt to be frittered away by the competitive claims of certain special departments, such as diseases of the eye, or of the ear nose and throat. Given proper instruction beforehand, the students would come to these special subjects ready for a short practical course.

Professor ARTHUR THOMSON spoke of the futility of cramming. The cram work for the examination was forgotten in six months. It was not information that was needed, but knowledge. Lectures were helpful to the students, and the advantage of lectures was that non-essentials could be swept aside. He regarded the instruction given in physiology from the university standpoint as having its great value, not because it was physiology, but because it was a training in method.

Dr. RICHARD CATON said that more men than the profession could find room for were likely to be entering in the course of a few years. He lamented the almost entire disappearance of all classical studies, and hoped that an endeavour would be made as far as possible to frame the preliminary scientific education so as to make it really a part of the medical education.

Sir JAMES HODSDON drew attention to the two forms of anatomical nomenclature in existence, and said it was very desirable that one or other should be adopted as the uniform nomenclature among English-speaking peoples. In 1917 the Anatomical Society of Great Britain decided that there was no reason to depart from the old nomenclature, but recommended that certain things in the old might be revised with advantage. In 1919 the American Association of Anatomists passed a resolution declaring the inadvisability of abandoning the Basle nomenclature, and recommended that a committee be appointed with a view to its revision. In May, 1920, the Council of the Royal College of Surgeons of England agreed with the Anatomical Society in deciding not to depart from the old nomenclature. It was essential, in the interests of medical students and medical men in general, that the nomenclature should be uniform. The Education Committee might, in the interests of medical education, take into consideration the desirability of conferring with the licensing bodies on the question of adopting a uniform system.

Professor A. F. DIXON thought that the teacher in anatomy, for instance, should be allowed to spread his net as widely as possible and be permitted to make reference to surgery. Also it might be hoped that teacher and student would look at their subject as a living and growing structure, and not as a jigsaw puzzle. With regard to one suggestion which Dr. Norman Walker had brought from across the Atlantic, at his own university (Dublin) they had succeeded in arranging that all their first-year students should be dissecting the same part at the same time, and all the second-year students another part at the same time.

Mr. E. B. TURNER referred to the need for attention to the preliminary education. He did not think it made much difference by what exercises the brain was brought to perfection. The need for true principles of education held good from beginning to end. For preventive medicine it was necessary to train not only the consultant but the rank and file of general practitioners. Unless such prac-

titioners were turned out, the fight against disease must fail. And the men coming out of the schools and entering general practice must be men who could think for themselves, not merely armed cap-à-pie with all sorts of appliances. He begged the Education Committee to lay particular stress upon the selection for entrance into the profession of really educated students, not merely men who knew things.

Professor T. W. GRIFFITH said he felt very strongly that the lecture had great value if the lecturer did not just read out of a book, but spread himself over his subject. The lecture ought to be something which could not have its place taken at all by any amount of textbooks. In Leeds they were going to reduce the number of systematic lectures on medicine to something like fifty, and a number of short, highly demonstrative courses were being arranged for students. Each member of the teaching staff would know eight or ten months beforehand that he would be called upon to take these courses, and would have opportunity to prepare for them by the collection of material and resort to graphic methods. His own view was that it was the duty of the teacher not to confine himself within the limits of his subject, but wisely to "kick over the traces." A certain amount of overlapping was necessary and useful, like the overlapping of the tiles on the roof.

Professor J. B. LEATHES said that in the University of Sheffield well considered discussions had taken place with a view to the more definite shaping of the courses. The teachers in anatomy and physiology had most generously offered to shorten the amount of time they took at the beginning of the course. One of the greatest needs in the medical education of this country was that the watertight separation between anatomy and physiology and chemistry and physics should be broken down. Students learned the sciences as if they had nothing to do with medicine. At Sheffield they had instituted a Chair of Pharmacology, which went with a position on the staff of one of the hospitals. The professor would be a whole-time occupant, except in so far as he might have duties in the hospital, and he would teach in the hospital the principles which he had demonstrated in the laboratory in his practical course.

Sir JENNER VERRALL said that as educationists they should aim at a high order of results, but they must remember that it was of no use aiming at a level which the public at a given time were not prepared to accept. It was quite evident that the Council was in two difficulties, the difficulty of omitting anything from the curriculum, and the difficulty of keeping the curriculum within certain dimensions. They were not providing a curriculum for a standstill science, but for a science in which there would be a fresh outlook year by year. They had to decide what were the subjects and the kind of knowledge which the ordinary practitioner as distinguished from the specialists might be expected to learn. They had to train practitioners in such a way that they should be able to recognize —what after all was one aim of education—the limitations of their own knowledge.

Dr. JAMES A. ADAMS expressed his cordial agreement with what had fallen from Sir George Newman about giving marks to students during their career, which marks would count in the examinations.

After a brief discussion on further procedure, Dr. MACKAY said he would place before his Committee the various suggestions which had been forthcoming.

The PRESIDENT said he must make one remark in defence of the General Medical Council—namely, that by its express regulations (which he read) the freedom of universities and medical schools was respected, and they were encouraged to make experiments, and nothing of a cast-iron character was imposed upon them by the Council. It was a mistake to imagine that the Council laid down a detailed curriculum at every point to which everybody must conform. The Council had never done that, and he did not think it ever would.

The Council then resumed its deliberations as a council (the debate having taken place in a committee of the whole body), and it was agreed that the report be received and adopted; and also that, as the questions raised in the report involved the revision of the whole curriculum in medicine, that the consideration of the methods by which the necessary revision might best be carried out should be remitted to the Education Committee for further report. It was also agreed that copies of the report should be circulated to the teaching bodies.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: H. A. Browning to the *Adamant*; H. M. Langdale to the *Ganges*, for Shotley Sick Quarters; H. L. Penny, O.B.E., to the *Hood*, and as Squadron Medical Officer. Surgeon Lieutenant Commander R. J. Barlee to the *Warspite*.

ARMY MEDICAL SERVICE.

Major G. A. D. Harvey, C.M.G., to be a temporary Deputy Assistant Director-General, vice Major A. B. Smallman, D.S.O., February 5th, 1919 (substituted for notification in the *London Gazette*, March 17th, 1919).

Colonel R. J. Blackham, C.B., C.M.G., C.I.E., D.S.O., is placed on half pay.

ROYAL ARMY MEDICAL CORPS.

Captain J. Y. Moore, O.B.E., retires receiving a gratuity, April 9th, 1920, and is granted the rank of Major (substituted for notification in the *London Gazette*, April 8th, 1920).

Temporary Captains relinquish the acting rank of Major: A. C. S. Courts (March 30th, 1919), J. H. Peek (February 3rd, 1920), D. B. I. Hallett, T. L. Hardy, M. C. Gardner, M.C., F. P. Joscelyne, O.B.E., M.C., R. S. Morshead, M.C., J. W. McKinney.

A. W. D. Magee to be temporary Captain, October 7th, 1919 (substituted for the notification in the *London Gazette*, October 27th, 1919).

The following officers relinquish their temporary commissions: Temporary Lieut.-Colonel A. D. Reid, C.M.G. (Captain R.A.M.C.T.F.), July 17th, 1919 (substituted for the notification in the *London Gazette*, August 18th, 1919). Temporary Major F. R. Lucas, T.D. (Major 9th Royal Scots, T.F.). Temporary Captain F. E. Reynolds (Lieutenant, 2/1st Yorkshire Hussars Yeomanry, T.F.).

Lieutenants (temporary Captains) to be Captains: W. M. Cameron, A. G. Harsant, M. StC. Hamilton, A. Rodd.

J. S. F. J. Kerr to be temporary Lieutenant.

The following officers relinquish their commissions:—Temporary Major W. T. F. Davies, C.M.G., D.S.O., on account of ill health, and retains the rank of Major. Temporary Captains and are granted the rank of Major: W. J. J. Arnold, A. R. Green, H. H. Elliot, M.C., H. B. Woodyatt. Temporary Captains and retain the rank of Captain: N. A. A. Hughes, March 15th, 1919 (substituted for notification in the *London Gazette*, April 11th, 1919), D. H. A. Galbraith, M.C., W. A. Coats, C. B. Ticehurst, G. A. Back, C. J. H. Aitken (on ceasing to serve with the South African Native Labour Corps), J. Elder, G. M. Coope, F. R. Sturridge, M.C., J. T. McCullagh, W. G. Marsden (on account of ill health contracted on active service), F. H. Kitson, J. J. Reynolds, I. W. Jones, M. J. Kelly, J. R. Slack, C. T. Cheatle, T. H. Thomas, T. F. B. Reid, E. G. Saunders. Temporary Captain R. A. Warters, on transfer to the I.M.S. Temporary honorary Captain J. F. Cooper, and retains the honorary rank of Captain. Temporary honorary Lieutenant A. H. Chu, and retains the honorary rank of Lieutenant.

INDIAN MEDICAL SERVICE.

Lieut.-Colonel B. H. Deare, Officiating Principal and Professor of Medicine, Medical College, Calcutta, and First Physician to the College Hospitals, and Lieut.-Colonel D. McCay, Officiating Professor of Clinical Medicine and Materia Medica, Medical College, Calcutta, and Second Physician to the College Hospitals, are confirmed in those appointments, October 6th, 1919.

Major J. A. Shorten, Officiating Professor of Physiology, Medical College, Calcutta, is appointed substantively *pro tempore* in that appointment, October 6th, 1919.

Temporary Colonel F. A. F. Barnardo, C.B.E., C.I.E., to be Civil Surgeon, Simla (East), March 15th.

Lieut.-Colonel Sir Leonard Rogers, Kt., C.I.E., F.R.S., Professor of Pathology, Medical College, Calcutta, granted combined leave for twelve months, March 1st.

Major R. Knowles, Director of the Pasteur Institute and Clinical Research Laboratory, Shillong, appointed to officiate as Professor of Pathology, Medical College, Calcutta, March 1st.

Lieut.-Colonel R. F. Standage, Agency Surgeon, has been granted privilege leave for five months and twenty days, March 10th.

Major E. C. C. Maunsell, Staff Surgeon, Bangalore, appointed to officiate as Residency Surgeon, Mysore, in addition to his own duties during absence on privilege leave of Lieut.-Colonel R. F. Standage.

To be Captains: C. J. Lodge Patch (November 29th, 1919), A. C. Craighead (November 29th, 1919), M. Murphy, M.B., Ch.B. (February 9th, 1920).

To be Lieutenants: R. T. W. Stoney (January 21st, 1920), S. C. Mitchell (January 31st, 1920).

Captain G. L. C. Little, in consequence of ill health, has retired from the service (February 5th).

The services of the undermentioned officers have been placed permanently at the disposal of the Government of Madras with effect from the dates specified: Majors A. J. H. Russell, M.D. (July 13th, 1919), A. S. Leslie, M.B. (July 25th, 1919), F. C. Fraser (July 26th, 1919).

Major H. B. Drake, Officiating Assay Master, Calcutta, has been posted as Officiating Assay Master, Bombay (March 15th).

Major J. Morison, of the Bacteriological Department, has been granted privilege leave for six months combined with furlough on average salary for two months (April 15th).

Lieut.-Colonel D. W. Sutherland, C.I.E., appointed an honorary Surgeon to the Viceroy.

Brevet Colonel R. Heard appointed Surgeon to the Viceroy.

OVERSEAS CONTINGENTS.

SOUTH AFRICAN MEDICAL CORPS.

The following relinquish their temporary commissions on ceasing to be employed with the Union Imperial Service Contingents:—Lieut.-Colonels and retain the rank of Lieut.-Colonel: R. P. McKenzie, C.M.G. (March 31st, 1916), H. A. Moffat, D.S.O. (June 5th, 1917), T. Smyth, D.S.O. (January 9th, 1919), W. V. Field, O.B.E. (January 14th, 1919), S. J. O'L. Grinsell (February 4th, 1919). Majors and retain the rank of Major: L. Bostock (January 17th, 1916), J. W. de Vos (September 29th, 1917), D. M. Tomory, D.S.O. (December 22nd, 1918), W. E. Kelbe (December 31st, 1918), D. J. Peirson (February 26th, 1919), S. Mason (June 2nd, 1919). Captains (acting Majors) and are granted the rank of Major: W. D. Miller, O.B.E. (November 14th, 1918), S. Copley (February 14th, 1919), J. Evans (February 26th, 1919). Captains and retain the rank of Captain: D. S. E. McNab (January 31st, 1917), J. Cranke (February 14th, 1917), H. Mundy (March 14th, 1917), H. Vermaak (March 31st, 1917), V. Werdmuller (April 19th, 1917), F. S. D.

Berry (April 24th, 1917), J. Tremble (July 25th, 1917), R. A. Bowen (August 30th, 1917), A. C. Hunter (January 3rd, 1918), A. J. Milne (May 15th, 1918), A. F. H. Rabagliati (May 25th, 1918), H. E. Brawn (July 31st, 1918), H. F. Collins (November 27th, 1918), H. B. Maxwell (December 24th, 1918), A. W. Goldsmith (December 31st, 1918), A. McG. Montgomery (January 7th, 1919), T. J. Dwyer (January 23rd, 1919), C. C. Murray (January 28th, 1919), C. Breeks (February 3rd, 1919), D. Henderson (February 16th, 1919), R. D. A. Douglas, M.B.E. (February 18th, 1919), T. G. Burnett (March 24th, 1919). Lieut. G. Bidwell and retains the rank of Lieutenant (February 28th, 1919).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

The following officers relinquish the acting rank of Major: Captains J. A. Hill (May 25th, 1918—substituted for notification in the *London Gazette* of April 22nd, 1920), D. J. Armour, C.M.G., W. A. Thompson, P. W. Mathew, C. A. McGuire.

Captain C. A. Bignold to be acting Major from June 18th, 1918, to February 21st, 1919, inclusive.

The notification in the *London Gazette* of May 15th regarding the promotion of Lieutenant Arthur Kennedy, M.C., is cancelled.

The following relinquish their commissions:

Captains and are granted the rank of Lieutenant-Colonel: C. J. A. Griffin, D.S.O., C. N. Gover, M.C., D. C. Barron, E. M. Cowell, D.S.O., G. T. van der Vijver, M.C., T. Y. Parkley, O.B.E., A. T. Pitts, D.S.O.

Captains and are granted the rank of Major: F. Cook, C. E. H. Gater, G. Dalziel, M.C., J. Purdie, M C , A. Glen, M.C., W. Barclay, M.C., W. C. B. Meyer, O. H. Mavor, M. W. Paterson, O.B.E., M.C., C. J. B. Way, M.C., B. Goldsmith, C. Nicholson, M.C., S. Wickenden, C. Lovell, M.C., A. B. Mitchell, M.C., J. R. McCurdie, M.C., R. L. Newell, K. K. Drury, M.C., D. Dougal, M.C., A. J. Gilchrist, O.B.E., M.C., T. F. Corkhill, M.C., V. Wiley, E. Watson-Williams, M.C., W. J. Adie, W. Johnson, M.C., M. J. B. F. Burke-Kennedy, G. G. Marshall, G. Marshall, O.B.E., J. B. Scott, M.C., E. R. Lovell, W. R. Blore, M.C., A. L. Shearwood, M.C., G. R. Bruce, O.B.E., J. H. Beverland, M.C., D. S. Badenoch, A. Wilson, O.B.E., M.C., H. R. Friedlander. G. G. Alderson, J. C. Spence, M.C., J. Paulley, R. P. Ballard, M.C , K. W. Lewis, W. McCombie, M.C., W. B. Cathcart, M.C., H. C. Crawford, M.C., W. B. Postlethwaite, M.C., R. P. A. Kirkland, E. C. W. Starling, M.C., G. T. Mullally, M.C., Brevet Major R. C. Ozanne, P. J. Gaffikin, M.C., A. A. Smalley, M.C., T. G. Fleming, M.C., J. Swan, M.C., E. J. Bradley, M.C., W. Murdock, M.C., W. B. Foley, O.B.E., J. B. Cavenagh, M.C., E. A. Mills, D. G. Stoute, F. Gamm, M.C., D. Colombos, A. R. Hill, M.C , J. B. Hanna, H. W. H. Holmes, J. A. Stewart, M.C., D. McIntyre, M.B.E.

Captains and retain the rank of Captain: C. G. Schurr, H. E. Creswell, M.C., H. K. V. Soltau, R. P. S. Mason, M.C., W. C. Mackie, W. Broughton-Alcock, J. W. McNee, D.S.O., H. E. B. White, M.C., J. S. Dockrill, J. L. Perceval, E. S. Mawe, C. McL. West, M.C., D. J. Steele, S. D. Lodge, J. J. D. La Touche, F. H. Goss, M.C., G. S. Trower, G. C. L. Woodroffe, J. L. Kilbride, J. C. Young, M.C., S. K. Young, R. C. B. Ramsey, J. A. W. Cullen, F. L. P. G. Bennett, M C., J. H. Owen, M. J. Graham, F. A. Belam, J. J. B. Edmond, M.C., D. M. M. Fraser, D. C. L. Vey, M.C., A. Smith, E. A. Dyson, H. A. Fawcett, S. W. Rintoul, M.C., H. B. Goulding, A. McM. Paterson, N. A. Martin, F. G. Lescher, M.C., E. K. Ryan, H. M. Pope, W. T. Quinlan, H. W. Evans, M.C., H. S. Pemberton, J. Le M. Kneebone, J. K. R. Landells, R. O. Eades, W. S. Birch, M.C., A. E. H. Reid, A. J. Ewing, R. N. O. Moynan, A. A. Atkinson (on account of ill health caused by wounds), G. J. Key (on account of ill health contracted on active service, June 2nd, 1920 —substituted for notification in the *London Gazette*, May 25th, 1920).

DIARY OF SOCIETIES AND LECTURES.

HARVEIAN SOCIETY OF LONDON, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Dr. E. Graham Little: Differential Diagnosis of some Common Skin Eruptions.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tues., 4.30 p.m., Annual General Meeting; 4.45 p.m., Clinical cases.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Thurs., 5 p.m., Croonian Lectures by Dr. A. F. Hurst: Psychology of the Special Senses and their Hysterical Disorders.

ROYAL SOCIETY OF MEDICINE.—Tues., 5 p.m., General meeting of Fellows. *Section of Dermatology:* Thurs., 4.30 p.m., Cases. *Section for the Study of Disease in Children:* Fri. and Sat., Provincial meeting at Manchester.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—Fri., 8.30 p.m., Annual General Meeting. Dr. F. H. Stewart: Recent Work on Round Worm Infection.

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Mon. and Thurs., 9.15 a.m., Dr. Theodore Thompson: Central Nervous System; 11 a.m., Dr. R. Hutchison: Digestion and Nutrition; 5.15 p.m., Mr. T. Higgins: Nasopharynx and Adnexa; Tues. and Fri., 5 p.m., Dr. D. N. Nabarro: Pathological Investigations; 5.15 p.m., Mr. G. Waugh: Common Surgical Disorders.

MANCHESTER FRENCH HOSPITAL.—Thurs., 4.30 p.m., Dr. Haring: Diseases of Pleura.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Mr. J. W. Smith: Chronic Empyema.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Out-patient Clinics, 2-3.30 p.m. daily, except Wed. and Sat. Mon., 3.30 p.m., Dr. K. Wilson: Tics. Tues., 3.30 p.m., Dr. Risen Russell: Ward Cases. Wed., 2 p.m., Mr. Armour: Spinal Caries; 3.15 p.m., Dr. Collier: Intracranial Tumours. Thurs., 3.30 p.m., Dr. Buzzard: Poliomyelitis. Fri., 3.30 p.m., Dr. Tooth: Myopathy.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., Operations, Medical and Surgical Clinics, etc. Mon., 2.30 p.m., Mr. Banister: Gynaecological. Tues., 9.45 a.m., Lieut.-Colonel Elliot: Eye Cases and Operations: 2.15 p.m., Dr. C. E. Sundell: Cardiac Disease in Children; 3.15 p.m., Mr. Carson: Surgical Diseases of Pancreas; 4.30 p.m., Lecture, Lieut.-Colonel Elliot: Auto-intoxication in Eye Diseases. Wed., 2.30 p.m., Dr. Oliver: Dermatological. Thurs., 2.30 p.m., Mr. N. Fleming: Ophthalmological; Dr. Metcalfe: Radiology. Fri., 2.30 p.m., Dr. Sundell: Children. Sat., 3 p.m., Mr. Carson: Surgical Cases.

ROYAL EYE HOSPITAL, Southwark, S.E.—Wed., 5 p.m., Mr. Letchworth: Ophthalmoplegia.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.1.—5 p.m.: Mr. Arthur Evans—Mon., Tubercle of Glands. Sir H. Gauvain—Tues., Tubercle of Bones; Wed., Tubercle of Joints. Dr. H. Sutherland—Thurs., Tuberculides. Dr. A. J. McFarland—Fri., Institutional Treatment.

SHEFFIELD ROYAL HOSPITAL.—Wed., 4 p.m., Professor A. Hall: Nervous Diseases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Mon., 12.15 p.m., Dr. Burnford: Pathological; 5 p.m., Dr. Stewart: Syphilis of Nervous System. Tues., 10 a.m., Dr. Robinson: Gynaecological Operations; 5 p.m., Mr. Steadman: Chronic General Periodontitis. Wed., 10 a.m., Dr. Saunders: Children; 4.15 p.m., Dr. Armour: Wards. Thurs., 2 p.m., Mr. Harman: Eyes; 5 p.m., Mr. Baldwin: Practical Surgery. Fri., 2 p.m., Mr. Davis: Throat, Nose, and Ear; 2.30 p.m., Mr. Addison: Cases. Sat., 12 noon, Mr. Sinclair: Surgical Anatomy; 2 p.m., Dr. Owen: Out-patients.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

11 Fri. Willesden Division, Willesden Municipal Hospital, Brentfield Road, 3.30 p.m.

12 Sat. Kent Branch, Cliftonville Hotel, Margate, 2 p.m.
Northern Counties of Scotland Branch, Annual Meeting, Station Hotel, Elgin, 12.15 p.m.

15 Tues. Sussex Branch, Eversfield Hotel, St. Leonards-on-Sea, 4.45. Lecture by Dr. W. Langdon Brown: Diabetes in Relation to the Ductless Glands.

16 Wed. London: Science Committee, 2.30 p.m.

17 Thurs. London: Territorial Force Subcommittee, 3 p.m.
Bedfordshire Division, Annual Meeting, Swan Hotel, Bedford, 3 p.m.; Luncheon, 1.30 p.m.

18 Fri. London: Central Ethical Standing Subcommittee, 2.30 p.m.
Border Counties Branch: Annual Meeting, County Hotel, Carlisle, 4.15 p.m.
Edinburgh Branch: Annual Meeting, Hall of Royal College of Surgeons, Nicolson Street, 4 p.m.; tea 3.45 p.m.
Metropolitan Counties Branch, Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

CRAIG.—At 15, Undercliffe Lane, Bradford, to Albert V. Craig, M.B. (late Major R.A.M.C.), and Mrs. Craig, a daughter.

DOBLE.—At Velmead, Hampton Hill, Middlesex, on Wednesday, June 2nd, the wife of temporary Captain F. Carminow Doble, R.A.M.C., of a son.

MATHER.—At Fairfield Nursing Home, Darlington, on the 3rd inst., the wife of Alexander W. Mather, M.D., Norton-on-Tees (Dr. Mary Kide), of a son.

SCOTT.—On May 31st, at Swansea, the wife of Major John Scott, D.S.O., I.M.S., of a son.

WILL.—At the Waverley Nursing Home, Nottingham, on June 3rd, to the wife of Dr. A. J. Will, Long Bennington, Lincs, a daughter.

WILMOT.—On June 5th, the wife of T. J. T. Wilmot, M.D. (T.C.D.), ex-temporary Surgeon R.N., New Cross, Sutton-in-Ashfield, of a son.

DEATHS.

ADAIR.—On June 4th, at Redbourne, Kirton Lindsey, Lincolnshire, Dr. Edward William Mahaffy Adair, aged 54.

ALLAN.—At 6, Arran Place, Ardrossan, on June 2nd, Robert Allan, M.D., C.M., aged 67 years.

FOTHERINGHAM.—At Lingo, by St. Andrews, Fife, on May 16th, John Fotheringham, M.B., C.M., J.P., of Lingo, aged 66 years (late of Motherwell).

PORTEOUS.—At Yonkers, New York, on May 13th, J. Lindsay Porteous, M.D., F.R.C.S.Edin., late of Kirkcaldy.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 19TH, 1920.

CONTENTS.

BRITISH MEDICAL ASSOCIATION.	PAGE
PROGRAMME OF ANNUAL MEETING AT CAMBRIDGE ...	195
CURRENT NOTES:	
HOSPITALS AND PENSION WORK: CONFERENCE AT CAMBRIDGE	201
MEDICAL FEES IN CRIMINAL COURTS	201
STATISTICS OF PRACTICE INCOME AND EXPENDITURE ...	201
MEDICAL CINEMATOGRAPH FILMS	201
PANEL COMMITTEE EXPENSES	201
FEES FOR JUVENILE CLUB PATIENTS	202

General Medical Council:	PAGE
CONCLUSION OF REPORT OF SUMMER SESSION	198
MEETINGS OF BRANCHES AND DIVISIONS	202
ASSOCIATION NOTICES	203
CORRESPONDENCE: COUNCIL ELECTION.—PROPOSED INCREASE OF SUBSCRIPTION.—MEDICAL FEES.—PANEL PRACTITIONERS AND VACCINATION.—THE INTERMEDIATE CERTIFICATE ...	203
ASSOCIATION INTELLIGENCE	205

Naval and Military Appointments; Diary of Societies and Lectures; Appointments; Births, Marriages, and Deaths.

The British Medical Association.

FOUNDED 1832.

Patron: HIS MAJESTY THE KING.

WHAT IT IS AND WHAT IT MEANS TO ITS MEMBERS.

The approaching Annual Meeting in Cambridge affords an occasion of drawing the attention of Members to some general points about the Association.

WHAT IS IT FOR?

It is to bind together medical practitioners to help each other in every possible way.

HOW DOES IT HELP ITS MEMBERS?

First. By holding ***Scientific Meetings.*** The Cambridge Meeting is the 88th Annual Meeting, and every year a meeting is held in some important centre, and is the most important annual Medical Congress in the British Isles.

But besides this the Association has hundreds of Branches and Divisions in the British Isles and all over the Empire. Each of these holds scientific meetings at which every effort is made to keep members in touch with medical progress. The Association will, if desired, send special lecturers to these meetings.

The Association also sends weekly to every member the BRITISH MEDICAL JOURNAL, and Members have the use of the Library and its Lending Department, from which almost any scientific work can be borrowed.

Secondly. It exists to promote ***The Honour and Interests of the Profession.*** This means that the Association is now, as in the past, watching and working all the time to improve the conditions of life of every type of medical man and woman.

Thirdly. It is always ready to help individual members in a difficulty. If you are in doubt as to any point—Medical Ethics, Income Tax, Medico-Legal, etc.—write to the Medical Secretary, who will place years of experience of similar cases at your disposal.

HOW CAN YOU HELP THE ASSOCIATION?

First. By attending meetings. If scientific they will interest you; if business, the Association has the most democratic of constitutions, and any one Member can, by voicing his opinion in his own Division, influence his Representative and thereby the Representative Meeting and the Council.

Secondly. By increasing the Membership. Every increase in the Membership of the Association adds to its power and influence. It is therefore to the advantage of every member to assist in that object. It has 22,275 Members now, and every new member makes it stronger.

Please give this Supplement to a Non-Member and ask him to join: an Application Form is attached (pp. iii and iv).

WHAT IS THE HISTORY OF THE ASSOCIATION?

The Association may be said to have been founded ninety years ago by Dr. Charles Hastings, whose portrait appears on the front page of the JOURNAL. He was in practice at Worcester, and in 1832 fifty medical men met at the Worcester General Infirmary and decided to form a society—the Provincial Medical and Surgical Association—with an annual meeting in a different provincial centre, and an annual journal.

By 1849, when the Association again met at Worcester, with Dr. Charles Hastings as President, the membership was 1,760.

In 1853 the JOURNAL was published monthly, and in 1856 the society changed its name to the British Medical Association, the membership being 2,125.

In 1862 the Association first met in London, and soon after the membership began to increase rapidly.

The first Overseas Branch—Jamaica—was formed in 1877, and the Association, which had become incorporated three years before, had a membership of 7,147.

In 1902 far-reaching changes were made in the constitution, Divisions and the Representative Body being formed.

The membership is now 22,275, which is almost exactly half the number on the *Medical Register*, and, of course, far more than half those in active work.

HOW IS THE ASSOCIATION ORGANIZED?

Every member in Great Britain belongs to a ***Division***, and each Division (or in a few cases two small neighbouring Divisions) sends a Representative to the ***Annual Representative Meeting***. This Meeting lays down general principles which control the policy of the Association.

The carrying out of this policy is entrusted to the ***Council***, whose members are elected in part directly by the members in areas and in part by the Representatives at the Annual Representative Meeting. The Council meets quarterly in London and carries on its work mainly by ***Standing Committees***, elected from the Council and Representatives with a few special additions. Such committees are the Organization, Finance, Medico-Political, Ethical, Public Health, etc., the Insurance Acts Committee being differently constituted to include representatives of Panel Committees.

It is under the direction of these Committees and their Chairmen that the ***Permanent Officials*** act.

The local Divisions are also organized into ***Branches*** and elect members to the ***Branch Council***, which elects members, finances the Divisions in its area, and co-ordinates their policy in purely local questions.

The ***Overseas Branches*** have a special organization, but each has a Representative at the Annual Representative Meeting and is also represented on the Council.

Members should realize that an immense amount of time and, in some cases, part of their livelihood is given up by those who hold office, either centrally or locally, in the Association, for the advantage of their colleagues in the Profession.

You can repay them by taking an interest in this work, and if there is anything of which you do not approve, it is always possible and only right for you to go to your Division Meetings and try and get your Representative instructed to carry out what you wish. Every Representative is bound to vote as directed by his Division. In this way you, wherever your work may lie, have a direct voice in forming and controlling the policy of the Association.

[*For Application Forms, etc., see pages iii and iv.*

British Medical Association.

EIGHTY-EIGHTH ANNUAL MEETING, CAMBRIDGE, JUNE-JULY, 1920.

President: Sir T. CLIFFORD ALLBUTT, K.C.B., LL.D., M.D., F.R.S., Regius Professor of Physic, University of Cambridge.
Chairman of Representative Meetings: T. W. H. GARSTANG, M.A.Oxon., M.R.C.S.Eng., D.P.H.Vict.
Chairman of Council: J. A. MACDONALD, M.D., M.Ch., LL.D., Hon. Physician, Taunton and Somerset Hospital.
Treasurer: G. E. HASLIP, M.D.

PROGRAMME.

THE Annual Representative Meeting will begin in the Examination Halls on Friday, June 25th, at 10 a.m. The statutory Annual General Meeting will be held in the Examination Halls on Tuesday, June 29th, at 2 p.m. Sir Clifford Allbutt will give his Presidential Address to the Association on Tuesday evening, in the Senate House.

The scientific work of the meeting will be conducted in twelve Sections. The Sections will meet in the New Museums on Wednesday, June 30th, Thursday, July 1st, and Friday, July 2nd. The mornings will be devoted to discussions, and the afternoons to laboratory and clinical demonstrations.

By kind invitation of the Master and Fellows of St. John's College, the Annual Dinner of the Association will be held in the Hall of St. John's College at 8 p.m. on Thursday, July 1st.

The Popular Lecture will be given by Dr. G. S. Graham-Smith, F.R.S., on "Flies," at 8.30 p.m. on Friday, July 2nd.

DEMONSTRATIONS.

Laboratory and clinical demonstrations will be given from 2.30 to 4.30 p.m. (Wednesday, Thursday, and Friday). The Directors of demonstrations are:

Medicine: Dr. ALDREN WRIGHT, 2, Corpus Buildings, Cambridge.
Surgery: Mr. ARTHUR COOKE, M.B., B.Ch.Oxon., Grove Lodge, Cambridge.
Physiology: Professor J. N. LANGLEY, F.R.S., Physiological Laboratory, Cambridge.
Pharmacology: Professor W. E. DIXON, F.R.S., Pharmacological Laboratory, Cambridge.
Neurology: Dr. E. D. ADRIAN, Trinity College, Cambridge.
Pathology: Professor Sir G. SIMS WOODHEAD, Pathological Laboratory, Cambridge.

THE SECTIONS.

The scientific business of the meeting will be conducted in twelve sections, which will meet on the days indicated.

The President, Vice-President, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting or declining, any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech may exceed seven minutes.

Papers are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

The following twelve Sections have been authorized by the Council:

The Sections will meet from 10 a.m. to 1 p.m.

Sections meeting on three days: Wednesday, June 30, Thursday, July 1, and Friday, July 2.

MEDICINE.

President: Sir HUMPHRY D. ROLLESTON, K.C.B., M.D., F.R.C.P.

Vice-Presidents: THOMAS BEATTIE, M.D., F.R.C.P.; Professor JOHN B. BRADBURY, M.D., F.R.C.P.; Sir THOMAS J. HORDER, M.D., F.R.C.P.; F. W. BURTON-FANNING, M.D., F.R.C.P.; THOMAS LEWIS, M.D., F.R.S.

Honorary Secretaries: A. J. JEX-BLAKE, M.D., F.R.C.P. (13, Ennismore Gardens, London, S.W.7); W. E. HUME, M.D., F.R.C.P. (4, Ellison Place, Newcastle-on-Tyne); E. LLOYD JONES, M.D. (59, Trumpington Street, Cambridge); J. ALDREN WRIGHT, M.D., M.R.C.P. (Director of Demonstrations, 2, Corpus Buildings, Cambridge).

The following programme has been arranged:

June 30th (Morning Session).—Discussion on the Diagnosis of Nervous Disorders of the Stomach and Intestines. To be opened by Dr. A. F. HURST, followed by Sir Clifford Allbutt, Dr. Charles Bolton (London), Dr. Langdon Brown (London), Dr. Maurice Craig (London), Dr. R. G. Gordon (Bath), Mr. H. Tyrrell Gray (London), Dr. R. Hutchison (London), Dr. Craven Moore (Manchester), Dr. R. J. Buchanan (Liverpool), Dr. E. Hobhouse (Brighton), Dr. W. J. Tyson (Folkestone), Dr. J. A. Nixon (Bristol), and others.

In the afternoon Mr. J. Barcroft will demonstrate Methods of Analysing the Gases of the Blood and Alveolar Air.

July 1st (Morning Session).—Discussion on the Present Position of Vitamines in Clinical Medicine. To be opened by Professor F. G. HOPKINS, followed by Sir James Barr (Liverpool), Dr. S. M. Copeman (London), Dr. Corry-Mann (London), Dr. A. Croft Hill (London), Dr. C. J. Martin (London), Dr. Eric Pritchard (London), Dr. J. C. Drummond (London), Mr. A. Harden (London), Lieut.-Colonel McCarrison, I.M.S., Dr. R. L. Mackenzie Wallis (London), Dr. G. F. Still (London), Dr. W. H. Willcox (London), Dr. Leonard Williams (London), and others.

July 2nd (Morning Session).—Discussion on the Clinical Significance and Course of Subacute Bacterial Endocarditis. To be opened by Sir THOMAS HORDER, followed by Dr. Carey Coombs (Bristol), Dr. J. M. Cowan (Glasgow), Dr. H. S. French (London), Dr. A. G. Gibson (Oxford), Dr. A. E. Gow (London), Dr. A. J. Hall (Sheffield), Dr. J. Hay (Liverpool), Dr. F. J. Poynton (London), Dr. H. J. Starling (Norwich), Dr. W. E. Hume (Newcastle), and others.

An exhibition of specimens illustrating the subject of this discussion will be held in the Pathological Museum.

SURGERY.

President: Sir GEORGE H. MAKINS, G.C.M.G., C.B., P.R.C.S.

Vice-Presidents: HARRY LITTLEWOOD, C.M.G., F.R.C.S.; Sir CUTHBERT S. WALLACE, K.C.M.G., C.B., F.R.C.S.; GEORGE EDWARD WHERRY, M.Ch., F.R.C.S.; DAVID PERCIVAL D. WILKIE, F.R.C.S.Edin.

Honorary Secretaries: W. H. BOWEN, M.S., F.R.C.S. (24, Lensfield Road, Cambridge); ARTHUR COOKE, F.R.C.S., Grove Lodge, Cambridge (Demonstration Secretary); G. E. GASK, C.M.G., D.S.O., F.R.C.S. (41, Devonshire Place, London, W.1); GORDON TAYLOR, O.B.E., M.S., F.R.C.S. (15, Harley Street, London, W.1).

The following programme has been arranged:

June 30th (10 a.m.).—Discussion: Surgical Treatment of Gastric Ulcer. To be opened by Sir BERKELEY G. A. MOYNIHAN, K.C.M.G., C.B., and Dr. CHARLES H. MAYO. (12 noon).—Paper: Mr. FRANK KIDD, Treatment of Calculi of the Lower Third of the Ureter.

July 1st (10 a.m.).—Discussion: Surgical Treatment of Cancer of the Rectum. To be opened by Mr. W. ERNEST MILES and Mr. GREY TURNER. (12 noon).—Paper: Lieut.-Colonel R. H. ELLIOT, Diagnosis of Glaucoma.

July 2nd (10 a.m.)—Discussion: End-Results of Injuries to the Peripheral Nerves treated by Operation. To be opened by Sir WILLIAM THORBURN, K.B.E., C.B., C.M.G., and Mr. PERCY SARGENT, C.M.G., D.S.O. (12 noon).—Paper: Mr. HERBERT TILLEY, Inflammatory Lesions of the Nasal Accessory Sinuses from the Standpoint of the General Physician and Surgeon.

Demonstrations will be given in the afternoons by Major Meurice Sinclair, C.M.G., on the Treatment of Fractures; by Mr. H. D. Gillies, C.B.E., and Mr. Percival Cole, on Plastic Surgery of the Face; by Mr. Herbert Tilley, on Endoscopy of the Lower Air Passages and Gullet, and by Mr. Arthur Cooke, on the Technique of Blood Transfusion. On Thursday afternoon, July 1st, Lieut.-Colonel R. H. Elliot will give a demonstration on the diagnosis of glaucoma.

Those who wish to take part in any of the surgical discussions are asked to send their names to one of the secretaries as soon as possible.

NEUROLOGY AND PSYCHIATRY.

President: HENRY HEAD, M.D., F.R.S.

Vice-Presidents: GORDON M. HOLMES, C.M.G., M.D., F.R.C.P.; W. H. RIVERS RIVERS, M.D., F.R.S.; LEWIS E. SHORE, M.D.; T. GRAINGER STEWART, M.D., F.R.C.P.; THEODORE THOMPSON, M.D., F.R.C.P.

Honorary Secretaries: E. D. ADRIAN, M.D., M.R.C.P. (Trinity College, Cambridge); E. FARQUHAR BUZZARD, M.D., F.R.C.P. (78, Wimpole Street, London, W.1); GEORGE RIDDOCH, M.D., M.R.C.P. (10, Alba Gardens, Golders Green, London, N.W.4).

The following preliminary arrangements have been made:

June 30th (Morning Session).—Discussion on the Early Signs of Nervous Disease and their Interpretation. To be opened by HENRY HEAD, M.D., F.R.S.

July 1st (Morning Session).—Discussion on Dementia Praecox and its Relation to other Conditions. To be opened by BERNARD HART, M.D.

July 2nd (Morning Session).—Discussion on Psychotherapy. To be opened by T. A. ROSS, M.D.

Demonstrations are being arranged for two afternoons; particulars will be announced later.

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S.

Vice-Presidents: J. A. ARKWRIGHT, M.D., F.R.C.P.; LOUIS COBBETT, M.D., F.R.C.S.; MERVYN H. GORDON, C.M.G., M.D.; T. S. P. STRANGEWAYS, M.R.C.S., L.R.C.P.

Honorary Secretaries: A. E. CLARK-KENNEDY, M.R.C.S., L.R.C.P. (Corpus Christi College, Cambridge); A. E. GOW, M.D., F.R.C.P. (37, Queen Anne Street, London, W.1); HELEN INGLEBY, M.B., M.R.C.P. (44, Welbeck Street, London, W.1).

The following discussions have been arranged during the mornings:

June 30th.—Atrophy of the Liver. To be opened by Professor STUART MCDONALD, M.D., F.R.C.P. (Newcastle-upon-Tyne).

July 1st.—The Present Position of Cancer Research. To be opened by J. A. MURRAY, M.D., Director, Imperial Cancer Research Fund.

July 2nd.—The Bacteriology of Cerebro-spinal Meningitis. To be opened by J. A. ARKWRIGHT, M.D., F.R.C.P., Assistant Bacteriologist, Lister Institute of Preventive Medicine. (A collection of specimens to illustrate the subject under discussion will be available.)

The afternoons will be devoted to meetings of the Pathological Society of Great Britain and Ireland, when papers will be read and demonstrations given.

PHYSIOLOGY AND PHARMACOLOGY.

President: Professor F. GOWLAND HOPKINS, M.B., F.R.S.

Vice-Presidents: H. H. DALE, C.B.E., M.D., F.R.S.; Professor J. A. GUNN, M.D.; Professor D. NOËL PATON, M.D., F.R.S.; F. RANSOM, M.D.; Professor J. N. LANGLEY, Sc.D., F.R.S.; Professor W. E. DIXON, M.D., F.R.S.

Honorary Secretaries: D. V. COW, M.D. (The Bridge House, Great Shelford, Cambridge); Professor EDWARD MELLANBY, M.D. (32, Addison Mansions, Kensington, London, W.14).

The following provisional arrangements have been made:

June 30th.—Discussion on Acidosis in Disease. To be opened by Professor F. GOWLAND HOPKINS, F.R.S.

July 1st.—Discussion on the Physiology and Treatment of Denervated Muscle. To be opened by Professor J. N. LANGLEY, Sc.D., F.R.S.

July 2nd.—Discussion on Quinine and its related Alkaloids in Pharmacology and Therapeutics. To be opened by Professor W. E. DIXON, F.R.S.

The following Sections meet on Wednesday only.

NAVAL AND MILITARY.

President: Colonel JOSEPH GRIFFITHS, C.M.G., M.D., F.R.C.S.

Vice-Presidents: Lieut.-Colonel E. J. CROSS, R.A.M.C.T.; Lieut.-Colonel R. H. ELLIOT, M.D., D.Sc., I.M.S.(ret.); Surgeon Commander H. W. B. SHEWELL, R.N.; Surgeon Rear Admiral A. GASCOIGNE WILDEY, C.B., R.N.

Honorary Secretaries: Major A. S. M. MACGREGOR, O.B.E., M.D., R.A.M.C.T. (Sanitary Chambers, Glasgow); Major H. B. RODERICK, O.B.E., M.Ch., M.D., R.A.M.C.T. (17, Trumpington Street, Cambridge); Lieut.-Colonel F. E. APTHORPE WEBB, O.B.E. (Grafton House, Maid's Causeway, Cambridge).

The following programme has been arranged:

June 30th.—10 a.m., Discussion on the Army Medical Service and its Relation to the Education and Training of Newly Qualified Medical Men. To be opened by the PRESIDENT. Papers on interesting subjects relating to the war will be read, particulars of which will appear later. 2.30 p.m., The Naval, Military, and Air Force Medical Services will exhibit the new inventions and equipments that arose during the Great War. Each department will be fully represented, and each will be in charge of an officer who will be prepared to demonstrate and explain the exhibits.

OBSTETRICS AND GYNAECOLOGY.

President: HERBERT WILLIAMSON, M.B., F.R.C.P.

Vice-Presidents: FREDERICK DEIGHTON, M.B.; J. PRESCOTT HEDLEY, M.Ch., F.R.C.S.; FRANCES IVENS, M.B., M.S.

Honorary Secretaries: MALCOLM DONALDSON, M.B., F.R.C.S. (145, Harley Street, London, W.1); W. R. GROVE, M.D. (St. Ives, Hunts).

June 30th.—Discussion on Puerperal Sepsis. (1) Mr. VICTOR BONNEY (London): Introductory paper. (2) Mr. H. BECKWITH WHITEHOUSE (Birmingham): Surgical Treatment of Uterus in Puerperal Sepsis. (3) Dr. A. E. GOW (London): Intravenous Protein Therapy in Treatment of Puerperal Septicaemia. (4) Dr. LEITH MURRAY (Liverpool): Use of Serums and Vaccines in the Treatment of Puerperal Sepsis.

July 1st.—At 10 a.m. there will be a joint session with the Section of Electro-Therapeutics to discuss the Treatment of Fibroids by *X* Rays. The discussion will be opened by Dr. R. KNOX.

Demonstrations will be given on Wednesday, June 30th, by Dr. R. Mackenzie Wallace on diastase reaction, and by Mr. M. S. Mayou, F.R.C.S., on the treatment of ophthalmia neonatorum.

TROPICAL MEDICINE.

President: Professor G. H. F. NUTTALL, M.D., F.R.S.

Vice-Presidents: BREADALBANE BLACKLOCK, M.D.; Lieut.-Colonel S. PRICE JAMES, M.D., I.M.S.; P. H. MANSON-BAHR, M.D.

Honorary Secretaries: CHARLES FREDERICK SEARLE, M.D. (67, Bridge Street, Cambridge); J. GORDON THOMSON, M.B. (24, Herne Hill, London, S.E.24).

The following programme has been arranged:

June 30th (Morning Session).—Papers to be followed by discussions: 9 a.m.—(1) Problem of Filariasis, by Drs. STEPHENS and YORKE. 10 a.m.—(2) Rôle of *F. bancrofti* in the Production of Lymphatic Obstruction and a Consideration of Elephantiasis from the Pathological Standpoint, by Dr. G. C. Low and Dr. P. H. MANSON-BAHR, D.S.O. 11 a.m.—(3) Dietetic Deficiency and Endocrine Activity, with Special Reference to Deficiency Oedemas, by Lieut.-Colonel ROBERT MCCARRISON, I.M.S.

Demonstrations.—In the afternoon there will be the following demonstrations: 2.30 p.m.—(1) Parasitic Worms, by Dr. R. T. Leiper. 3 p.m.—(2) Exhibition Collection of all known species of Tsetse Flies, with demonstration dealing with the Morphology and Bionomics, by Professor Newstead. 3.30 p.m.—(3) Demonstration of the Use of the Mobile Laboratory for Malarial Inquiries in England, by Colonel S. P. James. Dr. Gaskell will demonstrate his malarial slides. 4 p.m.—(4) Paintings illustrating the Treatment of Leprosy, by Lieut.-Colonel Sir Leonard Rogers, C.I.E., F.R.S., I.M.S.

At 2.30 p.m. on June 30th Dr. W. Hunter, C.B., will give a lantern lecture in the Zoological Lecture Room, entitled, "Serbia under Typhus in 1915: The Story of a Great Epidemic and its Arrest."

There will also be an exhibition of Portraits of Parasitologists, collected by Professor Nuttall.

Lieut.-Colonel R. McCarrison will exhibit illustrations dealing with his paper on dietetic deficiency and endocrine activity, with special reference to deficiency oedemas.

The following Sections meet on Thursday only.

MEDICAL EDUCATION.

President: Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P.

Vice-Presidents: G. S. GRAHAM-SMITH, M.D., F.R.S.; Professor DAVID HEPBURN, C.M.G., M.D.; THOMAS W. SHORE, M.D.; S. SQUIRE SPRIGGE, M.D.; Professor PETER THOMPSON, M.D.

Honorary Secretaries: S. R. GLOYNE, M.D. ("Hatherley," Chalfont St. Giles, Bucks); Professor J. KAY JAMIESON, M.B. (Dean of Faculty of Medicine, Leeds).

The following programme has been arranged:

July 1st (10 a.m. to 1 p.m.).—Address by the PRESIDENT. Discussion: Preliminary Scientific Education in the Medical Curriculum. Openers: Prof. S. J. HICKSON, D.Sc., F.R.S. (Biology); Prof. ARTHUR KEITH, M.D., F.R.S. (Anatomy); Prof. Sir ERNEST RUTHERFORD, D.Sc., F.R.S. (Physics); Prof. J. LORRAIN SMITH, M.D., F.R.S. (Pathology); Prof. A. SMITHELLS, C.M.G., F.R.S. (Chemistry).

VENEREAL DISEASES.

President: E. B. TURNER, F.R.C.S.

Vice-Presidents: Colonel L. W. HARRISON, D.S.O., M.B.; MORNA L. RAWLINS, M.B.

Honorary Secretaries: W. H. HARVEY, M.D. (The Dene, Great Shelford, Cambridge); OTTO MAY, M.D. (19, Well Walk, Hampstead, London, N.W.3).

The following programme has been arranged:

July 1st (10 a.m.).—Discussion on Venereal Diseases in Women and Children: (1) Dr. MORNA RAWLINS: Treatment of Venereal Disease in Women. (2) Dr. LEONARD FINDLAY: Venereal Diseases in Children.

Demonstrations.—In the afternoon there will be a clinical demonstration at the Venereal Diseases Clinic, Addenbrooke's Hospital, and a laboratory demonstration in the Medical School under the direction of Mr. J. E. Barnard.

The following Sections meet on Friday only.

ELECTRO-THERAPEUTICS.

President: ALFRED ERNEST BARCLAY, M.D.

Vice-Presidents: ROBERT KNOX, M.D.; ALFRED CHARLES JORDAN, M.D., M.R.C.P.

Honorary Secretaries: E. P. CUMBERBATCH, M.B., M.R.C.P. (15, Upper Wimpole Street, W.1); F. SHILLINGTON SCALES, M.D. ("Redcourt," Adams Road, Cambridge).

The following programme has been arranged:

July 2nd.—Presidential address by Dr. A. E. BARCLAY: Place of the Radiologist in Medicine. Discussion on the Diagnosis and Treatment of Paralysis caused by Nerve Injury, to be opened by Mr. H. S. SOUTTAR, F.R.C.S. Papers: Dr. ROBERT KNOX, Tumours of the Chest; Dr. HOWARD HUMPHRIS, Use of the Melted Paraffin Wax Bath and the Tungsten Arc Light; Dr. E. P. CUMBERBATCH, Treatment by Diathermy of Intravesical Growths and Ulcers of the Urinary Bladder; Professor J. GOODWIN TOMKINSON, M.D., X-ray Therapy in Oriental Sore; Dr. S. GILBERT SCOTT, Diagnostic Value of the Renal Outlines and the Method of Determining the Relation of Abnormal Shadows to them. Joint Discussion with Section of Obstetrics and Gynaecology, on Treatment of Uterine Fibroids; to be opened by Dr. ROBERT KNOX on July 1st at 10 a.m.

MEDICAL SOCIOLOGY.

President: G. E. HASLIP, M.D.

Vice-Presidents: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.; ADAM FULTON, M.B.; C. O. HAWTHORNE, M.D.; Professor BENJAMIN MOORE, D.Sc., F.R.S.

Honorary Secretaries: S. MORTON MACKENZIE, M.B. (9, Rose Hill, Dorking); C. M. STEVENSON, M.D. (90, Chesterton Road, Cambridge).

July 2nd (10 a.m.).—Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P., will open a discussion on The Future of Medical Practice, dealing with the subject from the point of view of the State. The discussion will be continued by Sir WILMOT HERRINGHAM, K.C.M.G., C.B., M.D., F.R.C.P., from the standpoint of the Consultant; Dr. ALFRED LINNELL from that of the General Practitioner; Professor F. GOWLAND HOPKINS, F.R.S., D.Sc., F.R.C.P., from that of Medical Research, and Mr. E. W. MORRIS, C.B.E., House Governor London Hospital, from that of The Hospitals.

PATHOLOGICAL MUSEUM.

Committee: Sir GERMAN SIMS WOODHEAD, K.B.E. (Chairman), Dr. L. COBBETT, Dr. G. S. GRAHAM-SMITH, Dr. W. H. HARVEY, Mr. T. S. P. STRANGEWAYS, and Dr. H. B. RODERICK, M.Ch. (Honorary Secretary).

The Pathological Museum arranged in connexion with the meeting will occupy a central position in two temporary buildings in the first court of the Medical Schools. It is proposed to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers in the various Sections. (2) Specimens and illustrations relating to any recent research work. (3) Individual specimens of special interest or a series illustrating some special subject. (4) Instruments or appliances relating to clinical diagnosis and pathological investigation. There will also be a series of exhibits illustrative of war specimens, arthritis, cerebro-spinal meningitis, and parasitology.

Communications regarding material for exhibition should be addressed to Dr. H. B. Roderick, at the Surgical Department, Medical School, Cambridge.

ACADEMIC DRESS OR UNIFORM.

In addition to the reception given in King's College by the Cambridge and Huntingdon Branch of the British Medical Association on Tuesday evening, after the delivery of the President's address, the Vice-Chancellor of the University will hold a reception at Emmanuel College on Wednesday at 9 p.m. The Mayor of Cambridge will give a reception on Thursday afternoon at Christ's College at 4.30 p.m. On Friday evening, at 9 p.m., a reception will be given at Trinity College by the Master and Fellows.

It is hoped that members will wear academic dress or uniform on the following occasions:

Tuesday, June 29th.

3.30 p.m.—Congregation for Honorary Degrees in the Senate House.

5 p.m.—Service in Great St. Mary's Church. Preacher, the Bishop of Ely.

8.30 p.m.—President's Address in the Senate House, and Branch Reception at King's College.

10 p.m.—Presentation of President's portrait.

Wednesday, June 30th.

9.30 a.m.—Mass at Roman Catholic Church, Hyde Park Corner.

5 p.m.—Free Church Service in Emmanuel Congregational Church, Trumpington Street.

9 p.m.—Vice-Chancellor's Reception at Emmanuel College.

Thursday, July 1st.

4.30 p.m.—Reception by the Mayor at Christ's College.

Friday, July 2nd.

9 p.m.—Reception in Trinity College.

Those desiring to have robes provided for them at Cambridge should communicate in advance with Messrs. Ede, Son and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.; Messrs. Wm. Northam, 9, Henrietta Street, London, W.C.; or Messrs. Ravenscroft and Willis, 4, Hardman Street, Liverpool.

EXCURSIONS.

The following programme of local excursions has been arranged:

Wednesday, June 30th.

Sawston Hall.—For motorists using own cars: 2 to 5. Tea will be provided by D. L. Huddleston, Esq.

Saffron Walden.—By motor, leaving the Guildhall at 2 p.m. Tea provided by the Mayor and a Committee.

Field Laboratories, Milton.—By motor from Guildhall at 2 p.m. Dr. A. Stanley Griffith will give a demonstration of cultures, etc., and the Superintendent, Mr. C. Fox, will give a short account of administration and exhibit the buildings.

The Dykes.—Prehistoric earthworks: The Devil's Dyke and Fleam Dyke. By motor from Guildhall at 2 p.m. Professor J. E. Marr and the Rev. Dr. H. P. Stokes will accompany the party. Picnic tea on the Fleam Dyke.

Ely.—By train, 1.25 p.m. Canon Kennett will conduct the party over the Cathedral. Tea at the Palace, by invitation of the Bishop and Mrs. Chase.

Thursday, July 1st.

The University Experimental Farm.—By motor, 2 p.m., Guildhall. Demonstrations by Professor R. H. Biffen, F.R.S., and the Director, Mr. K. J. J. Mackenzie, M.A. Tea at the Farm, by invitation of the University Board of Agricultural Studies and the Director.

Cambridgeshire Tuberculosis Colony.—Papworth Hall. By motor, 2 p.m., Guildhall. The Resident Medical Officer, Dr. P. Varrier-Jones, will meet the party at Papworth; tea at Croxton Park, by invitation of Sir Douglas and Lady Newton.

Friday, July 2nd.

The University Experimental Farm.—By motor, 2 p.m., Guildhall. Arrangements as for Thursday's excursion.

Hinchinbrooke.—The Earl of Sandwich will entertain party to tea. By train, 1.31 p.m.

The Dykes.—By motor, 2 p.m., Guildhall. Arrangements as for Wednesday's excursion.

Ely.—By train, 1.25 p.m. The Dean will conduct the party over the Cathedral.

Saturday, July 3rd.

River Excursion.—Wicken Fen. Motor launch leaves Victoria Bridge at 9 a.m. Miss E. R. Saunders and Dr. C. Searle will accompany the party. Lunch and tea on board.

Newmarket.—The King's Stables, Egerton House. By motor, Senate House, 10 a.m. Lunch at Newmarket and visit to the Heath.

GOLF.

The Gog Magog Golf Club has made members of the British Medical Association honorary members during the meeting. An honorary member will be allowed to introduce other visitors, including ladies, on payment of the green fee. The competition for the Ulster Cup will take place on Thursday, July 1st. Entries, with particulars of club and handicap, should be sent to the captain of the club, Dr. W. S. Cole, Latham Road, Cambridge. It is proposed to arrange a ladies' competition on Friday morning.

ARRANGEMENTS FOR ACCOMMODATION.

The arrangements are now complete for the accommodation of members of the Association for the Annual Meeting at Cambridge from June 25th to July 3rd. The authorities of each college have kindly placed at the disposal of the local committee a large number of undergraduates' rooms. The accommodation in hotels is already fully booked.

Colleges.

Only those members who are unaccompanied by ladies can be given rooms in a college. Each member will be assigned a set of undergraduate's rooms, with the services of a college bedmaker or gyp, and with breakfast, luncheon, tea, and dinner served in the College Hall at the inclusive charge of 14s. 6d. per diem. Those members who wish to stay in a college should address their applications to:

The General Secretaries, British Medical Association,
The Medical School, Cambridge,

not to a particular college. It is important they should give the date of their arrival. Cambridge men who desire to stay in their old college should apply without delay. The authorities of Newnham College have kindly offered to accommodate the lady members of the Association with rooms and meals at the inclusive charge of 10s. 6d. a day; application should be made only to the General Secretaries. Members who are going to stay in Cambridge are asked to remember that sugar is still rationed, and is difficult to obtain, and they should therefore bring their own supply.

Rooms are still available in many of the colleges, but early application should be made.

Lodgings.

Members who wish to stay in lodgings should write directly to the lodging-house keepers. A revised list of lodgings was printed in last week's SUPPLEMENT. When they have made their arrangements members are requested to inform the General Secretaries what their Cambridge address will be. Members who have found any difficulty in arranging lodgings should now apply to the General Secretaries, who will find accommodation for them.

Many of the lodging-houses are unable to provide luncheon, and most of them unable to provide dinner. A few of the colleges will be able to admit to luncheon and to dinner members (and ladies accompanying them) staying in lodgings, but the number of seats in these college halls being strictly limited, tickets for these meals must be obtained beforehand. Details as regards the issue of these tickets will be given in the Reception Room at the Guildhall during the meeting.

A lecture on Medical Missionary Work in China will be delivered on Wednesday, June 30th, at 4 p.m., by Dr. H. Gordon Thompson, C.M.S. missionary in China, at Queens' Lodge, by kind permission of the President and Mrs. Fitzpatrick. The chair will be taken by Dr. H. B. Roderick, O.B.E. Tickets can be obtained from Mrs. Knott, 8, Cranmer Road, Cambridge.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1920.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

THE TEACHING OF PRACTICAL MIDWIFERY.

DR. J. Y. MACKAY (Chairman of the Education Committee) moved the adoption of a report on practical midwifery.

The report contained the replies of teaching institutions to an inquiry addressed to them from the General Medical Council asking how far they had been able to carry out the Council's recommendations with regard to the midwifery practice to be required of candidates for a licence, and also calling attention to the report of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on the teaching of these subjects to medical students and graduates in London.

The recommendations of the Council referred to were that every student, before commencing the study of practical midwifery, should have held the offices of clinical medical clerk and surgical dresser, and should have attended a course of lectures on surgery and midwifery; and that he should be required to present a certificate showing that he had conducted twenty cases of labour under official medical supervision and subject to certain specified conditions.

The replies received showed that the principles of these recommendations were very generally complied with, but that difficulties in carrying them out centred around deficiency of lying-in beds and of lying-in cases. The Education Committee believed that the present difficulties might be greatly alleviated by the utilization of beds in Poor Law institutions under skilled instruction, and so far as deficiency of cases was concerned, by the limitation of candidates for the certificates of the Central Midwives Board to pupils who had given an undertaking to engage in practice as midwives for not less than three years after their qualification. It was explained that a large number of women who were trained for the examinations of the Central Midwives Board never intended to practise as midwives, and therefore the cases allotted to these women, so far as the primary requirements of the State for the care and safe delivery of mothers were concerned, were in a sense wasted. In some twelve years, according to Sir Francis Champneys, these "wasted" cases had amounted to more than 350,000. The Committee recommended that a communication be addressed to the Ministry of Health and the Boards of Health of Scotland and Ireland begging that steps might be taken in these two directions. The teaching of midwifery, added the Committee, could never be satisfactory until students received it at the bedside and until it was as thorough and practical as that of surgery, and such teaching would only be possible when large lying-in hospitals were rendered available throughout the country.

Sir FRANCIS CHAMPNEYS, who had prepared a special report on the subject which was embodied in the Committee's report, said that midwifery was more directly associated with preventive medicine than any other branch of medicine or surgery. Early obstetrics was concerned almost entirely with the removal of obstructions, and therefore was almost exclusively surgical, but the modern development of midwifery had been largely bacteriological and more a medical than a surgical development. This had come to the front very much in regard to the toxaemias of pregnancy. Gynaecology was largely in practice the clearing up of the débris of bad midwifery. If midwifery were good a great part of gynaecological practice would become unnecessary. A reduction of 50 per cent. in the cases treated in gynaecological practice would take place if the effects of bad midwifery and of gonorrhoea were excluded. With regard to the replies received by the Council, it was evident that the first necessity was a large increase in lying-in beds, without which adequate instruction at the bedside was impossible. Any reduction in the number of cases or relaxation in the requirements concerning the manner of their attendance by students would result in a lowering of the standard of obstetric education. The student must live in an atmosphere of obstetrics, and it was important that there should be enough beds to furnish a fair certainty of continuous cases being delivered. This practical instruction stood between the women and puerperal fever. Between two-thirds and three-fourths of the women confined in the British Isles were attended by midwives. An immediate provision of beds in sufficient numbers to supply the needs of medical students was probably impossible, though the utilization of beds in Poor Law institutions might help. Very small maternity homes could not be utilized for teaching. The lying-in beds now available at the London medical schools would not suffice for the complete education of all their students. The passing of the Midwives Act in 1902 was followed by a permanent drop in puerperal mortality, and improved practical teaching of midwifery to medical students might result in a further improvement in the puerperal statistics. He had tried to get the Registrar-General to give space in death certificates in cases connected with childbirth so as to show by whom the woman was delivered, but he was told there was no room for this, though he believed the matter was still under consideration. Some most useful data would be forthcoming if this could be done. He suggested a redistribution of beds in general hospitals, and a measure of pooling whereby students from smaller hospitals might receive their training at some of the larger institutions; besides this, the Poor Law institutions might be utilized, the teaching being put into the hands of experts.

Dr. DEAN said that in Manchester, where there was the largest lying-in hospital in the country, the recommendations of the Council had been for many years strictly carried out.

Mr. E. B. TURNER said that the practice of midwifery for normal labours was passing more and more into the hands of qualified midwives. The medical practitioner who practised among the lower middle classes and hand-working classes was becoming more and more a consultant so far as childbirth was concerned. The increasing disinclination of practitioners to interest themselves in midwifery might be due to the perfunctory and unsatisfactory nature of their instruction when students. No man should be trusted to look after a woman in this emergency unless he was really as much qualified to take part in it as to remove an appendix. He hoped that the provisions of the scheme outlined by the Consultative Medical Council might be utilized. The secondary health centres might have attached to them large and efficient lying-in wards, and there might also be out-patient provision for pre-maternity work.

Sir GILBERT BARLING hoped that reform in this matter would not have to wait until the millennium. The most hopeful note in the report was the statement that the Poor Law institutions were prepared to come to their aid. Poor Law authorities were most willing to promote what was desired, and he understood that they did this with the concurrence of the Minister of Health, so that it was an open door which was being pushed. The teaching of midwifery must not be divorced from the teaching of diseases of women. Most gynaecological work arose out of midwifery, and if these midwifery clinics were set up there would have to be gynaecological beds with them. It was not desirable to train midwives and medical students in the same institution; either one or the other suffered injustice.

Dr. MATTHEW HAY pointed out that women did not care to go to Poor Law institutions, and a certain stigma would have to be removed before this plan could be brought into operation. He thought that the recommendation might be widened to include maternity institutions generally which might be the recipients of grants.

Sir GEORGE NEWMAN said that many proposals came before the Ministry of Health for the establishment of maternity hospitals and homes, but the building of such institutions was likely to be postponed for some time until the building of dwelling houses was further advanced. It was therefore to be desired that institutions now available, or those which might be made available without any capital expenditure, should be used forthwith. Quite half the general beds in this country were in the possession of the Poor Law authorities. They numbered approximately 90,000, and of these, 30,000 were in institutions which might be available for hospitals; the remainder were scattered beds, not in hospital form, and not convenient for the purpose. There was an increasing demand by public opinion in this country for a greatly improved maternity and midwifery service. The two great requirements were, first, more beds, which they might hope to get along the lines of this report, and secondly, an improved use of the available cases. The 90,000 beds provided under the Poor Law were for persons receiving Poor Law relief. The Minister had in view certain measures which would have the effect of bringing about such changes as would lift the greater part, if not the whole, of the Poor Law stigma. The Ministry of Health had now before it various proposals, and he hoped it might be part of its policy to see that these beds were made available.

The PRESIDENT said that in Scotland the central Poor Law authority had no power to order that a given maternity hospital under the Poor Law should be made available for clinical instruction; that rested as to initiative with the local authority. He was informed that the central authority was most anxious that the Poor Law maternity institutions should be made available and that a change was coming over the local authorities, who were taking steps to secure the recognition of their institutions for clinical purposes. He had reason to believe that something of the same kind was true of England; of the position in Ireland he knew nothing. He understood that some of the maternity institutions administered under the Poor Law were admirably equipped, well built, and furnished, and in regard to their arrangement were not inferior to the best maternity hospitals, and, moreover, were constantly supplied with cases.

Dr. MAGENNIS said that in Ireland there was not a single Poor Law institution which would be a suitable place.

Sir NORMAN MOORE thought it very important that it should be brought before the public that some of these splendid hospitals which came under the Poor Law designation could be put to the very best use.

Ultimately it was agreed, on Sir John Moore's amendment, to leave out the reference to Ireland, and the recommendation read:

> That a communication be addressed to the Ministry of Health and the Board of Health of Scotland begging that steps may be taken for the utilization of existing Poor Law lying-in institutions for clinical instruction, and that such instruction shall be placed in the hands of experts, and calling attention to the desirability of limiting the acceptance of candidates for the C.M.B. certificates to those who give an undertaking to engage in the practice of midwifery for not less than three years after their qualification.

The recommendation was adopted, as was a further recommendation that the attention of teaching institutions be again drawn to the recommendations of the Council issued in 1906 on the requirements with regard to midwifery practice, in the hope that when the present difficulties in training are alleviated all the institutions may be able to carry out the recommendations in their entirety.

REPORTS OF COMMITTEES.

Professional Examinations.

Dr. NORMAN WALKER moved the adoption of a report from the Examination Committee on the inspection of the examinations of the Apothecaries' Hall, Dublin, in 1919. This was a report by Dr. Finny, the Council's deputy, and was of a favourable character. The deputy commended the efforts of the Apothecaries' Hall to improve the scope of the Final Examination in Medicine by adding a special examination in medical methods for the first time. He felt sure that the high tone of the examiners would have the effect, if persevered in, of elevating the examination to the level of those of the Royal Colleges, and that no candidate would be placed on the *Register* who was not so qualified by professional studies and examinations. He objected, however, to the piecemeal methods by which some candidates became qualified, and thought it unfortunate that they did not take their examinations consecutively in the Hall, from the Primary to the Final.

The report was adopted.

Dr. WALKER then moved the adoption of a further report by the Examination Committee on the analysis of the annual tables of examinations for 1919, and on instruction in ophthalmology. It was recommended by the Committee (and endorsed by the Council) that on economical grounds the printing of annual tables of examinations should be discontinued, but that the respective Committees should report on them annually and that they should be accessible in manuscript.

The report stated that the Committee had noticed a tendency for the amount of information given by the licensing bodies under the three heads of Operative Surgery, Ophthalmic Surgery or Ophthalmology, and Mental Diseases to diminish. The returns showed that sixteen examining bodies did not allude to the first of these subjects, sixteen did not allude to the second, and nine did not allude to the third. Three stated that operative surgery was included under surgery, three that ophthalmic surgery was included under surgery, and five that mental diseases were included under medicine. One stated that there was no special examination in ophthalmology, and one that there was no special examination in mental diseases.

The Committee recommended, and the Council agreed:

> That the licensing bodies which have not hitherto supplied in the return information as to whether they do or do not examine in operative surgery, ophthalmology, and mental diseases be asked to do so in future.

Dr. WALKER said that reports were still lacking from some licensing bodies to show how far their regulations were in accordance with the Council's recent recommendation in regard to the teaching of ophthalmology—namely, that every student should be required to attend a course of practical instruction in ophthalmology of not less than ten weeks' duration and that no student should be admitted to the final examination unless he presented a certificate to the effect that he had attended such a course regularly and that his work in connexion therewith had reached a satisfactory standard. Replies on this subject from eighteen licensing and teaching bodies were given in an appendix to the Committee's report.

The Council agreed to the usual recommendation that the Apothecaries' Hall, Dublin, be requested to furnish tables of exemptions from and results of examinations as heretofore, and then the report of the Examination Committee as a whole was put to the Council and adopted.

Dr. WALKER stated that reports on the inspection of final examinations had been received from inspectors in regard to the examinations of the Conjoint Board in England on medicine, surgery, and midwifery, and the Apothecaries' Society of London on medicine and surgery, but it was decided to defer detailed remarks upon them until reports in regard to other bodies had been received so that a review of the examinations as a whole might be possible.

The Council then considered various matters *in camera*, and on the resumption of the public sitting a report by the Education Committee was adopted in which it was stated that replies had been received from twenty-six licensing and teaching bodies to the Council's inquiry as to the instruction now being given to students on the duties devolving upon practitioners in their relationship to the State, and on the generally recognized rules of medical ethics. In general the replies indicated that the recommendations of the Council were given effect to.

PUBLIC HEALTH COMMITTEE.

Sir JOHN MOORE moved the report of the Public Health Committee, which contained a reference to communications from the Director-General of the Medical Department of the Admiralty on the question of facilities for medical officers in the navy. The Director-General stated that the question of extended study leave to medical officers in the navy who desired to take the diploma in public health was under consideration, and he also forwarded a copy of the syllabus of instruction for two months at the Royal Naval Medical College, Greenwich, of medical officers before the promotion examinations.

The Council approved the instructions. It was also agreed that the course in hygiene at the Royal Medical School, Greenwich, required for promotion in the Royal Navy Medical Service be considered equivalent to the instruction given by a teacher or teachers in the department of public health of a recognized medical school under Rule 3, Note 1 (1).

The PRESIDENT said that the equivalent to this last proposal already held good in the case of the Army.

The report as a whole was then adopted.

STUDENTS' REGISTRATION COMMITTEE.

Sir NORMAN MOORE submitted the report of the Students' Registration Committee, which contained an exceptional number of antedated registrations, mainly owing to the interruption of the war and to exemptions granted in respect of preliminary examinations. The report was adopted.

DENTAL EDUCATION AND EXAMINATION COMMITTEE.

Sir JAMES HODSDON, in submitting the report of this Committee, said that the tendency was increasing throughout the Dominions to enforce total prohibition of dental practice except by registered persons.

The PRESIDENT said that a number of amending Acts had lately been passed in various Canadian provinces, and this country was fast being left behind by its dominions in the matter of prohibition.

The report, which contained various recommendations on applications for registration in exceptional circumstances, was adopted.

PHARMACOPOEIA COMMITTEE.

Sir JOHN MOORE moved the adoption of the report of the Pharmacopoeia Committee, which dealt with the sale of the *British Pharmacopoeia*, certain typographical corrections in its text, and the appointment of a special committee, now sitting, by the Minister of Health to advise on the control of such remedies as serums, vaccines, and other preparations which can only be assayed effectively by other than chemical and physical methods.

The report was adopted.

VOTE OF THANKS TO THE RETIRING TREASURER.

Sir NORMAN MOORE, in presenting a report from the Finance Committee, stated that the balance was on the satisfactory side, though this could not always be expected. Sir Norman moved the adoption of the report, and, this having been agreed to, he moved a special vote of thanks to Sir Charles Tomes for his services as treasurer. The proposer said that he himself had been an eye-witness of the assiduity with which Sir Charles had handled the financial position.

Sir JAMES HODSDON seconded, and the PRESIDENT, in putting it to the vote, said that the Council had benefited not only from Sir Charles Tomes's quite remarkable power of dealing with accounts, but from his general executive ability. If, owing to the successful realization of the property which the Council had left behind in the neighbourhood of Oxford Street, the Council could look forward to liquid assets in a way in which it had not been able to look forward to them for forty or fifty years of its existence, this was due chiefly to the business acumen of Sir Charles Tomes, his ability in handling property, and his insight into the psychology of buyers. The resolution of thanks was carried by acclamation.

ELECTION OF JUNIOR TREASURER.

The PRESIDENT reminded the Council that the Junior Treasurer should be resident in London, and should be a surgeon, the Senior Treasurer (Sir Norman Moore) being a physician. Mr. Waring was unanimously elected.

COMMITTEES.

The Committees of the Council are constituted as follows:

Executive Committee. — Sir Norman Moore, Mr. Waring, Dr. Macdonald, Dr. Norman Walker, Sir Gilbert Barling, Sir Arthur Chance, Sir John Moore, and Sir James Hodsdon.

Penal Cases Committee.—Sir Francis Champneys, Dr. Macdonald, Dr. Norman Walker, and Sir Arthur Chance.

Business Committee.—Dr. Norman Walker (Chairman), the President, Sir Francis Champneys, Dr. Macdonald, Dr. Magennis.

Pharmacopoeia Committee.—The President (Chairman), Sir Norman Moore, Dr. Hopkins, Dr. Russell Wells, Dr. Norman Walker, Sir John Moore, Dr. Kidd, Dr. Hay, and Dr. Caton.

Finance Committee.—The Senior Treasurer (Sir Norman Moore) (Chairman), the Junior Treasurer (Mr. Waring), the President, Sir James Hodsdon, and Sir Arthur Chance.

Dental Committee.—The President (Chairman), Mr. Waring, Sir James Hodsdon, Sir Arthur Chance, Mr. Bennett.

Dental Education and Examination Committee.—Sir James Hodsdon (Chairman), the President, Mr. Waring, Sir Arthur Chance, Dr. Coey Bigger, Mr. Bennett.

Students' Registration Committee.—Sir Norman Moore (Chairman), the President, Dr. Mackay, Mr. Littlejohn, Dr. Kidd, Sir Gilbert Barling, Mr. Sinclair

Education Committee.—Sir N. Moore, Dr. Howden, Sir F. Champneys (by English Branch Council); Sir J. Hodsdon, Mr. Littlejohn, Dr. Mackay (by Scottish Branch Council); Sir A. Chance, Dr. Dixon, Dr. Sinclair (by Irish Branch Council).

Examination Committee.—Sir G. Barling, Dr. Caton, Dr. Macdonald (by English Branch Council); Dr. Russell, Dr. Adams, Dr. N. Walker (by Scottish Branch Council); Sir J. Moore, Sir A. Chance, Dr. Kidd (by Irish Branch Council).

Public Health Committee.—Sir G. Newman, Dr. Dean, Sir J. Verrall (by English Branch Council); Mr. Littlejohn, Dr. Hay, Dr. McVail (by Scottish Branch Council); Sir J. Moore, Dr. Magennis, Dr. Bigger (by Irish Branch Council).

PENAL CASES.

The Council considered the following penal cases:

Manslaughter.

Pandit Devi Dayal Sasun, registered as of Brady Street, Bethnal Green, L.R.C.P. and S.Edin. 1902, L.F.P.S. Glasg. 1902, was summoned to appear on the charge that, being a registered medical practitioner, he had been convicted at the Central Criminal Court on April 13th, 1920, of unlawfully killing Elsie Maud Wright and sentenced to ten years' penal servitude.

Mr. Sasun did not appear and was not represented.

Mr. Harper, the Council's solicitor, laid the facts before the Council (see BRITISH MEDICAL JOURNAL, April 24th, p. 589, and May 29th, p. 754). He said that in December last Sasun was consulted by the woman Wright, who gave him £10 and asked him to perform an illegal operation, which he did. Sasun remained all that night at his surgery, and early next morning he directed a policeman's attention to the dead body of a woman lying under a railway arch near by. No doubt his idea in giving information to the police himself was that he would be asked to make the *post-mortem* examination. In the result he was charged with murder and convicted of manslaughter. His appeal to the Court of Criminal Appeal was dismissed. In his safe were 116 documents, signed by as many different women, and in every case the woman had been traced and it was found that an illegal operation had been performed upon her.

The Council ordered that Sasun's name should be erased from the *Register*.

Adultery and Elopement.

Alexander John Wood, registered as care of a solicitor at Kirkcaldy, M.B., C.M., 1883, U. Edin., was charged with committing adultery and eloping with a married woman named Harman, to whose family he was medical attendant. He was found guilty of adultery by a decree of the Divorce Division dated October 18th, 1918, and made absolute on May 5th, 1919.

Dr. Wood was not present, and was not represented. Mr. Harper stated that Dr. Wood had now gone to live in Saskatchewan, whence he had written: "I have no defence to make, as the decision of the Divorce Court left me none." The Council's Solicitor put in the two decrees of the Court, and said that the divorce proceedings were undefended. It appeared that the adultery and elopement took place in 1912, and when the petitioner (Mr. Harman) was asked why he had not taken proceedings earlier, he replied that he had only recently been able to save enough money to do so. In 1912 there were no facilities whereby poor persons could obtain divorce. The judge had described the case as a very bad one.

The Council deliberated *in camera*, and on the resumption of the public sitting the PRESIDENT said:

I have to announce that the Council has judged Alexander John Wood to have been guilty of infamous conduct in a professional respect, and has directed the Medical Registrar to erase from the *Register* the name of Alexander John Wood.

Adultery.

Frederick Arthur Pring, registered as care of a bank in Victoria Street, S.W., L.S.A.Lond. 1883, M.R.C.S.Eng. 1884, L.R.C.P.Lond. 1885, was summoned on the charge of having abused his position by committing adultery with a married woman named Morris, with whom he stood in professional relationship. Of this adultery Dr. Pring had been found guilty by decree of the Divorce Division, dated November 5th, 1919, and made absolute May 17th, 1920, in the case of Morris *versus* Morris and Pring, in which he was co-respondent.

Dr. Pring did not appear, but he was represented by his solicitor, Mr. Hempson.

The Council's Solicitor pointed out that in these inquiries it had first to be established that there was adultery, and secondly, that the practitioner stood in professional relationship to the lady concerned or to her family. In the present case no point was made in the divorce proceedings about professional relationship; the court was concerned with the simple issue of adultery. Mr. Morris had brought divorce proceedings against his wife, citing Dr. Pring and another person as co-respondents. The case against the second person was not tried. The jury found adultery proved between Mrs. Morris and Dr. Pring. It appeared that Dr. Pring regarded himself as Mrs. Morris's guardian, and letters were read which showed that he had strongly objected to her marriage. Dr. Pring's reply to the notice of inquiry from the Council was to the effect that there was neither adultery nor professional relationship. But the fact of professional relationship, as brought out in evidence laid before the Divorce Court, was as clear as in any case of the kind of which the speaker had knowledge. He quoted from the evidence given before the court to show that for six weeks during her convalescence after an operation Mrs. Morris remained under Dr. Pring's medical care in his home at Streatham while her husband stayed at an hotel, and that Dr. Pring continually sent reports to Mr. Morris (which were read) with regard to her health and progress, and gave advice as to further treatment. There was also a receipt from Dr. Pring for £63 for professional attendance, with board and nurse for six weeks.

Mr. Hempson said that when the original defence was put in he was unaware of these letters. In view of them he could no longer contest the fact of professional relationship. That line of defence would be abandoned. The Council's Solicitor said that in that case there only remained the charge of adultery. He described the movements of the parties as given in the Divorce Court evidence, and quoted from the evidence to show that on many occasions the co-respondent had visited Mrs. Morris in the absence of her husband; letters were also read showing the co-respondent's affection for the lady, and the summing-up of the judge was read in which his lordship stated that in his view there was ample evidence on which the jury could find that the parties committed adultery.

Mr. Hempson said that his purpose in appearing was simply to see that the facts were properly put in Dr. Pring's interests, and to offer some sort of explanation to the Council for Dr. Pring's absence. Dr. Pring had not defended the proceedings in the Divorce Court for certain reasons into which he (Mr. Hempson) could not enter, but which he appreciated, and for the same reasons he did not appear before the Council. On the alleged adultery all the evidence was inferential. All that was shown was that there was opportunity for adultery and that there was affection between the two persons. Dr. Pring regarded this as the affection which might properly exist between a guardian and his ward, and there was nothing in the correspondence inconsistent with that view.

Major F. C. Bentley, who was second in command of the reserve battalion to which Dr. Pring was attached, gave evidence as to character, and said that in Dr. Pring's relationship to Mrs. Morris (who had a house near the camp to which the officers were invited) there was nothing to suggest anything more than the relationship of guardian and ward.

The Council deliberated *in camera*, and on the readmission of strangers the PRESIDENT said:

I have to announce that the Council has judged Frederick Arthur Pring to have been guilty of infamous conduct in a professional respect, and has directed the Medical Registrar to erase from the *Medical Register* the name of Frederick Arthur Pring.

Colonel N. C. King was re-elected Registrar, and the Council concluded its session with a vote of thanks to its President.

British Medical Association.

CURRENT NOTES.

Hospitals and Pension Work: Conference at Cambridge.

WITH reference to paragraph 168 of the Annual Report of the Council,[1] it cannot be too strongly urged upon the medical staffs of voluntary hospitals that they should take action in this connexion at once. The Hospitals Committee suggests that this important matter should be discussed by the Branches of the British Medical Association as soon as possible after the Representative Meeting. A memorandum dealing with the whole history of the subject has been prepared, and copies are being forwarded to the secretaries of the staffs of voluntary hospitals and to the secretaries of Branches and Divisions. Further, it has also been decided to hold a special meeting at Cambridge on Thursday, July 1st, at 3 p.m., when the matter will be discussed in the light of the decisions of the Representative Meeting. Sir Cuthbert Wallace, K.C.M.G., will take the chair, and all members of the staffs of voluntary hospitals are invited. The subject is one that affects the whole profession, and not only the staffs of voluntary hospitals. If the staffs decline to take payment for this form of State medical treatment or accept inadequate pay, they will be letting down the profession as a whole, for it is a distinct encouragement to State exploitation of the profession. If the hospital physician and surgeon can afford to do this work for nothing, it may be asked, why should not the State, or local authorities, expect the rest of the profession to treat State-aided patients on a charitable or semi-charitable basis. The report of the Consultative Council to the Minister of Health is a sufficient indication that State-aided work in the hospitals will be greatly extended in the near future. The only policy which has been laid down is that submitted by the Council of the British Medical Association for the consideration of the forthcoming Representative Meeting at Cambridge. A policy of this kind requires the support of the whole organized profession, and it is hoped that the staffs of the great teaching hospitals will see, on reflection, that they cannot allow the tradition of honorary service for charitable purposes to be used as a reason for doing unpaid work for patients for whom the full responsibility has been taken by the State. It is hoped that the policy will receive strong support from the members of the hospital staffs at any meetings which are organized by the Branches throughout the country.

Medical Fees in Criminal Courts.

The Association has recently taken up the question of fees payable to medical witnesses in criminal cases. A letter was addressed to the Lord Chancellor asking that the fees for giving evidence at assizes and petty sessions should be doubled. At the same time he was asked if it could be arranged for the future that medical witnesses should only have to attend on the days on which the cases in which they were concerned were to be heard. In his reply the Lord Chancellor stated that by a regulation dated March 1st, 1920, the amount of these fees had been increased by 50 per cent. He stated also that on the question of attendance of medical witnesses he was in communication with the Lord Chief Justice, as the matter was one of considerable difficulty. In April the following letter was received:

> "I am directed by the Lord Chancellor to state that he has been in communication with the Lord Chief Justice on the subjects mentioned in the second paragraph of your letter. Their Lordships do not consider that it would be possible to make any such rules as are suggested. The practice of the Judges on Circuit is always to show great consideration for the convenience of medical witnesses, and it frequently happens that particular days are fixed for the trial of cases solely to suit the arrangements of medical witnesses.
>
> "It is the usual custom at most Assize towns to take pleas of guilty on the first day, and it is therefore essential that all the witnesses should be in attendance on that day.
>
> "The duty of giving notice to witnesses is presumably in the hands of those conducting the prosecution in each case, and their Lordships have no jurisdiction to intervene in the matter."

[1] SUPPLEMENT, April 24th, 1920, p. 121.

The Council, when considering the replies of the Lord Chancellor, decided to report them to the Annual Representative Meeting, and instructed the Medical Secretary to convey to the Lord Chancellor the Association's appreciation of the consideration he had shown in the matter.

Statistics of Practice Income and Expenditure.

The Insurance Acts Committee considers that an effort ought to be made to secure that a large number of insurance practitioners should keep a standard form showing practice income and expenditure, both panel and private, for the purpose of any further claim that may be made in regard to remuneration. In all representations as to remuneration which have been made to the Insurance Commissioners or Ministry of Health, as well as in the recent arbitration proceedings, the weakest point in the case presented by the Insurance Acts Committee has been the absence of any trustworthy statistics in support of the claim put forward that a specified increase of remuneration was warranted by the increase in the working expenses of practices. It is probable that the Insurance Acts Committee may at some future date have to ask for increased remuneration or resist an attempt to lower the present fee, and it is therefore essential that the Committee should have in its possession the necessary data upon which to base its claims. With this object in view a tabular form has been prepared and has been forwarded to all Panel Committee secretaries in the hope that some effort will be made to secure that a large number of practitioners will supply the necessary information by using the form and making it as complete as possible for the six months July to December, 1920. Those who fill up and return the form to this office at the end of the year can be assured that the information supplied will be treated as strictly private and confidential. Any insurance practitioner consenting to use the form will have a copy sent upon application to the Medical Secretary, 429, Strand, W.C.2.

Medical Cinematograph Films.

A certain amount of interest has been expressed with regard to the application of the cinematograph for illustrating medical subjects, and the matter has been under the consideration of the Association centrally. Those who were present at the Special Clinical Meeting in April last will remember the film exhibited by Sir John Lynn-Thomas illustrating the re-education of limbless men as carried out at the Prince of Wales Hospital for Limbless Soldiers and Sailors at Cardiff, and some members may have visited a commercial exhibition on infant feeding at the same meeting. Dr. Arthur F. Hurst of Guy's Hospital employed the same method in illustration of the functional element in disease and the possibilities of psychic re-education, in an address which he gave during the past session to the Dundee Branch of the Association. Some members have already communicated with the Medical Secretary as a result of the previous inquiry in this column (SUPPLEMENT, March 27th, 1920, p. 87), and it is hoped that others who have had experience of these demonstrations will let the Medical Secretary know whether, in their opinion, such demonstrations, if arranged by the Association, would be likely to prove an attractive and useful feature in the scientific work of the Division and Branch meetings.

Panel Committee Expenses.

It will be remembered that doctors and pharmacists on the panel were authorized to ask the Insurance Committees to allow the sum of 1d. a patient per annum to be allotted towards the expenditure of the Panel and Pharmaceutical Committees. During the third reading of the National Health Insurance Bill, 1920, Dr. Addison moved the following amendment (in substitution for a somewhat similar proposal by Dr. Farquharson, made on behalf of the London Panel Committee) which was carried:

> (6) Subsection (2) of Section 33 of the Act of 1913 (which makes provision for the administrative expenses of committees elected by medical practitioners and persons supplying drugs and medicines) shall have effect as though the words "such a sum as may be determined by the Insurance Committee, with the consent of the Minister, not exceeding twopence in all in respect of each year in respect of each insured person entitled to obtain medical attendance and treatment from the practitioners who have entered into agreement with the Insurance Committee," were substituted for the words "such a sum not exceeding one penny in all in respect of each insured person

entitled to obtain medical attendance and treatment from the practitioners who have entered into agreement with the Insurance Committee as may be determined by the Insurance Committee with the consent of the Commissioners."

The expenses of Pharmaceutical and Panel Committees have greatly increased, and it is satisfactory that this has been recognized by the Minister of Health; the thanks of the Association are due to Dr. Addison and to Dr. Farquharson, who introduced the subject during the debate on the third reading.

Fees for Juvenile Club Patients.

The fall in the purchasing power of money, coupled with the undoubted increase in the prosperity of the hand-working classes, is leading medical men all over the country to get the fees now paid for club patients (especially juveniles) put on a more equitable footing. In many areas these fees are still ridiculously low. The policy of the Association laid down in 1913 is that club patients should not be taken at a lower capitation fee than is accepted in respect of insured persons. Logically these persons should be charged as much as insured persons, because they are likely to require as much attendance. At the same time it was recognized by the Representative Body that in some areas this recommendation cannot, owing to certain special economic conditions, be carried out. In such cases the medical profession can always be relied upon to make due allowance. The advice of the Association has recently been asked in a case in which the secretary of a friendly society, in view of the fact that his society, under pressure, was about to pay 8s. for juveniles instead of 4s., had asked that the doctors should agree to a 10 per cent. deduction for collection. The Division concerned has been advised to resist strongly any such proposal, and to point out to the secretary that in taking these cases at 8s. instead of 11s. they are already giving the society's members a handsome rebate. Membership of these clubs enables people to insure against doctors' bills at a very reasonable figure, and it is contrary to all business methods that the doctor should be expected to bear any part of the cost of collecting payment in a collective bargain of this kind.

Meetings of Branches and Divisions.

LEINSTER BRANCH.

THE annual general meeting of the Leinster Branch was held in the Irish Offices, 16, South Frederick Street, Dublin, on May 27th, when Dr. W. V. FURLONG, outgoing president, was in the chair.

The following officers were elected for the ensuing year:

President: Dr. R. J. Rowlette. *President-elect:* Colonel Sir William Taylor, K.B.E., C.B. *Vice-Presidents:* Dr. A. R. Parsons and Dr. R. C. Peacocke. *Honorary Secretary and Treasurer:* Mr. W. Doolin. *Representative on Council of Association:* Dr. R. C. Peacocke. *Representative in Representative Body:* Dr. R. J. Rowlette. *Deputy Representative:* Dr. M. R. J. Hayes. *Representatives on Irish Committee:* Professor J. Craig, President R.C.P.I. (Dublin), Dr. R. L. Heard (Monkstown).

Dr. FURLONG vacated the chair in favour of the new President, Dr. R. J. ROWLETTE, and a warm vote of thanks to the outgoing President was passed.

Dr. ROWLETTE gave a very interesting presidential address in relation to the present medical situation in Ireland, including the work of the Irish Public Health Council, on which body he was selected to represent the Irish medical profession.

The question of increased pensions for superannuated Poor Law medical officers and others was considered, and it was decided to ask the Irish Medical Secretary to make representations to the Chief Secretary and to the Local Government Board urging the necessity for introducing a short bill into Parliament providing for increased pensions for superannuated doctors in the different Irish Medical Services.

With regard to the fees paid for medical examination for life insurances the meeting decided to ask the President of the Royal College of Physicians (Professor J. Craig) and the President of the Royal College of Surgeons (Mr. J. B. Story) to summon a meeting of the profession in the Dublin area to be held in the Royal College of Physicians to consider the question.

On the proposal of Sir C. A. K. BALL, it was unanimously resolved to ask Dr. T. Hennessy, Irish Medical Secretary, to make further representations to the Local Government Board that they should sanction the scales of salaries—£300 to £400—as passed by boards of guardians, and that the Branch, whilst it was pleased to note that the Local Government Board had exercised their right to fix salaries for medical officers in some Poor Law unions it regretted that the amount fixed by the Local Government Board fell so much below the amount voluntarily given, in recent times, by many boards of guardians.

The salaries of prison medical officers, fees for medical witnesses, and taxes on doctors' motor cars, were also under consideration, and the efforts of the Council of the Association to have these matters remedied were approved.

CAMBRIDGE AND HUNTINGDON BRANCH: ISLE OF ELY DIVISION.

THE annual general meeting of the Isle of Ely Division, to which all non-members in the Division had been invited, was held at March, with Dr. H. CLAPHAM in the chair.

The following officers were elected:

Chairman: Dr. G. H. Lucas (Wisbech). *Vice-Chairman:* Dr. C. W. Howe (Haddenham). *Honorary Secretary:* Dr. A. C. S. Waters (March).

The new ethical rules were adopted.

Dr. P. A. Hendley (Littleport) was nominated for election to represent the Isle of Ely at the Annual Representative Meeting, and Dr. F. E. W. Rogers as Deputy Representative.

The following matters referred to Divisions were discussed, namely: Fees for medical examinations for life insurance; payment of staffs of voluntary hospitals for pension work; increase of fees for private practice; fees for uninsured members of friendly societies; salaries of medical officers of local authorities; fees in connexion with maternity work and the training of midwives. It was decided to approve the recommendations of the Council as set forth in the SUPPLEMENT of April 24th.

The remaining recommendations in the annual report of the Council under the heading "Medico-Political" were also approved.

With regard to the increase of private fees by 50 per cent., while agreeing to this in principle, it was recommended that any hard case met with should be left to the individual medical practitioner to use his judgement in dealing with it.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.

THE annual meeting of the Lanarkshire Division was held at Glasgow on May 19th, when Dr. J. B. MILLER was in the chair. Before beginning the business the Chairman made feeling reference to the death of Dr. John Fotheringham of Motherwell, who had long been a member of the British Medical Association and of the Lanarkshire Division, and the Secretary was instructed to record the regret of the Division in the minutes and to forward an excerpt therefrom to Mrs. Fotheringham and her family.

The Secretary and Treasurer's report showed a membership of 132 as compared with 116 last year.

The following officers were elected:

Chairman: Dr. Laird. *Vice-Chairman:* Dr. Lithgow. *Secretary:* Dr. L. Loudon. *Treasurer:* Dr. J. Murray Young. *Representative in Representative Body:* Dr. J. B. Miller. *Deputy Representative:* Dr. Hugh Miller.

The meeting then considered the matters referred to Divisions as embodied in the report of Council in the SUPPLEMENT of April 24th and instructed their Representative thereanent.

The revised rules governing procedure in ethical matters as approved by the Annual Representative Meeting, 1919, were adopted.

MALAYA BRANCH.

THE annual meeting and dinner of the Branch was held at Singapore on February 27th.

The following office-bearers were elected for the ensuing year:

President: Dr. C. L. Sansom, C.M.G. *President-elect:* Dr. F. B. Croucher. *Vice-Presidents:* (Singapore) Dr. W. Brockie Wilson, M.C.; (Penang) Dr. W. H. Fry, (Federated Malay States) Dr. G. B. McHutchison. *Honorary Treasurer:* Dr. Argyll Campbell. *Honorary Secretary:* Dr. Dexter Allen.

Discussion took place regarding the eligibility of Licentiates of the King Edward VII Medical School, Singapore, for membership of the Association and on the status of practitioners in the Straits Settlements and Federated Malay States not possessing qualifications registrable by the General Medical Council.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

THE annual meeting of the South-West Essex Division was held at Leyton, on May 11th, when Dr. AMBROSE (Loughton) was in the chair. The following officers were elected for the ensuing year:

Chairman: Dr. C. J. Horner. *Vice-Chairman:* Dr. C. H. Panting. *Honorary Secretary and Treasurer:* Dr. A. T. Todd-White. *Representative in Representative Body and Branch Council:* Dr. C. H. Panting.

Dr. WHEELER delivered a lecture on "The use of colloids in medicine," which was most interesting and instructive, and, judging by the numerous questions put to the lecturer by the members, was highly appreciated. A vote of thanks was unanimously accorded to Dr. Wheeler for his address.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.

AT a general meeting of the Westminster Division, held at the St. James's Vestry Hall, the revised ethical rules were adopted. The recommendations of the Council regarding fees for insurance were approved. The increase of professional fees by 50 per cent. was approved. The recommendations as to the salaries of public medical officers was approved without any additional bonus. The increase of subscriptions to the British Medical Association was approved. It was resolved that the question of federation be left in the hands of the Council. A resolution was passed asking the Council to reconsider the question of appointing a separate Medical Secretary for Ireland, in view of the small membership. Dr. Haslip and Dr. A. E. Cope were re-elected as Representatives on the Representative Body.

MUNSTER BRANCH.

THE annual general meeting of the Munster Branch was held at Cork on May 15th, when Professor H. CORBY, M.D., was in the chair.

The following officers, Representatives, and Council were elected for 1920–21:

President: Dr. Morrissey. *Vice-President:* Dr. W. Rahilly. *Honorary Secretary and Treasurer:* Dr. Philip Lee. *Representative on Central Council:* Dr. J. Giusani. *Representative in Representative Body:* Dr. W. Rahilly. *Representative on Irish Committee:* Professor Corby.

Fifteen candidates for membership were elected members of the Association.

The statement of accounts showed a balance in favour of the Branch of £10 1s.

The revised ethical rules were adopted. The proposed increase in members' subscriptions to the Association to £3 3s. was agreed to. After some further discussion on the suggestions from the Medical Secretary the meeting adjourned.

SUSSEX BRANCH: HORSHAM DIVISION.

THE annual meeting of the Horsham Division was held at Horsham, with Dr. M. H. H. VERNON in the chair.

The following officers for the year were elected:

Chairman: Dr. Vernon. *Vice-Chairman:* Dr. Matthews. *Secretary:* Dr. Dew. *Representative on Branch Council:* Dr. Dew. *Representative in Representative Body:* Dr. Millbank-Smith was re-elected to represent Horsham Division and Chichester and Worthing Division.

The Division approved the nomination of Dr. Fothergill as Representative of the grouped Kent, Surrey, and Sussex Branches. The question of fees for medical examinations for life assurance was discussed, and it was resolved that the fee for all examinations for industrial insurance should be at least 5s. and all other insurance examinations not less than £1 1s. The meeting very strongly endorsed the attitude of the practitioners of Chichester towards the Medico-Political Union, as shown at their meeting recently—an attitude of marked opposition.

SUSSEX BRANCH: LEWES AND EAST GRINSTEAD DIVISION.

AT the annual meeting of this Division, held on May 14th, the following officers were elected:

Chairman: Dr. Frend. *Vice-Chairman:* Dr. Loud. *Acting Honorary Secretary:* Dr. H. Vallance. *Representative in Representative Body:* Dr. Milner M. Moore.

The Representative was instructed, with two minor exceptions, to vote in accordance with the recommendations of the Council. It was thought that the increase in the subscription should be limited to 10s. 6d.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.

THE annual meeting of the Huddersfield Division was held at the Huddersfield Royal Infirmary on May 20th.

The following officers were elected for the ensuing year:

Chairman: Dr. H. G. Tansley. *Vice-Chairmen:* Dr. W. H. Smailes, Dr. R. H. Rigby. *Honorary Secretary and Treasurer:* Dr. D. Wilson. *Representative in Representative Body:* Dr. E. Walker. *Deputy Representative in Representative Body:* Dr. W. H. Smailes. *Representative on Branch Council:* Dr. D. Wilson.

The revised ethical rules, as approved by the Annual Representative Meeting, 1919, were adopted by the Division.

It was decided to recommend the members to increase their fees for medical services by 50 per cent. on pre-war rates, and also that a copy of this recommendation be sent to all members and non-members in the area of the Division.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

THE annual meeting of the Division was held at Wakefield on May 7th, when Dr. G. B. HILLMAN (and subsequently Dr. R. MAY) presided.

The ethical rules approved by the Annual Representative Meeting, 1919, were adopted.

The following officers were elected for the ensuing year:

Chairman: Dr. R. May. *Vice-Chairman:* Dr. Rouston. *Honorary Secretary:* Dr. W. Eardley. *Treasurer:* Dr. W. Steven. *Representative in Representative Body:* Dr. W. Eardley. *Deputy Representative in Representative Body:* Dr. L. A. Johnson. *Representative on Branch Council:* Dr. W. Steven.

The annual report of Council was discussed, and the Representative was instructed to support the policy of the Council in the following matters:

(*a*) Minimum salaries for public appointments.
(*b*) Fees for medical examination for life assurance.
(*c*) Payment of medical staffs of hospitals for pensions work (treatment of discharged disabled men).

The Executive Committee was instructed to consider and report upon measures to revive the interest of the local profession in the Division, and to consider the proposal for a visit from a member of the head quarters staff of the Association.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

KENT BRANCH: ISLE OF THANET DIVISION.—The annual meeting of the Division will be held on Tuesday, June 22nd, at 4.30 p.m., at the Royal Sea-bathing Hospital, Margate, with Dr. F. E. Nichol in the chair. Agenda: Election of Officers; Annual Report of Executive Committee, and Accounts for the Year; Annual Report of Council (SUPPLEMENT, BRITISH MEDICAL JOURNAL, April 24th), and Provisional Agenda of Representative Meeting. Adoption of Ethical Rules. Dr. Cholmondeley Webb will introduce a discussion on "Fees for Insurance Examinations"; a report on the subject will be found in the SUPPLEMENT of March 27th, 1920.

NORFOLK BRANCH.—The Honorary Secretary, Sir Hamilton A. Ballance, announces that the annual meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, Norwich, on Wednesday, July 7th, at 3.45 p.m. The following papers will be read: "Modern Methods of Diagnosis," by A. J. Cleveland, O.B.E., M.D., M.R.C.P.; "Surgical Experiences—A Retrospect of Twenty-five Years' Practice," by H. Muir Evans, M.D.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—The annual meeting of the Monmouthshire Division will be held on Friday, July 16th, at the Royal Gwent Hospital, Newport, Mon. An Address will be given by the Medical Secretary on "The Future of Medical Practice in the Mining Districts of South Wales and Monmouthshire—Servitude or Independence."

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH. — The annual meeting of the Branch will be held at the General Hospital, Hereford, on Wednesday, June 23rd, at 3 p.m. Business: To elect officers. To receive the Branch Council's Report and Financial Statement. To consider and adopt, if approved, the Revised Branch Ethical Rules. To arrange for Meetings. At the conclusion of business, Dr. Robinson will vacate the chair and introduce the President-elect (Dr. Steed) as President of the Branch for the ensuing year. Dr. Parsons of Birmingham will read a paper on "Some Causes of Vomiting in Children: their Diagnosis and Treatment." The President, President-elect, Honorary Secretary, the Chairman of the Worcester Division, and the Chairman of the Hereford Division, cordially invite those members who propose coming to the meeting to lunch at the Imperial Café at 1.30 p.m., and the Mayor of Hereford (A. D. Steel, Esq.) hopes that the meeting will adjourn for tea at the Town Hall at 5 p.m.

CORRESPONDENCE.

Council Election.

SIR,—Please allow me to convey to the electors in the Kent, Surrey, and Sussex area who supported my candidature my appreciation and thanks. Would that all took the same keen interest in these annual elections, as only thereby can we make sure that the interests of medicine and of our profession are upheld by the executive of the medical Parliament. Would my constituents individually and through their Branches and Divisions keep me constantly posted as to their views on all questions with regard to which it may be considered that I could be of use in pressing them on the attention of others? I would welcome such recognition of my official position and would be delighted to be "gingered up"!

The profession is faced at present, after ten years' comparative rest, with yet another attempt to bring medicine still further up to date; the British Medical Association is considering how, after eighteen years' use, its constitution can be extended further and made of more practical value throughout our Commonwealth. It behoves all of us to have wide vision; to be ready with constructive criticism, and prepared at all costs to act unitedly.—I am, etc.,

Hove, June 12th. E. ROWLAND FOTHERGILL.

Proposed Increase of Subscription.

SIR,—The case for an increase of 50 per cent. on the subscription of members seems to me to be very feeble. As an old member, and one who is anxious to see every medical man a member of the British Medical Association, the project fills me with alarm. I look with a feeling of despair on the men who can view with equanimity the resignation of 2,000 of our members. This would be a catastrophe of the greatest significance, and would be viewed with delight by our adversaries. It would curtail our influence by more than one-tenth. Speaking as one who wants to see his expenses decreased instead of increased, it is a great injustice on the older men who have belonged to the Association for many years, and only continue membership out of *esprit de corps*. In my own Division there is a large proportion of retired medical men, and my fear is that they will all object to pay £3 3s. a year.

The Council views the matter entirely from the pessimistic side, and seems to forget the bright side. Will not the income from the National Defence Trust diminish the British Medical Association expenditure over the Insurance Acts? Are we likely to have any more such expenses as the War Committees, which cost us more than twice the £5,000 received from Government? In the next year or two there seems little likelihood of any new extra expenses; and, although the JOURNAL costs more, the advertisements and sales bring in more.

If it turns out that the estimated expenditure is correct and there is a deficit of £3,000 at the end of the year, surely our credit is good enough to borrow this, and then will be the time to think of increasing the subscription. But I think that with proper oversight and desire for curtailment of expenditure we shall find the estimated deficit merely a device to cover up the reluctance of all our bodies to curtail expenses, from the Government downwards.

I should like to know who are the councillors advocating this step, and I should also like to know how others voted, and whether they gave the matter due thought or simply "followed their leader." There is, as a rule, too much apathy in the Divisions to go minutely into the matter, and my only hope is that Representatives will be left a free hand.

In my opinion a loss of two thousand members, or even half that number, would be a disaster, and the man who is willing to sacrifice this number of his colleagues to cover up a deficit of £3,000 ought never to sit on its governing body.—I am, etc.,

Buckingham, June 12th. ARTHUR E. LARKING.

Medical Fees.

SIR,—I am instructed to inform you that at a general meeting of medical practitioners in this district, held on May 26th, 1920, the attached scale of minimum fees was determined on, to come into operation on July 1st, 1920.

A notice is also being inserted in the local press to the effect that medical fees in the district will be raised 100 per cent. over 1914.—I am, etc.,

J. C. LYTH,
Honorary Secretary, York Local Medical and Panel Committee;
Honorary Secretary, York Medical Defence Association.

Heworth, York, June 2nd.

Item.	*Minimum Fee.* £	s.	d.
Visit or consultation with or without medicine	0	5	0
Confinement	3	3	0
Vaccination	0	7	6
Ambulance lectures	10	10	0
Consultation with other doctor	1	1	0
General anaesthetic:			
Under half an hour	1	1	0
Half an hour and over...	2	2	0
Extra certificates	0	1	0
Life insurance (£100 or over)	1	1	0
Report on secondary school pupils:			
First report	0	10	6
Second report by same doctor...	0	5	0
National Deposit Friendly Society and similar societies (per attendance)	0	5	0
Certificates for applicants for pensions (each)	0	1	0
Lunacy certificates and mental deficiency certificates	2	2	0
Certificates of health for new members of clubs	0	5	0
Special certificates of health for prospective railway workers	0	5	0
Mileage (per mile both ways over two miles)	0	0	9

Panel Practitioners and Vaccination.

SIR,—Small-pox has become epidemic in Glasgow during the past month, and in connexion with this condition an acute question has arisen regarding the duties of the panel practitioners which affects Glasgow and district to-day, but which may arise to-morrow in other populous districts in London and the provinces.

The question, then, is, in such an emergency is it the duty of the panel practitioners to vaccinate and revaccinate their insured patients as part of their present or past contract with the Insurance Committees?

The Scottish Board of Health has taken up the position that it is the duty of the panel practitioner to do so. On May 10th it issued the following circular to clerks of Insurance Committees:

"*Small-pox.*

"I am directed by the Scottish Board of Health to inform Committees that they have arranged for a free distribution of Vaccine Lymph to Local Authorities. I am, accordingly, to request that you will immediately notify all Practitioners and Chemists on the Committee's Lists that Calf Lymph may be obtained, free of charge, on application to the Local Authority."

On May 12th the Clerk of the Glasgow Burgh Insurance Committee sent a copy of the above to all the practitioners on the panel, with a circular letter stating that

"Practitioners should note that vaccination of insured persons is a service regarded as coming within the scope of the agreement between Insurance Committees and practitioners on the panel."

Following quickly on this, the medical officer of health placed placards on all the tramcars and otherwise notified the public that free vaccination would be available for all. In this intimation insured persons were advised to call upon their panel doctors. He also sent a circular to the profession in which it was intimated that a fee of 2s. 6d. would be paid by the Corporation for each uninsured person vaccinated. He also invited the profession to do a house-to-house canvass of the people, in the east end first, for the purpose of vaccinating them. A fee of 2s. 6d. was to be paid for each case done, but *if the persons were insured no fee would be paid.*

The Royal Faculty of Physicians and Surgeons interested itself in the question of revaccination and had a meeting of east-end practitioners with the medical officer of health present. It was pointed out to the latter that his scheme was not likely to meet with success. As a result of this a deputation of practitioners was asked to meet the medical officer of health and the convener of the Corporation Health Committee. The deputation pointed out the difficulties of getting practitioners to visit and vaccinate insured persons without fee or reward. It was also pointed out that, even granting that it was a duty incumbent on the panel practitioner to vaccinate all the persons on his list, there was nothing to compel him to work overtime to effect the operation. Our philanthropic corporation seemed to think that the men with small medical lists would be willing to visit and do the insured people on the big lists. However, the convener of the Health Committee frankly admitted that had he known the state of affairs he would have put different proposals before the Corporation. The deputation made an offer that the profession would vaccinate all insured and uninsured at a flat rate of 2s. a head, and would urge the practitioners to endeavour to accomplish the work quickly. It was expected that at the next meeting of the Corporation a move would be made to carry this into effect; but, influenced, I suppose, by the opinion of the Board of Health that no fee should be paid for insured persons, nothing was done.

The next step emerged when the Scottish Board of Health admitted in a letter to the secretary of the Local Medical and Panel Committees that there was nothing in the agreement to expect a practitioner to visit houses and vaccinate the people. Following on this a deputation was received by a full meeting of the Corporation Health Committee on May 30th. The views of the medical practitioners, panel and non-panel, were laid before them, and as a result new proposals were offered to the profession—namely, a fee of 2s. 6d. for each vaccination done at the person's house whether insured or uninsured; a fee of 2s. for each case done at the doctor's consulting rooms if the person was uninsured, or if insured was on another doctor's medical list; but nothing was to be paid if the insured person was on the doctor's own list. A further condition was that the doctor was asked to display at his rooms an intimation offering "free vaccination."

At a meeting of practitioners, panel and non-panel, held on June 3rd, this proposal was disapproved by a majority of fifty to ten. The practitioners are anxious to stay the epidemic and hurry on vaccination; and as proving this made an offer to vaccinate the uninsured at 2s. 6d. a case and all the insured, whether on their own medical list or not, at 1s. 6d. a head. As to whether this will be accepted by the Corporation time will tell. Meantime the panel practitioners are going on vaccinating on the terms first promulgated by the medical officer of health—namely, 2s. 6d. a case for uninsured persons; and, under protest, doing those on their own lists without fee.

Such is the history of the emergency that has come on the Glasgow panel practitioners; and, as I said at the commencement, it may be some other district's dilemma a few weeks or months hence. My reason in writing so fully is that this is a question that should at once be taken up by the Association's Insurance Acts Committee in England and by the Subcommittee in Scotland. There is no question of the practitioners saying that the operation is one that is not within the "ordinary professional competence and skill" which they are called upon to discharge by their agreement. It is a question of a huge piece of prophylactic medical work, which, if it is to be effective, must be carried out expeditiously. It is thus a piece of work which could not reasonably be imposed upon the profession as a part of their ordinary duties under the Insurance Act.

I feel certain that no practitioner ever contemplated that, in an emergency like a small-pox epidemic, he would be called upon to revaccinate all the insured persons on his list without further remuneration. In Glasgow it means that 400,000 persons (80,000 to 100,000 are supposed to be protected on account of recent army service) are entitled to be revaccinated—and that in a hurry—by some 340 practitioners. The thing is monstrous. I am also certain that the distinguished statesman, the author of the Act, and the members of Parliament who voted for the Act, never contemplated that such an important, urgent, and emergency piece of work would ever be imposed upon the medical men of the country. I feel strongly that I am expressing the opinion of the panel practitioners from Land's End to John o'Groat's when I call upon our leaders to raise this question at once with the Boards of Health and have it put upon a satisfactory basis. The local authorities who have power to rate for such emergencies should not be restrained by the Board of Health from doing what is good for their respective areas. I understand that the point on which the Board of Health in Scotland decided that this is a duty which the panel practitioner should carry out is that *in the preamble* of the Insurance Act it is stated to be an Act for the *prevention* and *treatment* of disease.—I am, etc.,

WILLIAM LAWSON, M.D.,
Chairman, Glasgow Local Medical and Panel Committees.

Pollokshields, June 8th.

The Intermediate Certificate.

SIR,—The Medical Benefit Regulations, under the National Health Insurance for 1920, provide for the issue of a special intermediate certificate, which may be signed monthly instead of weekly, in cases where the incapacity is likely to continue for a long period. There is a proviso, however, which may easily be overlooked, that this rule shall come into operation only on such date as the Minister shall determine. Apparently, from pressure of work or for other reasons, the Minister has not yet had time to determine, and consequently a number of unfortunate people, who may or may not be able to do a little work in the remote future, are still compelled to go through the wearisome task of soliciting a continuation certificate every seven days. Is there any reason why the special monthly intermediate certificate should not be put in force forthwith?—I am, etc.,

E. F. O'FERRALL, L.R.C.P.Lond.

London, S.W., June 10th.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Surgeon Commander A. T. Gailleton to the *Thunderer*, for voyage out and home. Surgeon Lieut.-Commanders H. C. A. T. Cannon to the *Widgeon*, J. A. O'Flynn to the *Commonwealth*.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieut.-Colonel W. F. Ellis, O.B.E., relinquishes the acting rank of Lieutenant-Colonel.

Major R. V. Cowey, D.S.O., to be acting Lieutenant-Colonel.

Major H. G. Pinches relinquishes the temporary rank of Lieutenant-Colonel.

The following officers relinquish the acting rank of Major: Captain R. A. Flood, M.C. Temporary Captains J. P. Mathie, J. D. Hart, M.C., R. R. K. Paton, W. J. Oliver, C. Kingston, A. W. Rattrie, M.C.

Captain A. M. Pollard, D.S.O., to be temporary Major whilst specially employed.

Captain J. W. G. H. Riddel, M.C., resigns his commission, March 20th, and is granted the rank of Major (substituted for notification in the *London Gazette*, March 19th).

Captain N. T. Whitehead, M.C., is seconded for service with the Egyptian Army.

D. E. Carter, M.C., late temporary honorary Captain, to be temporary honorary Captain, seniority from April 18th, 1919.

The following officers relinquish their commissions: Temporary Major H. W. A. Burke, and retains the rank of Major. Temporary Captains, and are granted the rank of Major: F. G. Bell (February 28th, 1919), (acting Major) J. McF. Donnan (on account of ill health contracted on active service, April 6th, 1919—substituted for notification in the *London Gazette* of May 15th, 1919), J. Bamforth, P. P. J. Stewart, O.B.E. Temporary Captains and retain the rank of Captain: J. W. Clyne, O. S. Kellett, J. J. A. Sherry (on account of ill health contracted on active service), E. Reavley, A. H. Greg, O.B.E., J. Humphreys, G. G. Bruce, M. J. Houghton, L. H. Werden, B. N. Sinclair, P. R. Browning, A. H. Hall, J. Paterson, L. W. Howlett, C. R. B. Von Braun, J. G. Elder, H. V. Walsh, G. J. Fraser, F. G. Smyth, T. L. Harrison. On account of ill health: G. E. A. Petrie. On account of ill health contracted on active service: J. J. Sherry, M. E. Willcock. Temporary Lieutenant E. J. Hynes, and retains the rank of Lieutenant.

INDIAN MEDICAL SERVICE.

Lieut.-Colonel P. B. Haig, C.B., granted privilege leave for two months sixteen days, combined with commuted furlough for five months and fifteen days and ordinary furlough for ten months (February 28th).

Lieut.-Colonel L. J. M. Deas has been posted temporarily as Civil Surgeon of Ajmer and Chief Medical Officer in Rajputana (February 28th).

Major F. O'D. Fawcett has been permitted to retire from the service in consequence of ill health (February 2nd).

Captain R. B. Lloyd appointed to officiate as Chemical Examiner, Bengal, and Professor of Chemistry, Medical College, Calcutta (March 13th).

Major H. H. Thorburn, C.I.E., has been posted as Civil Surgeon, Hazara (April 1st). Major N. E. H. Scott, C.I.E., has been posted as Civil Surgeon, Peshawar (April 5th). Major J. Anderson has been posted as Civil Surgeon, Hazara (April 9th).

Major A. G. McKendrick, of the Bacteriological Department, has been granted privilege leave for six months, combined with furlough for two months (April 15th).

Captain H. H. King, of the Bacteriological Department, is employed under the Indian Research Fund Association (March 26th).

The undermentioned officers have been appointed permanently to the I.M.S. (March 15th): F. Griffith, J. H. Oonvala, V. R. Mirajkar, J. P. Canteenvalla, B. Prasad, C. M. Ganapathy, M.C., N. J. Gai, E. W. Mann, A. B. Pestonji, R. A. Warters, J. E. Ainsley, G. A. Hildreth, J. S. Galvin, S. L. Bhatia, M.C., G. R. McRobert, S. M. A. Faruki, L. K. Ledger, P. F. A. Grant.

Captain J. J. Liston, M.B., resigned the service February 20th.

Lieut.-Colonel W. H. Cazaly, M.B., has retired, March 14th.

Lieut.-Colonel R. P. Wilson, F.R.C.S., D.P.H., Professor of Surgery, Medical College, Calcutta, and Surgeon to the College Hospitals, has been granted combined leave for eight months (March 23rd).

Major H. B. Steen, M.D., appointed to officiate as Professor of Surgery, Medical College, Calcutta, and Surgeon to the College Hospitals during absence on leave of Lieut.-Colonel Wilson.

Colonel G. J. H. Bell, C.I.E., M.B., Inspector-General of Civil Hospitals, Bihar and Orissa, has been granted combined leave for eight months (March 19th).

Major A. E. J. Lister, M.B., F.R.C.S., V.H.S., Professor of Physiology, King George's Medical College, Lucknow, has been granted combined leave for eight months (March 17th).

Major D. Sherston Baker, Staff Surgeon, Secunderabad, has been appointed to hold charge, temporarily, of the current duties of the office of Residency Surgeon, Hyderabad, in addition to his own duties (March 16th).

Lieut.-Colonel F. A. Smith, M.D., Residency Surgeon at Indore and Administrative Medical Officer in Central India, has been granted privilege leave for six months (April 18th).

Major C. B. McConaghy, Agency Surgeon, Bhopal, has been appointed to hold charge of the duties of Administrative Medical Officer in Central India, in addition to his own duties (April 18th).

Major G. D. Franklin, O.B.E., M.B., has been appointed to hold charge of the duties of Residency Surgeon at Indore, in addition to his own duties, with effect from April 18th, 1920.

Colonel P. Carr-White, K.H.P., M.B., has been promoted to the rank of Major-General (December 8th, 1919).

ROYAL AIR FORCE.

MEDICAL BRANCH.

Flying Officers to be Flight Lieutenants: J. Kyle, C. T. O'Neill.

Transferred to the unemployed list: Captains J. W. Healy, F. L. Dickson, J. S. Prendergast and F. H. Bowen; Lieutenant F. Gill.

GENERAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Late Captains, R.A.M.C., to be Majors: J. W. G. H. Riddel, M.C., March 20th, 1920 (substituted for notification in the *London Gazette*, March 19th, 1920), J. Y. Moore, O.B.E., A. L. Aymer, April 24th, 1920 (substituted for notification in the *London Gazette*, April 23rd, 1920), W. T. Hare, M.C., May 4th, 1920 (substituted for notification in the *London Gazette*, May 3rd, 1920).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain W. F. McLean, M.C., relinquishes the acting rank of Lieutenant-Colonel.

The following relinquish their commissions:

Captains and retain the rank of Captain: J. V. L. Grant, M.C., T. Mack Miller, M.C., M. Avent, B. Grellier, M.C., C. H. Attenborough, H. J. S. Morton, E. S. Walls, J. P. Mitchell, O.B.E., J. P. Davies, S. W. M. Jones, G. N. Smyth, R. S. Woods, F. A. Bearn, D.S.O., M.C., J. W. Craw, G. W. Wood, J. P. Stallard, T. F. Hegarty, B. Murphy, P. W. Ransom, W. S. Haydock, F. R. Kerr, D.S.O., C. Jacobs, M.C., G. A. Hodgson, P. Thornton, M.C., J. E. Allan, J. Cowan, G. L. Jones, M.C., F. Sykes, L. H. W. Williams, W. H. Sheppard, F. V. Bevan-Brown, O. D. Child, O.B.E., H. Smith. J. A. Ryle, C. F. Hacker, M.C., J. K. J. Haworth, L. H. W. Iredale, M.C., G. M. Roberts, J. S. Robinson, G. D. Read, W. A. MacLennan, G. H. C. Mold, J. F. Hill, M.C., G. C. Dixon. J. N. McIntosh, G. F. Clifton, E. F. Guy, J. McKercher, W. A. Elliott, T. B. Heaton, O.B.E., F. H. Kennedy, T. G. Shand, C. Grant, L. A. Lewis, J. S. Pooley, J. Kennedy, C. A. Mason, W. B. Wood, M. McKnight, A. L. Anthony, C. Gamble, H. L. Garson, O.B.E., M.C., W. K. Russell, J. H. Sewart, C. C. Waddington, G. W. Watson, W. A. Young, W. W. Phillips, W. M. Dickson, L. B. C. Marksman, T. Sheedy, O.B.E., J. L. McBean, F. N. Barnes, M.C., J. G. Bennett, M.C., T. P. Inglis, M.C., F. C. Lapage, H. M. Williams, F. A. Duffield, F. Sanders, M.C., J. W. Wood, G. M. Scott, M.C., J. O. Reid, S. W. Lund, P. B. Corbett, J. Lawson, N. B. Graham, M.C., R. O. C. Thomson, D. W. J. Andrews, J. G. Hendry, J. S. Armstrong, S. Brown, M.C., A. R. Lawrie, H. T. Chatfield, M.C., A. L. C. Mackenzie, W. W. Blair, T. R. Davies, I. F. Mackenzie, K. P. Brown, H. D. Wright, G. Morris, M.C., G. Irving, D. R. Jones, J. N. L. Blamey, C. P. L. Carrier, A. McL. Ferrie, M.C., M. Foster, W. N. Greer, I. MacKenzie, J. Milne, C. P. Penberthy, B. J. Ryrie, J. M. Smellie, W. L. Ingham, C. Rudd, E. W. Fish, H. C. Broadbridge, W. J. Vance, C. W. Dudley, G. S. Davidson, M. Dwyer, M.C., G. Lapage, E. B. Alabaster, R. Colley, A. C. Brown, J. W. Dalglish, M.C., J. F. Duthie, E. G. S. Hall, A. F. McMillan, R. Rodger, J. B. Steven, R. W. MacDonald, J. A. Buchanan, J. H. Albinson, D. D. Evans, M.C., H. S. Moore, M.C., R. B. Stewart, M.C., R. J. Staley, D. F. Standing, A. H. Craig, G. Ewen, G. J. Key, A. C. MacDonald, M.C., A. G. P. Wills, M.C., W. O. F. Sinclair, H. J. Wright, G. E. Kidman, J. J. Murphy, E. H. V. Hensley, A. R. Steven, W. A. Malone, A. Johnstone, M.C., G. S. Mather, J. Ross, F. B. Macaskie, P. R. E. Kirby, A. C. Dickey, T. P. Chapman (on account of ill health).

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captain G. L. Thornton, M.C., to be Lieutenant-Colonel and to command 1st Wessex Field Ambulance.

The following officers resign their commissions: Major M. Dunning, D.S.O., and is granted the rank of Lieutenant-Colonel, with permission to wear the prescribed uniform. Majors and retain the rank

of Major: H. Halton, W. F. McAllister-Hewlings. With permission to wear the prescribed uniform: P. M. Dewar, P. McK. Terry, H. Waite, T.D. Captain A. L. Sharpin, and is granted the rank of Major. Captains, and retain the rank of Captain: W. H. Armistead, A. E. Campbell, J. Dundas, S. Havelock, A. E. Huxtable, M.C., H. N. Pelly, A. M. Young, H. C. H. Bracey, A. W. Hayward, J. S. Hopwood, M. U. Wilson, M.C., T. L. Ashforth, C. R. Woodruff, R. B. Reed, A. Greene, J. G. McKinlay, P. T. Catto, J. G. Hill, M.C., R. C. S. Smith, P. N. Creagh, S. Wyard, R. J. Chapman, M.C.; Captain A. G. Hebblethwaite, D.S.O., and is granted the rank of Lieutenant-Colonel.

Captains (acting Majors) relinquish the acting rank of Major: J. St. A. Titmas, J. H. Owens, and L. Milton, M.C., on ceasing to be specially employed; D. W. Berry, M.C., on vacating the appointment of D.A.D.M.S.

Captains to be Majors: W. C. Macaulay, J. H. Hunter, M.C., J. M. Smith, M.C., W. A. Valentine.

To be acting Majors whilst specially employed (June 12th, 1919): W. C. Gunn, W. A. Brechin, M.C.

Captains F. B. Julian, M.C., and G. L. Thornton, M.C. (late temporary Captains R.A.M.C.), to be Captains.

Captain W. Fitzpatrick relinquishes his commission on account of ill health and retains the rank of Captain.

Captains to be adjutants, School of Instruction: J. R. Hill (Lowland Division), J. H. Barry, D.S.O., M.C. (2nd London Division), O. W. McSheehy, D.S.O., O.B.E. (1st London Division), W. H. L. Allott (Highland Division), W. H. O'Riordan, M.C. (East Lancs Division), J. R. Yourell (North Midland Division), (Brevet Major) C. S. P. Hamilton, D.S.O. (Wessex Division).

1st Eastern General Hospital.—Captain S. W. Curl resigns his commission, and retains the rank of Captain.

2nd Eastern General Hospital.—Captain R. P. Nash, O.B.E., is restored to the establishment on ceasing to hold a temporary commission in the R.A.M.C.

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W.—Tues., 5 p.m., Dr. A. F. Hurst, Croonian Lecture (IV): The Psychology of the Special Senses and their Hysterical Disorders.

ROYAL SOCIETY OF MEDICINE.—*Section of Laryngology:* Annual Summer Congress and Exhibition. Thurs., 2.30 p.m. to 5.30 p.m., Cancer of the Throat; 7.30 p.m., Dinner at the Café Royal. Fri., 10 a.m. to 1 p.m., Papers and Discussions; 2.30 p.m. to 4 p.m., Demonstrations; 4 p.m., Clinical Meeting.

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Mon., 9.15 a.m., Dr. Theodore Thompson: Central Nervous System; 11 a.m., Dr. R. Hutchison: Digestion and Nutrition; 5.15 p.m., Mr. T. Higgins: Empyema. Tues., 5 p.m., Dr. D. N. Nabarro: Pathological Investigations. Tues. and Fri., 5.15 p.m., Mr. G. Waugh: Common Surgical Disorders.

LONDON HOSPITAL SURGICAL UNIT, Mile End.—Fri., 4 p.m., Mr. Russell Howard: The Acute Abdomen.

MANCHESTER FRENCH HOSPITAL.—Thurs., 5.30 p.m., Dr. A. C. Magian: Chronic Tubo-ovarian Inflammation and Venereal Disease.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. E. M. Brockbank: Anaemias, and their Diagnosis.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmorland Street, W.—Mon., 5.30 p.m., Dr. F. W. Price; Auricular Fibrillation.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Out-patient Clinics, 2-3.30 p.m. daily, excepting Wed. and Sat. Mon., 3.30 p.m., Dr. K. Wilson: Paralysis Agitans. Tuesday, 3.30 p.m., Dr. Risien Russell: Disseminated Sclerosis. Thurs., 3.30 p.m., Dr. Saunders: Myelitis. Wed. and Fri., 3.15 p.m.: Demonstration of Fraenkel's Exercises.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Nottenham, N.15.—Daily, 2.30 p.m., Operations, Medical and Surgical Clinics, etc. Mon., 2.30 p.m., Mr. Banister: Gynaecological. Tues., 9.45 a.m., Lieut.-Colonel Elliot: Eye Cases and Operations; 2.15 p.m., Dr. R. Murray Leslie: Lung Diseases; 3.15 p.m., Mr. Benians: Chronic Mucous Infections; 4.30 p.m., Lecture, Lieut.-Colonel W. Byam: Tropical Debility. Wed., 2.30 p.m., Dr. Oliver: Dermatological. Thurs., 2.30 p.m., Mr. N. Fleming: Ophthalmological; Dr. Metcalfe: Radiology. Fri., 2.30 p.m. Dr. Sundell: Children. Sat., 3 p.m., Mr. Carson: Surgical Cases.

ROYAL EYE HOSPITAL, Southwark.—Fri., 5 p.m., Mr. Dorrell: Neurasthenia, Hysteria, and Malingering.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Dr. H. Sutherland, 5 p.m., Mon.: Open Air Schools; Tues.: Sanatorium Treatment; Wed.: Rôle of Hospital; Thurs.: Colonies; Fri.: Disposal of Advanced Cases.

SHEFFIELD ROYAL INFIRMARY.—Wed., 4 p.m., Professor Connell: Lesions of the Foot and Pott's Fracture.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Mon., 2 p.m., Mr. Armour: Operations; 5 p.m., Dr. Saunders: Granular Nephritis. Tues., 12 noon, Mr. Gray: Fractures; 5 p.m., Mr. Steadman: Chronic Periodontitis. Wed., 11.30 a.m., Mr. MacDonald: Cystoscopy; 5 p.m., Mr. Gibb: Iritis. Thurs., 2 p.m., Mr. Harman: Eyes; Mr. Sinclair: Orthopaedics. Fri., 10 a.m., Dr. McDougal: Electrical; 2 p.m., Dr. Burnford: Out-patients. Sat., 2 p.m., Dr. Owen: Out-patients.

APPOINTMENTS.

FAIRCLOUGH, Harold, M.B., B.S.Dunelm, Medical Officer in Charge X Ray and Electrical Department Royal Infirmary, Sunderland.

GIBSON, Charles, M.B., B.S.Lond., F.R.C.S.Edin., Medical Officer to Out patients, Worthing Hospital.

STRATON, Arthur A., M.D.Lond., F.R.C.S.Edin., Honorary Medical Officer to Royal Isle of Wight County Hospital, Ryde.

WARD-SMITH, W., M.D.Edin., F.R.C.S.Eng., Certifying Factory Surgeon for the Shipley District, Yorks.

WHITLEY, W. F. J., M.D.Edin., D.P.H.Oxon., County Medical Officer of Health, Northumberland.

EDINBURGH ROYAL MATERNITY AND SIMPSON MEMORIAL HOSPITAL.—Assistant Physicians: R. W. Johnstone, C.B.E., M.D., F.R.C.S.Ed., M.R.C.P.Ed.; J. Young, D.S.O., M.D., F.R.C.S.Ed.; H. S. Davidson, O.B.E., M.B., Ch.B., F.R.C.S.Ed.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

18 Fri. London: Central Ethical Standing Subcommittee, 2.30 p.m.
Border Counties Branch: Annual Meeting, County Hotel, Carlisle, 4.15 p.m.
Edinburgh Branch: Annual Meeting, Hall of Royal College of Surgeons, Nicolson Street, 4 p.m.; tea 3.45 p.m.
Metropolitan Counties Branch, Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.

22 Tues. Isle of Thanet Division, Annual Meeting, Royal Sea-bathing Hospital, Margate 4.30 p.m.

23 Wed. Worcestershire and Herefordshire Branch Annual Meeting, General Hospital, Hereford, 3 p.m.

Annual Meeting, Cambridge.

25 Fri. Annual Representative Meeting (Examination Halls), 10 a.m.
Representatives' Dinner, Lion Hotel, 7.45 p.m.

26 Sat. Annual Representative Meeting, 9.30 a.m.
Representatives' Smoking Concert, Gonville and Caius College, 9 p.m.

27 Sun. Representatives' Garden Party, Downing College, 4 to 6 p.m.

28 Mon. Council (Small Examination Hall), 9 a.m.
Annual Representative Meeting, 9.30 a.m.
Election Returns Committee (on termination of Representative Meeting).

29 Tues. Annual Representative Meeting, 9.30 a.m.
Annual General Meeting, 2 p.m.
Annual Representative Meeting, 2.30 p.m.
Election Returns Committee (on termination of Representative Meeting).
President's Address: Adjourned Annual General Meeting, Senate House, 8.30 p.m.

30 Wed. Council, 9 a.m.
Meetings of Sections (Medical and Biological Schools), 10 a.m.
Conference of Secretaries (Examination Halls), 3 p.m.
Secretaries' Dinner, Lion Hotel, 7.30 p.m.
Meetings of Sections (Medical and Biological Schools), 10 a.m.

JULY.

1 Thurs. Conference of Members of Medical Staffs of Voluntary Hospitals (Small Examination Hall), 3 p.m.
Annual Dinner of the Association (Hall of St. John's College), 8 p.m.

2 Fri. Meetings of Sections (Medical and Biological Schools), 10 a.m.

3 Sat. Excursions.

The Annual Exhibition of Surgical Instruments, Drugs, Foods, etc., will be open at the Corn Exchange, Wheeler Street, from Tuesday, June 29th, till Friday, July 2nd.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

COOKE.—On June 3rd, at The Elms, Chobham, to Kitty (late Sister Nicholas, T.F.N.S., East African Forces), wife of A. Ingram Cooke, M.D.Cantab., a son.

MINETT.—At Barrington House, Georgetown, on April 2nd, to E. P. Minett, M.D., and E. M. Minett, M.D. (*née* Connan), a son.

SHEARWOOD.—On June 10th, at 24, Normanton Road, Derby, the wife of A. L. Shearwood, M.D., M.C., of a daughter.

MARRIAGES.

HOPE—REDFEARN.—At the Cathedral, Manchester, on June 8th, by the Rev. Victor Dams, John Hope, M.R.C.S., L.R.C.P., of Worsley, to Doris May Redfearn, of Hornsea.

RUNDLE—KERRUISH.—June 9th, at Douglas, Isle of Man, C. Rundle, O.B.E., M.D., of Fazakerley Hospital, Liverpool, to Florence M. Kerruish, M.R.C.S., L.R.C.P., of Douglas.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 26TH, 1920.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

CURRENT NOTES:
STATE-AIDED PATIENTS IN VOLUNTARY HOSPITALS: CONFERENCE AT CAMBRIDGE 207
A DEVELOPMENT OF CONTRACT PRACTICE IN SCOTLAND ... 207
MEETING OF SCOTTISH COMMITTEE 207
ANNUAL MEETING AT CAMBRIDGE 207

PAGE

ASSOCIATION NOTICES:
BRANCH AND DIVISION MEETINGS TO BE HELD 208
DIARY OF SOCIETIES AND LECTURES 208
ASSOCIATION INTELLIGENCE 208
DIARY OF THE ASSOCIATION 208
BIRTHS, MARRIAGES, AND DEATHS 208

British Medical Association.

CURRENT NOTES.

State-aided Patients in Voluntary Hospitals: Conference at Cambridge.

As stated in this column last week, the Hospitals Committee of the Association is issuing to the staffs of all the larger voluntary hospitals a memorandum showing the development of the practice of treating State-supported or State-aided patients at voluntary hospitals, and pointing out how seriously this practice affects the position of the honorary medical staffs. The question is raised more particularly in connexion with the treatment of pensioners, about which there have been recent negotiations between the British Medical Association, the Ministry of Pensions, and the British Hospitals Association. The importance of the precedents which have recently been created is strongly emphasized in view of the probable early developments in the use of the voluntary hospitals by the State and by local authorities; and the Branches of the Association have been asked to call meetings of the staffs of voluntary hospitals in their areas to discuss the question, and to arrange for common action as regards the treatment of pensioners. During the Annual Meeting at Cambridge a meeting will be held in the Small Examination Hall at 3 p.m. on Thursday, July 1st, with Sir Cuthbert Wallace, K.C.M.G., in the chair, and all members of staffs of voluntary hospitals and all Branch Secretaries who are present at Cambridge are invited.

A Development of Contract Practice in Scotland.

The Scottish Committee at its last meeting had under consideration a report by the Scottish Medical Secretary on several cases which had come to his notice from different areas where Labour representatives had made attempts to introduce a new practitioner in opposition to established practitioners. The cases all occurred in mining areas where the system of attendance on dependants by contract prevails, although there are no actual appointments, freedom of choice being the general rule. In the cases referred to certain Labour organizations advertised for a doctor to settle in a place and promised remunerative practice. The conditions of appointments were not stated, but the doctor "appointed" was to undertake attendance on dependants of workers at the accepted rate prevailing for miners' families. Here and there a certain amount of canvassing seems to have been done, and one case was reported to the General Medical Council by the Medical Defence Union. The Scottish Medical Secretary reported the steps he had taken in each case, and stated that he had been able to put a stop to the proposal in some instances and in others to make an arrangement satisfactory to the resident practitioners. In at least one instance, however, a man had been got to settle in spite of the representations made to him, but there was evidence that he had not been able to make much of the experiment. The cases reported are not confined to one area, and the movement seems likely to spread. The Scottish Committee decided to circularize Secretaries of Divisions and Branches, and to warn them to take prompt and early action in the event of the tendency arising in their area. It was also resolved to ask the General Medical Council to consider the advisability of reissuing the notice as to canvassing.

MEETING OF SCOTTISH COMMITTEE.

THE Scottish Committee met in Edinburgh on June 10th, when Dr. GOFF presided, and various questions of importance were considered.

Salaries of Prisons' Medical Officers and Parochial Medical Officers.

It was resolved to communicate with doctors holding these appointments and obtain information as to the points in which improvements in the conditions of service were desired, with a view to taking action with the authorities concerned.

Medico-Legal Fees.

The question of increase in medico-legal fees was also considered and held over, pending the publication of the revised scale which, it is understood, will be issued by the Treasury authorities shortly.

Vaccination.

Reports were received from various areas as to the schemes for free vaccination during the present epidemic of small-pox. The schemes show great variation in conditions and rates of remuneration offered. The Scottish Medical Secretary reported that in cases where the fee offered was small, he had written to the authorities concerned, asking them to bring their fee into line with the rate usually charged in private practice in the district. It was reported that the Edinburgh authority proposed to appoint whole-time practitioners to do house-to-house visitation at a fee of £7 7s. a week, and also to establish centres for vaccination at which the fee would be £1 1s. per session extending to about three hours. The Committee resolved that the fee for whole-time service should be at the rate of £12 12s. a week, and for attendance at a centre £2 2s. a session of two and a half hours. The Secretary was instructed to intimate the resolutions to the authority concerned and to Division and Branch Secretaries. It was resolved to draw the attention of the Insurance Acts Subcommittee to the question of vaccination of insured persons.

Annual Meeting of Scottish Secretaries.

A proposal to hold an annual meeting of Scottish Secretaries of Divisions and Branches was remitted to the Chairman's Subcommittee.

ANNUAL MEETING AT CAMBRIDGE.

Naval and Military Section.

THE following is the full programme of the Naval, Military, and Air Force Section, which will meet on Wednesday, June 30th, in the Engineering Lecture Room:

At 10.15 a.m. the President, Colonel Joseph Griffiths, C.M.G., will open a discussion on "The medical service and its relation to the education and training of newly qualified medical men." Papers will be read on "The measures evolved to combat gas warfare," by Lieut.-Colonel P. S. Lelean, C.B., C.M.G., Professor of Hygiene, R.A.M. College; "The regimental medical officer, his powers and duties," by Colonel R. J. Blackham,

C.B., C.M.G., C.I.E., D.S.O.; and "The teeth in the recruit," by Major J. P. Helliwell, C.B.E.

At 2 p.m. there will be the following exhibits and demonstrations in the Cavendish Laboratory:

I. R.A.M.C. Exhibits: Major C. M. Rigby, (*a*) mobile *x*-ray unit, (*b*) field *x*-ray equipment as used in a casualty clearing station, (*c*) electro-medical equipment; Lieut.-Colonel P. S. Lelean, (*d*) water purification, (*e*) methods adopted in the prevention of insect disease, (*f*) protection against poison gas, (*g*) museum miniature models of equipment in field sanitation; Major M. Sinclair, (*h*) surgical instruments, splints, etc.; Lieut.-Colonel J. P. Helliwell, (*i*) dental equipment of the new army.

II. R.A.F. Medical Service. Wing Commander Martin Flack, C.B.E.: The latest medical instruments and their uses in the direction of physical standards necessary in the Air Force Service.

Section of Venereal Diseases.

On the afternoon of Thursday, July 1st, there will be three demonstrations in the Medical Schools (not at Addenbrooke's Hospital as previously announced), one by Dr. Barnard upon dark-ground methods of microscopic diagnosis; one by Colonel Harrison upon the routine treatment of gonorrhoea in the male; and it is hoped that Dr. Morna Rawlins will be able to give a similar demonstration of gonorrhoea in the female.

Honorary Degrees.

The Congregation for Honorary Degrees will be held in the Senate House on Tuesday, June 29th, at 3 o'clock, not at 3.30 p.m. as announced last week.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

NORFOLK BRANCH.—The Honorary Secretary, Sir Hamilton A. Ballance, announces that the annual meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, Norwich, on Wednesday, July 7th, at 3.45 p.m. The following papers will be read: "Modern Methods of Diagnosis," by A. J. Cleveland, O.B.E., M.D., M.R.C.P.; "Surgical Experiences—A Retrospect of Twenty-five Years' Practice," by H. Muir Evans, M.D. Dr. G. C. Anderson, Deputy Medical Secretary, will give an address on "The British Medical Association from Behind the Scenes."

OXFORD AND READING BRANCH.—The annual meeting of the Branch will be held at Newbury on Tuesday, July 6th, at 5 p.m. Dr. Victor Bonney will give a lecture on "Modern Methods in the Treatment of Difficult Labour."

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—The annual meeting of the Monmouthshire Division will be held on Friday, July 16th, at the Royal Gwent Hospital, Newport, Mon. An Address will be given by the Medical Secretary, Dr. Alfred Cox, O.B.E., on "The Future of Medical Practice in the Mining Districts of South Wales and Monmouthshire—Servitude or Independence."

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Monday, 8 p.m. Discussion: "Pathology of Dental Cysts," to be opened by Mr. J. G. Turner, F.R.C.S., to be followed by Mr. F. Colman, Mr. E. D. D. Davies, Mr. Dolamore, Mr. F. N. Doubleday, Mr. M. F. Hopson, Mr. E. Hughes, Mr. T. B. Layton, and Mr. Herbert Tilley.

POST-GRADUATE COURSES AND LECTURES.

LONDON HOSPITAL SURGICAL UNIT, E.—Wed., 4 p.m., Mr. Russell Howard: Acute Abdomen.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. W. Dyson: Eczema.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Out-patient Clinics, 2-3.30 p.m. daily, excepting Wed. and Sat. Mon., 3.30 p.m., Dr. Saunders: Compression Paraplegia. Tues., 3.30 p.m., Dr. Risien Russell: Progressive Muscular Atrophy. Wed., 2 p.m., Dr. J. Taylor: Ocular and Visual Conditions in Nervous Diseases. 3.15 p.m. and Thurs., 3.30 p.m., Dr. Gordon Holmes: Cerebro-spinal Syphilis. Fri., Dr. Collier: Ward Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., Operations, Medical and Surgical Clinics, etc. Mon., 2.30 p.m., Dr. Banister: Gynaecological. Tues., 9.45 a.m., Lieut.-Colonel Elliot: Eye Cases and Operations; 2.15 p.m., Mr. Gillespie: Dilatation of Colon; 3.15 p.m., Dr. Whiting: Sinus Irregularity; 4.30 p.m., Lecture, Dr. Banister: Ante-partum Haemorrhage. Wed., 2.30 p.m., Dr. Oliver: Dermatological. Thurs., 2.30 p.m., Mr. N. Fleming: Ophthalmological. Dr. Metcalfe: Radiology. Fri., 2.30 p.m., Dr. Sundell: Children. Sat., 3 p.m., Mr. Carson: Surgical Cases.

ROYAL EYE HOSPITAL, Southwark, S.E.—Wed., 5 p.m., Mr. Letchworth: Colour Vision and Colour Blindness.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Wards; 2 p.m., In- and Out-patients and Operations. Mon., 2 p.m., Dr. Simson: Diseases of Women; Mr. Harman: Eyes. Tues., 10 a.m., Dr. Robinson: Gynaecological Operations; 2 p.m., Mr. Davis: Throat, Nose, and Ear. Wed., 2 p.m., Dr. Owen: Out-patients; 2 p.m., Mr. Addison: Operations. Thurs., 2 p.m., Mr. Armour: Operations; 2.30 p.m., Dr. Saunders: Wards. Fri., 2.30 p.m., Mr. Gray: Operations; Mr. Addison: Wards. Sat., 2 p.m., Dr. Beddard: Wards.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London. Tel.: Gerrard 2630).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London. Tel.: Gerrard 2634).

EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London. Tel.: Gerrard 2631).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

Annual Meeting, Cambridge.

JUNE.

25 Fri. Annual Representative Meeting (Examination Halls), 10 a.m.
Representatives' Dinner, Lion Hotel, 7.45 p.m.

26 Sat. Annual Representative Meeting, 9.30 a.m.
Representatives' Smoking Concert, Gonville and Caius College, 9 p.m.

27 Sun. Representatives' Garden Party, Downing College, 4 to 6 p.m.

28 Mon. Council (Small Examination Hall), 9 a.m.
Annual Representative Meeting, 9.30 a.m.
Election Returns Committee (on termination of Representative Meeting).

29 Tues. Annual Representative Meeting, 9.30 a.m.
Annual General Meeting, 2 p.m.
Annual Representative Meeting, 2.30 p.m.
Election Returns Committee (on termination of Representative Meeting).
President's Address: Adjourned Annual General Meeting, Senate House, 8.30 p.m.

30 Wed. Council, 9 a.m.
Meetings of Sections (Medical and Biological Schools), 10 a.m.
Conference of Secretaries (Examination Halls), 3 p.m.
Secretaries' Dinner, Lion Hotel, 7.30 p.m.

JULY.

1 Thurs. Meetings of Sections (Medical and Biological Schools), 10 a.m.
Conference of Members of Medical Staffs of Voluntary Hospitals (Small Examination Hall), 3 p.m.
Annual Dinner of the Association (Hall of St. John's College), 8 p.m.

2 Fri. Meetings of Sections (Medical and Biological Schools), 10 a.m.

3 Sat. Excursions. See SUPPLEMENT, June 19th, p. 197.

The Annual Exhibition of Surgical Instruments, Drugs, Foods, etc., will be open at the Corn Exchange, Wheeler Street, from Tuesday, June 29th, till Friday, July 2nd.

6 Tues. Oxford and Reading Branch, Annual Meeting, Newbury, 5 p.m.

7 Wed. Norfolk Branch, Annual Meeting, Norfolk and Norwich Hospital, Norwich, 3.45 p.m. Address by the Deputy Medical Secretary.

16 Fri. Monmouthshire Division, Annual Meeting, Royal Gwent Hospital, Newport. Address by Medical Secretary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **7s. 6d.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.*

BIRTHS.

DAVIDSON.—At 6, Lynedoch Place, Glasgow, W., on the 15th June, the wife of Norman Davidson, O.B.E., F.R.C.S.E., a daughter.

MITCHELL.—At 4, Grange Road, West Hartlepool, the wife of J. Elmsly Mitchell, M.D.Aberd., of a son.

PHILLIPS.—On the 18th June, at 2, Cavendish Court, Cavendish Square, W.1, to Phyllis, wife of Hugh R. Phillips, M.D., a son.

QUIRKE.—On May 31st, at Culm Davy, Handsworth Wood, the wife of Major M. J. Quirke, I.M.S., of a son.

ROE.—To Elizabeth and Robert Bradley Roe, M.R.C.S., of 46, Harlestone Road, St. James, Northampton, on May 20th, a daughter.

TONKS.—On May 22nd, at 22, Watling Street, Gillingham, Kent, to Dr. and Mrs. Myles Tonks, a daughter.

MARRIAGE.

MCCREADIE—FINDLAY.—At St. Mary's Church, Nelson, on the 17th June, by the Rev. J. W. Marsh, Dr. Anthony John McCreadie, M.C., only son of Mr. Anthony McCreadie, late of Alford, to Muriel Harper, elder daughter of Dr. Findlay, M.B., C.M., Nelson.

DEATHS.

BRUCE.—At Huntingdon House, Melbourne, Derbyshire, on the 12th inst., Annie Agnes, wife of George Bruce, M.B.

HUGHES.—On June 14th, at Thorn Tree House, Macclesfield, Guy, the beloved husband of Ragnhild Hughes, and youngest son of the late Dr. Brierley Hughes, aged 43 years.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EPITOME

OF

Current Medical Literature.

JANUARY TO JUNE, 1920.

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

INDEX TO THE EPITOME FOR VOLUME I, 1920.

READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma, Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Eye, Ophthalmia, and Vision, etc.

The Figures in this Index refer to the Number of the Paragraph, NOT the Page.

A.

Abdomen, palpation of, 271
Abdomen, radiography of after the introduction of oxygen into the peritoneal cavity, 641
Abdominal aorta, spontaneous rupture of, 369, 488
Abdominal disease, tender spots at root of neck in, 439
Abdominal enlargement in war prisoners, 494
Abdominal palpation, 69
Abdominal pregnancy. *See* Pregnancy
Abdominal symptoms simulated by encephalitis lethargica, 460
ABOULARAGE, G.: Case of circumscribed traumatic serous peritonitis, 122
ABRAND, H.: Primary or true rhinoliths, 668
Abscess, cerebellar, of otitic origin with complete homolateral hemiparesis, 42
Abscess, cerebral, metastatic solitary, 427
Abscess, fixation, in treatment of influenza, 631
Abscess, fixation, typhoid bacilli in, 662
Abscess, hepatic, treatment of, 659
Abscess of lungs in infants and children, 358
Abscess, perinephritic, *x*-ray sign of, 384
Abscess of prostate, 504
Abscess of tonsil, acute mixed leukaemia, leukaemic tubal infiltration, 717
Abscesses caused by typhoid bacilli, 720
Acetone bodies, elimination of during infectious fevers, 436
Acetonuria in influenza, 750
Achylia and cholelithiasis, 411
Achylia, chronic gastric, etiology of, 615
Acids, carcino-lytic organic, 27
ACOSTA, A. R.: Dakin's fluid in chronic suppurative otitis, 413
Acrodermatitis, continuous suppurative, 622
Addison's disease, lymphatic foci in the thyroid in, 203
Adenoids and tonsils in children, 264
Adenomyoma invading the ileum, 387
Adrenal rests in hernial sacs, 92
Adrenalin hyperglycaemia, influence of ovaries on, 719
Adrenalin in diagnosis of latent malaria, 234
Adrenalin in old age, action of, 371
Adrenalin in spastic bronchitis, 114
AHN: Prodromal sign of tuberculosis, 561
AIMES, A.: Conservative treatment of sarcomata of long bones, 703
Air, expired, temperature of in febrile cases, 366
Air, hot, in treatment of naevi, 607
Air passages, foreign bodies in, 381
AKERMAN, J.: Kondoleon's operation for elephantiasis, 274
ALBECK: Retention of placenta by Bandl's ring, 21
ALBEE, F. H.: Studies in bone growth, 197, 412
Albuminuria in tuberculosis, 497
Alcohol in nerve regeneration, 584
ALEXANDER, G.: Treatment of laryngeal carcinoma by radium and *x* rays, 226
ALEXANDRESCO-DERSCA: Intravenous injections of camphorated oil, 139
ALIVISATOS, A.: Case of emetine idiosyncrasy, 185
ALLEN: Renal glycosuria, 49
Alopecia, influenzal, pathogenesis of, 267
ALS, E.: Artificial pneumothorax with a pleural effusion on the other side, 213
Alum in treatment of whooping-cough, 80
AMELUNG, W.: Influenza and pulmonary tuberculosis, 468
Amenorrhoea, war, 254, 255
Amoebiasis, hyperacute intestinal, 6
Anaemia, autohaemotherapy in, 627
Anaemia, pernicious, a long remission in, 3—In a child, 342—Transfusion of blood in, 630
Anaesthesia, spinal, in pelvic operations, 682
Anaesthetics, local, 11
Anaphylactic deaths in asthmatics, 140
Anaphylactic nature of asthma, 549
Anaphylaxis, danger of with antitoxic serums, 73
Anaphylaxis and arsenobenzol, 432
Anatomy of snapping hip, 418
ANDRÉ, P.: Sarcoma of scrotum and spermatic cord, 62
Aneurysm, aortic, pleuritic type of, 525
Aneurysm, aortic, rupture of into superior vena cava, 238
Aneurysm of liver, 117
ANGELETTI: Humerus varus, 219
Angina pectoris and syphilis, 163
Angina, Vincent's, simulating tonsillar chancre, 316—Treated by chromic acid, 671
Angioma of stomach, 363
Angio-melano-sarcoma of leg, 181
Angio neurotic oedema, 210
Ankylosis, bony, after war wounds, 118
Ano-rectal syphiloma, pathogenesis of the so-called, 583
Antigens in the Wassermann reaction. *See* Wassermann
Antidiphtherial horse serum. *See* Serum
Antitoxic chemiotherapy, the phenololipoids, 127
Antitoxic serums, danger of anaphylaxis with, 73
Aorta, abdominal, spontaneous rupture of, 369, 488
Aorta, hypertrophic lymphangioma of, 99
Aorta, neo-salvarsan in syphilitic disease of, 317
Aortic aneurysm. *See* Aneurysm
Aortic compression for haemorrhage, 389
Aortic disease, 434
Aortic incompetence, double crural murmur in, 562
Aortic incompetence, functional, 563
APERLO: Necrosis of clavicle, 192
APERT: Acute aseptic purulent arthritis, 32
Aplasia of internal genitals, 280
Appendicitis, acute, with ileo-caecal ectopia, 471
Appendicitis, acute, indications for operation in, 196
Appendicitis, chronic, due to small shot, 325
Appendicitis, oxyuris, 302
Appendicitis simulated by mesenteric or retro peritoneal suppuration, 147
Appendicitis simulating strangulated hernia, 191
Appendicitis, torsion of omentum diagnosed as, 193
Appendix, cancer of, 276
Appendix, the "normal," 320
Appendix, tuberculosis of, 536
ARCANGELI, U.: Perforation of typhoid ulcers, 323
ARLOING: Vital staining of diphtheria bacilli, 394
ARONSON: Cardiospasm, 732
ARRIGO, V.: Hypertrophic lymphangioma of the aorta, 99
ARROWSMITH: Oesophageal diverticulum, 503
Arsenobenzol and anaphylaxis, 432
Arsenobenzol and jaundice, 112
Arterial disease in syphilis and tobacco poisoning, 262
Artery, pulmonary, bullet in, 675
Arthritis, acute aseptic purulent, 32
Arthritis deformans in children, etiology of 378
Arthritis diagnosed by microscopical examination of a regional lymphatic gland, 537
Arthritis, foreign body, of twenty years' standing, 17
Arthritis, gonorrhoeal, arthrotomy in, 70
Arthritis, multiple, with acute meningococcal meningitis, 567
Arthritis, rheumatoid, treated by autogenous vaccine prepared from the endometrium, 731
Arthrotomy in gonorrhoeal arthritis, 70
Artificial pneumothorax with a pleural effusion on the other side, 213
Artificial pneumothorax in pulmonary tuberculosis, 18
Ascaris lumbricoides in the Fallopian tube, 680
Asthenic tuberculosis, 560
Asthma, anaphylactic nature of, 549
Asthma, protein sensitization in, 585
Asthmatics, anaphylactic deaths in, 140
Astragalus, fracture-dislocations of, 189
ATHIAS: Autohaemotherapy in anaemia, 627
AUB: Exophthalmic goitre, 56
Auricular fibrillation, action of digitalis in, 368
Auriculo-ventricular heart-block in children, 566
Autogenous serum, treatment of secondary meningitis by intraspinal injection of, 623
Autogenous vaccine prepared from the endometrium in treatment of rheumatoid arthritis, 731
Autohaemotherapy in anaemia, 627
Auto-serotherapy in cancer, 327
Avian leukaemia, 747
AYER: Encephalitis lethargica, 1
AZZI, A.: Causes of oedema, 285—Temperature of expired air in febrile patients, 366

B.

BABCOCK, R. H.: Chronic cholecystitis and heart disease, 292
BABER, H. M.: Incidence of protein sensitization in the normal child, 487
B. coli, enumeration of in water, 287
Bacteria of conjunctiva in dacryocystitis, 335
BAESLACK: Diagnosis of primary syphilis by culture, 311
BAILLOD: Influence of ovaries on adrenalin hyperglycaemia, 719
BANG, O: Transfusion of blood in pernicious anaemia, 630—Convalescent serum in treatment of influenzal pneumonia, 658
Banti's disease, Tansini's operation for, 249. *See also* Splenectomy
BAR: Diagnosis of pregnancy, 229
BÁRÁNY, R.: Primary suture in brain wounds, 447
BARBIER: Gastric ulcer in pulmonary tuberculosis, 344
BARD: Heat sensation, 79
BARFOD, H. P. B.: Alum in whooping-cough, 80
BARJON, F.: Atony of the digestive tract in nervous individuals, 437
BARKER: Chemical urethritis, 299
BAROLIN: Haemorrhage from the ovaries, 708
BARTHÉLEMY: Nerve regeneration after impregnation with alcohol, 584
Basophil cell, the haemic, 337
Baths, hot, in treatment of gonorrhoea, 360

BAUD: Radiography of abdomen after introduction of oxygen into the peritoneal cavity, 641
BAUZA: Froin's syndrome in tuberculous meningitis, 5
BAYLISS: Toxicity of haemolysed blood, 392
BAYNE-JONES, S.: Hypertrophic osteo-arthropathy in carcinoma of pleura, 490
Beef-bone splints. *See* Splints
BEILBY: Surgical treatment of goitre, 575
BELFIELD: Vasostomy in gonorrhoea, 667
BELGRANO, C. R.: Vaginal myomectomy, 515
BENEDICT: Intracapsular extraction of cataract, 124
BENEKE, R.: Arterial disease in syphilis and tobacco poisoning, 262
BENEDETTI, U.: Annular pancreas, 603
BENIANS: An inagglutinable form of Shiga's bacillus, 361
BENNETT: Form of war haematuria, 429
BERGHOFF: After-effects of gassing on the respiratory tract, 137
BERNARD, R.: Multiple chancres, 442
BERSON: Varices of upper limbs, 635
BERTOIN: Spontaneous rupture of abdominal aorta, 369
BERTOLINI: Clinical notes on influenza in 1918–19, 698
BERTOYE: Chlorotic form of trichocephaliasis, 265
BETTI, L.: Bacteria of conjunctiva in dacryocystitis, 335
BEUF: Magnesium sulphate in tetanus, 699
BIANCHI: Trench nephritis, 158
Biceps ruptured by direct force, 173
BIE, V.: Prognosis in influenzal pneumonia, 340
BIFFIS: Haemolytic familial splenomegaly, 653
BIGNAMI, A.: Cholesterin in a pleural effusion, 23
Bilharziosis, urinary, treated by emetine hydrochloride, 211, 499
Biliary retention, dissociated, 406
BINET: Practical applications of ocular compression, 57—Experimental haemorrhagic pancreatis, 617
BINET, L.: Resistance to poisons according to age, 77
BING, H. I.: Polycythaemia in juxta-pyloric ulcer, 625
BISGAARD, A.: Parathyroid epilepsy, 484
BITTER: Botulism, 395
BLAC Y FORTACIN: Surgical complications of influenza in children, 273
Blackwater fever. *See* Fever
Bladder, gunshot wounds of, 576
Bladder, hour-glass, 251
Bladder injuries in war, 143
BLAKELY: Rupture of uterus with peritoneal encystment, 150
BLAND, Brooke: Vulvo-vaginitis of children, 514
BLEGVAD, N. R.: Laryngeal tuberculosis treated with carbon arc light, 590
BLOCH: Meningococcic septicaemia, 312—Sugar content of the cerebro-spinal fluid in lethargic encephalitis, 426—Pseudo-malarial gonococcal fever, 571
BLONDEL, R.: Sterility and Graves's disease, 47
Blood changes in influenza, 577
Blood changes in T.N.T. poisoning, 152
Blood changes in typhus. *See* Fever, typhus
Blood films, new method of staining, 179
Blood, haemolysed, toxicity of, 392
Blood platelets in immunity, 338
Blood pressure and heliotherapy, 141
Blood pressure after intravenous novarsenobenzol, 498
Blood pressure in pulmonary tuberculosis, 530
Blood serum in nephritis, protein and lipin content of, 486
Blood sugar in nephritis, 232
Blood transfusion in obstetrics, 478—In pernicious anaemia, 630
Blood and urine, comparative investigations on the Wassermann reaction in, 458
BOAS, H.: Gonorrhoea of rectum in women, 48—Etiological relation of pyloric obstruction to gastric tetany, 309—"Silver salvarsan" in syphilis, 349
BOBBIO: Carcinoma of appendix, 276
BODIN, E.: Continuous suppurative acro dermatitis, 622
BOERI: Abdominal palpation, 69
BOGGS, T. R.: Acute suppurative hypophysitis as a complication of purulent sphenoidal sinusitis, 586
BOHMANSSON: Primary sarcoma of stomach, 440
BOISSERIE-LACROIX, J.: Cerebellar abscess of otitic origin with complete homolateral hemiparesis, 42
BOISSONAS, L.: Codeine poisoning, 293
BOK, S. T.: Luetic reactions of Sachs and Georgi, 751
BOLTEN, H.: Angio neurotic oedema, 210
Bone disease, tuberculin treatment of, 501
Bone grafts in treatment of ununited fractures, 300
Bone growth, studies in, 197, 412
Bones, long. *See* Long
BONNARD: Abscesses caused by typhoid bacilli, 720
BONNAMOUR: Spontaneous rupture of abdominal aorta, 369
BONNEFON: Treatment of the vascular form of tuberculous keratitis, 640
BONNET: Parotitis in typhus, 695
Bony ankylosis. *See* Ankylosis
BORRIES, G. V. T.: Influenzal pharyngodynia, 58
Botulism, 395
BOUCHUT: Dissociated biliary retention, 406
BOUGET: Changes in uterine muscle during involution, 359
BOULOS: Treatment of general paralysis by tuberculin, 34
BOUQUIER: Congenital cyanosis with large ductus arteriosus, 523
BRAASCH: Surgical renal tuberculosis, 351
Bradycardia and immunity in influenza, 588
Brain, foreign bodies in, 321
Brain wounds, primary suture in, 447
BRAINOS, A.: Sporotrichosis of genitals, 541
BRANDT, R.: Colloidal gold test in the cerebro-spinal fluid in syphilis, 208
BRET, J.: Functional aortic incompetence, 563
BRETTE: Syphilitic stenosis of trachea, 268—Primary cancer of lung, 469
BREWITT: Conservative operation for chronic pyosalpinx, 738
BROCQ: Experimental haemorrhagic pancreatitis, 617
BRODIN: Blood sugar in nephritis, 232
Bromoseltzer habit causing methaemoglobinaemia, 405
Bronchitis, spastic, adrenalin in, 114
BROSSMANN: Bilateral tubal pregnancy, 580
BROUGHTON, Harris: Anaphylactic deaths in asthmatics, 140
BROUN: Blood changes in influenza, 577
BRUN, A.: Observations on 300 cases of sterility, 176
BRUTSCH, P.: Slow evolution of peritonitis following perforation of typhoid ulcer, 289
BUCHHOLTZ, J.: Artificial acquired immuntty to influenzal pneumonia, 582
BULL, P.: Treatment of cancer of rectum, 40—Thoracoplasty in pulmonary tuberculosis, 116
Bullet in pulmonary artery, 675
BURNAND: Digitalis in pulmonary tuberculosis, 288
BURNAND, R: Influenza and tuberculosis, 558
Burns, early death in, 20
Burns, facial, plastic surgery in, 639
Burns, treatment of, 65
BURROWS: Quinine dihydrochloride in influenza, 373
BUSINCO, A.: Septic necrobiotic infarct of lung, 365
BYFIELD, A. H.: Etiology of arthritis deformans in children, 378

C.

CABANNES: Periosteal tuberculoma of orbit, 123—Subjunctival lipoma, 367
CADE: Syphilitic stenosis of trachea, 268
CADE: Tender spots at root of neck in abdominal disease, 439
CADENAT, F. M.: Thrombo-phlebitis of the upper limb, 476
Caesarean section followed by primary abdominal pregnancy, 126
CAESARONO, U.: Tuberculous hip with congenital dislocation, 272
Calculi, pyelotomy *versus* nephrotomy for, 252
Calculi, silent renal, 89
Calculi, ureteric, 534
Calculus, renal, in spinal injuries, 207
Calomel inunctions, 9
CALVY, P. J.: Teeth extraction and heart disease, 705
CAMBASSÉDÈS: Acute aseptic purulent arthritis, 32
Camphor oil, intravenous injections of (especially in shock and heart failure), 139
Camphor oil in sciatica, subcutaneous injections of, 111
Camphor oil tumours, 718
Cancer of appendix, 276
Cancer, auto-serotherapy in, 327
Cancer of breast, post-operative prognosis for, 120, 441
Cancer of cervix, implantation of graft in an intracorporeal polypus, 611
Cancer of cervix, radical operation for, 149
Cancer, conjugal, 281
Cancer, early gastric, and generalized pulmonary cancerous lymphangitis, 473
Cancer, juvenile, 689
Cancer of larynx treated by radium and *x* rays, 226
Cancer of lung, primary, 469
Cancer of ovary, primary, in a girl of 13, ablation, cure, 742
Cancer of pleura with hypertrophic osteo-arthropathy, 490
Cancer of rectum, treatment of, 40
Cancer of stomach false, 275
Cancer and tuberculosis, association of, 154
Cancer of uterus, radium in, 256
Cancer, *x* ray, 544
CAPONE, G.: Agglutinability of micro-organisms cultivated on acid and alkaline media, 550
Carbon arc light in treatment of laryngeal tuberculosis, 590
Carcinolytic organic acids, 27
Carcinoma. *See* Cancer
Cardiac. *See* Heart
Cardiospasm, 732
CARDOT: Corpus luteum in pernicious vomiting of pregnancy, 646
CARNOT, P.: Plastic linitis, 133—"Vermilion" proctitis in secondary syphilis, 542—Recurrent haematemesis in chronic obliterative pylephlebitis, 696
CARRARO, N.: Hypertrophy of prostate, 354
CARULLA: Chronic pancreatitis and late hereditary syphilis, 30
Caruncle, urethral, 388
CARVE, L. P.: Double ureters, 734
CASTAIGNE: Renal adequacy, 428
CASTELLANI: Sodium taurochlorate in the prophylaxis of gonorrhoea, 606
CASTEX, M. R.: Various manifestations of late hereditary syphilis, 7
Castor oil seeds, poisoning by, 377
Cataract, intracapsular extraction of, 124
CAULI: Contusion and rupture of spleen, 250
CAULK: Hour-glass bladder, 251
CAUSSADE, L.: Myositis and meningitis in puerperal pyaemia, 46
CAVARA: Congenital orbital cyst, 502
CAVAZZANI, A.: Diagnosis of metallic râles in infancy, 656
Cerebellar abscess. *See* Abscess
Cerebral haemorrhage, pathogenesis of, 746
Cerebro-spinal fluid in acute diseases, 29
Cerebro-spinal fluid in multiple sclerosis, 308
Cerebro-spinal fluid in syphilis, colloidal gold test in, 208
Cerebro-spinal fluid in whooping-cough, 485
Cerebro-spinal meningitis, treatment of, 628
Cervical, vagus, and sympathetic, experiments in (Schafer), 74
Cervix, cancer of. *See* Cancer
Cervix, tuberculosis of, 609
CHABROL: Jaundice and arseno-benzol, 112—Familial epidemic of catarrhal jaundice, 162
CHALIER, J.: Haemophilia treated by injection of the mother's blood serum, 403
Champetier de Ribes's bag for vaginal dilatation during labour, 613
Chancre, dental, 443
Chancre of little finger, 477
Chancre, tonsillar, polypoid form of, 444
Chancre, tonsillar, simulated by Vincent's angina, 316
Chancres, multiple, 442
Chancres, soft, extragenital inoculation of, 121
CHARLANNE: Tuberculosis of cervix, 609
CHARRIER, A.: Sarcoma of small intestine, 665
CHAUVIN: Primary melanomas of male breast, 22—Cancer of cervix, implantation of graft on an intracorporeal polypus, 611—Tuberculosis of ovarian cysts, 651
CHELLÉ: Toxicology of hydrocyanic acid, 236
Chemiotherapy, antitoxic, the phenololipoids, 127
CHÉRY: Ocular paralysis of otic origin, 353
Chest wound followed by pulmonary tuberculosis, 724
CHICKERING: Secondary pneumonia, 240
CHIFOLIAN: Uterine fibroids and *x* rays, 679
Chilblains treated with diathermy, 245
Cholecystectomy, subperitoneal, 638
Cholecystitis, chronic, and heart disease, 292
Cholecystitis, acute typhoidal in children, 382
Cholelithiasis and achylia, 411
Cholesterin in a pleural effusion, 23
Chondrodysplasia, 535
Chordoma, malignant, 178
Chorea, chronic, clinical varieties of, 500
Chorion-epithelioma in the male, 100
Chorion-epithelioma of testis, 608
Chromic acid in treatment of Vincent's angina, 671
CIGNOZZI, O.: Treatment of puerperal infections with normal serum, 421
Cirrhosis, latent, in tuberculosis, 531
CLAUDE, H.: Meningeal symptoms and lethargic encephalitis, 463—Myotonic form of lethargic encephalitis, 694
Clavicle, necrosis of, 192
CO poisoning, myocarditis from, 102
COBB: Radical operation for cancer of cervix, 149
Codeine causing scarlatiniform erythema, 105
Codeine poisoning, 293
COGLIEVINA: Treatment of typhus, 55
COLARD, A.: Diaphragmatic hernia, 63
COLE: Calomel inunctions, 9—Kaposi's sarcoma, 456
Colectomy, partial, two-stage operation of, 572
Colic, violent attacks of caused by calcified mesenteric glands, 190
Colles's fracture, 223
Colloidal gold reaction, 453, 687—Technique of, 649
Colloidal gold test, 453, 454
Colloidal gold test in the cerebro-spinal fluid in syphilis, 208
Colloidal silver in typhus, 55; in cystitis, 643
Colloidal tin, intrathecal injections of in staphylococcal meningitis, 727
Colon dilatation in children, 633
Colostomy, closure of, 601
Coma, epidemic, 660
Compression neuritis. *See* Neuritis
Conjunctiva, bacteria of in dacryocystitis, 335

Conjunctiva, primary sore of, 417
Conjunctivitis, swimming bath, 86
Connective tissue, loose, macrophages of, 51
Convalescent serum in treatment of influenzal pneumonia, 290, 658
Convolution, fourth horizontal frontal, criminological value of, 748
COPE: Thigh rotation or obturator test, 673
CORDIER: Gastric ulcer in pulmonary tuberculosis, 344
CORNAZ, G.: Vincent's angina simulating tonsillar chancre, 316
CORNIOLEY: Acute appendicitis with ileo-caecal ectopia, 471
CORONE, A.: Diagnosis of pulmonary tuberculosis by radioscopy, 529
Corpus luteum in pernicious vomiting of pregnancy, 646, 647, 648
Corpus luteum and pregnancy 708
Corrosive sublimate, intravenous injections of in severe infections, 2
COTTIS: Surgical treatment of goitre, 574
COTTON: Colles's fracture, 223
COUDERT: Sterility, 175
COULONJOU E: Trophoedema in chronic mania, 624
COVA: Treatment of septic puerperal endometritis, 304
Cranio-meningeal wounds, generalized loss of reflexes in, 416
CREADICK: Omphalitis, 423
CRENSHAW: Urethral caruncle, 388
CRESPIN: Autohaemotherapy in anaemia, 627
CREYX: Some clinical forms of pulmonary hydatid cysts, 474
Criminological value of a fourth horizontal frontal convolution, 748
CRISTINA, G. DI: Vaccine treatment of Mediterranean fever, 372
CROWE: Pfeiffer's bacillus in the accessory nasal sinuses, 25
Crucial ligaments, rupture of, 676
CRUMP: Kaposi's sarcoma, 456
Culture media, reaction of, 364
CUMMING: Transmission of tubercle bacilli by table utensils, 691
CURSCHMANN, H.: Chronic lead poisoning after a bullet wound, 96
Cuti-reaction in children, regional, 657
Cyanosis, congenital with large ductus arteriosus, 523
Cyst, primary hydatid, of spinal meninges, 618
Cyst of mesentery, 419
Cyst of orbit, congenital, 502
Cyst of vagina with mixed epithelial lining, 684
Cystitis treated with colloidal silver, 643
Cystoma, bilateral malignant ovarian, and pregnancy, 712
Cystocele, pessary for, 743
Cysts of neck, congenital, 174
Cysts, pulmonary hydatid, some clinical forms of, 474
Cysts of thyroglossal tract, 573

D.

Dacryocystitis, bacteria of conjunctiva in, 335
DAGUET: Pulmonary tuberculosis following a chest wound, 724
Dakin's fluid in chronic suppurative otitis, 413
DALCHÉ, P.: Salivary and endocrine glands, 35
DALE: Fracture-dislocations of astragalus, 189
DAMADE, R.: Cerebellar abscess of otitic origin with complete homolateral hemiparesis, 42—Typhoid bacilli in a fixation abscess, 662
DANNENBERG: Cerebro-spinal fluid in acute diseases, 29
DAZZI, A.: Adrenalin in diagnosis of latent malaria, 234
DE AMARAL, Zephirino: Bilateral mammary hypertrophy, 741
Death, a sign of impending, 347
DEAVER: Prostatic surgery, 385
DEBBAS, E.: Emetine in urinary bilharziosis, 499
DE BLOEME, P. J. L.: Blood pressure in pulmonary tuberculosis, 530
DE BORD: Poisoning by ripe olives, 652
DE GRAAF, J. G.: Aplasia of internal genitals, 280
DEJUST, H: Treatment of diarrhoea and mucous colitis by zinc oxide, 431
DEKEUWER: Sugar content of the cerebro-spinal fluid in lethargic encephalitis, 426
DE LEVIE, D. J.: Peculiar case of foreign body in the throat, 735
DELL' AMORE: Blood pressure after intravenous novarsenobenzol, 498
DE MASSARY: Osteitis deformans affecting a single long bone, 415
DE MATTA, A.: Ruoss's test for glycosuria, 517
DEMMER, F.: Foreign bodies in the brain, 321
DE NABIAS: Parotitis in typhus, 695
DENNIS: Pulmonary fibrosis after gassing: *x*-ray evidence, 159
Dental chancre, 443
DERCUM: Luminal in epilepsy, 142
DE STEFANO, S.: Statistics of Parrot's pseudo-paralysis, 470
DE STELLA, H.: Treatment of parotid fistula by resection of auriculo-temporal nerve, 449
DE TOMMASI, P.: Wound of uterus in eighth month of pregnancy, 125
DE TRÉVISE: Liquefaction of gelatin by streptococci, 282
DEUSCH, G.: Post-influenzal dyspepsia, 243
DE WESSELOW: Testing of renal efficiency, 362
Dextrocardia, isolated congenital, 688
Diabetes following extirpation of pancreas, glycogen in, 650
Diabetes, significance of hyperglycaemia in, 518
Diabetes mellitus, 136
Diabetes, rules for combating, 493
Diabetes in war, 33
DIAMANTIS: Treatment of urinary bilharziosis by emetine hydrochloride, 211
Diarrhoea, zinc oxide in treatment of, 431
Diathermy in treatment of chilblains, 245
Diazo reaction in epilepsy, 749
DICK: Diphtheroid bacillus meningitis, 259
Digestive tract, atony of in nervous individuals, 437
Digitalis, action of in auricular fibrillation, 368
Digitalis, inhibition of diuresis by, 348
Digitalis in pulmonary tuberculosis, 288
Diphtheria antitoxin, intramuscular injection of, 370
Diphtheria bacilli in the lungs, 72
Diphtheria bacilli, vital staining of, 394
Diphtheria, eosinophilous myocarditis in, 231
Diphtheria mortality, 520
Diphtheria in the newborn, 167
Diphtheria of nose and ear in an infant aged 30 days, 113
Diphtheria, wound, 261
Diptheritic paralysis. *See* Paralysis
Diphtheroid bacillus meningitis, 259
Diseases, acute, cerebro-spinal fluid in, 29
Disseminated sclerosis. *See* Sclerosis
Diuresis, inhibition of by digitalis, 348
Diverticula of large intestine, acquired, 409
Diverticula of oesophagus, 503
DOBBIE, W. J.: Prevention of tuberculosis, 663
DODGE: Sterilization of lipo-vaccines, 307
DORN, K.: Is normal horse serum as effective as antidiphtherial horse serum? 36
DORSETT: Rupture of rectum during labour, 479
DOUGLAS: Leucocytes in influenza, 24
DOWD, C. H.: The two-stage operation of partial colectomy, 572
DRAGO: Myositis ossificans, 215
DRISCOLL: Erosive vulvitis, 305
DRYSDALE: Hysterical hemiplegia, 14
DUBOFF: Tuberculous empyema, 528
DUBOIS: Lymphatic foci in the thyroid in Addison's disease, 203
DUBOURG, E.: Purulent pneumococcal meningitis in influenza, 81—Diphtheria mortality, 520
DUBREUILH, W.: Treatment of Vincent's angina by chromic acid, 671
DUCASTAING, R.: Fibrous tumours of hand, 512
Ductus arteriosus, large, with congenital cyanosis, 523
DUCUING: Penetrating wounds of thorax, 303—Round ligament tumours, 678
DUFOUR: Serum treatment of haemorrhage, 87
DUHOT, E.: Spontaneous rupture of abdominal aorta, 488
DUJARIER: Reattachment of fibroid, 424—pseudarthrosis of humerus, 510
DUMAS: Atypical dysentery bacilli, 177—Diagnosis of pulmonary tuberculosis by radioscopy, 529
DUMONT: Familial epidemic of catarrhal jaundice, 162
Duodeno-jejunal flexure, stenosis of by ulcer, 674
Duodenum, parts of the, 170
DUPÉRIÉ: Periosteal tuberculoma of orbit, 123—Subconjunctival lipoma, 367
DUPUY: Sham feeding test in stomach diseases, 726
DURAND, G.: Treatment of diarrhoea and mucous colitis by zinc oxide, 431—Precipitin reaction in tuberculosis, 551
DURUPT: Comparison of antigens in the Wassermann reaction, 205
DUVAL: Rupture of crucial ligaments, 676
DWYER, H. L.: Chondrodysplasia, 535
Dysentery bacilli, atypical, 177
Dysentery bacillus, Shiga's: Toxins of, 206—An inagglutinable form of, 361
Dyspepsia, post-influenzal, 243

E.

ÉCALLE: Diagnosis of pregnancy, 228
Eclampsia, starvation in, 200
Eclampsia, treatment of, 97
Ectopia, ileo-caecal, acute appendicitis with, 471
Ectopic pregnancy. *See* Pregnancy
Ecuador, yellow fever in, 597
Eczema and tuberculosis, 527
Eczema, varicose, and perivenous sympathetic nerves, 634
EDELMANN: Pulmonary emphysema due to syphilis, 730
EDGAR: Diabetes mellitus, 136
EDLAVITCH, B M.: Cutaneous reaction to quinine in quinine iodiosyncrasy, 212
EDMONDSON: Poisoning by ripe olives, 652
EGGLESTON: Local anaesthetics, 11
Egypt, rhinoscleroma in, 472
Elephantiasis, Kondoleon's operation for, 274
ELLERMANN, V.: Avian leukaemia, 747
ELLIOTT, C. A.: Yellow fever in Ecuador, 597
Embolism, operations for, 599
Embolism, pulmonary, remarkable case of, 98
EMERY: Arsenobenzol and anaphylaxis, 432
Emetine hydrochloride in urinary bilharziosis, 211 499
Emetine idiosyncrasy, 185
Emphysema, pulmonary, due to syphilis, 730
Emphysema, surgical, in influenza, 295
Empyema acute, following influenza, surgical treatment, 145
Empyema, influenzal, treatment of, 319
Empyema, tuberculous, 528
Empyema in the first year of life, 220
Encephalitis, acute myoclonic, 459
Encephalitis, epidemic, simulating acute abdominal disease, 460
Encephalitis, haemorrhagic, in influenza, 457
Encephalitis lethargica, 1, 425, 568
Encephalitis lethargica, abortive forms of, 402
Encephalitis lethargica in Austria, 721
Encephalitis lethargica, etiology of, 482
Encephalitis lethargica, involuntary movements following influenza and, 461
Encephalitis lethargica, meningeal symptoms and, 463
Encephalitis lethargica, morbid anatomy of, 481
Encephalitis lethargica, myotonic form of, 694
Encephalitis lethargica, ocular changes in, 134
Encephalitis lethargica with relapse, 462
Encephalitis lethargica, sugar content of the cerebro-spinal fluid in, 426
Encephalitis lethargica, treatment of, 464
Encephalitis lethargica treated by neo-salvarsan, 661
Encephalitis lethargica, virus of, 455
Endocarditis, primary tricuspid, 596
Endocarditis, septicaemic, 616
Endocranial complications of acute otitis media, 93
Endocrine disturbance causing late epilepsy, 522
Endocrine and salivary glands, 35
Endometritis, septic puerperal, treatment of, 304
Endothelioma of the right and leiomyoma of the left pleura, 28
Enteric fever. *See* Fever
EPARRIER, H.: Acute meningococcal, meningitis with multiple arthritis, 567
Epididymectomy, technique of, 605
Epilepsy, cause of, 619
Epilepsy, diagnosis of, 296, 376
Epilepsy, diazo reaction in, 749
Epilepsy, late, due to endocrinic disturbance, 522
Epilepsy, luminal in, 142
Epilepsy, parathyroid, 484
Epileptic fits produced by suprarenal preparations, 4
Epileptics, weakness of the right facial nerve in, 466
Epithelioma developing into a fibroid polypus of uterus, 685
Epithelioma and oriental sore, resemblance between, 552
ERDMAN: Hypertrophic pulmonary osteo-arthropathy, 94
ERKES, L. E.: Osteo-chondroma of stomach wall, 12
Erythema nodosum and tuberculosis, 54, 313
Erythema, scarlatiniform, caused by codeine, 105
ESMEIN: Isolated congenital dextrocardia, 688
ESTES, W. L.: Causes of delayed union and non-union in fractures of the long bones, 248
ESTOR, E: Conservative treatment of sarcomata of long bones, 703
ESTRADA, A. T.: Syphilis as a factor in the ocular complications of typhoid fever, 239
Ether as an anaesthetic for short operations, 172
ÉTIENNE, G.: Late epilepsy due to endocrinic disturbance, 522—Serum treatment of tuberculous meningitis, 559
EVANS, Newton: Malignant myoma of uterus, 422
Exophthalmic goitre. *See* goitre
Eye diseases, injections of cow's milk in, 475
EYSTER: Auriculo-ventricular heart-block in children, 566

F.

FABER, A.: Treatment of chronic polyarthritis 692
FABER, K. P.: Pituitary dwarfism, 109—Raynaud's disease with suprarenal insufficiency, 166—Etiology of chronic gastric achylia 615

FABRY: Salvarsan treatment of syphilis, 446
Fallopian tube, *Ascaris lumbricoides* in, 680
Fallopian tubes, test of the patency of, 610
FAURE: After-results of extended hysterectomy, 612
Febrile patients, temperature of the expired air in, 366
FERMI, F.: Spina bifida in adults, 414
FERRÉ, E.: Subarachnoid meningeal haemorrhage, 595
Fever, blackwater, 168
Fever, enteric, atypical forms of, 315
Fever, enteric, intussusception in, 642
Fever, enteric, syphilis as a factor in the ocular complications of, 239
Fever, Mediterranean, vaccine treatment of, 372
Fever, pseudo-malarial gonococcal, 571
Fever, scarlet, a second attack of, 103
Fever, scarlet, influence of on vaccinia, 620
Fever, scarlet, complicated with pneumonia, 182
Fever, scarlet, renal function in, 654
Fever, typhus, with relapse, 401
Fever, typhus, changes in the blood and cerebro spinal fluid in, 53, 75
Fever, typhus, incubation period in, 593
Fever, typhus, Mexican form of, 715
Fever, typhus, parotitis in, 695
Fever, typhus, presence of certain bodies in, 339
Fever, typhus, in Rotterdam, 314
Fever, typhus, treatment of, 55
Fever, yellow, in Ecuador, 597
Fibroid, reattachment of, 424
Fibroid polypus of uterus, epithelioma developing into, 685
Fibroids of uterus and *x* rays, 679
Fibrosis, pulmonary, after gassing, *x*-ray evidence, 159
Fibula, recurrent dislocation of the head of, 386
FICAI, G.: Presence of certain bodies in typhus, 339
FINOCHIETTO, R.: Hyperacute intestinal amoebiasis, 6
FISCHER, A.: Anomalous case of Pott's disease, 224
Fistula, parotid, 144—Treated by resection of auriculo-temporal nerve, 449
Fistula, uretero-cervical, after forceps delivery, incision, spontaneous cure, 709
Fistulae, thoracic, 169
Fistulae, vesico-vaginal, transvesical suture of, 547
Flail joints, 13, 43
FLOECKINGER: Decompression of spinal cord in tuberculosis of spinal column, 701
Fluorescent substances reinforcing quinine, 318
FOG: Relapsing myositis due to *Micrococcus crassus*, 383
FOGES, A.: Severe post-dysenteric disease of rectum, 253
FÖNSS, A. L.: Lupus erythematosus and tuberculosis, 269
Food passages, foreign bodies in, 381
FOOT: Macrophages of the loose connective tissue, 51
Foreign bodies in the brain, 321—In the air and food passages, 381
Foreign body arthritis. *See* Arthritis
Foreign body in throat, peculiar case of, 735
FORGUE: Primary melanomas of male breast, 22—Tuberculosis of ovarian cysts, 651
FOTI, P.: Treatment of cerebro spinal meningitis, 628
FOURRIER M.: Treatment of lethargic encephalitis by neo-salvarsan, 661
Fracture, Colles's, 223
Fracture-dislocations of astragalus, 189
Fractures, compound, non-union in, 539
Fractures, compound, treatment of, standard splints, 733
Fractures of long bones, causes of delayed union and non-union in, 248
Fractures of long bones: Intramedullary beef-bone splints in, 88
Fractures, Pott's, reconstruction and after-care of old unreduced, 16
Fractures, ununited treatment of with special reference to use of bone grafts, 300
FRANCIONI: Influenza and the exanthems, 263
FRANKAU: Form of war haematuria, 429
FRANKENSTEIN: Accidental perforation of uterus, 452
FRASSI, L.: Gunshot wounds of bladder, 576
FRAZIER: Peripheral nerve injuries 195
FREUDENBERG, A.: Pathogenesis of disturbances of micturition in tabes, 38
FREUND: Carcino-lytic organic acids, 27—Treatment of lupus vulgaris, 328
FRIEDEL, G.: "Vermilion" proctitis in secondary syphilis, 542
Friedmann's turtle vaccine in tuberculosis, 8
FRIIS-MÖLLER, V.: Immunity and bradycardia in influenza 588
Froin's syndrome in tuberculous meningitis, 5
FROMME: Endemic osteomalacic disease, 37
Frontal convolution, fourth horizontal, criminological value of, 748
FUCHS: Turpentine injections for salpingitis, 645
FURNO: Metahepatic pleurisy, 430
FUSSELL: *X*-ray sign of perinephritic abscess, 384

G.

GAERTNER, G.: Reflected sunlight in treatment of whooping-cough, 59
GAGLIO, G.: Presence of vitamines in the urine, 76
Gall stones, frequency of, 555
Gall stones and urobilinuria, 513
GALLAVARDIN: Angina pectoris and syphilis, 163
GALLI, G.: Heredity in cardiac disease, 396
GALLOTTI: Exophthalmic goitre and tuberculosis, 725
GAMMA, C.: Primary lymphogranulomatosis of intestine 393
GANE, T.: Typhus fever with relapse, 401
GARDNER: Hysterical hemiplegia, 14
Gas, mustard, pulmonary sequelae of, 209
Gas, poison, organic hemiplegia after, 496
Gaseous disinfectants and fumigations in infectious disease, prophylactic value of, 83
Gassing, after-effects of on the respiratory tract, 137
Gassing followed by pulmonary fibrosis, *x*-ray evidence, 159
GASTAMINI: Vaccine-therapy during the war, 164
Gastric achylia, chronic, etiology of, 615
Gastric tetany. *See* Tetany
GAUTIER, P.: Slow evolution of peritonitis following perforation of typhoid ulcer, 289
Gelatin liquefied by streptococci, 282
Geniculate ganglion, the syndrome of, 495
Genitals, internal, aplasia of, 280
Genitals, sporotrichosis of, 541
GENOESE, G.: Cerebro-spinal fluid in whooping-cough, 485
GERBER, I.: Early gastric cancer and generalized pulmonary cancerous lymphangitis, 473
Germicidal value of potassium mercuric iodide, 669
Germicide, a new "mercurochrome 220," 131
GÉRY: A malignant chordoma, 178
Gestation, tubal, an early, 391
GILBERTI: Treatment of cavernous sinus thrombosis, 148
GILLIES, H. D.: Tubed pedicle in plastic surgery, 298—Plastic surgery of facial burns, 639
GINESTOUS: Congenital paralysis of right external rectus, 565
GIOSEFFI, M.: Poisoning by castor oil seeds, 377
GIRALD: Primary hydatid cyst of spinal meninges, 618
GIROU: Conjugal cancer, 281
Glands, enlarged hilus, combined method of percussion and auscultation for detecting, 598
Glands, calcified mesenteric, causing violent attacks of colic, 190
Glands, endocrine and salivary, 35
Glands, enlarged intercostal, diagnostic significance of, 655
Glucose in urine, detection of, 553
Glycogen in diabetes following extirpation of pancreas, 650
Glycosuria, renal, 49
Glycosuria, Huoss's test for, 517
GOEBEL: Rare herniae, 511
Goitre and the psychoses, 135
Goitre, surgical treatment of, 574, 575—Mode of anaesthesia, 574—Relation existing between the amount of gland removed and the permanence of relief 575
Goitre, exophthalmic, 56
Goitre, exophthalmic, with myasthenia gravis, 214
Goitre, exophthalmic, and tuberculosis, 725
Goitre. *See* Graves's disease
GOLDSCHMIDT, W.: Appendicitis simulated by mesenteric or retroperitoneal suppuration, 147
GOLDSTEIN: Palpation of abdomen, 271
Gonococcal fever, pseudo-malarial, 571
Gonococcus, culture of, 336
Gonorrhoea, infarct of testicle in, 198
Gonorrhoea of rectum in women, 48
Gonorrhoea treated with hot baths, 360
Gonorrhoea, sodium taurocholate in prophylaxis of, 606
Gonorrhoea, vasostomy in, 667
GOODALL: Vaccination by subcutaneous injection, 50
GOODMAN: Dental chancre, 443—Wassermann test in pregnant women, 614
GORIS, C.: Cicatricial stenosis of oesophagus, 666
GOTTI, G.: Epidemic of hiccough, 465
GOVAERTS: Blood platelets in immunity, 338
Graafian follicle, ripe human, 546
Gradenigo's syndrome, 446
GRAEFFE, M.: Chronic appendicitis due to small shot, 325
Grafts, tissue, from immunized animals, 334
GRAHAM: Haemic basophil cell, 337
GRAHAM, E. E.: Foreign bodies in the air and food passages, 381
GRAPIOLO, F. L.: Chorion-epithelioma of testis, 608
GRAVES: Ovarian residue, 228
Graves's disease, familial and hereditary, 104
Graves's disease and sterility, 47
Graves's disease, thyroidectomy for, 90, 91
Graves's disease, *x*-ray treatment of, 78
Graves's disease. *See also* Goitre, Exophthalmic, *and* Hyperthyroidism
GREELEY: Vaccine as a prophylactic against influenza, and local reaction as a guide to immunity, 345
GRIGAUT: Blood sugar in nephritis, 232
GRILLET: Influenza in pregnancy, 227
GRÖN, F.: History of syphilis, 507
GROSSE: Corpus luteum in pernicious vomiting of pregnancy, 648
GROSZ, K.: Lethargic encephalitis, 425
GROVES, Hey: Treatment of ununited fractures, with special reference to use of bone grafts, 300
Growth, backward, stimulated by *x* rays, 322
GRÜNBAUM, R.: Treatment of chilblains with diathermy, 245
GRYSEZ: Enumeration of *B. coli* in water, 287
GUARINI: Abdominal enlargement in war prisoners, 494
GUÉNARD, F.: Diphtheria mortality, 520
GUÉRIN: Stenosis of duodeno-jejunal flexure by ulcer, 674
Guinea-pigs, spirochaetes in urine of, 331
GUIZZETTI, P.: Morbid anatomy of lethargic encephalitis, 481
GUNSETT: Death following the application of sinusoidal currents, 132
GUYON: Regeneration of striated muscle, 180
Gynaecological operations followed by venous thrombosis, pulmonary infarction, and embolism, 644
Gynaecology and obstetrics, significance of Rieder's cells in, 683

H.

HADDOW: Cause of epilepsy, 619
Haematemesis, recurrent, in chronic obliterative pylephlebitis, 696
Haematuria, war, form of, 429
Haemic basophil cell, 337
Haemophilia treated by injection of the mother's blood serum, 403
Haemorrhage, aortic compression for, 389
Haemorrhage, cerebral, pathogenesis of, 746
Haemorrhage from the ovaries, 708
Haemorrhage, serum treatment of, 87
Haemorrhage, subarachnoid meningeal, 595
Haemorrhage, traumatic cerebellar, 356
Haemorrhage in urethral stricture, 448
Haemorrhagic encephalitis. *See* Encephalitis
Haemorrhoids, internal, 39
HAGEDORN: Juvenile carcinoma, 689
HAINES: Detection of glucose in urine, 553
HALL: Detection and treatment of pneumococcus carriers 156
HALL, H C: Influenza immunity, 557
HAMBURGER, F.: Oral auscultation, 629
HAMBURGER, W.: Preventive inoculation against rabies, 491
HAMPTON: Venous thrombosis, pulmonary infarction and embolism following gynaecological operations, 644
Hand, fibrous tumours of the, 512
HANNEMA S.: Violent attacks of colic caused by calcified mesenteric glands, 190
HANSEN, S.: Urobilinuria and gall stones, 513
HANSON, R: Influenzal tendo-vaginitis, 67
HANSTEEN: Membranous tracheo-bronchitis in influenza, 438—Haemorrhagic encephalitis in influenza, 457
HARBITZ, F: Fatal influenzal myelitis, 230
HART, D. Berry: Causes of puerperal septicaemia, 451
HARTMANN: Hypernephroma of uterus, 579
HARVIER, P.: Familial and hereditary Graves's disease, 104—Virus of encephalitis lethargica, 455
HASS, Julius: Osteopsathyrosis idiopathica, 71
HASSON, J.: Pleuro-peritoneal form of chronic tuberculous peritonitis, 217
HATCHER: Local anaesthetics, 11
HAUG, K.: Erythema nodosum and tuberculosis, 313
Hay fever, protein sensitization in, 585
HAYWARD, E.: Friedmann's turtle vaccine in tuberculosis, 8
Head, artificial rotation of in persistent occipito-posterior positions, 329
Heart and aorta, neo-salvarsan in syphilitic disease of, 317
Heart, congenital abnormal mobility of, 341
Heart-block, auriculo-ventricular, in children, 566
Heart disease and chronic cholecystitis, 292
Heart disease, heredity in, 396
Heart disease, affection of the peripheral vessels in, 26
Heart disease and teeth extraction, 705
Heart failure, intravenous injections of camphor oil in, 139
Heart failure, renal manifestations of, 532, 621
Heat sensation, 79
HÉBERT: Meningococcic septicaemia, 312—Pseudo-malarial gonococcal fever 571
HEINDL, A.: Epidemic of throat disease due to the pneumococcus, 626
Heliotherapy and blood pressure, 141
HELLO: Serum treatment of haemorrhage, 87
Hemiplegia, infantile spastic, 632
Hemiplegia following wound of upper thoracic region, 509
Hemiplegia, hysterical 14

Hemiplegia, malarial, in an infant, 242
Hemiplegia, organic, after poison gas, 496
Hemiplegia, spastic, partial resection of motor nerves in, 420
HENIUS, K: Artificial pneumothorax in pulmonary tuberculosis, 18
Hernia, diaphragmatic, 63
Hernia, inguinal, 225
Hernia, stomach, strangulation in, 670
Hernia, strangulated, simulated by appendicitis, 191
Hernia, strangulated obturator, 68
Herniae, rare, 511
Hernial sac, tuberculosis of in a child, 704
Hernial sacs, adrenal rests in, 92
Herpes, febrile, virus of, 286
HERRICK: Cerbro spinal fluid in acute diseases, 29—Sarcoma of prostate, 543
HERRICK, J. B.: Rupture of aortic aneurysm into superior vena cava, 238
HESS: The fat soluble vitamine in rickets, 258
HESSE, E. and M.: Frequency of gall stones, 555
HESSELGREN, C.: Congenital abnormal mobility of the heart 341
HEYMAN, J.: Radium in cancer of uterus, 256
Hiccough, epidemic of, 465
HILLEL: Unusual case of disseminated sclerosis, 10
Hip, snapping, anatomy of, 418
Hip, tuberculous, with congenital dislocation, 272
HIRSCH M.: Foreign body arthritis or twenty years' standing, 17
HIRST: Prenatal care, 739
HOCHSINGER: Decline of congenital syphilis during the war, 375
HOFER, G.: Vaccine treatment of ozaena, 138
HOFFMANN: Association of cancer and tuberculosis, 154
HOLLANDER: Renal calculus in spinal injuries, 207
HOLMBERG, G: War amenorrhoea, 254
HOLST, S. F.: Post-operative prognosis of cancer of the breast, 441
HOOGSLAG, W.: Rules for combating diabetes, 493
HOOK: Campor oil tumours, 718
HÖPFNER, H.: Acute suppurative thyroiditis, 19
Horse serum. *See* Serum
Hot air treatment of naevi, 607
HOULBERT: Vitamines and growth, 129
HUBERT, G.: Aortic disease, 434
HUESE, J. F. O.: Remarkable case of pulmonary embolism, 98—Progressive infective perichondritis, 246
HUGGINS: Post-operative tetanus, 637
HUGUET, L.: Complicated twin pregnancy, 151
HULL, G. R.: Arthritis diagnosed by microscopical examination of a regional lymphatic gland, 537
HUMBERT: Intraspinous treatment of neurosyphilis, 216
Humerus, pseudarthroses of, 510
Humerus varus, 219
HURST: Hysterical vomiting, 435
HUTINEL, V.: Influence of acute infections on hereditary syphilis, 82
Hydatid cysts. *See* Cysts
Hydramnios treated by uterine puncture, 713
Hydrocyanic acid, toxicology of, 236
Hyperglycaemia, adrenalin, influence of ovaries on, 719
Hyperglycaemia in diabetes, significance of, 518
Hypernephroma of uterus, 579
Hyperthyroidism, constant sign of, 107—Tuberculosis complicated by, 526. *See also* Graves's disease
Hypophysitis, acute suppurative, as a complication of purulent sphenoidal sinusitis, 586
Hysterectomy, extended, after-results of, 612
Hysteria in childhood, 294
Hysterical hemiplegia, 14
Hysterical vomiting, 535

I.

ICHOK, G.: The tuberculous psychoneurosis, 374
Ictero-haemorrhagic spirochaetosis and the rat, 332
Icterus neonatorum, familial, with fatal course, 84
Ileo-caecal ectopia with acute appendicitis, 471
Immunity, blood platelets in, 338
Immunity in influenza. *See* Influenza
Immunized animals, tissue grafts from, 334
Infancy, diagnosis of metallic râles in, 656
Infantilism, intestinal and pancreatic, 398
Infections, acute, influence on in hereditary syphilis, 82
Infectious disease, prophylactic value of gaseous disinfectants and fumigations in, 83
Infectious fevers, elimination of acetone bodies during, 436
Influenza in 1918-19, clinical notes on, 698
Influenza, abortive and early treatment of, 346
Influenza, acetonuria in, 750
Influenza, action of on tuberculosis, 589
Influenza bacilli, classification of, 519
Influenza, blood changes in, 577
Influenza in children, 165—Surgical complications of, 273
Influenza and the exanthems, 263
Influenza, facial paralysis in, 467
Influenza, haemorrhagic encephalitis in, 457
Influenza and immunity, 557
Influenza, immunity and bradycardia in, 588
Influenza in an institution, control of, 218
Influenza and lactation, 556
Influenza and lethargic encephalitis, involuntary movements following, 461
Influenza leucocytes in, 24
Influenza masks, 728
Influenza, membranous tracheo-bronchitis in, 438
Influenza, sign of the palato-glossal arch in, 524
Influenza pneumonia treated by serum from convalescent patients, 290
Influenza in pregnancy, 227
Influenza, psychoses following, 729
Influenza and pulmonary tuburculosis, 468
Influenza, purulent pneumococcal meningitis in, 81
Influenza, quinine dihydrochloride in, 373
Influenza, surgical emphysema in, 295
Influenza treated by fixation abscess, 631
Influenza and tuberculosis, 558, 589
Influenza, vaccination against, 160
Influenza, vaccine as a prophylactic against, 345
Influenza, vaccine treatment of, 106
Influenzal alopecia, pathogenesis of, 267
Influenzal or diphtheritic paralysis of soft palate, 61
Influenzal empyema, treatment of, 319
Influenzal metastatic ophthalmia, 194
Influenzal myelitis, fatal, 230
Influenzal pharyngodynia, 58
Influenzal pneumonia, artificial acquired immunity to, 582
Influenzal pneumonia, prognosis in, 340
Influenzal pneumonia treated by serum from convalescent patients, 290, 658
Influenzal tendo-vaginitis, 67
Intestinal obstruction caused by submucous lipoma of caecum, 602
Intestine, large, acquired diverticula of, 409
Intestine, primary lymphogranulomatosis of, 393
Intestine, small, sarcoma of, 665
Intradermal reaction with extract of tuberculous urine, 237
Intrapleural perforation of stomach, sudden death from 380
Intraspinous treatment of neuro-syphilis, 216
Intussusception in typhoid fever, 642
IONESCO, D.: Influence of scarlet fever on vaccinia, 620
IVY, A. C.: Experimental gastric ulcer, 310
IZAR, G.: Acetonuria in influenza, 750

J.

JACOB: An early tubal gestation, 391
JAGIC, N.: Adrenalin in spastic bronchitis, 114
JAKSCH, R.: Epidemic coma, 660
JANSEN H.: Treatment of chronic polyarthritis 693
JARISCH, A.: Inhibition of diuresis by digitalis, 348
JASCHKE, R. T. von: Treatment of eclampsia, 97
Jaundice and arsenobenzol, 112
Jaundice, catarrhal, familial epidemic of, 162
JELLINEK, S.: Diagnosis of epilepsy, 296, 376
JENSEN, S: Subcutaneous injections of camphor oil in sciatica, 111
JERSILD: Pathogenesis of the so-called anorectal syphiloma, 583
JOANNOVICS: Cicatricial tuberculous stenosis of trachea, 183
JOANNOVITCH, J.: Endocranial complications of acute otitis media, 93—Rhinoscleroma in Egypt, 472
JOHNSTON, M. R.: Elimination of acetone bodies during infectious fevers, 436—Renal function in scarlet fever, 654
Joints, flail, 13
JONES, Wood: Anatomy of snapping hip, 418
JÖRGENSEN: Action of influenza on tuberculosis, 589—Subcutaneous injections of sodium bromide in mental disease, 591
JOSEFSON, A.: Influenza masks, 728
JOSUÉ, O.: Renal manifestations of cardiac failure, 532, 621
JUDD, E. S.: Ureteric calculi, 534

K.

KAHN, M.: Protein and lipin content of the blood serum in nephritis, 488
KAMINER: Carcino-lytic organic acids, 27
KAPFERER: Gonorrhoea treated with hot baths, 360
Kaposi's sarcoma, 456
KEANE: Diagnosis of primary syphilis by culture, 311
KELLERT: Colloidal gold reaction, 454
KEMPF: Mechanistic classification of neuroses and psychoses, 110
Keratitis, tuberculous, treatment of the vascular form of, 640
KHAN: Reattachment of fibroid, 424
KHOURY: Jaundice and arsenobenzol, 112
KICKHEFEL, G.: Influenzal or diphtheritic paralysis of soft palate, 61
Kidney, primary tuberculosis of, 45
Kidneys in chronic malaria, chronic enlargement of, 153
KINSCHERF: Closure of colostomy, 601
KINSELLA: Blood changes in influenza, 577
KISSMEYER, A.: "Silver salvarsan" in syphilis, 349
KLEEBLATT, F.: Indications for splenectomy, 95
KLEINBERG: Tuberculin treatment of bone disease, 501
KLIGLER: Toxins of Shiga's dysentery bacillus, 206
KLOPP: Strangulated obturator hernia, 68
KLOSE, H.: Arthrotomy in gonorrhoeal arthritis, 70—Thymus stenosis in children, 188
KLOTZ, M.: Is normal horse serum as effective as antidiphtherial horse serum? 36
KOETTLITZ: Sarcoma of stomach, 64
KOLLER: Treatment of cystitis with colloidal silver, 643
Kondoleon's operation for elephantiasis, 274
KORNITZER: Leiomyoma of the left and endothelioma of the right pleura, 28
KORSBJERG, A.: "Silver salvarsan" in syphilis, 350
KOTHNY, K.: Neo-salvarsan in syphilitic disease of heart and aorta, 317
KRAMER, P. H.: Typhus in Rotterdam, 314—Incubation period of typhus, 593
KUDELSKI: Acute myoclonic encephalitis, 459—Lethargic encephalitis with relapse, 462
Kyphosis, dorsal juvenile, 736
KYRLE, J.: Colloidal gold test in the cerebrospinal fluid in syphilis, 208

L.

LAAN, H. A.: Congenital absence of the tibiales antici, 44
Labour, radiography of the third stage of, 711
Labour, rupture of rectum during, 479
Labour, vaginal dilatation by Champetier de Ribes's bag during, 613
LACKIE, Lamond: Artificial rotation of the head in persistent occipito-posterior positions, 329
LACOURBE: Corpus luteum in pernicious vomiting of pregnancy, 647
LACOUTURE, J.: Primary abdominal pregnancy following Caesarean section, 126
Lactation and influenza, 556
LAGOUTTE: Unusual variety of hour-glass stomach, 554
LAGUESSE: Internal secretion of the pancreas, 400
LAHEY, F. H.: Thyroidectomy for Graves's disease, 91
LALOR: Cause of epilepsy, 619
LAMSON, O. F.: Recurrent nephrolithiasis 278
LAMY: Dissociated biliary retention, 406
LANDE, P.: Hemiplegia following wound of upper thoracic region, 509
LANDES: Criminological value of a fourth horizontal frontal convolution, 748
Lane plates, 41
LANGER: Chorion-epithelioma in the male 100
LAROCHE, G.: Typhoid meningitis, 521
Laryngeal stenosis, cicatricial, in children 379
Larynx in pregnancy, oedema of, 330
LATHAM: Lumbar puncture: a warning, 186
LAUBRY: Isolated congenital dextrocardia, 688
LAURENT, C.: Case of syphilitic reinfection, 505
LÄWEN, A: Oxyuris appendicitis, 302
Lead poisoning, chronic, after a bullet wound, 96
LECHELLE: Osteitis deformans affecting a single long bone, 415
LEGAGNEUX: Skin disease caused by a pediculoid in a cargo of barley, 533
LEGGETT, T. H.: Etiological relation of pyloric obstruction to gastric tetany, 309
LEGUEU: Value of pyelography, 545
Leiomyoma of the left and endothelioma of the right pleura, 28
LEMON: Angioma of stomach, 363
LÉOBARDY, J.: Recurrent haematemesis in chronic obliterative pylephlebitis, 696
LEONCINI, D.: Sudden death from intrapleural perforation of stomach, 380
Leprosy, treatment of, 697
LEREBOULLET, P.: Chronic rheumatism with dislocation following acute articular rheumatism, 410
LÉRI, A.: Localized forms of vertebral rheumatism, 690
LERICHE, R.: Varicose eczema and perivenous sympathetic nerves, 634
LESNÉ, E.: Resistance to poisons according to age, 77

Leucocytes in influenza, 24
Leucocytes in malaria, 157
Leukaemia, avian, 747
Leukaemia, deep irradiation in, 244
LEVADITI: Virus of encephalitis lethargica, 455
LEVY, C. S: Congenital absence of one lung, 483
LÉVY, G.: Involuntary movements following influenza and lethargic encephalitis, 461
LEVY-LENZ: "Silver salvarsan" in syphilis, 508
LEWIN, C.: Auto-serotherapy in cancer, 327
LEWIS: Sterilization of lipo-vaccines, 307
LEWY: A third form of paratyphoid, 52
LICHTENSTEIN, A.: Treatment of pylorospasm, 161
LIEBMANN, E.: Myocarditis from CO poisoning, 102
LIGNAC, G O. E: Urethral polypus, 171
LILIENTHAL: Thoracic fistulae. 169
LINDBERG, G.: Empyema in the first year of life, 220
LINDBLOM, S.: Significance of hyperglycaemia in diabetes, 518
Linitis, plastic, 133
LINTZ J.: Etiological relation of pyloric obstruction to gastric tetany, 309
Lipoma of caecum, submucous, causing intestinal obstruction, 602
Lipoma, subconjunctival, 367
Lipo-vaccines, sterilization of, 307
LITTMAN: Calomel inunctions, 9
Liver, aneurysm of, 117
Liver, acute atrophy of, pregnancy, salvarsan treatment, 260
LOBELL: Scarlet fever complicated with pneumonia, 182
LOIR: Skin disease caused by a pediculoid in a cargo of barley, 533
LOMRY: Diphtheria bacilli in the lungs, 72
Long bones, causes of delayed union and non-union in fractures of, 248
Long bones, intramedullary beef-bone splints in fractures of, 88
Long bones, conservative treatment of sarcomata of, 703
LONGO, L.: Submucous lipoma of caecum causing intestinal obstruction, 602
LONNE, F.: Diphtheria in the newborn, 167
LOOSEE: Blood transfusion in obstetrics, 478
LÖWENSTEIN: Virus of febrile herpes, 286
Luetin reaction of Sachs and Georgi, 751
Lumbar puncture, site of, 187
Lumbar puncture, a warning, 186
Luminal in epilepsy, 142
Lung, congenital absence of one, 483
Lung, primary cancer of, 469
Lung, septic necrobiotic infarct of, 365
Lungs, abscess of. *See* Abscess
Lungs, diphtheria bacilli in, 72
Lupus erythematosus and tuberculosis, 269
Lupus vulgaris, treatment of, 328
Lymphangioma of aorta, hypertrophic, 99
Lymphangitis, generalized pulmonary cancerous and early gastric cancer, 473
Lymphatic foci in the thyroid in Addison's disease, 203
Lymphogranulomatosis of intestine, 393

M.

MACADAM: Resemblance between oriental sore and epithelioma, 552
MACCABRUNI, F.: Significance of Rieder's cells in gynaecology and obstetrics, 683
MACCALLUM, W. G: Etiological relation of pyloric obstruction to gastric tetany, 309
MCCOY: Detection and treatment of pneumococcus carriers, 156
MACELLROY, W. S: Methaemoglobinaemia due the bromoseltzer habit, 405
"Maceration of the living child," 710
MACFARLAN: Germicidal value of potassium mercuric iodide, 669
MCGEARY: Treatment of burns, 65
MCJUNKIN: New method of staining blood films, 179
MCKIBBEN: Round worm infection clinically simulating pneumonia, 241
MACLEAN: Testing of renal efficiency, 362
MCINTOSH: Reaction of culture media, 364
MACLENNAN: Adrenal rests in hernial sacs, 92
Macrophages of the loose connective tissue, 51
MADERNA, C.: Extragenital inoculation of soft sores, 121
MAGGIORA: The etiology of encephalitis lethargica, 482
MAGGIORE, S.: Vaccine treatment of Mediterranean fever, 372
Magnesium sulphate in tetanus, 699
MAGNUS-LEVY: Diabetes in war, 33
Malaria, chronic, chronic enlargement of the kidneys, 153
Malaria, diagnosis of, 723
Malaria, combined quinine and methylene blue treatment of, 297
Malaria, intravenous quinine in, 397
Malaria, latent, adrenalin in diagnosis of, 234
Malaria, paraplegia in, 564
Malaria, leucocytes in, 157
Malaria, prophylactic quinine in, 266
Malaria, treatment of, 235
Malarial hemiplegia in an infant, 242
Malarial orchitis, 324
MALLET: Radiography of the abdomen after the introduction of oxygen into the peritoneal cavity, 641
MALLIÉ, H.: Pulmonary sequelae of mustard gas, 209
Mammary hypertrophy, bilateral, 741
Mammary hypertrophy treated by subcutaneous injections of human milk, 740
MANALANG: Growth forms of the Pfeiffer bacillus, 155
MANCINI: Influenza in children, 165
Mania, chronic, trophoedema in, 624
MANINI, L.: Medical treatment of hepatic abscess, 659
MANSILLA, S. G.: Injections of cow's milk in eye diseases, 475
MANTOVANI: Etiology of encephalitis lethargica, 482
MARANÓN, G: Constant sign of hyperthyroidism, 107
MARASPINI: Cicatricial tuberculous stenosis of trachea, 183—Rhinoscleroma in Egypt, 472
MARGESON: Placental tumour, 306
MARIE, P.: Involuntary movements following influenza and lethargic encephalitis, 461
MARINUCCI: Pernicious anaemia in a child, 342
MARION: Ureteral papillomata, 15—Transverse suture of vesico-vaginal fistulae, 547—Chronic vesiculitis and enlarged prostate, 578
MARSHALL, H. W.: Treatment of spinal injuries, 700
MARSMAN, M. W.: Second attack of scarlet fever, 103
MARTIN: Danger of anaphylaxis with antitoxic serums, 73
MARTINO, P. J.: Tonsils and adenoids in children, 264
MASPARINI, H.: Endocranial complications of acute otitis media, 93
MASOIN, P.: Diazo reaction in epilepsy, 749
Massage of prostate 199
MASSIAS, C.: Abortive forms of lethargic encephalitis, 402
MASSARI, O.: Epidemic encephalitis simulating acute abdominal disease, 460
MASSART: Bilateral malignant ovarian cystoma and pregnancy, 712
MATHIEU, O.: Tuberculosis of the hernial sac in a child, 704
MAURIAC, P.: Subarachnoid meningeal haemorrhage, 595
MAYER, A.: Abortive and early treatment of influenza, 346
MAYER, L.: Recovery from acute haemorrhagic pancreatitis, 357
MAZZOLINI: Albuminuria in tuberculosis, 497
MEANS: Exophthalmic goitre, 56
MECQUET, P.: Spontaneous rupture of abdominal aorta, 488
Medication by subcutaneous injection, dangers of, 577
Mediterranean fever. *See* Fever
Melanomas, primary, of male breast, 22
MELLO, S.: Intravenous injections of corrosive sublimate in severe infections, 2
Meningeal symptoms and lethargic encephalitis, 463
Meningeal syphilis. *See* Syphilis
Meningitis, cerebro-spinal, treatment of, 628
Meningitis, acute meningococcal, with multiple arthritis, 567
Meningitis, diphtheroid bacillus, 259
Meningitis, experimental, 714
Meningitis, ventricular puncture for, 221
Meningitis and myositis in puerperal pyaemia, 46
Meningitis, purulent pneumococcal, in influenza, 81
Meningitis, circumscribed spinal, cured by operation, 119
Meningitis, secondary, treated by intraspinal injections of autogenous serum, 623
Meningitis, staphylococcal, treated by intrathecal injections of colloidal tin, 727
Meningitis, tuberculous, Froin's syndrome in, 5—Serum treatment of, 559
Meningitis, typhoid, 521
Meningitis, ventricular puncture for, 221
Meningococcal meningitis. *See* Meningitis
Meningococcal septicaemia, 312
Meningococcal septicaemia with petechial eruption, 108
Menstrual equivalents in tuberculosis, 201
Mental disorders associated with old age, 722
Mental disease, subcutaneous injections of sodium bromide in, 591
"Mercurochrome-220," 131
Mercury, permeability of placenta to, 681
MERZWEILER: Sachs-Georgi and Meinicke reactions in syphilis, 101
Mesenteric cyst, 419
Mesenteric or retro-peritoneal suppuration simulating appendicitis, 147
Metallic râles in infancy, diagnosis of, 656
Methaemoglobinaemia due to the bromoseltzer habit, 405
Methylene blue and quinine combined in treatment of malaria, 297
MEUNIER, M.: Lethargic encephalitis, 563
MEYER, C.: Spinal cord tumour and pregnancy, 548
MEYER-RUEGG: "Maceration of the living child," 710
MEYERS, A. E: Dilatation of colon in children, 633
MICHE, F.: Intradermal reaction with extract of tuberculous urine, 237
MICHON: Ascending uretero-pyelitis, 222
Micrococcus crassus causing relapsing myositis, 383
Micro-organisms cultivated on acid and alkaline media, agglutinability of 550
MIDDLETON, W. S.: Auriculo-ventricular heart-block in children, 566
MILES: Internal piles, 39
MILIAN, G.: Eczema and tuberculosis, 527
Milk, cow's, injections of in eye diseases, 475
Milk, human, subcutaneous injections of in treatment of mammary hypertrophy, 740
MINOT: Blood changes in T.N.T. poisoning, 152
MINVIELLE: Primary tricuspid endocarditis, 596
MITTERSTILLER, S.: Post-influenzal suppuration, 60
MOCHI, A.: Metastatic solitary cerebral abscess, 427
MOENCH: Round ligament tumours, 677
MOLIN DE TEYSSIEU: Traumatic cerebellar haemorrhage, 356
MOMM: Pregnancy and body weight, 581
MONDOLFO, E: Atypical forms of typhoid fever, 315
Mongolian idiocy in brothers, 404
Mongolism, etiology of, 257
MONRAD: Hysteria in childhood, 294
MONTEFASCO, A.: Treatment of tetanus, 600
MONTGOMERY: Acute typhoidal cholecystitis in children, 382
MORETON: Intussusception in typhoid fever, 642
MOORE, J. E.: Cerebro-spinal fluid in multiple sclerosis 308
MOORHEAD, J. G.: Infantilism, intestinal and pancreatic, 398
MORGAN: Spinal anaesthesia in pelvic operations, 682
MORIN, A.: Arsenobenzol and anaphylaxis, 432
MORINI: Culture of gonococcus, 336
Morphine poisoning, 407
MORRISON: Studies in bone growth, 412
MORSE, J. Lovett: Congenital stricture of oesophagus, 355
Morton's method for rapid diagnosis of tuberculosis, 130
Motor nerves. *See* Nerves
MOTZFELDT, K.: Dietetic treatment of renal insufficiency, 399
MOUCHET: Hot-air treatment of naevi, 607
MOUISSET: Latent cirrhosis in tuberculosis, 531
MOURE: Abdominal pregnancy of six months, 202
MOURE, E. J.: Cicatricial laryngeal stenosis in children, 379
MOURIQUAND, G: Chlorotic form of trichocephaliasis, 265
MOUZON, J: Chronic rheumatism with dislocation following acute articular rheumatism, 410
MRAS, F.: Colloidal gold test in the cerebrospinal fluid in syphilis, 208
Mucous colitis, zinc oxide in treatment of, 431
MÜHSAM, R.: Friedmann's turtle vaccine in tuberculosis, 8
MÜLLER: Tissue grafts from immunized animals, 334
MÜLLER-DEHAM, A.: Neosalvarsan in syphilitic disease of heart and aorta, 317
MÜNZER, E.: Septicaemic endocarditis, 616
MURARD: Abdominal migration of testicle, 569
Muscle, striated, regeneration of, 180
Muscle of uterus, changes in during involution, 359
Mustard gas. *See* Gas
MUTEL, M.: Tuberculosis of hernial sac in a child, 704
Myasthenia gravis with exophthalmic goitre, 214
Myelitis, fatal influenzal, 230
MYGIND, S H.: Disease of orbit originating in the nasal sinuses, 737
Myocarditis from CO poisoning, 102
Myocarditis, eosinophilous, in diphtheria, 231
Myoclonic encephalitis. *See* Encephalitis
Myoma of uterus, malignant, 422
Myomectomy, vaginal, 515
Myositis and meningitis in puerperal pyaemia, 46
Myositis, relapsing, due to *Micrococcus crassus*, 383
Myositis ossificans, 215
Myotonic encephalitis. *See* Encephalitis

N.

NACKEN: *Ascaris lumbricoides* in the Fallopian tube, 680
NADAL, L.: Influence of acute infections on hereditary syphilis, 82
NADERNA: Primary sore of conjunctiva, 417
NAESSENS, W. M.: Combined method of percussion and auscultation for detecting enlarged hilus glands, 598
Naevi, hot-air treatment of, 607

NAGEL, Käthe: Morton's method for rapid diagnosis of tuberculosis, 130
NAGEOTTE: Regeneration of striated muscle, 180
Narcosis, intraperitoneal, experiments with, 706
Nasal sinuses, accessory, Pfeiffer's bacillus in, 25
NAUWELAERS, P.: Lethargic encephalitis, 568
NAZARI, A.: Chronic enlargement of the kidneys in chronic malaria, 153
NEANDER, A.: Post-operative prognosis for cancer of breast, 120
Necrosis of clavicle, 192
NEDDEN, Zur: Treatment of affections of the vitreous, 326
Neo-salvarsan in syphilitic disease of heart and aorta, 317—In lethargic encephalitis, 661
Nephritis, blood sugar in 232
Nephritis, affections of the peripheral vessels in, 26
Nephritis, protein and lipin content of the blood serum in, 488
Nephritis, trench, 158
Nephrolithiasis, recurrent 278
Nephrotomy versus pyelotomy for calculi, 252
Nerve defects, results of bridging, 408
Nerve injuries, peripheral, 195
Nerve, right facial, weakness of in epileptics, 466
Nerve regeneration after impregnation with alcohol, 584
Nerves, cervical, vagus and sympathetic, experiments on, 74
Nerves, motor, partial resection of in spastic hemiplegia, 420
Nerves, perivenous sympathetic, and varicose eczema, 634
NETTER: Sugar content of the cerebro-spinal fluid in lethargic encephalitis, 426
NEUDA, P.: Early death in burns, 20
Neuritis, compression, by first rib, 664
Neurosis, mechanistic classification of, 110
Neuro-syphilis, intraspinous treatment of, 216
NICCOLAI, N.: Clinical varieties of chronic chorea, 500
NICOLAYSEN, K.: Experimental gastric ulcer, 744
NICOLICH: Pyelotomy versus nephrotomy for calculi, 252
NIXON: Colloidal gold reaction, 453, 687
NOEL: Changes in uterine muscle during involution, 359
NORDENTOFT, S.: *X*-ray treatment of Graves's disease, 78
NÖRVIG, J.: Parathyroid epilepsy, 484
Novarsenobenzol, intravenous, blood pressure after, 498
NUZUM, F.: Eosinophilous myocarditis in diphtheria, 231
NYULASY: Pelvic septic phlebitis, 480

O.

Obstetrics, blood transfusion in, 478
Obstetrics and gynaecology, significance of Rieder's cells in, 683
Obturator test or thigh rotation, 673
Occipito-posterior positions, artificial rotation of the head in persistent, 329
Ocular changes in encephalitis lethargica, 134
Ocular compression, practical applications of, 57
Ocular paralysis of otic origin, 353
Oedema, angio-neurotic, 210
Oedema, causes of, 285
Oedema of larynx in pregnancy, 330
Oesophageal diverticulum 503
Oesophagus, cicatricial stenosis of, 666
Oesophagus, congenital stricture of, 355
OLITSKY: Toxins of Shiga's dysentery bacillus, 206
Olives, ripe, poisoning by, 652
O'MALLEY: Skin reaction in quinine idiosyncrasy, 31
Omentum, torsion of, diagnosed as appendicitis, 192
Omphalitis, 423
OÑATE, A. F.: Influenzal metastatic ophthalmia, 194
Ophthalmia, influenzal metastatic, 194
OPPENHEIM, M: Rapid institutional treatment of scabies, 592
Oral auscultation, 629
Orbit disease originating in the nasal sinuses, 737
Orbit, periosteal tuberculoma of, 123
Orbital cyst, congenital, 502
Orchitis, malarial, 324
Oriental sore and epithelioma, resemblance between, 552
ORR: Treatment of compound fractures, standard splints, 733
ORTICONI, A.: Prophylactic value of gaseous disinfectants and fumigations in infectious disease, 83
Osteitis deformans affecting a single long bone, 415
OSTENDORF: Hypertrophic pulmonary osteoarthropathy, 94
Osteo arthropathy, hypertrophic, in carcinoma of pleura, 490
Osteo-arthropathy, hypertrophic pulmonary, 94
Osteo-chondroma of stomach wall, 12
Osteomalacia, senile, 115
Osteomalacic disease, endemic, 37
Osteopsathyrosis idiopathica, 71
Otitis, chronic suppurative, Dakin's fluid in, 413
Otitis media, acute, endocranial complications of, 93
Ovarian cystoma, bilateral malignant and pregnancy, 712
Ovarian cysts, tuberculosis of, 651
Ovarian residue, 228
Ovaries, haemorrhage from, 708
Ovaries, influence of on adrenalin hyperglycaemia, 719
Oxycephaly, 538
Oxyuris appendicitis, 302
Ozaena, vaccine treatment of, 138

P.

PADERSTEIN: Swimming-bath conjunctivitis, 86
PAGNIEZ: Anaphylactic nature of asthma, 549
PALACIO, J.: Various manifestations of late hereditary syphilis, 7
Palate, soft, influenzal or diphtheritic paralysis of, 61
Palato-glossal arch in influenza, sign of, 524
PANCOAST: *X*-ray sign of perinephritic abscess, 384
Pancreas, annular, 603
Pancreas extirpation followed by glycogen in diabetes, 650
Pancreas, internal secretion of, 400
Pancreas and thyroid, giant cell sarcoma of, 233
Pancreatitis, acute, a sign of, 247
Pancreatitis, acute haemorrhagic, recovery from, 357
Pancreatitis, chronic, and late hereditary syphilis, 30
Pancreatitis, experimental haemorrhagic, 617
PAOLETTI, F.: Prophylactic quinine in malaria, 266
Papillomata of ureter, 15
Paraffin gravity drainage. *See* Wounds
Paralysis, congenital, of right external rectus, 565
Paralysis, facial, in influenza, 467
Paralysis, general, treated by tuberculin, 34
Paralysis, hysterical, of one leg, 66
Paralysis, ocular, of otic origin, 353
Paralysis of soft palate, influenzal or diphtheritic, 61
Parathyroid epilepsy, 484
Paratyphoid, a third form of, 52
PARDEE: Mongolian idiocy in brothers, 404
PARLETTI: Pathogenesis of cerebral haemorrhage, 746
PARODI, F: Acquired diverticula of large intestine, 409
Parotid fistula, 144—Treated by resection of auriculo-temporal nerve, 449
Parotitis in typhus, 695
Parrot's pseudo-paralysis, statistics of, 470
PARTURIER: Tender spots at root of neck in abdominal disease, 439
PASTEAU, A.: Haemorrhage in urethral stricture, 448
PASTURIER, M.: Renal manifestations of cardiac failure, 532, 621
PATEL: Mammary hypertrophy treated by subcutaneous injections of human milk, 740
PAUCHET: Cauterization of gastric ulcer, 702
PAULESCO: Glycogen in diabetes following extirpation of pancreas, 650
PEHU, M.: Acute meningococcal meningitis with multiple arthritis, 567
PEJU, G.: Typhoid meningitis, 521
PELLISIER, M.: Spontaneous rupture of abdominal aorta, 488—Primary cancer of ovary in a girl of thirteen, ablation, cure, 742
Pelvic operations, spinal anaesthesia in, 682
Pelvic septic phlebitis, 480
PERAZZI, P.: Experiments with intraperitoneal narcosis, 706
Pericarditis with effusion, 489
Perichondritis, progressive infective, 246
Perinephritic abscess. *See* Abscess
Periosteal tuberculoma of orbit, 123
Peripheral nerve injuries, 195
Peripheral vessels, affections of in nephritis and heart disease, 26
Peritoneal infections, acute, specific reaction of urine in, 516
Peritonitis: Case of circumscribed traumatic serous, 122
Peritonitis following perforation of typhoid ulcer, slow evolution of, 289
Peritonitis, chronic tuberculous, pleuro-peritoneal form of, 217
Pernicious anaemia. *See* Anaemia
Pessary for cystocele, 743
PESTALOZZA, C.: Regional cuti-reaction in children, 657
PEYRON: Hypernephroma of uterus, 579
PEZZI, C.: Double crural murmur in aortic incompetence, 562
Pfeiffer's bacillus in the accessory nasal sinuses 25
Pfeiffer's bacillus, growth forms of, 155
Phagocytosis, studies in, 284
Pharyngeal spasm simulating loss of appetite in children, 85
Pharyngodynia, influenzal, 58
Phenololipoids, the, 127
Phlebitis, pelvic septic, 480
PHILLIPS: Goitre and the psychoses, 175
PIAZZA: Antitoxic chemiotherapy, the phenololipoids, 127
PIERFRANCESCO: Treatment of lethargic encephalitis, 464
PIERRET: Enumeration of *B. coli* in water, 287
Piles. *See* Haemorrhoids
PINARD, M: Inadequate treatment of meningeal syphilis, 506
PINELES, F.: War amenorrhoea, 255
PIRERA, A.: Mixed typhoid and paratyphoid infection, 594
PIRONDINI: Examination and massage of prostate, 199
PITRES: Criminological value of a fourth horizontal fronta convolution, 748
Pituitary dwarfism, 109
Placenta, permeability of to mercury, 681
Placenta, retained, 390
Placenta retained by Bandl's ring, 21
PLASCHKES, S.: Diagnostic significance of enlarged intercostal glands, 655
Plastic linitis, 133
Plastic surgery of facial burns, 639
Plastic surgery, tubed pedicle in, 298
PLATT: Flail joints, 13, 43
PLATT, H.: Results of bridging nerve defects, 408
Pleura, leiomyoma of the left and endothelioma of the right, 28
Pleural effusion, cholesterin in, 23
Pleurisy, metahepatic, 430
Pleuro-peritoneal form of chronic tuberculous peritonitis, 217
PLICQUE: Asthenic tuberculosis, 560
Pneumococcus carriers, detection and treatment of, 156
Pneumococcus causing epidemic of throat disease, 626
Pneumonia, central, 433
Pneumonia complicating scarlet fever, 182
Pneumonia, influenzal, artificial acquired immunity to, 582
Pneumonia, influenzal, prognosis in, 340
Pneumonia, influenzal, treated by serum from convalescent patients, 290, 658
Pneumonia, secondary, 240
Poison gas, organic hemiplegia after, 496
Poisoning by castor oil seeds, 377
Poisoning, chronic lead, after a bullet wound 96
Poisoning, CO, myocarditis from, 102
Poisoning, morphine, 407
Poisoning, T.N.T., blood changes in, 152
Poisoning by ripe olives, 652
Poisons, resistance to according to age, 77
Polyarthritis, chronic, treatment of, 692, 693
Polycythaemia in juxta-pyloric ulcer, 625
Polypus, urethral, 171
POND: Detection of glucose in urine, 553
POROT, A.: Facial paralysis in influenza, 467
PORTMANN, G.: Polypoid form of tonsillar chancre, 444
Potassium mercuric iodide, germicidal value of, 669
POTHERAT: *X*-ray carcinoma, 544
Pott's disease, anomalous case of, 224
Pott's fractures, reconstruction and after-care of old unreduced, 16
Precipitin reaction in tuberculosis, 551
Pregnancy, abdominal, of six months, 202
Pregnancy, primary abdominal, following Caesarean section, 126
Pregnancy and bilateral malignant ovarian cystoma, 712
Pregnancy and body weight, 581
Pregnancy and the corpus luteum, 707
Pregnancy, diagnosis of, 229
Pregnancy, ectopic, 450
Pregnancy, double ectopic with a living seven months fetus, 279
Pregnancy, influenza in, 227
Pregnancy, oedema of larynx in, 330
Pregnancy and spinal-cord tumour, 548
Pregnancy, bilateral tubal, 580
Pregnancy, complicated twin, 151
Pregnancy, pernicious vomiting of, corpus luteum in, 646 647, 648
Pregnancy, wound of uterus in eighth month of, 125
Pregnant women, Wassermann test in, 614
Prenatal care, 739
PRINS, G. A.: Familial icterus neonatorum with fatal course, 84
Prisoners of war, abdominal enlargement in, 494
PROBST, L: Influenza treated by fixation abscess, 631
Proctitis, "vermilion," in secondary syphilis 542
Prostate, enlarged, and chronic vesiculitis 578
Prostate, examination and massage of, 199
Prostate, hypertrophy of, 354
Prostate, sarcoma of, 543
Prostatic abscess, 504
Prostatic surgery, 385
Protein and lipin content of the blood serum in nephritis, 486

Protein sensitization in asthma and hay fever, 585
Protein sensitization in the normal child, incidence of, 487
PROUST: Simple ulcer of colon, 570
PRUVOST: Streptococci of war wounds, 333
Pseudarthroses of humerus, 510
Pseudo-malarial gonococcal fever, 571
Pseudo-paralysis, Parrot's, statistics of, 470
Psycho-neurosis, the tuberculous, 374
Psychoses and goitre, 135
Psychoses following influenza, 729
Psychoses, mechanistic classification of, 110
Puerperal infections treated with normal serum, 421
Puerperal septicaemia, causes of, 451
PULAY, E.: Pathogenesis of influenzal alopecia, 267
Pulmonary embolism. *See* Embolism
Pulmonary fibrosis. *See* Fibrosis
Pulmonary sequelae of mustard gas, 209
PUSATERI, S.: Oedema of the larynx in pregnancy, 330
Pyaemia, puerperal, myosotis and meningitis in, 46
Pyelography, value of, 545
Pyelotomy *versus* nephrotomy for calculi, 252
Pylephlebitis, chronic obliterative, recurrent haematemesis in 696
Pyloric obstruction, etiological relation of to gastrectomy, 309
Pyloric stenosis, congenital, 492
Pyosalpinx, chronic, conservative operation for, 738
Pylorospasm, treatment of, 161
Pyuria, aseptic renal, 716

Q.

QUARELLI, G.: Diagnosis of malaria, 723
QUEYRAT, L.: Chancre of little finger, 477—Early malignant syphilis, 540
Quinine dihydrochloride in influenza, 373
Quinine idiosyncrasy, skin reaction in, 31, 212
Quinine in malaria, 266, 397—Intravenous injection of, 397
Quinine and methylene blue combined in treatment of malaria, 297
Quinine reinforced by fluorescent substances, 318

R.

Rabies, preventive inoculation against, 491
Radiography of the abdomen after the introduction of oxygen into the peritoneal cavity, 641
Radiography of the third stage of labour, 711
Radioscopy in diagnosis of pulmonary tuberculosis, 529
Radium in cancer of uterus, 256
Radium and *x* rays in laryngeal carcinoma, 226
RANDALL, A.: Prostatic abscess, 504
Rat and ictero-haemorrhagic spirochaetosis, 332
RATHERY, F.: Abscesses caused by typhoid bacilli, 720
RAUTENBERG, E.: Morphine poisoning, 407
RAUZIER: Primary hydatid cyst of the spinal meninges, 618
Raynaud's disease with suprarenal insufficiency, 166
Rectum, rupture of during labour, 479
Rectum, severe post-dysenteric disease of, 253
Rectum, sarcoma of, 146
Rectus, right external, congenital paralysis of, 565
REDDEN: Treatment of influenza pneumonia by serum from convalescent patients, 290
REENSTIERNA, J.: Serum treatment of ulcus molle, 672
REGAN: Site of lumbar puncture, 187
Regeneration of striated muscle, 180
REID: Acute typhoidal cholecystitis in children, 382
REINHARDT, A.: Oxyuris appendicitis, 302
REITLER, R.: Combined quinine and methylene blue treatment of malaria, 297
RÉMOND: Primary tricuspid endocarditis, 596
REMY: Pessary for cystocele, 743
Renal adequacy, 428
Renal calculi, pyelotomy versus nephrotomy for, 252
Renal calculi, silent, 89
Renal calculus in spinal injuries, 207. *See also* Calculus
Renal efficiency, testing of, 362
Renal function in scarlet fever, 654
Renal glycosuria, 49
Renal insufficiency, dietetic treatment of, 399
Renal manifestations of cardiac failure, 532, 621
Renal pyuria, aseptic, 716
Renal tuberculosis, surgical, 351
RENNIE: Exophthalmic goitre combined with myasthenia gravis, 214
Respiratory tract, after-effects of gassing on, 137
REVERDIN: Magnesium sulphate in tetanus, 699
Rheumatism, chronic, with dislocation, following acute articular rheumatism, 410
Rheumatism, vertebral, localized forms of, 690
Rheumatoid arthritis treated by autogenous vaccine prepared from the endometrium, 731
Rhinoliths, primary or true, 668
Rhinoscleroma in Egypt, 472
Rib, first, causing compression neuritis, 664
RIBIERRE: Meningococcic septicaemia, 312
RICHARD: Vital staining of diphtheria bacilli, 394—Late epilepsy due to endocrinic disturbance, 522
RICHEY: Skin reaction in quinine idiosyncrasy, 31
Rickets, the fat soluble vitamine in, 258
Rieder's cells, significance of in gynaecology and obstetrics, 683
RIVERS: Classification of influenza bacilli, 519
RIVIÈRE: Primary abdominal pregnancy following Caesarean section, 126
ROBERTS, D.: Vaccine treatment of influenza, 106
ROBERTSON: Rheumatoid arthritis treated by autogenous vaccine prepared from the endometrium, 731
ROBINSON: Action of digitalis in auricular fibrillation, 368
ROCAZ: Staphylococcal meningitis treated by intrathecal injections of colloidal tin, 727
RODMAN: Contusion and rupture of spleen, 250
ROETTER: The corpus luteum and pregnancy, 707
ROGERS, Sir Leonard: Treatment of leprosy, 697
ROLLANDINI, M.: Influenza and lactation, 556
ROMANO, C.: Congenital cysts of the neck, 174
RONCORONI, L.: Weakness of right facial nerve in epileptics, 466
RONDONI, P.: Chemotherapy of tuberculosis, 283
ROSENTHAL: Deep irradiation in leukaemia, 244
ROSSI, S. C.: Psychoses following influenza, 729
ROTHACKER: Changes in the blood and cerebro-spinal fluid in typhus, 53, 75
Rotterdam, typhus in, 314
ROUBIER: Primary cancer of lung, 469
Round worm. *See* Worm
ROUQUIER: Scarlatiniform erythema caused by codeine 105
ROUX: Cancer of cervix, implantation of graft on an intracorporeal polypus, 611
ROUZAUD: Blood sugar in nephritis, 232
RUBIN: Test of the patency of Fallopian tubes, 610
RUBINO, G.: Pleuritic type of aortic aneurysm, 525
RÜDEL, O.: Sign of impending death, 347
RUNEBERG, B.: Aseptic renal pyuria, 716
Ruoss's test for glycosuria, 517
RUSZNYKÁK, S.: Reinforcement of quinine by fluorescent substances, 318
RYDGAARD, F.: Cholethiasis and achylia, 411
RYERSON: Intramedullary beef-bone splints in fractures of long bones, 88

S.

SABATUCCI, F.: Paraplegia in malaria, 564
SABOURIN: Menstrual equivalents in tuberculosis, 201
SABRAZÈS, J.: Abortive forms of lethargic encephalitis, 402
SABROE, A.: Treatment of influenzal empyema, 319
Sachs-Georgi and Meinicke reactions in syphilis, 101
Sachs-Georgi reaction, practical value of, 204—Luetin reaction of, 751
SAILER: Detection and treatment of pneumococcus carriers, 156
Salicylsulphonic acid in typhus, 55
Salivary and endocrine glands, 35
Salpingitis, turpentine injections for, 645
Salvarsan in a pregnant woman with acute atrophy of liver, 260
Salvarsan "silver" in syphilis, 349, 350, 445, 508
Salvarsan treatment of syphilis, 445
SANDERS, T. M.: Treatment of secondary meningitis by intraspinal injections of autogenous serum, 62
SANFORD: Protein sensitization in asthma and hay fever, 585
SANTY: Experimental chronic gastric ulcer, 686
SAPHIR: Sarcoma of rectum, 146
SAQUET, R.: Trophoedema in chronic mania, 624
Sarcoma, Kaposi's, 456
Sarcoma of prostate, 543
Sarcoma of rectum, 146
Sarcoma of scrotum and spermatic cord, 62
Sarcoma of small intestine, 665
Sarcoma of stomach, 64
Sarcoma of stomach, primary, 440
Sarcoma of thyroid and pancreas, giant cell, 233
Sarcomata of long bones, conservative treatment of, 703
SAVAGE: Mental disorders associated with old age, 722
SAVARIAUD: An early tubal gestation, 391
SAVIGNAC, R.: Case of emetine idiosyncrasy, 185
SAXE: Vaginal dilatation by Champetier de Ribes's bag during labour, 613
Scabies, rapid institutional treatment of, 592
SCHAFER: Experiments on the cervical, vagus, and sympathetic, 74
SCHEEL, O.: Blood transfusion in pernicious anaemia, 630
SCHEEL, V.: Acute atrophy of liver, pregnancy, salvarsan treatment, 260
SCHEUERMANN, H.: Dorsal juvenile kyphosis, 736
SCHIFF: A third form of paratyphoid, 52
SCHLESINGER: Action of adrenalin in old age, 371
SCHÜLEIN, M.: Rupture of biceps by direct force, 173
SCHWARZ, Botho: Retained placenta, 390
SCHWARZ, H.: Abscess of lungs in infants and children, 358
SCHWENKENBECHER: Surgical emphysema in influenza, 295
Sciatica, subcutaneous injections of camphor oil in 111
Sclerosis, disseminated, unusual case of, 10
Sclerosis, multiple, cerebro-spinal fluid in, 308
Scrotum, sarcoma of, 62
SEIDEL: Recurrent dislocation of shoulder, 352
SENGÈS, N.: Facial paralysis in influenza, 467
Septicaemia, meningococcal, with petechial eruption, 108
Septicaemia, puerperal, causes of, 451
Serum, horse: Is the normal horse serum as effective as antidiphtherial horse serum? 36
Serum treatment of haemorrhage, 87
Serum treatment of tuberculous meningitis, 559
Serum treatment of ulcus molle, 672
SGAMBATI, O.: Specific reaction of urine in acute peritoneal infections, 516
Shiga's dysentery bacillus, toxins of, 206—An inagglutinable form of, 361
Shock, camphor oil in, 139
Shoulder, recurrent dislocation of, 352
SICARD: Acute myoclonic encephalitis, 459—Lethargic encephalitis with relapse, 462
SIGALAS, R.: Spirochaetes in urine of guinea-pigs, 331
"Silver salvarsan." *See* Salvarsan
SILVESTRI: Epileptic fits produced by suprarenal preparations, 4—Treatment of malaria, 235
SIMON, C.: Comparative investigations on the Wassermann reaction in the blood and urine, 458
SIMON, R.: Myositis and meningitis in puerperal pyaemia, 46
Sinusitis, purulent sphenoidal complicated by acute suppurative hypophysitis, 586
Sinusoidal currents, death following application of, 132
SIRECI, D: Studies on phagocytosis, 284
SISTRUNK, W. E.: Cysts of thyroglossal tract, 573
Skin disease caused by a pediculoid in a cargo of barley, 533
Skin reaction in quinine idiosyncrasy, 31, 212
SLATER: "Normal" appendix, 320
SMART: Reaction of culture media, 364
SMITH: Renal glycosuria, 49
SMEED: Reconstruction and after-care of old unreduced Pott's fractures, 16
Sodium bromide in mental disease, subcutaneous injections of, 591
Sodium taurocholate in prophylaxis of gonorrhoea, 606
Soft sores. *See* Syphilis
SOFRÈ: False cancer of stomach, 275—Central pneumonia, 433
SOLI: Permeability of the placenta to mercury, 681
SOLINA, C.: Primary tuberculosis of kidney, 45
SORESI: Elastic closure and systematic paraffin gravity drainage for wounds, 277
SOUQUES, A.: Generalized loss of reflexes in cranio-meningeal wounds, 416—Syndrome of the geniculate ganglion, 495
SPADA: Investigations on *Spirochaeta icterohaemorrhagiae* in Buenos Aires rats, 128—Chorion-epithelioma of testis, 608
Spermatic cord, sarcoma of, 62
SPIEGEL: Strangulation of stomach in hernia, 670
Spina bifida in adults, 414
Spina bifida, statistics of, 184
Spinal anaesthesia in pelvic operations, 682
Spinal cord, decompression of in tuberculosis of spinal column, 701
Spinal cord tumour and pregnancy, 548
Spinal column, tuberculosis of, decompression of spinal cord in, 701
Spinal injuries, renal calculus in, 207
Spinal injuries, treatment of, 700
Spinal meninges, primary hydatid cyst of, 618
Spirochaeta ictero-haemorrhagiae in Buenos Aires rats, 128
Spirochaetes in urine of guinea-pigs, 331

Spirochaetosis, ictero-haemorrhagic, and the rat, 332
Spleen, contusion and rupture of, 250
Splenectomy, indications for, 95. *See also* Banti's disease
Splenomegaly, haemolytic familial, 653
Splints, beef-bone, intramedullary, in fractures of long bones, 88
SPOLVERINI, L.: Diphtheria of nose and ear in an infant aged 30 days, 113—Malarial hemiplegia in an infant, 242
Sporotrichosis of the genitals, 541
Staphylococcal meningitis treated by intrathecal injections of colloidal tin, 727
Starvation in eclampsia, 200
STEARNS: Treatment of varicose ulcers, 636
STEFANO: Erythema nodosum and tuberculosis, 54
STEIN: Ectopic pregnancy, 450
Stenosis, cicatricial laryngeal, in children, 379
STEPHANI, T.: Tuberculosis complicated by hypothyroidism, 526
Sterility, 175—Observations on 300 cases of, 176
Sterility and Graves's disease, 47
STERN: Plastic repair of ureteral stricture, 604—Technique of epididymectomy, 605
STETTNER, E.: Stimulation of backward growth by *x* rays, 322
STEVEN, A.: Heliotherapy and blood pressure, 141
STEWART, Clara: Adenomyoma invading the ileum, 387
STEWART: Vaccination against influenza, 160
STIEFER: Encephalitis lethargica in Austria, 721
STOCKTON, C. G.: A long remission in pernicious anaemia, 3
STOELTZNER, W.: Etiology of mongolism, 257
Stomach, angioma of, 363
Stomach, false cancer of, 275
Stomach diseases, sham feeding test in, 726
Stomach, hour-glass, 301—Unusual variety of, 554
Stomach, sarcoma of, 64, 440
Stomach, shape of, 291
Stomach, sudden death from intrapleural perforation of, 380
Stomach strangulation in hernia, 670
Stomach wall, osteochondroma of, 12
STOSS: Leucocytes in malaria, 157
STRADIOTTI, G.: Intravenous quinine in malaria, 397
STRANDGAARD: Circumscribed spinal meningitis cured by operation, 119
Streptococci liquefying gelatin, 282
Streptococci of war wounds, 333
Striated muscle, regeneration of, 180
STROZZI: Injuries of bladder and urethra in war, 143
STUTZIN, J. J: Infarct of testicle in gonorrhoea, 198
Subconjunctival lipoma, 367
Subcutaneous injection, dangers of medication by, 577
SUDECK: Aneurysm of liver, 117
Sugar, action of hypodermic injections of, 343
Sugar, blood, in nephritis, 232
Sugar content of the cerebro spinal fluid in lethargic encephalitis, 426
SUER-KEN: Aortic compression for haemorrhage, 389
SUNDBERG, H.: Operations for embolism, 599
Sunlight, reflected, in treatment of whooping-cough, 59
Suppuration, post-influenzal, 60
Suprarenal preparations producing epileptic fits, 4
Surgery, plastic, tubed pedicle in, 298
SVITH, N.: Hysterical paralysis of one leg, 65
SWARTZ: A new germicide—"mercurochrome-220," 131
SWETT: Lane plates, 41
Swimming-bath conjunctivitis, 86
Sympathetic cervical, and vagus nerves, experiments on, 74
Syphilis and angina pectoris, 163
Syphilis, colloidal gold test in the cerebrospinal fluid in, 208
Syphilis, congenital, decline of during the war, 375
Syphilis, early malignant, 540
Syphilis, extragenital inoculation of soft sores, 121
Syphilis as a factor in the ocular complications of typhoid fever, 239
Syphilis, hereditary, influence of acute infections on, 82
Syphilis, late hereditary, chronic pancreatitis and, 30
Syphilis, late hereditary, various manifestations of, 7
Syphilis, history of, 507
Syphilis, meningeal, inadequate treatment of, 506
Syphilis, primary, diagnosis of by culture, 311
Syphilis causing pulmonary emphysema, 730
Syphilis, Sachs-Georgi reaction, practical value of, 204
Syphilis, Sachs-Georgi and Meinicke reactions in, 101
Syphilis, salvarsan treatment of, 445
Syphilis, secondary, "vermilion" proctitis in, 542
Syphilis, "silver salvarsan" in, 349, 350, 445, 508
Syphilis and tobacco poisoning, arterial disease in, 262
Syphilis, Wassermann reaction in, 205. *See also* Wassermann
Syphilitic disease of heart and aorta, neosalvarsan in, 317
Syphilitic reinfection, 505
Syphilitic stenosis of trachea, 268
Syphiloma, ano-rectal, pathogenesis of the so-called, 583
SZIGETI: Encephalitis lethargica in Austria, 721

T.

Tabes, pathogenesis of disturbances of micturition in, 38
Table utensils transmitting tubercle bacilli, 691
TADDEI: Ether as an anaesthetic for short operations, 172
Tansini's operation for Banti's disease, 249
Teeth extraction and heart disease, 705
TEILMANN, F.: Recurrent dislocation of head of fibula, 386
Temperature of expired air in febrile patients, 366
Tendo-vaginitis, influenzal, 67
TERRIEN, E.: Organic hemiplegia after poison gas, 496—Trophoedema in chronic mania, 624
Testicle, abdominal migration of, 569
Testicle, infarct of in gonorrhoea, 198
Testis, chorion epithelioma of, 608
Tetanus, magnesium sulphate in, 699
Tetanus, post-operative, 637
Tetanus, treatment of, 600
Tetany, gastric, etiological relation of pyloric obstruction to, 309
THACKER-NEVILLE: Pfeiffer's bacillus in the accessory nasal sinuses, 25
THALER: Tonsillar abscess, acute mixed leukaemia, leukaemic tubal infiltration, 717
Thigh rotation or obturator test, 673
THOM: Poisoning by ripe olives, 652
THOMSEN, O.: Dangers of medication by subcutaneous injection, 577
THOMSON, A.: The ripe human Graafian follicle, 546
Thoracic fistulae, 169
Thoracoplasty in pulmonary tuberculosis, 116
Thorax, penetrating wounds of, 303
Thorax, wound of, followed by hemiplegia, 509
Throat disease, epidemic of, due to the pneumococcus, 626
Throat, foreign body in, peculiar case of, 735
Thrombo-phlebitis of upper limb, 476
Thrombosis, cavernous sinus, treatment of, 148
Thymus stenosis in children, 188
Thyroglossal tract, cysts of, 573
Thyroid in Addison's disease, lymphatic foci in, 203
Thyroid and pancreas, giant cell sarcoma of, 233
Thyroidectomy for Graves's disease, 90, 91
Thyroiditis, acute suppurative, 19
Tibiales antici, congenital absence of, 44
TILLISCH: Action of influenza on tuberculosis, 589
TISSIER: Liquefaction of gelatin by streptococci, 282
Tissue grafts from immunized animals, 334
TIXIER: Subperitoneal cholecystectomy, 638
T.N.T. poisoning, blood changes in, 152
Tobacco poisoning and syphilis, arterial disease in, 262
TODD: Observations on Mexican typhus, 715
Tonsillar abscess. *See* Abscess
Tonsillar chancre simulated by Vincent's angina, 316
Tonsillar chancre, polypoid form of, 444
Tonsils and adenoids in children, 264
TOREK: Inguinal hernia, 225
TORRE Y BLANCO: Double ectopic pregnancy with a living seven months fetus, 279
TOSSELTI: Uretero-cervical fistula after forceps delivery, incision, spontaneous cure, 709
TOURNEUX, J. P. and G: Vaginal cyst with mixed epithelial lining, 684—Epithelioma developing in a fibroid polypus of uterus, 685
Toxicology of hydrocyanic acid, 236
Trachea, cicatricial tuberculous stenosis of, 183
Trachea, syphilitic stenosis of, 268
Tracheo-bronchitis in influenza, membranous, 438
Trench nephritis, 158
Trichocephaliasis chlorotic form of, 265
Trophoedema in chronic mania, 624
Tubed pedicle in plastic surgery, 298
Tubercle bacilli transmitted by table utensils, 691
Tuberculin treatment of bone disease, 501
Tuberculin treatment of general paralysis, 34
Tuberculosis, albuminuria in, 497
Tuberculosis of appendix, 536
Tuberculosis, asthenic, 560
Tuberculosis and cancer, association of, 154
Tuberculosis of cervix, 609
Tuberculosis, chemotherapy of, 283
Tuberculosis, latent cirrhosis in, 531
Tuberculosis and eczema, 527
Tuberculosis and erythema nodosum, 54, 313
Tuberculosis and exophthalmic goitre, 725
Tuberculosis, Friedmann's turtle vaccine in, 8
Tuberculosis of hernial sac in a child, 704
Tuberculosis complicated by hypothyroidism, 526
Tuberculosis and influenza, 558 589
Tuberculosis of kidney, primary, 45
Tuberculosis, laryngeal, treated with carbon arc light, 590
Tuberculosis and lupus erythematosus, 269
Tuberculosis, menstrual equivalents in, 201
Tuberculosis, Morton's method for rapid diagnosis of, 130
Tuberculosis of ovarian cysts, 651
Tuberculosis, precipitin reaction in, 551
Tuberculosis prevention, 663
Tuberculosis, prodromal signs of, 561
Tuberculosis, pulmonary, artificial pneumothorax, 18
Tuberculosis, pulmonary, blood pressure in, 530
Tuberculosis, pulmonary, following a chest wound, 724
Tuberculosis, pulmonary, diagnosis of by radioscopy, 529
Tuberculosis, pulmonary, digitalis in, 288
Tuberculosis, pulmonary, gastric ulcer in, 344
Tuberculosis, pulmonary, and influenza, 468
Tuberculosis, pulmonary, thoracoplasty in, 116
Tuberculosis, pulmonary, in war, 270
Tuberculosis of spinal column, decompression of spinal cord in, 701
Tuberculosis, surgical renal, 351
Tuberculous empyema, 528
Tuberculous hip with congenital dislocation, 272
Tuberculous keratitis, treatment of the vascular form of, 640
Tuberculous meningitis, *See* Meningitis
Tuberculous peritonitis, chronic, pleuro-peritoneal form of, 217
Tuberculous psychoneurosis, 374
Tuberculous stenosis of trachea, cicatricial, 183
Tuberculous urine. *See* Urine
TUFFIER: A malignant chordoma, 178
Tumour, placental, 306
Tumour of spinal cord and pregnancy, 548
Tumours, camphor oil, 718
Tumours of hand, fibrous, 512
Tumours, round ligament, 677, 678
TURNER, Grey: Sign of acute pancreatitis, 247
Turpentine injections for salpingitis, 645
TURRETTINI, G.: Early gastric cancer and generalized pulmonary cancerous lymphangitis, 473
TWEEDY, Hastings: Starvation in eclampsia, 200
Twin pregnancy. *See* Pregnancy
Typhoid bacilli causing abscesses, 720
Typhoid bacilli in a fixation abscess, 662
Typhoid fever. *See* Fever, enteric
Typhoid meningitis, 521
Typhoid and paratyphoid infection, mixed, 594
Typhus fever. *See* Fever

U.

UDAONDO: Chronic pancreatitis and late hereditary syphilis, 30
UHLENHUTH: Ictero-haemorrhagic spirochaetosis and the rat, 332
Ulcer of colon, simple, 570
Ulcer, gastric, cauterization of, 702
Ulcer, gastric, experimental, 310, 744—Experimental chronic, 686
Ulcer, gastric, in pulmonary tuberculosis, 344
Ulcer, gastric causing stenosis of duodeno-jejunal flexure, 674
Ulcer, juxta-pyloric, polycythaemia in, 625
Ulcer, typhoid, slow evolution of peritonitis following perforation of, 289
Ulcers, typhoid, perforation of, 323
Ulcers, varicose, treatment of, 636
Ulcus molle, serum treatment of, 672
UNGER: The fat-soluble vitamine in rickets, 258
Ureteral papillomata, 15
Ureteral stricture, plastic repair of, 604
Ureteric calculi, 534
Uretero-cervical fistula after forceps delivery, incision, spontaneous cure, 709
Uretero pyelitis, ascending, 222
Ureters, double, 734
Urethral caruncle 388
Urethral injuries in war, 143
Urethral polypus, 171
Urethral stricture, haemorrhage in, 448
Urethritis, chemical, 299
Urinary bilharziosis. *See* Bilharziosis
Urine in acute peritoneal infections, specific reaction of, 516
Urine, comparative investigations on Wassermann reaction in, 458
Urine, detection of glucose in, 553
Urine of guinea-pigs, spirochaetes in, 331
Urine in tropical climates, 745
Urine, tuberculous, intradermal reaction with extract of, 237
Urine, vitamines in, 76

Urobilinuria and gall stones, 513
Urotropine in typhus, 55
Uterine fibroids and *x* rays, 679
Uterine muscle, changes in during involution, 359
Uterus, accidental perforation of, 452
Uterus, hypernephroma of, 579
Uterus, malignant myoma of, 422
Uterus, puncture of for hydramnios, 713
Uterus, rupture of, with peritoneal encystment, 150
Uterus, wound of, in eighth month of pregnancy, 125

V.

VACCAREZZA, R. F.: Hyperacute intestinal amoebiasis, 6
Vaccination by subcutaneous injection, 50
Vaccine as a prophylactic against influenza, and local reaction as a guide to immunity, 345
Vaccine-therapy during the war, 164
Vaccine treatment of influenza, 106
Vaccine treatment of Mediterranean fever, 372
Vaccine treatment of ozaena, 138
Vaccinia, influence of scarlet fever on, 620
Vaginal myomectomy, 515
Vaginal cyst with mixed epithelial lining 684
Vaginal dilatation by Champetier de Ribes's bag during labour, 613
VAGLIO, R.: Statistics of spina bifida, 184—Infantile spastic hemiplegia, 632
Vagus, cervical, and sympathetic nerves, experiments on, 74
VAN HAELST: Partial resection of motor nerves in spastic hemiplegia, 420
VAN LIER, E. H.: Shape of the stomach, 291
VAN RIJSSEL: Giant cell sarcoma of thyroid and pancreas, 233
Varices of the upper limbs 635
Varicose ulcers. *See* Ulcers
VARIOT: Congenital cyanosis with large ductus arteriosus 523
Vasostomy in gonorrhoea, 667
VECCIA, E.: Malarial orchitis, 324
VEEDER, B. S.: Elimination of acetone bodies during infectious fevers, 436—Renal function in scarlet fever, 654
Venous thrombosis, pulmonary infarction and embolism following gynaecological operations, 644
Ventricular puncture for meningitis, 221
VERATTI: Meningococcal septicaemia with petechial eruption, 108
VERMILYE, H. N.: Etiological relation of pyloric obstruction to gastric tetany, 359
Vesico vaginal fistulae, transvesical suture of, 547
Vesiculitis, chronic, and enlarged prostate, 578
VIANNAY: Bullet in pulmonary artery, 675
VIGNAT: Hot-air treatment of naevi, 607
VIGNES: A malignant chordoma, 178
VILLAR, R.: Parotid fistula, 144—Angiomelano sarcoma of leg, 181—Appendicitis simulating strangulated hernia 191
VILLARD, E: Indications for operation in acute appendicitis, 196
VILLEMIN: Parts of the duodenum, 170
Vincent's angina. *See* Angina
Vitamine, the fat-soluble. in rickets, 258
Vitamines and growth, 129
Vitamines in the urine, 76
Vitreous, treatment of affections of the, 326
Vomiting, hysterical, 435
Vomiting of pregnancy, pernicious, corpus luteum in, 646, 647, 648
Vos, H. B. L.: Sign of the palato-glossal arch in influenza, 524
Vulvitis, erosive, 305
Vulvo-vaginitis of children, 514

W.

WADE: Growth forms of the Pfeiffer bacillus, 155
WANDER: Camphor oil tumours, 718
WARWICK: Colloidal gold reaction, 453—Tuberculosis of appendix, 536—Technique of colloidal gold reaction, 649
Wassermann reaction, a comparison of antigens in, 205—Comparative investigations on reaction in the blood and urine, 458
Wassermann test in pregnant women, 614
WATTS, S. H.: Oxycephaly, 538
WEBSTER: Detection of glucose in urine, 553
WEDGEFORTH: Encephalitis lethargica, 1—Lumbar puncture, a warning, 186
WEED: Experimental meningitis, 714
WEIBEL: Radiography of the third stage of labour, 711
WEILL, E.: Pharyngeal spasm simulating loss of appetite in children, 85
WEILL-HALLÉ, B.: Intramuscular injection of diphtheria antitoxin, 370
WEINERT, A.: Wound diphtheria, 261
WEIS: Senile osteomalacia, 115
WESSLER, H.: Abscess of lungs in infants and children, 358
WHARTON: Venous thrombosis, pulmonary infarction and embolism following gynaecological operations, 644
WHEELER: Compression neuritis by first rib, 664
WHITE: A new germicide: "Mercurochrome-220," 131—Mesenteric cyst, 419
WHITE, E. H.: Gradenigo's syndrome, 446
WHITTEMORE: Surgical treatment of acute empyema following influenza, 145
Whooping-cough, alum in treatment of 80
Whooping-cough, cerebro-spinal fluid in, 485
Whooping-cough, reflected sunlight in treatment of, 59
WIESEL, J.: Affection of the peripheral vessels in nephritis and heart disease, 26
WILDENSKOV, H. O.: Torsion of omentum diagnosed as appendicitis, 193
WILLIAMS: "Normal" appendix, 320
WILLIAMSON, C. S.: Pericarditis with effusion, 489
WILLARD: Tansini's operation for Banti's disease, 249—Non-union in compound fractures, 539
WILSON: Detection and treatment of pneumococcus carriers, 156
WINTERNITZ, M. C.: Acute suppurative hypophysitis as a complication of purulent sphenoidal sinusitis, 586
WISHART: Renal glycosuria, 49
WOLBACH: Observations on Mexican typhus, 715
WOLFFENSTEIN: Practical value of the Sachs-Georgi reaction, 204
WOOD: Control of influenza in an institution, 218
WOODS, Hiram: Ocular changes in encephalitis lethargica, 134
Worms, round, infection with clinically simulating pneumonia, 241
WORMSER, E.: Puncture of uterus for hydramnios, 713
Wounds, elastic closure and systematic paraffin gravity drainage for, 277
Wounds of war, streptococci of, 333

X.

X-ray carcinoma, 544
X-ray sign of perinephritic abscess, 384
X-ray treatment of Graves's disease, 78
X rays and radium in laryngeal carcinoma, 226
X rays in stimulation of backward growth, 322
X rays and uterine fibroids, 679

Y.

Yellow fever. *See* Fever
YOUNG: A new germicide, "Mercurochrome-220," 131
YOUNG, E. L.: Silent renal calculi, 89
YOUNG, W. J.: Urine in tropical climates, 745

Z.

ZADEK: Pulmonary tuberculosis in war, 270
ZAGARI: Action of hypodermic injections of sugar, 343
ZIMMERMANN: Death following the application of sinusoidal currents, 132
Zinc oxide in treatment of diarrhoea and mucus colitis, 431
ZINGHER: Ventricular puncture for meningitis, 221
ZLOCISTI: Blackwater fever, 168
ZUELZER: Ictero-haemorrhagic spirochaetosis and the rat, 332

Printed and published by the British Medical Association at their Office No. 429 Strand in the Parish of St. Martin-in-the-Fields, in the County of London.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

1. Encephalitis Lethargica.

WEGEFORTH and AYER (*Journ. Amer. Med. Assoc.*, July 5th, 1919) report nine cases with five deaths, four of which came to autopsy. The cases showed involvement of several of the cranial nerves, notably the oculo-motor group and the facial, together with symptoms indicating involvement of the long projection tracts to the extremities—namely, ataxia, spasticity, Babinski's sign, and clonus. The course was mildly febrile, and was accompanied in the early stages by headache and nausea. Diplopia was complained of in seven of the nine cases, although oculo-motor palsy was seldom actually seen, doubtless owing to its transient nature. Weakness of the facial muscles, usually one-sided, was seen in five cases. Irregularity, inequality, and abnormality of the pupils in their reactions were common. Weakness of the jaw muscles was observed three times. Profound disturbance of respiration was twice noted. *Post mortem* all the brains appeared alike. There was a great degree of engorgement of all the vessels, and the brains were abnormally soft to the touch. In every case the chief seats of the lesions were the brain stem and basal ganglia, the principal lesions being perivascular exudation and diffuse infiltration of the parenchyma. Subsidiary lesions consisted of haemorrhage and meningitis. No bacteria were found in any case, and attempts to reproduce the disease by intracerebral or intraspinal inoculation of monkeys, rabbits, or guinea-pigs with filtrates from the spinal cords were ineffectual.

2. Intravenous Injections of Corrosive Sublimate in Severe Infections.

S. MELLO (*Il Policlinico*, Sez. Prat., October 26th, 1919) records three cases of severe infectious diseases (pneumotyphoid, puerperal fever, and an infection of uncertain nature) successfully treated by intravenous injections of mercury perchloride. In all the cases the injections were followed by a progressive fall of the temperature and improvement of the general condition. The largest dose daily was 8 mg., and though the treatment was continued for several days no toxic symptoms were observed except slight mercurial stomatitis in one case. The favourable action of the drug is to be attributed to its increasing the natural resistance either by neutralizing the toxins or by preventing the development of micro-organisms.

3. A Long Remission in Pernicious Anaemia.

C. G. STOCKTON (*Amer. Journ. Med. Sci.*, October, 1919) reports a case with the longest remission on record. It was first seen in 1899, when it was a typical case in all respects. There was an irregular improvement for six years, at which time, although there was a moderate anaemia, the blood lost all the characteristics of the pernicious type. In 1907 no abnormal cells were found and the blood was in every way satisfactory. The patient was considered to be well from 1907 till the beginning of 1918, when a sharp recurrence took place. There was a failure to respond to atoxyl and sodium cacodylate, which had formerly appeared to be of benefit. Improvement following transfusion was only temporary and death took place from lobar pneumonia, nearly twenty years from the recognition of the first attack of pernicious anaemia.

4. The Production of Epileptic Fits by Suprarenal Preparations.

SILVESTRI (*Gazz. d. Osped.*, October 5th, 1919) refers to a paper by Benedek, who by injecting 1 to 1.50 c.cm. of a 1 per cent. solution of tonogen succeeded in producing fits in 7 out of 19 epileptics, while the injections had no results in hysterical, psychopathic, and normal persons. Silvestri himself in 1913 published the results of a similar study of 23 epileptics, of whom 10 were women. The investigations were made in two successive periods, each consisting of fifteen days, the first being one of observation and the second of experiment, during which each patient was given 30 drops of paraganglin daily, with the following results: During the period of observation the male patients had 41 fits and 48 attacks of vertigo, and during the period of experiment 38 fits and 32 attacks of vertigo, whereas the female patients had 71 fits and 4 attacks of vertigo in the first period, and in the second period 89 fits and 15 attacks of vertigo. Silvestri concluded that while in the male patients there was a slight diminution of the fits and attacks of vertigo, in 7 of the 10 female patients there was an increase in the number of both.

5. Froin's Syndrome in Tuberculous Meningitis.

BAUZA (*Rev. méd. del Uruguay*, October, 1919) records the case of a boy, aged 4 years, who developed symptoms of meningitis. Lumbar puncture gave issue to a yellowish fluid, which coagulated *en masse* in a few minutes; it contained 25 cells per cubic millimetre, lymphocytes 100 per cent., normal and changed red cells, and an increase of fibrin. There were no tubercle bacilli, but a few meningococci. A second puncture yielded only a few drops of fluid, which set in a jelly. Inoculation of a guinea-pig did not produce tuberculosis. The case, however, was regarded as an example of tuberculous meningitis, owing to a positive intradermal reaction with a meningococcal association.

6. Hyperacute Intestinal Amoebiasis.

R. F. VACCAREZZA and R. FINOCHIETTO (*La Prensa Méd.*, Argentina, September 30th, 1919) report a case in a man, aged 30, who suddenly developed symptoms of colitis and proctitis, followed in the course of the next fortnight by evidence of peritonitis chiefly localized in the right iliac fossa. Death took place on the twentieth day from the onset from necrosis of the caecum and terminal portion of the ileum, in which a large perforation was found. Numerous amoebae were detected in the intestinal ulcers and gangrenous tissue.

7. Various Manifestations of Late Hereditary Syphilis.

M. R. CASTEX and J. PALACIO (*La Prensa Méd.*, Argentina, September 20th, 1919) state that hereditary syphilis may appear at a late stage, and even in adult life, in the form of glandular enlargement, which is chiefly situated in the neck. Its localization and character readily lead to confusion with scrofulous adenopathy, thus justifying the term of the "false scrofula of hereditary syphilis." The diagnosis between heredo-syphilitic and tuberculous adenopathy is generally difficult. Only an approximate diagnosis can be made by a study of the personal and family history and by physical examination of the patient. The possibility of a hybrid or mixed adenopathy—that is, an association of tuberculosis and syphilis—should always be borne in mind. The prognosis depends on the stage at which the diagnosis is made and specific treatment instituted. When the diagnosis is made early and intensive treatment established the prognosis is good; otherwise the lesions become more or less refractory to treatment and leave indelible sequelae, such as ulcers or fistulae. Other frequent manifestations of late hereditary syphilis are chronic splenitis, which may give rise to various forms of considerable enlargement of the spleen, including Banti's disease, aleukaemic lymphadenitis, chronic infective splenomegalic jaundice, pernicious anaemia, and paroxysmal haemoglobinuria. In all these cases the prognosis is good if the condition is recognized in time and antisyphilitic treatment adopted.

8. Friedmann's Turtle Vaccine in Tuberculosis.

R. MÜHSAM and E. HAYWARD (*Deut. med. Woch.*, October 23rd, 1919) have re-examined 13 out of 15 cases of surgical tuberculosis treated with Friedmann's vaccine in 1914. Six of the 13 patients were dead in 1919, and in four of these a necropsy was performed, showing the cause of death to be extension of the tuberculous disease in every case. In two cases of tuberculosis of the lymphatic glands relapses had occurred since treatment with the vaccine. Recovery occurred in five cases, but only in three of these could the recovery be directly associated with the vaccine, the other cases having undergone treatment by other methods. Though the three recoveries thought by the authors to be directly traceable to the vaccine were made by patients with severe disease, and though other cases presenting signs of comparatively slight disease were refractory to the treatment, the authors yet believe that the explanation of such apparent successes as have been recorded after the use of this vaccine lies in the selection of early cases.

9. Calomel Inunctions.

COLE and LITTMAN (*Journ. Amer. Med. Assoc.*, November 8th, 1919), from observations on 54 patients treated intensively with calomel inunctions, advise against their use in the treatment of syphilis, as they found them to be almost totally ineffective against primary and secondary conditions, rarely producing salivation or gingivitis, and occasionally being followed by dermatitis. In nearly all the cases studied a 50 per cent. calomel ointment was used, always under the observation of an orderly or nurse, and in all routine Wassermann tests, and *Spirochaeta pallida* and spinal fluid examinations were carried out. In 35 per cent. of the cases the lesions became much worse; in 9 per cent. they grew worse; in 29.5 per cent. there was no change; in 9 per cent. there was slight improvement; in 5 per cent. marked improvement; and in 5 per cent. complete disappearance—showing a great preponderance in which the patients got much worse in spite of rubbings varying in number from twenty to forty. There was practically never any improvement in primary lesions, and in one case, after six inunctions, a generalized exfoliating dermatitis developed, with acute nephritis and general oedema, all of which cleared up rapidly after the discontinuance of the drug. The lack of salivation was in striking contrast to the results obtained by the use of unguentum hydrargyri, and it was entirely absent in 53.5 per cent., pointing to a very low grade of mercury absorption. Though cleanly and pleasant for the patient, calomel inunction cannot compare in efficacy with inunctions of unguentum hydrargyri.

10. An Unusual Case of Disseminated Sclerosis.

HILLEL (*Med. Klinik*, October 26th, 1919) records a case, in a girl aged 18, which was remarkable for the fact that for more than two months a unilateral choked disc was the only physical sign. The negative result of the Wassermann reaction and examination of the cerebro-spinal fluid, as well as the subsequent course of the disease in which the cranial nerves were not affected, were against the diagnosis of syphilis. Subsequently the diagnosis was established by the occurrence of Babinski's sign, horizontal nystagmus, and absence of the abdominal reflex. The occurrence of a unilateral choked disc is explained by morbid changes in the brain, causing a rise of cerebral pressure, but not of the intense and progressive character of that present in cerebral tumour.

SURGERY.

11. Local Anaesthetics.

EGGLESTON and HATCHER (*Journ. Amer. Med. Assoc.*, October 25th, 1919) studied the causes of acute intoxication from the use of local anaesthetics. The maximum toxicity of nine of the local anaesthetics was determined by rapid intravenous injection into cats, and it was found that these can be divided into two groups based on the difference in their rates of elimination. Alypin, apothesin, beta-eucaine, nirvanin, novocain, stovaine, and tropacocaine are all rapidly eliminated, so that several times their minimal fatal dose can be injected, either in fractions at intervals of from fifteen to twenty minutes, or slowly in dilute solutions, while cocaine and novocain, because of their much less rapid elimination, will cause death in much smaller total doses. The simultaneous injection of epinephrin delays absorption from the subcutaneous tissues, and the toxicity of the members of the first group is reduced thereby far more than members of the second group. The elimination of all the local anaesthetics is accomplished almost entirely by their destruction in the liver. They all kill by simultaneously paralysing the heart and the respiratory system, and it was found that artificial respiration, even when combined with massage of the heart, was ineffectual as a resuscitative measure. The employment of artificial respiration, together with the stimulation of the heart by the immediate intravenous injection of epinephrin, enabled the majority of the cats to be resuscitated even after the rapid intravenous injection of doses up to twice the average fatal dose. If, therefore, the circulation and respiration can be maintained for even a few minutes the rapid destruction of the local anaesthetics by the liver will deal with amounts much in excess of those usually fatal, and it seems probable that in man the use of epinephrin with artificial respiration and cardiac massage will be effective in many cases of acute poisoning. In order to diminish the likelihood of intoxication from the subcutaneous injection of local anaesthetics epinephrin should be added to the solutions, because by delaying absorption it increases the probability that the destruction in the liver can keep the amount present in the circulation at a point below that sufficient to cause intoxication.

12. Osteo-chondroma of the Stomach Wall.

L. E. ERKES (*Nederl. Tijdshr. v. Geneesk.*, November 29th, 1919) reports the case of a youth, aged 17, who had been admitted to hospital in an extremely emaciated condition. Since childhood he had suffered from stomach trouble, with longer or shorter intervals between the attacks, and recently the vomiting had been so severe that he had been unable to retain anything. The features were sunken, the pulse very small, and the skin dry. On examination of the abdomen the stomach extended down to the navel and exaggerated peristalsis was visible. Two fingerbreadths below the costal margin a movable tumour the size of an orange could be felt. There was much retention in the stomach, which contained sarcinae and free hydrochloric acid. On laparotomy the tumour was found in the anterior wall of the stomach close to the pylorus. The tumour, which could not be enucleated, was partially removed and gastro-enterostomy was performed. Examination showed that it was an osteo-chondroma. There were no metastases.

13. Flail Joints.

THE treatment of flail joints at the shoulder and elbow is a difficult chapter in orthopaedic surgery. Wide excisions of joints for gunshot wounds have been carried out frequently as life-saving measures, and when the motive of the excision has been the tiding of a patient over an acute infective crisis little can be said against it. There is no doubt, however, that these excisions have been much more popular with some surgeons than with others. The functional result is, as a rule, disastrous, and one of the disadvantages of our own concentric method of working in France is here displayed, for those who made the excisions did not see the after-results, and so were not induced to reserve excision for the worst cases only. For those who performed secondary excisions in England to mobilize joints there are few extenuating circumstances. The difficulties of obtaining good functional results are discussed by PLATT (*Journ. Orthop. Surg.*, November, 1919). He confines his remarks to flail joints of the shoulder and elbow, and emphasizes the importance of a prolonged physio-therapeutic treatment first in correct position to increase the tone of stretched muscles and even cause actual shortening. In some cases no further steps are necessary, the power regained by the muscles being sufficient to stabilize the joint. Operative steps are, as a rule, necessary. Platt urges the two-stage operation, the first step being the removal *en bloc* of the scar, as previously advised by him for bone grafting. He finds that fewer disappointments through the recrudescence of sepsis attend fixation if this is done. It is very difficult to obtain actual bony union, even when the freshened bone ends are fixed together. Fibrous union is the rule, but is very firm and satisfactory. At the shoulder Platt is now lengthening the humerus by a bone graft, fashioned from the tibia in the shape of a mallet, the idea being to reconstruct the humeral head, which is always missing in flail cases. At the elbow he laces the bones together with strips of fascia lata pulled through holes drilled in the bone. These methods, though still on trial, have given satisfactory results.

14. Hysterical Hemiplegia.

DRYSDALE and GARDNER (*Journ. Amer. Med. Assoc.*, October 25th, 1919) report a case of hysterical hemiplegia resulting from a shrapnel wound of the scalp and presenting some confusing diagnostic symptoms. The history given was that of having received a wound on the left side of the head, causing brief unconsciousness, and being followed by paralysis of the entire left side of the body, including the face. During the whole of his treatment at hospitals in France, England, and Canada the condition was regarded as an organic disability following the wound, and therefore a total disability. When examined by the authors the patient showed a contracted left hand, weakness and limp of left leg, an apparently complete Babinski reflex of the left foot, and clonus of the left ankle and patella, all of which symptoms were also recorded when examined in Canada. *X*-ray examination of the skull and Wassermann tests of the blood and spinal fluid were negative, and these facts, together with the fact that the wound of the scalp was only a slight flesh wound followed by paralysis of the same side of the body and face, aroused a doubt as to the case being one of organic paralysis. After a month's observation and treatment by baths, galvanism, and exercises,

it having been explained to him that his trouble was functional and therefore curable, he showed such marked improvement by suggestive measures only as to confirm the diagnosis that the disability was entirely hysterical, after excluding the possibility of an admixture of hysteria and an organic lesion. The clonus of the ankle and patella frequently occurs in functional disorders, and is therefore worthless as a pathognomonic sign, and the Babinski response was regarded as a psychogenic movement of resistance rather than pathognomonic of an organic lesion. The case clearly shows with what degree of perfection hysteria may simulate organic disease, and also emphasizes the difficulties experienced in avoiding errors in diagnosis.

15. Ureteral Papillomata.

PAPILLOMATA of the ureter, whilst rare, are not altogether exceptional. MARION (*Journ. d'Urolog.*, September, 1919) gives an interesting account of two cases which he successfully treated by coagulation with a ureteral electrode. The brief and admirably written paper discusses the difficulty of diagnosing the condition. Marion lays stress on the following points as being of value. One ought to think, he says, of a ureteral papilloma in the case of a patient with haematuria, where one has found a vesical papilloma with the cystoscope and destroyed it, and where, in spite of this, the haematuria continues, blood being clearly seen to issue from the ureteral orifice. Further information is gained by ureteral catheterization. The catheter is pushed slowly in, and the flow of blood carefully watched. If there is at first blood, and then suddenly, as the catheter is pushed on, a stream of clear urine, the diagnosis of a papilloma in the ureter is almost certain. The observation is particularly valuable if a great quantity of urine escapes after the catheter has been coaxed past the tumour, evidence of a haemo-hydronephrosis above it. Two cases here recorded were treated by electro-coagulation, the relief in the second being temporary, due to the presence of a papilloma in the pelvis of the kidney. Nephrectomy was finally performed, and several small papillomata found in the renal pelvis. Both patients had previously had papillomata of the bladder.

16. Reconstruction and After-care of Old Unreduced Pott's Fractures.

SNEED (*Journ. Amer. Med. Assoc.*, November 1st, 1919) points out that in the reconstruction of old unreduced Pott's fractures the procedure varies in each case in accordance with what is necessary to establish the normal anatomy of the foot. In the case of a labourer, aged 35, there existed, ten months after the injury, an ununited fracture of the internal malleolus, rupture of the tibio-fibular ligament, fracture of the fibula 3½ in. above the joint, displacement of the metatarsal bones, and posterior displacement of the foot. At operation the foot was forced round into varus, overcorrecting the pes planus, and re-establishing the normal relations of the tarsal bones as much as possible. Through an incision over the internal malleolus the fibrous tissue was removed, the fragments freshened, and a tibial inlay of bone was slid down and sutured into a groove in the malleolus. The fibula was divided about an inch above the ankle-joint, and the fibrous tissue and periosteum removed from the tibia and fibula from the ankle-joint to the fracture. The Achilles tendon was divided by the Z method and the foot forced into dorsal flexion to reduce the posterior displacement, and then pulled round into slight varus, approximating the fracture of the internal malleolus to the tibia, and forcing the raw surfaces of the tibia and fibula together. In this corrected position it was put up in plaster-of-Paris for six weeks, with excellent final result. After-care of these cases consists in continual support by plaster-of-Paris for eight weeks, followed by strapping for two or three weeks, and finally an arch support, with the shoe raised ¼ in. on the inner border of the heel and toe. It is essential that the normal mortise of the ankle-joint should be restored, otherwise there will be too much play, and the foot weakened.

17. Foreign Body Arthritis of Twenty Years' Standing.

COMMENTING on the tendency of practitioners to overlook the possibility of foreign bodies being responsible for obscure cases of arthritis, M. HIRSCH (*Wien. med. Woch.*, November 27th, 1919) records the following case. A married woman had suffered for over twenty years from pain in, and swelling of, the left knee. The beginning of the symptoms dated so far back and was so insidious that she could give no clear account of it. At first the attacks of pain, swelling, and functional disturbances were marked by free intervals secured by resting the limb. Gradually the relapses became more frequent and prolonged, and their recurrence could not be traced to any special cause. After some time the swelling ceased to subside, and movements about the joint became very limited and painful. She could not stand on her left leg, much less walk. The outline of the knee was spindle-shaped, and there was considerable atrophy of the extensors of the thigh. Her medical attendants diagnosed tuberculosis or osteomyelitis, and she was urged to submit to resection of the joint or amputation above the knee. The boggy condition of the joint certainly suggested tuberculosis, but the history of intermittent hydrops early in the disease and the lack of fistulae and other signs of suppuration did not tally with this diagnosis. A foreign body being suspected, an *x*-ray examination was made, and part of a needle was detected in the joint. Accordingly the joint was opened, and the needle removed from its bed between the cartilage and the articular surface of the tibia. The needle was much eroded and broke on removal. The synovial membrane was very red, swollen, and spongy. The wound healed by first intention, and four months after the operation the knee was perfectly normal again; there was no pain, swelling, or limitation of movement, and the patient could walk and stand without discomfort.

18. Artificial Pneumothorax in Pulmonary Tuberculosis.

K. HENIUS (*Deut. med. Woch.*, October 23rd, 1919), whose experience of artificial pneumothorax in pulmonary tuberculosis is limited to twenty-four cases, finds the effect of this treatment extraordinarily beneficial, some of his patients with pulmonary cavities being restored to complete health and working capacity. He has found the following technical details of importance: The maximum intrapleural pressure should never exceed 15 cm. of water, and in no case should the pressure exceed 2 to 3 cm. in the early stages of the lung's collapse. The first injections should be limited to only 200 to 300 c.cm. of gas, given at intervals of only two to three days. Later these intervals may be extended to four to eight weeks. The treatment should be continued for one to two years.

19. Acute Suppurative Thyroiditis.

H. HÖPFNER (*Berl. klin. Woch.*, October 6th, 1919) contributes the following case to the literature of acute suppurative thyroiditis. A woman aged 25, who had previously been well, and who had not lived in a district where goitre was endemic, suddenly became febrile in the night, and complained of pain in the throat and dysphagia. Every movement of her neck excited pain, which radiated down to the left shoulder. Next morning her neck was swollen. Four days later she was admitted to hospital, where her temperature was found to be 37.8° C. There was a large, well-defined swelling in the position of the thyroid gland, and at one point, on the left side, the swelling was very tense and painful. Fluctuation was not demonstrable, but the skin over the swelling was red and hot. Swallowing was painful, and the speech was husky. Laryngoscopy revealed slight oedema in the region of the arytenoid cartilage. There were frequent paroxysms of cough. A blood count showed 22,000 leucocytes, of which 91 per cent. consisted of neutrophil, polymorphonuclear cells. After fifteen days in hospital, during which there was temporary improvement in the local condition, the swelling became fluctuating and was incised, a small quantity of blood-stained pus being removed. Gradual recovery ensued, but when the patient was discharged, a fortnight after the operation, the thyroid gland was still enlarged and abnormally hard. A curious feature of this case was the absent-mindedness and somnolence of the patient for a few days before the fulminating outbreak of local symptoms—a mental condition reminiscent of myxoedema.

20. Early Death in Burns.

ACCORDING to P. NEUDA (*Wien. med. Woch.*, November 1st, 1919), early death in burns is due to cardio-vascular paralysis, which is caused by the action of certain substances—in all probability cholin and its much more poisonous ester—which are produced by the destruction of the tissues. As the result of experiments on the frog's heart, Neuda found that the poisonous substance acts like muscarin and can be inhibited by atropine. He therefore treated five cases of very severe burns with atropine, with the result that in two cases recovery took place and in the rest life was prolonged for from 60 to 113 hours.

OBSTETRICS AND GYNAECOLOGY.

21. Retention of the Placenta by Bandl's Ring.

ALBECK (*Ugeskrift for Laeger*, December 4th, 1919) records the case of an 8-para, aged 33, who gave birth to a male infant about a fortnight before term. The confinement was uneventful, but as the midwife could not remove the placenta, she obtained the assistance of a medical practitioner who attempted to express it. Having failed to do so, he followed the umbilical cord up through a ring that gripped his fingers so tightly as to numb them. As he could not extract the placenta, and as there was a certain amount of bleeding, he sent the patient to hospital forty-eight hours after the confinement. Here she was found to be anaemic, and blood was trickling from the vagina. There was slight albuminuria, the temperature was 37.8° C., and the pulse 132. Intrauterine irrigation was performed, and the cavity of the uterus explored. The lower portion was relaxed, and its walls were very thin. The exploring finger could pass through a narrow ring into the upper portion of the uterus, which was comparatively small, and which contained the placenta. Complete general anaesthesia having been induced, a couple of fingers, and then the hand, were passed through the ring while the fundus of the uterus was supported by the other hand. After the exploring hand had been introduced with comparative ease into the upper portion of the uterus, the ring gripped the wrist so forcibly as to render the hand numb. The placenta, which was partially adherent to the upper posterior wall of the uterus, was successfully detached and removed in its entirety. Intrauterine irrigation was repeated, and when the cavity of the uterus was again explored nothing could be found of the ring. The author finds this cause of retention of the placenta to be exceedingly rare, and he notes that only in one of the twenty-three cases of Bandl's ring recorded by Gammeltoft did the condition lead to retention of the placenta.

PATHOLOGY.

22. Primary Melanomas of the Male Breast.

FORGUE and CHAUVIN (*Rev. de Chir.*, Paris, 1919, xxxviii), after referring to the subject of primary malignant disease of the male mamma, of which Schuchard in 1884 collected 348 cases, deal with primary melanotic tumours of the breast in the male. Out of their 18 collected cases the age, given in twelve instances, varied between 10 and 69 years, with an average of 40 years, as contrasted with 52.5 years in Schuchard's cases of primary malignant disease of the male mamma. A primary melanoma may arise in the skin covering the mamma and form an ulcer, or it may originate deep in the substance of the mamma. The view is accepted that melanoma is a special form of tumour between carcinoma and sarcoma, and so may arise either from epithelium or from connective tissue, and show the structure of either carcinoma or sarcoma. Among 13 cases in which the histological details are available 8 were sarcomas, usually spindle-celled, and 5 carcinomas. The pigmented tumours of the mamma do not show the high degree of malignancy characteristic of melanomas in general.

23. Cholesterin in a Pleural Effusion.

A. BIGNAMI (*Il Policlinico*, Sez. Prat., October 26th, 1919) reported the case of a woman with a left pleural effusion which presented the same characters on removal in 1914, 1915, 1916, and 1919. Its specific gravity was 1030, and contained cholesterin 13.91 grams per litre and a few cells loaded with fat droplets. The colour was yellow. The nature of the disease was uncertain, but its course excluded the idea of a tumour of the pleura; no cholesterin was found in the blood. It will be recalled that H. Sharpe described two cases in the BRITISH MEDICAL JOURNAL of October 11th, 1919.

24. The Leucocytes in Influenza.

DOUGLAS (*Johns Hopkins Hosp. Bull.*, November, 1919) agrees with other observers in finding leucopenia to be the rule in epidemic influenza, although a few cases may give a normal count or even a slight leucocytosis. The leucopenia is frequently present on the first day of the disease, becoming more marked for a few days, and then tending to rise gradually to normal, even sometimes giving place to a leucocytosis during convalescence. Leucopenia usually persists when bronchopneumonia supervenes, and there is no constant relationship between the leucocyte count and the severity of the disease; differential counts show a relative decrease of the polymorphonuclears. Acute non-influenzal respiratory infections are generally accompanied by a leucocytosis.

25. Pfeiffer's Bacillus in the Accessory Nasal Sinuses.

IN order to determine if *Bacillus influenzae* occurred more frequently in a series of infected maxillary antra examined immediately after an epidemic of influenza than in a series of infected accessory nasal sinuses examined during a non-epidemic period, CROWE and THACKER-NEVILLE (*Johns Hopkins Hosp. Bull.*, Baltimore, 1919, xxx) investigated 30 cases of infected maxillary antra during February, March, and April, 1919, and found *B. influenzae* in 8, or 26 per cent., as compared with 15, or 21 per cent., among 70 cases of various infected accessory nasal sinuses observed between 1912 and 1918. In both series the predominating organism was a streptococcus, which was present in 46 and 47 per cent. respectively. In 4 cases in the 1919 series *B. influenzae* was in pure culture. Clinically it is pyogenetic. The writers infer that the Pfeiffer bacillus, like the streptococcus and pneumococcus, is a secondary invader, and not the primary cause of the disease known as influenza.

26. Affection of the Peripheral Vessels in Nephritis and Heart Disease.

J. WIESEL (*Wien. med. Woch.*, November 1st, 1919) in the course of the last two years has made a systematic examination of the peripheral vascular system in cases of nephritis and heart disease. Previous investigations had been confined to the largest vessels, such as the aorta, innominate, and carotid, and little attention had been paid to the smaller vessels. In 20 cases Wiesel examined arteries of all regions of the body up to the size of those of the palmar arch. The lesions were confined to the media, and were quite distinct from those of arterio-sclerosis, with which they were occasionally associated. No fatty changes were found. Calcification might occur in the last stage, but the calcareous deposit was always in the media. The affection commenced with an oedema of the vessel wall, a serous infiltration of the media taking place. As the result of compression by the oedema the muscle fibres became atrophied, and the nuclei more or less completely disappeared. Repair was seen taking place, especially in the cardiac and renal vessels, with regeneration of muscle fibres, which, however, no longer took a circular but a longitudinal direction. Finally cicatricial tissue was formed, and occasionally calcification took place. The lesions were not confined to old persons but occurred at all ages, being found in children as young as 18 months. The lesions described were quite as frequent as arterio-sclerosis. Etiologically toxi-infective processes were responsible, especially in the vasa vasorum.

27. Carcino-lytic Organic Acids.

FREUND and KAMINER (*Wien. klin. Woch.*, November 13th, 1919) have formed a theory from previous work that normal serums and tissues contain certain fatty acid compounds which have lytic properties for cancer cells. These normal acids are lacking from the tissues and serums of subjects with cancer, and their place is taken by unsaturated fatty acid compounds which are antagonistic to normal cells. The normal acids can be extracted only in minute amounts from large quantities of normal serum—for example, of the horse—but analysis has shown them to be saturated di-carbon acids of the aliphatic series. The authors have examined all the known acids of this series, and have found three of them to possess a lytic property for cancer cells *in vitro*, while other acids of the series, and of all other series examined, lack this property. The three effective acids all contain a C_2H_4 group or a multiple of it, and the most active of the three is that with the greatest number, five, of these groups. The writers consider their results hopeful, but submit that no therapeutic result is to be looked for unless an acid can be synthesized with a larger number of C_2H_4 groups and a molecular weight of about 500.

28. Leiomyoma of the Left and Endothelioma of the Right Pleura.

KORNITZER (*Berl. klin. Woch.*, November 3rd, 1919) observed, at a *post-mortem* examination on a man of 40, a malignant endothelioma involving the whole surface of the right pleural sac. It gave rise to a copious haemorrhagic exudate, and lymphatic metastases were present in thoracic and retroperitoneal glands. In the left pleural cavity a firm rounded tumour the size of an apple was discovered at the back of the lower lobe of the lung near the base. It was adherent to both layers of pleura and had evidently originated from one of them. On section it proved to be a leiomyoma. Kornitzer has found no previous record of myoma in this situation, and only one appears to have been recorded in the lung.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

29. Cerebro-spinal Fluid in Acute Diseases.

HERRICK and DANNENBERG (*Journ. Amer. Med. Assoc.*, November 1st, 1919), from a review of the literature and personal study of 76 cases of acute infections not resulting in meningitis, show that the cerebro-spinal fluid often gives evidence, by increased pressure, pleocytosis, and heightened globulin content, of a reaction on the part of the leptomeninges to the infective agents or toxins of many acute diseases, in which ordinarily true meningitis does not occur. Such diseases are lobar and broncho-pneumonia, influenza, tonsillitis, scarlet fever, measles, variola, herpes zoster, parotitis, typhoid, sepsis, arthritis, pleurisy, migraine, and reaction to typhoid inoculation, etc., of which in about one-third of the cases studied the cerebro-spinal fluid varies from the normal. Most of the patients with subarachnoid reaction have clinical meningismus (meningitis serosa Dupré) though many cases of meningismus show no signs of pronounced changes in the cerebro-spinal fluid. Great caution must be exercised in diagnosing meningitis or poliomyelitis from fever, meningismus, and the changes in the cerebro-spinal fluid, and cases with less than 100 cells should be viewed with scepticism unless clinical, epidemiologic, or other laboratory evidence is decisive. While much has been stated of the dangers of lumbar puncture this is not borne out by an experience of 5,000 punctures, and in the absence of convincing clinical proof there need be no hesitation in removing 5 to 8 c.cm. drop by drop. The removal of larger amounts is unwise, except therapeutically, in meningitis. The increased pressure in the subarachnoid system may be a protective reaction in the early stage of infections, and care must be taken not so to reduce the pressure as to promote undesirable filtration from the blood stream. Clinical evidence tends to show that the meningeal-choroidal complex consolidates its defences after sepsis has existed for some time, and that the release of spinal fluid is less dangerous at a later than at an earlier period of sepsis.

30. Chronic Pancreatitis and late Hereditary Syphilis.

UDAONDO and CARULLA (*La Prensa Méd.*, Argentina, September 30th, 1919) report a case, in a man aged 26 who for a year had presented symptoms of pancreatic insufficiency, diarrhoea, and pasty stools, which was refractory to ordinary treatment. He had never had any venereal disease, but examination of the patient and one of his brothers showed certain stigmata of hereditary syphilis (unequal pupils, highly arched palate, irregular teeth, sclerotic otitis, and accentuation of second aortic sound). Mercurial treatment was adopted, and the diarrhoea was rapidly cured and the general condition improved. Inherited syphilis chiefly attacks the pancreas after the fifth month of intrauterine life and shortly after birth. Sclero-gummatous forms are the least frequent, and extralobar and intralobar pancreatitis with hypoplasia of the glandular tissue has been found in almost all cases. No previous instance has been recorded of a patient who did not develop symptoms till adult life. The symptoms indicated functional insufficiency of the gland without obvious involvement of the internal secretion, as there was no glycosuria and no evidence of other glands of internal secretion being affected.

31. Skin Reaction in Quinine Idiosyncrasy.

O'MALLEY and RICHEY (*Arch. Int. Med.*, October, 1919) record two cases of idiosyncrasy to quinine in which Boerner's skin reaction was tried, and in which attempts at desensitization were made. The first case was a sailor, aged 22, who during convalescence from influenza was given a mixture containing quinine. Within a few minutes the eyes began to smart and itch, and photophobia and lacrymation followed. Soon afterwards the face, neck, chest, and hands became a "lobster red" colour with a rapidly generalizing erythema. There was intense pruritus, some headache, but neither vertigo nor tinnitus aurium. The erythema and pruritus disappeared in two hours and a half. Though the patient had had quinine during childhood without any untoward symptoms, he did have quinine reactions on one or two occasions within the last six years, but this sensitiveness had apparently passed off. The second case, also a sailor, aged 23, had had three attacks of benign tertian malaria, the first two of which responded readily to 1 gram of quinine sulphate three times a day without any untoward effects. The third attack occurred some six months after the second. The first dose of quinine produced no ill effects, but the second dose a few hours later caused a blotchy diffuse rash, generalized pruritus, headache, tinnitus, photophobia, lacrymation, dyspnoea, nausea, and diarrhoea, the attack lasting several hours. Subcutaneous injections of quinine produced similar though milder attacks. Both men failed to react clinically with the other alkaloids of cinchona. Boerner's reaction was tried in both cases. This consists in scratching the skin with a needle on the flexor surface of the forearm after cleansing with alcohol. To one scratch quinine bisulphate (1 in 10) is applied; the other scratch, at a distance of three inches, is left untouched and serves as a control. The reaction begins with an itching, smarting, or burning sensation from four to five minutes after application, and is quickly followed by an irregular area of oedema on either side of the needle scratch. This oedema reaches its height in from fifteen minutes to an hour, and is surrounded by a bright red halo of erythema. The reaction seems to be specific to those who are hypersensitive to quinine. Both of the cases gave the reaction. Heran and St. Girons' method of desensitization successfully abolished the quinine idiosyncrasy in one case, and increased the tolerance in the other. The method consists in giving by mouth a desensitizing dose of 0.005 gram with 0.5 gram of sodium bicarbonate; in an hour and a half 0.1 gram of quinine bisulphate with the same dose as before of sodium bicarbonate is administered in cachets; the desensitizing dose remains constant each day, but the second dose is increased by 0.1 gram of quinine every day until 2 grams or more are tolerated.

32. Acute Aseptic Purulent Arthritis.

APERT and CAMBASSÉDÈS (*Presse méd.*, Paris, 1919, 713) record two cases of acute aseptic purulent arthritis: a recent one in a child aged 5 years and one in a girl aged 12 years after scarlet fever, observed in 1895. They also refer to a case of aseptic purulent meningitis and arthritis of the elbow-joint recorded by Deléarde and Breton. Otherwise no similar cases have been collected by them, though aseptic empyemas reported by Widal and others are referred to. Widal suggested that the presence of polymorphonuclear leucocytes in serous cavities might be due to excessive hyperaemia of the underlying tissues set up by an inflammatory focus, although the infecting organism does not reach the surface. As regards the application of this hypothesis to their first case Apert and Cambassédès point out that there was no clinical evidence of osteomyelitis. The special features of acute aseptic purulent arthritis are: the small amount of pain, the contrast between the arthritic swelling and the absence of fever, and the rapid coagulation of the evacuated pus as a whole. This is explained in the following way: Micro-organisms destroy the fibrin and alter some of the leucocytes, whereas in the absence of bacteria the fibrin persists and the leucocytes are intact.

33. Diabetes in War.

MAGNUS-LEVY (*Med. Klinik*, November 9th, 1919) states that in the years immediately preceding the war the deaths from diabetes in Berlin remained constant, whereas during the last four years they had continuously fallen, being 202, as compared with 444 in the last four years preceding the war. The male sex showed a greater decline in the mortality than the female; 75 per cent. of the deaths occurred above 50 years of age. It was a remarkable fact that the percentage mortality among children had sunk as low as in adults. Mistakes in diagnosis could not account for the diminished mortality either in children or adults. It was rather more probable that the diabetes mortality was still lower, because patients who died of intercurrent diseases counted as diabetics, owing to their food cards, to the end of their life. The number of deaths from diabetic coma had considerably diminished. Cases of severe diabetes suffered most from the food restrictions, but Magnus-Levy's impression was that they did not die sooner than in peace time. Coma and acidosis were less frequent, while the development of tuberculosis was decidedly more common. The experience of a diminution in diabetes as the result of a blockade had already been made during the siege of Paris

34. Treatment of General Paralysis by Tuberculin.

BOULOS (*Journ. de méd. et de chir. prat.*, November 25th, 1919), in his Bordeaux thesis, reports twelve cases of general paralysis in which improvement followed from injections of tuberculin. He does not claim to have effected a cure, but he thinks that remissions of long duration were obtained by this method. The idea of using tuberculin in general paralysis was not due to a belief that the disease was of tuberculous origin, but was suggested by the fact that improvement in general paralysis has often been observed after an intercurrent febrile disease. Donath had previously produced an artificial fever by injection of sodium nucleinate, and Wagner and Pilcz by injection of tuberculin. Boulos recommends that one should start with extremely small doses, which should be increased very gradually, and only if the temperature does not exceed 102.2° F. As a rule five injections were given—one every week—followed after an interval by another series. Tuberculosis in the patient is a contra-indication, and the treatment should be at once suspended when signs of intolerance appear, such as hyperpyrexia, rapid loss of weight, and incontinence of urine and faeces. In favourable cases there is a slight or moderate reaction, and one to six weeks after the last injection improvement is shown by an increase in weight, improvement in the mental faculties, and return of memory, so that some patients can resume active work. But there is no change in the reflexes or cerebro-spinal fluid, in which the lymphocytosis and excess of albumin persist.

35. Salivary and Endocrine Glands.

P. DALCHÉ (*Journ. de méd. et de chir. prat.*, November 25th, 1919) records the case of a lady, aged 50, who had consulted him for enlargement of the thyroid gland. The menopause had taken place about five months previously. In addition to the goitre, she presented considerable swelling of both parotid and submaxillary glands, accompanied by profuse salivation. She stated that in the course of her two pregnancies, twenty-five and twenty-three years previously, she had had a similar enlargement of these glands and salivation, but without any affection of the thyroid. The symptoms had disappeared after delivery. Under treatment with haemato-thyroidin, not only did the thyroid diminish in size, but the parotid and submaxillary enlargement and salivation completely disappeared in about three months' time. Dalché concludes that the salivary, ovarian, and thyroid manifestations constituted a polyglandular syndrome, and suggests that a similar treatment might be adopted in Mickulicz's disease, which is probably also a polyglandular syndrome.

36. Is Normal Horse Serum as Effective as Anti-Diphtherial Horse Serum?

IN two separate papers M. KLOTZ and K. DORN (*Berl. klin. Woch.*, October 20th, 1919) discuss Bingel's view that as good results can be achieved by normal as by anti-diphtheritic horse serum. Both authors refer to animal experiments which have shown specific serum to be far more effective than normal serum, and both suggest that this finding may not apply to the human organism. Klotz discusses the many failures following the use of specific serum, whether it be given for prophylaxis or treatment, and is inclined to admit, with certain reservations, that normal serum may be as effective. Dorn is also a half-hearted convert to Bingel's teachings, but neither author recommends the abandonment of specific for non-specific serum-therapy in diphtheria in general practice till hospital practice has decided the point.

37. Endemic Osteomalacic Disease.

FROMME (*Berl. klin. Woch.*, October 13th, 1919), whose original investigations into endemic osteomalacic disease in parts of Germany were published early in 1919, has collected much new material by circularizing several of his colleagues. At a meeting of the Medical Society of Göttingen he stated that the number of cases of late rickets or osteomalacia observed at his polyclinic had risen to 66. Thirty-two of his colleagues had sent him reports of 266 cases observed in adolescence or later in life. Of these 266 cases all but 12 were males. Of the 254 males 239 were adolescents, and only 15 were well advanced in years. Of the 12 females 4 were pregnant or suckling. Practically all these cases belonged to towns or to districts where the food shortage was specially acute. The disease resembled rickets in the case of adolescents, whereas among adults it assumed the character of osteomalacia. A doctor attached to a mine had examined all the insured workmen, and had found 8 out of 200 elderly men to be affected. Among 72 young employees there were as many as 27 found suffering from this disease. A school medical officer reported several cases of rachitic deformity and spontaneous fracture among scholars between the ages 6 and 12. The greater the bodily exertion by adolescents the more serious was the bone disease.

38. The Pathogenesis of Disturbances of Micturition in Tabes.

A. FREUDENBERG (*Med. Klinik*, November 9th, 1919) remarks that it is generally supposed that the disturbances of micturition in tabes are due to a paralysis of the detrusor of spinal origin or to degenerative changes in its musculature. He regards both these views as incorrect, and maintains that the condition is to be explained by a lack of co-ordination between the detrusor and the sphincter vesicae internus when an effort is made to empty the bladder. The detrusor contracts and the sphincter, instead of being relaxed, also contracts to a greater or less degree. The grounds for this view are as follows: (1) The theory of a permanent paralysis of the detrusor or changes in its muscle is negatived by the fact that the disturbances in micturition in tabes are an early symptom, and often the first serious symptom, in the disease. (2) Cystoscopic examination of the bladder in tabes always shows the presence of trabeculae, which could not occur if there was a paralysis or primary change in the muscle of the detrusor. (3) The remarkable variability in the bladder symptoms, apart from the development or aggravation of complications such as cystitis. Thus the amount of residual urine may vary from 400 or 500 c.cm. one day to only 30 or 50 c.cm. the next. (4) Urethroscopy frequently shows a contraction of the sphincter vesicae internus when the patient strains or when pressure is made on the bladder region. (5) Division of the sphincter internus, which Freudenberg carried out in some cases, completely cured the condition—the external sphincter, which was not divided, taking on the work of the sphincter internus.

SURGERY.

39. Internal Piles.

THERE are few conditions more common than internal piles, and few for which surgery holds out such fair prospects of cure. But it is essential that the operator should have knowledge of the arrangement of the vessels supplying the lower part of the rectum and anal canal, which follow a definite and constant order. MILES (*Surg., Gyn., and Obstet.*, 1919, 29) in a well-planned paper recapitulates his views on the vascular supply of the anal canal and its influence on the development of piles. He points out that the right and left branches of the superior haemorrhoidal artery ultimately divide into seven vessels which reach the anal ring at constant points. The maximum number of piles which can be present is therefore seven, and they will be found in definite positions (very rarely an eighth may be present). Of the seven possible piles Miles distinguishes three as primary, namely, the right anterior, the right posterior, and the left lateral. These correspond to the main trunks of the divisions of the superior haemorrhoidal artery. Besides these are four secondary piles, corresponding to the subsidiary branches of these trunks. These occupy the right lateral, posterior, left posterior and left anterior (with the rare anterior, an offshoot of the last) points on the anal ring, which Miles divides for recording purposes into four quadrants. The author points out that it is only by using such careful notation that one is able to apply ligatures or clamps intelligently and to be sure that a return of symptoms is due to development of a pile not previously present rather than to faulty treatment of an old one. Under the age of 40 one cannot be sure of permanent cure, as in the earlier decades of life it is uncommon for all seven piles to be developed. One must therefore warn the patient that symptoms may recur later, but that if they do they will be due to new piles, probably developing in the "secondary" positions. Miles distinguishes three stages of pile formation—primary, intermediate, and final—and points out that bleeding is a more constant feature of the first stage than of the last. As the piles present in any given patient are usually in differing stages of development it is important to establish the existence of and to treat those in the early stage, or a return of bleeding after removal of those more mature may lead to disappointment. Miles is a firm believer in the ligature operation, the haemorrhoids being powerfully strangulated with strong silk (No. 16 plaited). He believes that even in the severest cases three ligatures only need be applied, these being so placed that the primary and

secondary piles are included. The sites of application are right anterior, right posterior, and left lateral. Miles makes a point of dividing the "pecten band" with a knife, as after this is done no forcible dilatation of the sphincters is necessary. Full details are given of the pre-operative and post-operative management of these cases.

40. Treatment of Cancer of the Rectum.

P. BULL (*Norsk. Mag. for Laegevidenskaben*, December, 1919), who has observed 71 cases of cancer of rectum in the period 1897–1918, reviews the results achieved in the 44 cases that were operated on. The operation mortality was 11.4 per cent.—that is, five deaths. Of the 39 who survived the operation 17 were still alive, the average duration of life after the operation being eight and a half years. Twelve patients survived the operation more than three years. A permanent cure could thus be claimed in 12 (30.8 per cent.) out of the 39 cases surviving the operation. There were also three cases which survived the operation by more than three years, but which ultimately terminated fatally owing to a recurrence of the disease. The author notes with surprise that the ultimate results appeared to be little affected by the extent and localization of the disease—a finding which he interprets as an indication for attempting an operation even when the disease seems to be extensive. He qualifies this opinion with the reservation that when the inguinal glands are involved there is little prospect of a permanent cure by operation. With regard to choice of operation he is very catholic, insisting on the importance of suiting the operation to the needs of each case. He urges the adoption of an exploratory laparotomy in doubtful cases, as this often saves the patient from a futile radical operation.

41. Lane Plates.

SWETT (*Journ. Orthopaedic Surg.*, November, 1919) records his personal experience in the use of Lane plates in 28 fractures (femur 18, tibia and fibula 7, radius and ulna 3). Primary healing was obtained in all but two instances of compound fracture in which plates were used at the primary cleansing operation. In four cases sinuses developed at the end of from six to ten weeks merely as the result of foreign body irritation, and with one exception these healed directly the plates were removed after accomplishing the object of their use. The one case in which the sinus persisted after removal of the plates afforded a positive example of low grade osteomyelitis caused by the plate, and most probably set up by faulty technique in handling the plates and screws. There were no cases of delayed, vicious, or non-union, and patients were advised to have the plates removed as soon as strong union of the fragments was accomplished; in four cases in which removal took place no kind of abnormal soft tissue or bony reaction was present. In one case operated upon for non-union of the femur one and a half years after the injury a large six-screw plate was used with excellent result, explained by the fact that it was necessary to remove a considerable amount of bone on account of excessive overlapping; this resulted in the apposition of healthy non-sclerotic fragments. The two cases of infected compound fractures and the four of sinus discharge occurred in the radius and ulna or the tibia and fibula, there being never any trouble in any of the femur cases. Plating seems to be a much safer procedure in such cases than in other localities, probably because the greater depth and extent of muscle layers surrounding the femur provide a much stronger resistance than do the tight tissues in the leg and forearm. The application of Lane plates is particularly desirable in severely comminuted fractures, where they seem mechanically more efficient and where their introduction is less likely to increase the trauma than would be the case with other methods.

42. Cerebellar Abscess of Otitic Origin with Complete Homolateral Hemiparesis.

R. DAMADE and J. BOISSERIE-LACROIX (*Gaz. hebd. d. sci. méd. de Bordeaux*, December 7th, 1919) quote Professor Sabrazès's statement that cerebellar abscesses may be impossible to recognize clinically owing to the absence of any characteristic symptom. Giraud has shown that there may be complete destruction of a large part of the cerebellum without any so-called cerebellar symptoms. In the fatal case reported by the present writers, which occurred in a man aged 56 who had suffered from right otitis for more than thirty years, there was complete hemiparesis on the same side as the ear affection, and this was the only sign which suggested a cerebellar abscess. *Post mortem* the abscess was found in the most anterior part of the right cerebellar hemisphere. According to Acland and Ballance complete hemiparesis on the same side as the ear affection is pathognomonic of cerebellar abscess. It appears to be due to compression of the pyramidal tract below the decussation of the pyramids, hemiparesis on the opposite side to the cerebellar lesion being caused by compression of the pyramidal tract above the decussation. The occurrence of hemiparesis in cerebellar abscess is not frequent. Only 30 cases were collected by Acland and Ballance in 1894, in 25 of which the hemiparesis was on the opposite side to the otitis, and in 5 on the same side. In the recent literature the present writers have found only two cases of cerebellar abscess or tumour accompanied by hemiparesis on the side of the lesion, reported by Macewen and by Chauvet and Vetter respectively.

43. Treatment of Flail Joints.

PLATT (*Journ. Orthopaedic Surg.*, November, 1919) discusses the treatment of flail joints of the shoulder and elbow resulting from actual loss of bone. In the shoulder-joint each case requires consideration as regards the functional capacity of the scapular and deltoid muscles, and the success of operation depends ultimately on the development of muscular sufficiency and co-ordination. Stability should be possible of attainment without producing an ankylosis, but in all cases fixation of the joint should be aimed at, and an incomplete fixation allowing a small range of motion often gives a perfectly satisfactory functional result. Prior to operation the arm should be maintained on an abduction splint, and intensive training of the scapular muscles and deltoid carried out. Operation should be in two stages, adherent skin scars and all deep scar tissue of the glenoid fossa and upper end of the humerus being removed in the first stage for bacteriological examination, while actual reconstruction of the deltoid insertion can be effected, and the result of direct faradism noted for future guidance. In the second stage, operation for fixation may be either an arthrodesis, or a reconstruction of the head of the humerus, the latter of which procedures gave the better results. A large autogenous tibial graft, shaped like a wooden mallet, is brought into contact with the glenoid cavity, the handle of the graft having been driven into the medullary cavity of the humerus. To afford additional support a long fascia lata sling is carried through the upper end of the humerus and the upper margin of the glenoid and acromion process, and the limb is put up in 90 degrees abduction. In the elbow-joint an ankylosis is generally the most desirable procedure, but true bony ankylosis is very difficult to obtain. Operations to obtain stability with retention of movement are of two kinds: (1) those in which simple approximation of the bone ends is obtained, and (2) those in which an increase in the length of the humerus is obtained by the insertion of a graft as described in the shoulder-joint operation. In the first type the bone ends are bound together by the insertion of one or two long stout slings taken from the fascia lata of the patient's thigh. The limb is slung up at 45 degrees flexion, active flexion within a small range is encouraged at an early stage, and a useful degree of stability has resulted. In connexion with the operative stabilization of the elbow-joint the end result depends entirely on the development of muscular control.

44. Congenital Absence of the Tibiales Antici.

H. A. LAAN (*Nederl. Tijdschr. v. Geneesk.*, November 29th, 1919) reports the case of a railway official, aged 42, who sought advice for a painful condition of the left foot which had lasted ten years. On contracting the leg muscles the extensor longus digitorum on each side stood out prominently, the extensor longus hallucis showed nothing abnormal, but the tibiales antici appeared to be entirely absent. All the movements of the feet were normal except dorsiflexion, which the patient was unable to effect. There was no history or sign of infantile paralysis, so that the condition was obviously congenital. It was a remarkable fact that it had remained unrecognized for so long and had caused such slight symptoms in standing or walking.

45. Primary Tuberculosis of the Kidney.

C. SOLINA (*Il Policlinico*, Sez. Prat., November 9th, 1919) records the case of a woman, aged 33, with primary tuberculosis and ptosis of the right kidney. A remarkable feature in her case was the occurrence of haematuria whenever the abdomen was palpated. Nephrectomy was followed by complete recovery, and when seen three years after the operation the patient, who was in the seventh month of pregnancy, was in excellent health.

OBSTETRICS AND GYNAECOLOGY.

46. Myositis and Meningitis in Puerperal Pyaemia.

L. CAUSSADE and R. SIMON (*Rev. méd. de l'Est*, December 1st, 1919) report a fatal case of suppurative myositis of the dorso-lumbar muscles, which by extension had given rise to cerebro-spinal meningitis. Small metastatic abscesses were also found in the base of the right lung. The source of the mischief was a portion of retained placenta, the retention being probably due to syphilis.

47. Sterility and Graves's Disease.

R. BLONDEL (*Bull. Soc. de Thérap.*, November 12th, 1919) states that the recent increase in the frequency of Graves's disease is one of the principal factors of sterility in French women, one of the effects of hyperthyroidism being atrophy of the uterine muscle. Local examination in such cases shows a small pyriform uterus. Owing to the antagonism between the thyroid and the thymus, Blondel recommends the administration of raw thymus in the form of lamb's sweetbread, in addition to local measures such as massage of the uterus and dilatation by tents.

48. Gonorrhoea of the Rectum in Women.

H. BOAS (*Hospitalstidende*, December 17th, 1919) has for the past two and a half years systematically examined the rectum for gonococci in every case of gonorrhoea in women. He found gonorrhoeal proctitis in 14 out of 83 cases, that is, in 16 per cent. Unlike other observers, he came to the conclusion that the disease is a comparatively benign complication of gonorrhoea, and that it responds readily to irrigation with a 1 in 3,000 solution of potassium permanganate at a temperature of 40° morning and evening. In a few cases that proved refractory to this treatment it was supplemented by irrigations with a 2 per cent. solution of protargol. As the proctitis often provokes no symptoms it is apt to be overlooked and untreated unless the rectum is examined in every case as a matter of routine.

PATHOLOGY.

49. Renal Glycosuria.

ALLEN, WISHART, and SMITH (*Arch. Int. Med.*, November 15th, 1919) have had the opportunity of making a careful study of three cases of so-called "renal glycosuria" occurring in a military hospital and of comparing the findings with those of 37 cases of true diabetes. The more frequently blood sugar analyses are made in glycosuric cases, the more commonly is this interesting anomaly found. In none of the cases studied was there any indication of nephritis or renal abnormality. The apparent absence of harm when the patients were allowed unrestricted diet during continuous sugar excretion agrees with the favourable prognosis of this condition according to the literature. On the other hand, there is a disturbance of health when the diet is restricted in an attempt to stop the sugar elimination. This is in marked contrast to what occurs in true diabetes. The authors failed to discover any fixed relations between the sugar in the blood and in the urine; the renal excretion did not serve to maintain a low level of blood sugar, and the output was not always higher with high than with low blood sugar. Nor were fixed relations found between sugar and water elimination. The sugar excretion seemed to be determined by the supply of available carbohydrate, and to a less degree by the potential carbohydrate of protein. No tendency to acidosis was observed. The excreted substance in one of the three cases seemed to be an unknown sugar, differing from glucose by the absence or incompleteness of fermentation; this observation suggests the desirability of closer examination of the fresh urine in such cases for accurate identification of the sugar.

50. Vaccination by Subcutaneous Injection.

GOODALL (*Amer. Journ. of Med. Sci.*, November, 1919), who has vaccinated 6,000 cases by hypodermic inoculation of calf lymph, claims that the procedure is devoid of untoward results if ordinary aseptic precautions are taken. From one-half to three-quarters of a tube of vaccine are used for each individual, sufficient sterile water being added to make the quantity up to 1 c.cm. When several cases have to be vaccinated at the same time, as in the case of soldiers, a sufficient quantity can be taken up in a large syringe, the needles being changed for each case. The arm is sterilized with iodine, and the inoculation is performed in the same way as antityphoid inoculation. A local reaction occurs in from two to four days, but in some cases may be delayed for a fortnight. It is variable in intensity, and consists in local swelling, heat, tenderness, slight pain, and redness; in a few cases the reaction is marked, causing swelling and oedema of the arm. After the seventh or tenth day the local swelling and induration subside, leaving a hard nodule in the subcutaneous tissues, usually ill defined at first, but later becoming more circumscribed and lasting for about a month. The advantage of the method is that no dressings are necessary, secondary infection is eliminated, the patients are not incapacitated, and the percentage of positive reactions is very high. Children undergo the hypodermic vaccination without any difficulty owing to the rapidity with which the injection is carried out.

51. Macrophages of the Loose Connective Tissue.

FOOT (*Journ. Med. Res.*, September, 1919), in a first paper on the study of endothelial reactions, endeavours to trace the origin of the "wandering connective tissue cell." He uses a combination of methods employed by other experimenters—the intraperitoneal injection of trypan blue, the intramuscular injection of sterile agar, and the intravenous injection of a colloidal lampblack-gelatin solution. By killing the animals at different periods he finds that the macrophages of the connective tissue spaces are of endothelial origin, and that they are not derived from the omentum or from lymphocytes. He thinks that they are probably derived from the proliferating endothelium in the immediate vicinity of the lesion which calls them forth rather than from the vascular endothelium in general. They do not appear to come entirely from the circulating mononuclear leucocytes.

52. A Third Form of Paratyphoid.

LEWY and SCHIFF (*Berl. klin. Woch.*, November 10th, 1919), in confirmation of observations by other workers in Syria, Palestine, Mosul, Albania, and Wolhynia, describe a febrile illness associated with infection by a bacillus of the paratyphoid group. The bacillus, which has been named *B. erzindjan* by Neukirch, and has been separately described by Weil, gives the cultural characters of *B. paratyphosus* B, but differs in agglutination reactions. The disease is sometimes associated with diarrhoea, but its most striking feature is the severity of toxaemic symptoms. The temperature is high, sometimes simulating the curve of typhoid but not usually, the pulse is relatively slow, rose spots are not observed, the fever is commonly of long duration, and the mortality, except in natives of the districts, is high. The bacillus, it is said, can be cultivated from the blood with great ease and regularity. *Post mortem*, abscesses are commonly found in the skin and in the liver and kidneys, and there may be haemorrhages in the serous membranes. The spleen is enlarged. Typical intestinal ulceration is not found. The disease is much more of a septicaemic type than is commonly seen in the enteric group infections hitherto described.

53. Changes in the Blood and Cerebro-spinal Fluid in Typhus.

ROTHACKER (*Muench. med. Woch.*, September 26th, 1919) has come to the conclusion that there are no demonstrable changes in the blood peculiar to typhus. In each of the three stages of the disease the blood picture was different. But these differences were not uniform, as they were profoundly affected by the severity of the disease and the patient's powers of reaction. From the first to the fourth day of the disease the blood picture was normal. When the rash had developed, the total number of leucocytes was still normal, but there was a comparative increase in the number of polymorphonuclear leucocytes. After the tenth day of the disease the leucocytes often ranged from 10,000 to 14,000, and seldom fell below 6,000. The polymorphonuclear leucocytes represented 95 to 97 per cent. of the total. There was little change in the number of the mature normal neutrophils during the disease. There were no eosinophils, and the lymphocytes were reduced to 3 to 6 per cent. The red cells often numbered 2 to 3 million, and the amount of haemoglobin was normal. During convalescence there was often an appreciable rise in the number of leucocytes. Eosinophils reappeared, abnormal forms disappeared, and the number of lymphocytes increased. By the eighth to the tenth day of convalescence the blood picture was again normal. Not till the tenth day of the disease, at the earliest, was the blood picture of diagnostic value. As for the cerebro-spinal fluid, its pressure was seldom above 120 mm. of water. There was a slight increase of albumin, and a great increase of cellular elements of much varied forms. Lumbar puncture afforded no permanent relief.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

54. Erythema Nodosum and Tuberculosis.

STEFANO (*La Pediatria*, November, 1919) first discusses the various views as to the etiology of erythema nodosum, especially in relation to tuberculosis, and then describes briefly 23 cases in young children (3 to 12 years). The family history showed alcoholism twice, syphilis twice, and in 5 cases tuberculous meningitis or pulmonary tuberculosis. In 17 of the cases the erythema affected both lower limbs, in 2 cases one lower limb, and in 4 both upper and lower limbs were affected. In 7 cases there was enlargement of the bronchial glands, in 2 cases bony tuberculosis, and in one case marked enlargement of the cervical glands. The von Pirquet test was positive in every case and intensely marked in 15 of the cases. The author will not go so far as to say erythema nodosum is a definitely tuberculous affection, but in view of the von Pirquet results, he thinks there is some important relation between the two diseases. He suggests that erythema nodosum may be due to the entrance into the circulation of some special substances, analogous to tuberculin in persons affected with tuberculosis, which give rise to the formation of toxic products of digestion, that is, apotoxins. He draws attention to the marked similarity between the nodules of erythema nodosum and those produced by the von Pirquet test.

55. Treatment of Typhus.

COGLIEVINA of Trieste (*Il Policlinico*, Sez. Prat., November 9th, 1919) has found three drugs of value in the treatment of typhus—namely, urotropine, salicylsulphonic acid, and colloidal silver. The use of urotropine was suggested by the following considerations: (1) S. I. Crowe in his experimental researches succeeded in completely sterilizing the bile by 5 grams of urotropine daily; (2) Crowe showed that from half an hour to an hour after its administration urotropine or formaldehyde could be found in the cerebro-spinal fluid; (3) Heitmüller and Zak used urotropine with good results in the treatment of acute and chronic bronchitis and pneumonia. Urotropine was equally effective as an intestinal disinfectant according to Loebisch. The daily dose used by Coglievina ranged from 5 grams to 8 to 10 grams (given by mouth). Although the drug was used in hundreds of cases of typhus he did not meet with a single case with urological complications, with one exception, in which there was transient haematuria accompanied by slight vesical tenesmus. The urine of each patient was examined daily. Salicylsulphonic acid was given either combined with urotropine in doses of 8 grams daily by mouth or in intramuscular injections (10 c.cm. of a 4 per cent. solution); as a rule four or five injections were sufficient to curtail the disease, so that the duration of the fever was only seven instead of sixteen days. Intravenous injections of colloidal silver (5 c.cm. of a 2 per cent. solution) for about seven or eight days appeared to have a good effect, but the duration of the disease was not shortened, as after the employment of the other two drugs.

56. Exophthalmic Goitre.

MEANS and AUB (*Arch. Int. Med.*, December 15th, 1919), who have done some important work on the basal metabolism of a large number of cases of exophthalmic goitre, and have followed several cases for years, state that in the majority of cases the results after two or three years are equally good with Roentgen-ray treatment as with surgery. After surgical treatment the metabolism shows a rapid preliminary fall, and then a secondary rise, followed by a final fall, whilst with *x*-ray treatment there is a gradual progressive fall. In securing the same end-results with surgery or with *x* rays a lesser rest factor is necessary with the latter. With *x* rays there is practically no mortality; with surgery there is a definite mortality. Patients treated surgically do better and the risk of operation is less if they have previously had their thyroid and thymus glands irradiated. The risk of operation is greater and the need for pre-operative *x*-ray treatment is greater in cases with a very high metabolism and moderate tachycardia than in those with an extreme tachycardia and moderate metabolism elevation. The authors consider that the safest course in the treatment of exophthalmic goitre as a whole is the routine irradiation of thyroid and thymus glands, in all cases, with surgery held in reserve for patients who do not then do well. Surgery is contraindicated with patients whose metabolism is rising in spite of complete rest in bed, and also with patients of the type with moderate tachycardia and great metabolism increase, except when they have previously had *x*-ray treatment.

57. The Practical Applications of Ocular Compression.

Il Morgagni (November 25th, 1919), quoting Binet, says that by pressure on the globe of the eye one can derive help in the differentiation of organic from inorganic cardiac bruits, for in the case of inorganic murmurs the bruit disappears on ocular compression, whilst in the case of organic murmurs the bruit is accentuated. In the majority of cases ocular compression induces a slowing of the pulse rate, and may be useful in temporarily reducing attacks of tachycardia, making four or five strong compressions at intervals of fifteen seconds to one minute. The cerebral pulse is said to be diminished by the same manœuvre. On the respiration ocular compression causes slight apnoea, and may therefore be of some use in asthma. It is also said to lessen shivering, the muscular tremors of exophthalmic goitre, and even epileptiform attacks. On the other hand, it is admitted that the proceeding is not absolutely devoid of risk.

58. Influenzal Pharyngodynia.

G. V. T. BORRIES (*Ugeskrift for Laeger*, November 27th, 1919) has found that patients suffering from influenza sometimes complain of severe pain in the throat for which no cause can be found in spite of a thorough examination. He records the following illustrative case: A man aged 42 developed influenza with slight bronchitis. There was nothing unusual about the influenza apart from severe pain in the neck at the level of the larynx. He hardly slept for three nights on account of this pain, which was but slightly mitigated by morphine. He could swallow water only with great difficulty and in very small quantities at a time. Frequently he had to spit water out because he could not swallow it. He described the pain as resembling the pain he had experienced with a peritonsillar abscess from which he had suffered some time previously. On examination nothing could be found apart from slight catarrhal pharyngitis, acute laryngitis, and bronchitis (rhonchi over both lungs). The pain was probably due to neuralgia or myalgia of the wall of the pharynx, for there was no sign of tonsillitis, nor of abscess of the peritonsillar or retropharyngeal spaces. There was also no sign of phlegmon in this neighbourhood. The author refers to a paper by Escat, published in 1910 in the the *Revue hebd. de laryngologie*, No. 51, with the title "Pharyngodynie grippale."

59. Reflected Sunlight in the Treatment of Whooping-cough.

G. GAERTNER (*Wien. med. Woch.*, October 11th, 1919) relates how he experienced the discomforts of "whooping-cough nights" after one of his children had contracted this disease. To mitigate the cough he instructed his child to sit with her back to the sun, with a laryngeal mirror held in front of her open mouth, reflecting the sunlight on the tonsils, the posterior wall of the pharynx, and the palate by turns while she intoned the letter *a*. Each sitting lasted ten to twenty seconds, and was repeated ten to twenty times, so that the throat was exposed to concentrated sunlight for several minutes altogether. The effect of the sunlight on the interior of the mouth was not unpleasant, but a sense of heat was experienced when the reflected light struck the skin of the face. The course of the disease was at once altered by this treatment, and the patient, who had suffered from twelve to fifteen bouts of severe coughing every night, had only six bouts in the night after the first exposures, and only three to four bouts in the following nights. These bouts ceased altogether on the forty-second day of the cough. The author's second child, a boy of 10, contracted whooping-cough about ten days after his sister. He was at once treated with reflected sunlight, and the disease ran a very mild course, without the characteristic bouts of coughing at night. He ceased to cough in about three weeks. Another of the author's

patients was a child who had been subject to attacks of angina faucium, recurring at least four times a year. During, and for a long time after, an attack of whooping-cough, for which he was successfully treated with reflected sunlight, there was no recurrence of the angina. The treatment was therefore repeated once a week, and no recurrence of the angina was observed. The author suggests that reflected sunlight may be more effective in sterilizing the throat in diphtheria and angina faucium than gargles and painting the throat with disinfectants.

60. Post-Influenzal Suppuration.

S. MITTERSTILLER (*Wien. klin. Woch.*, November 20th, 1919) has observed five cases of influenza followed by abscesses in various parts of the body. One patient was a married woman, aged 49, who suffered from a severe attack of influenza in October, November, and December. The nervous and respiratory systems were involved. During convalescence both breasts became swollen and painful. After several weeks the swelling in the right breast became fluctuating, and when it was incised an abscess almost as large as an apple was found. The *Staphylococcus pyogenes aureus* was isolated from the thick pus. Another patient was a married woman, aged 42, who contracted influenza late in March. In the middle of May of the same year she consulted the author for a painful swelling of the right forearm, including the elbow-joint. There was no evidence of tuberculosis or typhoid fever, and Wassermann's reaction was negative. The *x* rays showed rarefying osteitis of the upper two-thirds of the radius. A fluctuating swelling formed, and the pus obtained by puncture was found to contain numerous small rods resembling the influenza bacillus. A week later the abscess was opened, and both Gram-negative and positive bacilli were found. In a second case of osteitis of the radius following influenza a bacillus conforming to the type of the influenza bacillus was isolated from the pus. In the two remaining cases suppuration of the thyroid gland occurred. In one case the pus contained numerous Gram-positive rods as well as streptococci and Gram-negative rods. The pus of the other case contained influenza-like bacilli.

61. Influenzal or Diphtheritic Paralysis of the Soft Palate?

G. KICKHEFEL (*Berl. klin. Woch.*, October 13th, 1919) has observed four cases of partial paralysis of the soft palate after a typical attack of influenza. The first case was that of a woman, aged 33, who in October, 1918, developed high fever which lasted three weeks. Her head and limbs ached, and she suffered from a severe cough and much catarrh of the throat, but she was not attended by a doctor. After the temperature had fallen her speech became nasal and slurred. On examination in hospital on January 16th, 1919, the movements of the soft palate were seen to be slow on both sides, and the occlusion of the rhinopharynx by the palate was incomplete. There was, however, no regurgitation of liquids by the nose. The quality of the voice was abnormally affected by closure of the nostrils (Gutzmann's test). After giving details of his other cases, the author notes that the febrile illness preceding the paralysis of the soft palate was invariably characteristic of influenza; pain in the limbs, violent headache, great lassitude, pain in the eyes, and catarrh of the respiratory tract were uniformly present. All the patients denied the existence of a membranous deposit in the throat, of dysphagia or swelling of the cervical glands. Diphtheria could, therefore, be excluded. The paralysis was only partial in these cases, the subsequent course of which the author does not record. He remarks, however, that such cases often clear up spontaneously, and that when this does not occur the persistence of the symptoms may be due to functional disturbances having succeeded an organic lesion. A. PEYSER (Ibid.) expresses doubts as to the existence of a genuine influenzal paralysis of the soft palate, suggesting that undetected diphtheria might account for a proportion, at any rate, of the cases labelled as influenzal. In support of this view he recorded a case of paralysis of the soft palate with a recent history of influenza but not of diphtheria. He was about to demonstrate it as one of influenzal origin when he saw another case in which there was no history of diphtheria. But when the discharge from the right ear was examined typical diphtheria bacilli were found. FINDER'S experience (Ibid.) also points to a diphtheritic origin of the so-called influenzal paralysis of the soft palate. One of his patients was a married woman, who complained that she had not been able to speak properly since a recent attack of influenza. Paralysis of the soft palate was diagnosed, and, as she declared at first that she had not suffered from a sore throat, but only from such characteristic influenzal symptoms as fever and pains in the limbs, the existence of diphtheria seemed improbable. But on further investigation it transpired that she had experienced some difficulty in swallowing, and when a bacteriological examination was made diphtheria bacilli were found.

SURGERY.

62. Sarcoma of the Scrotum and Spermatic Cord.

P. ANDRÉ (*Rev. méd. de l'Est*, December 1st, 1919) records two cases of sarcoma of the cellular tissue of the scrotum and spermatic cord. In the first case the patient, a soldier aged 25, was supposed to be suffering from right tuberculous epididymitis. On operation nodules were found to be adherent to the vas deferens and to the extra-vaginal surface of the epididymis. The testes were removed, together with the spermatic vessels as far as the hilus of the kidney, and a chain of glands, 20 cm. in length, along the aorta, inferior vena cava, and iliac vessels. The growths in the cellular tissue of the cord were found to be round-celled sarcoma; it was impossible to determine whether the lesions in the glands were inflammatory or sarcomatous. The patient was in excellent health four weeks after the operation. In the second patient a mass the size of a Tangerine orange was felt in the left of the scrotum and there were several nodules in the cord. A large mass of glands could be felt beneath the ribs. Castration was performed owing to the violent pain in the left part of the scrotum. The new growth was found to be situated entirely outside the tunica vaginalis at the base of the cord; the testicle and epididymis were healthy. The interest of these cases lies in the fact that the sarcoma was localized in the cellular tissue of the cord and scrotum, whereas new growths in this region are usually situated in the testicle or epididymis.

63. Diaphragmatic Hernia.

A. COLARD (*Arch. méd. Belg.*, August, 1919) records two fatal cases of diaphragmatic hernia in soldiers in which death took place before operation could be performed. In the first case, in which the symptoms were those of a left pneumothorax, the autopsy showed a congenital opening in the diaphragm through which had passed the very dilated stomach, the omentum, splenic flexure of the colon, and spleen. In the second case, in which symptoms of intestinal obstruction were present, the autopsy showed that the upper part of the stomach and splenic flexure of the colon were fixed in a narrow opening in the diaphragm at the site of an old wound.

64. Sarcoma of the Stomach.

ACCORDING to KOETTLITZ (*Arch. méd. Belg.*, August, 1919) sarcoma of the stomach is a comparatively rare condition, only 171 cases having been collected by Gosset in 1912. The diagnosis has never been made during life without operation, except in Westphalen's case, in which microscopical examination showed the sarcomatous nature of a portion of the vomit. Gastric sarcomata have been divided by Lecène and Petit into two groups, according as they are exogastric or endogastric. The latter are subdivided into (*a*) tumours infiltrating the stomach wall at some definite point; (*b*) multiple nodular tumours disseminated throughout the gastric wall; (*c*) tumours infiltrating the whole extent of the wall, and consequently simulating plastic linitis. These three forms closely resemble epithelial cancer, whereas the exogastric tumours are generally large pedunculated or sessile masses situated on a limited area of the gastric wall. Metastases are comparatively rare. Ziesché and Davidson, who found them in only 37.5 per cent., say that they are most frequently met with in the liver and regional glands, then in the mesenteric glands, kidneys, ovaries, lung and skin. As regards the site of the tumour, according to Ziesché and Davidson, in 29 it was at the pylorus, in 22 on the greater curvature, in 18 it formed a diffuse infiltration, in 15 it was on the posterior surface, in 11 on the lesser curvature, in 6 on the anterior wall, once on the great cul-de-sac, and twice on the cardiac end. The symptoms are indefinite. The condition is often mistaken for simple dyspepsia. A differential diagnosis from carcinoma is hardly possible. There are usually anorexia, gastric pain, and always more or less considerable loss of flesh. Vomiting occurs in 20 per cent. Haematemesis is rare. Statements as to the gastric chemistry differ. According to Gosset there is complete absence of HCl, with or without the presence

of lactic acid. Monti, on the other hand, states that HCl does not disappear till later. The only definite symptom is the appearance of a tumour, which was present in 66 out of 72 cases (Ziesché and Davidson). Koettlitz records a case in a man aged 21, who died one month after an exploratory laparotomy. At the autopsy disseminated fibro-sarcomatosis of the stomach, pancreas, and mesentery was found as well as chylous ascites.

65. Treatment of Burns.

MCGEARY (*Minnesota Med.*, December, 1919) uses a waxy preparation, melting at 120° F., in the treatment of burns. The burned area is first gently cleaned with Dakin's solution and gross particles of débris removed. After drying with sterile compresses the wound is coated quickly with the paraffin by means of a two-inch camel-hair brush. A thin sheet of sterile wadding is then applied, and this is painted over with another layer of paraffin. The dressing is kept more firmly in place by an ordinary gauze bandage. The process is repeated daily, care being taken first to wash the area with Dakin's solution. The author finds that, although pain may be intense when the case is first seen, the pain is alleviated whenever the wax coating is applied, and it is absent in the daily changes of dressing. Pus may form under the dressing, but it rapidly decreases and new skin is quickly regenerated. The preparation is made up as follows: Resorcinol 10, eucalyptus oil 20, olive oil 50, petrolatum 250, paraffin 670. The petrolatum and paraffin are melted together, and the resorcinol, dissolved in alcohol, is added while these are hot, so as to drive off the alcohol; when the mixture is cool the eucalyptus and olive oil are added.

66. Hysterical Paralysis of One Leg.

N. SVITH (*Ugeskrift for Laeger*, October 9th, 1919) records the case of a soldier, aged 25, who had suffered from inflammation of the left hip when he was 12. Complete recovery had followed after three months' treatment by immobilization, and he had never noticed that the left leg was smaller or weaker than the right. In 1915 he was wounded in the hand by a fragment of shell, and in order to delay his return to the front he practised various devices to prevent the satisfactory healing of this wound. The prospect of being sent back to the fighting line or of being detected as a malingerer reduced him to a state of great nervous depression; his left leg became weak, and he developed a limp. When seen by the author early in 1919 he could drag himself about only with the help of a stick. The left leg was much atrophied, the circumference of the limb both above and below the patella being 4 cm. less than that of the right leg. There was no abnormal restriction of passive movements, nor any tenderness over the nerves, muscles, or joints. The muscles were flabby, and the patellar reflex was much more lively on the left than on the right side. He was very nervous, and there was marked tremor of the hands and tongue. No sign of disease of the central nervous system could be detected. He returned cured a few months later. He could walk without a stick and without limping. On inspection no difference in the size of the two limbs could be noted, and measurements showed that the circumference of the left leg was only 1 cm. less than that of the right. The reflexes were equal on the two sides, and the tremor had vanished. His general condition also was excellent. On cross-examination it transpired that he had consulted a "wise man" who had assured him that in a day or two he would find his walking-stick superfluous. The patient had been sceptical, but the prophecy had come true.

67. Influenzal Tendovaginitis.

R. HANSON (*Hygiea*, November 30th, 1919) records the following case of acute serous tendovaginitis, the exciting cause of which was probably influenza. The patient was a workman, aged 40, whose father suffered from typical gout. The patient also was subject to attacks of arthritis. In October, 1918, his wife and daughter developed influenza, and a few days later he, too, suffered from attacks of shivering and pain throughout his body. After this condition had lasted a few days his left hand and forearm felt numb and weak, and a sensation of tingling was most marked in the third to the fifth fingers. After a couple of days the parts affected became very painful, and by the end of October they had also become much swollen. On examination, signs of an acute serous tendovaginitis were found in the neighbourhood of the left flexor digitorum communis. There were also signs of an acute polyneuritis. The appearance of the left hand and forearm was very suggestive of tuberculous disease, but the rapid onset and decline of the effusion did not tally with a diagnosis of tuberculosis. The simultaneous occurrence of neuritis suggested syphilis, but Wassermann's reaction was negative. Besides, an acute serous tendovaginitis of syphilitic origin does not subside quickly without specific treatment. As for gout, the tendovaginitis it provokes is apt to run a chronic course, even when its onset has been sudden, and to be complicated by deposits of urates in the tissues, with occasional necrosis and perforation of the overlying skin. There was also no history of trauma in this case, and even if there had been, the tendovaginitis might be traumatic, but there would still be no explanation of the coincident polyneuritis. This is a common sequel to influenza. The author therefore comes to the conclusion, both by positive evidence and by the exclusion of other factors, that the tendovaginitis in his case was of influenzal origin. He notes that he could find no micro-organisms in the serous effusion in this case, although he usually found streptococci in the numerous cases of synovitis, infiltration and abscess formation arising in connexion with an attack of influenza.

68. Strangulated Obturator Hernia.

KLOPP records a case of strangulated obturator hernia in a woman 88 years old (*Ann. Surg.*, 1919, 70). The patient was seized suddenly with general abdominal pain, and signs of intestinal obstruction set in. She vomited fifteen to twenty times the next day; there was no result to enemata. On examination the abdomen was found to be moderately distended, soft, without abnormal masses. There was no external evidence of hernia. Diagnosis: Intestinal obstruction, cause unknown. Coeliotomy was performed, and a knuckle of bowel some 1½ in. long was found strangulated in the right obturator foramen. The hernial sac was removed and the ring closed. The patient did well for a time, but died suddenly on the eleventh day.

69. Abdominal Palpation.

BOERI (*Riforma Med.*, 1919, 35) calls attention to the method of abdominal palpation by superposed hands advocated by Campani of Modena. This method is particularly applicable to tense and rigid abdomens, the left hand being used as the palpating instrument, so to say, whilst the superposed right hand supplies the force. Campani calls this "indirect palpation" (palpazione mediata) by analogy with percussion. It is no doubt true that deep palpation depends on gentleness rather than force, yet experience has proved that the superposed hand method has a definite field of usefulness. There are some patients who are incapable of relaxing their abdominal muscles, and in these cases, as well as those with thick abdominal muscles, some force is necessary. This is especially the case if the posterior wall of the abdomen is to be palpated. If the force necessary to sink the hand into the abdomen is to be supplied by one hand only, the powers of perception of his hand are somewhat limited. Boeri analyses the various sensory and psychological elements which come into play in palpation. As to the actual methods of performance, individual clinicians will no doubt please themselves as to which hand they place uppermost, and whether they will work with closed or open (abducted) fingers.

70. Arthrotomy in Gonorrhoeal Arthritis.

H. KLOSE (*Berl. klin. Woch.*, October 20th, 1919) states that the war has greatly increased the incidence of gonorrhoea in Germany, and that articular complications occur in a much greater proportion of cases than before the war, when only 2 per cent. of all cases of gonorrhoea developed arthritis. This proportion has been altered to more than 10 per cent., and of all the cases of articular disease admitted to the surgical wards of the University Hospital in Frankfurt a. M. 95 per cent. in 1919 were gonorrhoeal. After discussing the factors responsible for this state of affairs, the author writes that since 1909 he has systematically performed arthrotomy in every severe case when (1) aspiration of fluid had been followed by a renewed effusion, with considerable distension of the capsule of the joint and with pain; when (2) signs of subluxation were becoming evident; when (3) the inflammation was phlegmonous and pain and sleeplessness were alarming; when (4) general gonorrhoeal infection started from an infected joint; when (5) severe complications interfered with the conservative treatment of the joint; when (6) many joints were involved, and their simultaneous treatment on conservative lines was not feasible; and when (7) three weeks of skilled conservative treatment had failed. The results of arthrotomy were instant relief of pain and consequent improvement in the general condition. In 14 per cent. of the cases operated on the disease had already progressed so far that ankylosis could not be

prevented. The benefits of arthrotomy were most evident when the small joints were affected; the results in the case of the hip and knee must be considered in the light of the experience that, without operation, severe gonorrhoeal inflammation of these joints invariably leads to complete ankylosis. Treatment of such cases that restores the range of movement to 40 degrees to 60 degrees must therefore be considered as successful.

PATHOLOGY.

71. Osteopsathyrosis Idiopathica.

JULIUS HASS (*Med. Klinik*, November 2nd, 1919) describes a case of abnormal brittleness of bones in a young child not resulting from rickets, syphilis, or other known disease. The child was born healthy and showed no abnormality until 2 years of age. At this time fractures occurred in both femora as a result of very trifling injury, and during the next four years fracture occurred nine times in one or other femur and once in the left tibia. On each occasion the fracture healed rapidly and well, and later fractures seldom occurred at the site of previous lesions. On *x*-ray examination there was a notable excentric atrophy of the cortex in the long bones, especially near the epiphyses. At the time of observation in hospital there was a very marked excess of calcium excreted in urine and faeces over that taken in the food. No certain therapeutic effect was obtained from administration of phosphorus, arsenic, and thyreoidin. Like other observers of this disease Hass noted a familial predisposition. The mother and an uncle suffered from spontaneous fractures. The mother's family was also peculiar in that several members had blue sclerae and were deaf from otosclerosis, while the maternal grandfather and seven of his family of nine suffered from heart disease.

72. Diphtheria Bacilli in the Lungs.

LOMRY (*Rev. d'Hygiène*, November, 1919), engaged in a hygienic laboratory in Belgian Luxembourg, has been accustomed to examine all specimens of sputum, originally submitted for the diagnosis of tuberculosis, for the presence of other pathogenic organisms. Thus, out of 1,974 specimens of sputum he found the diphtheria bacillus in 59 cases, and proved it to be a true diphtheria bacillus not only by microscopic and staining reactions but also by its cultural characters and by animal test. He is of opinion that the sputum examination of many bronchitics might reveal a much higher incidence. Amongst these 59 positive cases the diphtheria bacillus was found in association with the tubercle bacillus in 16 cases, or 27 per cent. It is possible that the one germ might have prepared the soil for the other, but it is difficult to discover which was the first invader. Carriers of the diphtheria bacillus in their lower respiratory passages are naturally a source of danger to the community, all the more so as suspicion is unlikely to fall on them. The ordinary antitoxic serum does not easily dislodge bacilli so situated, but the author thinks that this might be effected by large doses of Martin's antimicrobic serum.

73. Danger of Anaphylaxis with Antitoxic Serums.

MARTIN (*Rev. d'Hygiène*, November, 1919), in an article dealing with the serum-therapy of diphtheria, states that before the war the fear of anaphylactic shock occurring with a second injection of antitoxic serums rather dominated the minds of medical men. However, the experiences of the war have considerably diminished, if they have not altogether abolished, such fears. The wounded received multiple injections of antitetanic serum, perhaps at long intervals, in countless instances without the slightest harm resulting. It has been an experiment on a large scale, and it has enabled one to form the firm conviction that repeated subcutaneous injections of serum never provoke those grave anaphylactic crises in man that have been experimentally produced in guinea-pigs.

74. Experiments on the Cervical Vagus and Sympathetic.

SCHAFER (*Quart. Journ. Exp. Phys.*, vol. xii, No. 3) could find no evidence of functional regeneration of the peripheral vagus of the cat as long after section of the nerve as two years and fifty days. Some incidental observations of importance were, however, noted. It was shown that death, which invariably occurs after double vagotomy, is due to laryngeal obstruction from paralysis of the laryngeal muscles, and that when this obstruction is avoided by extirpation of the cords, death does not occur. The slowing and depression of the respiratory movements, hitherto regarded as an accompaniment of double vagotomy, was found to be a by no means constant effect, and was not observed if the laryngeal paralysis were neutralized by a previous tracheotomy. No regeneration of the sympathetic nerves in the neck was found either in dog or cat. A curious phenomenon noted was that if eight days after section of one cervical sympathetic the other were divided, the symptoms of sympathetic paralysis on the side of the original lesion disappeared for some time and were replaced by all the signs of sympathetic irritation—dilated pupil, exophthalmos, etc.

75. The Blood and Cerebro-spinal Fluid in Typhus.

ACCORDING to A. ROTHACKER (*Muench. med. Woch.*, October 17th, 1919) the blood picture of typhus is not typical, and varies in all stages of the disease. Even in the same stage entirely different appearances in the blood will be met with, according to the severity of the attack and the reaction of the patient. In the influenzal stage, which occupies the first four days, the blood picture is generally normal. In toxic cases the number of leucocytes as a whole is not increased, but there is a considerable rise in the number of the transitionals and large mononuclears. Eosinophils are scarce. In the eruptive stage—fourth to seventh day—the total number of leucocytes remains normal but the relative percentage of the polymorphonuclears is increased. Eosinophils are entirely absent. In the third stage of the disease the blood picture completely changes. The total number of leucocytes is raised to 10,000 to 14,000, of which 95 to 97 per cent. are polymorphonuclears and about 3 to 6 per cent. lymphocytes. The red cells, which have hitherto been normal in amount, fall to 2 to 3 million, while the haemoglobin content does not show much change. In convalescence the total number of leucocytes shows a marked increase. The eosinophils return, pathological forms disappear, and by the eighth to tenth day of convalescence the blood picture becomes completely normal again. Inclusion bodies are present as in scarlet fever in the polymorphonuclear leucocytes, but are not so large. The blood picture in typhus thus does not possess any diagnostic value before the tenth day, and it is impossible to make a diagnosis of typhus from the blood alone, as similar findings occur in many septicaemic diseases, especially small-pox, which is often very difficult to differentiate from typhus in the early stage. In most cases the pressure of the cerebro-spinal fluid is not raised above 120 mm. of water. The albumin content is only slightly increased. Nonne's reaction is almost always negative. There is always a great increase in the cellular elements, and a great variety of cells present, the mononuclear cells, large and small lymphocytes being predominant.

76. The Presence of Vitamines in the Urine.

G. GAGLIO (*Il Policlinico*, Sez. Prat., November 23rd, 1919) has found that the administration of small quantities of human urine (3 to 4 c.cm.) has a rapidly curative effect on the polyneuritis of pigeons. When the urine is given several times in the course of the day the bird shows a remarkable improvement and the following day is quite cured. Even when its condition as the result of a diet of polished rice has become very grave and contractures of the nuchal muscles and opisthotonos have developed, complete recovery has resulted from this mode of treatment. On continuing the diet of rice, together with the administration of urine, the pigeon continued in good health for some time and then the nervous symptoms reappeared in an attenuated form. If the diet was slightly modified by adding some other substance to the rice complete recovery took place. These experiments indicate that the kidneys eliminate vitamines which are formed in the organism or are brought to it in the food.

77. Resistance to Poisons according to Age.

E. LESNÉ and L. BINET (*Bull. Soc. de Thér.*, November 12th, 1919) showed by the following experiments that the young animal can resist certain poisons better than an adult one: (1) A new-born cat could resist an injection of 0.62 mg. of cocaine hydrochloride per kilo of body-weight, whereas half this dose killed an adult cat. (2) A mouse aged 9 days and weighing 5 grams could resist an injection of 0.5 mg. of cocaine hydrochloride, a dose which proved fatal to a mouse aged 14 days and weighing 10 grams. (3) Kittens aged 25 and 32 days could resist injection of 0.06 gram and 0.07 gram of morphine per kilo of body weight, whereas an adult cat was killed by an injection of 0.05 gram per kilo. The greater resistance of young animals to poison is attributed to the activity of their glands with an antitoxic function, the greater vitality of their tissues, and the integrity of their excretory organs.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

78. X-Ray Treatment of Graves's Disease.

IN 1918 S. NORDENTOFT published 50 cases of Graves's disease treated by the *x* rays in the period July, 1915, to December, 1917. Since then his material has grown to 100 cases. He finds (*Ugeskrift for Laeger*, July 17th, 1919) the results as reassuring for the latter as for the earlier series, but instead of giving a tabulated analysis of his achievements he indulges in a discursive account of his impressions. In some cases dramatically beneficial results were obtained by a single exposure, and this was so even in very severe cases. In other cases several exposures failed to effect a cure. But in every case great improvement was effected. Of the 100 patients only 8 were males. The area exposed was invariably confined to the region of the thymus, a practice marking the significance attached by the author to the thymogenic origin of Graves's disease. Discussing the recent publication of *x*-ray fatalities in cases of Graves's disease, he regards a certain number as inevitable in spite of, not because of, this treatment. Other fatalities are of thymogenic origin—the result of neglecting to submit the thymus to the *x*-ray treatment. Again, one large dose is much safer than several small doses. The author concludes that if *x*-ray treatment is prescribed early, and the system of single "massive" dosage be adopted, severe cases and deaths will become exceedingly rare.

79. Heat Sensation.

BARD (*Rev. de Méd.*, No. 3, 1919) discards the theory of specific nerves and nerve endings for heat and cold, and is completely sceptical of Goldscheider's demonstration of them. He considers that the fact that the two sensations are mutually exclusive shows that they arise from a common organ. The two opposite sensations of heat and cold arise from the necessity for warning the organism by means of pain of dangerous changes of temperature in either direction and of provoking the corresponding reflex action. The classical explanation of the separation of the two sensations by the existence of distinct points of heat and cold is in contradiction to the fundamental fact of the displacement of the physiological zero—that is to say, of the variability of the threshold separating the two sensations. The thermic corpuscles are sensitive to two physical modes of thermic change—the centripetal radiation from a body warmer than the skin and the centrifugal radiation from the skin to a cooler body, and it is to the orientation by the thermal corpuscles of the direction of radiation that the discrimination between heat and cold is due.

80. Alum in the Treatment of Whooping-cough.

WRITING with the perspective of a physician who has retired from practice, H. P. B. BARFOD (*Ugeskrift for Laeger*, September 11th, 1919) maintains that since he began to prescribe alum for whooping-cough in the eighties he has found the disease run a uniformly mild course. The sponsors of this treatment in Sweden recommended a 2 per cent. solution of alum with a minute dose of opium. The author gives alum without any opium, a teaspoonful to a dessertspoonful of a 2 per cent. solution being taken every other hour. This treatment should be instituted as early as possible, and no change in the severity and frequency of the paroxysms of cough should be expected till the end of the second week. Then the attacks dwindle suddenly to half the previous number, and in a short time only one or two occur in the twenty-four hours. The severity of the attacks diminishes as they become less frequent, and they soon cease altogether. The drug does not cure the disease; it merely alters its character. Nor can it be claimed that the course of the disease is shortened, for if the drug is discontinued before the end of the ten to twelve weeks during which the paroxysms usually last, they recur with unabated violence. The drug is apt to be distrusted because its effects are delayed a fortnight. Accordingly the author prepares the relatives for this delay, and to encourage them in persisting with the drug he instructs the mother to record every paroxysm with a pencil stroke on a piece of paper and to draw a line across every four strokes. A great impression is made when, about the fourteenth day, the number of paroxysms falls suddenly from about forty to twenty. A. HALVORSEN (Ibid., October 2nd, 1919) endorses Barfod's advocacy of alum in whooping-cough, with this reservation, that he combines the alum with chloral hydrate, equal quantities of the two drugs being given. For this mixture he claims even better results than Barfod, having found it not only act as a palliative, but as an effective means towards shortening the attacks and the total duration of the disease.

81. Purulent Pneumococcal Meningitis in Influenza.

E. DUBOURG (*Gaz. hebd. d. Sci. méd. de Bordeaux*, December 14th, 1919) records six fatal cases of this kind, which occurred among soldiers belonging to the French Army of the East at Salonica. The relative frequency of purulent meningitis as a complication of influenza in the Army of the East as compared with its rarity in France is attributed by Dubourg to the large proportion of native soldiers in this army, and to the preponderating rôle of the pneumococcus in the complications of influenza. The black races are peculiarly susceptible to pneumococcic infections, and of the six cases reported, only one occurred in a Frenchman and the others in negroes or natives of Madagascar. The susceptibility of black races to pneumococcic infections is not due to their sojourn in a cold climate, as the mortality due to this cause is very heavy in their own country. In Dubourg's cases the pneumococcus was frequently associated in the sputum with the pneumobacillus, enterococcus, *Micrococcus catarrhalis*, and Pfeiffer's bacillus. It was more frequently found in pure cultures in the fluid withdrawn by puncture of the lung, and was almost the exclusive factor in purulent pericardial and pleural complications. In 9 cases of purulent pleurisy, 8 were due to the pneumococcus, and only 1 to a haemolytic streptococcus. A blood culture which was made in 34 cases yielded 8 positive results, the pneumococcus being found in 7 cases, and the enterococcus in 1 only. *Post-mortem* examination in the 6 cases showed that the accessory sinuses and ear were always intact, so that the meningitis was due to septicaemia and not to propagation. In most of the cases the onset of the meningeal symptoms was very sudden and death was never later than four days after the appearance of the first signs. In one case it occurred a few hours after the onset. One form of pneumococcal meningitis is manifested by attacks of acute delirium and homicidal impulses. The temperature chart is not characteristic. Cases with sudden onset usually terminate by hyperpyrexia, but occasionally the fever is not high, and the meningeal symptoms set in without much rise of temperature. All treatment hitherto employed has been unsuccessful. The best course to pursue is to prevent the development of meningeal complications by the use of antipneumococcal serum, either subcutaneously or intravenously, in any severe case of pneumococcal infection, especially during an epidemic.

82. The Influence of Acute Infections on Hereditary Syphilis.

V. HUTINEL and L. NADAL (*Paris méd.*, December 6th, 1919) report several cases showing how meningeal or cerebral manifestations, such as hemiplegia or hydrocephalus, may be caused in subjects of hereditary syphilis by the supervention of an acute infection, such as measles, influenza, or cerebro-spinal meningitis. Epilepsy or chorea are also liable to develop in heredo-syphilitic children as the result of an acute infection. Other syphilitic manifestations, such as nephritis or anaemia, may develop from the same cause.

83. The Prophylactic Value of Gaseous Disinfectants and Fumigations in Infectious Disease.

A. ORTICONI (*Bull. Soc. de Thérap.*, November 12th, 1919), after alluding to Gregor's paper in the BRITISH MEDICAL JOURNAL, May 1st, 1919, on the immunity to influenza shown by those engaged in gas works, attributes the value of gaseous disinfectants partly to their bactericidal action and partly to their forming a sort of mask which protects the upper respiratory tract from the penetration of germs. He states that during the last epidemic in certain factories in the South of France where the workmen were exposed to the fumes of eucalyptus or products of eucalyptus, the number of those attacked was very small, and no severe form of the disease was observed.

84. Familial Icterus Neonatorum with Fatal Course.

G. A. PRINS (*Nederland. Tijdschr. v. Geneesk.*, December 6th, 1919) records the following fatal case of icterus neonatorum in one family. A woman whose first two children were healthy had a fall on her back, and her subsequent children, who were normal at birth, became very yellow on the third day. The first child born after the fall had severe icterus neonatorum, but recovered. The next child died a few days after the appearance of the jaundice. The same fate overtook the twins who were the next to be born. The following child, the first of the children seen by Prins, was a full-term well-developed infant, without any clinical evidence of syphilis, and with a negative Wassermann reaction. Sepsis was improbable, as there was no fever nor petechiae, and the umbilicus was completely normal. Death took place on the fifth day, two days after the appearance of the jaundice. On *post-mortem* examination the bile was extremely viscid, but otherwise nothing abnormal was found on naked eye or histological examination. Prins attributes the condition to a congenital familial deficiency on the part of the hepatic parenchyma, similar to that which occurs in the case of the thyroid, which is shown by a woman suffering from Graves's disease giving birth to one or more children with myxoedema.

85. Pharyngeal Spasm simulating Loss of Appetite in Children.

E. WEILL (*Paris méd.*, December 6th, 1919) has frequently found that a spasm of the pharynx is the cause of a child refusing its food. The condition is most frequent between the ages of 2 and 5 years, but it may occur as early as 18 months or as late as 9 years of age. It is found both in boys and girls. It is sometimes, but not always, associated with nervous antecedents. It may first appear after weaning or occur at a later stage when the child has been put on ordinary diet. Sometimes it develops at a relatively advanced age after an attack of influenza, whooping-cough or erythema nodosum. It is either continuous or attended with slight remissions. It may last for years, and prove intractable to ordinary treatment. Weill has found that the most effective cure is the passage of a rubber catheter down the pharynx. A single sitting may be sufficient, but in some instances the instrument may have to be passed two or three times at intervals of a few days. In cases where catheterization is refused, cold compresses should be applied to the front of the neck for thirty or forty minutes, the compresses being renewed every ten minutes, followed by massage of the floor of the mouth and suprahyoid region. During a meal, if the child is slow in swallowing, the finger should be pressed upon the trachea, when the sensation of impending suffocation provokes deglutition.

86. Swimming-Bath Conjunctivitis.

PADERSTEIN (*Med. Klinik*, November 23rd, 1919) states that the occurrence of infective conjunctivitis among a large number of visitors to swimming baths was first described in 1899 by P. Schultz, who regarded the cases as trachoma. In 1900 Fehr, who made a close examination of some cases in Hirschberg's clinic, found that, though the condition closely resembled trachoma, recovery always took place, so that it could not be a true trachoma. From 1912 to 1914 Paderstein and Lehmann saw about forty cases of swimming-bath conjunctivitis. In the cases investigated by Huntemüller and Heimann inclusion bodies were found, and Huntemüller succeeded in transmitting the disease to the conjunctiva of a monkey, in which he found the inclusion bodies. Gradle in 1916 reported an outbreak of swimming-bath conjunctivitis at Chicago. Comberg reported about forty cases, which all came from the same swimming bath. In half the cases he had found inclusion bodies. In the discussion several Berlin ophthalmologists stated that they had seen cases of this kind, so that the disease is more widely spread than has been hitherto supposed. The condition consists in an acute conjunctivitis with much swelling and redness of the palpebral conjunctiva, only slight affection of the ocular conjunctiva, and well marked follicle formation. Fehr's statement that, unlike trachoma, the lower conjunctival fold was usually more affected than the upper, was confirmed by several observers. The discharge was usually slight compared with the high degree of inflammation. The preauricular gland was swollen as a rule. A characteristic feature of the disease was that almost always one eye only was affected and that the disease in most cases remained confined to one eye. The course of the affection was usually tedious and was not much affected by treatment. The symptoms commonly lasted three to six weeks. In some cases, however, swelling of the conjunctival folds, slight ptosis, and a suggestion of pannus was seen a year after the onset. Serious complications have not been observed. Treatment consisted in instillation of 1 per cent. silver nitrate, solutions of zinc sulphate, protargol, and other astringents. Collargol and an ointment containing copper sulphate were also recommended.

SURGERY.

87. The Serum Treatment of Haemorrhage.

CERTAIN haemorrhages more or less inaccessible to surgical treatment have been treated, with only doubtful success, by various injections—for example, ergotin, pituitrin, emetin, adrenalin, calcium chloride, gelatin, horse serum, antitoxin. For each of these a certain amount of success has been claimed, but perhaps more often one has to record a failure. DUFOUR and HELLO (*Il Morgagni*, November 5th, 1919) say they have prepared and used a special serum which in their hands has been decidedly successful. They noted that in a case of purpura haemorrhagica where antidiphtheritic serum was tried, no effect on the blood coagulability was observed until a condition of anaphylaxis was produced. Acting on this hint they prepared an anaphylactic serum by injecting rabbits intravenously with a very small dose of antitoxin and twenty days later bleeding the animal. The results of injecting this serum in 16 cases are given. Most of the cases were examples of metrorrhagia—others were post-operative bleeding after removal of haemorrhoids, epistaxis, post-dental, haemophilia, etc. The authors conclude that their specially prepared serum is the most efficacious haemostatic preparation they have so far used.

88. Intramedullary Beef-bone Splints in Fractures of Long Bones.

RYERSON (*Journ. Amer. Med. Assoc.*, November 1st, 1919) recommends the use of intramedullary beef-bone splints in fractures of the long bones. The splints, in various sizes, are cut from the long bones of slaughtered cattle and then turned in a lathe, so as to be round or nearly so, and the ends rounded off with a hole bored near one end. After fractional sterilization these are kept in containers, and when required are boiled with the instruments. A long piece of heavy chromic catgut having been threaded into the eye of the splint, the latter is pushed into the longer fragment until it is completely within the bone, from the end of which the double thread of catgut hangs. A hole is drilled in the other fragment at a distance from the fracture about half the length of the splint, and slanting towards the fracture. A piece of wire bent at the middle is then passed through the hole and out at the fracture, and with this the catgut threads are drawn through the hole. The overriding fractured ends are then reduced and brought into apposition, when traction on the catgut thread will slide the splint half way from the one fragment into the other so as to be exactly at the proper point, and by sewing the catgut into the periosteum at its point of exit the splint is secured and prevented from sliding out of position. Splints for the femur should be about 5 in. long by $\frac{3}{4}$ in. wide for adults; for the humerus $\frac{5}{8}$ in. wide, and for the radius and ulna $\frac{1}{2}$ in. wide by 3 in. long. Should autogenous splints be required, as in old or long-standing ununited fractures, these can be made from the patient's own tibia.

89. Silent Renal Calculi.

E. L. YOUNG (*Boston Med. and Surg. Journ.*, 1919, 181) attacks the problem of "silent" renal calculi. He attempts to answer the questions: How long can a stone be safely left in a kidney without serious damage accruing? Can damage occur without showing signs in the urine? An analysis of 4,000 autopsies at the Massachusetts General Hospital revealed 45 cases with stones in the kidney or ureter or both. In 11 of these stone had been diagnosed clinically, in 34 not. Of these last cases in only one was the urine normal and the kidney normal. In 24 cases the clinical history was negative, whilst in only 4 cases was the urine negative, the majority having at least a trace of albumin and a few pus cells. In these "silent" renal calculi pathological changes in the kidney are the rule, abnormalities in the urine are the next commonest feature, whilst a typical history is not given. Young concludes that stones in the calices can do as much damage as stones in the pelvis, but that even small stones in the ureter are worst of all, as they most surely damage the kidney function. His first question is answered by the statement that there is no definite time that a calculus

can be left, but that signs of obstruction and infection of the kidney, apart from pain, call for the removal of the foreign body.

90. Thyroidectomy for Graves's Disease.

IN an interesting paper DUNHILL of Melbourne (*Brit. Journ. Surg.*, 1919, 7) describes the operative technique of thyroidectomy for exophthalmic goitre. The article is valuable in that it gives full details of many points on which the textbooks are vague or silent. The amount of gland tissue to be removed at any given operation is a difficult point to establish. This is chiefly because of the fact that a very small amount of thyroid tissue is sufficient to give rise to toxic symptoms. The amelioration following a first operation may be temporary only. This is no proof that surgery as a means of treatment is a failure, but is a clear call for further gland removal. Dunhill states that three operations may be necessary. At the first he removes the whole of the right lobe and part of the isthmus; at the second the remains of the isthmus and all of the left lobe save a portion at the upper pole. If functional disturbances continue or recur, a third operation is undertaken, and in these cases an unsuspected lobule of thyroid tissue will usually be found lodged well behind the larynx, having sprung from the postero-internal aspect of the left upper pole. Such an outgrowth may give no external indication of its presence, but the effects of its removal are striking and immediate. In favourable, moderately toxic, cases one operation may suffice, but Dunhill states that a hemithyroidectomy is rarely successful, most of the left lobe must be removed as well. If the condition of the patient warrants it this can be done at one sitting; if not, it is best done in stages, further removals being performed as the symptoms dictate. It is important to realize that more than one operation may be necessary, as many disappointments to patient, surgeon, and physician are thus avoided. Further, the technique of the operation must be so planned as to make subsequent operations as easy as possible, the chief enemy being scar tissue through unnecessary dissection. The paper will be found to be most instructive on these points. Dunhill is no believer in preliminary ligation of vessels, but in the hands of surgeons less expert than his the operation certainly has a place. As to anaesthesia, Dunhill believes in novocain helped out when necessary by a light ether inhalation. He finds that with scopolamine-morphine-novocain the patients are apt to be a little unruly, too stupid to keep still and too dulled to do what they are told. He refers to two deaths from rectal anaesthesia. The one cause of failure is, therefore, the leaving behind of too much toxin-producing gland. This may be in the form of a part of a thyroid lobe, or in the guise of hypertrophied lobules left behind by ragged dissection.

91. F. H. LAHEY (*Boston Med. and Surg. Journ.*, 181, 1919) is a strong supporter of preliminary ligation of the superior thyroid vessels as a first stage towards thyroidectomy for Graves's disease. Lahey believes that "to ligature when in doubt" is one of the soundest principles in the surgery of toxic goitre. In his hands the results of this step have been striking—an immediate gain in body weight, improvement in the nervous condition, a lowering of the pulse rate, and a general relative approach towards a more normal condition. The operation performed is that of ligature of the superior thyroid vessels through an incision placed over the upper pole of the gland, the site of the incision being determined by palpation. Ligature here serves three purposes: something less than one-half of the blood supply to the gland is cut off, the lymphatic drainage is interrupted, and the sympathetic fibres divided, so that in whatever way the thyrotoxin influences the organism, division of the vascular stalk of the upper pole greatly decreases its powers for evil. It is for this reason that ligation of the superior thyroid artery has definite advantages over ligation of the inferior thyroid artery at the posterior margin of the sterno-mastoid. Lahey uses a combination of scopolamine, morphine, novocain, and gas as his anaesthetic. He regards the operation as a life-saving measure. If the condition of the patient does not warrant ligature of both sides at one sitting, he allows two to three weeks to elapse between operations. It must be remembered that these ligations do not obviate the performance of a thyroidectomy, but render the performance of this safer when undertaken some two months later.

92. Adrenal Rests in Hernial Sacs.

MACLENNAN (*Surg., Gyn., and Obstet.*, 1919, 29) writes of adrenal rests in the walls of hernial sacs. He has seen seven, six of them in a series of 700 herniae in children operated upon by him. They appear as minute, flattened, brownish-yellow particles an eighth of an inch in diameter, embedded in the wall of the sac near the cord. All the cases were males, but as only 40 of the 700 were females he cannot give the relative sex incidence. The interest of the condition lies in the support that it tends to give to the congenital origin of hernial sacs. The paper is illustrated with photomicrographs of these rests, showing the typical appearance of adrenal tissue.

93. Endocranial Complications of Acute Otitis Media.

J. JOANNOVITCH and H. MASPARINI (*La Presse méd. d'Égypte*, November 15th, 1919) record three cases of acute purulent otitis media in adults, two of which were fatal. Their conclusions are as follows: (1) In cases of acute otitis media, if the fever and headache persist after trephining the mastoid, there is reason to suppose that an endocranial complication is present. (2) In cases of extradural abscess which has been opened and drained, if the fever and headache persist, an intrameningeal or intracerebral complication may be assumed. (3) A tender spot is a valuable guide to an intrameningeal collection of pus. (4) The prognosis of the endocranial complications of acute otitis media is very grave.

94. Hypertrophic Pulmonary Osteo-arthropathy.

A GOOD example of this rare disease is described and figured by ERDMAN and OSTENDORF (*Journ. Amer. Med. Assoc.*, 1919, 73). The patient was a male, 24 years old, with a chronic suppuration in the chest, which appears from the text to be a "post-tonsillectomy" lung abscess. The enlargement of the hands and feet began some six months after the onset of chest symptoms. *X* rays later on showed a definite striated production of new bone in the periosteum of the shafts of the metacarpals and first two rows of the phalanges and along the lower ends of the radius and ulna. There were similar changes in the lower extremity. Although the soft parts were much thickened there was no clubbing of the fingers, a feature present in many cases recorded. In the present case there were no headaches, disturbances, nor drowsiness. This is important, as it is alleged that Marie's first case turned out to be an acromegaly. He it was who first used the term "ostéo-arthropathie hypertrophiante pneumique," and the French writers were equally the first to attribute the origin of the disease to septic absorption—usually from the lungs. One cannot help suspecting that the true story of this disease has yet to be told, and that changes will be found in the endocrine glands, changes perhaps the result of pulmonary toxins.

95. The Indications for Splenectomy.

ACCORDING to F. KLEEBLATT (*Mucnch. med. Woch.*, November 7th, 1919) splenectomy is indicated in isolated miliary tuberculosis of the spleen, in all processes with pronounced haemolysis such as haemolytic jaundice, in hypertrophic cirrhosis of the liver, in the first and second stages of Banti's disease, and as a last resort in the third stage. In pernicious anaemia the operation causes temporary improvement. On the other hand, splenectomy is contraindicated in portal thrombosis and in all processes caused by primary portal congestion, and in polycythaemia.

96. Chronic Lead Poisoning after a Bullet Wound.

H. CURSCHMANN (*Med. Klinik*, November 16th, 1919) reports a case of chronic lead poisoning in a sergeant, aged 28, which developed fourteen months after a bullet wound of the left trochanter and hip-joint. The patient had typical lead colic and constipation, general weakness, secondary anaemia, and paralysis of both deltoid muscles. There was a well marked blue line on the gums. No lead could be found in the urine. The colic was relieved by opium and belladonna, but the rapid increase of anaemia and polyneuritis were an indication for an operation to remove the bullet. This form of lead poisoning was described in the nineties by C. Lewin, who saw the first case of this kind (revolver shot in the lung). During the war Neisser and Schlesinger drew attention again to its not infrequent occurrence after bullet wounds. In a number of their patients, as in the present case, there was a relatively long "incubation period" between the reception of the wound and the outbreak of symptoms. Neu and Dennig have attributed this to an intermittent absorption and excretion of the lead from the bullet. The anatomical position of the bullet and its relation to the blood and lymph stream are probably the chief factors in the exacerbation and remission of the symptoms.

OBSTETRICS AND GYNAECOLOGY.

97. Treatment of Eclampsia.

R. T. VON JASCHKE (*Deut. med. Woch.*, December 11th, 1919) recommends the following scheme of treatment: (1) Subcutaneous injection of 0.015 gram morphine hydrochloride to reduce the reflex excitability. The patient's room is darkened, and noise of any kind is prevented. (2) About a quarter of an hour later light ether anaesthesia is induced in order to catheterize the patient and to determine the stage of labour by digital examination. If the child is alive with its head deep in the pelvis and the os dilated, deeper anaesthesia is induced and delivery effected by forceps. (3) Immediately after digital examination and catheterization venesection of 500 c.cm. should be performed. A removal of a smaller amount of blood is valueless. (4) Continuation of Stroganoff's method which began with the injection of morphine, as follows: One hour after the injection 2 grams of chloral hydrate in 300 c.cm. of milk are given per rectum. Three hours after the beginning of treatment 0.015 gram morphine subcutaneously. Seven hours after beginning of treatment 2 grams of chloral hydrate or dormiol in 300 c.cm. of milk per rectum. The same dose of chloral hydrate or dormiol is repeated thirteen to twenty-one hours after the beginning of treatment. (5) In severe cases with repeated attacks 500 c.cm. of Ringer's solution should be given subcutaneously or intravenously about twice in the twenty-four hours. If the eclampsia does not develop till after delivery the amount of blood lost will determine the amount of the venesection, otherwise the treatment will be the same as described above.

PATHOLOGY.

98. A Remarkable Case of Pulmonary Embolism.

J. F. O. HUESE (*Nederland Tijdschr. v. Geneesk.*, December 20th, 1919) reports the following case: A man who had fractured his fourth dorsal vertebra as the result of a fall developed a bedsore on the buttock followed by thrombosis of the pelvic veins, which subsequently extended to the inferior vena cava. A haemorrhagic infarct in the right lower lobe resulted from separation of portion of the clot, and six days later embolism of both pulmonary arteries occurred. In spite of the extensive character of the embolism, death did not take place until a full hour after its occurrence.

99. Hypertrophic Lymphangioma of the Aorta.

V. ARRIGO (*Il Policlinico*, Sez. Prat., November 16th, 1919) records a case in a girl, aged 14, who had died of nasopharyngeal and laryngo-tracheal lupus. The anterior surface of the portion of the aorta within the pericardium showed two small tumours the size of a lentil which on histological examination were found to consist of newly formed lymphatic capillaries which had developed mainly round the vasa vasorum in the adventitia of the aorta. They were lined with cubical and cylindrical endothelial cells, and contained lymphocytes or a granular substance. Arrigo regards these small growths as hypertrophic lymphangiomas, closely allied to lymphangio-endotheliomas, especially to their perivascular form.

100. Chorion-epithelioma in the Male.

LANGER (*Med. Klinik*, November 2nd, 1919) remarks that in the vast majority of cases of chorion-epithelioma in the male the primary tumour is a teratoma of the testicle. Of the few cases recorded where the primary focus appeared to have been elsewhere there is only one in which the possibility of a testicular origin could be excluded with certainty. In his own case a young man of 21 years had the right testicle removed on account of a swelling. On microscopic examination of portions of this it was found to be a teratoma, with cysts lined partly by squamous, keratinizing epithelium, and partly by columnar epithelium with goblet cells, while in its stroma cartilage was present. No chorion-epitheliomatous elements were observed in any of the sections examined. The patient died nine days after operation, and extensive deposits of typical chorion-epithelioma were present in his lungs and retroperitoneally between the kidneys. These tumours were believed to be derived from the teratoma of the testicle, probably from an undiscovered focus of similar tissue there. In discussing the condition Langer agrees with most previous observers that chorion-epithelioma in a teratoma of the testicle is derived from an embryonic rest which has become segregated at a very early period in development, and probably from a cell with potentialities for development not far short of the impregnated ovum. As Dick has pointed out, the relation of chorion-epithelioma in man to its host is that of consanguinity, while the relation of woman to the usual chorion-epithelioma of women is that of mother to offspring. In women the tumour may develop from chorionic tissue of varying degrees of maturity and the tumour may accordingly show varying degrees of malignancy, sometimes not high. On the other hand, in the male the tumour grows from chorionic epithelium of the earliest type, and its malignancy appears to be invariably great.

101. The Sachs-Georgi and the Meinicke Reactions in Syphilis.

MERZWEILER (*Deut. med. Woch.*, November 13th, 1919) has examined more than 700 serums by the original Sachs-Georgi method or by a later slightly modified procedure, and compared the results with those of the Wassermann reaction on the same samples. The serums were from syphilitic cases, treated and untreated, and from non-syphilitic diseases and normal people. The extract for the Sachs-Georgi test was cholesterinated ox heart, and precipitation was looked for after eighteen hours by the agglutinoscope. In 86 per cent. of cases the results corresponded to those of the Wassermann reaction. A positive Sachs-Georgi reaction always indicated syphilis, and no positive result was obtained in the sixty-four non-syphilitic cases examined. A negative Sachs-Georgi reaction was just as insufficient proof of absence of syphilis as a negative Wassermann reaction. In clinical syphilis the Sachs-Georgi reaction gave 5 to 10 per cent. more positive results than the Wassermann reaction, but was negative in some cases where the Wassermann reaction was correctly positive. The precipitating property of the positive serums could not be relied upon after five days' storage, so that the method is only applicable in institutions where tests are done at least twice a week. Apart from this the method is as reliable as the Wassermann reaction for positive diagnosis of syphilis and for exclusion of non-syphilitic cases, and it may be used with advantage for further examination of serums which give doubtful results to the Wassermann reaction. Meinicke's precipitation reaction was similarly tested on 366 serums, but was found to give erroneously positive results in 12 per cent. of cases, so that in its present form it has much less practical value than the Wassermann.

102. Myocarditis from CO Poisoning.

A RECENT publication by Zondek on the condition of the heart in coal gas poisoning has drawn from E. LIEBMANN (*Deut. med. Woch.*, October 23rd, 1919) the following account of a case in which severe interstitial and parenchymatous myocarditis was found. The patient was a woman, aged 38, who had previously been well, and who was found unconscious in her bathroom, the window of which was open. The source of the fumes detected in the room was a defective stove. Carboxyhaemoglobin was demonstrated both by the spectroscope and the caustic soda test. Death occurred twenty hours after the patient's admission to hospital. At the necropsy the heart was found to be a little larger than the patient's fist, and in the pericardium there were numerous small haemorrhages. The muscles of the left ventricle were extraordinarily flabby, soft, and yellow; they looked as if they had been boiled, and they were suffused with blood. The valves of the heart were intact. Under the microscope the muscles of the auricles and of the right ventricle showed albuminous clouding, but stained sections betrayed no sign of definite disease. All the more striking were the morbid changes in the muscles of the left ventricle. Over wide areas the transverse striation of the muscle fibres had completely disappeared, their nuclei could not be recognized, and their broken-up protoplasm stained very intensely with eosin. Among the muscle cells were large and numerous collections of neutrophil leucocytes and of round cells, some of which had penetrated to the interstices between single muscle cells. The blood vessels were dilated, and at several points blood was effused. There were also multiple haemorrhages into the brain. The author, who has failed to induce similar changes in the hearts of guinea-pigs by coal gas poisoning, suggests that his findings may not be as unique as the lack of records of similar cases indicates. Probably profound changes in the muscles of the heart induced by coal gas poisoning are often overlooked.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

103. A Second Attack of Scarlet Fever.

OWING to the comparative rarity of a second attack of scarlet fever the case reported by M. W. MARSMAN (*Nederland. Tijdschr. v. Geneesk.*, December 13th, 1919) is of interest. In October, 1915, a girl, aged 6 years, had a typical attack of scarlet fever, followed by well marked desquamation and haemorrhagic nephritis. In August, 1918, she had another attack, which was followed by branny desquamation lasting for twelve days. The urine on this occasion remained normal. Erythema scarlatiniforme was excluded by the high temperature, constitutional disturbance, the transient nature of the eruption, and the relatively short duration of the desquamation.

104. Familial and Hereditary Graves's Disease.

P. HARVIER (*Paris méd.*, December 6th, 1919) records a case of inherited Graves's disease which had commenced in childhood in a man aged 19, whose mother, maternal grandmother, and paternal aunt were similarly affected. Tremor, which was the first symptom noted, appeared at the age of 3 years. The thyroid became enlarged at the age of 12, but the onset of the exophthalmos could not be determined. In some cases the symptoms develop much earlier. Schmauch reports the case of a woman, aged 35, who at the end of her first pregnancy developed a goitre, which increased in size with each subsequent pregnancy. During the fourth pregnancy she presented undoubted signs of Graves's disease, and was delivered of a child at seven and a half months, which presented some exophthalmos five weeks after birth. No mention, however, was made of the size of the thyroid, tremor, or state of the pulse, so that the diagnosis of congenital exophthalmic goitre is doubtful. Transmission is usually on the female side, but in some cases the father alone is the subject of Graves's disease. Inherited exophthalmic goitre occurs spontaneously without obvious cause or develops after an infectious disease or an injury. In some cases the symptomatology is complete, and in others, while the exophthalmos and tachycardia are more or less marked, tremor may be absent or disappear.

105. Scarlatiniform Erythema caused by Codeine.

ROUQUIER (*Rev. méd. de l'Est.*, December 1st, 1919) records the case of a soldier the subject of chronic bronchitis and emphysema who whenever he was given codeine developed a diffuse scarlatiniform eruption followed by desquamation. The eruption was much darker in colour after ingestion of 60 grams of the syrup, which contained 12 cg. of codeine, than after 30 grams, and was accompanied by the appearance of small bullae, which were not produced by the smaller dose.

106. Vaccine Treatment of Influenza.

INTRAVENOUS injection of a mixed influenza vaccine is recommended by D. ROBERTS (*Amer. Journ. Med. Sci.*, September, 1919), who found that good results were only obtained when the injection caused a definite reaction. The initial dose required to produce this reaction was 1,000 million organisms injected intravenously, and probably several times as much if injected subcutaneously or intramuscularly. The exact composition of the vaccine was regarded as unimportant. The injections were repeated every twenty-four hours until improvement took place. In a series of 200 cases of influenzal pneumonia treated by this method the mortality was 9.6 per cent., as compared with a mortality of 31.3 per cent. among 86 cases treated by an expectant plan.

107. A Constant Sign of Hyperthyroidism.

G. MARANÓN (*Rev. Espan. de med. y. cir.*, November, 1919) describes a sign which he found in 92 out of 100 cases of all forms of hyperthyroidism, consisting in an erythema caused by slight friction of the skin of the neck with the finger. The erythema so produced is more intense than in the neighbouring regions, and when a goitre is present may be confined to the skin over the tumour, or if the goitre is unilateral it may be more intense on the corresponding side. The erythema may be uniform or irregular, smooth or slightly raised. Marañón attributes the phenomenon to a hypersensitive condition of the vasomotor nerves caused by the excess in thyroid secretion or a change in its quality. This action is probably effected by means of the hormones which are conveyed from the thyroid gland to the skin in the blood stream and not by the nervous system, as it is chiefly manifested in the region of the thyroid.

108. Meningococcal Septicaemia with Petechial Eruption.

VERATTI (*Il Policlinico*, Sez. Prat., November 16th, 1919) reports the case of a soldier who, shortly after coming from a district where typhus was prevalent, suddenly developed high fever and shivering, and a few days later presented a petechial rash closely resembling typhus. The Weil-Felix reaction was negative, as were also the agglutination tests for typhoid and paratyphoid A and B; but examination of the blood showed numerous organisms with all the characters of the meningococcus. The disease lasted for a long time, the fever persisting for about a month after the disappearance of the rash, and at a later stage signs of meningeal localization appeared; but on examination of the slightly turbid cerebro-spinal fluid it was impossible to isolate the meningococcus or any other germ.

109. Pituitary Dwarfism.

K. FABER (*Ugeskrift for Laeger*, December 11th, 1919) records two cases of dwarfism bearing out Hastings Gilford's view that "pituitary deficiency does not lead to gigantism, but to defective growth, or infantilism." The first case was that of a lad, aged 17, whose height was 127 cm. The trunk and limbs were well proportioned, except for the limbs being a little too short in comparison with the trunk, and the head contributing to one-sixth of the total height. His features and the shape of his head were infantile, and there was no beard nor growth of hair on the pubes or in the axilla. The genitals were those of a little child; the scrotum was empty, the penis was only 2 cm. long. He was plump, the distribution of fat giving his body a feminine appearance. There was no oedema or evidence of myxoedema, and there was no glycosuria, but the total daily excretion of urine amounted to 2,000 to 3,000 c.cm. Examination of the eyes revealed atypical homonymous hemianopsia, suggesting a lesion near the chiasma. The second case—that of a lad also aged 17—presented so many points of similarity to the first case that the two might have been twins. In both cases the x rays showed a definite shadow just above the sella turcica, interpreted by the author as a sign of calcification of a benign tumour. Discussing the treatment of such cases, he finds an operation too dangerous, and he admits that though x-ray treatment is comparatively safe, the prospects of its proving beneficial are rather meagre.

110. The Mechanistic Classification of Neuroses and Psychoses.

KEMPF (*Journ. of Nervous and Mental Dis.*, vol. 50, 1919) puts forward a system of classification of neuroses and psychoses based essentially on the integrative functions of the nervous system, of which the psychoses are considered to be symptoms, and maintains that the same forces which build up a personality when harmoniously integrated cause its deterioration when inadjustable conflicts occur. Though any such system of classification can only be regarded as retrogressive by those who are endeavouring to establish clinical psychiatry on the basis of pathological physiology, it must be admitted that the time has not yet come when this possibility is even in sight, and meanwhile the system of the author furnishes a basis for psychological documentation of great interest and suggestiveness.

111. Subcutaneous Injections of Oil of Camphor in Sciatica.

S. JENSEN (*Ugeskrift for Laeger*, July 24th, 1919) has been so greatly impressed by the effect of subcutaneous injections of oil of camphor in other cases of neuritis that he has extended this treatment to cases of sciatica. In all the 13 cases of sciatica thus treated the pain disappeared completely within ten to twelve days, and in no case did it recur. The dosage was 3 to 4 cm. injected in the neighbourhood of the affected nerve. In severe cases this dosage was raised to 5 or 6 cm. daily.

112. Jaundice and Arsenobenzol.

CHABROL and KHOURY (*Paris méd.*, December 13th, 1919) report several cases of jaundice occurring in patients treated by arsenobenzol in various stages of syphilis. The pathogenesis of the jaundice is not yet settled. According to some writers it is due to a reactivation of the syphilitic process, while others regard it as a simple toxic jaundice. Milian maintains that syphilis is alone responsible, and considers that as the result of the arsenical preparations a sort of Herxheimer's reaction takes place in the liver and the spleen, which are the sites of predilection for the *Treponema pallidum*, as well as the centres for haemolysis and the production of bile. According to this view, it is logical to continue the arsenical treatment in spite of the appearance of jaundice, and, as a matter of fact, in some cases this appears to hasten recovery. On the other hand, the hypothesis of a simple toxic jaundice is supported by the frequent occurrence of jaundice following other arsenical preparations, as will be found in textbooks on toxicology, and especially in the histories of celebrated poisoning cases. Clinical observations also are in favour of the toxic hypothesis, as it is difficult to explain otherwise the occurrence of jaundice after twenty years of syphilis on the day following a series of ten to twelve injections of arsenobenzol. The present writers agree with Hudelo in emphasizing the importance of a predisposition on the part of the liver in such cases. Queyrat has shown that alcoholic and tuberculous patients whose liver has undergone fatty degeneration are specially liable to develop jaundice after arsenobenzol, and in several of the present writers' cases pregnancy cholelithiasis and cholaemic heredity were important factors.

113. Diphtheria of the Nose and Ear in an Infant aged 30 Days.

L. SPOLVERINI (*La Pediatria*, December, 1919) reports a case of diphtheria of the nose and middle ear in an infant suffering from congenital syphilis. The nostrils were reddened, and there was a serous nasal discharge. There was purulent otorrhoea from the left ear. Diphtheria bacilli were found in the nasal discharge and in the pus from the ear in association with a few diplococci. Considerable improvement followed two injections of diphtheria antitoxin, the first consisting of 2,000 units and the second of 1,000 units, and syringing the nose and ear with a 1 per cent. solution of protargol. The child, however, was removed from hospital before complete recovery took place. The patient had probably been infected by a carrier, as there was no case of diphtheria in the family.

114. Adrenalin in Spastic Bronchitis.

N. JAGIC (*Wien. med. Woch*, September 27th, 1919) found during the war that a considerable proportion of the soldiers admitted to hospital for wounds suffered also from a well defined type of bronchitis. The cough was intractable, and as it persisted after the wounds had healed, these patients used to be sent to the dust-free atmosphere of a convalescent home in the country. They returned some weeks later little better for the change. True bronchial asthma, as well as tuberculosis, could be excluded in these cases, the most striking features of which were dyspnoea on slight exertion, little or no sputum, harsh and prolonged expiration, and a limited excursion of the diaphragm, as observed by the *x* rays. The apparent kinship of this condition to true bronchial asthma led the author to give hypodermic injections of adrenalin. In many cases these injections were followed in fifteen to twenty minutes by less embarrassed expiration, diminution of the adventitious sounds, and by a marked increase in the range of movements of the diaphragm. These were often twice as great as before an injection. The author, who regards these cases as the result of a spastic condition of the bronchial system, attaches great importance to the diagnostic significance of an *x*-ray examination of the movements of the diaphragm.

115. Senile Osteomalacia.

WEIS (*Med. Klinik*, October 5th, 1919) records the case of a woman, aged 60, who had been operated on three years earlier for cancer of the uterus. She suffered from severe pain in the limbs and chest, and experienced increasing difficulty in walking. On admission to hospital she was practically incapable of walking, and her chest was very tender on pressure. In other respects the examination was negative. The diagnosis between secondary cancer or senile osteomalacia was settled by the success attending treatment with "phosphorlebertran," the exact nature of which preparation is not stated by the author. Complete recovery was effected. Discussing the symptoms of senile as distinct from puerperal osteomalacia, the author emphasizes the comparatively slow onset of the disease and the lack of marked morbid changes. In the early stages the disease is often confused with rheumatism, neuralgia, or hysteria. Chronic arthritis, diseases of the spine, and senile osteoporesis must also be considered in the differential diagnosis. Phosphorus acts almost as a specific.

SURGERY.

116. Thoracoplasty in Pulmonary Tuberculosis.

P. BULL (*Norsk. Mag. for Laegevidenskaben*, November, 1919) has performed thoracoplasty in 37 cases of pulmonary tuberculosis, and he groups his cases in two series, according as they were operated on before or after 1916. This classification showed how greatly the results had improved by experience and changes of technique. In the first series of 11 cases there were 3 operation fatalities; in the second series only one. The mortality was thus reduced from about 30 to 4 per cent. The chief improvement in technique was the performance of the operation in two stages, with an interval of three to four weeks, instead of in one stage. Local anaesthesia was induced at the first stage; general anaesthesia, as a rule, at the second stage. Of the 33 patients who survived the operation, 7 succumbed to tuberculosis and one to influenzal pneumonia. Of the 25 who were still alive, 11 were fit for work, were always afebrile, and their sputum no longer contained tubercle bacilli. Seven others still suffered from active tuberculosis. The remaining 7 had been operated on within a year, and no permanent result could be claimed, though there was every prospect of a permanent cure in several of these cases. This operation may, therefore, achieve a "cure" in a third of the otherwise forlorn cases found suitable for it. The author found the condition of the opposite lung often determined the ultimate fate of the patient.

117. Aneurysm of the Liver.

SUDECK (*Muench. med. Woch.*, November 17th, 1919) reports the first case on record of diagnosis during life and of cure of aneurysm of the liver. The patient had received a gunshot wound of the abdomen followed by haemothorax, which was successfully operated on. Subsequently hepatic colic and intestinal haemorrhage took place, for which laparotomy was performed in the belief that the condition was a subphrenic abscess. The gall bladder was found to be distended and the hepatic vessels enormously dilated. The gall bladder was stitched to the wound, and was opened later. Blood continuously escaped from the opening, so that an intrahepatic aneurysm communicating with the bile ducts was diagnosed. The hepatic artery was ligatured and recovery took place.

118. Bony Ankylosis after War Wounds.

Il Morgagni (December 15th, 1919) says that the term "ankylosis" should be confined to true bony ankylosis as distinguished from fibrous ankylosis or ankylosis due to extra-articular lesions. In addition to the usual means of distinguishing bony from fibrous ankylosis, including the help from *x* rays, a valuable clinical sign may be looked for—namely, the pain elicited on movement of the joint; in true bony ankylosis there is no pain on attempted movement except such as may be due to direct pressure of the fingers, and the firmer and more bony the ankylosis the truer this is, whereas in fibrous ankylosis attempts at movement usually cause definite pain in the articulation itself.

119. Circumscribed Spinal Meningitis Cured by Operation.

AT a meeting of the Jydsk medicinsk Selskab, Strandgaard (*Ugeskrift for Laeger*, December 25th, 1919) demonstrated a patient, a widow of 55, who for long had been the subject of many diagnoses and much varied treatment. At the age of 52 she was treated for haematemesis, at the age of 53 for gall stones, at the age of 54 for gastro-coloptosis and sciatica. About nine months before the demonstration she was admitted to hospital for gall stones, although the pain, supposed to be due to biliary colic, was chiefly situated in the back. Her movements at this stage were suggestive of spondylitis. This diagnosis was not, however, confirmed by any of the *x*-ray examinations made. In hospital several attacks of pain recurred, and as they were located under the right costal arch an operation for gall stones was undertaken. The gall bladder proved to be distended, and there were a few adhesions, but no gall

stones could be found. As the pain recurred after this operation, and radiated out to both sides from the spine, laminectomy for relief of spinal compression was performed. Under morphine-ether anaesthesia the laminae of the tenth thoracic vertebra were resected. Nothing abnormal was found till the laminae of the twelfth vertebra were removed. Here an encysted exudate was found in the pia. This pseudo-cyst was easily removed, the wound was closed, and healing by first intention followed. At the demonstration the patient was not only perfectly free from pain, but she was in every other respect restored to complete health.

120. Post-operative Prognosis for Cancer of the Breast.

A. NEANDER (*Hygiea*, December 16th, 1919) has analysed the cases of cancer treated in his hospital in the period 1890–1914. The number undergoing a radical operation was 427. The immediate operation mortality was 2.1 per cent. In 97 cases the disease was found at the operation to have extended beyond the surgeon's reach, and these cases were therefore excluded, as the author's object was to ascertain the results of operative treatment when, at the time of operation, all the disease was apparently removed. Thus the number of patients was reduced to 320. Of these, 165 were found to have died of cancer, 23 of other diseases without any sign of cancer in the field of operation, 45 were still alive, and 85 could not be traced. The remaining 3 were still alive but were suffering from a recurrence of the cancer. The author found that after the age of 30 as high a proportion as 72 per cent. of all cases of chronic disease of the breasts were malignant. About 25 per cent. were inoperable, and of the cases undergoing a radical operation—that is, clearing out of the axilla as well as amputation of the breast—more than 70 per cent. terminated fatally with recurrence of the disease within three years of the operation. When he sorted his material according to Steinthal's classification, he found that of 71 patients in the first class, with small, slowly growing tumours showing little or no signs of extension to the axilla, 32 had died of cancer of the breast, 3 of cancer of the stomach, and 6 of diseases other than cancer. Thirty patients were still alive and showed no sign of recurrence of the cancer, but all the 15 patients in the third class had succumbed to cancer although their enlarged supraclavicular glands had been excised at the time of operation on the breast. In two-thirds of the cases of recurrence the operation scar or its immediate neighbourhood was involved. The author interprets this as an indication for including more of the skin in the operation than heretofore, even though the wound may not heal as neatly by first intention as when accurate union of the margins of the skin is effected.

121. Extragenital Inoculation of Soft Sores.

C. MADERNA (*La med. Pratica*, November 30th, 1919) states that extragenital soft sores are extremely rare, being much less frequent than extragenital hard chancres. In Ricord's statistics of 343 soft chancres, only 28, or 8.10 per cent., were extragenital. Fournier had only 2 extragenital cases among 445 patients. Clerc had only 20 among 2,000 patients (1 per cent.), and Cheimresse 5, or 0.11 per cent., among 3,956. The combined statistics of Ricord, Lelalage, Leford, Clerc, Millet, and Lohartheshow a percentage of 2.53, and those of Petersen, relating to 9,000 cases of soft chancre, 5,363 of which had come under his own observation, a frequency of 0.30 per cent. The most frequent situation for extragenital soft chancre is the finger, of which 21 examples are on record. In 14 cases the cephalic region has been affected, in 5 the lower lip, in 3 the back of the hands, in 2 the tongue, in 2 the forearm, in 2 the chest, while the buccal cavity, pharynx, tonsil, conjunctiva, groin, and nipple have been affected in one case each. The frequency of extragenital soft sores is greater in women than in men. Maderna records 2 cases of extragenital inoculations of soft chancres on the thighs, abdomen, and buttocks secondary to infection of the penis in patients suffering from scabies.

122. A Case of Circumscribed Traumatic Serous Peritonitis.

G. ABOULARAGE (*Il Policlinico*, Sez. Prat., November 30th, 1919) reports a case, in a boy aged 7, following a violent blow in the epigastric region. The result was a contusion of the stomach and transverse colon without perforation, which was followed by adhesive peritonitis between the two viscera and finally perforation, which was favoured by the action of the gastric juice on the walls of the stomach and colon. Signs of intestinal haemorrhage, adhesive peritonitis, and circumscribed serous peritonitis in the upper left quadrant of the abdomen set in, and finally a cystic cavity formed, which on laparotomy was found to be situated between the spleen, stomach, colon, and omentum. A post-traumatic gastro-entero anastomosis had obviously taken place, which accounted for the patient's rapid loss of flesh. Owing to his bad general condition further operation was not advisable; death took place one month after the operation.

123. Periosteal Tuberculoma of the Orbit.

CABANNES and DUPÉRIÉ (*Gaz. hebd. des Soc. Méd. de Bordeaux*, December 21st, 1919) report a case in a woman, aged 25, who had a swelling over the outer part of the upper margin of the orbit. She was also suffering from chronic hydrarthrosis of the left knee and presented weakness of breath sounds at the right apex. The swelling, which was of a cartilaginous consistence, was adherent to the margin of the orbit, and was quite independent of the upper part of the tarsus. On removal it was found to consist of fibrous tissue with lymphocytes, groups of epithelial cells and giant cells. No tubercle bacilli were found. A tuberculoma in this position is liable to be mistaken for a dermoid cyst or a tumour of the lacrymal gland.

124. Intracapsular Extraction of Cataract.

BENEDICT (*Minnesota Med.*, December, 1919) gives an account of his modification of the intracapsular operation for cataract, together with statistics of twenty-four cases. Intracapsular extraction, it is well known, is being extensively practised in the United States. The theoretical advantages of such an operation are generally admitted, provided that it can be safely performed, and that no calamities happen during the performance. In this country, possibly owing to the fact that the number of extractions performed by most surgeons in the course of a year is not large, intracapsular extraction as an operation for cataract is hardly ever done. The majority of ophthalmologists consider that the possible dangers outweigh the possible advantages, and that having the safety of the eye in mind, the results with the old-fashioned extracapsular operation are likely to be better than those with this new method.

OBSTETRICS AND GYNAECOLOGY.

125. Wound of the Uterus in the Eighth Month of Pregnancy.

P. DE TOMMASI (*Il Policlinico*, Sez. Prat., December 14th, 1919) reports the following case: A woman aged 35, in the eighth month of her first pregnancy, was admitted to hospital with a wound in the epigastrium from which a little omentum was protruding. A median supra-umbilical laparotomy was performed and a little blood-stained amniotic fluid escaped. An examination of the uterus showed a wound 3 to 4 cm. long in the fundus to the right of the mid line, through which a part of the fetus could be seen. After deliberating whether he should perform Caesarean section or hysterectomy or suture the wound, De Tommasi decided on the last course. A few days after the operation labour pains set in, and the mother was delivered of a healthy child by forceps. Recovery took place.

126. Primary Abdominal Pregnancy following Caesarean Section.

M. RIVIÈRE and J. LACOUTURE (*Gaz. hebd. des Soc. Méd. de Bordeaux*, January 4th, 1920) report a case in a woman who had undergone Caesarean section for contracted pelvis in 1918. In April, 1919, her period ceased without any other signs of pregnancy. In September she began to suffer from uterine colic twice a month with sudden increase in the size of the abdomen. The condition was first attributed to haematometra, but on vaginal examination the uterus was found to be small, retroflexed, and not to show any of the changes of pregnancy, and a median tumour was felt which suggested a malignant ovarian tumour of rapid development. On laparotomy, a five months old macerated fetus was found in the abdominal cavity wrapped up in an amniotic sac adherent to the intestine. The placenta, which was adherent to the right iliac fossa, was readily removed without haemorrhage and hysterectomy was performed. The uterus showed a median rent on its anterior surface, due to failure of the walls to unite after the Caesarean incision. The mucous membrane alone was intact. The Fallopian tubes showed considerable changes, the right being completely obliterated. The writers uphold the view of a primary abdominal pregnancy, for it was difficult to believe that at five months the

placenta could have been expelled from the Fallopian tube and have become adherent to the iliac fossa. The lesions in the tubes which allowed the spermatozoon to penetrate into the peritoneal cavity prevented the fecundated ovum from passing into the tube and thence into the uterus.

PATHOLOGY.

127. Antitoxic Chemiotherapy: The Phenololipoids.

PIAZZA (*Riv. Ospedali*, September 15th, 1919) gives an account of certain experiments in the production and therapeutic use of various compounds of phenol with different lipoids and camphor. The resulting product is not a mere mixture but a true chemical compound. These phenololipoids present certain general characteristics. In the majority of cases at ordinary temperature they are semifluid, pasty, and sometimes liquid; they are all soluble in ethylic ether, benzol, chloroform, ichthyol, olive oil, and the essential oils. With other solvents their behaviour varies according to the particular compound. Of the thirteen compounds tried by the author, that which gave the most constant chemical composition, complete stability, and precise chemico-physical property was a compound of phenol, cholesterin, and camphor. This proved to be antitoxic and antibacterial at the same time. The antitoxic action was tested on the toxins of tetanus, diphtheria, and typhoid anaphylotoxin and found to be of definite value. The antibacterial action was tested on *B. typhosus*, *B. paratyphosus* A and B, *B. coli*, Shiga's *B. dysentericus*, *Proteus* x 19, pneumococcus, and streptococcus. The best result was seen in the case of Shiga's bacillus. Locally no caustic or anaesthetic action was observed on the skin or mucous membranes.

128. Investigations on Spirochaeta ictero-haemorrhagiae in Buenos Aires Rats.

FROM September to November SPADA (*Rev. Sud-Americana*, November 15th, 1919) investigated twenty rats which had been caught in the neighbourhood of the Italian Hospital at Buenos Aires, but in none of the animals in which sections of the spleen, liver, kidneys, and suprarenals were examined was the *Spirochaeta ictero-haemorrhagiae* found. Inoculation of guinea-pigs was also negative. Spada does not regard these results as final, as it has been shown by some observers that while rats caught in one part of a town harbour the spirochaete, those caught in another are free from it. Thus Nicolle and Blanc did not find the spirochaete in 119 rats caught in the streets of Tunis, but found it in rats caught in the slaughterhouses of the town, and Lheritier in Algiers found 6 per cent. of the rats in the suburbs infected, and only 3 per cent. of the rats in the port. The season is also of importance. Lheritier found 3 per cent. of the rats infected in the spring and 6 per cent. in the winter, and Nicolle and Lebailly in Tunis did not find any infected rats in the winter, but found the spirochaete in rats caught in the autumn. The fact that the *Spirochaeta ictero-haemorrhagiae* has been found in rats in other parts of South America—for example, by McDowell in Rio de Janeiro, by Carini at San Pablo, and by Ribeyro at Lima—suggests that further investigations will show it to be present in Buenos Aires.

129. Vitamines and Growth.

As the result of experiments on chickens HOULBERT (*Paris méd.*, December 13th, 1919) found that when they were deprived of vitamines in their food the birds showed an arrest of growth and of the development of secondary sexual characters (spurs, comb, and tail feathers) and progressive anaemia. One bird was killed on the fortieth day and on *post-mortem* examination was found to be in a state of extreme emaciation. The skin was dry and scaly, the flesh flaccid and very pale. All the organs appeared normal except the testes, which were very small and on histological examination showed an arrest of the cellular divisions and metamorphoses which normally occur in the seminal tubules at the date at which the chicken was killed. The interstitial cells of the testes showed a very pronounced infiltration of pigment, which, as Bouin and Ancel have shown, occurs in the interstitial cells of glands whose endocrinic activity is on the decline. Sections of the suprarenals showed an arrest of development of the chromaffin cells. On the other hand, Houlbert found that the glands of internal secretion whose activity had been arrested by experimental avitaminosis resumed their normal evolution when vitamines were restored to the diet.

130. Morton's Method for the Rapid Diagnosis of Tuberculosis.

KÄTHE NAGEL (*Zeit. f. Tuberkulose*, November, 1919) refers to the paper published by J. Morton in the *Journal of Experimental Medicine*, October, 1916, in which he described a method of causing a more rapid dissemination of tuberculosis in the guinea-pig by reducing its power of resistance. The idea had been suggested to him by an article published by Murphy and Ellis in 1914 entitled "Experiments on the rôle of lymphoid tissue is the resistance to experimental tuberculosis in mice." These writers had found that repeated applications of small doses of *x* rays led to a general atrophy of the lymphoid tissue, without producing much effect on the other tissues or health of the animals, and that mice which had been exposed for twelve to fourteen days to a daily application of *x* rays and infected with tuberculosis succumbed much quicker than control animals. They concluded that lymphocytes played a considerable part in the resistance of the body to tuberculous infection. These experiments prompted Morton to subject guinea-pigs shortly before or after inoculation with tuberculous material to a single application of *x* rays with about two erythema doses. Seven to twelve days after inoculation the animals were killed. Morton concluded that it was possible to reduce the resistance of guinea-pigs to tuberculosis by a single exposure to *x* rays. It was possible to make a diagnosis of tuberculosis in *x*-rayed guinea-pigs in eight to ten days, whereas with normal guinea-pigs five to seven weeks were required. Nagel, however, found, in a series of experiments carried out to test the accuracy of Morton's work, that though it was possible to produce a considerable leucopenia in guinea-pigs by *x* rays, two exposures with two erythema doses could not reduce the resistance of the animals to tuberculosis. She attributes Morton's results to the fact that he either did not use any control animals or that he did not kill the control at the same time as the experimental animal.

131. A New Germicide: "Mercurochrome—220."

YOUNG, WHITE, and SWARTZ (*Journ. Amer. Med. Assoc.*, November 15th, 1919) have prepared a drug, said to be non-toxic, that can be tolerated in the human bladder for several hours, but is of great germicidal strength. It is obtained by substituting one atom of mercury in the molecule of dibromfluorescein (a dye closely related to eosin), is chemically dibrom-oxymercury-fluorescein or its sodium salt, and has been called by its originators "mercurochrome—220." The free acid is a red powder insoluble in water, but readily soluble in sodium hydroxide solution with the formation of a deep cherry-red colour showing fluorescence on dilution. The dry salt forms iridescent green scales, slightly hydroscopic and readily soluble in water. The solution is stable and is not affected by moderate heat or exposure to the air. Strongly acid urine gives a slight precipitate of the free dye. No precipitate occurs when a 1 per cent. solution of the drug is mixed with an equal volume of medium rich in protein, such as hydrocele fluid. The solution stains the skin a bright red colour, but this can be removed by potassium permanganate followed by oxalic acid solution. Experiments on rabbits showed that the dye penetrated the epithelial layers of the bladder, sometimes the submucosa; in the kidney the pelvis showed staining of the epithelium and the dye was taken up by the cells of the collecting tubules. One per cent. solutions are not irritating to the eye, and this was the strength employed clinically in the genito-urinary tract. It would seem to be a very rapidly acting germicide—a point of considerable practical importance. In the treatment of infections of the renal pelvis urine was collected separately from each kidney by ureteral catheterization, centrifuged, stained, and examined microscopically; the kidney pelvis was then gently filled by syringe or the gravity method with a 1 per cent. solution and the fluid retained for five minutes. This was repeated twice a week. In the treatment of bladder conditions the urethra was first irrigated with sterile water, the bladder was washed clean, and then 1 oz. of the solution was injected through the catheter, the patient being instructed to retain it for at least one hour. The procedure was carried out twice or three times a day. Any slight burning or smarting sensation soon passed off. Cystitis and pyelitis of long standing, refractory to other treatments, soon cleared up. The rapidity with which in some cases old purulent cystitis disappeared (in a few days) was surprising. In gonorrhoea "mercurochrome—220," like flavine, is of considerable value.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

132. Death following the Application of Sinusoidal Currents.

ACCORDING to GUNSETT and ZIMMERMANN (*La Presse méd. d'Egypte*, December 15th, 1919), during the war several German writers reported fatalities occurring after the application of sinusoidal currents from pantostats or multostats. The first cases of the kind took place as the result of Kaufmann's method, which was employed for curing hysterical symptoms by the application of powerful sinusoidal currents. Boruttan pointed out that the method was particularly dangerous, as the current was not applied superficially but passed into the body and might easily affect the heart, which responded by very frequent and irregular fibrillary contractions followed by sudden death. The mechanism of death in such cases is similar to that caused experimentally by stimulating the exposed myocardium of the ventricle with a faradic current. Fatal cases have also been reported in German literature following the application of sinusoidal currents in which Kaufmann's method was not employed, but only an extremely weak current. In an autopsy in a case of this kind enlargement of the thymus was found.

133. Plastic Linitis.

P. CARNOT (*Paris méd.*, December 20th, 1919) describes three forms of plastic linitis according as the process affects the body of the stomach only or involves the orifices as well: (1) Gastric linitis without involvement of the orifices; (2) cardio-gastric linitis; (3) gastro-pyloric linitis. The characteristic features of the first form are microgastria, rigidity and thickening of the rigid wall. The symptoms are dysphagia and regurgitation resulting from the small capacity of the stomach, which becomes immediately filled, while the oesophagus becomes filled secondarily almost at the beginning of a meal. In cardio-gastric linitis there is a rigidity of the cardiac orifice, which is manifested by stenosis of the cardiac end of the stomach. The clinical picture is characterized by dysphagia and regurgitation of mucus and food. The oesophageal bougie is arrested at the cardiac orifice, or even higher up, at least 40 cm. from the teeth. A diagnosis of a new growth at the cardiac end of the stomach in such cases is therefore almost inevitable. In gastro-pyloric linitis there is a rigidity of the pyloric orifice giving rise to pyloric incontinence, which predominates over pyloric stenosis.

134. Ocular Changes in Encephalitis Lethargica.

HIRAM WOODS (*Arch. of Ophthalmology*, November, 1919) contributes an interesting account of seven cases of this disease which he has seen during the past year. The clinical histories of the cases are very complete; two of the cases gave histories of antecedent influenza, and in Woods's opinion the frequency with which lethargic encephalitis has followed an attack of influenza is due (1) to the high incidence of influenza at the time, (2) to the reduction in resistance of the individual due to a previous influenzal attack. In only one of his cases was optic neuritis present, and this was of very mild degree; in three cases serious impairment of accommodation was present, together with dilatation of the pupils; extrinsic ocular paralysis was the rule, the third, fourth and sixth nerves being affected in various cases, as well as the seventh in three cases. Paralysis of intrinsic and extrinsic ocular muscles tends to spontaneous recovery. Nystagmoid movements occurred in five of the seven cases; these movements as a rule bore no relation to the axis of voluntary movement of the eyes—that is, with lateral movements of the eyes there would be a rotatory or vertical nystagmus. Woods thinks that the ocular symptoms are obviously of antral origin. Only one of the seven cases died, and an autopsy was not allowed.

135. Goitre and the Psychoses.

PHILLIPS (*Journ. of Mental Science*, October, 1919) discusses a relationship between goitre and the psychoses. It has been observed that insanity is eight times as common among the goitrous as among the non-goitrous in an area where goitre is endemic. There is trustworthy evidence showing that where an enlargement of the thyroid exists the amount of secretion is altered, producing signs of hypo- or hyper-thyroidism, or the two conditions alternating in the same subject—thyroid instability. Any marked alteration in the thyroid secretion produces disorder of the delicate hormonic balance of the body, a fact that creates readily an autointoxication, felt at once by the central nervous system. The author examined 200 cases of insanity, and found 24 with thyroid enlargement. A short clinical *résumé* of these cases is provided. Most of the 24 showed signs of hyperthyroidism. The cases are classified mentally, and the author found that 17 of them were of the manic-depressive type, while 4 were dementia praecox and 3 paranoia. On a comparison, the author claims that the cases of the emotional type corresponded with hyperthyroidism, while apathy and indifference, as in dementia praecox, were more often associated with hypothyroidism.

136. Diabetes Mellitus.

EDGAR (*New York Med. Journ.*, October 11th, 1919) considers that starvation is contraindicated in cases of diabetes mellitus when there is emaciation with lowered body resistance, and he has obtained good result from his rabbit serum. A married man, aged 35, with no family history of diabetes had received starvation treatment during four years whenever the urine showed sugar. With 8 per cent. sugar and slight traces of acetone and diacetic acid his weight was 115 lb., as against 165 lb. three years previously, and he was suffering from inanition due to frequent periodic starvations. By reducing the fats one-half and increasing the carbohydrates and proteins he gained 6 lb. in a month, the author's rabbit serum having been injected twice weekly for three months, during which time there were three starvation periods of thirty-six hours each. Upon discharge he was aglycosuric, eating about 2,500 calories daily of a mixed diet, and he had gained 30 lb. He has remained sugar-free for the past eight months. The disease is apparently arrested, but whether the serum was the active factor is not proved, though promising results are being obtained from its use in similar cases. In diabetes mellitus there appears to be a series of events in which the pancreas plays the dominant part; resistance of body function must be preserved and stimulated, while activation of liver, muscle, and pancreas is indicated, and specific serum therapy may be the key to successful treatment.

137. After-Effects of Gassing on the Respiratory Tract.

BERGHOFF (*Arch. Int. Med.*, December 15th, 1919), from an observation of 2,000 soldiers who had been gassed, 240 of these being by cloud or drift gases, such as chlorine, and the rest mainly by mustard gas, concludes that gas victims, irrespective of the type of gas and severity of attack sustained, show no marked predisposition towards active pulmonary tuberculosis or towards the reactivation of a healed or quiescent pulmonary lesion. He found little evidence of material destruction of lung tissue. Emphysematous cases have a more protracted convalescence than those of the bronchitic group.

138. Vaccine Treatment of Ozaena.

G. HOFER (*Wien. med. Woch.*, November 8th, 1919) records the case of a nurse, with marked atrophy of the turbinals, crust formation, intense fetor, dry pharyngitis, and a saddle nose. Vaccine treatment, on the Hofer-Kofler system, was instituted early in 1915. It was continued, with interruptions, till May, 1917. Within this period forty-eight injections were given of a vaccine containing 50 to 600 million micro-organisms to the cubic centimetre. No local treatment was prescribed. Since the termination of the treatment she had been symptom-free, and two years after its completion the right lower turbinal showed only slight atrophy, and the appearance of the middle turbinal was almost normal. On the left side the atrophy of the turbinals had given place to a compensatory vasomotor hypertrophy. The appearance of the pharynx was normal. There was no longer any nasal discharge or fetor. The author believes that the recovery in this case may be regarded as permanent and as the result of the vaccine treatment.

139. Intravenous Injections of Camphorated Oil.

ALEXANDRESCO-DERSCA (*Bull. et mém. de la Soc. Méd. de Bucarest*, November 6th, 1919) confirms the experience of preceding investigators regarding the immediately beneficial effects and the absence of danger attending intravenous administration of camphorated oil. It is especially indicated in conditions of shock and of heart failure. The oil must be pure and sterile, the solution containing 0.1 gram per cubic centimetre (that is, half the *B.P.* strength), and the dose injected should not exceed 2 c.cm. The injection into an arm vein should be done very slowly, taking three or four minutes, and should not be repeated under half an hour. The maximum quantity recommended is 4 to 6 c.cm. in the twenty-four hours. The author has used the method in a series of 22 cases of various cardiac affections with signs of myocardial failure. Immediately after the injection a diminution in the number of heart beats, from ten to twenty, occurs. From experiments with mixtures of camphorated oil in serum, defibrinated blood, and whole blood, it is found that the oil is emulsified with the corpuscles. Microscopically the oil may be detected in the circulating blood in the form of very fine droplets.

140. Anaphylactic Deaths in Asthmatics.

HARRIS BROUGHTON (*Journ. Amer. Med. Assoc.*, 1919, lxxiii) reports the case of a man, aged 29, who for ten or twelve years had been subject to asthma when in proximity to horses, and was anxious to have a desensitizing dose of horse serum. One minim of horse serum was given, and was followed within two minutes by a typical attack of asthma, and, in spite of repeated intravenous injections of adrenalin, by death in forty-five minutes. Both the gross and the microscopical appearances at the necropsy were like those of experimental anaphylaxis; there were enormous distension of the lungs, intense passive hyperaemia of the abdominal organs, and scattered subserous haemorrhages, with oedema, degeneration, and necrosis of the epithelial cells of the liver and kidneys. As compared with nine previously reported cases of anaphylactic death in asthma, this is the smallest dose that has proved fatal. Besredka's and other methods of desensitization are at best uncertain; asthmatics should be tested before serum is given by the cutaneous application of serum to see if they are sensitive to horse serum, and it might be advisable to prepare antitoxic serums from animals other than the horse for use in patients sensitive to horse serum. In Walker's analysis of 150 cases of asthma, 20 per cent. were sensitive to horse protein; but of these only 20 per cent., or 4 per cent. of the entire series, were sensitive to horse serum, the remainder reacting to horse-hair protein.

141. Heliotherapy and Blood Pressure.

A. STEVEN (*Zeit. f. Tuberkulose*, November, 1919) has examined the blood pressure of a large number of patients with surgical tuberculosis during heliotherapy, and found that in almost all there was a fall of 10 to 20 mm. Hg during the treatment. In most cases the pressure falls directly after the beginning of the treatment and remains at more or less the same level during the following hours. In the evening the blood pressure rises to its original height or slightly exceeds it. The fall of blood pressure is explained by the hyperaemia of the skin caused by the sun's rays, with subsequent reduction of the pressure in the internal vessels. It is also conceivable that the vascular system as a whole is affected, and that a reduction of tension takes place from the vasomotor centre. As a rule, the fall of blood pressure is accompanied by an increased pulse frequency. Steven therefore recommends that in patients in whose hearts there is little reserve power heliotherapy should be employed with caution.

142. Luminal in Epilepsy.

DERCUM (*Journ. of Nervous and Mental Dis.*, vol. 50, 1919) reported on the use of luminal (phenyl-ethyl-barbituric acid) and sodium luminal in cases of epilepsy. He found that in doses of 1½ grains luminal or 2 grains of luminal sodium given at bedtime the effect on seizures was remarkable even in confirmed cases. The seizures were usually promptly inhibited, and in a number of cases there had been abolition of attacks for months or several years. In some cases the drug seemed to be almost a specific. No ill effect was observed and the drug produced no habit or craving. Dercum attested D. Fagers's results in disturbed and excited states. In cases of chorea encouraging results were obtained by 3-grain doses of luminal sodium given hypodermically.

SURGERY.

143. Injuries of the Bladder and Urethra in War.

STROZZI (*Riv. Osped.*, August 31st, 1919) reports 37 cases of injury of the bladder and 7 of injury of the urethra during the war. Of the bladder injuries 32 were wounds and 5 contusions—18 of these were extraperitoneal and 14 intraperitoneal. The bladder alone was affected in 17 cases and in 20 other adjacent organs were implicated. The chief symptom of bladder injury is haematuria, and this was constantly present; in the majority of cases retention of urine coexisted. It was not always easy to be sure whether the abdominal cavity was penetrated; this depended partly on the emptiness or fullness of the bladder at the time of injury, which determined the position of the peritoneal fold. In 18 cases where laparotomy was performed to settle this question the result was negative in 5 as regards penetration of the abdominal cavity; where suspicion of injury of the rectum arose, digital examination of the rectum was found useful. In extraperitoneal wounds the chief desideratum is to secure free drainage; in a very few cases the catheter in permanence sufficed, but as a rule it was necessary to drain directly through the wound either into a drainage tube or gauze. This could be discarded usually after ten or fifteen days. If attempts are made to drain through a tied-in catheter it is better to suture the bladder wound at once; in 4 cases where this practice was adopted filtration of urine and secondary abscess followed 3 times. Intraperitoneal wounds are far more dangerous; out of 13 cases operated on only 2 were cured. In slight contusions the catheter in permanence usually suffices. As regards urethral injuries, retention of urine is almost always present and great dysuria, with burning pain along the penis, especially at the glans. In complete rupture it is often very difficult to find the two ends, but wherever possible it is advisable to find and unite them; even in partial rupture, when the catheter is left in, urine usually trickles along the side of the catheter.

144. Parotid Fistula.

R. VILLAR (*Gaz. hebd. d. sci. méd. de Bordeaux*, December 18th, 1919) records a case of parotid fistula in a man, aged 27, following a parotid abscess which was successfully treated by removal of the fistulous track and resection of the auriculo-temporal nerve. A remarkable feature of the case was that after incision of the abscess the wound healed and the fistula did not appear till some weeks later. After the second operation there was no further discharge of saliva, and the wound healed by first intention. As a rule a parotid fistula develops immediately after damage to the tissue of the gland, and a radical cure does not finally result for some time, during which a slight oozing takes place.

145. Surgical Treatment of Acute Empyema following Influenza.

WHITTEMORE (*Boston Med. and Surg. Journ.*, December 11th, 1919) urges early operation by a closed airtight suction technique, under local anaesthesia, followed by the use of Dakin's solution. The success of the method depends largely upon the individual after-care, irrigation with Dakin's solution every two hours when not asleep being carried out. The progress is determined bacteriologically, a smear from the pleural cavity and sinus being taken after the first week. The cavity is considered sterile when not more than one organism to three or four fields is present, or preferably when both cell count and cultures show that no organism is present. The method is based on five main points: Early operation, slow escape of fluid, the prevention of pneumothorax, sterilization of the pleural cavity with Dakin's solution, and suction to get rid of all the fluid. The operation is simple, taking not more than five or six minutes, and can always be done under local anaesthesia without shock and often without pain. In a series of 39 cases, 34 were operated upon by this closed method, and 28 recovered without further operation. Four needed a secondary operation, one had a recurrence, and one case died. This latter improved rapidly after operation, and at the end of ten days appeared well on the road to recovery, and the electrical suction apparatus was started on him and by an error allowed to run for an hour and a half, causing collapse, probably due to an obscure pleural reflex inhibiting cardiac action. Open operation was used in four cases, and should be resorted to only in small encapsulated empyemata when it is essential to be sure of finding the cavity. Of these four, one died in whom the closed operation would probably have been successful, as the patient was thought to be in a better condition for resection than he turned out to

be. In cases where the closed airtight suction operation cannot effect a cure it will often tide over an extreme septic condition for any needful operation to follow later.

146. Sarcoma of the Rectum.

SAPHIR (*New York Med. Journ.*, November 15th, 1919) records a case of large spindle-celled sarcoma of the rectum in a man, aged 65, operated upon to relieve the mechanical obstruction to defaecation and prevent undue straining at stool. About half an inch inside the anus was a pedunculated mass the size of a lemon, covered with mucous membrane, and originating in the submucosa. There were three or four ulcerated patches with indurated edges on its surface from which a copious discharge of blood and muco-pus occurred. The patient was profoundly anaemic, breathing with difficulty, and complaining of general weakness and palpitation. Owing to his weakened condition a general anaesthetic was contraindicated, and 0.25 per cent. quinine and urea hydrochloride were administered locally; the growth and surrounding tissues for an inch above and below were resected and four large internal haemorrhoids removed. He stood the operation well, and eight hours later was given a hypodermoclysis of 1,000 c.cm. normal saline solution, followed in seven hours by transfusion of 500 c.cm. of blood from a donor. Directly the transfusion began a sudden change in the complexion and activity of the patient took place, his ears and nose and cheeks becoming pink, and from semi-stupor he became talkative and interested in his surroundings. The next morning he ate a hearty breakfast, was placed on full diet, and the day after had a good normal motion, and his bowels have moved regularly since without any trace of blood or mucus.

147. Appendicitis simulated by Mesenteric or Retro-peritoneal Suppuration.

W. GOLDSCHMIDT (*Wien. klin. Woch.*, January 1st, 1920) points out that though theoretically a differential diagnosis can be made, in actual practice a distinction between acute appendicitis and acute general or local peritonitis caused by disease of the lymph glands or vertebrae is in many cases impossible, especially if the morbid process is situated in the right iliac region. The predominance of the peritoneal symptoms, which are the same irrespective of their etiology, at once suggests the most frequent disease. An error of diagnosis, however, is not always followed by the wrong treatment. The indications for operation in acute peritonitis are the same, whatever the origin of the peritonitis may be. Goldschmidt records two cases in which the diagnosis before operation was appendicitis, and on laparotomy in one case a retro-peritoneal abscess, originating in the lumbar vertebrae, and in the other inflammation of the mesenteric glands, were found. In both cases recovery took place.

148. Treatment of Cavernous Sinus Thrombosis.

GILBERTI (*Il Policlinico*, August 15th, 1919) records a case of thrombo-phlebitis of the right cavernous sinus the result of a furuncle on the upper lip. The face was greatly swollen, the eye closed by oedema of the lids, and the buccal mucosa dotted with vesicles and pustules. The movements of the mandible were limited and painful. The patient was semi-comatose and complained of severe headache. The right eye showed partial external ophthalmoplegia, the pupillary reaction was absent, perception of light lost, and there was alteration of proportion of arteries and veins (no definite mention of engorgement). Next day the patient was worse, with intense throbbing pain in the head and pyrexia. Diagnosis: Thrombophlebitis of the cavernous sinus. The patient had four operations at intervals of a few days. First, the right internal jugular vein was exposed, aspirated, and encircled. Three subsequent operations were performed at short intervals for thrombo-phlebitis of the angular and facial veins, the facial vein in the neck, and the same at a different spot. In each instance the vein was incised and cauterized. At the same time antistaphylococcal serum was injected. The patient finally recovered. Cavernous sinus thrombosis is generally such a disastrous condition that Gilberti is to be congratulated on the courageous manner in which he tackled each new focus as it appeared. He insists on the necessity for surgical interference in these cases, and points out that the prognosis is not necessarily hopeless, especially if the pathways of systemic infection are blocked. In the present case sight was completely destroyed, the papilla presenting signs of post-neuritic atrophy.

OBSTETRICS AND GYNAECOLOGY.

149. Radical Operation for Cancer of Cervix.

COBB (*Journ. Amer. Med. Assoc.*, January 3rd, 1920) has had a cure rate of no less than 57 per cent., judging by the five-year period of immunity from recurrence, with an operative mortality of 11.6 per cent. (in the last 30 cases this was reduced to 6.6 per cent.). The cases were not selected because they were early growths; some of them were, in fact, on the borderland of inoperability; 35 cases were operated upon previous to 1915; 5 died, 10 recurred, and the remaining 20 are still alive and well. His technique is as follows: In early cases the actual cautery is used to sterilize the cervix; in later cases with large fungations and foul discharge a thorough cauterization of the diseased area is done two weeks or more before the hysterectomy. A median incision is made from the symphysis to well above the umbilicus, and good exposure is gained by dividing transversely the anterior sheath of the rectus muscles, or, in the more difficult cases, their tendinous insertions to the pubis. Cobb regards the dissection and handling of the ureters, freeing them completely from the parametrial tissues, as the most important technical part of the operation; they should be so free that they may be lifted up and out of the pelvis. After the ovarian arteries have been ligated and the broad ligaments opened, the peritoneum being split well above the bifurcation of the iliac arteries, the ureters are exposed lying in their sheaths on the inner or posterior layers of the broad ligaments. The internal iliac arteries are then ligated, after which the posterior layers of the broad ligaments are incised below and parallel to the ureter, midway between the iliac arteries and the uterus, and through this slit tapes are passed, traction on which rolls a protecting cuff of peritoneum around the ureters. With such protection considerable traction can safely be made on the ureter. After the uterus and upper half of the vagina have been freed from the bladder and rectum, the ureters are lifted well out of the way, and the lateral parametrium from above the internal os well down the sides of the vagina is removed with scissors as close to the pelvic wall as possible. Cobb apparently removes the regional glands only when enlarged and palpable; in most of the cases where he removed the iliac and obturator glands they were found not to be malignant, but in those instances where they were malignant a cure was not obtained. The author does not seem to have appreciated the lesson that if a set of lymph glands are malignant the surgeon ought to remove the chain higher up; he ought to be at least a chain of glands ahead of his visible disease. Still, the results are exceptionally promising.

150. Rupture of Uterus with Peritoneal Encystment.

BLAKELY (*Surg., Gyn. and Obstet.*, January, 1920) records a case in which, after numerous attempts at producing abortion, a traumatic rupture of the uterus occurred, accompanied by extreme abdominal pain and profuse flow. On admission to hospital the patient had a temperature of 101° and a pulse of 110, a hard distended tender abdomen, vomiting and retention of the urine—in fact, the signs of severe spreading peritonitis. She was at the point of death for a week, during which time she had been treated with antistreptococcic serum. By examination a hard tender mass was found in the lower abdomen, reaching to the level of the umbilicus, with the greatest pain and tenderness on the right side. A fortnight after the rupture of the uterus left femoral thrombosis and a profuse foul vaginal discharge occurred. At the end of a month the condition had steadily improved, though the vaginal discharge persisted and was found to come from a retrocervical sinus. *X* ray examination gave no information. After the lapse of six months the sinus was opened up, and revealed a thick-walled cavity with smooth interior lining containing, amongst débris, a fetal skeleton.

151. Complicated Twin Pregnancy.

L. HUGUET (*Rev. de med. y cir. de la Habana*, December 25th, 1919) records a case of twin pregnancy in a woman aged 36, who had borne seven other children by normal labour. The case was remarkable for placenta praevia with lateral insertion, a large quantity of albumin in the urine, and oedema of the legs and abdominal wall. Labour was induced in the eighth month, and the first fetus was delivered alive by version. The second was born dead. A mild attack of puerperal septicaemia was successfully treated by intrauterine douches of hydrogen peroxide and injections of antistreptococcal serum.

PATHOLOGY.

152. Blood Changes in T.N.T. Poisoning.

MINOT (*Journ. Indust. Hygiene*, October, 1919) finds that blood abnormalities are frequent amongst workers in trinitrotoluene factories. Of the individuals examined no less than 83 per cent. showed polychromatophilic cells in at least one in every six or seven oil-immersion fields. Altered haemoglobin, probably in the nature of varying mixtures of methaemoglobin and nitrous oxide haemoglobin, occurred in these individuals. The total red-cell abnormalities usually ran parallel to the degree of symptoms, though in some cases marked symptoms occurred with slight blood changes. These changes, in addition to alteration of the haemoglobin, are of at least two types—destructive action of the red cells with increased marrow activity, later followed in some instances by marrow inactivity. The finding of fragmented cells is important; all cases with large numbers were distinctly ill. With minimal amounts of T.N.T. entering the system there may be increased blood counts. When red cell destruction exceeds formation, anaemia ensues, and this is accompanied by polychromatophilia, fine stippling, reticulated cells, variations in size of cells, and elevated white counts with increases of polymorphonuclears, and probably by frequent increases of eosinophils to over 5 per cent. The evidence of marrow failure is first seen in relative increases of lymphocytes with absolute diminution of the polynuclears. Lymphocytosis by itself is to be regarded as a distinct abnormality, but is not necessarily of serious import unless there is a leucopenia. Further failure of the bone marrow is to be found in the diminution of the platelets. Blood changes of the more marked degrees indicate too severe a poisoning for an individual to be allowed to continue his given type of work. The author is careful to point out that blood examinations should not be the only criteria on which to decide.

153. Chronic Enlargement of the Kidneys in Chronic Malaria.

A. NAZARI (*Riv. Osped.*, October 15th–31st, 1919) shows that in addition to enlargement of the liver and spleen in chronic malaria the kidneys also tend to increase in size and weight. He records the notes of ten cases showing that the weight of these organs may be more than double in chronic malaria. The enlargement of the kidneys, like that of the liver and spleen, varies from one individual to another, but bears no relation to the size of either of these organs. The pathogenesis of the enlargement and the anatomical and histological features are the same. The kidneys, though increased in size, preserve their normal shape, and their consistency is not increased. The capsule can be stripped readily from the outer surface, which is smooth and of normal colour. On section, apart from increase in size of the various structures, there are no naked-eye changes of any kind. Microscopical examination merely shows a simple hypertrophy of the glandular tissue without any marked increase of the connective tissue or much dilatation of the vessels.

154. Association of Cancer and Tuberculosis.

HOFFMANN (*Deut. med. Woch.*, July, 1919) reports a case of tuberculosis developing in a recurrent cutaneous carcinoma. Histological examination revealed numerous characteristic giant cells, and a careful bacteriological search ended in the finding of the tubercle bacillus. Two neighbouring lymphatic glands were examined; one showed carcinomatous cells only, the other signs of old tuberculosis. Hoffmann interprets these findings as indicating the infection of the carcinoma by a latent tuberculosis in the glands, as no sign of tuberculosis was found in the primary growth. The author then raises the point of the possible association of tuberculosis and cancer. He considers that these pathological processes may coexist in one of three ways. In the first place, they may be present absolutely independently—for example, cancer of the stomach and pulmonary tuberculosis. Next, either tuberculosis or cancer may so lower the resistance of a patient that the other pathological process is more easily established or lighted up—for example, a cancer patient falls an easy prey to latent or previously benign tuberculosis. Thirdly, there may be a local secondary tuberculous infection of a carcinomatous growth, or, on the other hand, cancerous change may develop in old tuberculous lesions. Of these last two, the second is much the commoner. A good example is lupus carcinoma, or, again, the malignant changes not infrequently found in the multiple tuberculous ulcers of the intestine.

155. Growth Forms of the Pfeiffer Bacillus.

WADE and MANALANG (*Journ. Exper. Med.*, January 1st, 1920) are of opinion that the familiar Pfeiffer organism is but a simple form of an organism capable of complex development. Working with three typical strains of the bacillus, obtained at autopsies and twice subcultured, they found that by cultivating them in a specially prepared haemoglobin broth medium and on hot blood agar alternately they abandoned the usual bacillary form and grew as a frank fungus, morphologically of the *Discomyces* type. With variations of the medium they showed sometimes less modification, the most striking feature then being the production of conidiospores—bodies of a type not found in true bacteria. It is suggested that the experimental work with Pfeiffer's bacillus has hitherto been negative, as far as the production of true clinical influenza is concerned, probably because it has been carried out with the bacillary form exclusively, and that it may prove that the capabilities of the organism in another phase are different. It is possible that many bacteria have a wide range of morphological development, from the minute filter-passing extreme on the one side to the highly developed fungus stage on the other side of the usual mean, and that it may be the earliest stage which is pathogenic. We are familiar with the hypothesis in this country, but the difficulties of being certain of starting with a pure culture of any organism are very great.

156. Detection and Treatment of Pneumococcus Carriers.

DURING the winter of 1917–18 SAILER, HALL, WILSON, and MCCOY (*Arch. Int. Med.*, Chicago, 1919, xxiv) observed 1,311 cases of pneumonia, with 275 deaths, at the base hospital at Camp Wheeler, Ga., and from a survey of the tents as to the incidence of the cases found evidence strongly supporting the view that carriers play an important part in the spread of the disease. It therefore followed that if the number of carriers of virulent pneumococci in a command could be reduced there should be a corresponding fall in the incidence of pneumonia. The problem accordingly consisted in (1) the discovery of carriers, and (2) devising a means of rendering them innocuous. The recognized technique of detecting pneumococci by inoculation of mice not appearing applicable to large numbers of men, a method based on the fact that the pneumococcus develops a green colour when grown on a blood-agar plate, which enables the colonies to be picked out and typed by Avery's method, was employed. Swabs were taken from the nasopharynx of 700 men, and 111 carriers, or 16 per cent., were detected, 24 per cent. of the carriers, or 3 per cent. of the 700 men examined, showing the so-called fixed types of pneumococci. The authors believe that the contacts of pneumonic cases should be submitted to culture in the same way as contacts of cerebro-spinal fever, and that carriers of the same type of pneumococci as that causing the prevalent pneumonia should undergo vigorous antiseptic treatment, and such measures of isolation as the conditions permit. The carriers were isolated in the hospital, and various methods of disinfection tested on groups of the men, cultures being taken from time to time, and three negatives justifying discharge. Sprays and applications of eleven antiseptics were employed; oily solutions of carbolic acid and iodine, and dichloramine-T dissolved in eucalyptol gave good results; but chloramine-T, chlorine gas, and quinine were useless. The authors advocate this procedure in the presence of epidemics of pneumonia and of diseases such as influenza and measles complicated by pneumonia.

157. Leucocytes in Malaria.

STOSS (*Berl. klin. Woch.*, December 1st, 1919) investigated the quantitative and qualitative variations in the blood leucocytes in 53 cases of chronic malaria. In the majority of cases there was an increase in the total number of leucocytes. One of the most constant observations was an absolute and relative increase in the number of large hyaline leucocytes, commencing the day before an attack of fever. In patients who suffered from a series of attacks the neutrophiles became temporarily diminished, but a slight neutrophile leucocytosis followed, usually two days after the last attack of fever. A slight absolute lymphocytosis occurred after attacks of fever, but did not last more than a week. Stoss discusses the somewhat contradictory results obtained by various observers in the leucocytosis of malaria. They may depend on observations made in cases of different duration and at different phases in the disease.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

158. Trench Nephritis.

BIANCHI (*Il Morgagni*, December 15th, 1919), discussing trench nephritis at the Medical Congress in Trieste, said all the armies suffered, and the longer the war lasted the more they suffered, which suggests that there was something in the prolonged strain and unusual conditions of war which predisposed soldiers to nephritis. Strictly speaking, trench nephritis is not a new disease, not a special form of nephritis peculiar to war, nor possessing well defined clinical and anatomical characters—it is a nephritis occurring in soldiers at war. The usual type was an acute diffuse glomerulo-nephritis, resembling a post-scarlatinal nephritis. No constant cause could be found and still less any specific germ. Some mild infective condition, perhaps most commonly a streptococcal infection, seemed to be a necessary condition for the development of the disease. Spirochaetes were frequently found as concomitant saprophytes. Clinically it was characterized by sudden onset, fever of short duration, early oedema, mostly confined to the face and limbs, dyspnoea and haematuria. Albuminuria was constant, but varied in amount. High pulse tension was slight, and an early symptom. The renal function was relatively only slightly affected. The immediate prognosis was almost always favourable and the mortality very low. On the other hand, the ultimate prognosis should be reserved, not only for fear of relapses, or persistent albuminuria, but chiefly lest the acute nephritis should become chronic, which happened in about 19 per cent. of the cases. How far cure is established can only be ascertained with certainty by testing the functional capacity of the kidney by the so-called concentration test, coupled with the elimination of water. Mere examination of the urine is not sufficient, as this leads to both negative and positive errors. The author also draws attention to the cases of nephritis which characterized the recent pandemic of influenza, of which there were two main types: (1) An acute glomerular nephritis, with scanty albuminuria, haematuria, cylindruria and renal desquamation; this type was almost always fatal. (2) Degenerative renal lesions, with much albumin, no haematuria, no cylindruria, hyaline casts, of prolonged course.

159. Pulmonary Fibrosis after Gassing: X Ray Evidence.

DENNIS (*Med. Journ. of Australia*, November 1st, 1919) records the *x*-ray findings in pulmonary fibrosis after gassing. No gross lesion was present and the apices lighted up evenly, but the whole chest showed diminished translucency. The diaphragmatic movement was greatly restricted on deep inspiration, and often absent, except on coughing, when free movement took place, proving that the restriction was functional. The hilus shadows were usually more evident than normally, often presenting patchiness due to glandular enlargement. The recognition of the fact that the condition is not a functional one, but is accompanied by definite lung changes, is of importance from the pensions department point of view, and because of the necessity of treating such cases under the most favourable climatic and occupational conditions.

160. Vaccination against Influenza.

STEWART (*Med. Record*, October 25th, 1919) considers the present position of vaccination against influenza. Whether the Pfeiffer bacillus is the primary infective agent or merely plays a secondary part in the complications is not settled, but the group of bacteria mainly responsible for the pneumonias and high mortality consists of the *B. influenzae* of Pfeiffer, different types of the pneumococcus, and varieties of the streptococcus, the *Staphylococcus albus* and *aureus*, and the *Micrococcus catarrhalis*. This group of bacteria is responsible for various infectious respiratory diseases—for example, coryza, cold in the head, influenza, tonsillitis, pneumonitis, lobar pneumonia, bronchopneumonia. From evidence accumulated during the war in the influenza epidemic in the army, the navy, great industrial institutions, and in private practice, vaccination against these respiratory diseases has proved of great value both for prevention and treatment. A highly multivalent mixed vaccine from numerous virulent strains of all the bacteria of the group should be used, as it has been proved to be of greater efficacy and less liable to failure than a vaccine prepared from the Pfeiffer bacillus alone, or one from a combination of this bacillus with the pneumococcus.

161. The Treatment of Pylorospasm.

WITH an experience of twenty-four cases of pylorospasm, only one of which terminated fatally, A. LICHTENSTEIN (*Hygiea*, July 31st, 1919) deprecates operative treatment. All but five of his patients were males, and practically as many were breast-fed as artificially fed. He does not accept as true the common view that the subjects of pylorospasm are usually breast-fed, and he criticizes the teaching—a corollary to this view—that artificial feeding is indicated. But he admits the need for readjusting breast-feeding, and he favours the principle of frequent small feeds at short intervals rather than that of big feeds at long intervals. Thus he recommends eight to twelve feeds, each of 25 to 75 grams, and as the vomiting becomes less frequent, he lengthens the intervals and increases the quantities of the feeds. In some cases artificial feeding with human milk seemed to be better tolerated than suckling, which, the author suggests, may provoke pylorospasm. He attaches great importance to the early replacement of fluid lost by vomiting. He gives Ringer's solution, 100 to 200 grams being introduced into the rectum once or twice a day by the drop method. Still more effective is the subcutaneous injection of this solution once or twice a day in quantities of 100 to 150 grams. Not only was this treatment instituted early, but it was often kept up daily for several weeks. No ill effects resulted from this treatment, which was conducted on strictly aseptic lines. Another principle to which the author attaches importance is the consistent isolation of these patients, for the mortality of pylorospasm, variously estimated at 20 to 87 per cent., is largely due to intercurrent diseases, such as influenza, which are easily contracted by these debilitated infants.

162. A Familial Epidemic of Catarrhal Jaundice.

E. CHABROL and J. DUMONT (*Paris méd.*, January 10th, 1920) report three cases in sisters aged 8½, 11½, and 10 years, who in the course of three weeks successively developed a mild attack of catarrhal jaundice. Although spirochaetes were found in the urine in two cases, inoculation of guinea-pigs and the serum agglutination test were negative, so that spirochaetosis ictero-haemorrhagica could be excluded. The patients' serum was then tested with the various micro-organisms which may give rise to jaundice—namely, typhoid and paratyphoid bacilli, *B. coli*, and Gaertner's bacillus, but dilutions in 1 in 50 were negative in each case. Similar cases of familial icterus have been described by Merklen, and the writers have also observed two brothers, aged 10 and 11 years respectively, who developed jaundice within a fortnight of one another.

163. Angina Pectoris and Syphilis.

FROM a study of 100 cases of true angina pectoris GALLAVARDIN (*Lyon méd.*, January 10th, 1920) comes to the following conclusions: (1) True angina pectoris is incomparably more frequent in men than in women, 93 of his cases being in men, and only 7 in women. It is also much commoner in private than in hospital practice, only two of the cases being observed in hospital patients. (2) As regards age, the affection may, in exceptional cases (4 per cent.), occur below 40, 24 per cent. were under 50, 47 per cent. between 50 and 60, and 29 per cent. over 60. (3) Syphilis, though a very important cause of angina pectoris, is far from being the only factor. In 91 cases in which the presence of syphilis could be thoroughly investigated syphilis was certain in 32 per cent. and doubtful in 5 per cent., while there was no evidence of it in 63 per cent. Even allowing for errors it did not appear likely that syphilitic infection was responsible for more than half the cases of true angina pectoris. On the other hand, out of 14 cases in which angina pectoris was associated with aortic incompetence syphilis was certain in 13. Gallavardin concludes that, though true angina pectoris is not due to syphilis in more than half the cases, when associated with aortic incompetence it is almost always of syphilitic origin.

164. Vaccine-therapy during the War.

GASTAMINI (*Il Morgagni*, December 15th, 1919) draws the following conclusions from a review of the experience gained during the war: In prophylaxis the best vaccines are those which lend themselves to exact dosage and keep well. The efficacy of so-called atoxic (sensitized) vaccines has not been established. Lipo-vaccines merit further trial. In some infections polyvalent vaccines should be given the preference. The sero-agglutinant test in suspected typhoid, both in the vaccinated and in the unvaccinated, still retains its value. In estimating the state of immunity of an individual the bacteriolytic antibodies are more reliable than the agglutinins. The method of introduction of the vaccine (subcutaneous or intravenous) is almost more important than the quality or quantity. The intravenous route gives the best results. Bad results are rare if the usual technique is followed. Since the immunity conferred by vaccination is usually only temporary, revaccination is advisable. It is in typhoid that the statistics are largest, and the results obtained show that there is a reduction both in morbidity and in mortality amongst the vaccinated as compared with the unvaccinated. In vaccine-therapy the intravenous route often gives brilliant results, but it is not entirely free from risk. It is better, as a rule (at any rate in typhoid), to use a heterologous vaccine, as it is less toxic, more constant in its action, and easily dosed; vaccine-therapy does not prevent complications or relapses. In typhoid it sometimes brings about a rapid and definite cure (in about 30 per cent. of the cases with a homologous vaccine, and in 40 per cent. with a heterologous vaccine); reduces the mortality (from 30 to 5 per cent., from 12 to 5 per cent., from 9.7 to 3.9 per cent., from 12.8 to 2.9 per cent., from 22 to 2 per cent., according to different authors). The exact method of the cure by vaccine-therapy is not yet quite clear; probably it stimulates all those specific means by which the organism tries to protect itself against infections.

165. Influenza in Children.

DURING the epidemic of influenza in the autumn of 1918 about 800 children were admitted into the Children's Hospital in Rome; whilst the influenza was raging, measles, scarlet fever, and diphtheria seemed to disappear. MANCINI (*Il Policlinico*, July 20th, 1919) gives statistics of some 200 cases which died during the epidemic and discusses the facts found at the *post-mortem* examination. No case died from influenza pure and simple, but from some complication; encephalitis, meningitis and myelitis were very rarely seen. He refers to a possible case of encephalitis lethargica seen in private practice. Bronchopneumonia was the commonest cause of death, and the author describes six chief varieties: (1) A small nodular form resembling miliary tuberculosis; (2) a large nodular type; (3) pseudo-lobar; (4) haemorrhagic; (5) suppurative; (6) complicated with pleurisy, pericarditis, or endocarditis. There are many points of likeness between the bronchopneumonia of influenza and that of measles, but bronchiectasis is rare after influenzal bronchopneumonia. Otitis was common, but parotitis rare. The bronchopneumonia was frequently associated with or followed by colitis and other gastro-intestinal disturbances; about half the children showed signs of gastro-enteritis. Contrary to what one might expect, a certain degree of antagonism between influenzal pneumonia and tuberculosis has been described, but Mancini found that 30 to 35 per cent. of the children dying of influenzal bronchopneumonia presented preceding tuberculous lesions, especially in the hilus glands. The spleen was generally swollen and with softish pulp.

166. Raynaud's Disease with Suprarenal Insufficiency.

K. FABER (*Ugeskrift for Laeger*, December 25th, 1919) records the case of a married woman, aged 47, who was childless and who had ceased to menstruate three years earlier. About seven months before admission to hospital she noticed that her hands and fingers easily became cold and numb, and that their colour changed from great pallor to striking cyanosis. This condition would last for a quarter of an hour to two hours, and could be banished by warmth. A little later the feet showed the same condition. It became steadily worse and was associated with increasingly severe pain. Small whitlows appeared on her fingers and herpes zoster broke out on her back and abdomen. On her admission to hospital in March, 1919, her nose was also cyanosed and the tip of one finger was gangrenous. The breasts and linea alba were slightly pigmented. Wassermann's reaction and an *x*-ray examination of the pituitary body were negative. After a month in hospital she began to suffer from nausea and vomiting, the temperature became subfebrile, and she felt very weak. The pigmentation of the skin became more intense and widespread, and a trace of albumin appeared in the urine. The blood pressure was 155–120, the haemoglobin was 78 per cent., and the red cells numbered 3½ millions. Death occurred in April after signs of restlessness and mental disorder. The necropsy showed the left suprarenal to be normal, but the right suprarenal was slightly enlarged, and, under the microscope, most of the gland was seen to be the seat of caseous degeneration. Outside the definitely caseous parts there were scattered typical tubercles. The thyroid and the pituitary body were normal, and the thymus was represented only by a little fatty tissue. The author notes as remarkable that disease of only one suprarenal was sufficient to provoke Addison's disease.

167. Diphtheria in the Newborn.

F. LONNE (*Med. Klinik*, November 23rd, 1919) states that diphtheria is a relatively common occurrence among the newborn, though it is often not recognized as such owing to the frequent absence of symptoms. In the course of the last ten years Lonne observed 35 cases of nasal or umbilical diphtheria, or both combined, among newborn infants in the Göttingen University obstetrical department, 20 of whom showed clinical symptoms and 15 none at all; 3 cases, or 8.6 per cent., were fatal. The prognosis of diphtheria in the newborn is good except when complications occur, such as bronchitis, bronchopneumonia, influenza, otitis, or nutritional disturbance, when it is usually unfavourable. Treatment consists in the intramuscular injection of 2,000 units of antitoxin and instillations of adrenalin in twice as much boracic lotion in nasal diphtheria, and the application of a mild disinfectant ointment when the umbilicus is affected.

168. Blackwater Fever.

ZLOCISTI (*Berl. klin. Woch.*, December 8th, 1919) relates a case of a soldier, 33 years of age, who developed a first attack of malaria after seven weeks' residence in Anatolia in spite of regular prophylactic doses of quinine. When admitted to hospital three weeks after the onset of the illness he already had severe haemoglobinuria, and his blood contained enormous numbers of malignant malarial amoebulae with a few crescents. In spite of the urinary findings he was treated with vigorous doses of quinine, and in four days the symptoms disappeared and he made a good recovery. Zlocisti regards the case as one of blackwater fever, the cause of which was excessive destruction of red blood corpuscles by malarial infection. The exposure of the patient in a malarial district was remarkably brief for the development of this type of disease, and there is good evidence that quinine was not the causal agent.

SURGERY.

169. Thoracic Fistulae.

LILIENTHAL (*Ann. Surg.*, 1919, 70) describes his operation, which he calls "major non-collapsing thoracoplasty," for the treatment of chronic empyemata. It is now well recognized that the operations of Schede and Estlander are unphysiological, being based upon an incorrect interpretation of the lung condition present in the ordinary unhealed empyema. It has long been known that the cause of the persistent cavity is the inability of the lung to expand. But it has only recently been widely understood that if the lung is sufficiently freed it will, as a rule, obliterate the cavity. Delorme stumbled on this truth and devised his sanguinary decortication operation. Schede's and Estlander's operations have their rationale in the belief that as the lung is incapable of expansion the chest wall must be collapsed upon the lung. Anyone who has freed the adhesions bounding a chronic empyema cavity knows that the apparently cartilaginous lung becomes soft and yielding the moment the adhesions are free, and that a decortication of thickened pleura is hardly necessary. The freeing of these limiting adhesions for the purpose of lung mobilization is open to the grave objection that it tends to spread infection into hitherto intact pleura. Lilienthal's operation avoids this. He uses either intrapharyngeal gas or air bubbled through ether as anaesthetic. He performs the ordinary wide thoracotomy, and spreads the ribs until the whole of the empyema cavity can be inspected. But instead of dividing the adhesions limiting this space, he incises the visceral pleura from top to bottom, and if necessary from side to side as well in crucial fashion. The lung can then be seen expanding through the cut pleura, and if the intrapulmonary pressure be increased the cavity may be entirely obliterated. This

expansion can be brought about, if ether is being given by the nasal tube, by the simple means of closing the patient's mouth and free nostril and increasing the inflow. As soon as the pressure is reduced—and of course it can only be kept up safely for a few moments—the lung collapses again; but the value of the step is that it shows whether the pleural incisions have been extensive enough. When satisfactory expansion is arrived at, the chest is closed with drainage through the original fistula. Expansion exercises and Carrel-Dakin instillation are instituted within twenty-four hours. Of ten patients operated upon by this technique six were healed in three weeks, the others convalescent at the time of writing. In a further series of thirteen cases there were two deaths, both from sepsis, but no detailed clinical records of any of the patients are given.

170. Parts of the Duodenum.

THE division of the duodenum into four parts, generally adopted, has not much to recommend it. VILLEMIN (*C. R. Soc. Biol.*, December 27th, 1919), as the result of anatomical studies in man and animals, shows that in those mammals in which the pancreatic and biliary ducts enter at the same level the duodenum may be divided into two parts. The portion superior to the ducts is dilated, has a thicker wall, and receives its blood supply exclusively from divisions of the hepatic artery, and it contains Brunner's glands. The inferior portion has the same morphological characters as the jejunum, and gets its blood supply from branches of the superior mesenteric artery, whilst it does not contain Brunner's glands.

171. Urethral Polypus.

G. O. E. LIGNAC (*Nederland. Tijdschr. v. Geneesk.*, December 27th, 1919) reports a case in a boy, aged 9 years, who presented a mushroom-shaped growth protruding from the urinary meatus. The patient suffered from frequent erections of long duration, and difficulty in micturition. On removal the polyp was found to be a fibroma. Death took place from septicaemia about a month after the operation.

172. Ether as an Anaesthetic for Short Operations.

TADDEI (*Rif. Med.*, November 1st, 1919) draws attention to a method of using ether for short operations, painful dressings, etc., which he has used successfully over 3,000 times. The method consists in the immediate application of not less than 50 grams of ether on a simple mask, applied firmly to the face so as to avoid entry of air. This makes the patient catch his breath, go red in the face, and perhaps slightly cyanotic. The operation or dressing should be started at once as the patient is analgesic in this early stage. As a rule, anaesthesia of this type lasts thirty to sixty seconds, which is sufficient for the purpose in the class of case the author is considering; if necessary, it can be prolonged by giving the ether in the ordinary way. No bad results have followed the use of ether in this way; it can be repeated several times—for example, in some cases it was given by this method fifteen times in 15 to 30 days. The author believes it acts as a sort of "psychic block," all the usual routes of painful sensation being temporarily blocked by the apnoea and respiratory shock caused by the sudden dosage of ether, just as a powerful emotion cuts off for the time painful feelings.

173. Rupture of the Biceps by Direct Force.

M. SCHÜLEIN (*Muench. med. Woch.*, November 21st, 1919) notes that subcutaneous rupture of the biceps by indirect force, as in the act of lifting a heavy load, is not very rare. In such cases the tendon of origin or insertion breaks, not the muscle itself. A case such as the following is exceedingly rare: A shunter aged 18 was struck by the platform of a railway carriage, which fell on his chest and right arm. He could not move this arm, which at once became much swollen. Examination soon after the accident showed that the arm was much swollen and very limp, but no injury to the bones or joints could be found. The skin also was intact, and the muscles seemed to have escaped injury. The patient was accordingly discharged from hospital a few days later. Eight months after the accident he was examined by the author, who found that when the flexors of the forearm were thrown into action a transverse furrow could be felt in the middle of the biceps. The overlying skin was intact and not adherent to the structures it covered. The range of movements about the elbow and shoulder joints was unimpaired, but the flexor function of the biceps was much weakened. The patient, who refused operative treatment, was recommended compensation equivalent to 15 to 20 per cent. of the maximum.

174. Congenital Cysts of the Neck.

ACCORDING to C. ROMANO (*La Pediatria*, December, 1919), who records six illustrative cases in children and adults, compound or multilocular serous cysts of the neck occurring in intrauterine life are more or less well developed at birth, and sometimes of an enormous size; whereas dermoid cysts do not appear until some years afterwards, as a rule not before puberty or adolescence, and sometimes even later. The site of predilection for serous cysts is the left side of the neck, where they develop often in the subcutaneous tissue and sometimes in the subaponeurotic tissue. As a rule they do not cause any inconvenience. The only rational treatment is removal, the operation usually not offering any great difficulties. In the case of multilocular serous cysts, extirpation is often impossible owing to their size and adhesions with the tissue and neighbouring organs.

OBSTETRICS AND GYNAECOLOGY.

175. Sterility.

COUDERT (*Journ. de Méd.*, December 10th, 1919) wisely points out that, as it is the man who is at fault in a quarter or a third of sterile marriages, it is necessary to have a microscopic examination of the spermatic fluid of the husband before embarking on what may prove to be a long course of treatment of the wife. The causes of sterility in the female are divisible into two main groups—septic and mechanical. Of the former, gonorrhoea plays far the most important part; it is in fact the chief cause of sterility. Localized in the testicle or epididymis of the male the gonococcus produces a disappearance or a diminution in number and vitality of the spermatozoa. In the female it lodges in the cervical canal, often ascending to the body, tubes, and periuterine cellular tissue, in rarer cases constituting an extremely virulent infection with rapid suppuration. However extensively the body of the uterus may be affected at the beginning, the disease generally tends to locate itself in the endocervix and causes sterility by producing an alteration of the mucous membrane whilst the purulent secretion and the resulting acidity arrest the access of the spermatozoa. Chronic gonorrhoeal cervicitis is insidious in its onset and is characterized by very abundant leucorrhoea, thick yellowish mucus (in which, except after menstruation, it is generally impossible to detect gonococci), swelling of the cervix, and ectropion of mucous membrane. Reinfection of the husband, and again of the wife after she is cured, constitute a common vicious circle. In treatment the author recommends gentle swabbing of the endocervix with silver nitrate, protargol, picric acid or formalin, avoiding the curette. In graver cases cauterization should be resorted to, four or five cauterizations at intervals of ten to fifteen days being generally sufficient. Sterility due to mechanical causes, such as malformations of the Müllerian ducts or infantile uterus, is much rarer. In stenosis Coudert advises dilatation by means of graduated tents, commencing the treatment two or three days after menstruation. Flexions by themselves are not responsible for sterility; here the responsible agent is the uterine or periuterine inflammation, and to this the physician must address himself. Gynaecological uterine massage may work wonders in freeing a uterus from its adhesions. Tumours, especially uterine polypi, are not uncommon bars to conception.

176. Observations on 300 Cases of Sterility.

A. BRUN (*Il Policlinico*, Sez. Prat., December 7th, 1919) gives the following statistics of 300 cases of sterility observed by him at Trieste during the last ten years. Two hundred and thirty cases were examples of primary sterility—that is, the woman had never given birth to a child or had a miscarriage, and 70 cases were examples of secondary sterility following a period in which births or abortions had taken place. The cases of primary sterility were divided into four groups: I. Normal genital organs, 13 cases. II. Congenital defects, 107 cases: (1) deficient ovarian function with anaemia and uterine flaccidity, 9 cases; (2) deficient ovarian function with obesity, 18 cases; (3) severe degree of infantile uterus, 35 cases; (4) mild degree of infantile uterus, 10 cases; (5) rigid anteflexion of the uterus, 21 cases; (6) retroflexion or retroversion of the normal uterus, 8 cases; (7) stenosis of the external os, 6 cases. III. Inflammatory processes, 102 cases: (1) chronic inflammation of the adnexa, 53 cases; (2) chronic perimetritis, 23 cases; (3) chronic perimetritis with fixation of the retroverted uterus, 11 cases; (4) granular vaginitis, 4 cases; (5) endometritis, metritis, and

catarrh of the cervix with erosions, 11 cases. IV. Fibroids, 8 cases. The cases of secondary sterility were divided into seven groups: I. Normal genitalia, 1 case. II. Hyperinvolution of the uterus, 3 cases. III. Deficient ovarian function from lead poisoning, 1 case. IV. Scarring of the uterine orifice after plastic operation on the cervix, 5 cases. V. Chronic inflammation of the adnexa and perimetritis, 44 cases. VI. Metritis, endometritis, and cervical metritis, 14 cases. VII. Fibroids, 2 cases. These statistics give different results from those obtained by Bumm, who found two-thirds of his cases of primary sterility were due to an infantile uterus, whereas less than half of Brun's cases were due to this cause. The great frequency of inflammatory processes was doubtless due to the prevalence of gonorrhoea. Out of 102 cases the gonorrhoeal origin could be regarded as certain in 23, and as very probable in 64.

PATHOLOGY.

177. Atypical Dysentery Bacilli.

DUMAS (*C. R. Soc. Biol.*, December 27th, 1919) points out that there is no serum reaction that allows one to differentiate true dysentery bacilli from the atypical strains found during the course of an illness. Several observers have relied on the results of subcutaneous injections of bouillon cultures in doses of 10 to 15 c.cm., and if a local abscess, from which the rabbit dies, is produced they have judged the particular organism to be pathogenic. Dumas thinks that the only way to establish the dysenterigenic rôle of an organism is to produce experimentally the same lesions as are found in the human subject. He makes the cultures in Martin's peptone broth, arranging the alkalinity so that the acidity of the medium after ten days' incubation is neutralized by a certain quantity of soda, and filters through a Chamberland F candle at moderate pressure. The filtrate injected subcutaneously into rabbits failed to produce any pathological condition. He therefore concludes that these atypical dysentery bacilli are avirulent and non-toxic. There is no doubt that such bacilli can be found in dysenteric muco-colitis in association with true dysentery bacilli, but the author says that they appear late, about the fourth day of the illness, and are to be regarded merely as saprophytes of the large intestine. In the course of bacillary dysentery a new intestinal flora appears at the ulcerated parts about the fifth day. It is a flora of secondary infection comparable to that found in open infected wounds, but it plays no part in the etiology of the disease. In his opinion the reason why these atypical bacilli have so often been held to be the cause of dysenteries is because the search for the authentic pathogenic germs (Shiga or Flexner) has been instituted too late in the disease, and they have therefore not been detected in the plates.

178. A Malignant Chordoma.

TUFFIER, GÉRY, and VIGNES (*Bull. de la Soc. Anat. de Paris*, No. 11, October–November, 1919) report one of those rare cases of tumours arising from remains of the notochord. The patient, a woman of 55, complaining of pain and a sensation of dragging in the anal region, was found by rectal examination to have a slightly movable, regular, non-fluctuating tumour in the middle line between the coccyx and the anus. It was not adherent to the surroundings. At operation a tumour of purple colour, studded with haemorrhages and encapsulated, was easily removed. It was of the size of a small orange. On section a gelatinous fluid escaped from the surface. Microscopically it consisted of strands of fibrous tissue between which lay masses of cells without intercellular connective tissue set in a granular or fibrillar ground substance giving the reactions of mucin. The outstanding characteristic of the cells was the almost universal occurrence in them of vacuoles, and there was an extreme variation in the size of the cells. In some cells the nucleus alone was several times larger than entire cells in the neighbourhood. The vacuoles existed not only in the protoplasm but sometimes also in the nucleus. Here and there the vacuoles showed the presence of mucin. Blood channels, few in number, seemed to be composed of tumour cells alone. Multinucleated cells with various nuclear degenerations were common. Mitotic figures were absent, the cells apparently dividing by direct nuclear division. The tumour recurred within a year of removal, but the second operation was not followed by recurrence. The most frequent site of these rare tumours is the spheno-occipital synchondrosis, which corresponds morphologically to an intervertebral disc, and the next commonest situation is the sacro-coccygeal region. Undoubtedly derived from persistent remains of the notochord, they may arise between the bones in the intervertebral discs, or they may be wholly in front of the vertebrae. They are generally simple tumours, but in a very few cases, as in this one, they are locally malignant; no metastases have ever been described.

179. New Method for Staining Blood Films.

MCJUNKIN (*Journ. Amer. Med. Assoc.*, January 3rd, 1920) describes a method by which the leucocytic granules are brought out as well as the polychrome staining of the remainder of the blood elements. It was found that methyl alcohol of 80 per cent. strength, made by adding 5 c.cm. of distilled water to 20 c.cm. of Merck reagent methyl alcohol, preserves the leucocytic granulation so that smears fixed in it may be stained by Wright's, Leishman's, or other polychrome stain, and the success of McJunkin's benzidine-polychrome method rests largely on this observation. He proceeds as follows: On the cover-glass film he places 4 drops of 80 per cent. methyl alcohol, to 25 c.cm. of which there has been added 100 mg. of benzidine and 1 drop of hydrogen peroxide, and allows this to act for thirty seconds; this is diluted with 8 drops of distilled water, and the diluted solution is left for four minutes. After washing with distilled water and blotting between filter paper the film is stained with 4 drops of Wright's stain and 4 drops of distilled water which are allowed to act for four minutes; the film is then washed, blotted, dried in the air, and mounted in balsam. The granules of the neutrophiles, endothelial (large mononuclear) leucocytes, and eosinophiles stain dark brown, while all other blood elements are coloured exactly as they are in the simple polychrome stain. The basophilic granules are a rich purple; the large eosinophile granules are brown, and have a ring-like appearance due to their refractive centres; the neutrophile granules are dark brown, irregular in shape and thickly set in the cytoplasm, while the robin's-egg blue of the lymphocytes is entirely non-granular except for the characteristic bright reddish metachromatic granules present in some of them.

180. Regeneration of Striated Muscle.

NAGEOTTE and GUYON (*C. R. Soc. Biol.*, December 27th, 1919) found a curious appearance in the case of a piece of dead nerve which had been preserved in glycerin and employed as a graft. After fifteen days some striated muscle fibres in the neighbourhood of the suture were found to have insinuated themselves into the graft and penetrated it for a distance of a centimetre, growing finer towards the distal end. These fibrils possessed definitely striated fibrillae. As they had never seen a like phenomenon in the numerous nerve grafts preserved in alcohol with which they had experimented, they supposed that the glycerin might play a part in causing this muscular regeneration, and if so it might be a useful fact in surgery. By impregnating the grafts with various substances they found that glycol, galactose, maltose, and saccharose failed to attract the muscle fibres, whilst glycerin, glycogen, glucose, levulose, and mannite gave positive results. Further, in a case where they inserted a glycerinated nerve graft in the ear of a rabbit and sutured a small portion of living muscle to the end of it, they found that in twenty-four hours prolongations of muscular fibres had penetrated the graft for a length of 5 or 6 mm. Whether the experiments will lead to facts of practical surgical importance or not remains a question for the future. Regeneration of striated muscular tissue has not hitherto been demonstrated.

181. Angio-melano-sarcoma of the Leg.

R. VILLAR (*Journ. de méd. de Bordeaux*, January 10th, 1920) reports the case of a girl, aged 20, who presented pigmentary naevi on various parts of the body. None of them had been accompanied by any symptoms, except one which had been recently getting larger on the upper part of the inner side of the right leg. On examination a pedunculated tumour the size of a bean was found, resembling at first sight molluscum fibrosum. The neighbouring skin, however, was pigmented, and on palpation the pedicle was found to be firmly adherent to the deeper structures. An enlarged gland was found in the groin. The general health was excellent. The diagnosis was made of angio-melano-sarcoma developing on a pigmentary naevus, and was confirmed by histological examination. The tumour and glands in the groin were removed, but the prognosis was very grave owing to the youth of the patient, the rapid development of the growth, and especially the glandular metastasis.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

182. Scarlet Fever Complicated with Pneumonia.

LOBELL (*Med. Record*, November 8th, 1919) records a case of scarlet fever in which, among several other complications, the rare one of pneumonia developed, which for a time was difficult to diagnose. A girl, aged 4, had a typical onset of scarlet fever, the rash appearing the following day. The angina was pronounced and there was an exudate on the tonsils which gave a negative diphtheria culture, and subsequently there was free desquamation. Eleven days from the onset a purulent left otitis media developed which discharged for five weeks. The right ear showed signs of congestion which soon subsided. Three days later she began to cough and complained of pain in the back of the chest, and two days afterwards there was definite dullness over the lower lobe of the right lung. Vocal fremitus and vocal resonance were absent, except over one area about the size of a dollar between the eighth and ninth ribs. Aspiration twice showed no fluid, and *x* rays gave a diminished illumination at the right base, but were unable to settle the diagnosis as between lung abscess, sacculated empyema, or an irregular pneumonia. During the next three days the temperature fell by lysis, and the patient recovered completely in spite of developing an acute nephritis. Convalescence gave a gradual diminution of the dullness accompanied by return of the vesicular murmur, but no râles of resolution were detected, and the case was considered to be one of pneumonia in which a mucous plug obstructed a main bronchial branch, causing the anomalous physical signs.

183. Cicatricial Tuberculous Stenosis of the Trachea.

ACCORDING to JOANNOVICS and MARASPINI (*La Presse Méd. d'Egypte*, January 1st, 1920), tuberculous lesions of the trachea are not infrequently found at the autopsy of patients who have died of pulmonary tuberculosis. During life, however, the tracheal lesions escape notice, as the symptoms to which they give rise are attributed to the pulmonary or laryngeal involvement with which they are associated. The writers record the case of a woman, aged 43, who sought advice for difficulty in breathing which towards evening amounted to a slight attack of asthma. Examination of the larynx showed only some small granulations on the right vocal cord, but on tracheoscopy irregular scars were found at the level of the third and fourth tracheal rings, and on the anterior surface below the second and fourth rings was a longitudinal scar causing considerable stenosis of the lumen. After application of 30 per cent. cocaine, the stricture was dilated and a tube passed down to the bifurcation of the bronchi without meeting any other obstruction. The difficulty in breathing then subsided. Although many cases of syphilitic stenosis of the trachea are on record, the writers do not know of any instance of tuberculous stricture. In the present case there was no other evidence or history of syphilis, but the patient had been treated in her youth for laryngeal and pulmonary tuberculosis.

184. Statistics of Spina Bifida.

R. VAGLIO (*La Pediatria*, January, 1920) found 23 cases of spina bifida among about 10,000 infants, or 1 in 434; 13 were females and 10 males. Most of the children were brought to the hospital a few days after birth, less frequently in the first few months, and only 2 cases were not seen until they were 1 and 2 years old respectively. Apart from one case of double spina bifida, the tumour in 12 cases was in the lumbo-sacral region, in 3 in the sacral, in 3 in the lumbar, in 2 in the dorso-lumbar, and in 2 others in the lower dorsal and cervical regions respectively. The size of tumour varied as a rule from that of a large walnut to that of a large orange. In only one case was the tumour considerably larger, being about the size of a fetal head. The skin was almost intact in 8 cases, intensely reddened and vascular in 5, and ulcerated in 7; in 3 there was an escape of cerebro-spinal fluid. In only one case was there a tuft of hair present over the tumour. As regards the family history, syphilis was noted in only 3 cases, in another 6 cases its presence was shown either by the hereditary history and clinical evidence or the Wassermann reaction. In only one case was the existence of other cases of spina bifida in the ascendants or collaterals noted. In one case the mother was tuberculous. As regards concomitant affections, 7 cases had hydrocephalus, 6 clubfoot, 4 paralysis of the lower limbs associated in 2 with clubfoot, 1 had Little's disease, 1 cleft palate, 1 multiple malformations of the anus and genitals, and 1 multiple small angeiomata of the scalp.

185. A Case of Emetine Idiosyncrasy.

R. SAVIGNAC and A. ALIVISATOS (*Paris méd.*, January 10th, 1920) report a case in a man, aged 42, suffering from amoebic dysentery, in whom urticaria developed after injections of emetine. The eruption, however, did not appear until after he had had four series of six injections, each consisting of 4 cg. of emetine hydrochloride. It was only during the fifth series, five months after the commencement of the treatment, that the rash first appeared, as if it required a certain accumulation of the drug for it to develop. The peculiar features of the urticaria were as follows: (1) It spared the face and trunk; (2) it was most marked, at least at first, in the neighbourhood of the injection site; (3) the lesions showed a certain symmetrical distribution on the limbs; (4) the eruption persisted for a long time, fresh crops appearing during the five months which followed the last injection of emetine.

186. Lumbar Puncture: a Warning.

WEGEFORTH and LATHAM (*Amer. Journ. Med. Sci.*, 1919, 158) adduce evidence that lumbar puncture may be an important factor in the production of meningitis, not by contamination of the puncture wound, but by causing organisms present in the blood to migrate into the cerebro-spinal fluid. If animals are given intravenous injections of an organism the pathogenicity of which for the meninges is known to be high, and then repeatedly punctured at the height of the septicaemia, meningitis invariably results. In control injected animals not punctured meningitis did not follow. These experimental results were borne out by clinical observations: 93 patients suspected of meningitis were punctured; of these, 6 gave positive blood cultures and of these 6, 5 developed meningitis subsequent to the puncture. If, prior to the puncture, intravenous serum therapy is administered meningitis does not occur. Wegeforth and Latham emphasize the necessity of making sure that the blood is not infected before puncture is done, and insist that harm may follow if serum is not first given. Lumbar puncture should be avoided unless there are definite signs of meningeal irritation, and when performed large withdrawals of cerebro-spinal fluid should be avoided.

187. Site of Lumbar Puncture.

EVERYONE is agreed nowadays that the space between the neural arches of the third and fourth lumbar vertebrae affords the most suitable access to the spinal theca. On the finer points, such as the exact site for the introduction of the needle, and the angle at which it should be inclined, there is some conflict of opinion. REGAN (*Amer. Journ. of Med. Sci.*, 1919, 157) has made a detailed study of the anatomy of neural arches and their interspaces, with a view to establishing a sound basis on which to found practice. He comes to the conclusion that the median puncture is the best for people of all ages, and that as a general rule the needle can be pushed in perpendicularly to the surface. It will be remembered that this mode of introduction of the cannula has always been well supported in so far as it applies to the child. In the adult the obliquity of the lumbar spines has led many people to advocate a slightly lateral site for puncture and an upward inclination of some 45 degrees. Regan's researches have shown him that the perpendicular median puncture is as good in the adult as the child, provided that the spine can be well flexed. If flexion is limited, as in the elderly, a slight upward deviation is necessary. The objection to median puncture on the ground that the supraspinous ligaments are so tough is not a serious drawback. These ligaments consist of two parallel bands, and if one keeps strictly to the middle line one should be able to steer the needle between them. If one is successful in this aim the two bands are a help in preventing lateral deviation of the needle, which will slip on into the theca. The paper is illustrated by six drawings of the lumbar spines.

188. Thymus Stenosis in Children.

ACCORDING to H. KLOSE (*Med. Klinik*, November 23rd, 1919) the diagnosis of enlargement of the thymus rests on the presence of five principal symptoms: (1) Attacks of asphyxia are preceded by a prodromal stage known as stridor thymicus infantum or asthma thymicum. The infant has noisy breathing from birth or the first months of life, its intensity increasing at the end of inspiration and on excitement. Some cyanosis is always present. There is also inspiratory supra- and infra-sternal recession, indicating stenosis of the respiratory tract. The voice is clear. (2) The causes of the actual asphyxial attacks are generally to be found in external agencies. The thymus becomes enlarged in consequence of congestion or of lordosis of the dorsal vertebrae; thus asphyxial attacks may occur when the infant is put to bed with its head hyperextended. A meal may also cause an attack, as the full stomach presses up the diaphragm and impedes respiration. The attacks may result from a chill, because coughing causes congestion of the gland. (3) On expiration, and especially during an attack, a soft round swelling can be felt in the suprasternal fossa. (4) On percussion dullness is observed behind the manubrium and extending over to the left border of the sternum, and becomes incorporated with the cardiac dullness. Three diseases in which the dullness is the same must be excluded, namely, aneurysm of the aorta, substernal goitre, and enlarged bronchial glands. (5) Radioscopy and radiography are indispensable for the diagnosis. An enlargement of the central shadow is characteristic; it may extend towards the left.

SURGERY.

189. Fracture-dislocations of Astragalus.

DALE (*Arch. Radiol. Electrotherap.*, 1919, 187) records three cases of fracture of the astragalus. In two of these the large posterior fragment was dislocated backwards on to the upper surface of the os calcis. In one the anterior lip, in the other the posterior lip, of the lower articular surface of the tibia was broken off. Dale gives a brief but interesting account of the manner in which these injuries are brought about. The common cause is hyper-extension (dorsiflexion) at the ankle-joint, usually produced by falls from a height. The neck of the astragalus is broken by the anterior lip of the tibial extremity, which may itself give way. Should this latter accident happen further dorsiflexion is possible, and a continuation of the force causes the body of the astragalus to slip backwards between the now widened gap behind. If the amount of dorsiflexion attained is insufficient to allow of this, the backward-moving astragalus will break off the posterior margin of the tibia in order to effect its escape. The paper is illustrated by four clear prints.

190. Violent Attacks of Colic caused by Calcified Mesenteric Glands.

S. HANNEMA (*Nederland. Tijdschr. v. Geneesk.*, January 17th, 1920) records a case in a man, aged 51, who for two years had suffered at irregular intervals from violent attacks of colic independently of food. There was no family or personal history of tuberculosis. The attacks were not accompanied by jaundice and the urine was normal. A skiagram suggested calcified mesenteric glands, the presence of which was confirmed by an operation, which showed the whole mesentery to be strewn with calcified glands. The largest and most numerous were in the ileo-caecal region. Twenty-two were removed and the patient made an uninterrupted recovery. The cause of the pain, and especially of its paroxysmal character, was not obvious. Possibly owing to changes in the position of the mesentery the nerves were irritated by the calcified glands.

191. Appendicitis simulating Strangulated Hernia.

R. VILLAR (*Journ. de méd. de Bordeaux*, January 10th, 1920) records the following case: A man with a right inguinal hernia suddenly developed severe pain suggesting that it had been strangulated. A diagnosis of hernial peritonitis was made. At the operation hernia of the caecum and appendix was found. The appendix, which was inflamed, was removed and a radical cure performed. Subsequent recovery was uneventful. On opening the appendix four trichocephali were found imbedded in the mucous membrane. The trichocephalus appears to be very prevalent in the Bordeaux district. On examination of the stools of 20 children without any abdominal affection Villar found this parasite in 7 cases.

192. Necrosis of the Clavicle.

APERLO (*Il Policlinico*, 1919, 26) describes a case of complete necrosis of the clavicle following an infection of the hand. A child, aged 7, had a septic scratch on the dorsum of the right hand; a local collection of pus formed with pyrexia and chills. Pain below the right clavicle was now complained of and a swelling appeared in this situation, with a fluctuating centre. This was incised and pus escaped. There was temporary improvement in the general condition, the abscess on the hand having by this time burst spontaneously. The temperature continued high, so the subclavicular wound was incised again, and a further collection of pus poured out. Spasmodic torticollis now made its appearance, and the child was sent to hospital, where it was first seen by Aperlo. An incision made along the clavicle disclosed the bone, denuded of periosteum, separated from its attachments at both sternal and acromial ends. A very slight degree of traction allowed the bone to be withdrawn, whereupon pus which had been pent up behind the clavicle welled up into the wound. The cavity was packed with iodoform gauze and healed rapidly. The child was discharged from hospital completely cured in ten days' time. Movements of the right arm and shoulder were perfect. The excellent functional results which follow excision of the clavicle are perhaps not generally known. Confirmation on this point will be found in Thorburn's case, where he removed the clavicle for a thyroid metastasis (reported by Radley and Duggan, *Brit. Journ. Surg.*, 1913–14). Aperlo believes that the cause of the infection of the clavicle was a direct extension of staphylococcal infection from the highest axillary lymphatic glands. The inner end of the bone was more extensively infected than the outer. The unusual feature of this case is the bone involved. The connexion between boils and acute osteomyelitis is sufficiently well known. It may be remembered that Pasteur was in the habit of referring to osteomyelitis as "bone furunculosis."

193. Torsion of the Omentum diagnosed as Appendicitis.

H. O. WILDENSKOV (*Ugeskrift for Laeger*, January 8th, 1920) records the case of a business man, aged 30, who had suffered for thirteen years from bilateral inguinal hernia, easily reducible on both sides. Two days before admission to hospital, on lifting heavy weights the right hernia came down, and provoked such pain that reduction had to be done when lying down, and was only successful after some painful manipulation. During the following night he felt severe pain in the right iliac fossa, increasing next day, and his motions contained a little blood and mucus. There was no vomiting. On his admission to hospital with the diagnosis of appendicitis the temperature was 38.5° C.; the pulse was 90. The tongue was moist and slightly coated, the abdomen was not distended, but there was definite tenderness in the right iliac fossa, with rigidity on palpation. In this area there was an ill-defined prominence, which was dull on percussion. A rectal examination was negative and both hernial sacs were empty. Laparotomy, performed under general anaesthesia, revealed a little sero-sanguineous fluid in the peritoneal cavity. The appendix was normal apart from a kink at the junction of its middle and outer thirds. A very cyanosed oedematous lump of omentum was at once found in the middle line, and when it was pulled forward it proved to be secured by a pedicle, 20 cm. long and 2 cm. thick. As many as six complete turns of this pedicle to the left were counted. Detorsion was followed by resection and uneventful recovery. A month later, when both herniae were operated on, perfectly normal conditions were found.

194. Influenzal Metastatic Ophthalmia.

A. F. OÑATE (*Rev. de med. y cir. prat.*, December 7th, 1919) records a case in a woman, aged 26, who suffered from influenza complicated by bronchopneumonia. On the seventh day of disease there was slight inflammation of the eye and impairment of vision, which was treated by boracic fomentations. When seen by Oñate the right eye protruded, the lids were inflamed, the conjunctiva chemotic, and there was a profuse lacrymal secretion and catarrhal discharge. The cornea was turbid, the pupils immobile and obstructed by purulent exudate. The eyeball was increased in size, hard, and immobile. Pain was absent at first, but in a few days became very violent. The temperature ranged from 99.4° to 100.4°. Cold compresses of cyanide of mercury (1 in 5,000) and inunction of collargol round the orbit were employed, followed by injections of the cyanide of mercury solution into the conjunctiva and vitreous, as recommended by Darier, but without effect. The eye was then enucleated and complete recovery took place.

195. Peripheral Nerve Injuries.

FRAZIER (*Annals of Surgery*, January, 1920) advises operation not earlier than three to six months after injury, as many cases show no sign of spontaneous recovery for six months, provided there is evidence of complete nerve interruption. The tourniquet is used only if much cicatrization is present; it is removed before resection or suture. Resection of a spindle-shaped neuroma and suture is justifiable if there are signs of total loss of function at the end of six months. Development of the spindle-shaped neuroma is not infrequent after suture or transplantation and in cases recovering spontaneously. No protective sheath is required for a liberated or sutured nerve, which should be placed in an intramuscular plane or between deep fascia and muscle sheath, or between deep and superficial fascia. "Implantation" suture may be used in certain cases of large defects in ulnar or musculo-spiral, sacrificing certain portions of the median with slight transient sensory loss. Nerve-stretching and posture may secure apposition in a defect of 7 to 8 cm. If necessary the nerves can be drawn as close together as possible, the joint flexed, and extended gradually over four weeks, when the segments are approximated after resection at a second operation. Nerve transposition can be applied to the ulnar, which is transposed to the flexor aspect of the forearm. Transplant is less successful than direct suture. Autografts are used, usually the musculocutaneous, radial, or internal cutaneous. Bones are shortened as a last resort. Tendon transplantation may be used for permanent foot-drop and paralysis of extensor communis digitorum. In suturing nerve segments slices are removed until healthy fasciculi project; one tension stitch of catgut is passed and four to eight silk epineural sutures, which are tied before the tension suture.

196. Indications for Operation in Acute Appendicitis.

E. VILLARD (*Lyon méd.*, January 10th, 1920), in a paper based on the study of 500 personal cases, discusses the indications for operation in acute appendicitis. In place of the formula "Operation is indicated when it is the only means of curing the patient" he substitutes the formula "Operation in appendicitis is indicated whenever it is the most likely method to cure the patient." In the stage of onset, which corresponds to the first forty-eight hours, operation, provided it can be carried out under suitable conditions, is indicated, as it is impossible to foretell the issue of the case. After the first forty-eight hours, when there is a diffuse or spreading peritonitis, as rapid operation as possible is indicated, for it is the only means of saving the patient. In encysted peritonitis with a collection of pus, although its necessity is disputed by some authorities, operation is nevertheless indicated, for it is the treatment which offers the greatest chances of recovery. After the acute attack has subsided appendicectomy should be recommended without being insisted upon, but the possible consequences of obstruction should be explained to the patient. In relapsing appendicitis, on the other hand, operation is formally indicated.

197. Studies in Bone Growth.

F. H. ALBEE (*Annals of Surgery*, January, 1920) has experimented with rabbits, by removing a portion of one of the bones of the limb and injecting a 5 per cent. solution of triple calcium phosphate between the bone ends. He concludes that callus formation in these cases extended far into the soft parts, apparently following the penetration of the solution. In some cases the callus protruded beneath the skin. Moreover, cases of fracture with loss of substance showed a much more rapid bone growth and union when triple phosphate was injected into the gap between the bone ends than did the controls without its use. No toxic or irritating effects were produced by the injection.

198. Infarct of Testicle in Gonorrhoea.

J. J. STUTZIN (*Med. Klinik*, December 14th, 1919) records the case of a chemist, aged 44, who had contracted gonorrhoea with prostatitis several years earlier. Early in June, 1919, the left and then the right testicle became swollen. The swelling of the right testicle soon subsided, but that of the left testicle persisted. Late in August the only sign of inflammation on the right side was enlargement of the epididymis, with induration most noticeable in the globus minor. On the left side the scrotum contained a swelling as large as a goose's egg. The upper part was translucent, and the diagnosis of hydrocele was confirmed by puncture. But the yellow fluid obtained was turbid, and the sediment contained many leucocytes. The small and indurated prostate contained a hard nodular swelling on the left side. There was also a stricture of the urethra. Nine days after the puncture of the hydrocele it was opened under a local anaesthetic, and about 150 c.cm. of turbid yellow fluid were withdrawn. The tunica vaginalis was much inflamed, and, as the testicle felt tense and was considerably enlarged, it was incised. Testicular substance, mixed with dark blood clots, and fully two dessertspoonfuls of offensive smelling fluid escaped. Complete recovery ensued. There was no history of trauma, and it is improbable that the haemorrhage could have started in the epididymis, for it was not till the tunica albuginea was incised that the haemorrhage was found. The author suggests that the condition was due to a haemorrhagic infarct of the testicle itself, complicated by infection.

199. Examination and Massage of the Prostate.

PIRONDINI (*Riv. Osped.*, September 30th, 1919), in view of the difficulty of adequate massage of the prostate due to the absence of sufficient resistance on the bladder side, has devised a special form of catheter which he says facilitates this mode of treatment. The catheter is 26 cm. long, and at a distance of 16 cm. from the angle has a little notch corresponding to the average length of the male urethra. At one end of the catheter is fitted a tap, at the other end the concave face of the beak is flattened antero-posteriorly and perforated with numerous small oval holes 1.3 mm. in diameter, for a length of 3.5 cm. The most useful size is No. 26 on the Charrière scale. The patient is placed in the lithotomy position, with the bladder moderately full; the perforated part of the catheter is then brought into apposition with the prostate and massage per rectum carried out. Two photographs of the instrument above described are given.

OBSTETRICS AND GYNAECOLOGY.

200. Eclampsia.

HASTINGS TWEEDY (*Dublin Journ. Med. Science*, December, 1919) insists on the extreme value of starvation in cases of eclampsia and threatening eclampsia. He assumes that the antibodies in the serum are capable of dealing with food poisons and ovum poisons, separately but not together. When food is taken in excess or when ovum poisons, as in twins, are in excess, eclampsia results. He quotes a German source as instancing the fall in number of cases of eclampsia during the necessary starvation brought about by the war.

201. Menstrual Equivalents in Tuberculosis.

SABOURIN (*Paris méd.*, January 3rd, 1920) expresses the opinion that in tuberculous women the following partial or complete substitutes for menstruation are more common than in the healthy. 1. *Pulmonary congestion.* Every tuberculous patient whose periods are not absolutely normal has more or less congestion every month in the affected areas of the lung. In some cases the periods commence after the congestion has lasted for a few days. In others the uterine flow appears to be insufficient, and as soon as it has stopped the pulmonary congestion increases for several days, accompanied by a recrudescence of fever. In another group menstruation does not occur at all, and the pulmonary congestion and fever may last from ten days to a fortnight before resolving. 2. *Haemoptysis.* This is a very frequent occurrence, either as a total or partial equivalent of menstruation. It is a remarkable fact that a tuberculous patient may lose much more blood by the lungs at the time of menstruation than she would normally in her uterine flow. 3. *Epistaxis* is also very common, both as a total or partial substitute for menstruation, and may occur before, during, or after the monthly period. It is met with in patients of all ages. 4. *Haemorrhoidal flux.* This is almost entirely confined to constipated patients, many of whom have a history of hereditary hepatic disease. It is rare for menstruation to be completely replaced by haemorrhoidal oozing alone, but it is very common to find the latter associated with epistaxis and serous diarrhoea as a partial or complete substitute. 5. *Diarrhoea.* As a partial or complete substitute for menstruation this may assume a mild or severe course, but it is probable that it is only women with a more or less abnormal condition of the alimentary canal who suffer from menstrual diarrhoea in a marked degree. 6. *Leucorrhoea* as a partial or complete substitute for menstruation is frequent. 7. *Rhinorrhoea.* Though Sabourin has never seen rhinorrhoea alone replace menstruation in whole or in part, he has observed it in cases of menstrual disturbance in association with other menstrual equivalents, especially diarrhoea. 8. *Bronchorrhoea.* Sabourin saw one case in which it was exceptional for a period to

pass without an attack of bronchorrhoea accompanied by discharge from the eyes and nose. 9. *Perspiration* as a partial substitute for menstruation sometimes occurs. 10. *Bilious vomiting* is an occasional accompaniment of menstruation. 11. *Hepatic congestion.* Hepatic symptoms, especially biliary colic, is particularly frequent during menstruation in tuberculous patients with a hereditary history of hepatic disease.

202. Abdominal Pregnancy of Six Months.

MOURE (*Bull. de la Soc. Anat. de Paris*, October–November, 1919) reports a case of a woman, aged 32, whose periods had ceased for six months, and who had a violent metrorrhagia at three months, considered at the time to be a miscarriage. On examination an abdominal swelling was found reaching above the umbilicus, and giving the impression of a six or seven months pregnancy, but no heart sounds or fetal movements were detected, and on vaginal examination the tumour was found to be absolutely independent of the uterus. Laparotomy was performed under the diagnosis of ovarian cyst developing rapidly during pregnancy. A smooth round tumour with adhesions to the intestines and omentum was found lying behind and to the left of the fundus uteri, with the left tube merged into the front of it. The wall was ruptured in attempting to remove it, and a six months fetus, not dead but not viable, with various deformities escaped. The placenta was attached to the posterior surface of the left broad ligament, encroaching a little on the lateral wall of the pelvis, and when this was pulled upon there was a flooding of blood in the pelvis. The haemorrhage was controlled by pressure, and the placenta was removed without further trouble by clamping the uterine cornu and the utero-ovarian pedicle. The examination of the specimen revealed a tube, patent in its whole extent, lying in front of the placenta, but as the ovary could not be identified in the mass it was impossible to say whether the ovum had been originally grafted on the ovary or the neighbouring peritoneum. It is presumed that the patient had a tubo-peritoneal abortion at the third month, with an engrafting of the ovum on the peritoneum; or she may have had a double pregnancy—one uterine, the other peritoneal. In all such cases the alarming haemorrhage that occurs in attempts at removal of the placenta is the striking feature.

PATHOLOGY.

203. Lymphatic Foci in the Thyroid in Addison's Disease.

DUBOIS (*Berl. klin. Woch.*, December 15th, 1919) has observed a very extensive and striking development of lymphoid tissue, with typical germ centres, in the thyroids of four out of six cases of Addison's disease. This he regards as possessing considerable significance, depending on some alteration of the thyroid function which ensues when the gland is deprived of the stimulus normally communicated to it by the internal secretion of the suprarenals. It is also possibly related to the status lymphaticus constantly observed in this malady.

204. Practical Value of the Sachs-Georgi Reaction.

WOLFFENSTEIN (*Berl. klin. Woch.*, November 24th, 1919) has observed rather a large proportion of non-specific results with the Sachs-Georgi reaction, using an extract prepared by Sachs as well as several which he prepared himself according to the method described by Sachs. Two of his own extracts, which on preliminary testing appeared reliable, were submitted to a thorough comparative investigation on 1,000 cases. Occasionally it was observed that one or other of the extracts would give bad results on one day, while tested with the same serums on the following day it gave correct readings. This accidental variation appeared to depend on some slight difference in the method of preparing the emulsion, but the exact factor concerned could not be defined. In cases known to be syphilitic the Sachs-Georgi reaction was more frequently positive than the Wassermann reaction, the difference being especially marked in early primary cases, in latent cases, and in treated secondary syphilis. On the other hand, a positive Sachs-Georgi reaction was wrongly obtained in 22 out of 230 non-syphilitic cases, and in all of these the Wassermann reaction was negative. Non-specific results occurred, especially in febrile diseases. In view of this the author considers the test in its present form as of less practical value than the Wassermann reaction.

205. Comparison of Antigens in the Wassermann Reaction.

DURUPT (*C. R. Soc. Biol.*, January 10th, 1920), comparing the results obtained by identical technique with three different antigens—the Pasteur Institute antigen, Bordet's antigen made from calves' hearts, and an alcoholic extract of liver in congenital syphilis—finds that there are discordant results. Generally the two former run parallel, and disagree only in 2 per cent. of cases. The syphilitic liver antigen, however, gives 15 per cent. more positive results than the others, and, by taking into account feeble reactions, it gives 25 per cent. more positives. Any reactions given by either of the other two are confirmed by the liver antigen. The author raises the question as to whether we are to regard the increased positive results of this antigen as errors or as evidence of its greater sensitiveness.

206. Toxins of Shiga's Dysentery Bacillus.

OLITSKY and KLIGLER (*Journ. Exper. Med.*, January 1st, 1920) have succeeded in separating two different toxins from Shiga's bacillus, an exotoxin and an endotoxin. Grown in a favourable medium, such as bouillon mixed with egg albumen, the bacillus in the first days of culture, at the beginning of its alkaline phase of growth, and before the onset of bacterial disintegration, yields a toxic product found in the germ-free filtrate. This toxin is relatively thermolabile, capable of exciting antitoxin formation, constant in properties no matter from what particular strain of organism obtained, and produces in rabbits, after a definite incubation period, typical lesions of the central nervous system, consisting in haemorrhages, necroses, and perhaps perivascular infiltration of the grey matter of the upper spinal cord and medulla. It is without definite action on the intestines; it is essentially a neurotoxin. In distinction to this exotoxin, an endotoxin of quite different properties may be prepared by suspending an agar growth of the organism in saline, incubating for two days, and filtering. Such a filtrate causes both nervous and intestinal lesions, because it contains both endotoxin and exotoxin, but the latter may be destroyed by heating the filtrate to 80° C. for an hour or by neutralizing with an anti-exotoxin. A filtrate so treated produces in rabbits intestinal lesions, such as oedema, haemorrhages, necroses, and ulcerations, especially in the large bowel, without any effects on the nervous system. Thus the results of injection of the endotoxin approximate those found in man in bacillary dysentery. In severe epidemics, it is true, paralysis and neuritis may occasionally be encountered, but generally the intestinal lesions predominate. It would therefore seem that in the serum-therapy of dysentery a potent antidysenteric serum should contain antibodies against the endotoxin as well as the exotoxin. The authors have succeeded in experimentally producing such a serum in horses.

207. Renal Calculus in Spinal Injuries.

HOLLANDER (*Berl. klin. Woch.*, December 1st, 1919), in describing a case in which multiple bilateral renal calculi developed rapidly after a spinal injury with paraplegia, refers to a number of similar cases observed by Kurt Müller. It is claimed that this association is not explained merely by the occurrence of ascending septic infection which is almost invariably present in cases of long standing. Where ascending septic infection occurs apart from paralytic lesions the development of renal calculi is much less common. Hollander dwells on the importance of the active ureteral peristalsis in maintaining the normal disposal of the urinary secretion, and maintains that the stasis in the renal pelvis which ensues from spinal paralysis is the essential factor in promoting development of calculi.

208. The Colloidal Gold Test in the Cerebro-spinal Fluid in Syphilis.

J. KYRLE, R. BRANDT, and F. MRAS (*Wien. klin. Woch.*, January 1st, 1920), as the result of the study of Lange's colloid gold test in 720 cases of syphilis in all stages of the disease, came to the following conclusions: (1) The reaction is quite independent of the albumin-globulin test and the Wassermann reaction in the cerebro-spinal fluid, though it is often associated with them. (2) It is specific in so far as it is not so pronounced in other diseases as in syphilis with the exception of disseminated sclerosis. (3) It is much less likely than other tests, such as the Wassermann reaction, to fail or yield doubtful results. (4) A positive test indicates a considerable change in the cerebro-spinal fluid, even if this is not shown by other reactions.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

209. Pulmonary Sequelae of Mustard Gas.

ACCORDING to H. MALLIÉ (*Journ. de méd. de Bordeaux*, January 10th, 1920), the respiratory lesions caused by mustard gas are burns, like those of the skin and eyes, which rapidly become infected. Apart from numerous cases in which the lesions clear up without leaving any sequelae, the subjects of mustard gas poisoning show a gradual tendency to develop pulmonary sclerosis, according to the gravity and extent of the lesions and the vitality of the organism attacked. Except during the attacks of acute bronchitis or pulmonary congestion to which the patients are subject, the symptoms are almost entirely subjective, and the physical signs are those of an ordinary case of emphysema. The most constant and persistent symptoms are dyspnœa and cough. The patients also complain of wandering pains which cannot always be explained by auscultation or radioscopy. Although systematic examination for tubercle bacilli was negative in all Mallié's cases, he was inclined to think that many of them would develop tuberculosis subsequently.

210. Angio-neurotic Oedema.

H. BOLTEN (*Nederland. Tijdschr. v. Geneesk.*, December 20th, 1919) records a case in a neurotic woman, aged 40, who presented the following series of symptoms: Acute attacks of headache with flickering before the eyes, congestion and gastric disturbance, associated with angio-neurotic oedema of sudden onset and equally rapid disappearance in the region of the neck, and colicky pains in the abdomen. The headache was of the nature of migraine, as was shown by the acute onset, ocular symptoms, and gastric disturbance. The angio-neurotic nature of the oedema was proved by its sudden onset and disappearance, and its association with an attack of migraine in a woman of a neuropathic disposition. The colicky pains are attributed by Bolten to an acute swelling of the mucous membrane in the neighbourhood of the caecum. The appendix was not responsible, and its removal caused no improvement in the symptoms.

211. Treatment of Urinary Bilharziosis by Emetine Hydrochloride.

DIAMANTIS of Cairo (*Presse méd. d'Égypte*, January 1st, 1920), who has treated about 150 cases of urinary bilharziosis with emetine hydrochloride, is firmly convinced that this drug is a true specific provided that the following method is adopted. It is important to realize that treatment can cure only pure bilharzial haematuria and has no effect on complicated cases. The drug is usually given intravenously, commencing with doses of 0.02 to 0.03 gram, and rapidly increasing them to 0.05, 0.07, and 0.010 gram. The injections are given at intervals of two or three days, and repeated until fifteen or twenty injections in all have been given, though some patients have been cured by only eight. If subcutaneous injections are preferred, the dose must be increased to 0.12 or 0.14 gram. The treatment does not require the admission of the patient to hospital. Diamantis has never had any relapses among his cases, but a few were refractory to the treatment.

212. Cutaneous Reaction to Quinine in Quinine Idiosyncrasy.

B. M. EDLAVITCH (*Journ. Amer. Med. Assoc.*, 1919, lxxiii) confirms the observations of Boerner and of O'Malley and Richey that in persons hypersensitive to quinine a specific skin reaction can be obtained by applying a solution of quinine to a scarified surface. In his case the skin of the forearm was scarified in two places about three inches apart, and to the proximal abrasion 10 per cent. aqueous solution of quinine sulphate was applied, the distal abrasion serving as a control. Within a few minutes the patient noticed itching around the scratch into which the quinine solution had been rubbed, and a few minutes later there appeared an oedematous papule, reaching its maximum size, 0.75 cm. in diameter, in about half an hour. Around the oedematous area there was a patch of erythema measuring 3.5 cm. The reaction began to subside after the first half-hour and completely disappeared in a few hours. No similar reaction occurred in the distal or control abrasion. The test was again applied about a fortnight later with exactly the same result.

213. Artificial Pneumothorax with a Pleural Effusion on the Other Side.

E. ALS (*Hospitalstidende*, December 31st, 1919) can find no parallel to the following case: A man, aged 23, suffered from extensive pulmonary tuberculosis on the right side. The stethoscopic and *x*-ray examinations of the left lung were perfectly negative. Accordingly a pneumothorax was induced on the right side. Effective collapse of the right lung was achieved, but the sputum continued to contain tubercle bacilli, the cough persisted, and the striking general improvement effected in such cases by this treatment did not ensue. After a few months an effusion developed in the right pleural cavity, associated with fever. The fever lasted only a fortnight, but the effusion crept up to the level of the third rib. Nine months after the institution of this treatment, its comparative failure was explained by the occurrence of a large serous effusion in the left pleural cavity. The symptoms were alarming, but relief was obtained by aspiration of 1,000 c.cm. from the right side, and 2,000 c.cm. from the left. The patient improved rapidly, the pneumothorax was maintained on the right side, and the left lung showed no permanent ill effects from its temporary collapse.

214. Exophthalmic Goitre combined with Myasthenia Gravis.

RENNIE (*Med. Journ. of Australia*, November 15th, 1919) records the sequel to a case previously reported by him in the *Review of Neurology and Psychiatry* (vol. vi, part 4, 1908) of a man, aged 27, who, in 1907, presented the combined picture of exophthalmic goitre with myasthenia gravis. He was not expected to live, but in May last he reappeared seemingly in good health. He stated that on leaving hospital in 1907 he went up country and continued to take the mixture of strychnine and belladonna. The symptoms gradually disappeared, and at the end of a year he was able to do light work, becoming gradually stronger until about three years ago when he had a severe attack of typhoid fever. He could not do strenuous work for many hours together without getting pains in his back muscles, but he never got the condition of exhaustion he had previously. He had gained flesh and strength, and the symptoms of exophthalmic goitre and of myasthenia gravis had disappeared, though the eyes were not quite normal, paresis of the external ocular muscles, giving rise to occasional diplopia, being still present. No other muscles in the body appeared to be affected, and the cardiac muscle had not been involved, for, although the pulse was soft and the blood pressure low, there were no symptoms of cardiac weakness in spite of the fact that he had recently passed through an attack of typhoid fever.

215. Myositis Ossificans.

DRAGO (*La Pediatria*, November, 1919) records a case of multiple myositis ossificans, few examples of which have been recorded in Italy. The patient was a girl, aged 8 years, and the disease chiefly affected the muscles of the neck and shoulder girdle. Her attitude was very much like that of a case of spondylitis. In addition to the bony deposits in the muscles, there was marked microdactylism of the great toes. There was no evidence of heredity. The symmetrical character of the lesions is in favour of a nervous origin. A curious feature in this disease is the occasional regression of the process of ossification which has been noted by several observers. Many theories have been advanced as to the cause—for example, microbic (no organism has, however, been identified), traumatic (this case had a history of a blow in the axilla), toxic, transformation of haematomata into bone (but the frequency of haematomata and the extreme rarity of myositis is against this), retention of calcium (but no chemical evidence of this), congenital anomaly (inclusion of embryonic tissue and deposit of true bone in an area locally alkaline). After a careful discussion of these and other theories, Drago decides in favour of a combination of a trophoneurotic and embryonal hypothesis. The influence of the nervous system on trophoneurosis is well accepted, and it is possible to believe that under this influence areas of localized alkalinity may arise which, in the presence of included embryonic mesenchymatous tissue, may predispose to the formation of bone. In this case, as in others, the bone is true

normal spongy bone, exactly like normal bone elsewhere, and the distinction between the misplaced bone and the surrounding tissue is sharp and definite. Treatment by acids (to dissolve the calcium) is useless, and all the more since acids do not reach the parts as acid, but, if anything, determine an increased amount of ammonia. If the acid could be transported unchanged to the affected parts some good might be done, but this is impracticable. Thiosinamin and iodides were equally ineffective.

216. Intraspinous Treatment of Neuro-syphilis.

HUMBERT (*Med. Record*, November 1st, 1919) considers that the conflicting results reported in the intraspinous treatment of neuro-syphilis are due to failure to standardize methods along definite scientific lines. His method aims at giving massive doses of one drug with sudden shifts to others in order to prevent the organism from gaining a tolerance. With the patient on the table salvarsan is prepared and spinal drainage instituted. This decreases the already increased pressure in the cerebro-spinal fluid, permitting both mechanical and physiological passage of the drug through the choroid plexus and meninges before it is taken up by the body cells. The salvarsan is then administered intravenously, and a reasonable time allowed for the "reaction." Whether this occurs or not the blood is drawn off and the serum is administered intraspinously. Mercury by inunction is then started and pushed to the limit of salivation, when the blood is drawn off and mercurialized serum administered. The procedure is repeated until desired results are obtained, if necessary giving iron, quinine and strychnine to ward off any bad effects. Throughout the course of treatment intraspinous injections are given as often as shifts to the other drug are indicated, provided the patient's physical condition permits. Although the cases treated so far are not ready for report, results are said to have been so satisfactory as to justify a preliminary statement.

217. The Pleuro-peritoneal Form of Chronic Tuberculous Peritonitis.

ACCORDING to J. HASSON of Geneva (*Presse méd. d'Égypte*, December 15th, 1919) the subacute pleural form of tuberculous peritonitis is generally described as a complication of chronic pulmonary tuberculosis, but in practice it not infrequently happens that symptoms of pleurisy and peritonitis develop simultaneously in a previously healthy individual who had apparently had no evidence of tuberculosis. Autopsies in such cases show that, apart from tuberculous lesions of the lungs which may sometimes be absent, there are numerous granulations scattered over the pleura and on the diaphragmatic area of the peritoneum. Sometimes the diaphragm itself is infiltrated with granulations, the lesions readily explaining the mechanism of the peritoneal infection. The disease runs its course in three stages: the first constituted by chronic pulmonary tuberculosis, which may occasionally be absent; the second, which may last two to four weeks, characterized by acute tuberculous pleurisy with effusion; and a third representing the peritoneal stage of the infection. As regards treatment, it is most important that the condition should be recognized at an early stage, and the pleural fluid evacuated before it gains the peritoneum. When peritonitis has developed, an ice-bag on the abdomen for four to six hours daily is the best method for reducing the peritoneal inflammation.

218. Control of Influenza in an Institution.

WOOD (*Med. Record*, October 25th, 1919) gives the experience at the University of Pennsylvania, which had a unit of the Students' Army Training Corps numbering about 2,500 men. Daily rounds were made of the dormitories, and any case of indisposition was sent to hospital, and the room he had occupied was thoroughly disinfected. Within forty-eight hours of starting this régime the admissions dropped from 12 to 4, whilst the epidemic in the surrounding city was increasing. Patients were kept in bed as long as they were febrile, and in hospital until their temperatures had remained normal for three days. They were then sent to a convalescent home for a week, reporting daily at the hospital for treatment. On admission a calomel purge was administered, and a semi-fluid diet ordered. Medicine consisted of from 20 to 30 grains of quinine, and from 25 to 40 grains of either strontium or phenyl salicylate daily. Quinine was regarded as a prophylactic against pneumonia, because in appropriate doses it is believed to render the blood germicidal to pneumococci. Nurses and attendants wore face masks of gauze soaked in 1 in 1,000 solution of mercury bichloride; and the hands, being regarded as an important means of conveying infection, were washed in antiseptic solution after touching anything pertaining to the patient.

SURGERY.

219. Humerus Varus.

ANGELETTI (*La Chirurg. d. organi di movimento*, December, 1919) records six cases of this rare deformity. Riedinger in 1900 attributed it to a pre-existing arthritis of the shoulder-joint. Bircher in 1908 found a similar deformity in a cretin. The condition is in every way comparable to the much commoner adduction deformity of the hip-joint—coxa vara. The author divides his cases into three groups—traumatic, inflammatory, and cretinoid. (1) *Traumatic:* The four patients were aged 16, 12, 17, and 18 years, and exhibited conspicuous shortening of the upper arm with visible curvature of the humerus in the upper third, a limitation of true abduction at the shoulder-joint, and the absence of any muscular atrophy. In the radiograms the head of the humerus was displaced in relation to the shaft and neck, so that the angle was diminished to 85 degrees; the greater tuberosity thus surmounted the head, and the epiphyseal line or its remains was almost vertical. There was partial obliteration of the epiphyseal disc in two cases, and evidences of active growth limited to the outer part. The author considers that these cases were due to trauma, the site of the lesion being the metaphysis, with a consequent interference with normal growth. As this was asymmetrical the mechanical results are a short humerus, curvature of the diaphysis, and diminution of the angle of inclination between the head and the shaft. This conception is the exact counterpart of the accepted pathology of coxa vara in childhood. We note the difference that in the latter condition the shortening of the limb is only commensurate with the upward displacement of the trochanter; the maximum growth site is at the knee, whereas in the upper limb it is at the upper humeral epiphysis. In one case only was there a definite traumatic history—a fall in infancy followed by pain and swelling in the shoulder region. (2) *Inflammatory:* The single case recorded followed an acute juxta-epiphysitis in infancy, there being an obvious partial destruction of the epiphyseal cartilage disc. (3) *Cretinoid:* The patient was a cretin aged 45, with a bilateral humerus varus, more marked on the right side. It is noteworthy that full mobility was present in the shoulder-joints. The deformity here could be explained by a combination of factors: (*a*) Congenital irregularity of epiphyseal growth; (*b*) bone softening; and (*c*) the static effects of crawling in infancy. Angeletti has had an opportunity of examining museum specimens showing the deformity under consideration. Mild degrees of the deformity were seen in rachitic humeri, and also in an achondroplasiac skeleton examined by the author. As apparently there was very little functional disability in the cases reported no operative treatment was considered necessary. One patient sustained a fracture in the region of the surgical neck of the deformed humerus, which allowed a correction of the adduction deformity at this level but did not alter the varoid position of the head. From an inspection of the radiograms and the information that in all cases excepting the cretinoid the abduction of the shoulder was not greater than 45 degrees, an osteotomy of the humerus would seem not inapplicable. The author does not discuss this aspect of the subject, but, no doubt for good reasons, operative measures were ruled out.

220. Empyema in the First Year of Life.

G. LINDBERG (*Hygiea*, July 31st, 1919) has analysed the 15 cases of empyema in infants under one year treated at the Sachska Hospital in the period 1911–16. Of these cases only 4 were females. In 9 cases the empyema was secondary to inflammation of the lungs, in 6 it was a metastatic process. Nine of the 15 cases terminated fatally. The author notes as curious that all the 4 staphylococcal cases terminated in recovery. The 3 streptococcal cases, and 3 of the 4 cases in which pneumococci were found, terminated fatally. No uniform method of treatment was adopted in these cases, but it is significant that in 8 of the 9 fatal cases treatment was confined to puncture. The treatment responsible for two of the recoveries was permanent drainage effected by a catheter inserted through a trocar introduced through a small incision in the chest wall. This treatment involved the formation of a pneumothorax, which in one case provoked temporary collapse. Though the author is favourably impressed by this method he urges discrimination in the choice of treatment, and deplores the practice of confining treatment to puncture or rib resection.

221. Ventricular Puncture for Meningitis.

ZINGHER (*Amer. Journ. of Med. Sci.*, 1919, 157) advocates prompt ventricular puncture for meningitis. According to this author the method is of especial value in those cases where lumbar puncture gives a dry tap and little or no antimeningococcal serum can be injected. In such cases the intracranial cavity must be reached directly. In infants a ventricular puncture is no difficult feat and can be done without an anaesthetic. In the adult, of course, a small disc of bone must be removed or a small hole drilled. (Probably the method of tapping the cisterna magna through the occipito-atlantal ligament as elaborated at the Johns Hopkins Hospital is superior to ventricular puncture after the age of closure of the fontanelle.) Zingher believes in daily punctures of the ventricles and the withdrawal of 20 to 50 c.cm. of cerebro-spinal fluid, 15 to 30 c.cm. of serum being then injected. He records two cases in which this procedure was carried out. The first died on the thirtieth day of the disease after five ventricular punctures. The other made a good recovery after four punctures.

222. Ascending Uretero-pyelitis.

MICHON (*Journ. de méd. et de chir. prat.*, December 25th, 1919) states that experimental work and clinical observation show that ascending ureteritis gives rise to stricture and sclerosis, but that these lesions are at first often unilateral and confined to a small segment of the ureter. It is then possible to dilate the strictures by intermittent or permanent catheterization, and it may also be possible by an operation to free the ureter from the sclerotic tissue.

223. Colles's Fracture.

COTTON (*Boston. Med. and Surg. Journ.*, December 4th, 1919) describes a method for the adequate reduction of Colles's fractures based on a reversal of the mechanism of production of the deformity. Recognizing that the condition is a rotation backward of the hand about the ulnar head as a fixed point—a rotation which tears the ulnar ligaments and also breaks the radius—reduction is made (after the obvious displacement of the radius has been corrected) by carrying the hand about the ulnar head as a fixed point into pronation and flexion. By traction and rocking, with the hand a little extended backward so as to free the displaced radial fragment and the dislocated ulna, the hand is then dragged down into pronation and flexion, keeping the thumb under the ulnar head in order to make it a fixed fulcrum, with force directed upwards. The joint should then be put up in flexion with strip splints of eight to ten layers of plaster-of-Paris bandage, the dorsal splint from elbow to knuckles and the palmar one from upper forearm to palm, and these are held *in situ* with a few turns of plaster-of-Paris bandage. The hand recovers function more quickly after such flexed fixation than after straight splints. The encircling plaster may be slit along one side after a day or two to ease circulation, as the position tends to impede the blood flow and requires watching. In not longer than a fortnight straight splints with exaggerated pads should be substituted and kept on for another week, followed by a supporting strap of adhesive plaster reapplied every three to five days until the hand is strong.

224. An Anomalous Case of Pott's Disease.

A. FISCHER (*Med. Klinik*, December 14th, 1919) confesses to diagnosing a malignant tumour of the cord in the following case. A soldier, aged 32, was admitted to hospital in April, 1918. Since March, 1917, he had been unable to walk, and for a fortnight before admission he had not been able to move his legs. Wassermann's reaction was negative, the patellar reflexes were exaggerated, his legs were somewhat rigid, and ankle clonus and Babinski's sign were demonstrable on both sides. Except for a small island, corresponding to the umbilicus, there was complete loss of sensation to touch, pin pricks, heat and cold from the xiphoid process downwards. The line of demarcation between anaesthetic and normal skin was sharp; traced round the body it was about one segment higher on the left than on the right side. There were patches of hyperaesthesia over both shoulder blades and the front of the chest. The *x*-ray examination of the spine was negative. In May retention of urine set in, and the patches of hyperaesthesia spread to the arm. In June the temperature became hectic, a tuberculous abscess formed in the right axilla, and a blood-stained effusion in the right pleural cavity. Late in June the spine of the seventh thoracic vertebra became prominent, and by the beginning of August the spastic paraplegia had given place to a flaccid paraplegia. The patellar and Achilles reflexes, as well as ankle clonus, could not be elicited. Bedsores and cystitis supervened, and death occurred on August 16th. At the necropsy complete tuberculous destruction of the bodies of the sixth and seventh thoracic vertebrae was found. At the level of the exit of the sixth, seventh, and eighth dorsal roots the dura was plastered by a thick patch of granulations for a length of 7 and a width of 1½ cm. When the dura was incised, the internal meninges showed no definite tuberculous disease, only slight thickening and cloudiness. The cord was not compressed, and its normal outline on section was retained. Tuberculosis of the lungs and neighbouring structures was also found. The author suggests that the transition from spastic to flaccid paraplegia must be correlated with the collapse of the bodies of the vertebrae which relaxed the pressure hitherto exerted on the cord by the extradural granulation tissue.

225. Inguinal Hernia.

TOREK of New York (*Ann. Surg.*, 1919, 70) reviews the 598 cases of hernia operated upon by him according to his own method. There were only two recurrences, a rate equal to one-third of 1 per cent. Of these two recurrences, one, a syphilitic subject, developed gangrene of the abdominal wall, the other was operated upon by a house-surgeon in Torek's absence. The author makes a great point of separating the vas deferens and the blood vessels of the cord from one another as well as from the sac. This allows one to see the vas coming out from the bottom of the opening in the transversalis fascia and the vessels coming out at the top, whilst the ligatured sac falls back between the two. Separation of vas and vessels is perpetuated by bringing the latter out at the external angle of the wound, inserting two or three sutures uniting the internal oblique and transversalis muscles to Poupart's ligament, and then bringing out the vas. The *rationale* of the separation of the vas deferens from the vessels of the cord lies in the observed fact that the hernial sac insinuates itself between the two. If, therefore, the whole cord is displaced either forwards or backwards as in the ordinary Bassini and Fergusson operations, the possibility of recurrence is not disposed of. Torek's method of introducing sutures between these two structures prevents any insinuation of a peritoneal diverticulum between them. The only place where recurrence can take place is in the lower angle (in the form, that is, of a direct hernia). This point is selected for the insertion of the silver sutures, which he used to employ in the whole length of the wound, but now reserves for the inner two or three sutures where greatest tension is. Torek's operation is ably planned, and the results, as may be judged by the figures given above, are better than most.

226. Treatment of Laryngeal Carcinoma by Radium and X Rays.

G. ALEXANDER (*Wien. klin. Woch.*, January 1st, 1920 records a case of epithelioma of the larynx which had invaded the pharynx in a man aged 62. Operation was refused, and the patient was treated by radium and *x* rays. When he was shown at the Vienna Laryngological Society after thirteen months' treatment, though the tumour had not got smaller, but had even slightly increased in size, there was no evidence of metastases, ulceration, infiltration, or cachexia. A biopsy of the accessible part of the tumour no longer showed any new growth, but only connective tissue. Apart from occasional slight local pain and difficulty in swallowing, there were no longer any symptoms present, and the general condition was excellent.

OBSTETRICS AND GYNAECOLOGY.

227. Influenza in Pregnancy.

IN his thesis, which is based on the study of cases in the maternity department of the Lariboisière Hospital, GRILLET (*Journ. de méd. et de chir. prat.*, January 10th, 1920) records his experience of cases of pregnancy complicated by influenza in the epidemic of 1918–19. Four cases of pregnancy of less than six months' duration complicated by severe influenza all resulted in abortion about a week after the onset of the disease, and ended fatally within forty-eight hours. Thirty-seven cases occurred in women whose pregnancy was of more than six months' duration. In two cases death took place before delivery. In fifteen cases complicated by pneumonia or bronchopneumonia there was premature delivery and expulsion of a dead fetus, and, with three exceptions, rapid aggravation of the mother's condition and death. In twenty-five cases there was expulsion of a living fetus, but in only nine cases did the mother and child survive.

In no case did uterine infection take place. Labour was rapid in all, and the influenzal infection was the cause of death. Twenty-two cases occurred in women at term; 50 per cent. of the mothers died; the prognosis as regards the child varied according to the case. When influenza developed at the time of delivery the child was born healthy, but death occurred *in utero* if the influenza manifested itself a few days before birth. These cases show that influenza complicated by bronchopneumonia is very liable to be interrupted by abortion or premature labour, and that the prognosis of this complication is very grave.

228. Ovarian Residue.

GRAVES (*Surg., Gyn., and Obstet.*, December, 1919) considers that an extract of ovarian tissue made after ablation of the corpora lutea ("ovarian residue") is of greater therapeutic value than extracts of whole ovary or of corpus luteum, owing to the less rapid decomposition of the ovarian tissue than of the corpus luteum tissue. He advises preparations in ampoule form as less likely to decompose. "Ovarian residue" has been procured as far as possible from pregnant animals. With regard to results, the author admits that he is entirely dependent on his patients' statements, and gives these for what they are worth. His results in cases exhibiting menopause symptoms have been excellent, in cases of irregular menstruation and amenorrhoea sometimes startling but with many failures, and in cases of dysmenorrhoea encouraging.

229. The Diagnosis of Pregnancy.

BAR and ÉCALLE (*Rif. Med.*, November 15th, 1919), at the Gynaecological Congress recently held in Brussels, discussed recent biological observations in relation to pregnancy. Deviation of the complement was seen when the serum of a pregnant woman (under five months) was brought into contact with placental tissue below four months, but they describe the phenomenon as very rare, weak, and temporary. Abderhalden's dialysis method constantly gave a positive reaction. This reaction appeared in the first or second month of pregnancy, and disappeared in the majority of cases during the three weeks after delivery. In extrauterine pregnancy the reaction was always positive as long as the ovum was alive. On the other hand, the serum of non-gravid women might also give a similar reaction. Methods based on increased antitryptic power gave no results of value; a similarly doubtful result followed experiment with cobra poison as a test of the activating power of the serum of pregnant women. Speaking generally these biological tests are so full of possible errors that at present they are of little clinical value, however much they may indicate methods which may be of scientific interest in the future when more is known of them.

PATHOLOGY.

230. Fatal Influenzal Myelitis.

F. HARBITZ (*Norsk. Mag. for Laegevidenskaben*, January, 1920) reports on the *post-mortem* findings of 73 persons who died between July, 1918, and 1919 of influenza or its sequelae. He classifies his material according to the organs affected, and shows that scarcely a single organ is immune to the complications of influenza. His notes on a case of myelitis and neuritis are of special interest because influenzal lesions of the nervous system are seldom seen in the *post-mortem* room, though influenzal neuralgia and neuritis are familiar to the clinician. The patient was a woman of 52. A few days after contracting influenza she developed headache with partial loss of vision, first on the left side, then on the right. Papillitis was diagnosed, and in a fortnight she was blind. Later, both legs below the knees became painful, anaesthesia was demonstrable up to the level of the axillae, and there was paresis of the muscles of the trunk and limbs. Death followed the development of pneumonia, more than two months after the onset of the influenza. Scattered over the inner lining of the dura of the cord were numerous white patches, from the size of a pin's head to that of a pea, about 1 mm. thick. Some of these patches were partially calcified—arachnitis ossificans. The cervical cord (second to third segment) was greyish-red, oedematous, congested; the boundaries between the grey and white matter were blurred. Traced downwards, the cord showed these changes with increasing distinctness, and at the level of the first dorsal segment was quite soft, and the normal markings were obliterated. The microscope showed parenchymatous myelitis and neuritis, with degeneration of nerve fibres and ganglion cells in both the white and the grey matter.

231. Eosinophilous Myocarditis in Diphtheria.

F. NUZUM (*Journ. Amer. Med. Assoc.*, 1919, lxxiii) examined microscopically the heart in 29 children dead of diphtheria and found eosinophil cells in the myocardium, as Wulffius, Tanaka, and Liebman had previously observed, but he failed to detect them in fatal cases of scarlet fever, meningitis, poliomyelitis, and measles. The cells were polymorphonuclear in type with many granules, especially obvious with Wright's stain. They were not more frequent in hearts showing the most advanced degeneration, and did not bear any relation to the severity of the clinical symptoms, or to the amount of serum used in the treatment. The cells were never found in the specific conducting system of the heart—that is, the sinus node, Tawara's node, the His bundle, and Purkinje fibres. Various explanations of eosinophilous myocarditis, such as Schlecht and Schwenker's, that anaphylactic reactions and serum therapy play a part, are mentioned, and the author concludes that the most probable view is that it is due to positive chemiotaxis, some substance being present in the myocardium in response to which eosinophils migrate from the capillaries. He also found moderate cloudy swelling in the bundle of His and in the special conducting system of the heart, and thinks that the various types of arrhythmia in diphtheria may be due to compression of the fibres in the bundle of His by the moderate swelling, or to degenerative changes in this system.

232. Blood Sugar in Nephritis.

GRIGAUT, BRODIN, and ROUZAUD (*C. R. de la Soc. Biol.*, January 24th, 1920), who have already shown that the glucose content of the blood in normal cases oscillates only within narrow limits in the neighbourhood of 1 gram per litre, found that hyperglycaemia was the rule in infectious diseases, and that it corresponded with the gravity of the case. In an examination of the blood of 19 cases of chronic nephritis there was always an increase of glucose, varying from 1.15 to 1.82 grams to the litre of whole blood. Renal impermeability with consequent retention only partially accounts for the hyperglycaemia.

233. Giant Cell Sarcoma of the Thyroid and Pancreas.

IN examination of 650 bodies at the Utrecht Anatomical Institute since December 1st, 1915, E. C. VAN RIJSSEL (*Nederland. Tijdschr. v. Geneesk.*, December 20th, 1919) found 7 cases of thyroid tumour. In 4 cases the tumour was an adenoma, in 1 a haemangioma cavernosum, in 1 a secondary growth from a renal carcinoma, and in 1 a giant-celled sarcoma. The rarity of malignant tumours of the thyroid is further illustrated by the following statistics: Among 6,400 autopsies performed at the Utrecht Anatomical Institute since 1888 there were 733 carcinomata and 105 sarcomata. In this number there were only 2 sarcomata and 1 carcinoma of the thyroid. Chiari, in 7,700 autopsies at Prague, found 11 carcinomata and 5 sarcomata of the thyroid. In 3,700 autopsies at the Binnen Hospital at Amsterdam De Vries found 2 thyroid carcinomata out of 320 carcinomata of all kinds, and in 4,728 at the Wilhelmina Hospital Scholte also found 2 thyroid carcinomata among a total of 420 carcinomata. Thus, out of a total of 1,473 cancers, there were only 5 cancers of the thyroid (0.33 per cent.). In goitre districts, however, the number is much greater. Thus the Swiss statistics of Langhans-Müller of Berne and of Kaufmann of Basle combined show that out of 1,599 cancers there were 63 cancers of the thyroid, or about 4 per cent. The literature shows that malignant tumours are of much more frequent occurrence in goitres than in ordinary thyroid glands. Of 41 cases of thyroid sarcoma collected by Carranza 25 occurred in goitres. Kaufmann collected 30 cases of malignant goitre, 23 of which were carcinomata and 7 sarcomata. All forms of sarcomata may occur in the thyroid, but the giant-celled, of which van Rijssel records 2 cases, are the rarest. The first case was in a man aged 70 with extensive metastases in the lungs. Death was due to bronchopneumonia, accelerated by dyspnoea from pressure of the growth on the trachea. The second case was in a woman aged 61 with metastases in the lungs, kidneys, mediastinum, brain, cervical lymphatic glands, myocardium, left suprarenal, pancreas, and stomach. Sarcoma of the pancreas is much rarer than that of the thyroid. Among the 6,400 autopsies performed at Utrecht there were 733 carcinomata and 105 sarcomata; the pancreas showed carcinomata in 24 cases and sarcoma in only one.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

234. Adrenalin in the Diagnosis of Latent Malaria.

A. DAZZI (*Il Policlinico*, Sez. Prat., November 30th, 1919) carried out the subcutaneous injections of adrenalin in 20 cases, as recommended by Schittenhelm and Schlect, and independently by Neuschlosz, for the diagnosis of latent malaria. He found that in doses of 1 mg. adrenalin did not provoke a typical attack of malaria, but was constantly followed by the appearance of plasmodia in the blood. The presence of the parasites was only transitory. It first appeared about twenty minutes after the injection, reached its height in about an hour, and after another twenty-four hours all the parasites disappeared. In cases in which the parasites were already present before the injection, their number was greatly increased. The adrenalin also caused considerable diminution in the size of the spleen, except in cases of advanced sclerosis of the organ. The change in size of the spleen began a few minutes after the injection and stopped in a few hours' time.

235. Treatment of Malaria.

T. SILVESTRI (*Il Policlinico*, Sez. Prat., November 30th, 1919) maintains that the only way in which a complete cure of malaria can be effected is by a mobilization of the plasmodia by various provocative methods, followed by buccal administration of quinine, which he prefers to any other form of administration. The simplest and best provocative method in his experience is the use of strychnine in doses of 1 to 3 mg. a day, and as a rule the attack appears within three to four days.

236. Toxicology of Hydrocyanic Acid.

As the result of experiments on dogs, CHELLÉ (*Journ. de méd. de Bordeaux*, January 10th, 1920) has found that hydrocyanic acid in ordinary circumstances disappears, or at least fails to give its ordinary reactions a short time after death, a fact which has been recognized by all authorities. On the other hand, contrary to what has hitherto been supposed, the acid is not irrevocably destroyed or transformed, but under the influence of the sulphur products which are formed in cadaveric putrefaction it becomes sulphocyanic acid, and can be reconverted into hydrocyanic acid by an appropriate oxidizing agent, such as chromic acid. In a case of poisoning by prussic acid the expert is thus enabled to find the poison which has hitherto escaped detection.

237. Intradermal Reaction with Extract of Tuberculous Urine.

ACCORDING to F. MICHE (*Rev. méd. de la Suisse rom.*, December, 1919), a practical application of the discovery by Marmorek and Maragliano of specific toxins in the serum and urine of tuberculous patients has recently been made by Wildbolz of Berne, who injects this toxic urine intradermically for diagnostic purposes. Wildbolz claimed that the great superiority of this reaction over the ordinary skin and intradermal reactions to tuberculin lay in the fact that it was positive in active tuberculosis and negative when the disease was quiescent. As the result of control experiments Miche came to the following conclusions: the method enables the practitioner who has no tuberculin to perform the reaction, but it is no more a guide than tuberculin as to the presence of active tuberculosis. The reaction with the urine is more pronounced in very active forms with much disintegration of tissue and in young individuals. In fibro-caseous forms of tuberculosis, unlike the skin reaction, it is doubtful or weak when the prognosis is good and well marked when it is bad.

238. Rupture of Aortic Aneurysm into the Superior Vena Cava.

J. B. HERRICK (*Amer. Journ. Med. Sci.*, 1919, clviii) collects 43 cases of this lesion, including a case under his care of rupture of the aneurysm into the left innominate vein less than a third of an inch from the superior vena cava. The symptoms and signs are reviewed mainly on the basis of Pepper and Griffith's paper in 1890 based on 29 cases; in 1906 Fussell added 7 cases, and Herrick has collected 8 more. There is first evidence of an intrathoracic aneurysm, then sudden onset of symptoms attending rupture, with a feeling as if something had given way in the chest, rapid increase in the swelling and onset of cyanosis and dyspnoea. Thirdly, there is evidence of obstruction of the superior cava, such as cyanosis, oedema, coldness, distension of the veins: in Herrick's case there was a sharp line of demarcation between the bloated purple upper part of the body and the pale emaciated lower portion. Fourthly, there is a murmur at the base of the heart, most characteristically continuous through systole and diastole and thus comparable to the murmur of a patent ductus arteriosus. The diastolic portion of the murmur is due to the arterial systole. One of the collected cases is said to have been followed by recovery, but Fussell refers to a case in which, though sudden symptoms suggested this lesion, it was absent at necropsy.

239. Syphilis as a Factor in the Ocular Complications of Typhoid Fever.

A. T. ESTRADA, of Mexico (*El Observador Med.*, October 15th, 1919), reports six cases of ocular complications of typhoid fever, five of which were examples of optic atrophy and one of iridocyclitis. In three there was a history of acquired syphilis, two were obviously subjects of the hereditary disease, and in one no inquiry into syphilitic antecedents was made. Considerable improvement took place in one of the cases after treatment by mercury and potassium iodide. In the other cases the ocular condition was too advanced for treatment to be of any benefit. Estrada points out that the optic neuritis following typhoid does not differ from that occurring in syphilis either in its course, manifestations, or termination. In both there is an insidious onset and slow and progressive course, ending, after a varying period of time, in complete blindness. The same is to be said of the iridocyclitis met with in both diseases. Estrada emphasizes the importance of looking for syphilis in every patient with a post-typhoid ocular complication. Even if there is no history or clinical evidence of syphilis, the Wassermann reaction in the blood and cerebro-spinal fluid should be tested, or, if this is impossible, antisyphilitic treatment should be employed. It is very probable that if patients with post-typhoid optic neuritis or iridocyclitis become blind, this is due to lack of proper treatment or to their having been treated too late.

240. Secondary Pneumonia.

CHICKERING (*Boston Med. and Surg. Journ.*, December 11th, 1919) studied the bacteriology of the secondary pneumonia frequently occurring in influenza and measles, and more rarely as a terminal result of chronic constitutional or metabolic disease, in infants suffering from malnutrition, and in adults following surgical operation, in contradistinction to acute lobar or primary pneumonia. While the primary lobar pneumonia is almost always caused by the pneumococcus, the secondary pneumonias are associated with a variety of organisms, namely—pneumococcus, streptococcus, staphylococcus, *B. influenzae*, *Micrococcus catarrhalis* and *flavus*, Friedländer's bacillus, etc.; in primary pneumonia it is unusual for more than one organism to be present, whereas in the secondary pneumonias two or more are not uncommon. The types of bacteria and their percentage occurrence in secondary pneumonia compare closely with those commonly residing in the nasopharynx, and the strains isolated from the lungs showed no difference from those in the nose and throat. More attention must be paid to the care of the nasopharynx in acute infections; and though there is no ideal sterilizing agent for the upper air passages, much can be done by cleanliness, and the suppression of congestion of the mucous membrane. The violent paroxysms of non-productive coughing associated with measles and influenza may materially aid in the dispersal of the nasopharyngeal bacteria into the deeper air passages of the lungs, and the harrassing cough must be controlled.

241. Round Worm Infection Clinically Simulating Pneumonia.

MCKIBBEN (*Boston Med. and Surg. Journ.*, December 4th, 1919) records a case of a boy, aged 2, who when first seen presented the typical picture of pneumonia—pulse 160, respirations 60, and temperature 104°. For a week or two

he had been passing stringy mucus, and during the last two days had developed a cough and coryza. Examination failed to give any positive physical signs. Three and a half months previously he had filled his mouth with some dirt from around a heavily fertilized shrub, and a week before being seen he passed a dead worm of the *Ascaris lumbricoides* variety. The severe toxaemia suggested a possibility of convulsions, and he was given a tablespoonful of castor oil followed in an hour by 1½ grains of santonin. Six hours later he passed a wriggling pinkish mass closely resembling earthworms, followed in two hours by a similar mass of *Ascaris lumbricoides*, totalling 78 in all, and varying in length from 1½ to 11 inches. One worm came upwards through the mouth. Many more were flushed out by intestinal lavage with four quarts of salt solution. The castor oil and santonin treatment was repeated morning and night for the next two days, bringing away a total of 370 worms, not counting those under 1½ inches in length. Blood examination showed no leucocytosis, but a marked eosinophilia of 40 per cent. The treatment was continued bi-weekly for a month, two to five worms resulting each time, after which occasional treatment showed that there were no more, and the boy soon regained perfect health.

242. Malarial Hemiplegia in an Infant.

L. SPOLVERINI (*Il Policlinico*, Sez. Prat., December 21st, 1919) records a case of right hemiplegia preceded by epileptiform convulsions in a suckling infant aged 11 months. The liver and spleen were enlarged and malignant tertian parasites were found in the blood. Recovery took place under quinine treatment. Both the parents were also infected by malignant tertian. The hemiplegia is attributed by Spolverini to cerebral thrombosis, the vessels being blocked by spores, pigment masses, and endothelial cells.

243. Post-influenzal Dyspepsia.

ACCORDING to G. DEUSCH (*Med. Klinik*, November 16th, 1919) the last epidemic of influenza at Rostock was followed by a number of cases of dyspepsia which lasted several months. None of the patients had suffered from any gastric trouble before their attack of influenza. The dyspepsia is attributed by Deusch to a hyperaesthesia of the mucous membranes of the stomach due to damage to the sensory nerve endings by the influenza toxin. Disturbances of the motor function of the stomach appeared to be fairly uncommon; on the other hand, most of the cases showed secretory disturbances. A diminution or complete absence of acidity was the principal finding, being probably due to a toxic involvement of the vagus.

244. Deep Irradiation in Leukaemia.

ROSENTHAL (*Berl. klin. Woch.*, November 24th, 1919) has practised irradiation of the spleen in a number of cases over a period of two years, and has found that deep irradiation with heavy doses of rays gives a much more reliable result than benzol, or than ordinary exposures to *x* rays. The leucocyte count is invariably greatly reduced, sometimes even to normal limits, and the beneficial effect persists for about eight months. As it is unnecessary to repeat the exposures more frequently there is little risk of this therapeutic measure losing its effect. The process is not free from risk; in most cases there is a reaction during the first twenty-four hours afterwards, comprising nausea, anorexia, and weakness, and in some cases this is severe. In three cases out of twenty-five thus treated death occurred. The reaction is possibly referable, at any rate in part, to poisoning by nitrite fumes produced electrically by the apparatus.

245. Treatment of Chilblains with Diathermy.

WHILE treating two cases of severe vascular disease (Raynaud's disease and intermittent claudication) with diathermy, R. GRÜNBAUM (*Wien. klin. Woch.*, January 1st, 1920) noticed that some severe and extensive chilblains on the fingers and toes considerably improved after the first thermo-penetrations and at length completely disappeared. These observations encouraged him to treat chilblains systematically with diathermy, which he found far superior to all other forms of treatment. He attributes the success of diathermy to its causing an active hyperaemia of the deep vessels. He also recommends it for severe forms of frostbite, which, owing to lack of fuel, are likely to be prevalent this winter in Vienna. The method serves a diagnostic purpose in determining the limits of the frozen parts, and helps to save those portions of the extremities which would otherwise certainly become gangrenous.

SURGERY.

246. Progressive Infective Perichondritis.

J. F. O. HUESE (*Nederland. Tijdschr. v. Geneesk.*, December 27th, 1919) records a fatal case in a man aged 53. The disease started in an abscess below the perichondrium of the eleventh rib, which then involved the wall of the stomach and gave rise to a gastric fistula. The infection showed a predilection for the cartilage, or rather for the perichondrium, as the rib cartilages themselves remained normal. When the cartilage was removed the abscess healed, but the process extended from rib to rib, invaded the sternum, and finally the lung. Death took place from cachexia. Similar cases have been recorded after typhoid, influenza, fracture of the ribs, and operation for gall stones. The cause of the infection in the present case could not be established and no specific organism was found.

247. A Sign of Acute Pancreatitis.

GREY TURNER (*Brit. Journ. Surg.*, 1920, 7) draws attention to a hitherto undescribed sign of acute pancreatitis. This consists of a bluish or dirty greenish discoloration of the skin of the abdominal wall. Turner has noted it in two instances. In the first case it was situated at the umbilicus; in the second there were two patches, one on either loin. In the latter case autopsy revealed direct continuity between a sloughed pancreas and the discoloured loin areas. Turner believes that the condition is due to the direct action of the pancreatic juice, which escapes *via* the retroperitoneal tissue, and passes by the most direct route to the surface. When situated at the umbilicus the secretion must have travelled along the ligamentum teres.

248. Causes of Delayed Union and Non-Union in Fractures of the Long Bones.

W. L. ESTES (*Annals of Surgery*, January, 1920) considers that the term non-union should be used for fractures which show abnormal mobility after six months. He recommends a routine Wassermann test in all cases of delayed union. Local causes which have to do with deficient blood supply, bone lesions or infection, account for the majority of delayed union cases. Plating in itself is accountable for delayed union in relatively few cases of simple fracture. Osteomyelitis plays a major rôle in the prolongation of the normal time of union. Compound fractures, in this observer's series of cases, showed delayed union in three out of every ten cases. In compound comminuted fractures delayed union occurred in three out of every four cases, and non-union in one out of eight. His statistics agree with Jones's, that the most common sites of delayed union in shaft fractures are the junction of the middle and upper thirds of the humerus, the middle of the femur, and the lower third of the tibia and fibula.

249. Tansini's Operation for Banti's Disease.

TANSINI, in a recent communication (*Rendiconti del R.I. di Sc. e Lettere*, vol. lii, fasc. 9–11, 1919; see *Riforma Med.*, 1919, 35), reviews the literature of cases of splenomegaly on which his double operation of splenectomy and omentopexy have been performed. Tansini first performed this operation in 1901 on a woman with an enlarged spleen, cirrhosis of the liver, and advanced ascites—that is, the third stage of Banti's disease. The result was a complete cure, satisfactory from every point of view. This operation has since been frequently carried out by Tansini and by many other surgeons, principally in Germany, France, and the United States. Rodman and Willard (*Ann. Surg.*, November, 1913) reported a number of cases, and came to the conclusion that Tansini's operation is especially indicated in the ascitic stage of Banti's disease. In the earlier stages splenectomy alone usually suffices. The operation recalls the Talma-Morison method of anastomosing the portal with the general systemic circulation, and the two afford methods—the one of cure, the other of relief—in two distressing diseases.

250. Contusion and Rupture of Spleen.

CAULI of Rome (*Riv. Osped.*, April 30th, 1919) discussed the clinical pictures presented by ruptures and contusions of the spleen. Slight contusions usually remain undiagnosed, for the signs of splenic injury do not brazenly disengage themselves from those of contusion of the abdominal wall and ribs. But, according to Verneuil and his pupil Mathon, in typical cases there are certain outstanding features. First, pain in the left hypochondrium, generally localized but sometimes radiating over the abdomen or

into the left lower limb. This pain is increased by manual pressure and by respiratory movements, and is explained by involvement of the pleura, diaphragm, peritoneum, or perhaps distension of the splenic capsule by haemorrhage. Secondly, there is fever of the remitting type, with evening rise. It will be recalled that a very slight trauma may suffice to rupture the malarial spleen. Thirdly, there is enlargement of the spleen, which may reach an enormous size from pure intrasplenic bleeding. These haematomata may take one of three courses—they may rupture into the peritoneal cavity, they may settle down with formation of a blood cyst, or they may become infected. As for rupture of the spleen, the symptoms and signs are due to shock in the first place and then to haemorrhage. Shock may be very severe. Cauli refers to a case of instantaneous death following a severe injury to the abdomen. At autopsy the spleen was found torn across, but there was no blood in the peritoneal cavity, owing to reflex spasm of the vessels. Following this initial shocked stage there is often a period of recovery, the so-called "latent period of Baudet," and this is usually a definite and characteristic incident. Finally, there is the period of haemorrhage. Cauli discusses the latest. He suggests that it depends on one or more of the following factors: With the state of shock there is a general fall in blood pressure which causes contraction of the splenic vessels and capsule, producing a partial or complete haemostasis. In rarer cases an intrasplenic haematoma forms, and this may easily be ruptured by a sudden movement or by internal pressure with signs of internal haemorrhage. Or again, during the period of shock there is a temporary haemostasis, due in part to vessel spasm, in part to the formation of clots in the lips of the tear. Any subsequent rise in blood pressure may suffice to dislodge these natural tampons, and violent haemorrhage set in. A very slow but constant haemorrhage would produce a latent period, the initial shocked stage being well passed before sufficient blood had been lost to make the signs of internal haemorrhage obvious. The diagnosis of rupture may be made upon pain in the splenic area, rigidity of the abdominal wall, signs of fluid in the peritoneal cavity with dullness on the left side. Cauli's paper is valuable in that it calls attention to the less severe injuries of the spleen, and to the pathogenesis of the variations in the clinical signs.

251. Hour-glass Bladder.

J. R. CAULK (*Annals of Surgery*, January, 1920) describes two cases of this condition, in one of which there was also hare-lip and hypospadias. The cases showed a partition across the base of the bladder about 1 in. behind the interureteric bar with a physiological contraction of the bladder over the dome in the same segment with the transverse septum of the base. In one patient the right ureteral orifice was open and gaping, and there was hydronephrosis and hydro-ureter. In both cases suprapubic cystotomy was performed and resection of the base of the bladder containing the transverse band. The partition extended completely through the bladder wall, and was almost cartilaginous in density. In the history of the cases, one patient could urinate more freely lying down than standing, and at the operation the bladder wall in the segment behind the band was very redundant and freely movable, and could be carried over the bar and pressed into the neck of the bladder.

252. Pyelotomy versus Nephrotomy for Calculi.

NICOLICH (*Rif. Med.*, September 6th, 1919) discusses the relative merits of pyelotomy and nephrotomy as a means of dealing with renal calculi. The history of pyelotomy is one of ups and downs. First practised by Beck of London as long ago as 1831, it fell into disfavour, and as recently as 1907 Kummel (with an experience of one case only!) pronounced strongly against it, his fear being a persistent lumbar fistula. Since then the operation has gradually won its way back to favour, and this time seems to have come to stay. The chief disadvantage of nephrotomy is the haemorrhage which the incision of the kidney occasions—the "pluie d'orage" of Tuffier. Israel had 16 cases of haemorrhage, with five deaths, in a series of 99 aseptic nephrotomies. Mayo was forced for the same reason to perform nephrotomy in 4 out of 40 cases, and Nicolich removed four bleeding kidneys in his 36 nephrotomies. The time and cause of bleeding are discussed. Haemorrhage may occur in pyelotomy also, but is always due to an error in technique—that is, the prolonging of the incision in the pelvis too far towards the kidney. In this situation certain large vessels are invariably encountered. In two of the author's cases this mistake was made, necessitating the removal of the kidney. As for the fear of a renal fistula following pyelotomy, this undesirable result never follows if the ureter is unobstructed. It is the urologist's business to make sure on this point beforehand. As for the risk of leaving stones behind embedded in the kidney substance, this may arise at either operation, and must be guarded against. The chief safeguard is reliable pre-operative radiography. The only times when nephrotomy must be employed are those when very large calculi are present, or when the kidney is bound down and cannot be raised up from its bed.

253. Severe Post-dysenteric Disease of the Rectum.

A. FOGES (*Wien. klin. Woch.*, December 25th, 1919) gives details of five cases to show that post-dysenteric disease of the rectum may closely simulate tuberculosis or cancer, and that though treatment with astringents and most other remedies is of little use, endorectal treatment with quartz light affords considerable relief. Of its ultimate effects and its ability to effect a radical cure he is uncertain. In four of his five cases the evidence of palpation was indicative of cancer. There was circumscribed infiltration of the mucosa, the surface of which was hob-nailed, bleeding readily. The inflammatory character of the infiltration became evident when, on rectoscopy, a more diffuse distribution of the disease was noted than palpation had revealed. In the case of a soldier, aged 36, fifteen quartz light exposures, each lasting fifteen minutes, were given. This relieved the pain in his back and reduced the inflammation. After an interval of some weeks there was a relapse, but after twenty-five more exposures the infiltration had practically disappeared, and the haemorrhages, from which he had suffered, had ceased, but in none of his cases could the author claim a complete cure. One of his patients was a young married woman, the condition of whose rectum was so suggestive of malignant disease that an exploratory excision was made. The pathologist's report being indecisive, resection of the rectum by the sacral route was performed. The excised portion of gut showed signs of inflammation only, and one consequence of this futile operation was a recto-vaginal fistula.

OBSTETRICS AND GYNAECOLOGY.

254. War Amenorrhoea.

THE effects of the war on a neutral country involved in an industrial blockade are reflected in the figures given by G. HOLMBERG (*Svenska Läkaresälls. Förhandl.*, December 31st, 1919), who has investigated the incidence of amenorrhoea at a gynaecological clinic before, during, and after the war. Excluding cases of amenorrhoea due to tuberculosis, heart disease, and the like, as well as cases in which menstruation had never occurred, he found that among 1,356 patients seen in 1912 there were 12 cases (0.9 per cent.) of amenorrhoea of indefinite origin. In 1913 and 1914 the corresponding figures were 0.7 and 1.3 per cent. During 1915 and 1916 there was little change, the figures for the two years being 1.5 and 1.6 per cent. respectively. But in 1917 there was a sudden rise to 5 per cent., and in 1918 to 9 per cent. In 1919, up to November 1st, there was an abrupt fall to 1.7 per cent.

255. F. PINELES (*Wien. med. Woch.*, November 1st, 1919) states that the first appearance of war amenorrhoea on a large scale was noted in several places, including Berlin and Cologne, in 1915, but that it did not attract general attention till the autumn of 1916. The patients, who belonged to all classes of society, suddenly had a cessation of their periods; their last menstruation was of the same duration and character as the previous ones. The duration of the amenorrhoea varied, according to their statements, from two months to two years and longer. A characteristic feature was the absence of any symptoms in the majority of cases. A few patients complained of general fatigue, weakness, and pains in the back and legs. Hilferding found that among the working proletariat of Vienna amenorrhoea had increased from 0.5 per cent. in 1912 to 14 per cent. in 1917. The conditions were most unfavourable among the munition workers who had the hardest work and those who were on night duty. In club practice the frequency was 14 per cent., as compared with 5 per cent. in private practice. It is probable that the amenorrhoea cannot be attributed to a single cause. Most writers suppose that the primary factor was a disturbance of the internal secretion of the ovaries, and that the cessation of the menstrual periods and, frequently, uterine atrophy were connected with this disturbance of the ovarian function. Fischer attributed the amenorrhoea to a contamination of the flour with various substances, among which was ergot.

Now Kobert has found in the Hippocratic writings descriptions of epidemics characterized by sterility or abortions among women occurring at a time when the crops were being spoiled. This description suggested ergotism, and as Fischer in some cases of war amenorrhoea noticed symptoms of tetany, such as cramps in the calves and paraesthesia, he expressed the view that definite toxic influences, such as ergot, might explain, in part at least, the occurrence of war amenorrhoea.

256. Radium in Cancer of the Uterus.

J. HEYMAN (*Svenska Läkaresälls. Förhandl.*, December 31st, 1919) discusses the results achieved in 1914 and 1915, as tested by an observation period of five years. Of the 26 cases of cancer of the cervix treated in 1914, 7 survived the five-year test; of these 7 (26.9 per cent. of the total) 5 were inoperable in 1914, 1 was operable, and 1 was a borderland case. Of the 40 cases treated in 1915, 11 (or 27.5 per cent.) could be considered cured five years later. The similarity of the results achieved in 1914 and 1915 suggests that the figures were comparatively accurate. A comparison of radium treatment with operative treatment, which implies a high operation mortality and is assumed not to effect a radical cure in more than 20 per cent., is distinctly unfavourable to the latter. Of the cases treated with radium, as high a proportion as 94 per cent. were inoperable. The results of radium treatment in the 3 clinically operable cases, the 1 technically operable case, and the 5 borderland cases showed a radical cure in 44.4 per cent. On the evidence of these figures it was claimed that treatment with radium properly carried out is at any rate equal to operative treatment.

257. The Etiology of Mongolism.

W. STOELTZNER (*Muench. med. Woch.*, December 26th, 1919) reports the cases of three women who developed signs of hypothyroidism in pregnancy, such as loss of appetite, constipation, obesity, loss of hair, absence of sweating, drowsiness, and indifference, and all gave birth to mongolian imbeciles. On the other hand, in seven other cases of mongolism there was no history of thyroid insufficiency during pregnancy. Stoeltzner, however, has published the cases in the conviction that positive results are of more value than negative, especially for the purpose of practical therapeutics. If mongolism be due to hypothyroidism of the mother in pregnancy, thyroid opotherapy will not only cure the mother, but will also prevent the birth of a mongolian imbecile.

PATHOLOGY.

258. The Fat-Soluble Vitamine in Rickets.

HESS and UNGER (*Journ. Amer. Med. Assoc.*, January 24th, 1920) doubt the recent theory of the vitamine origin of rickets, more particularly the view that the disease is attributable to a lack of the fat-soluble factor. They point out that the negro infants living side by side with the white in the larger cities, and obtaining milk from the same source, often develop pronounced rickets, thus indicating that some other important influence, some prenatal factor, has to be reckoned with. Again, if rickets is compared with the well-recognized deficiency diseases scurvy and beri-beri, these latter are accompanied usually by weakness and malnutrition, and neither can be brought about by overfeeding, whilst rickets frequently develops in infants receiving too much milk rich in fats, proteins and salts. The authors' clinical studies satisfy them that infants develop rickets while receiving a full amount of the fat-soluble vitamine, and further that they do not manifest signs, although deprived of this principle for many months, at the most vulnerable period of their life. The danger to infants of a diet deficient in fat-soluble vitamine is slight, provided it includes sufficient calories and otherwise is complete. The results of their clinical tests are quite opposed to the conclusions arrived at by Mellanby from experiments on dogs, and they strongly combat the idea of Hopkins and Chick that "fat-soluble vitamine" and "antirachitic factor" are synonymous terms.

259. Diphtheroid Bacillus Meningitis.

DICK (*Journ. Amer. Med. Assoc.*, January 10th, 1920) reports a case of meningitis in which lumbar puncture yielded a cloudy fluid containing 740 leucocytes per cubic millimetre, 54 per cent. being polymorphs and the rest lymphocytes. The ammonium sulphate test for globulin was positive, and the colloidal gold test indicated meningitis. The Wassermann reaction was negative, and no tubercle bacilli were discovered either by direct films or by guinea-pig inoculation. But the films showed Gram-positive short diphtheroid bacilli, frequently in pairs, and often within leucocytes. These organisms differed from the true diphtheria bacillus in the absence of polar bodies and in their failure to acidify maltose and dextrin. A guinea-pig inoculated with a large amount of culture showed the presence of the organism in its cerebro-spinal fluid. The same organism was also isolated from the patient's blood. The disease was fatal.

260. Acute Atrophy of the Liver: Pregnancy: Salvarsan Treatment.

V. SCHEEL (*Hospitalstidende*, January 7th, 1920) records the case of a woman, aged 25, who was admitted to hospital in the third month of pregnancy suffering from syphilis. She received thirty-nine inunctions of mercury and three intravenous injections of salvarsan, 40 cg. of which were given on each occasion, the intervals between the three injections being ten and seven days. Gastro-intestinal disturbances began almost immediately after the last injection, and jaundice supervened about ten days later. She became delirious, and died about six weeks after admission to hospital. The necropsy showed typical acute yellow atrophy of the liver, which weighed 700 grams. The kidneys and heart had undergone fatty degeneration. The liver contained 4 mg. of arsenic to the kilo. Discussing this case, the author argues that, though syphilis and pregnancy may both be factors in the development of acute yellow atrophy of the liver, the salvarsan may also have played a certain part in this case, and may even have been the decisive factor; for not only has it been convicted of provoking transitory jaundice, but it has also been suspected of aggravating the effect of syphilis on the liver by the destruction of spirochaetes (Herxheimer's reaction).

261. Wound Diphtheria.

ACCORDING to A. WEINERT (*Muench. med. Woch.*, December 19th, 1919) recent articles on wound diphtheria show that it has occurred and is still occurring with varying degrees of severity in different places, in a way similar to faucial diphtheria. In many cases the diphtheria bacilli found on the wound are merely harmless saprophytes; sometimes, however, they are extremely virulent. Thus Laewen and Reinhardt have related the case of a young doctor who infected himself while looking after patients with wound diphtheria, and in a few days succumbed to a severe attack of faucial diphtheria; and the same fate overtook Professor Wilms of Heidelberg when the surgical clinic of which he was in charge contained numerous cases of wound diphtheria. Laewen and Reinhardt noted that 10 per cent. of the patients in whose wounds diphtheria bacilli were found had faucial diphtheria and 15 per cent. were carriers of diphtheria bacilli in their throat. These figures closely correspond with those of Weinert.

262. Arterial Disease in Syphilis and Tobacco Poisoning.

R. BENEKE (*Muench. med. Woch.*, December 19th, 1919) states that in all cases of recent syphilitic arteritis the absence of fatty degeneration as contrasted with sclerosis is a striking phenomenon. At a later stage areas of fatty degeneration may be found when the morbid process becomes complicated by degeneration of the media. When, however, fatty degeneration is the most prominent feature in diseases of the vessels, other etiological factors than syphilis must be sought for. Beneke has recently seen three cases of arterial diseases, which he attributes to nicotine poisoning. All three patients, soldiers, aged 42, 44, and 48 respectively, had been extremely heavy smokers. They had shown no signs of syphilis or alcoholism, and no history of any other infection was obtainable. In two cases death was due to disease of the coronary arteries and in one to suicide. In each case the necropsy showed a well marked fatty degeneration of the intima, especially in the coronary arteries, and more or less in the carotid, subclavian, axillary, mesenteric, and iliac arteries. The coronary arteries showed in places extensive areas of atheroma with a tendency to occlude the lumen, while other parts of these vessels were free from atheroma and distinctly dilated. In several places sclerosis of the intima was associated with the fatty degeneration, but it was never a predominant feature. Calcification was absent. In the aorta areas of fatty degeneration combined with a moderate degree of sclerosis were present throughout its whole length.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

263. Influenza and the Exanthems.

FRANCIONI (*Rif. Med.*, November 1st, 1919), from a study of the clinical manifestations of influenza, especially in its pandemic form, concludes that it should be grouped with the exanthemata. The extreme rapidity of its diffusion, its great contagiousness, especially in the early stages, make one think of diseases like small-pox and measles. Indeed, it presents certain points of resemblance with measles, spreading chiefly through mucous discharges, causing injection of the conjunctiva and nasal mucous membrane, often epistaxis, and laryngitis. Both are prone to be complicated with respiratory affections, presenting fulminating, septic, haemorrhagic types, and although there is no specific rash in influenza as in measles, Francioni points out that even in influenza the skin is often affected (apart from occasional rashes) by an initial flushing, especially marked in the face, and giving a sunburnt appearance, followed later by a dark discoloration and even pigmentation, and subsequently by desquamation. Indeed, the author looks upon this early facial flushing as almost diagnostic. Although the rash of measles is pathognomonic, it is not an essential part of the disease. *Morbilli sine morbillis* has been known for many years. It is true the incubation period of measles is much longer than that of influenza, but, on the other hand, the incubation period of scarlet fever is very short. The question of immunity after an attack is a little more difficult, for attacks of the usual exanthems generally confer a permanent immunity, although recurrences are not unknown. How far one attack of influenza confers immunity is disputed; the general opinion is rather against any such immunity, but the author quotes Bellis as saying that one attack of influenza confers a very long immunity.

264. Tonsils and Adenoids in Children.

P. J. MARTINO (*Anal. de la Facultad de Med.*, Montevideo, September and October, 1919) holds that medical treatment for adenoids is indicated under the following circumstances: (1) In moderate forms of hypertrophy with a good general condition. (2) When there is an absence of severe symptoms, except in acute attacks. (3) When there are no complications in the auditory, respiratory, or digestive systems. (4) In recent hypertrophy following acute infectious diseases. (5) When there are general causes, such as congenital syphilis, which can be modified by medical treatment. (6) When there are contraindications to operation, such as haemophilia. (7) When a constitutional taint is present, such as pulmonary tuberculosis, heart disease, albuminuria, diabetes, etc. (8) When the family is opposed to the operation. On the other hand, surgical treatment is indicated: (A) In the first two years of life (1) if there is much respiratory distress; (2) when lactation is impossible owing to difficulty in breathing; (3) if the ears show signs of being affected. (B) From 2 to 12 years of age (1) if the child is unable to breathe through the nose; (2) if there are changes in the ear, such as chronic or acute relapsing otorrhoea, frequent attacks of aural congestion, or catarrh and deaf-mutism; (3) changes in nasal phonation (rhinolalia clausa); (4) spread of inflammation to the respiratory system, giving rise to laryngitis, tracheitis, and recurrent bronchitis; (5) reflex affections of the respiratory system, causing spasm of the glottis, laryngismus stridulus, and paroxysmal cough; (6) gastro-intestinal changes resulting from the swallowing of nasopharyngeal secretion; (7) general disturbances, such as loss of appetite, pallor, fever, and interference with the skeletal development of the face and thorax. (C) After 12 years of age all cases of adenoids require operation if they cause any local or general disturbance which shows no tendency to subside. The following precautions must be taken when one is obliged to operate during infancy: (1) The cure of coexistent asthma should not be promised. (2) Relapses must be prevented, which are almost certain to occur if the general condition which gives rise to them is not modified. (3) The cure of the febrile condition accompanying adenoids should not be guaranteed. (4) Breathing exercises and general treatment should always be advised. As a general rule medical treatment for enlarged tonsils is indicated up to 12 years of age under the following conditions: (1) When the enlargement is moderate in degree and the tonsils present a healthy appearance. (2) When the child is little if at all affected, however large the tonsils may be. (3) When there is little or no exudate in the crypts and everything shows that the function is active. (4) When removal of the adenoids, especially during the first two years of life, is sufficient to cause the tonsils to diminish in size. (5) When the enlargement of the tonsils is merely a secondary episode of a general morbid condition, in which case the effect should not be mistaken for the cause. (6) When there are nasal or dental causes to account for the enlargement. (7) When the enlargement is recent and secondary to an acute general or local infection and is liable to subside spontaneously. (8) Where there is a general contraindication to operation, such as haemophilia or a serious organic taint. (9) When the family are opposed to operation. (10) When there are no permanent symptoms or complications, but the hypertrophy is only manifested by attacks of congestion. Surgical treatment for enlarged tonsils is indicated after 12 years of age, and in exceptional cases before, when (1) the tonsils cause obstruction to breathing, phonation, and growth; (2) when they are a source of infection, giving rise to recurrent tonsillitis, chronic infection of the crypts, tonsillar and peritonsillar abscesses, etc.; (3) when they cause disturbances in the adjacent or distant organs, such as otitis and its consequences, affections of the respiratory tract, gastro-intestinal disorders, and septicaemia.

265. The Chlorotic Form of Trichocephaliasis.

G. MOURIQUAND and BERTOYE (*Paris méd.*, December 20th, 1919) record a case in a girl, aged 13, who was brought to hospital for persistent diarrhoea and increasing pallor. Numerous ascarides had been found by the mother in the stools, which were twelve to fifteen in number a day and haemorrhagic. Examination of the blood showed red cells 3,100,000, leucocytes 26,600, haemoglobin 20 per cent. Differential count: Polymorphonuclears 52 per cent., eosinophils 11 per cent., moderate sized mononuclears and lymphocytes, 32 per cent., large mononuclears 4 per cent., myelocytes 1 per cent. Ova of ascarides and trichocephali were found in the stools, but disappeared after treatment by santonin and thymol. Death was due to cerebral thrombosis. At the autopsy thirty ascarides were found in the small intestine and thousands of trichocephali and three ascarides in the large intestine.

266. Prophylactic Quinine in Malaria.

F. PAOLETTI (*Il Policlinico*, Sez. Prat., December 7th, 1919) found from his experience in Albania that, in spite of the administration of 40 cg. of quinine hydrochloride daily, almost all the soldiers who had undergone this prophylactic treatment contracted malaria in the course of two months. On the other hand, no cases occurred among the officers who in addition to quinine prophylaxis lived in mosquito-proof dwellings and made use of mosquito nets. Paoletti does not refuse all value to quinine prophylaxis, and admits that it may be of use in malarial localities, where the anophelines are few and grave forms of malaria are rare. On the other hand, in places like Albania, where malignant forms are prevalent and anophelines are present in enormous quantities, mechanical prophylaxis is the only method of value.

267. The Pathogenesis of Influenzal Alopecia.

E. PULAY (*Med. Klinik*, December 7th, 1919) has observed that the course of influenza, in patients who subsequently developed alopecia, was characterized by abnormal activity of the sympathetic nervous system, and by signs of instability of the vascular system. He maintains that influenzal alopecia occurs only in patients with an excitable sympathetic system and an unstable vascular system. He explains the alopecia as one of several phenomena resulting from general paralysis of the vascular system and atony of the vasomotor nerves. The condition can therefore be controlled, if treatment is instituted early, by general measures aimed at raising the tone of the blood vessels. The drugs he recommends for this purpose are adrenalin, strychnine, arsenic, quinine, and, in some cases, atropine. Local treatment should provoke hyperaemia, and restore the tone of the vessels, and for this purpose he recommends quartz light and tar. As to the former, it should be continued for weeks, and the exposures should be just stimulating, not irritating or intense enough to induce redness or vesication.

268. Syphilitic Stenosis of the Trachea.

CADE and BRETTE (*Lyon méd.*, January 10th, 1920) report the following case: A man, aged 37, who had contracted syphilis at 18, began to suffer from continuous dyspnoea with suffocative attacks at night. The voice was not affected. Signs of diffuse bronchitis were found in the lungs. He also presented an old iritis, orchitis, and perforation of the palate. No lesions were found in the larynx. A week after admission to hospital he had a violent attack of suffocation and died in less than thirty-six hours. At the autopsy the lungs showed bronchopneumonia; the larynx was healthy, but there was a tight stricture in the trachea 4 cm. below the cricoid. The lower part of the trachea and large bronchi showed much inflammation and numerous ulcers, so that no benefit would have been derived from tracheotomy.

269. Lupus Erythematosus and Tuberculosis.

A. L. FÖNSS (*Hospitalstidende*, September 17th and 24th, 1919) has carried out a series of tuberculin tests in cases of lupus vulgaris and erythematosus at the Finsen Institute in Copenhagen. He finds that the focal reaction to a subcutaneous injection of tuberculin is not sufficiently reliable to be a decisive test of the tuberculous character of any skin eruption. Among his 69 cases of lupus vulgaris there were nine which gave an atypical focal reaction, and four which gave no focal reaction, typical or otherwise. Of his 12 cases of lupus erythematosus there were only two which gave a focal reaction; in one case it was "fairly typical," and in the other definitely atypical. Out of a total of 64 cases of lupus erythematosus, representing his own material and that of Pick and Robbi, he finds that only in 6 per cent. was a focal reaction provoked by tuberculin, and in none of the four positive cases was the focal reaction strictly typical of a tuberculous reaction. After weighing all the available evidence for or against the hypothesis that lupus erythematosus is a tuberculous condition, the author concludes that in a few cases a tuberculous etiology is highly probable. But in most cases no definite relationship can be established, and the evidence of tuberculin injections points to the eruption being independent of tuberculosis in the majority of cases.

270. Pulmonary Tuberculosis in War.

As the result of a study of 600 cases of pulmonary tuberculosis in soldiers, ZADEK (*Muench. med. Woch.*, October 17th, 1919) found that men who had formerly been vigorous and had had no pulmonary disease developed a malignant and progressive form of tuberculosis while on military service, whereas those who had formerly suffered from lung disease and again contracted tuberculosis while in the army did not show the same tendency to a malignant attack. The observations support the view expressed by Römer and Much, that infection with tuberculosis in childhood appears to present a more favourable prognosis than late infection in the adult.

271. Palpation of the Abdomen.

GOLDSTEIN (*Med. Klinik*, November 30th, 1919) finds the best method for securing relaxation of the abdominal wall over the organ to be examined is to place the patient on his side, so that the organ under examination occupies a dependent position. Before palpating the liver, for example, he places the patient on his right side. Allowance must be made for the physiological displacement of the organs by this position. He notes as astonishing the degree of relaxation that can thus be achieved, even in the presence of great pain and muscular rigidity.

SURGERY.

272. Tuberculous Hip with Congenital Dislocation.

U. CAESARONO (*La Chirurg. d. organi di movimento*, December, 1919) records two examples of tuberculosis developing in congenitally dislocated hips after reduction. In the first case, a child of 2½ years with a double congenital dislocation, reduction was obtained at the first sitting but with some difficulty, more especially with the right hip. Six months afterwards it was noticed that the right hip had a tendency to redislocation, and two and a half months later the child had a painful swollen right hip and an abscess pointing on the lateral aspect of the joint. A radiogram showed partial destruction of the head of the femur, the stump of the neck being in contact with the acetabulum; on the left side the head of the femur was in position in the acetabulum and showed no abnormality. The abscess was aspirated; tubercle bacilli were found in the thick pus. The right hip-joint was now immobilized securely in a long plaster-of-Paris spica. During the ensuing twelve months the disease became more quiescent. At the end of this period the right hip still showed a sinus in the region of the old abscess; the joint was mobile and the trochanter was elevated; in the radiogram complete disappearance of the head of the femur was evident. The left hip was mobile in all directions and the reduction of the dislocation had been maintained. The second case was also a child of 2½ years, but in this instance the reduction of a bilateral dislocation was effected with ease. After seven months walking was allowed, satisfactory evidence of stability being present. Soon afterwards a light celluloid apparatus was fitted to correct a tendency to anterior transposition in both hips. The patient was not seen again until nine years later. There was a history of a fall on the right hip some months previously and this joint was now painful and swollen. All movements were limited, and in a radiogram the right hip showed complete absence of the head of the femur, the neck being fused to the remains of the acetabulum; the pelvis was extremely atrophic, in striking contrast to the left side. The left hip-joint showed that reduction had been maintained, but was not concentric. An abscess appeared some months afterwards over the right hip; this burst spontaneously and left a sinus, which was unhealed at the time of reporting the case. The author states that out of 2,000 congenital dislocations of the hip-joint treated in the Instituto Ortopedico Rizzoli in Bologna these two cases are the only examples of tuberculous arthritis developing after reduction. He holds that the connexion between trauma and the local development of tuberculosis is firmly established and that the cases he reports offer convincing evidence of this causal relationship. In the first case the hip in which reduction was difficult, and therefore in which there was a considerable trauma, became the seat of the disease. In the second case long after reduction a definite external injury was the exciting cause.

273. Surgical Complications of Influenza in Children.

IN addition to numerous cases of influenza complicated by empyema, perinephritic and osteomyelitic abscess, mastoid suppuration and purulent arthritis which required operation, BLAC Y FORTACIN (*Rev. de med. y cir. pract.*, December 14th, 1919) reports a case of generalized pneumococcal suppurative peritonitis in a boy aged 12, which developed on the fifth day of an attack of influenza. The writer records also several examples of the malignant course assumed by influenza in cases which had recently been operated on, death taking place within twenty-four hours from the onset.

274. Kondoleon's Operation for Elephantiasis.

J. AKERMAN (*Svenska Läkaresälls. Forhandl.*, July 31st, 1919) has performed Kondoleon's operation for elephantiasis on a man aged 30 with the following history: At the age of 5 his left leg was badly burned. At the age of 15 he fractured his left femur just above the knee, and two months later he fractured it again. After these accidents the limb gradually grew larger. The swelling was greatest in the evening, but in spite of the increasing weight and stiffness of the limb, he could continue his work as a cab-driver. Apart from the elephantiasis he was perfectly well, and there was no family history of interest. The swelling, which extended from the inguinal region to the ankle, was doughy and tense, pitting on pressure. The skin was tense and elastic, and it showed no inflammatory or atrophic changes. Its colour was, however, more brown below than above the knee. A large scar, with irregular outlines, occupied a position on the inner side of the knee. The circumference of the right and left thighs was 42 and 51 cm. respectively, and below the knee the measurements were 23 and 40 cm. for the right and left leg respectively. The inguinal glands were not enlarged, and the x rays showed the old fracture of the left femur, which had healed with but slight deformity and shortening. On April 1st, 1919, the skin was incised from the internal malleolus to a point above the middle of the thigh. A large quantity of lymph-like fluid escaped, but there was little bleeding. Longitudinal strips of the deep fascia, to a width of 3 to 4 cm., were now excised throughout the length of the original incision, leaving the muscles exposed and bulging forward to a width of 5 to 8 cm. The great saphenous vein was not divided, and no strip of skin was excised. The wound was now closed, two small drainage tubes were inserted near the knee, and the operation was repeated on the outer side of the limb, from the external malleolus to a point a handbreadth below the great trochanter. The wounds healed by first intention, and a fortnight after the

operation the patient could get about. The circumference of the right and left thighs was now 42 and 43 cm. respectively, and that of the calves 29 and 30 cm. respectively. The author expresses satisfaction with this operation, the aim of which is to establish a connexion between the lymphatics of the skin and those of the muscles and deeper structures.

275. False Cancer of the Stomach.

BY false cancer of the stomach SOFRÈ (*Rif. Med.*, November 1st, 1919) means cases presenting the clinical symptoms of cancer of the stomach *plus* a definite tumour in the gastric region, but not due to malignant growths. He mentions three classes of case likely to lead to error: (1) Gastric ulcer, (2) syphilitic disease, (3) tuberculous disease. Most cases of gastric ulcer are unmistakable, but when there is much induration of the margins of the ulcer, perigastric adhesions causing a tumour, some doubt may arise, especially when the subject is young and the course of the disease rather protracted. Chemical examination of the gastric contents should solve the doubt, for although it is true free HCl may be found in gastric cancer, it is always in very small quantities, far less than is seen in simple gastric ulcer. "False" cancer due to syphilitic tumour is rarer, but the author quotes a case reported by Fournier in an old man of 70, sent to hospital for a supposed gastric cancer, which disappeared under anti-syphilitic treatment. Chemical analysis in these cases shows an absence or deficiency of free HCl and a large development of inorganic acids. These patients are as a rule not much emaciated, the course of the disease is protracted, and there is a history of antecedent syphilis. Tuberculosis may be either a tuberculous enlargement of glands pressing on the pylorus (but this is very rare), or an actual tuberculous stenosis of the pylorus. In this case the tumour is usually flattened and with ill defined edges; it is often painful on pressure, and there is generally some evidence of tubercle elsewhere.

276. Carcinoma of the Appendix.

BOBBIO of Turin (*Arch. Italiano di Chir.*, 1919, 1) makes a valuable contribution to the knowledge of carcinoma of the appendix. It is well known that this condition presents no definite clinical picture, and is therefore undiagnosable. The recorded cases are the result of fortuitous or routine microscopical examination of appendices removed at operation or autopsy. Bobbio's case is of this nature, for the specimen was found in the sac of a large inguinal hernia in a youth of 21. Apart from a thickening at the tip, there was nothing remarkable about this appendix. Under the microscope, however, numerous nests of epithelial cells were found, invading the muscular coat and penetrating through to the serosa. The author had an opportunity of again examining the ileo-caecal region of his patient when operating for a recurrence of the hernia some months latter. Bobbio is impressed with the age-incidence of these cases, the majority having been found well below the "cancer age," and also with the clinically benign nature of the condition. He disagrees with Milner (*Deut. Zeit. f. Chir.*, 1909, 100), who regards these tumours as having no importance, as being merely endothelial cells, produced by previous inflammation, masquerading as cancer cells, and producing a pseudo-picture of malignancy. Bobbio agrees that inflammation plays an important part in the production of the condition, but believes the cells to be definitely epithelial. He concludes that there exist small tumours of the appendix which are of relative benignancy, although the histological picture is that of true cancer. These tumours are therefore to be considered as small neoplasms of epithelial origin, latent, circumscribed, and mute. It would be a valuable piece of work if the after-history of these cases were traced and recorded.

277. Elastic Closure and Systematic Paraffin Gravity Drainage for Wounds.

SORESI (*New York Med. Journ.*, November 8th, 1919) points out that in the immediate closure of clean wounds and the early closure of infected wounds it is essential to remove all foreign bodies, dead material, and tissues likely to die. The individual resistance of the patient plays a great part in the final result, especially in infected wounds, and perfect drainage is essential in order that any liquid which would prevent union may escape while it is forming. The paraffin gravity drainage depends upon the fact that neither tissues, nor blood, nor pus can adhere to the paraffin drains, which are prepared by dipping strips of gauze, silk, or linen threads into melted paraffin and allowing them to harden. Prior to closure of the wound the drain is placed in its most dependent part and brought out through a small incision at a point lower than the lowest part of the wound. Such a drain acts perfectly, because between it and the walls of the wound there is always a space which cannot become occluded, and through which any secretion can leak into the outside dressing by gravity. For the elastic closure deep sutures are made with elastic threads of pure rubber of the size of a lead pencil, and these are passed through the deepest portion of the wound and tied at both ends on rolled gauze, the tension being gauged by gently pulling the elastic after it has been tied on one side until the tissues are approximated, and then tying the other end. Superficial closure is obtained by applying over it special strips made of two lengths of adhesive plaster joined together by rubber bands, one of the adhesive strips being placed on one side of the wound and the other strip on the other side of the wound, after gently stretching the rubber band joining them with sufficient tension to hold the wound together without undue strain. By this plan a greater number of wounds can be closed without danger because it does not interfere with the blood supply to the tissues, and appropriate drainage is obtained.

278. Recurrent Nephrolithiasis.

O. F. LAMSON (*Annals of Surgery*, January, 1920) considers that faulty and incomplete surgery may contribute towards recurrence of nephrolithiasis by leaving in the pelvis fragments of stones, or by injuring the ureter and causing ureteral strictures and (later) ureteral calculi. Post-operative preventive treatment is guided by examination of the urine and chemical analysis of the stone. Drinking freely of distilled water, he thinks, may help in the dislodgement and removal of any nucleus of future stones.

OBSTETRICS AND GYNAECOLOGY.

279. Double Ectopic Pregnancy with a Living Seven Months Fetus.

J. TORRE Y BLANCO (*Rev. de med. y cir. pract.*, December 21st, 1919) reports the following case. A woman, aged 30, in the third month of pregnancy, had a violent attack of pain in the right iliac fossa, with vomiting, fever, tachycardia and tympanites. The symptoms subsided with rest in bed and the pregnancy continued, the fetal movements being felt three months later. On examination the abdomen corresponded in size to that of a seven months pregnancy, and presented a swelling, slightly deviating to the right, reaching three fingerbreadths above the umbilicus. In the upper part of the swelling a living fetus could be felt. The lower part was the uterus, which was about the size usual for the fourth month of pregnancy. On laparotomy a living fetus was found in a cyst adherent to the abdominal extremity of the right Fallopian tube, and in the centre of the tube was another cystic swelling which, on being opened, showed a dead atrophied fetus with organized blood clots. The following explanation of the case was suggested: The patient had two ova fertilized at once. One of them became fixed in the abdominal end of the Fallopian tube and the other in the centre of the tube, where it was probably killed by tubal apoplexy about the third month of pregnancy, when the patient had a sudden attack of abdominal pain.

280. Aplasia of the Internal Genitals.

J. G. DE GRAAF (*Nederland. Tijdschr. v. Geneesk.*, January 24th, 1920) records the case of a woman, aged 19, who consulted him because she was engaged to be married and had not yet menstruated. As her mother did not begin to menstruate till her twentieth year, the absence of periods had not caused her much anxiety. The patient presented all the outward appearances of a normal woman, including well developed breasts, normal pubic hair and external genitals. The urethral meatus was not dilated and the clitoris and hymen were present, but on passing the finger beyond the hymen only a cul-de-sac 1 cm. deep was found. On bimanual rectal examination nothing could be felt in the pelvis with the form or consistence of the uterus or adnexa, and when a sound was passed into the bladder it was separated from the finger in the rectum by tissue of not more than 2 mm. thickness. Operation was not considered advisable.

281. Conjugal Cancer.

GIROU (*Bull. et mém. de la Soc. de Chir.*, February 10th, 1920), in reporting a case of epithelioma of the penis in a man whose wife had advanced epithelioma of the vagina,

raised the question of contagion of cancer by direct contact. The statistics hitherto available do not lend any definite support to this theory. For example, Demarquay, in a study of 134 cases of penile cancer, found only one where the wife was afflicted with uterine cancer. If there were anything in the theory one would expect penile cancer to be fairly common seeing that uterine cancer is so prevalent, but in fact it is relatively very rare. Whilst auto-inoculation with cancer may be admitted—and even that is disputed by some—there is no proof whatever that it may be transferred to another person.

PATHOLOGY.

282. Liquefaction of Gelatin by Streptococci.

THOUGH streptococci do not liquefy gelatin in ordinary circumstances, yet, according to TISSIER and DE TRÉVISE (*C. R. de la Soc. Biol.*, February 7th, 1920), several strains do so if the acidity of the medium is favourable. Whilst they obtained only very meagre growths in neutral gelatin, they found, on the other hand, that if the acidity corresponded to 0.24 per 1,000 of sulphuric acid, a much better growth resulted. Still increasing the acidity, they succeeded in getting very pathogenic streptococci to liquefy the gelatin at 0.73 per 1,000; at 1.20 all pyogenic varieties liquefied; at 1.71 less virulent strains brought about liquefaction; with an acidity of 2.20 no growth resulted, because that acidity approached too close to the limits of arrest. Amongst the various strains of haemolytic streptococci tested only one failed to liquefy gelatin, and this was derived from a case of erysipelas; even 1 c.cm. of a liquid culture of this did not succeed in killing a mouse. None of the saprophytic streptococci liquefied gelatin. The authors maintain that this proteolytic power is allied with the pathogenic power of the streptococci, and that organisms lying dormant may be stirred up into activity, in culture tube and in the body, by a slight modification of the medium.

283. The Chemotherapy of Tuberculosis.

P. RONDONI (*Lo Sperimentale*, February 2nd, 1920) has found that nickel and cobalt in the form of simple salts (sulphate and chloride) possess in a high degree the power of inhibiting the growth of cultures of tubercle bacilli. These metals do not possess this power over other bacteria, and therefore it cannot be an expression of a generic antibacterial and disinfectant action. Cobalt and nickel were found not to be very toxic for experimental animals (guinea-pigs and rabbits), and they differed from copper by having no necrotic action upon the tissues. It was possible to treat the animals for a long time with subcutaneous or intravenous injections of the simple salts of nickel and cobalt, only small quantities of which were subsequently recovered from the organs. An attempt to treat experimental tuberculosis in guinea-pigs and rabbits with these salts gave encouraging results. The possibility of increasing the efficacy of nickel and its affinity for tuberculous tissue in one of two ways occurred to Rondoni: (1) Combining it with a dye which stains tubercles deeply during life—namely, trypan-blue; (2) combining it in the form of a complex salt as the double cyanide of nickel and potassium. The results of nickel-trypan-blue were almost entirely negative in the tuberculosis of the guinea-pig. On the other hand, solutions of the double cyanide of nickel and potassium had a powerful inhibitory action on the growth of tubercle bacilli in cultures, and were well tolerated by the animals in subcutaneous and intravenous injections. The results of experimental tuberculosis were more definite and constant than those with the simple salts. Mild forms of the disease with a tendency to sclerosis were found in the animals treated as compared with the severer forms which were found in the controls.

284. Studies on Phagocytosis.

D. SIRECI (*Lo Sperimentale*, February 2nd, 1920), as the result of three series of experiments, found that shaking the various constituents of a system composed of serum, leucocytes, and bacteria, modified leucocytosis as follows: (1) by a depressive action on the activity of phagocytosis; and (2) by a depressing action on bacteria. The shaking did not cause any change in the opsonins. In another series of experiments he found that the exposure of blood to the action of ultra-violet rays causes a distinct lowering of phagocytic value, which is almost exclusively due to the paralysing effect which the ultra-violet rays exercise on the phagocytes. The substances in the serum with an opsonic power were not affected by the action of the ultra-violet rays. Sireci concluded that the rays must cause such profound changes in the bacteria as to render their destruction by the leucocytes possible to a greater extent than in normal conditions.

285. The Causes of Oedema.

A. AZZI (*Lo Sperimentale*, February 2nd, 1920), as the result of experiments on *Rana esculenta*, came to the conclusion that the immediate causes of oedema were as follows: (1) Modifications even of a slight degree in the composition of the blood, which produce functional or structural changes in the endothelium coming in contact with the blood. (2) Asphyxia of the endothelium produced by stagnation of the venous blood, and especially by regurgitation of the venous blood into the capillaries. (3) Changes in the capillaries which take place in their outer surface, that is, through the tissues, as the result of toxic substances or physical agencies—heat, light. (4) Vaso-dilatation in general, including that of nervous origin, as occurs in neuritis, erythromelalgia, and paralysis. (5) Deficiency of adrenalin.

286. The Virus of Febrile Herpes.

LÖWENSTEIN (*Berl. klin. Woch.*, December 22nd, 1919) reports experiments on the transmission of the virus in herpes of the lips, cheeks, forehead, and ears of man to the corneae of rabbits. He succeeded in fourteen cases. The effect of this inoculation was noticeable forty-eight hours later, when a superficial ulcerating parenchymatous keratitis began to appear. Recovery followed, but a dense scar remained. Direct transmission of the virus from man to rabbit was invariably successful. Further transmission of the virus from the cornea of the first rabbit to another was successfully effected in seven cases. In three cases the virus was further transmitted from the second to a third rabbit, and in one case from the third rabbit to a fourth. Even when the original suspension was diluted with twenty volumes of normal saline solution, successful transmission of the virus was effected. The disease, as provoked in the cornea of the rabbit, closely resembled the keratitis herpetica of man. The instability of the virus was remarkable; its potency lasted about six hours in the incubator, and it ceased altogether in twenty-four hours, even when the virus was suspended in human serum. The appearance of the double bodies, seen in a smear, was like that of the bodies seen in molluscum contagiosum. They stained with Giemsa, and were barely visible under the most powerful lens. Every attempt to cultivate them on artificial media failed. The virus seemed to pass through a filter, but inoculation with the filtrate from a Berkefeld filter was never successful. Nor could the virus be obtained from the blood of patients suffering from herpes. The cornea in which experimental herpes had been induced was henceforth immune to further inoculation. The author concludes that in many respects the virus of febrile herpes resembles that of vaccinia.

287. Enumeration of B. coli in Water.

GRYSEZ and PIERRET (*C. R. de la Soc. Biol.*, January 31st, 1920) record their method for the bacteriological analysis of water. They use glucose bile in such a way that for each 100 c.cm. of the mixture of medium and water to be analysed there are always 10 grams of bile and 0.5 gram of glucose. The tubes are always set up with a fixed amount of the medium, 10 c.cm., but the concentration of this medium varies according to the increasing quantities of the test water added. The tubes are inoculated then and there and put in the incubator for forty-eight hours. At the end of this time those which have become turbid with evolution of gas are subcultured on differential media. The water to be analysed contains at least 1,000, 200, or 100 *B. coli* per litre according as the cultivations are positive with 1 c.cm., 5 c.cm., or 10 c.cm. In 309 analyses done by this method in parallel with cultivation on carbolic media 70 per cent. of the results were identical by the two methods, in 18 per cent. the former was more precise, and in 12 per cent. the latter was more exact. The same comparison held with regard to MacConkey's method. The authors found that of all the bacteria in stock at the Pasteur Institute of Lille only six were capable of growth with gas formation in glucose bile. Of these the *Bacillus coli*, paratyphoid B, Gaertner's bacillus, and *B. psittacosis* equally indicate water pollution; the glanders bacillus can be put aside; the last of the six—Friedländer's bacillus—can be differentiated by the absence of indol in peptone water. Owing to the simplicity of the procedure the method economizes time and material, and allows of cultivations on the spot.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

288. Digitalis in Pulmonary Tuberculosis.

BURNAND (*Arch. des mal. de coeur*, September, 1919) during the last five or six years has made a systematic use of digitalis at the Leysin Sanatorium in cases of pulmonary tuberculosis with a low blood pressure. The drug is indicated in cases with low tension and tachycardia, whatever the extent and quality of the pulmonary lesions. Although the treatment has little or no effect in the terminal stage of tuberculosis cachexia in which the cardiac tissue is irremediably degenerated, Burnand is convinced that phthisical patients treated by digitalis at a relatively early stage, when the myocardium still possesses a certain vitality, derive considerable benefit from this treatment. The dyspnoea and cyanosis disappear, the cheeks regain their colour, the patient recovers his strength, the pulse becomes slower and stronger, and the râles in the chest disappear. The cases in which a systematic examination with Pachon's oscillometer was made showed a definite rise in blood pressure during the treatment. The drug is administered in doses of 10 cg. of the powdered leaves on three out of every ten days—for example, on the first, second, third of each month, on the eleventh, twelfth, thirteenth, and on the twenty-first, twenty-second, and twenty-third.

289. Slow Evolution of Peritonitis following Perforation of Typhoid Ulcer.

P. GAUTIER and P. BRUTSCH (*Rev. méd. de la Suisse rom.*, December, 1919) report a case of peritonitis following perforation of a typhoid ulcer in a man aged 26, in which an interval of a month occurred between the perforation and death. At the necropsy an adhesive peritonitis was found localized in the right iliac fossa, together with a collection of faecal matter. The intestine showed multiple perforations, including one in the large bowel. A striking feature in the case was the mild character of the onset, as the patient was able to continue his work for a fortnight, when signs of perforation suddenly developed. The peritonitis due to the perforation became rapidly localized, but from time to time an exacerbation of the symptoms occurred probably owing to a fresh perforation. Various haemorrhagic manifestations were observed—namely, intestinal, renal, and cutaneous haemorrhages—which seemed due not merely to the toxic character of the typhoid attack, but also to the superadded toxaemia caused by the peritonitis and the retention of faecal matter in the peritoneum. Lastly, the patient showed a considerable loss of flesh (two-fifths of his weight) during the month which elapsed between the perforation and his death.

290. Treatment of Influenza Pneumonia by Serum from Convalescent Patients.

REDDEN (*Boston Med. and Surg. Journ.*, December 11th, 1919), from an experience in the treatment of over 250 cases of influenza pneumonia by the use of pooled serum from convalescent patients, considers that both in hospital and private practice the course of the disease is decidedly shortened, the death rate halved in serious cases and reduced three-fourths in hospital cases seen early. Of 100 cases in private practice, in half the temperature became normal in twenty-four hours after the first injection, and in three-quarters it was normal within forty-eight hours. The average amount of serum given was 120 c.cm., which represents 100 c.cm. of serum, the remainder being made up of salt solution with 0.30 per cent. trikresol. Among pregnant cases the mortality was lowered to 23 per cent., as against 51 and 54 per cent. recorded by other observers. Of the rest, excluding those cases in which the serum was given too late in the disease and those dying from other complications, the mortality was 3 per cent., and in all probability a just estimate of the efficacy of the serum lies between 3 and 16 per cent.; 52 per cent. of the cases received only one injection, 35 per cent. two injections, and the remainder from three to five injections.

291. The Shape of the Stomach.

As the result of observations on dogs, E. H. VAN LIER (*Nederland. Tijdschr. v. Geneesk.*, January 10th, 1920) comes to the following conclusions: (1) The dog's stomach, when filled with ordinary food, has a saccular form and not a tubular form. (2) The dog's stomach, when filled with an *x*-ray meal, has a saccular form and partly a tubular form. (3) The empty stomach lies in a shrunken state in the abdomen. (4) The shadow caused by an *x*-ray meal indicates the true boundaries of the stomach. Skiagrams are reproduced showing that a normal meal without bismuth or barium sulphate gives the stomach quite a different shape from that which it presents when these two metallic salts are given. The writer, therefore, does not agree with Groedel and Seyberth, who hold that an *x*-ray meal does not differ in its effect on the form and position of the stomach from a meat meal of similar amount. On the other hand, the question as to how far the dog's stomach resembled the human one was less simple to answer. According to Schüller, Groedel, Seyberth, and Babkin, there was an essential agreement between the two. The skiagram, however, of the dog's stomach shows a different appearance to the human stomach. Also, at a necropsy on a dog after a meal the duodenum was found to be filled with undigested potatoes, whereas this does not occur in the human being, in whom the pylorus transmits the fluid chyme only.

292. Chronic Cholecystitis and Heart Disease.

R. H. BABCOCK (*Journ. Amer. Med. Assoc.*, 1919, lxxiii) points out that, although there is naturally a tendency to attribute all the symptoms presented by a patient with obvious cardiac disease to the effects of that lesion, infection and inflammation of the gall bladder, as he showed in 1909, may cause serious cardiac incompetence, which can be wholly or partially corrected by drainage of the gall bladder. The clinical manifestations of chronic cholecystitis are seldom prominent, frank biliary colic and jaundice being rare. The following points are valuable in distinguishing between the liver of chronic venous engorgement secondary to heart failure and cholecystitis: In passive stasis the liver, unless cirrhotic or prevented by adhesions, is uniformly enlarged and tender, the notch between the two lobes can be felt, and there is evidence of stasis elsewhere. The hepatic enlargement due to cholecystitis is a characteristic alteration in the right lobe, which may be very well marked in chronic inflammation of the gall bladder; this convex enlargement of the right lobe—Riedel's lobe—may be small and obscured by the right rectus muscle, or extensive and occupy most of the margin of the right lobe, but the left lobe is not palpable. In cholecystitis there is also often cutaneous hyperaesthesia behind, over the area of the tenth and eleventh dorsal nerves. Some illustrative cases are given, and the author insists that in every case of heart disease with the history or symptoms of abdominal disturbance minute attention should be paid to the gall bladder and appendix, the latter being in many cases the chief offender, as he hopes to show in a future communication.

293. Codeine Poisoning.

ACCORDING to L. BOISSONAS (*Rev. méd. de la Suisse rom.*, December, 1919), who records a case in a child aged 3, to whom 0.04 cg. of codeine was given instead of calomel, the symptoms of codeine poisoning consist in the rapid development of torpor which may end in complete loss of consciousness. The lethargy is accompanied by headache and occasionally by tinnitus and vertigo. This first stage, when it does not end by rapid collapse, is followed by a period of restlessness accompanied by vomiting and gastralgia and sometimes by convulsions. Exaggeration of the reflexes is constant. A rash, which has been observed even after small doses, appears to be due rather to an idiosyncrasy than to the drug itself. In most cases the pupils are dilated, but in some, including the writer's case, they are contracted.

294. Hysteria in Childhood.

MONRAD (*Ugeskrift for Laeger*, January 1st and 8th, 1920) maintains that hysteria in childhood is often overlooked by medical men as well as by the lay public. Yet it is not rare, and it is probably on the increase, though this may perhaps be merely a reflection of the author's growing interest in the subject. He has collected about 200 cases during the past ten years. The disease was most common between 7 and puberty, but in 26 cases the ages ranged from only 4 to 7 years, and in 14 cases the patients were under 4. The sex incidence was equal under the age of 5.

After this age it was as much commoner in the female than in the male as it was in adult life, being in the ratio of 2 to 1. But the disease was more serious in the male: the "formes frustes" so common in girls approaching puberty were rare in males. Referring to the difficulties of diagnosis, the author confesses to having diagnosed hysteria in a boy of 7, who died a fortnight later with definite signs of a cerebral tumour.

295. Surgical Emphysema in Influenza.

SCHWENKENBECHER (*Muench. med. Woch.*, November 21st, 1919) has observed three cases of extensive surgical emphysema in conjunction with influenza. The first patient was a soldier suffering from double pneumonia. Surgical emphysema was demonstrable almost over the whole of his body. The patient died soon after admission to hospital. A few weeks later a woman of 48 was admitted to hospital with a puffy swelling of the face, neck, and chest. This swelling had begun in the face and neck, had spread thence to the chest, and had developed after a febrile attack of bronchitis accompanied by much cough. Influenzal tracheitis and bronchopneumonia were diagnosed, but no sign of a pneumothorax or of oedema of the lungs could be detected. The evidence of the *x* rays was uninstructive. Death occurred suddenly. At the necropsy, twenty-four hours later, the emphysema had vanished except in the neck. A few bubbles of air could, however, be detected just under the left pleura (parietal?). There was no air in the connective tissue of the mediastinum. Confluent bronchopneumonic foci on the verge of suppuration were found in the posterior half of the right upper lobe, but at no point could a tear in the lung be found. But as there was a small bronchopneumonic focus in the upper portion of the left lower lobe, and as there were signs of subpleural emphysema on this side, the author suspects that a small rupture of the left lung must have been responsible for the surgical emphysema. His third patient, a girl aged 7½ years, recovered, although the influenzal inflammation of the upper and lower respiratory passages was severe, and was accompanied by surgical emphysema, which took about four weeks to disappear.

296. The Diagnosis of Epilepsy.

S. JELLINEK (*Wien. med. Woch.*, November 1st and 8th, 1919) attaches most importance to two signs—namely, the presence of Babinski's reflex and the occurrence of petechiae and ecchymoses—neither of which is found in hysteria. Babinski's sign is not only present during the epileptic attack, but may persist from a quarter to three-quarters of an hour after termination of the fit. In many cases after Babinski's sign was exhausted, Oppenheim's sign could be obtained, especially after attacks of *petit mal*. Petechiae, though not found so regularly as Babinski's sign, are more frequent in epilepsy than is supposed. They occurred in nearly half of the 368 cases of genuine epilepsy observed by Jellinek. They were most frequently found in the upper lids, but in many cases both upper and lower lids were sprinkled over with countless petechiae, as well as the root of the nose and forehead, and even the frontal scalp and temples. Petechiae were rarely seen on the face below the zygomatic arch; ecchymoses were relatively uncommon on the conjunctiva, palate, and mucous membrane of the nose and throat. In the great majority of cases the haemorrhages were confined to the territory of the superior vena cava. They did not appear to have any relation to the age of the patient or the severity of the attacks.

297. The Combined Quinine and Methylene Blue Treatment of Malaria.

ACCORDING to R. REITLER (*Wien. klin. Woch.*, January 10th, 1920), the value of methylene blue advocated by Ehrlich and Guttmann in the treatment of malaria has been variously estimated by different observers. Ziemann's systematic investigations showed that it had no effect. Reitler, however, was induced to use it in a number of cases owing to its action in a case of quartan fever which was refractory to quinine. He found that though it was of little or no value by itself in the treatment of malaria, when given with or shortly after quinine it prevented any further attacks in cases supposed to be refractory to quinine. It also enabled the quinine to be considerably reduced below the ordinary therapeutical dose, a point of considerable importance in the treatment of patients who had an intolerance for the drug, or were in danger of developing blackwater fever.

SURGERY.

298. Tubed Pedicle in Plastic Surgery.

H. D. GILLIES describes from Queen Mary's Hospital, Sidcup, a new and most ingenious method of fashioning flaps for plastic work (*New York Med. Journ.*, 1920, 111). The method is specially applicable to cases where a long flap has to be cut—for example, chest flaps for closing facial defects. The edges of the graft, which is usually cut 2½ to 3 inches wide, are carefully sewn together, both ends being left attached. In this way a tube of skin is formed which heals by first intention, and in three weeks is so well vascularized that it can be twisted and even kinked without fear of necrosis. The lower end is now cut free and turned up to the face. The excess of tubed graft is either used locally or returned to the neck subsequently. In some cases flaps from the temple, including the temporal artery, may be used. In the intermediate stage these tubular flaps give the patients a most curious appearance, but the final results are admirable. The method is valuable, as the coaptation of the edges of the flap ensures absence of sepsis and an efficient blood supply. The ten illustrations (nine photographs) are a considerable help to the understanding of this manœuvre, which seems to be of very general applicability.

299. Chemical Urethritis.

URETHRITIS following injections of chemicals into the urethra as a prophylactic against gonorrhoea is by no means uncommon. F. Kidd has recorded several examples in this country, whilst BARKER (*Journ. Amer. Med. Assoc.*, 1919, 73) records 28 cases occurring in a series of 500 patients with general urethritis. The etiological factor in all was an irritation of the urethral mucosa by the injection of the venereal prophylactic. This may very readily be mistaken for gonorrhoea. The "packet" used varied—some were British, some U.S.A., and some were improvised. A bacteriological synopsis is given by Barker—60 per cent. of the cases showed no organism in the smears, 50 per cent. were sterile on culture. Treatment is simple once the true diagnosis is established. All injections must be stopped, otherwise the urethritis will persist as long as the local treatment is kept up. Copious draughts of water and alkalis by mouth are all that are required.

300. Treatment of Ununited Fractures, with Special Reference to the Use of Bone Grafts.

HEY GROVES (*Bristol Med.-Chir. Journ.*, December, 1919) discusses the problem of the treatment of ununited fractures following gunshot injuries. Non-operative measures, such as deep percussion, massage, congestion and active exercise, he regards as preventive rather than curative in dealing with non-union, their applicability being limited to the stage of delayed union. When there is a gap due to loss of substance or a definite pseudo-arthrosis, non-operative measures are a waste of time. All operative treatment must necessarily be delayed until a safe stage has been reached, owing to the long persistence of latent sepsis in the tissues. Before any ambitious reconstructive operation is undertaken it is wise to replace cutaneous scars by skin flaps or grafts, to excise deep scar tissue, including the ends of the bone, and to postpone the actual restorative procedure until aseptic healing of the first stage operation has taken place. As in all cases the bone ends show either atrophy or sclerosis, both indicative of a diminished capacity for growth, refreshing must be generous in its extent. An ununited fracture may be treated either by some form of bone suture or by the insertion of a bone graft. In the former method the conventional plating and screwing has no place; the two essentials of successful bone suture are the removal of the devitalized bone ends and the close approximation of newly-cut bone surfaces. The step-cut operation popularized by the author has proved most efficient in suitable cases—namely, non-union of the humerus, femur, and both bones of the forearm. The repair of gaps by means of bone grafting is especially indicated in non-union of one of the forearm bones or of the tibia. In the forearm, particularly in the radius, a "cricket bail" graft removed from the tibia is the most efficient, as by its use the sagging of the fragments towards the fellow bone can be corrected. In the tibia, unless the skin is sound, grafting cannot be employed. The method devised by Hey Groves in suitable cases is to fill up the posterior part of the gap by pieces of bone taken from the shaft in preparing the bed for the future graft, and to fill in the anterior part by a wide inlay graft wedged firmly into a trench. When grafting is

impossible in this region, the limb can be shortened by resection of a portion of the fibula, which is then impacted into the proximal fragment of the tibia, together with the distal end of the deficient bone. With regard to the essential principles in bone-grafting, he points out that the autogenous graft has a vitality of its own, but this is absolutely dependent upon rapid union with tissues of its own kind. In order to ensure rapid success in the use of a graft in the filling up of a gap in one of the long bones certain conditions must be fulfilled—the graft should have a periosteal covering, should have wide contact with a vascular bed, should be fixed securely, and should be strong enough to act as a skeletal strut.

301. Hour-glass Stomach.

IN *Il Morgagni* (December 5th, 1919) it is pointed out that since the advent of radiography hour-glass stomach—meaning a stomach divided in two or more parts by a constriction—has been shown to be more often acquired than congenital. It usually originates from organic changes in the gastric walls or muscular spasm, secondary to ulcer or perigastric adhesions. The spastic type of the hour-glass stomach is seen most often in ulcer, but organic stenosis may also be increased by spasm. Congenital hour-glass stomach is distinguished by the fact that stricture is of minimum length, and does not present any pathological alteration in the serous or mucous coats. The width of the stricture varies. Acquired hour-glass stomach has not so typical a form, and is usually associated with cicatricial changes. Slight forms of hour-glass stomach do not produce clinical symptoms. When symptoms exist they usually consist of pain, sense of weight, vomiting, and, if continued, wasting. The two halves (especially after insufflation) may sometimes be seen on inspection. Occasionally by squeezing one can feel the gastric contents passing from one half to the other. Radiography gives the surest diagnosis. Organic hour-glass stomach cannot disappear, but that part of the condition which is due to spasm or ulceration may be improved by suitable medical treatment; atropin often relieves the spasm. When surgical treatment becomes necessary, an anastomosis between the stomach and bowel gives the best results.

302. Oxyuris Appendicitis.

A. LÄWEN and A. REINHARDT (*Muench. med. Woch.*, December 12th, 1919) examined 620 appendices removed at St. George's Hospital, Hamburg, since the spring of 1914, and found oxyurides present in 60, or 9.76 per cent.; 263 of the cases were in males and 357 in females. Oxyurides were found in 16, or 6 per cent., of the former and in 44, or 12.3 per cent., of the latter, so that the parasites were twice as frequent in the female as in the male appendix; 12 of the 60 cases were in children up to 14 years of age and 48 in adults. The oldest patients were aged 42, 43, 46, and 62, and were all women. The parasites were most frequently found in the second and third decennium. With the exception of 7 cases in which the operation showed abdominal affections, such as tubal pregnancy, cholecystitis, or tuberculosis, and the presence of oxyurides in the appendix was of secondary importance, the clinical picture was that of acute or chronic appendicitis. Severe attacks were rare. The writers accept the general opinion, which is that the worms penetrate the mucous membrane and so open up the way for a bacterial infection. It is probable also that the parasites cause by their toxins a superficial transient inflammation of the mucous membrane with symptoms of appendicitis. A certain diagnosis cannot be made, but relatively slight objective findings with fairly acute or chronic symptoms may indicate oxyuris appendicitis. The diagnosis is the more probable if oxyurides have already been found in stools several years previously. On opening the abdomen an abundant serous effusion is sometimes a sign of oxyuriasis of the appendix, and the serous coat of the appendix is often remarkably moist.

303. Penetrating Wounds of the Thorax.

DUCUING (*Il Morgagni*, November 15th, 1919, and *Presse méd.*, August 11th, 1919) says that most of the complications in these cases are due to bone injury, and might be prevented by early operation. Most surgeons look upon severe and persistent haemorrhage as the only indication for early intervention, but this is not enough, according to Ducuing. He has treated 138 cases of wounds of the thorax (90 within the first hour, 27 some weeks later, and 21 still later). He first discusses injuries to the bone without opening the thorax; 66 per cent. of this group are fractures of the ribs; the ends of the fractures were nearly always splintered and very seldom clear cut. He has found bits of rib in the diaphragm, the liver, and behind the great omentum. Fracture of the scapula accounted for 13 per cent. of the cases; in 9 per cent. the clavicle was injured—often split into numerous fragments; in 8 per cent. the sternum was affected, and in 4 per cent. the thoracic vertebrae. The immediate complications of these injuries comprise rupture of adjoining blood vessels, and laceration of the lung. The secondary complications were infection at the seat of fracture, infection of the pleura, and infection of the lung itself. Later on come complications partly due to mechanical means—for example, pressure from callus—or to infection. The callus may interfere with free respiratory movements, or by persistent bony fistula interfere with free drainage, prolong a purulent pleurisy, set up intercostal neuralgia and permanent thoracic deformity. Many of the complications could be avoided by early operation on the affected bones. In severe cases with persistent haemorrhage, increasing pulse rate, and falling blood pressure, it is better to deal directly with the haemorrhage and leave the bony injuries to be dealt with later under local anaesthesia. In less severe cases if a fracture is diagnosed the author does not treat expectantly but advises costal resection of at least 7–8 cm. and removal of fragments. He says the immediate results of interference are good and the remote results most satisfactory. He treated 70 cases (16 with open thorax, 54 with closed). Of the 54, 33 had fractures, and in 27 of these he says most surgeons would not have interfered. Out of these 27, 14 were discharged well after three weeks, in 8 pneumonic complications set in, and one died from gangrene of the arm. In 3 slight pleural effusion occurred, and in 2 empyema (with one death). He compares 21 similar cases treated on expectant lines, and in 12 of these chronic empyema set in and in 2 exuberant callus had to be removed.

OBSTETRICS AND GYNAECOLOGY.

301. The Treatment of Septic Puerperal Endometritis.

COVA (*Il Morgagni*, November 15th, 1919), in the treatment of septic puerperal endometritis, has abandoned copious douches or curettage, and gets better results with iodine painting, using the official tincture of iodine, and carefully swabbing the uterine cavity with this solution. If necessary he repeats the treatment every other day for three or four times; as a rule it is unnecessary after that time, as the patient is usually much better; if not, probably infection has become generalized and some local salpingitis has been set up; in either case, painting with iodine is of little use then. The danger of curetting a soft-walled uterus is well known and, in the author's opinion, seldom necessary if the iodine treatment is applied.

305. Erosive Vulvitis.

DRISCOLL (*Arch. Derm. and Syph.*, February, 1920) calls attention to the fact that though erosive and gangrenous balanitis in man has been recognized for several years, the same disease in women is not generally diagnosed. He reports three cases that have come under his observation. The ulceration may extend the whole length and breadth of the pudenda, destroying the labia in its progress, affecting Bartholin's glands, and involving the anus. There is generally a large amount of discharge from the ulceration and from the vagina. The edges of the ulcer are everted and raised above the neighbouring skin. The pus, of a greenish-yellow colour, has the same foul odour as that of gangrenous balanitis. The lesion is dark-red, and when covered with the characteristic yellow pus it resembles the ordinary varicose ulcer of the leg. The inguinal glands are usually involved. In the author's three cases the Wassermann reaction was negative, and the condition did not respond to antisyphilitic treatment. In each case spirochaetes and fusiform bacilli were found. The spirochaete averages from 5 to 30 microns in length, is very motile, and takes the ordinary stains well. The fusiform bacillus, always found in association, is about 2 microns in length, takes the ordinary stains, but, unlike the spirochaete, retains the violet in Gram's stain.

306. Placental Tumour.

MARGESON (*Boston Med. and Surg. Journ.*, February 19th, 1920) gives notes of a case in which sharp cutting pains in the lower abdomen and back occurred at irregular intervals throughout the entire pregnancy. On examination at term, when irregular labour pains set in, the head was found above the pelvic brim and directed toward the right iliac fossa; no fetal part was in the pelvis, and the cervix was not drawn up. During the following twenty-four hours

there were good labour pains at intervals, but no progress whatever was made, and recourse was had to Caesarean section and a living child delivered. In removing the placenta, which was attached rather low down posteriorly and to the left side, a tumour measuring 10 × 6 × 3 cm., resembling the normal spleen in shape and consistence, and attached to the placenta by a structure similar to the umbilical cord 6 cm. long and overhanging the left pelvic brim, was removed. As the pelvis was but slightly contracted and the fetal head was of good size, the tumour apparently added sufficient obstruction to prevent engagement of the head. The tumour, of which no microscopic examination was made, was completely surrounded by amniotic membrane, and seemed to be composed of placental tissue with considerable fibrous connective tissue amongst it. The tumour was possibly one of those rare cases of chorioma angiomatosum.

PATHOLOGY.

307. Sterilization of Lipo-vaccines.

THE use of oily suspensions of bacteria instead of saline solution in the prophylaxis of enteric fever and pneumonia has the advantage that one inoculation suffices instead of three. The available evidence shows that the protective influence of these lipo-vaccines is as good as that of the ordinary vaccines. As the methods of preparation of lipo-vaccines afford many opportunities for contamination, and as oil so interferes with the action of antiseptics that the latter cannot be depended on for a final sterilization, LEWIS and DODGE (*Journ. Exper. Med.*, February, 1920) considered that the question of sterilization of lipo-vaccines needed further investigation. The finished lipo-vaccines were submitted to heat in order to render them sterile and then tested. The protective power of pneumococcus vaccine, as tested on mice, is not destroyed or apparently greatly diminished by heating to 130° C. for three hours or 120° C. for twelve hours. Typhoid lipo-vaccine, which gives rise to the formation of agglutinins in rabbits but to a less degree than saline suspensions, was found to have its antigenic qualities greatly injured by heating to 130° C.

308. The Cerebro-spinal Fluid in Multiple Sclerosis.

J. E. MOORE (*Arch. Int. Med.*, January, 1920) gives the results of examination of the cerebro-spinal fluid in 28 cases of multiple sclerosis, of which 20 were clinically certain and 8 doubtful. The Wassermann reaction was negative in all the cases. In the 20 cases of certain clinical diagnosis there was pleocytosis in 8 cases, a positive globulin reaction in 18 cases, and a paretic gold curve in 18 cases. The so-called "paretic" gold curve, at first supposed to be pathognomonic of general paralysis, at least within the group of syphilitic disorders, has since been obtained in a number of other conditions, such as lead poisoning, tuberculous meningitis, and multiple sclerosis. As the paretic gold curve was present in 90 per cent. of the cases of clinically certain multiple sclerosis and was negative in the 8 clinically doubtful cases, it is probable the diagnosis was at fault in the latter group. Excluding the cases of lead poisoning and tuberculous meningitis, in which a paretic gold curve is occasionally obtained, the only two diseases in which this curve occurs with constancy are parenchymatous neurosyphilis and multiple sclerosis. The Wassermann reaction should distinguish between them; for, as far as is known, whenever a paretic gold curve is found in syphilis, the spinal fluid Wassermann test is positive, with the exception of long-treated cases, in which the Wassermann reaction becomes negative before the colloidal gold test.

309. The Etiological Relation of Pyloric Obstruction to Gastric Tetany.

W. G. MACCALLUM, J. LINTZ, H. N. VERMILYE, T. H. LEGGETT, and E. BOAS (*Bull. Johns Hopkins Hosp.*, January, 1920) have investigated experimentally in dogs the way in which pyloric obstruction causes gastric tetany. Experiments by MacCallum in 1909 showed that when the pylorus is completely obstructed and the stomach frequently washed out, the animal wastes rapidly and dies in a few days, usually with violent convulsions, which are not precisely of the same character as the twitchings seen in parathyroid tetany. In the present investigation the stomach was cut through on the proximal side of the pylorus and closed so as to form a blind sac at the end of the oesophagus; the animal could then be given food through the distal end. Washings of the stomach show that the secretion of HCl continues and that the chloride content is rapidly lowered, the gastric mucosa continuing to secrete acid even when the plasma content of chlorides is diminished. If the animal received only water, convulsions appeared in forty-eight hours, whereas, if food containing chlorides was introduced into the intestine, these symptoms were delayed. As the chloride content of the plasma fell, its carbon dioxide combining power and the alkali reserve, as measured by van Slyke's method, rose. Intravenous injections of sodium chloride when the symptoms were well developed caused disappearance of the convulsions and general improvement, with, for a time, a lowering of the electrical excitability. But the introduction of HCl did not have this beneficial effect, and calcium lactate failed to have the remarkable influence that it exerts in parathyroid tetany. Intravenous injections of sodium bicarbonate or carbonate in excessive quantities produce practically the same symptoms—twitching, convulsions, and opisthotonus—as those that result from removal of the chlorides. The authors, unlike Wilson, Stearns, and Janney, did not find any alkalosis in the tetany of parathyroidectomized animals.

310. Experimental Gastric Ulcer.

A. C. IVY (*Arch. Int. Med.*, January 15th, 1920) reports on a series of experimental observations on ulcer of the stomach and duodenum in dogs. Chronic ulcer of the stomach is most exceptional in dogs, and gastric carcinoma does not occur. Acute erosions usually heal, but in dogs ill with distemper or cachectic a chronic ulcer may be produced by feeding with streptococci, the necessary factors being a lowered resistance and temporary hypoacidity or achylia. This conclusion is in opposition to the generally accepted view that acidity is the all-important condition in ordinary chronic ulcer; but the ulcers seen in certain cases of achylia gastrica are believed by some clinicians to be trophic in origin, and so etiologically different from the peptic ulcer. In order to obtain definite data as to changes of motility and emptying time of the stomach in ulcers of the fundus and pyloric end of the stomach, a number of experiments were carried out; ulcers of the fundus did not exert any influence on the motility of the empty stomach, except slight inhibition for two or three days after the ulcer was produced, and did not cause any retention of food in the viscus; ulceration of the pyloric portion increased the motility of the empty stomach, but did not interfere with the passage of food out of the organ; ulcer of the first inch of the duodenum increased the motility of the empty stomach and caused retention of food. Hypermotility and delay in emptying the stomach might be caused by either one or a combination of four mechanisms: (1) a long reflex to the spinal cord and medulla, (2) a short reflex to the coeliac ganglion, (3) a local intrinsic reflex, or (4) an altered metabolic rate. As a result of experimental section of both vagi and splanchnics and extirpation of the coeliac ganglion it appeared that the fundamental cause of the gastric hypermotility and retention of food is intrinsic, and that it is enhanced by the presence of the extrinsic nervous mechanism. But the nature of the intrinsic mechanism, whether increased irritability of the intrinsic nervous reflex or an altered metabolic rate, was not decided.

311. Diagnosis of Primary Syphilis by Culture.

BAESLACK and KEANE (*Journ. Amer. Med. Assoc.*, February 7th, 1920), in cases where owing to previous medication no spirochaetes can be discovered in the primary chancre, recommend cultivation of small pieces of the tissue in horse serum medium. The medium consists of normal horse serum, free from preservatives, diluted with sterile distilled water in the proportion of 3 to 1. The diluted serum is put in ordinary test tubes, which are closed with rubber stoppers previously sterilized. The tubes are filled to within an inch of the top, stoppered, and heated to 60° C. for an hour in a water-bath. Next day they are heated to 70° C. for an hour, and on the third day to the same temperature until the contents assume the consistence of syrup. This heating for three successive days, besides giving the medium a semi-solid consistence, drives the air from the medium, so that it is under a partial vacuum. The tubes are stored in the refrigerator and warmed when about to be used. Thin slices of the tissue are removed by means of a razor from the edge of the lesion and pushed into the medium from one-half to two-thirds of the length of the tube. The tubes are incubated at 37° C. from three to five days, and a few drops, removed by pipette from the vicinity of the tissue, are examined by dark-ground illumination. The culture, of course, will be impure, but sufficient spirochaetes will be found to give a ready diagnosis.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

312. Meningococcic Septicaemia.

RIBIERRE, HÉBERT, and BLOCH (*Ann. de méd.*, 1919, vi) record the details of 7 cases of meningococcaemia either without meningitis or with its occurrence after a long interval; in 3 cases there was an absence of meningeal infection, and in the others it began on the thirtieth, forty-fifth, fiftieth, and eightieth day of fever respectively. In one of the cases death was due to anaphylactic shock after intravenous injection of serum, in spite of preliminary hypodermic injections to effect desensitization. The clinical manifestations show considerable variations, but the three cardinal signs are fever of a malarial type, skin rashes, and joint affections. The febrile rises of the intermittent fever may be daily, but they are often irregular. The spleen and liver may be, but are not constantly, enlarged. The commonest form of rash is papulo-nodular, and there may be a small vesicle on the summit; but the eruption may be macular only and of small size, or it may be haemorrhagic. Arthralgia, arthritis, and muscle pains are, like the eruption, constant features. One of the cases showed malignant endocarditis. In 3 out of the 5 cases giving positive blood cultures the infecting organism was the parameningococcus. In 3 of the cases the cerebro-spinal fluid, though sterile, contained an excess of albumin and polymorphonuclear leucocytes a considerable time before symptoms of meningitis appeared. In 3 of the cases hypodermic injection of serum was without any effect, though intrathecal injections of small quantities were successful; this observation was thought to be compatible with the view that meningococci come to rest near, though not in, the meninges, which remain uninfected for a long time. The treatment should start with five injections of 40 c.cm. of specific serum hypodermically or intramuscularly at a day's interval, a polyvalent serum being used until the type has been determined and the corresponding serum is available. If there is no improvement, serum should be given intravenously, with due precautions as regards desensitization. If this fails, intrathecal injection of serum, even in the absence of meningitic symptoms, is advisable. It is important not to regard the serum disease (seen particularly after intrathecal injection), when early and severe, as a relapse of the infection.

313. Erythema Nodosum and Tuberculosis.

K. HAUG (*Tidsskr. f. d. Norske Laegeforening*, January 1st, 1920) has investigated thirteen cases of erythema nodosum with reference to their relationship, if any, to acute articular rheumatism and tuberculosis. Only in three cases could he find no evidence of tuberculosis, either in the patients themselves or in "contacts." On the other hand, there were two cases in which, shortly after exposure of young healthy persons to infection with tuberculosis an eruption of erythema nodosum took place. In one case the rash did, indeed, appear a fortnight after the development of measles, but as the patient was living with a sister who was dying of tuberculosis, the author suspects that the measles was provocative of the rash by stirring a tuberculous focus into activity. In one case the outbreak of erythema nodosum was followed by acute articular rheumatism of a month's duration. The author, who refers to the work of Poncet and others on the relation of tuberculosis to rheumatism, expresses the belief that under certain conditions the toxins of the tubercle bacillus provoke erythema nodosum or an acute arthritis differing from certain other forms of acute articular rheumatism in its persistence for a considerable time and in its refractoriness to the salicyl radical.

314. Typhus in Rotterdam.

THE epidemic of typhus last year in Rotterdam is described by P. H. KRAMER (*Nederland. Tijdschr. v. Geneesk.*, February 7th, 1920). The disease broke out with great suddenness, and rapidly spread all over the city. In the week January 26th–February 1st, 6 cases were notified, and in the following weeks of February 126, 145, 17, and 119 cases respectively. As the result of the measures taken—including the conversion of two large schools into a hospital, observation of contacts, delousing and disinfection—the epidemic rapidly declined in March. In the first week of April only 3 cases were notified, and in the second week only one—the last case of the epidemic. Of 194 cases admitted, 141 were found to have typhus and the remaining 53 a variety of diseases, among which enteric held the first place with 21 cases. Of the 141 typhus patients, 60 were males and 81 females. The mortality among 130 cases admitted during the febrile period was 22 per cent. (29 cases); of these, 20 died in the acute stage—4 in the first week, 11 in the second, and 5 in the third; 2 died of pre-existing diseases—namely, chronic bronchitis with myocardial degeneration, and tuberculosis; and 7 of complications—namely, pneumonia, nephritis, and haematemesis. The comparative mildness of the disease in early life and its increasing severity as age advanced are shown by the following figures: Of 77 cases under 30, only 4 died—a mortality of 5 per cent.; between 30 and 40 the mortality was 18 per cent.; between 40 and 50, 43 per cent.; between 50 and 60, 57 per cent.; and between 60 and 70, 60 per cent. There was a distinct difference in the mortality in the two sexes above the age of 30, about half the cases in men being fatal as compared with one-third of the cases in women.

315. Atypical Forms of Typhoid Fever.

E. MONDOLFO (*Il Policlinico*, Sez. Prat., December 14th and 21st, 1919) adopts the following classification of the atypical forms of typhoid fever: A, Anomalies in the onset of the disease—for example, sudden onset, early haemorrhagic syndrome, "war typhoid." B, Cases characterized by the predominance of a symptom or group of symptoms in one organ or system, while the ordinary symptoms of typhoid remain latent (laryngo-typhoid, broncho-typhoid, pneumo-typhoid, pleuro-typhoid, appendiculo-typhoid, early typhoid cholecystitis, nephro-typhoid, meningo-typhoid, and early typhoid psychoses). C, Anomalies in the temperature chart (rapid rise, inverted type, remittent type, sudden defervescence, intermittent type). D, Larval forms (apyrexial typhoid and ambulatory typhoid). In cases with sudden onset the serum test is usually positive from the beginning of the disease, whereas in ordinary typhoid it is usually negative at this stage. The early haemorrhagic syndrome is characterized by profuse epistaxis, haemorrhages from the mouth, intestine, kidneys, lungs, uterus, and skin, accompanied by a state of profound prostration. In some cases, however, the haemorrhages may be confined almost entirely to the skin. Frugoni has distinguished two special forms of war typhoid, namely, a bronchitic form characterized by an intense diffuse bronchitis, and a rheumatic form, with sudden onset, high fever, and diffuse pains in the joints and muscles. Three varieties of pneumo-typhoid are described by Mondolfo: (1) Pneumonia dominates the clinical picture at first; subsequently the characteristic symptoms of typhoid appear and the respiratory symptoms subside; (2) the symptoms of pneumonia and typhoid coexist from the onset; (3) the disease is dominated by the signs of pneumonia and the typhoid symptoms are latent. Appendiculo-typhoid is a form of the disease which commences with symptoms of appendicitis, while the ordinary manifestations of typhoid are absent. In such cases the following signs are in favour of typhoid as against appendicitis: indefinite localization of the pain in the right iliac fossa, absence of rigidity of the abdominal wall, a comparatively slow pulse in relation to the temperature, headache, stupor, albuminuria, and an enlarged spleen. The pain, which in appendicitis is spontaneous and most intense at McBurney's point, is more diffuse and less severe. Lastly, leucopenia is in favour of typhoid, while leucocytosis indicates appendicitis, though in exceptional cases appendicitis may not be accompanied by leucocytosis. The term "apyrexial typhoid" is used for cases of typhoid in which no rise of temperature has been observed throughout the disease, or in which fever has been absent during a certain time, or was so slight as barely to reach a subfebrile level. The other symptoms may appear and succeed one another as in ordinary typhoid, so that apyrexia is the only abnormal part of the syndrome. Sometimes the fever lasts only for a very brief period at the onset, and the disease subsequently runs its course without fever. The cause of apyrexial typhoid is not yet explained. The hypothesis of an attenuated infection may be rejected, or at least it does not explain severe or fatal

cases. The view which appears to be supported by experimental and clinical evidence is that the apyrexia depends in some cases on the gravity of the toxic infection. Thus, in Rodano's cases the apyrexia coincided with an aggravation of the disease, which ended fatally. Experimentally it has been shown that while moderate doses of the typhoid bacillus cause a rise of temperature, higher doses produce hypothermia.

316. Vincent's Angina Simulating Tonsillar Chancre.

G. CORNAZ (*Rev. méd. de la Suisse rom.*, December, 1919) reports the following case: A man, aged 26, developed an ulcer the size of a five-franc piece on the inner side of the right cheek. The floor of the ulcer was sanious, its base infiltrated, and the corresponding submaxillary glands enlarged and tender. The temperature was normal. The ulcer healed in nine days with applications of tincture of iodine and hydrogen peroxide gargles. A fortnight afterwards the patient developed a similar ulcer on the right tonsil. On admission to hospital eleven days later the tonsil was red, infiltrated, and showed an ulcer, the size of a franc, covered with a diphtheroid deposit. There was a hard and almost painless enlargement of the submaxillary glands. The left tonsil was normal. Temperature 97.8°. The appearance of the lesion, its unilateral position, and the patient's history suggested at first a hard chancre of the tonsil. The *Spirochaeta pallida*, however, was not found on examination with the ultramicroscope, and the Wassermann reaction was negative; but a smear stained with carbol-fuchsin showed Vincent's fusiform bacilli and spirilla. The patient was given an intravenous injection of novarsenobenzol (0.45 gram), and the next day showed great improvement. Two local applications of arsenobenzol and a second injection (0.45 gram) were given, and in five days the ulcer completely disappeared.

317. Neo-salvarsan in Syphilitic Disease of the Heart and Aorta.

K. KOTHNY and A. MÜLLER-DEHAM (*Wien. klin. Woch.*, January 22nd, 1920) have studied the effect of neo-salvarsan in heart disease over a period of seven years, and have come to the conclusion that, provided the patient's general condition is sufficiently good, every case of syphilitic disease of the aorta should be treated with neo-salvarsan, the drug to be given at first in small doses only. They combine this cautious dosage of neo-salvarsan with mercury and iodides. The doses of neo-salvarsan which they recommend are as small as 0.05 to 0.075 gram. These minute doses are increased gradually, as they find the patient tolerates them satisfactorily. Except in the earliest series of cases, they gave the drug by intravenous injection, diluted in 4 to 10 cm. of freshly distilled water. The injections were repeated at intervals of three to four days, and the dose of a single injection never exceeded 0.45 gram. After a total of 1.6 to 2.4 grams of neo-salvarsan had been given, a course of mercury was prescribed, and this again was followed by another course of neo-salvarsan controlled by Wassermann tests. The authors' *casuistik* (16 cases) runs to several columns.

318. The Reinforcement of Quinine by Fluorescent Substances.

S. RUSZNYÁK (*Wien. klin. Woch.*, January 1st, 1920) states that various observers have shown that in the light different substances possess a well marked catalytic action or high degree of toxicity which in the dark is either completely absent or much less in degree. A peculiarity of these substances, to which quinine belongs, is the possession of fluorescence. Although Tappeiner and Ziemann independently found that fluorescein had no demonstrable action on the course of malaria, it occurred to Rusznyák that the action of quinine might be reinforced by fluorescent substances. He therefore gave 35 cases of malaria, which had proved resistant to quinine, subcutaneous injections of fluorescein or eosin (0.01 to 0.06 gram in saline solution). An immediate fall of the temperature to normal took place in 28, and out of 25 cases which had relapsed during quinine treatment 20 reacted in the same way, so that out of 60 cases only 12 failed to react. Rusznyák admits that these results must be taken with considerable reserve, partly owing to the small number of the cases and partly owing to the tendency of febrile paroxysms, especially in chronic malaria, to cease spontaneously. The fact, however, that the subsidence of the febrile attacks so frequently coincided with the injection of the colouring matter induced him to publish his observations, which were supported experimentally by the synergy shown *in vitro* to exist between quinine and eosin or fluorescein.

SURGERY.

319. The Treatment of Influenzal Empyema.

A. SABROE (*Ugeskrift for Laeger*, January 15th, 1920) notes that influenzal empyema differs in many respects from the ordinary pneumococcal empyema. The latter reacted satisfactorily to surgical treatment; the temperature fell to normal soon after drainage was established, and the further course of the case was uneventful. But the empyema of influenza ran an erratic and capricious course, the temperature exhibited fluctuations suggestive of new complications, and the duration of the fever was often protracted. In spite of this, the patient's appetite was often uniformly good; albuminuria, digestive disturbances, and the other common accompaniments of hyperpyrexia were conspicuous by their absence; and the cheerfulness of the patient was maintained to a surprising degree. All but four of 94 cases were operated on. In children simple pleurotomy was performed, and only in a few was this operation supplemented by resection of rib. In adults, however, resection of rib was the rule, the bone being removed without injury to the pleura. As the clumps of fibrin found in influenzal empyema were often large enough to obstruct a catheter, a comparatively thick drainage tube, fitted with a cuff, was used and connected with the aspiration apparatus. All the 17 cases terminating fatally showed signs of bronchopneumonia, atelectasis, and degenerative changes in various organs.

320. The "Normal" Appendix.

WILLIAMS and SLATER (*Annals of Surgery*, 1919, 70) recount the condition of the appendix in 500 consecutive laparotomies on patients presenting no symptoms of appendicitis. One-third of these patients showed changes in the appendix although all the cases were clinically "mute." In about one-third of these diseased appendices there was inflammation in the adnexa, so that it is fair to assume that the pathological processes in the appendix were secondary—infection from without. In 100 cases there was no such trouble, and the appendicitis can be considered as spontaneous. The authors mention that pericaecal veils were common, and they evidently regard these as evidence of appendicular disease, a belief in which they will be joined by few. The only appendices which can be regarded as definitely diseased are those with round cell infiltration or fibrosis of their walls, complete or partial, or obliteration of the lumen. The absence of definite figures on this point detracts from the merit of their work. A more careful study of this subject would be most instructive.

321. Foreign Bodies in the Brain.

AFTER discussing this subject and illustrating it with several drawings, F. DEMMER (*Wien. klin. Woch.*, January 15th, 1920) concludes that it is exceptional for a foreign body in the brain to become firmly encapsuled in fibrous tissue. On the other hand, it is common to find cyst formation about an aseptic foreign body, an encephalomalacic focus about an irregular aseptic foreign body, and encephalytic softening about a septic foreign body. He regards as absolute indications for operation (1) a recent wound, with the brain exposed, and (2) alarming symptoms at a later stage. The indications for operation are uncertain when the manifestations of the injury are limited to purely subjective symptoms, and when these do not afford trustworthy data. In these doubtful cases the author recommends a variety of functional tests, which should not be carried out till six to nine months after the injury. These tests are both mental and physical, and, in conjunction with lumbar puncture, they may be reliable enough in some cases to convert an uncertain into a certain indication for operation.

322. Stimulation of Backward Growth by X Rays.

WHILE studying the relations of the growth in length and ossification of the bones of the hands to the age of the child, E. STETTNER (*Muench. med. Woch.*, November 14th, 1919) found that by deep irradiation it was possible to stimulate ossification even when it was very backward, and to reduce the difference from the normal from years to within a few months. The investigations suggested that the occurrence of centres of ossification bore a relation to the development in length of the child and to its social status. Within a definite group the sequence in the appearance of the centres of ossification was found to be so constant that variations might be regarded as pathological. In many cases the frequency of delay in growth may be attributed to constitutional anomalies, disease, or disturbance of the glands of internal secretion.

323. Perforation of Typhoid Ulcers.

U. ARCANGELI (*Il Policlinico*, Sez. Prat., January 5th, 1920) has collected 49 cases of typhoid fever which were operated on for perforative peritonitis, with a recovery rate of 38.7 per cent. Ten in whom the operation was performed within the first nine hours recovered; of 20 operated on within twelve hours 15 recovered; of 20 operated on between twelve and twenty-four hours only 2 recovered; and those in whom the operation was performed later all died.

324. Malarial Orchitis.

E. VECCHIA (*Il Policlinico*, Sez. Prat., January 5th, 1920) records a case of malarial orchitis in an Albanian native, aged 16, suffering from malignant tertian fever. All other causes of orchitis, such as gonorrhoea, mumps, syphilis, and tuberculosis, could be excluded, and immediate subsidence of the inflammation followed intravenous injection of quinine, the testis regaining its normal size in two days.

325. Chronic Appendicitis due to Small Shot.

M. GRAEFFE (*Muench. med. Woch.*, November 14th, 1919) records a case of a woman, aged 43, who had been married twenty years and given birth to two children. She had had attacks of what was supposed to be oöphoritis eighteen and nine years previously. When seen by Graeffe she presented symptoms of appendicitis. At operation an abnormally long and inflamed appendix was found. The right ovary had undergone cystic degeneration, and the corresponding Fallopian tube showed much inflammatory thickening. On opening the appendix twelve small shot were found. The husband was a hunter, and had been in the habit of bringing his wife game every year since their marriage. It seemed probable, therefore, that the shot had not entered the appendix all at once, but on several different occasions. Graeffe thinks that both the supposed attacks of oöphoritis from which the patient had previously suffered were really attacks of appendicitis caused by the entrance of the shot into the appendix.

326. Treatment of Affections of the Vitreous.

ZUR NEDDEN (*Med. Klinik*, November 23rd, 1919) points out that infections of the vitreous following penetrating wounds are the most formidable of all eye diseases because they threaten the existence of the eye. Panophthalmitis, with shrinking of the eyeball, is usually the outcome of such cases. Pneumococcal or streptococcal infection, which forms the largest percentage of these cases, has hitherto defied all treatment. In experimental investigations on the presence of bactericidal substances in the eyes of non-immunized persons zur Nedden had found that the bactericidal substances in the blood, which normally are not present in the vitreous, pass into it after it has been punctured. Experiments on rabbits then showed that infection of the vitreous is sometimes cured if early and repeated puncture is performed. In the first trials of puncture of the vitreous in the human eye the infection had been present too long, and was so extensive that preservation of the eye was no longer possible. In two cases, however, in which the puncture was performed early the result was very satisfactory, very good visual acuity being recovered. In other affections of the vitreous which were not of an infective nature but the result of disease of the retina and choroid, and were manifested by dense opacities, excellent results were obtained by puncture. The effect of treatment was seen not only in the vitreous but also in the tissues which were the cause of the vitreous opacities. This is explained by the curative action of the hyperaemia of the uvea caused by the puncture.

327. Auto-Serotherapy in Cancer.

C. LEWIN (*Berl. klin. Woch.*, December 29th, 1919) records the case of a married woman, aged 44, who in the winter of 1915–16 noticed a swelling in the right axilla. Later, a swelling in the right breast was detected. In April, 1916, the breast was amputated, and the right axilla cleared of enlarged glands. The microscopic report was carcinoma simplex. In 1917 nodules formed in the operation scar. These were excised, and *x*-ray treatment was prescribed, but metastases developed in the right axilla and orbit. Late in 1918 ascites developed, the fluid being serous and clear. In May, 1919, auto-serotherapy was instituted, 10 to 20 c.cm. of the fluid being injected subcutaneously without complete withdrawal of the needle employed to aspirate the ascitic fluid. Later, the dosage was increased to 15 or 20 c.cm. given two or three times a week. In June, 1919, as much as 3½ litres of fluid were drawn off, and tumours as large as a fist could subsequently be detected in the abdomen. By September fresh nodules had developed in the chest, but from this date definite improvement began. Early in October the ascites had disappeared, and the abdominal tumours could no longer be felt. Clinically there was no longer any sign of cancer, and the patient's appetite and general condition were excellent. Professor Lewin refers briefly to another case of cancer treated in the same way and with the same striking results.

328. Treatment of Lupus Vulgaris.

L. FREUND (*Deut. med. Woch.*, December 11th, 1919) recommends a combination of excision and *x*-ray treatment for lupus vulgaris. If the case is suitable for treatment—that is, if the focus is circumscribed and the disease has not invaded the adjacent mucous membrane—the affected area is excised under local anaesthesia, and one or two days later an erythema dose of *x* rays is applied to the wound. Irradiation of six minutes' duration is continued for seven or eight days in succession. As a rule it will be found that the skin wounds caused by excision heal more rapidly when treated by *x* rays than without this procedure. The method is simple and is stated to produce rapid and cosmetically satisfactory results.

OBSTETRICS AND GYNAECOLOGY.

329. Artificial Rotation of the Head in Persistent Occipito-posterior Positions.

LAMOND LACKIE (*Edin. Med. Journ.*, March, 1920) considers that in four out of every five cases spontaneous rotation occurs and the labour terminates naturally, but in the fifth case the occiput does not rotate at all or does so into the hollow of the sacrum. For the proper management of occipito-posterior positions an absolutely accurate diagnosis must be made, and in some cases an anaesthetic is necessary for this purpose. As long as progress is being made, and not too slowly, the case may be left to Nature; but if hours pass and the head remains high up and the pains become weak, the whole hand should be introduced beyond the head, and, the membranes being ruptured, the fingers reaching a shoulder rotate the whole child on its longitudinal axis with the help of the left hand acting through the abdominal wall if necessary. After allowing a short time for moulding of the head, forceps are applied and easy delivery effected. The more frequent condition, however, is that in which the position is not diagnosed till the second stage of labour is entered upon, and the head is more or less fixed at the brim or in the cavity of the pelvis. The usually recommended treatment of promoting flexion by pressing up the sinciput during a contraction is useless. If the procedure recommended during the first stage fails to remedy matters the head must be rotated into an anterior position by one hand whilst the other, acting through the abdominal wall, attempts to rotate the shoulders. If this manipulation fails forceps should be applied, pushing back the head gently, and the handles should be carried round in a large circle. Once the occiput occupies an anterior position a little traction should be exerted so as to fix the head and prevent it returning to the original position. The forceps are then removed and reapplied and traction is used. There must be no traction during rotation, and every possible manœuvre should be adopted to rectify the malposition before resorting to brute force in delivering the head. The author regards the method as a perfectly safe one, and considers that the results obtained from it are wonderful.

330. Oedema of the Larynx in Pregnancy.

S. PUSATERI (*Il Policlinico*, Sez. Prat., February 2nd, 1920) states that the prognosis of acute oedema of the larynx in pregnancy should be very guarded, and that the death of both the mother and the fetus is to be feared. He considers that in such cases it is justifiable to empty the uterus at once, with the double object of saving the life of the fetus and of improving the mother's general condition and laryngeal affection. He records a case of oedema of the larynx secondary to scarlatinal angina in a woman aged 30, in the ninth month of her third pregnancy. Induction of labour was refused until after the death of the fetus, when it failed to relieve the dyspnoea. Intubation followed, and tracheotomy was then performed, with some relief to the patient, but death took place the same day.

PATHOLOGY.

331. Spirochaetes in the Urine of Guinea-pigs.

R. SIGALAS (*Gaz. hebd. des Sci. Méd. de Bordeaux*, February 1st, 1920) recently found a spirochaete closely resembling the *Spirochaeta icterohaemorrhagiae* in the urine of a guinea-pig which had neither been inoculated itself nor in contact with inoculated animals. The organism was also obtained by direct aseptic puncture of the bladder after death. No lesions of spirochaetosis icterohaemorrhagica were found in the organs, and smears of the liver, kidneys, and suprarenals were negative. The presence of the spirochaete in the guinea-pig apart from inoculation shows that experiments made on this animal in the study of the spirochaetoses require careful interpretation.

332. Ictero-haemorrhagic Spirochaetosis and the Rat.

INVESTIGATIONS made in Japan, France, and elsewhere into the relation of the rat to ictero-haemorrhagic spirochaetosis have been supplemented by observations made by UHLENHUTH and ZUELZER (*Med. Klinik*, December 31st, 1919). Among 89 wild rats (*Mus decumanus*) caught in different parts of Berlin they succeeded in demonstrating the *Spirochaeta icterogenes* in the urine or kidneys of 9. The rats were apparently healthy, and in 8 of the 9 infected animals no morbid changes could be detected *post mortem*. In the ninth case there were haemorrhages into the lungs—a condition already observed in rats in the trenches in France, where ictero-haemorrhagic spirochaetosis was epidemic. The immunity to this disease hitherto enjoyed by Berlin is, in the authors' opinion, more apparent than real, and they suggest that it has often been overlooked and diagnosed as simple catarrhal or other form of jaundice. Though the infection seems to be latent in rats the spirochaete is pathogenic to mice and guinea-pigs. Strains from the rat conformed in essentials to the characteristics of strains obtained from man, except that the latter were somewhat more virulent for mice and guinea-pigs. An immune serum, prepared from rabbits, protected the experimental animals from both strains—an observation pointing to the identity of the two strains.

333. The Streptococci of War Wounds.

PRUVOST (*Paris méd.*, February 21st, 1920) found that he could divide the streptococci found in wounds into two classes—(1) pathogenic streptococci from serious febrile cases, (2) streptococci that did not give rise to any untoward general condition. The former were generally but not invariably haemolytic; they occurred in regular chains with elements of uniform size. The latter were usually but not always non-haemolytic; they were composed of irregular chains the elements of which varied in size and shape, and were generally less fragile in culture. When a prompt opinion as to the nature of the streptococcus present was demanded in order to decide on the closure or otherwise of the wound, reliance could be placed on this irregularity in the size of the constituent elements of the non-pathogenic streptococcus. The latter organism may be regarded as an enterococcus. No reliance can be placed on the length of the chains, as this varies widely in a single culture.

334. Tissue Grafts from Immunized Animals.

MÜLLER (*C. R. Soc. Biol.*, February 21st, 1920) has sometimes succeeded in grafting pieces of normal tissue in other animals of the same species. Small minced fragments of various organs were injected intraperitoneally, and these in some cases survived and established vascular connexion with the host. Of particular interest are his experiments with the tissues of guinea-pigs immunized against sheep corpuscles. He injected into fresh animals portions of the spleen, omentum, bone marrow, or thyroid gland. Fifteen days afterwards the haemolytic power of the serum of the hosts was tested and was found to be quite appreciable, being about 1 in 80 in the case of the omentum grafts, 1 in 60 for the spleen grafts, and 1 in 25 for the bone marrow grafts. The acquired haemolytic power persisted for a considerable time, and when it diminished eventually it could be restored to more than its original titre by a single injection of sheep corpuscles. The author holds that there is a true secretion of antibodies by the organs transplanted.

335. Bacteria of the Conjunctiva in Dacryocystitis.

L. BETTI (*Il Policlinico*, Sez. Prat., January 12th, 1920) has studied the bacterial contents of the conjunctiva in 82 cases of dacryocystitis, and has come to the conclusion that while the micro-organisms found in the conjunctiva of individuals with chronic suppuration of the lacrymal sac are usually the same as those in the normal conjunctiva, the frequency with which they are present varies considerably. As a general rule, pathogenic micro-organisms—for example, the pneumococcus—are much more frequent in cases of dacryocystitis, while micro-organisms deprived of pathogenic qualities and saprophytes, such as the *Staphylococcus albus* and *Bacillus xerosis*, are more frequent in the normal conjunctiva.

336. Culture of Gonococcus.

MORINI (*Rif. med.*, January 3rd, 1920) speaks very favourably of a mixture of gelatin and yeast as a culture medium for the gonococcus. He says it is easy to prepare and gives certain results, and in it the gonococcus preserves its morphological characteristics in an accentuated form. It is prepared by adding the yeast dissolved in sufficient distilled water (a few cubic centimetres is enough) to 55 c.cm. of gelatin. The preparation is slightly acid. Good growth can be seen in three or four days. By occasional shaking of the tube and the addition of oxygen the growth can be preserved for a month. After an interval of thirty-six to forty-eight hours abundant typical diplococci can be seen when observed under the microscope. The presence of other organisms does not interfere with the growth of the gonococcus.

337. The Haemic Basophil Cell.

GRAHAM (*Journ. Exper. Med.*, February, 1920) reviews our knowledge of the basophil or mast cell of the blood, and describes his benzidine-thionin method of staining, which he employed in fresh films from a considerable series of cases of myeloid leukaemia. The haemic basophil cell is usually considered to be derived from the bone marrow, and to be the complete homologue of the neutrophil and eosinophil leucocytes, from which it differs only in the basophil staining reaction of its granules. These differences are that the basophil granules do not stain brown with benzidine, are soluble in water, and are resistant to drying, heat, and to the action of acids and alkalis. As compared with the neutrophil and eosinophil granules they are chemically more stable while biologically inert; and the basophil cells appear to be devoid of any functional activity comparable with that of the neutrophil and eosinophil leucocytes. All the stages of conversion of granules staining with benzidine into those incapable of so doing are seen, and the conclusion is reached that the basophil is a degenerated or degenerating cell, probably derived from the eosinophil, and perhaps in rare cases from the neutrophil cells.

338. Blood Platelets in Immunity.

GOVAERTS (*C. R. Soc. Biol.*, February 21st, 1920) found that in a mixture of physiological saline solution, bacteria, and washed blood platelets no precipitation occurred, but the mixture remained quite homogeneous. With fresh serum, however, instead of saline, the bacteria attached themselves to the platelets rapidly, precipitation occurred and the fluid cleared. If the serum was heated to 60° C. for half an hour no precipitation occurred. There must therefore be some thermolabile factor in serum which permits the attachment of the bacteria to the platelets, and consequent precipitation. If the bacterial emulsion is impregnated with fresh serum left in contact with it for half an hour at 37° C. and the bacteria are subsequently separated by centrifugalization, washed, and suspended in saline or heated serum, there is an immediate attachment of bacteria to platelets and a precipitation. Again, if the suspension of bacteria is left in contact with fresh serum for fifteen minutes and the mixture then heated to 60° C. the property of attachment of bacteria to platelets is still retained. The experiment proves that the attachment of bacteria is not due to the agglutination of platelets amongst themselves, and the conclusion is drawn that the rapid elimination of bacteria introduced into the circulation is brought about by the attachment of the organisms to the platelets, a phenomenon parallel to phagocytosis. This work would seem to supply an argument in favour of the rôle of blood platelets in natural immunity.

339. Presence of Certain Bodies in Typhus.

G. FICAI (*Il Policlinico*, Sez. Prat., February 2nd, 1920), on histological examination, found in the epithelial cells of the stomach of infected lice and in the brain of infected guinea-pigs and typhus patients round bodies of various sizes. The largest which were present in the human brain were extracellular, those of moderate size were in a few cases intracellular, pericapillary, and intracapillary. Examination of the brain of persons who had died of other diseases failed to reveal similar findings. Ficai regards any discussion as to the nature of these bodies as premature at present.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

340. The Prognosis in Influenzal Pneumonia.

V. BIE (*Ugeskrift for Laeger*, February 5th, 1920) has investigated 1,653 cases of influenza, for the most part complicated by bronchopneumonia or bronchitis. He tabulates his material with a view to demonstrating the effect of heart disease on the course of influenzal pneumonia and the prognostic significance of the four most important criteria—urine, temperature, pulse, and respiration. Of the 96 adults dying of pneumonia on whom a necropsy was performed, 27 (or 28 per cent.) proved to have suffered from heart disease, which in 13 cases took the form of mitral insufficiency. There were also many cases in which heart disease was diagnosed before death, and in some of these the diagnosis was confirmed by necropsy. Altogether there were 55 cases of combined heart disease and pneumonia, the mortality being 56 per cent. The mortality among adults suffering from pneumonia without heart disease was only 21 per cent. Albuminuria occurred in 29 per cent. of the cases of pneumonia, and only in 4 per cent. of the cases without pneumonia. The mortality among the cases of pneumonia complicated by albuminuria was 35 per cent., uncomplicated by albuminuria it was only 12 per cent. This comparison would have been still more unfavourable to the subjects of albuminuria had all the patients who died soon after admission to hospital, before the urine could be examined, been included in the analysis. This also showed that the height of the temperature on the patient's admission to hospital is of no prognostic value. Nor could any clue to the prognosis be found in the relation of the morning to the evening temperature. The prognostic significance of continued or intermittent fever was also dubious. The pulse rate, however, proved of greater prognostic value; whatever the condition of the temperature a slow pulse was a good, a rapid pulse a bad, sign. Among the fatal cases the pulse was on the average 109–110 on the patient's admission to hospital, whereas the average among the recoveries was, on the patient's admission, 100 for those with a temperature of 40.5° C. or more, and 95 for those with a temperature of 38.9° C. or less. But the most trustworthy prognostic sign of all proved to be the respiration. If it was 40 or more it was bad, if it was 35 or less it was comparatively good.

341. Congenital Abnormal Mobility of the Heart.

C. HESSELGREN (*Hygiea*, 1919, lxxxi) records the case of an infant liable to attacks of dyspnoea and cyanosis, especially on emotion. These attacks were first noticed when the child was a fortnight old, but seem to have passed off at the age of 3½, by which time the boy presented a fairly normal colour; he became a little livid after a severe attack of coughing, but presented no detectable abnormality of the heart. Hesselgren first saw him when he was 8 months old. He was a small child, livid in colour and bronchitic, but with normal cardiac sounds and no cardiac murmur. Examination of the chest with the *x* rays showed that the heart readily shifted from side to side; skiagrams are reproduced to illustrate this, and exhibit about four-fifths of the shadow cast by the heart and aorta alternatively to the right or the left of the middle line. On one occasion when the heart was very much to the right, turning the infant on to the left side did not cause the cardiac shadow to move to the left. The lungs, diaphragm, and mediastinum showed no abnormality to account for the unusual mobility of the heart, which is attributed by the author to a persistence of the mobility normal during part of fetal life. He considers also that this heart doubtless suffered from some intracardiac congenital defect, undiagnosable for want of any abnormality in the cardiac sounds; the child's fingertips were normal in shape, and it is noted that the lungs were very prone to bronchitis throughout. Hesselgren believes that the abnormal mobility of the heart passed off during the child's second year, but this point is not made quite clear.

342. Pernicious Anaemia in a Child.

MARINUCCI (*La Pediatria*, November, 1919) records the case of a child, aged 17 months, whose illness started two months before with vomiting and diarrhoea, lasting about a fortnight and rapidly followed by increasing pallor. On admission, the child was very anaemic, and showed the following blood condition: haemoglobin 20 per cent., red corpuscles 680,000, white 12,320, colour index 1.47, neutrophiles 26 per cent., eosinophiles 4 per cent., lymphocytes 63 per cent., large mononuclear 3 per cent., myelocytes 1 per cent.; marked anisochromia, poikilocytosis, giant cells and microcytes. There was no enlargement of spleen or liver, and no other visceral change. Puncture of the tibia showed definite changes in the bone marrow. The Wassermann test was positive both in mother and child. In the author's experience most cases of pernicious anaemia in children occur in syphilitic or tuberculous subjects.

343. The Action of Hypodermic Injections of Sugar.

ZAGARI (*Rif. Med.*, November 3rd, 1919) gives the results of a series of experiments on thirty adults. He prepared an isotonic solution of glucose of the strength of 47 grams to 1,000 c.cm. of distilled water and injected slowly into the subcutaneous tissue from 500 to 700 c.cm., according to the tolerance of the patient. In a good many cases this caused a local erythema which was slightly painful, but passed off at the latest in two or three days. Occasionally it produced a general reaction with some pyrexia, appearing only after the first injection, and on the second day a decided increase in voluntary muscular work (as estimated by Mosso's ergograph) was observable after injection, becoming more marked after each injection, and disappearing ten days after injection. Reflex excitability was diminished and muscular tone increased; the muscular force was hardly affected, and the blood pressure only very slightly. Diuresis was notably increased; this diuretic effect could be observed for some days after the injections were discontinued.

344. Gastric Ulcer in Pulmonary Tuberculosis.

CORDIER and BARBIER (*Lyon méd.*, January 10th, 1920) record the case of a woman, aged 28, who had reached the last stage of pulmonary tuberculosis, when one morning she suddenly vomited nearly a litre of blood and died. *Post mortem* the lungs were full of cavities, but showed no haemorrhage. On examination of the stomach, however, a punched-out oval ulcer was found near the lesser curvature. The patient had never complained of gastric pain or digestive disturbance. The latent character of the ulcer suggested that it was tuberculous, but on histological examination no evidence of tuberculous formation could be found.

315. Vaccine as a Prophylactic against Influenza, and Local Reaction as a Guide to Immunity.

GREELEY (*Med. Record*, October 11th, 1919) records the effects of a vaccine made by him which included seventeen strains of the Pfeiffer bacillus from as many different cases. The vaccine was grown on blood-agar, washed off in saline, heated for an hour at 60° C., standardized at 2,000 million bacilli in each cubic centimetre, and preserved with 0.5 per cent. phenol. The dosage recommended was—first dose 0.25 c.cm., second 0.5 c.cm., and third 1 c.cm. at intervals of from two to three days. From a large number of children and adults it was noted that the reactions, both local and general, were more severe in those who had not been already immunized by a recent attack of influenza bacillus catarrh, and no case of influenza occurred after the prophylactic vaccine had been given. By observing the local effects of a dose it was possible to determine whether the individual possessed any immunity against influenza, and the severity or otherwise of such reactions afforded an approximate guide to the degree of immunity. The experience showed that vaccine made of a mixture of different strains of the influenza bacillus had a definite protective value in those not already immune.

246. Abortive and Early Treatment of Influenza.

A. MAYER (*Med. Klinik*, December 28th, 1919) has found the following combination of drugs, given for two or three days, act almost as a specific in influenza: Equal parts of phenacetin, aspirin, and salipyrin (0.3 to 0.4 gram) and morphine 0.01 to 0.02 gram. To simplify the wholesale prescription of this combination in time of epidemic he gives it in tablet form according to the following formula: Phenacetin, acid. acetyl. salicyl., salipyrin, āā 0.15 gram, morph. mur., 0.005 gram. Two tablets are given three times a day. Combined with frequent gargling with

hydrogen peroxide, this remedy soon provoked profuse sweating, fall of temperature, and disappearance of nervous symptoms. The common complications of influenza did not occur, or, if already present in the form of pleurisy and severe nervous prostration, they soon reacted satisfactorily to this treatment. The inclusion of morphine in the prescription proved of great value in respect of symptoms referable to the bronchi. The author admits that his cases were not numerous enough for the value of this treatment to be judged by a statistical analysis.

347. A Sign of Impending Death.

O. RÜDEL (*Muench. med. Woch.*, December 5th, 1919) has a note on the cadaveric odour in the expired air when death is impending. In order to detect it the observer must bend his head over the patient's chest as in auscultation, so as to come as close to his mouth as possible, as the odour is not perceptible half a metre away. It is not noticeable on inspiration. An exact description of the smell is difficult, but it most closely resembles that of bodies in which death has recently taken place. The interval between the time it is first noticed and the occurrence of death varies from a few hours to a day and a half. The sign is not present in all moribund persons, nor does it occur in any particular diseases or any particular type of patient, but it appears to be most frequent in suppurative processes. Rüdel found it in vigorous individuals in whom tuberculous meningitis or appendicitis was the cause of death, and often failed to find it in long-drawn-out agonies even twelve hours before death. He concludes that if the sign is present death is certain to occur within the next forty-eight hours, even if the patient's condition is apparently satisfactory, while if it is absent direct danger to life is unlikely within the next six to ten hours.

348. Inhibition of Diuresis by Digitalis.

A. JARISCH (*Berl. klin. Woch.*, December 29th, 1919) finds that though there are a few scattered and rather general observations published with regard to the inhibitory action of digitalis on diseased kidneys, the problem has not been exhaustively studied. It can best be elucidated, in his opinion, by meticulous care in studying every sign and symptom in isolated cases, and he proceeds to give a long account of a case in which these conditions were fulfilled. Summarizing, he notes that his findings coincide with those of A. W. Meyer, and that in the early stages of granular kidney therapeutic doses of digitalis inhibit diuresis, while minute doses promote it. He associates this phenomenon with an increased excitability of the vasomotor mechanism of the kidneys.

SURGERY.

349. "Silver Salvarsan" in Syphilis.

H. BOAS and A. KISSMEYER (*Ugeskrift for Laeger*, February 5th, 1920) report on their experiences with "silver salvarsan," 400 tubes of which they received from Kolle, Ehrlich's successor, for clinical investigation. In their opening remarks they note that during the past year silver salvarsan has become very popular in Germany, where it is usually given without any mercurial treatment to supplement it. The arsenic content of this new preparation is barely two-thirds that of old salvarsan. The authors gave it in sixty-two cases of syphilis in every stage, but they did not trust it enough to dispense with a supplementary course of mercury. The drug provoked fewer complications than any other of the salvarsan group, and the high febrile reaction observed in only three cases did not last more than a couple of hours. The effect of the drug on the symptoms was greater than with intravenous injections of salvarsan, and was equal to that of intramuscular injections of salvarsan. Not infrequently Herxheimer's reaction was observed, the cutaneous manifestations showing an acute exacerbation a day after an injection. One patient, who gave a negative Wassermann reaction and who had received no mercury, exhibited a chancre in which numerous spirochaetes were demonstrable immediately before the injection of 15 cg. of silver salvarsan. Twenty-four hours later the spirochaetes had completely disappeared, a phenomenon observed also with other salvarsan preparations. The authors conclude that the action of silver salvarsan does not differ from that of the other members of this group; it is effective in early cases, comparatively inert in cases of old standing. They have seen no serological or clinical relapse, but they admit that the observation period was too short for an opinion to be given as to the durability of their results. The greater solubility of silver salvarsan, as compared with old salvarsan, marks a definite advance.

350. A. KORSBJERG (*Ugeskrift for Laeger*, February 5th, 1920) has given 310 injections of "silver salvarsan" in 32 cases of syphilis since July, 1919. He was so impressed by the results in his earlier cases that he abandoned the simultaneous administration of mercury, and in 29 of his cases no mercury was given. The effect of the intravenous injections on the patient's general health was excellent. None lost weight, and the average gain of weight was 2,320 grams. Though he selected chiefly severe cases with a variety of symptoms, so as to put the drug to a searching test, and though the disease was in its first stage in six cases only, yet practically every symptom had vanished after a fortnight's treatment. The serological results were also strikingly satisfactory. The author had originally intended to follow up the intravenous injections with a course of mercury, but their effect was so complete that he decided to dispense with the mercury. But as he cannot exclude the possibility of late nervous implication, he advocates the use of potassium iodide together with the silver salvarsan.

351. Surgical Renal Tuberculosis.

BRAASCH (*Amer. Journ. of Med. Sci.*, January, 1920), from observations upon 532 persons operated upon for renal tuberculosis, considers that the most important factors affecting prognosis are age, sex, coincident tuberculosis in other tissues, duration of symptoms, degree of involvement of bladder and kidney, and bilateral renal disease. Occurring most frequently between the ages of 20 and 40, males are affected twice as frequently as females, and the post-operative mortality is higher in males. In children the condition is usually part of a general tuberculosis rather than surgical. In about 75 per cent. of the patients, if not in all, evidence exists of tuberculosis in other tissues, but multiple lesions do not necessarily render the prognosis more unfavourable, and the post-operative mortality is not higher than the general average. In at least one-third of the patients there is evidence of healed pulmonary tuberculosis, and among these the percentage of recovery is above the average, indicating increased powers of resistance. Five per cent. showed coincident active pulmonary tuberculosis, more than 60 per cent. recovering after nephrectomy, and in at least 73 per cent. of the male patients the genitalia were involved, though this did not appear to affect the ultimate recovery. The spontaneous healing of lesions in the prostate and seminal vesicles contraindicates their removal by subsequent operation. Tuberculosis involving the bones and joints was noted in 6 per cent. of the cases, one-half of the lesions being active; the presence of such complications may be an index of increased resistance since the mortality was only 5 per cent., and the same applies to adenitis which was present in 6.4 per cent. of the cases. Active spondylitis while not favourable in prognosis does not contraindicate nephrectomy. The mortality among patients with marked bladder involvement is twice as great as with slight involvement. The degree to which the kidney is affected materially influences mortality, early lesions having the lowest and pyonephrosis the highest death rate.

352. Recurrent Dislocation of the Shoulder.

Il Morgagni (January 5th, 1920) discusses this condition, and refers to 187 cases collected by Seidel, in 30 of which a necropsy was allowed. Almost all the cases were subglenoid or subcoracoid. Most of the patients were middle-aged and had suffered many attacks, in some cases over a hundred times. The first was usually due to a fall. The chief pathological change found was dilatation of the capsule in the line of the dislocation. Probably the recurrence of the dislocations is partly due to weakness of the external rotators as a result of primary rupture, followed by subsequent distension of the capsule and a want of proper equilibrium between the various shoulder muscles. Attempts at cure have been made: (1) by limiting function; (2) by increasing mobility—for example, by excision of the head of the humerus; (3) by sewing up the capsule, advancing the external rotators, and division of the insertion of the subscapularis muscle.

353. Ocular Paralysis of Otic Origin.

CHÉRY (*Rev. méd. de l'Est*, February 1st, 1920) records a case of Bonnier-Gradenigo's syndrome, or ocular paralysis, following a lesion of the ear. The patient was a soldier, aged 30, who, as the result of a shell explosion, developed

a sero-purulent discharge from the left ear and severe left-sided headache. A radical mastoid operation was performed, but the headache persisted and the patient developed dimness of vision and diplopia. On examination he was found to have paralysis of the left sixth nerve and left optic neuritis. Gradenigo explains the occurrence of paralysis of the sixth nerve by the constant presence of basal meningitis, while the optic neuritis is readily explained by an infective origin. The occasional occurrence of paralysis of the superior rectus and other muscles supplied by the oculo-motor nerve is attributed by Bonnier to a relation between the oculo-motor and labyrinthine centres in the medulla in the region of Deiters' nucleus.

354. Hypertrophy of the Prostate.

N. CARRARO (*Il Morgagni*, Archivio, December 31st, 1919) summarizes as follows what every medical man should know about hypertrophy of the prostate: (1) The condition is not really a hypertrophy of the prostate but rather a tumour which originates in the subcervical glands in the urethra, and has only relations of contiguity with the prostate; (2) in prostatic subjects more attention should be paid to the severe renal lesions and symptoms of an infective character which inevitably occur than to the urinary symptoms; (3) the only method of radical cure is, he considers, Freyer's operation, which enables the bladder to be completely emptied, and ensures the proper working of the kidneys; (4) the operation is always indicated, and should not be postponed until the condition is too advanced, as the operative risk is always in proportion to the general condition of the patient.

355. Congenital Stricture of the Oesophagus.

J. LOVETT MORSE (*Amer. Journ. Dis. Child.*, February, 1920) records three cases of this condition. The first two were brothers, aged 6 years and 25 months respectively. The eldest child was breast-fed, and seemed well in every way until an attempt was made to feed him when he was 1 year old. It was then found that he could not take solids without vomiting. He was therefore nursed until he was 2½ years old. Since then he had been able to take liquids and soft solids but no solid food. Skiagrams showed an enlargement of the oesophagus at the level of the sterno-clavicular joint, and on oesophagoscopy an obstruction was found 6 in. from the incisor teeth and another constriction at 7 in. The stricture was dilated and the vomiting ceased. Further dilatation was considered necessary. In the younger child the vomiting had occurred four or six times a day ever since birth. A skiagram showed a narrowing of the oesophagus at its lower third, with dilatation above. A stricture was found, on oesophagoscopy, 17.5 cm. from the incisor teeth. Dilatation was considered inadvisable and gastrotomy was done. Death took place a week later. The third case was in a girl aged 3 years, who began to vomit soon after birth. The vomiting occurred immediately after food. There were long intervals in which she did not vomit milk or any other fluid food, but she always vomited solid food. Oesophagoscopy showed a stricture 7½ in. from the incisor teeth. There was no marked dilatation above the stricture. After eight months' treatment with bougies no further symptoms occurred.

356. Traumatic Cerebellar Haemorrhage.

MOLIN DE TEYSSIEU (*Gaz. hébd. des Sci. Méd. de Bordeaux*, February 15th, 1920) records a case in a man aged 39 who, a few days after a fall on the left side of the head, developed right hemiplegia, vertigo, and disturbance of equilibrium, with a tendency to fall to the left. Some improvement took place, and when the patient was last seen, six weeks after the accident, he was able to walk alone with the aid of a stick. This is apparently the first case on record in which cerebellar hemiplegia has been caused by traumatism, all the previous cases having been due to tumours or vascular lesions.

357. Recovery from Acute Haemorrhagic Pancreatitis.

L. MAYER (*Le Scalpel*, January 31st, 1920) records a case of acute haemorrhagic pancreatitis with necrosis in a man aged 53, in whom rapid recovery took place after operation. The diagnosis was facilitated by the following considerations: (1) Bulging of the epigastrium due to distension of the stomach, accompanied by a board-like resistance of the epigastric portion of the rectus muscles. (2) Infra-umbilical distension produced by distension of the transverse colon, which had been pushed downwards. A bilocular condition of the abdomen had thus been produced. (3) The extreme intensity of the pain, localized in the abdomen and radiating to the back and then throughout the abdomen. (4) The rapid occurrence of vomiting after the onset, associated with normal action of the bowels, excluded intestinal obstruction and perforative peritonitis. (5) The absence of fever, accompanied by a rapid pulse and signs of peritonitis, differentiated the condition from acute cholecystitis. (6) The presence of blue spots, which were observed at the umbilicus, has been noted in other cases, and was probably a trophic phenomenon due, like the pain, to irritation of the coeliac plexus. (7) The absence of glycosuria was not surprising, as the preservation of even a minute portion of pancreas may be sufficient to prevent diabetes.

358. Abscess of the Lungs in Infants and Children.

H. WESSLER and H. SCHWARZ (*Amer. Journ. Dis. Child.*, February, 1920) record fifteen cases of abscess of the lungs in children aged from 6 weeks to 8 years. Three of the cases followed aspiration of a foreign body, five tonsillectomy, and seven pneumonia or other inflammatory lung conditions. The situation of the lesion varied with the etiology. In post-operative abscesses and in the aspiration type of post-pneumonic abscess the disease was usually situated in the upper lobes. On the other hand, abscesses due to the aspiration of foreign bodies and the chronic bronchopneumonic type of bronchiectasis were usually found in the lower lobes. In their experience of more than thirty post-operative cases in children and adults the writers found that in about one-third recovery took place spontaneously, about two months after the onset. The prognosis was bad in the post-pneumonic cases, in which spontaneous recovery was rare. In cases persisting beyond two months the question of operation should arise.

OBSTETRICS AND GYNAECOLOGY.

359. Changes in Uterine Muscle during Involution.

BOUGET and NOEL (*C. R. Soc. Biol.*, March 6th, 1920) have studied histologically the phenomena accompanying the involution of uterine fibres. It is generally taught that the retractility of each element is accompanied by a certain degree of fatty change; there is no destruction of the fibres, still less a transformation into connective tissue. Recently some American observers put forward the idea that the fatty change was the result of intracellular autolytic processes, and the fatty matters, becoming extracellular, were taken up by the interfascicular connective tissue cells and by the decidual cells. Bouget and Noel, having examined by appropriate stains pieces of uterine muscle obtained at Caesarean sections, could not find the slightest trace of fat in the muscular fibres, and only very few and very fine droplets of fat in the connective tissue cells; but when they examined uterine tissue from a fatal eclamptic case twenty-one hours after delivery they found that all the connective tissue cells, interfascicular and intrafascicular, as well as the endothelium of the blood vessels, contained numerous fat droplets. There were no extracellular fat droplets. In the muscle fibres there were extremely fine granulations in some, though not in abundance. These depositions occurred in the perinuclear protoplasm. Having submitted a piece of fresh uterine muscle from a Caesarean section to autolysis for forty-eight hours, they could find no trace of fat in the muscle fibres. The absence of fat in the cells immediately before delivery, coupled with the absence of fat in the autolyzing tissues, would seem to rule out the theory that autolysis plays any part in the changes of involuting uterine muscle.

360. Treatment of Gonorrhoea with Hot Baths.

KAPFERER (*Wien. klin. Woch.*, January 29th, 1920) condemns the treatment advocated by Weiss, the principle of which depends on the facts that patients with high fever often make a remarkably good recovery from gonorrhoea, and that the gonococcus soon dies at a temperature of 40°C. or more. The author selected ten otherwise healthy women who were suffering from gonorrhoea for this treatment, which was supplemented by the usual local antiseptic treatment. They were immersed up to the chin in baths the temperature of which was gradually raised from 38° to 43°, and in a few cases to 45° or 46°. In several cases he had to abandon the treatment early because of the alarming symptoms provoked. One patient was comatose for several hours after the bath, with a blood pressure of 40 to 50 mm. of mercury. Violent biliary vomiting was frequent, and in two cases herpes labialis developed. The blood pressure, which was raised by 10 to 20 mm. during the bath, usually fell 15 to 40 mm. after it. No compensating benefits resulted, and the author regards this treatment as both dangerous and futile.

PATHOLOGY.

361. An Inagglutinable Form of Shiga's Bacillus.

BENIANS (*Journ. of Path. and Bact.*, February, 1920), having injected an ordinary agglutinable strain of Shiga's dysentery bacillus into the flank of a guinea-pig, succeeded in isolating from the resulting lump, two months afterwards, two different kinds of colonies, one being in all respects the typical Shiga bacillus and the other an organism with similar biochemical reactions but quite inagglutinable. The latter, on subsequent subculture, threw off from time to time agglutinable strains. The inagglutinable strain usually sedimented both in broth and saline; it failed to absorb agglutinin from a standard serum, and it also failed to produce agglutinin when injected into rabbits. The agglutinable daughter strains that it threw off from time to time absorbed agglutinins from standard serum and also produced agglutinins on injection. Both strains were highly pathogenic for rabbits, the inagglutinable apparently more so than the other. Rabbits immunized against either strain were protected against a lethal dose of the other strain. The interesting point about the experiments is that the immunity established by the injection of the inagglutinable strain did not show itself by any production of agglutinins or any other demonstrable serum antibody. Taken in conjunction with Besredka's recently published experiments Benians's observation casts grave doubt on the prevalent theory that serum antibodies are an expression of immunity to bacterial infections.

362. The Testing of Renal Efficiency.

MACLEAN and DE WESSELOW (*Brit. Journ. Exp. Path.*, February, 1920) call attention to the fact that albuminuria is much more frequently met with than has hitherto been recognized. Maclean had found in the examination of 50,000 apparently fit soldiers protein present in the urine of nearly 6 per cent., well marked albuminuria in over 2 per cent., and in nearly 2 per cent. casts of various kinds as well. This had nothing to do with training, for the incidence was even higher in 10,000 recruits. Thus albuminuria is often not incompatible with perfect health even in certain cases where it is known to have resulted from a previous attack of nephritis. The presence of very large amounts of protein, together with granular and epithelial casts in the urine, though indicating involvement of the kidneys, gives no information as to the extent of the capability of the kidneys to perform their normal functions. In severe cases of course the clinical condition itself may give all the information necessary, but often some method is needed whereby the clinician can estimate the efficiency of the kidneys. The authors have tried various dyes and other tests so extensively used in America, but have not found them satisfactory. They discovered, however, that when a large dose of urea was administered to a patient with defective kidneys the patient was incapable of excreting urine with a high urea concentration, and that the degree of concentration appeared to be in direct relationship to the involvement of the kidneys. Having applied the method in over 1,200 persons suffering from the effects of war nephritis, they are highly satisfied with the results. The patient having emptied his bladder is given 15 grams of urea dissolved in 100 c.cm. of water by mouth, and the urine is passed one hour afterwards. This sample, as well as one passed after two hours, is examined for its urea percentage by the ordinary hypobromite method. If the percentage of the urea exceeds 2, the kidneys may be taken as fairly efficient; if below 2, the condition is unsatisfactory, and the lower the concentration the more serious the lesion. Cases with a concentration lower than 1 per cent. are rare, but many moderately severe cases are unable to concentrate to more than 1.4 to 1.5 per cent.

363. Angioma of the Stomach.

LEMON (*Med. Record*, February 7th, 1920) records an example of this rare condition found in a patient who was operated upon under a diagnosis of cancer of the stomach. The tumour, lying in the fundus of the stomach, was irregular in shape, bluish-black in colour, rather soft in consistence, and measured 6 by 5 by 5 cm. It was surrounded by a fibrous capsule 1 to 2 mm. in thickness. The tumour lay between the mucosa and the serosa, but at places broke through the capsule and penetrated the surrounding structures. Bands of fibrous tissue split up the dark angiomatous areas and gave it an appearance not unlike an anthracotic lung. Microscopically it was a capillary haemangioma.

364. The Reaction of Culture Media.

MCINTOSH and SMART (*Brit. Journ. Exp. Path.*, February, 1920) draw attention to the extreme importance of a correct adjustment of the reaction of bacteriological media. The reaction of the medium in the case of pathogenic bacteria ought to correspond to that of the tissues. In titrating their media the authors have compared the readings of hydrogen-ion concentration obtained by using the hydrogen electrode method with those obtained by the colorimetric method in using certain indicators. They recommend specially thymolphthalein in preference to phenolphthalein in titration as it gives a sharp end point, and advise that four readings should be taken of the samples. Having obtained this point and corrected the reaction of the broth accordingly, the latter is brought to the boil to deposit the phosphates, which are filtered off, and the reaction again adjusted by the addition of hydrochloric acid in such quantity as will give the desired hydrogen-ion concentration. If, for example, the usual final reaction corresponding to that of plasma is desired—namely, P_H 7.6, 10 c.cm. of normal hydrochloric acid are added. The authors find that a final test of the medium with cresol red and phenolphthalein will ensure a correct standardization in the latter cases. They give an excellent chart showing the relationship of the colorimetric readings to electrical estimations. The paper is well worth the study of all bacteriologists.

365. Septic Necrobiotic Infarct of the Lung.

ACCORDING to A. BUSINCO (*Arch. per le Sci. Med.*, Fasc. 5-6, 1919), who records four examples, septic necrobiotic ischaemic infarct of the lung is a very rare condition. The right lung is more frequently affected than the left. The condition is found in both sexes, but is most frequent in men. It is observed in young persons, and it is most frequent in advanced age. The predisposing causes are acute or chronic processes affecting the lung—for example, lobar pneumonia, pulmonary tuberculosis, and broncho-pneumonia. The marginal cuneiform or round central necrotic area is circumscribed by a zone of demarcation and develops a central non-putrid liquefaction, or in rare cases a marginal liquefaction, and finally undergoes repair by new formation and proliferation of young connective tissue, which retracts and is transformed into a sclerotic nodule.

366. The Temperature of the Expired Air in Febrile Patients.

A. AZZI (*Arch. per le Sci. Med.*, Fasc. 5-6, 1919), as the result of examination of 12 cases, came to the following conclusions: (1) In febrile tuberculosis there are considerable variations in the temperature of the expired air, and these variations often exceed the oscillations observed in normal individuals. (2) There is a certain correspondence between the temperature of the body and that of the expired air, but this correspondence varies within fairly wide limits, and often does not occur at all. Thus at the onset of the fever, when there is shivering, vaso-constriction, and a sensation of cold, the temperature of the expired air may fall to subnormal, even when the fever is high. (3) The temperature of the expired air which was determined in a non-tuberculous subject with an intact respiratory system showed the same variations as in the previous experiments. Azzi, however, points out that definitive conclusions cannot be drawn from a single case, and proposes on a future occasion to study the temperature of the expired air in a variety of febrile types. His researches, however, confirm the fact, which had already been demonstrated by Galeotti, himself, and their collaborators, that there is a correspondence between the elimination of heat by the surface of the body and the elimination of heat by the lungs.

367. Subconjunctival Lipoma.

ACCORDING to CABANNES and DUPÉRIÉ (*Journ. de méd. de Bordeaux*, February 25th, 1920), two forms of subconjunctival lipoma are described—(*a*) dermo-lipoma, (*b*) pure lipoma. Dermo-lipoma, which is congenital, may not appear till late, especially about the time of puberty. Its normal site is the upper cul-de-sac between the superior rectus and the lacrymal gland; more rarely it is situated in the outer part of the inferior fornix. Its pathogenesis is the same as that of sclero-corneal dermoids, which are also situated by preference on the outer part of the eyeball. The origin of pure lipoma is doubtful. The writers describe a case in a woman, aged 29, in whom the tumour was removed under local anaesthesia. It had apparently originated in the orbital cellular tissue.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

8. Action of Digitalis in Auricular Fibrillation.

HINSON (*Amer. Journ. of Med. Sciences*, January, 1920) ords the rapidity and persistence of the action of talis in hearts showing auricular fibrillation. A series 6 cases is reported in which the presence of either icular fibrillation or auricular flutter with abnormally id ventricular rate was demonstrated by electro-cardio- ns. Large doses, ranging from 15 to 25 c.cm. (15 c.cm. 100 lb. of body weight), of standardized tincture of talis were given by mouth, and were found to affect heart in a relatively constant time, from two to five rs after administration, indicating that the drug is orbed from the alimentary tract at a fairly rapid and form rate. The maximum effect was considered to e occurred when the ventricles attained approximately r slowest rate, and when the pulse deficit had dis- eared or reached its lowest count; this was usually ined in about twenty-four hours, and generally con- ted to be effectual for an average of nearly ten days.

9. Spontaneous Rupture of the Abdominal Aorta.

NAMOUR and BERTOIN (*Lyon méd.*, February 10th, 1920) ord the case of a woman, aged 49, admitted to hospital h heart failure. Syphilis was suggested by a history wo miscarriages, the death of a child in early infancy, loss of the knee-jerks, and the presence of extensive ligo, although the Wassermann reaction was negative. siderable improvement took place under cardiac tonics, en one evening during a meal she suddenly complained precordial pain and died in two minutes. The necropsy wed a large rupture in the intrapericardial portion of ascending aorta, and well-marked lesions of syphilitic ritis in the rest of the vessel. The heart was enlarged, bably owing to the presence of chronic nephritis, and e was congenital malformation of the sigmoid valves, ch were only two in number.

0. Intramuscular Injection of Diphtheria Antitoxin.

WEILL-HALLÉ (*Bull. et mém. Soc. Méd. d. Hôp. de Paris*, uary 22nd, 1920) has entirely substituted intramuscular subcutaneous injections in the treatment of diphtheria ng to the following advantages of the former method: t does not cause the severe and prolonged pain pro- ed by subcutaneous injection. (2) It appears much frequently to give rise to local complications, such as thema, lymphangitis, and abscess. (3) It is superior to avenous injection in being much easier to carry out, ecially in children, in whom it can be performed by ned nurses. (4) It is decidedly more rapid in its action n subcutaneous injection. One large dose is preferable number of smaller doses. The writer's plan is to give units per kilo of body weight in mild cases and 500 to units in moderate and severe cases. The injections e made in the gluteal region, the total amount being ded between each side.

1. Action of Adrenalin in Old Age.

LESINGER (*Wien. med. Woch.*, November 22nd, 1919) es that adrenalin given subcutaneously in elderly ple may provoke attacks of stenocardia, which are bably due to the atypical reaction of atheromatous onary vessels to the drug. Another atypical reaction fall of blood pressure. Though in healthy youth the g raises the blood pressure for several hours, in about -third of the elderly persons tested the injection uced a fall of blood pressure, either immediately or r ten minutes. This fall lasted up to two and a half rs, with a gradual return to the normal. There was sign of collapse and no increase in the pulse rate; eed, the rate of the pulse was apt to fall without any leasant sensations. Evidence of collapse being absent reaction of elderly persons to adrenalin could not regarded as the expression of cardiac insufficiency. lesinger's interpretation depends on the assumption t adrenalin stimulates both the vaso-constrictors and, a less degree, the vaso-dilators. This vaso-dilator on is demonstrable in experiments on animals when vaso-constrictor mechanism is put out of action. The all doses of adrenalin given to elderly persons probably ed principally on the vaso-dilator system, as shown by the sensation of burning and warmth felt in the hands and feet. The lack of calcium in the system, as well as atheromatous changes, probably contributed to this atypical reaction in old age to adrenalin.

372. Vaccine Treatment of Mediterranean Fever.

G. DI CRISTINA and S. MAGGIORE (*La Pediatria*, January 15th, 1920) employed specific vaccines in the treatment of Mediterranean fever, with the following results: In some cases the influence of the vaccine appeared rapidly after a few injections; in a second group prolonged treatment was necessary until an effect was obtained; and in a third group vaccine treatment had no obvious effect. In successful cases the action of the treatment was shown (*a*) in the temperature, which after a certain number of injections fell by lysis or crisis; (*b*) in the general condition, which rapidly improved; (*c*) in the rapid or gradual disappearance of the various manifestations of the disease; (*d*) in the prevention of relapses, which are fairly frequent in this disease. The cases in which the treatment had no effect were generally patients with some hereditary or constitutional taint caused by other infections. In none of the cases were there any untoward results. The subcutaneous or intramuscular route was usually chosen. The doses were progressively increased, with more or less long intervals according to the reaction following each injection.

373. Quinine Dihydrochloride in Influenza.

BURROWS (*Med. Record*, February 7th, 1920), who has treated a large number of cases of influenza with injections of quinine dihydrochloride, speaks very highly of the method. He uses a 10 per cent. solution of the salt. For adults the dose is 15 to 22 grains given only once. At least one-third, often a half, and occasionally the entire dose is given intravenously; the remainder is injected into the biceps muscles. For young children 7 to 10 grains is the dose recommended. There may be a general tingling sensation and warmth during the injection; sometimes a slight chilly feeling, a transitory pallor if given too rapidly, or nausea. Influenza cases with temperatures ranging from 101° to 106°, with a pulse rate up to 120, with headache and general prostration, responded almost immediately. Within a short time the headache and general pains disappeared, the facies improved, the tongue became moist, the temperature and pulse rate fell, and the sense of foreboding present in the most severe cases was lost. The earlier the injection is made the better, preferably on or before the third day. The quinine has no specific action in cases with secondary pneumonia.

374. The Tuberculous Psychoneurosis.

G. ICHOK (*Zeit. f. Tuberkulose*, February, 1920) states that while well marked psychoses following pulmonary tuberculosis are extremely rare, a psychoneurosis is often seen. Three forms of the disease may be distinguished according as it occurs (1) in cases with an hereditary history and in latent and abortive forms of pulmonary disease; (2) in chronic pulmonary tuberculosis; (3) in acute cases. This classification, however, must not be taken too rigidly, as a separation of the different forms is not always possible. Tuberculous intoxication may not play the chief part in all cases, because, on the one hand, the psychoneurotic symptoms do not always increase with the progress of the pulmonary lesion, and, on the other hand, the characteristic picture may be fully developed with very slight lesions, or with merely a disposition to tuberculosis. It is suggested that the chief cause of the psychoneurosis is the consciousness of an organic inferiority.

375. Decline of Congenital Syphilis during the War.

HOCHSINGER (*Wien. med. Woch.*, November 22nd, 1919) concludes, from a statistical study of private hospital cases, that there has been a considerable decrease in the incidence of congenital syphilis since 1915, a fact which was all the more striking as syphilis and other venereal diseases increased during the war. In his estimate of the syphilis coefficient in the newborn, which the author found to have fallen from 2.54 to 1 per cent., he accepts only clinical manifestations as evidence of syphilis. This decline of syphilis in the newborn was observed in every part of German Austria, with the exception of the

Tyrol. Syphilis was comparatively rare there till it became a centre of belligerent activity. Discussing the possibility that the decline of the syphilis coefficient might be more apparent than real, and that the frequency of syphilitic abortions might even have risen, the author points out that syphilitic intrauterine death is usually deferred till the seventh month, and that the number of macerated fetuses has diminished equally with that of syphilitic infants born at term. He attributes the decline (1) to the inducement to accept treatment provided by the unwelcome alternative of service in the fighting line, and (2) to the prophylactic remedies administered under military control. The compulsory treatment of syphilis under army supervision undoubtedly exercised a powerful influence in preventing congenital syphilis.

376. The Diagnosis of Epilepsy.

S. JELLINEK (*Wien. med. Woch.*, November 1st and 8th, 1919) attaches importance to two signs of epilepsy—the presence of Babinski's reflex and the occurrence of petechiae and ecchymoses in the skin and mucous membranes. Babinski's reflex is not only constantly present during the attack, but may persist for three-quarters of an hour after the end of an attack. In many cases after Babinski's reflex was exhausted Oppenheim's sign could be observed, especially after attacks of *petit mal*. Petechiae, though not found so regularly as Babinski's sign, occurred in nearly half of the 368 genuine cases of epilepsy observed by Jellinek. They were most frequently found in the upper lids, but in many cases both upper and lower lids were sprinkled over with countless petechiae, as well as the root of the nose and forehead, and even the frontal scalp and temples. Petechiae were rarely seen in the face below the zygomatic arch. Ecchymoses were relatively uncommon on the conjunctiva, palate, and mucous membranes of the nose and throat. In the overwhelming majority of the cases the haemorrhages occurred in the region of the superior vena cava. The haemorrhages did not appear to bear any relation to the age of the patient or the severity of the attack. They were never found after hysterical fits.

377 Poisoning by Castor Oil Seeds.

M. GIOSEFFI (*Il Policlinico*, Sez. Prat., January 12th, 1920) recalls two cases in twin brothers, aged 10 years, in whom symptoms developed two hours after eating castor oil seeds. The first symptoms were tremors of the hands and a burning sensation in the throat followed by a bitter taste in the mouth and severe colicky pains in the umbilical region, vomiting, diarrhoea, headache, and giddiness. Considerable improvement followed irrigation of the intestine and injection of caffeine, and by the third or fourth day the vomiting and diarrhoea ceased, but the weakness lasted another week. In neither case was there any sign of impaired function of the kidneys or liver.

SURGERY.

378. The Etiology of Arthritis Deformans in Children.

ACCORDING to A. H. BYFIELD (*Amer. Journ. Dis. Child.*, February, 1920), who reports 10 cases in children aged from 1½ to 12 years, arthritis deformans in children is chiefly due to infection situated in the tonsils and adenoids and in the accessory nasal sinuses. In children less than 3 years of age the portal of infection seems to be limited to the tonsils and adenoids. After this time their removal has no power to arrest the progress of the disease. A sinus infection should be suspected as an etiological factor if, after removal of the tonsils and adenoids, the temperature still remains raised, the joint condition does not subside, and there are leucocytosis and anorexia. The prognosis in uncomplicated cases is good as far as arrest of the disease is concerned, but the deformity and functional disability may persist for a considerable time. Although orthopaedic measures are helpful, Byfield considers that the surgical treatment of the nasal sinuses is the most important therapeutic measure indicated.

379. Cicatricial Laryngeal Stenosis in Children.

E. J. MOURE (*Journ. de méd. de Bordeaux*, February 10th, 1920) states that two forms of cicatricial stenosis of the larynx may occur in children. The first and rarest is the sequel of ulceration of the larynx and trachea following diphtheria, scarlet fever, measles, or typhoid. The second, which is much the commonest, is the result of a tracheotomy made through the thyroid, the crico-hyoid space, or the cricoid. In most of these cases laryngostomy, followed by clearing out the stenosed cavity, should not be carried out before the age of 7 or 8 owing to the small of the larynx and trachea in early childhood, the duration of the treatment required, and the gravity of pulmonary complications which may occur during period. If the stenosis is the result of a bad positio the tracheotomy tube, no attention need be paid to larynx, and a cure will be almost always effected placing the tube in a proper position. During the pe that the channel is becoming patent again care shoul taken to prevent the formation of granulations about tube by the use of the galvano-cautery or a 1 in 10 solu of zinc chloride. In no case should the tube be remc until the surgeon has satisfied himself by the laryngosc of the patency of the larynx. The child should be trai to breathe through the natural channel by occluding tube first by day and then by night.

380. Sudden Death from Intrapleural Perforation of the Stomach.

D. LEONCINI (*Il Morgagni*, Archivio, December 31st, 1 records the following case in an Italian soldier who been wounded some months previously—the exact could not be determined—by a bomb in the left arm thorax. Recovery took place without operation, and soldier was able to take part in the severe fighting on Piave in July, 1918. Two days before death, which t place suddenly, he complained of pain at the thor wound and vomited several times. The necropsy sho that the left pleural cavity contained a quantity of f greenish fluid, the great omentum and the stom which presented a large perforation. A fragment of m was found in the spleen. The diaphragmatic hernia taken place at the time of the wound, but no sympt had arisen until the hernia had become strangula Leoncini has been unable to find any previous rec of sudden death due to intrapleural perforation of stomach. In the other cases of death due to this ca perforation gave rise to pyopneumothorax and death due to septicaemia, whereas in the present case, a the ill-defined symptoms caused by strangulation of hernia, gastric perforation caused sudden death f pleural shock.

381. Foreign Bodies in the Air and Food Passages.

E. E. GRAHAM (*Amer. Journ. Dis. Child.*, February, 1 thinks that foreign bodies in the air and food passage children are much commoner than was formerly suppos The symptoms vary greatly. The peanut kernel im diately sets up severe laryngitis, tracheitis, and bronch The older child may survive the acute symptoms, is almost certain to develop pneumonia. Metal obj may remain in the lung for a very long time and comparatively little damage. It is most important th skiagram should be taken in every case of swallowing inhaling a foreign body. In the case of a foreign b which does not cast a shadow on the plate its position be determined by making the patient swallow a cap filled with bismuth, when the *x* rays will show the posi of the capsule held in position in the oesophagus by foreign body. A foreign body may be suspected if following conditions are present: An unexplained le cytosis, localized symptoms in the lung which do not c up under treatment, no tubercle bacilli in the sputum, a gradual failure in health and strength. An asthm wheeze is a very important sign. Bronchoscopy, for wh no anaesthetic is required, should be performed as soo possible after the entrance of a foreign body.

382. Acute Typhoidal Cholecystitis in Children.

REID and MONTGOMERY (*Johns Hopkins Hosp. B* January, 1920) have collected 18 cases (6 previously un lished) of enteric fever in children under the age of 15 y who died from, or were operated on for, complication enteric fever arising in the gall bladder. In one case acute cholecystitis did not occur until eight months a recovery from the attack of enteric fever. Eight ca all reported before 1893 and none of them operated u proved fatal; since then 10 cases with one death have b treated surgically. The 6 cases from the Johns Hop Hospital all recovered. In cases with a pure cultur *Bacillus typhosus* the leucocyte count is relatively lo usually about 10,000. The statistics showing the incid of typhoidal cholecystitis are reviewed, and it is poi out that mild cases, as shown by slight pain and tender in the region of the gall bladder and some rigidity of right rectus, are common, and in the vast majority sub without need for surgical measures. Before this p appeared there were records of only 20 cases of suppura cholecystitis from all causes in children.

383. Relapsing Myositis due to Micrococcus crassus.

FOG (*Hospitalstidende*, December 24th, 1919) records a case of exceptional bacteriological and clinical interest. The patient, a lad who had twice suffered from parotitis, but not from rheumatic fever, had received a slight bruise on the left leg when he was 10 years old. Next day the leg was swollen and painful, and every succeeding spring the muscles of one or other calf became swollen and tender, the attacks lasting for two or three months. When he came under the author's care he had considerable swelling of the left leg from the middle of the thigh to a little below the knee. On the outer aspect of the thigh the tissues were infiltrated and very tender, and the overlying skin slightly reddened. The knee-joint contained fluid, but there was no fluctuation demonstrable in the outer aspect of the thigh. Osteomyelitis was suspected, although the temperature was comparatively low, and the *x* rays showed no sign of this disease. An exploratory incision under general anaesthesia revealed a very oedematous, pale and transparent vastus externus protruding through the opening made in the fascia. A little fluid escaped, but no abscess could be found. The fluid and muscle gave pure cultures of the *Micrococcus crassus*. The patient was treated with an autogenous vaccine, and made a satisfactory recovery.

384. An X-Ray Sign of Perinephritic Abscess.

FUSSELL and PANCOAST (*Amer. Journ. Med. Sci.*, January, 1920) record a fluoroscopic finding observed in two cases of perinephritic abscess. Case I, male, aged 30, was operated upon for removal of a left renal calculus, and later developed a huge sac of pus within the capsule of the kidney. Fluoroscopic examination showed the presence of fluid which was demonstrated while the patient was standing in the fluoroscope, a distinct wave being noted when the patient's body was moved quickly two or three times from side to side. Case II, male, aged 46, developed an irregular septic fever with persistent slight pain over the region of the left kidney. In the recumbent posture, *x* rays showed gall stones, but did not reveal the presence of fluid, the diaphragm showing the normal arch. In the upright posture the left diaphragm was seen to be flat and immobile, and to have lost its normal arch. When the patient's shoulders and body were moved quickly from side to side, a distinct wave above the left renal region was seen. Although the local physical signs of fluid in that region were otherwise so slight, the left kidney was explored, and an abscess containing from 200 to 300 c.cm. of pus was found surrounding its upper pole. The patient made an uninterrupted recovery, but four months later developed marked symptoms of gall bladder disease; the gall bladder was removed with thirteen stones, and the patient is now well. This fluoroscopic sign is of value in certain obscure cases of fever with suspicious signs about the left kidney, though such signs of themselves are not certain enough to warrant an operation. Pus about the right kidney is not expected to give this sign owing to the intervention of the liver between the kidney and the diaphragm, and no such collections of pus between the liver and the diaphragm have been observed.

385. Prostatic Surgery.

BEAVER (*Amer. Journ. Med. Sci.*, January, 1920) considers that the success of prostatectomy depends more upon the preliminary treatment than upon the technical details of the operation, and that practically all prostatic patients require some such preliminary treatment. In certain cases of acute retention, in which unsuccessful catheterization may have injured the urethra, the bladder should be drained suprapubically, and, since the sudden relief of intravesical pressure may be dangerous, this should be done by the introduction, under local anaesthesia, of a female retention catheter so clamped as to allow of the bladder being emptied intermittently. If the urethra is patulous the indwelling catheter is usually preferable in the initial stages of treatment. Preliminary cystostomy is the first stage of a two-stage prostatectomy has reduced, more than any other single procedure, the operative mortality, but in the early stages of prostatic enlargement, where the amount of residual urine is small and the kidneys are functionating satisfactorily, the prostate may be removed without preliminary drainage of the bladder. Preliminary drainage of the bladder serves to relieve prostatic congestion, so that at the time of the second stage the gland has become reduced in size; this adds to the difficulty of enucleation, but minimizes post-operative bleeding.

386. Recurrent Dislocation of the Head of the Fibula.

F. TEILMANN (*Ugeskrift for Laeger*, January 22nd, 1920) has found that obscure symptoms referable to the knee may be due to laxity of the ligaments of the superior tibio-fibular joint, which allows the head of the fibula to be dislocated in certain movements. This condition is rare, but it is very serious, as it may reduce the patient to a state of chronic invalidism. The pain may radiate up and down the leg from the knee, and be associated with atrophy of the muscles. The apparent discrepancy between the slightness of the dislocation and the severity of the pain may be explained by the intimate relations existing between the head of the fibula and the peroneal nerve. The surgeon is apt to overlook this condition in spite of a careful examination of the knee, unless he bears this possibility in mind, or is lucky enough, while palpating the joint, to feel the head of the fibula slip out of place. In one case Teilmann attempted palliative treatment, discharging his patient from hospital with a plaster-of-Paris splint, but a relapse soon followed the discarding of the splint, and the patient had finally to be operated on. No fluid was found in the joint, the ligaments of which were relaxed; nor was there any apparent communication between it and the knee-joint. The articular surfaces were removed, and a screw was driven through the head of the fibula into the tibia. Complete recovery ensued. The author concludes, from the failure of palliative treatment and the complete success of operative treatment in this case, that the condition calls for immediate arthrodesis.

OBSTETRICS AND GYNAECOLOGY.

387. Adenomyoma Invading the Ileum.

CLARA STEWART (*Journ. of Path. and Bact.*, February, 1920) reports an interesting case of a woman who was operated upon for colicky pains extending across the abdomen below the umbilicus. Sickness was always worse during the menstrual period, and was aggravated by taking solid food. The patient was sterile and had had recent floodings. At operation there was found in the ileum, 3 in. above the ileo-caecal valve, a tumour projecting into the lumen of the bowel, and simulating an early intussusception. This on section seemed to be due to an infolding of the serous and muscular coats, the mucosa being normal. There was considerable matting of neighbouring tissues and dense adhesions, but the uterus was not involved in this old inflammatory process. Microscopically the tumour showed the typical appearance of a uterine adenomyoma, with glandular acini embedded in a stroma of short spindle cells. The author calls attention to the fact that the invasion of the gut was from without; though there were no adhesions between the tumour and the uterus at the time of operation, she considers that the case affords good support to Leitch's theory of the migratory nature of extrauterine adenomyomata, and suggests that if local hypertrophied areas of the intestines were systematically examined more of these lesions would be found.

388. Urethral Caruncle.

CRENSHAW (*Minnesota Med.*, 1920, 3) discusses the often unsatisfactory results of operation for urethral caruncle, the high percentage of recurrences, and the methods of treatment used at the Mayo clinic. These little tumours grow from the posterior or lateral walls of the urethra just within the meatus. Only one case in which a caruncle grew from the anterior wall has been recorded. Crenshaw believes chronic irritation or ulceration of the urethra to be the exciting cause. Recurrences are of two types: true recurrence, owing to incomplete removal; and a prolapse of the urethral mucosa, due to contraction of scar tissue. The latter is the commoner, and it is found that further operations on these cases result in a larger scar and a repetition of the prolapse. Cases have been seen at the Mayo clinic in which repeated removals of prolapsed urethral tissue have led to the trigonal mucosa being dragged down into the urethra and even protruded from the meatus. The method of treatment employed at the clinic consists in the clamping of the base of the caruncle with a special clamp applied in the long axis of the urethra. The growth is then cut off and the stump cauterized with acid nitrate of mercury. Care must be taken to remove all tags of caruncle. Among 118 patients operated upon only 4 recurrences were known. All caruncles are microscopically examined, as a certain proportion (not stated) are malignant.

389. Aortic Compression for Haemorrhage.

SUERKEN (*Zentralbl. f. Gynäk.*, February 28th, 1920) has written a short note on the use of Gauss's aortic compression apparatus, which for adaptability to various anatomical formations, ease and rapidity of adjustment, sureness of action, portability and price is apparently superior to other similar apparatus, such as those of Rissmann and Sehrt. Gauss's instrument has been in use for ten years at the Obstetrical Institute at Osnabrück, and during this period packing of the uterine cavity for haemorrhage has never been necessary. Suerken, however, disagrees with Gauss's view that by aortic compression the number of cases requiring manual separation of the adherent placenta is decreased in number. According to the author, when a placenta is really adherent through disease (for example, tubercle), neither pains induced by compression of the aorta or injection of saline through the umbilical vein are of any avail. This view does not, however, affect his advocacy of the general use of Gauss's compression instrument. He lays stress on the necessity for careful observation of the mother, both for external and concealed haemorrhage. Concealed haemorrhage often escapes early recognition, and care should be taken to watch for abnormal increase in the abdominal circumference. When this precaution is taken, and the compression apparatus is used, unexpected floodings will not occur.

390. Retained Placenta.

BOTHO SCHWARZ (*Zentralbl. f. Gynäk.*, February 28th, 1920) strongly recommends the use of Gabaston's turgescence method for retained placenta. This method consists in injecting 300 to 400 c.cm. of sterile normal salt solution into the umbilical vein by means of a 50 to 100 c.cm. syringe. The injection is continued until a definite resistance to the pressure in the syringe is felt. If the fluid tends to drain away too freely, refilling of the placental vessels is indicated to maintain turgescence. Dr. Schwarz reports twelve cases, and four additional cases, of which the following are fair examples: *Case 1.* Primipara, aged 31. Natural delivery L.O.A. Post-partum haemorrhage 500 grams. Artificial turgescence of placenta by injection of 300 c.cm. salt solution. Two minutes later a strong afterpain, causing expulsion of the fully-filled placenta (partial adherence). *Case 3.* Primipara, aged 33. Natural delivery L.O.A. Half an hour later severe bleeding. Credé's method unsuccessful. Placenta filled by injection of 400 c.cm. NaCl solution. Immediately followed by strong afterpains and spontaneous delivery of the placenta (partial adherence). *Case 8.* Five-para, aged 31. Natural delivery L.O.A.; child dead. Half an hour later severe bleeding. Credé's method unsuccessful. Injection of 220 c.cm. salt solution. Credé's method essayed without and with anaesthesia. No success. Blood loss 1,500 c.cm. Manual removal of placenta, which was found to be tuberculous and strongly adherent. *Case 14.* Primipara, aged 26. Six months pregnant. Severe influenzal empyema. Premature birth of a fetus 31 cm. long. Brought to hospital six hours later for retained placenta. Catheterization and 1 c.cm. hypophysin. Filling of placenta with 250 c.cm. salt solution. Fifteen minutes later birth of placenta with slight Credé expression (retained placenta). It is worthy of note that the method is recommended both in case of severe haemorrhage due to partial adherence of the placenta and, as in the last case given, in cases of true retained placenta. No bad results have been known to follow its use, even though in specially abnormal cases success may not be obtained. In many cases Credé's method can be used to express the placenta after filling it with salt solution, where this procedure has been without result prior to the injection of fluid. Useful adjuncts to this treatment recommended by Schwarz are catheterization and the administration of 1 c.cm. hypophysin. Manual extraction of the placenta is resorted to only in very obstinate cases, and the percentage of these has been greatly reduced by the employment of the Gabaston method. The evidence appears to be strongly in favour of its more general introduction into midwifery practice.

391. An Early Tubal Gestation.

SAVARIAUD and JACOB (*Bull. et mém. de la Soc. Anat. de Paris*, January, 1920) give notes of a case of extrauterine gestation of fifteen days' duration with the typical symptoms of tubal rupture. The patient was so exsanguinated that 400 c.cm. of blood were transfused before operation was undertaken. An enormous quantity of dark blood escaped when the peritoneum was opened. In the isthmus of the tube, close to the uterine cornu, a swelling of the size of a cherry was found, the wall of which had given way.

PATHOLOGY.

392. Toxicity of Haemolysed Blood.

BAYLISS (*Brit. Journ. Exper. Path.*, February, 1920) while not denying the fact that injections of defibrinated or haemolysed blood in the rabbit produce intravascular clotting, holds that general conclusions should not be drawn from such experiments, as the rabbit is peculiar in that respect. He finds that, with extremely rare exceptions, defibrinated and even haemolysed blood from the same species are innocuous to the cat and dog. If by any means a fall of blood pressure is produced there may be a reduction of renal secretion, but this is restored by intravenous injections of gum saline. He has found that haemoglobin dissolved in the plasma is able to act as a carrier of oxygen, though whether it is as efficient a carrier as red corpuscles is not determined. It would appear that the serious results of transfusion of incompatible blood are not to be ascribed to haemolysis as such, but are rather an aspect of the action of foreign serum protein analogous to that responsible for anaphylactic shock.

393. Primary Lymphogranulomatosis of the Intestine.

C. GAMMA (*Arch. per le Sci. Med.*, Fasc. 5 and 6, 1919) records a case in a woman, aged 32, characterized by a relatively rapid course, severe loss of flesh, and painful diarrhoea. Examination of the blood showed secondary anaemia and a moderate degree of neutrophil polymorphonuclear leucocytosis. The necropsy showed lymphogranulomatous lesions which had originated in the mucous membrane, involving the greater part of the jejunum, with a slight and obviously secondary involvement of the mesenteric lymph glands. None of the other organs were affected. Only three similar cases of primary lymphogranuloma of the intestine are on record.

394. Vital Staining of Diphtheria Bacilli.

ARLOING and RICHARD (*C. R. Soc. Biol.*, March 6th, 1920), by adding to hanging drops of suspensions of diphtheria bacilli traces of Nile blue solution in such weak concentration that the tint is barely perceptible, found that after a lapse of five to fifteen minutes the bacilli took up the dye, being stained pale blue, whilst the granulations assumed a reddish or even violet colour, and retained this coloration for about an hour. In the case of a suspension in distilled water of a twenty-four hour culture in broth the staining was slow in appearing, the granulations were pink, with the rest of the bacillus unstained, and the bacillary body seemed to be swollen out by the granules. In a saline suspension the staining appeared quickly, the granulations were pronouncedly red with a more or less blue colour in the rest of the bacillus, and the granules appeared to be contracted. In hanging drops prepared from growth on a solid sugar medium by suspending in hypotonic saline, irregular forms with irregular granulations were seen; occasionally in these involution forms Brownian movement of the metachromatic granules was observed. The authors found that the diphtheria bacillus developed normally in bouillon faintly coloured with Nile blue, and cultures could be obtained from stained hanging drops, so that it really is a vital staining.

395. Botulism.

BITTER (*Deut. med. Woch.*, November 20th, 1919) observed three outbreaks of meat poisoning in Kiel between June, 1918, and June, 1919, and in each case was able to cultivate the *B. botulinus* from the infected foodstuff. Eight persons in all were affected, and of these three died. In two instances the source of the mischief was pickled herrings, and in the other ham. The cases were clinically typical of botulism, presenting ocular palsy, mydriasis, dry mouth, loss of speech, etc. As a result of investigation Bitter found that a concentration of 0.6 per cent. acetic acid in a medium did not prevent the growth of the bacillus nor the elaboration of a powerful toxin. Safety could be obtained, however, by employing acetic acid of 2.0 per cent. strength in pickling. Van Ermengem had shown long ago that 10 per cent. salt prevented growth and formation of toxin. Bitter gives statistics dealing with the occurrence of proved cases of botulism in Prussia from 1897 till 1913; 70 outbreaks were recognized during that period, involving 302 cases, of which 51 were fatal, a mortality of 16 per cent. The poisoning was conveyed especially by ham, sausage, blood-puddings, salted fish, and preserved beans. There is evidence that the toxin is not completely destroyed by cooking. In most cases the infected meat is recognizably rancid or even foul.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

396. Heredity in Cardiac Disease.

G. GALLI (*Il Policlinico*, Sez. Prat., January 19th, 1920) remarks that a knowledge of the inheritance of cardiac disease is not so widespread as it should be, although the older writers, such as Morgagni, Lancisi, Albertini, Corvisart, and others, drew attention to it. He publishes the genealogical tree of a family of four generations, consisting of twenty-four members, at least nine of whom were subjects of disease of the circulatory system. In addition to the transmission of actual disease there are two forms of cardiac inheritance, to which Galli in 1908 gave the names of "endocardismus hereditarius" and "myocardismus hereditarius." In such cases, though the endocardium and myocardium are not actually diseased and do not present any pathological changes on examination, their functional capacity and resistance are less than in normal persons, so that relatively slight causes, which would have no effect on the average individual, produce in them true cardiac disease. Galli has met with paroxysmal tachycardia in a father and his two sons. Wenckebach mentions a family in which the father, mother, and four children, although their cardiac functional capacity was above the normal, all had bradycardia, their pulse rate being often under 50 per minute. On examination the reason of these phenomena is obvious, the heart and aorta being small in proportion to the size of the body. The blood pressure in these cases is also subnormal. With a regular life and moderate and progressive physical exercise these hereditary defects may be corrected. On the other hand, an irregular life and excessive and prolonged exercise may give rise to severe and even fatal collapse. Such cases react badly to acute disease. From a military point of view they should not be exposed to the hardships and privations of life at the front, as they are sure to break down.

397. Intravenous Quinine in Malaria.

G. STRADIOTTI (*Riv. Osped.*, October 15th–31st, 1919) regards intravenous injection as superior to all other methods of administration of quinine in malaria, as it enables the exact quantity of the alkaloid to be introduced directly into the blood without dispersion of any kind. The fact that the intravenous method has been reserved for the severest cases, and that it represents the most powerful weapon in combating the disease, is, he holds, a clear proof of its superiority. Moreover, from the economical standpoint he notes that 1 gram of quinine injected intravenously is equivalent in its action to 3 grams given by mouth. Owing to the great difficulty in obtaining the drug, the price of which has increased tenfold since the beginning of the war, this should be another reason for preferring the intravenous method. The danger of air embolism can be avoided by using a suitable instrument and proper technique. Certain complications, such as collapse, are probably due to excessive rapidity of injection of small concentrated solutions. Nazari recommends that the intravenous method should be employed especially in hospital practice, even in ordinary cases, instead of being reserved for rare cases of pernicious malaria.

398. Infantilism—Intestinal and Pancreatic.

J. G. MOORHEAD (*Dublin Journ. Med. Sci.*, 1920, cxlix) records two cases of infantilism in girls aged 18 and 17 years, the first of intestinal, the second of pancreatic origin. That chronic diarrhoea may cause what is now known as infantilism was first pointed out by Eustace Smith, but in 1904 Byrom Bramwell suggested that some of these cases were due to pancreatic disease. Herter in 1908 found that chronic diarrhoea causing arrest of development in young children was associated with persistence in the stools of Gram-positive bacilli of the *Bacillus bifidus* type present in breast-fed infants, and comparative absence of *B. coli*. The absorptive power of the bowel for magnesium and calcium was deficient, and it was thought that there was chronic inflammation of the lower part of the small intestine, and perhaps of the adjacent part of the colon; but as his cases recovered, this could not be proved. Moorhead's case of intestinal infantilism died of influenza, and at the necropsy the pancreas was normal, there was a large but mainly fatty thymus, the small intestine and colon showed chronic inflammation, thus confirming Herter's assumption; the uterus was but little larger than that of a full-time fetus, the nervous system was normal, but the pituitary showed some changes regarded as secondary. Clinically the patient had tetany in addition to the signs of infantilism, and the ova of *Trichocephalus dispar* were present in the faeces. His case of pancreatic infantilism rapidly improved on liquor pancreaticus, holadin, bile salt capsules, small doses of arsenic, peptonized and malted milk, rusks, jellies, and raw beef juice.

399. The Dietetic Treatment of Renal Insufficiency.

IN a review of the modern treatment of renal insufficiency, K. MOTZFELDT (*Norsk. Mag. for Laegevidenskaben*, January, 1920) notes that the treatment of non-surgical diseases of the kidneys has hitherto centred about a milk diet. But the researches illuminating the significance of a milk diet belong to the present century, and great progress has been made since 1902. One of the most striking cases in the author's experience was that of a young man with acute nephritis. On a salt-free diet the oedema from which he suffered was banished in twenty-two days, and his weight was reduced by 27 kilos. The output of chlorides exceeded the intake by 250 grams. The author reproduces four charts showing the effect of a low protein diet on the urea in the blood and the phenolsulphonephthalein output, as compared with the protein content of the food. A low protein diet influences in many cases the degree of nitrogen retention as well as such clinical symptoms as headache, nausea, vomiting, and general debility. Though the author advocates a milk diet, he does so with this reservation, that neither a strict salt-free diet nor a strict low-protein diet can be obtained by milk alone. The diet should be regulated with due regard to the functional tests in each case, and in the most serious cases it should be calculated with the same accuracy as in diabetes.

400. The Internal Secretion of the Pancreas.

ACCORDING to LAGUESSE (*Le Scalpel*, January 31st, 1920) starvation in animals causes a considerable increase in the growth of the islands of Langerhans in the pancreas, and consequently of its internal secretion. The indication, therefore, especially at the onset of diabetes and in cases of slow development, is to increase by this process the patient's internal secretion. Absolute starvation is not necessary, as it has been found that temporary suppression of meat and substitution of toast for new bread, associated with sodium bicarbonate, are enough to diminish the sugar in the urine or soon make it disappear entirely. On the other hand, this regimen diminishes the secretion of pancreatic juice. Laguesse notes that during the occupation of Lille by the Germans several practitioners found that many cases of glycosuria were improved or cured spontaneously as the result of underfeeding, which was the rule at that time.

401. Typhus Fever with Relapse.

ACCORDING to T. GANE (*Bull. et mém. Soc. Méd. de Hôp. de Bucarest*, May 28th, 1919) the occurrence of a relapse in typhus is not mentioned in modern textbooks. He describes a case in a man aged 21 who had a mild attack of typhus followed by a similar attack five days after the temperature had become normal. The eruption was typical of typhus in both attacks. The diagnosis of enteric or relapsing fever was excluded in both attacks by the negative result of examination of the blood. During the great epidemic of typhus which occurred in Moldavia in 1917 a few cases of relapse were reported but were not described in detail.

402. Abortive Forms of Lethargic Encephalitis.

J. SABRAZÈS and C. MASSIAS (*Gaz. hebd. d. Sci. Méd. de Bordeaux*, February 8th, 1920) record three more cases of this kind. In two the clinical picture was complete, but the symptoms were of very short duration. In the first the fever and ocular symptoms lasted only a few days and the attack generally was so mild that the patient did not even take to bed. The second was also an example of ambulatory lethargic encephalitis. In the third case fever and somnolence were present but there was no ophthalmoplegia; the disease lasted about a fortnight, leaving the patient in a debilitated condition.

403. Treatment of Haemophilia by Injection of the Mother's Blood Serum.

J. CHALIER (*Rev. de méd.*, 1919, xxxvi), who in 1912 failed to benefit a haemophilic patient by injection of his own blood serum, reports the beneficial effect of intravenous injection of the blood serum of the mother in a severe and progressive case of haemophilia in a boy aged 18 years. The patient had several haemophilic joints, and had the aspect of chronic pulmonary tuberculosis. He had been unsuccessfully treated by subcutaneous injection of Witte's peptone and the oral administration of adrenalin. Blood removed by venipuncture took three hours to coagulate. The mother's blood coagulated in five minutes, and addition of her serum to her son's blood caused clotting in four minutes. Within the space of eight months Chalier gave the patient eleven intravenous injections of his mother's blood serum (25 to 40 c.cm.) without any untoward symptoms and with very great benefit. He advises that in other cases this treatment should be carried out every ten or fifteen days for two years. In his case the adrenalin treatment was continued for its vaso-constrictor effect, and calcium salts were also given.

404. Mongolian Idiocy in Brothers.

PARDEE (*Journ. Amer. Med. Assoc.*, January 10th, 1920) reports the occurrence of mongolian idiocy in two brothers, the youngest members of a family of eleven living children. The cases conform to the usual description, and support the theory that mongols are born from parents in whom the germ plasm has become defective through exhaustion. The history obtainable in over 50 per cent. of mongols is that the idiot child was the last one of a large family when the mother was far advanced in her reproductive life, or else that the child was the product of a marriage union consummated late in life. Pardee emphasizes the dissimilarity between the mongol and the myxoedematous cretin, but regards the condition as due to some endocrine dystrophy.

405. Methaemoglobinaemia due to the Bromoseltzer Habit.

W. S. MCELLROY (*Journ. Amer. Med. Assoc.*, 1919, lxxiii) describes the case of a man who contracted the habit of taking bromoseltzer, which contains acetanilide, for headaches. The toxic effects were cyanosis, nervous symptoms, dizziness, delirium, shortness of breath on exertion, and persistent methaemoglobinaemia, as shown by spectroscopic examination. There was a very considerable difference between the haemoglobin as determined by the method of Palmer and as calculated from the oxygen capacity; this was apparently due to the methaemoglobin, which does not give up oxygen to the vacuum, but adds to the colorimetric determination.

406. Dissociated Biliary Retention.

BOUCHUT and LAMY (*Lyon méd.*, January 25th, 1920) describe two types of this condition. In the first, which is the more frequent, there is a retention of bile pigment only. This type is found in some cases of catarrhal and mild infective jaundice, in cirrhosis complicated by jaundice, as in a case reported by the writers, and in some cases of icterus gravis. In the second type there is retention of the bile salts only. In characteristic cases there is no retention of the bile pigment, and there is no bilirubinuria nor icterus. In some cases, however, the syndrome is less distinct. Not only is there complete retention of the bile salts, but there is also an incomplete retention of bile pigment as well. In other words, there is a slight degree of jaundice, the faeces are little if at all discoloured, and the urine is rich in bile salts and poor in pigment.

407. Morphine Poisoning.

REFERRING to a recent case of "suspended animation," reported by E. Rautenberg, where a patient took 1.7 grams of morphine plus 5 grams of veronal, and remained apparently lifeless for several hours, JOACHIMOGLU (*Deut. med. Woch.*, December 18th, 1919) suggests that the patient must have possessed an extraordinary tolerance of morphine, although she was not, apparently, addicted to this drug. To Rautenberg's query if it is possible for a person to live for more than twenty-four hours without respiration or circulation of the blood, the author replies emphatically in the negative. He believes that the examination of the body for signs of life must have been faulty, and that Rautenberg's assumption of complete absence of respiration and circulation for several consecutive hours was incorrect. Probably she breathed occasionally during the period of "suspended animation"; otherwise the temperature of the body would have fallen to that of the surrounding air, and resuscitation would then have been impossible. This case, which has been the subject of sensational reports in the German lay press, shows that, in morphine poisoning, life may be restored by artificial respiration and other measures, even when there is practically no sign of life. In this connexion the author publishes the case of a chemist who took 1.5 grams of morphine hydrochloride by the mouth at 11 a.m. At 7 p.m. pulse and respiration ceased, and ten minutes later no reflexes were obtainable. Artificial respiration was begun at 7.15 and continued throughout the following night. This treatment, combined with an injection of 3 mg. of atropine sulphate and several injections of camphor, saved the patient's life.

SURGERY.

408. Results of Bridging Nerve Defects.

H. PLATT (*Brit. Journ. Surg.*, 1920, 7) discusses the results of bridging gaps in injured nerve trunks by means of either autogenous nerve grafts or autogenous fascial grafts fashioned as tunnels. The paper is based upon 18 cases upon which careful and complete neurological examinations had been carried out before and after operation. In no case had any regeneration taken place. The average time elapsed since operation was seventeen months. Secondary exploration was carried out in 4 cases. In all cases the nerve trunks were silent to direct faradic stimulation. Partial or complete obliteration of the lumen of the fascial tube was noted and confirmed histologically. These findings are important, as nerve grafting still has an honoured place in general surgical textbooks. Both the nerve graft and fascial sheath have been regarded as valuable methods of treatment, but those who feel tempted to try them would do well to refer to Platt's paper beforehand.

409. Acquired Diverticula of the Large Intestine.

F. PARODI (*Arch. per le Sci. Med.*, Fasc. 5 and 6, 1919) reports two examples of this condition. In the first case, which occurred in a man aged 22 in whom death was due to cerebral haemorrhage, the sigmoid and first part of the rectum showed numerous diverticula 3 to 4 cm. long, with a maximum diameter of 2 cm. They did not contain any faecal calculi, and there was no trace of ulceration of the mucous membrane or loss of muscular substance. In the second case, which occurred in a man aged 60 in whom death was due to chronic tuberculosis, the sigmoid showed numerous diverticula of various sizes containing faecal calculi. Histological examination in both cases showed simple atrophy of the muscular fibres, with sclerosis from proliferation of the connective tissue.

410. Chronic Rheumatism with Dislocation following Acute Articular Rheumatism.

P. LEREBOULLET and J. MOUZON (*Bull. et mém. Soc. Méd. d. Hôp. de Paris.*, January 23rd, 1920) report a case of chronic fibrous rheumatism following acute articular rheumatism in a woman aged 26, remarkable for the occurrence of dislocations at the metacarpo-phalangeal joints. The condition was apparently caused by the looseness of the capsules and ligaments of these joints due to some extent to the patient's work as a dressmaker.

411. Cholelithiasis and Achylia.

F. RYDGAARD (*Hospitalstidende*, January 7th and 14th, 1920) found that among 158 cases of cholelithiasis diagnosed by operation and not associated with malignant disease or gastric ulcer there were 18 with hypochylia and 57 with achylia. The incidence of achylia was 25 per cent. among the patients whose gall stones were found only in the gall bladder, but achylia was more than twice as common when the gall stones were found obstructing one or more of the biliary passages. The incidence of achylia also increased with the size of the gall stones. Grouping his cases with those of his Danish colleague Wessel, he found that out of 64 septic cases there were 33 showing total achylia, and 42 showing either achylia or hypochylia. Obstruction of the cystic duct alone is not enough to determine achylia; the additional factor is incontinence of the bile. If the mechanism for storing up the bile and periodically discharging it breaks down, the bile constantly escapes, and the unneutralized acid of the gastric juice stimulates the duodenum, starting a reflex which induces achylia.

412. Studies in Bone Growth.

ALBEE and MORRISON (*Amer. Journ. Med. Sci.*, January, 1920) record the results of their laboratory investigations into the etiology of pseudarthrosis or malunion, and of their experimental attempts to produce the condition. Of all the influences possibly favouring the production of pseudarthrosis the *x* ray is the only one which has notably increased within the last decade. Over eighty experiments were conducted on rabbits under careful asepsis, and in none was it possible to produce pseudarthrosis by repeated massive exposures to *x* rays, by removal of bone, or by various degrees of splinting. Even when portions of the radius were removed up to one-fourth of its entire length, early and rapid union of the fragments took place, bone growth in animals being much more rapid and constant than in the human subject. Frequent massive exposures of fractures to the *x* rays in no way inhibited callus formation, and from control experiments it seems that the *x* rays exert no appreciable influence upon bone growth. In cases of fracture of the radius with loss of bone, in which all the bone fragments were removed from the hiatus in the shaft, the average length of time for union was forty-two days. Cases of fracture in which the fragments were not removed from the hiatus showed much more rapid and complete union, and in one case with loss of bone, in which a fragment was left bridging the gap, remarkable osteogenetic activity was manifest, and complete restoration of continuity of the shaft occurred by the thirty-first day, thus showing the value of the osteo-periosteal or "sliver" graft as furnishing additional foci for bone growth.

413. Dakin's Fluid in Chronic Suppurative Otitis.

ACCORDING to A. R. ACOSTA (*Rev. de med. y cir. práct.*, January 28th, 1920), Dakin's fluid is an excellent remedy for cases of chronic suppurative otitis, especially for those of a very septic character with fetid discharge. The ear is first washed out with boracic lotion, and then 10 to 15 drops of Dakin's fluid are instilled into the ear, the head being kept in a horizontal position for five minutes. The process should be repeated as frequently as possible during the day. Cases which had been treated unsuccessfully by other methods for three or four months were cured as a rule by Dakin's fluid in eight to ten days, considerable improvement being noted in forty-eight hours. There is no contraindication to its employment.

414. Spina Bifida in Adults.

F. FERMI (*Il Policlinico*, Sez. Prat., February 9th, 1920) has collected all the published cases of spina bifida in adults, which amount to forty-five, the affection being but rarely compatible with life. He records three cases of spina bifida in the lumbar or sacral region in patients aged from 16 to 17, in which a successful operation was performed. The more favourable prognosis of radical operation in adults is due to the occurrence of milder forms of the disease, which alone permit survival for any length of time, whereas in early life many severe cases (myelocystoceles and myelocystomeningoceles) are submitted to operation.

415. Osteitis Deformans affecting a Single Long Bone.

DE MASSARY and LECHELLE (*Bull. et mém. Soc. Méd. d. Hôp. de Paris*, January 30th, 1920) report a case in a woman, aged 55, who at the age of 30 developed an arthritis of the left knee. Under local applications and sodium salicylate the symptoms disappeared, but at the age of 45 the patient noticed that her left thigh was larger than the right and had an anterior curvature. The *x* rays showed the characteristic appearances of osteitis deformans. The rest of the skeleton, especially the skull, face, hands, and long bones, showed nothing abnormal. There was no evidence of syphilis, Wassermann's reaction in the blood and cerebro-spinal fluid was negative, and no improvement followed antisyphilitic treatment. In the subsequent discussion, Oettinger reported a case of Paget's disease in which the lesions were confined to the left humerus.

416. Generalized Loss of Reflexes in Cranio-meningeal Wounds.

A. SOUQUES (*La Médecine*, February, 1920) in 5 cases of wounds of the skull and meninges found a generalized loss of reflexes. None of the symptoms which usually accompany the loss of the reflexes were present—for example, lightning pains, anaesthesia, Romberg's sign, hypotonus, or paralysis. Lumbar puncture showed the presence of an excess of albumin and definite hypertension. The loss of reflexes was explained by a change in the posterior roots due to meningeal infection or hypertension.

417. Primary Sore of the Conjunctiva.

NADERNA (*La Med. Pratica*, January 31st, 1920) records the case of a washerwoman, aged 46, who suffered from a primary syphiloma of the conjunctiva, enlarged retro-auricular and submaxillary glands; the cervical and epitrochlear glands on the same side were also affected. There was a papular syphilitic rash, with headache and joint pains, and a positive Wassermann reaction. Infection was thought to have occurred in the course of her occupation as a washerwoman. The author reports the case as such cases are extremely rare.

418. Anatomy of Snapping Hip.

WOOD JONES (*Journ. Orthopaed. Surg.*, 1920, 2) describes the anatomy of snapping hip. In this condition, when the patient stands and bears weight on one leg and then rotates the thigh in or out, a distinct snap can be felt and even heard over the region of the great trochanter. The condition has been variously ascribed to ligamentous and bone disease or abnormality. The author shows that the condition is due to the presence of a long tendon on the deep surface of the gluteus maximus. This is the means of insertion of the muscle into the gluteal ridge of the femur and is a structure of very variable length. When it is long and sickle-shaped—that is, when its insertion is comparatively low—the tendon rides backwards and forwards across the great trochanter and gives rise to "snap" as it frees itself. That this is the correct explanation of the condition was proved at operation. Ordinarily the muscular relaxation produced by the anaesthetic does away with any snapping. Wood Jones stimulated the muscle electrically during the operation, and was able to watch the play of the tendon on the trochanter. Treatment consists in suturing the tendon to the periosteum. The condition is essentially a congenital anomaly which may be exploited at will for military or compensation purposes.

419. Mesenteric Cyst.

WHITE (*Amer. Journ. Med. Assoc.*, 1920, 74) reports a case of mesenteric or enterogenous cyst, of which he gives three illustrations. These cysts in the majority of cases have a lining of mucous membrane closely resembling that of the intestine, even to the presence of villi. They are, however, entirely cut off from the bowel, lying between the layers of the mesentery. The commonly accepted view is that they are sequestration cysts and are invariably congenital. They present themselves clinically as movable tumours, and are not easy to distinguish from pedunculated fibroids, ovarian cysts, or even floating kidneys. The commonest complication is intestinal obstruction produced either directly by pressure on the contiguous bowel or indirectly by the tumour giving rise to a volvulus. White's case occurred in a boy of 4, who had suffered from several attacks of severe vomiting and pain. There was a palpable tumour, at first believed to be an intussusception. The attacks lasted a few hours and then were suddenly relieved. At operation White found a mesenteric cyst, and performed a resection of the portion of ileum implicated. The child recovered. Microscopically the cyst was found to present villi, crypts, and muscle.

420. Partial Resection of Motor Nerves in Spastic Hemiplegia.

VAN HAELST (*Le Scalpel*, March 6th, 1920) records the case of a girl, aged 9, with spastic hemiplegia of the right lower limb, which showed extreme adduction and pronounced talipes equino-varus. A study of the case showed that the condition was due chiefly to spastic contraction of the adductors, gastrocnemius, soleus, and tibiales (anticus and posticus). An operation was therefore performed, at which the obturator nerve was exposed and 2-3 cm. of each of its branches resected. Through an incision over the lower part of the popliteal space two-thirds of those branches of the internal popliteal nerve supplying the inner head of the gastrocnemius and half those branches supplying the outer head were resected. A nerve trunk was then differentiated which supplied the tibialis posticus and part of the flexor proprius hallucis. After isolating the fibres supplying the latter muscle, the remaining two-thirds of the nerve trunk were resected. The result was most successful and all tendency to talipes disappeared. The patient began to walk eight days after the operation, and was soon able to walk and run in an almost normal manner.

OBSTETRICS AND GYNAECOLOGY.

421. Treatment of Puerperal Infections with Normal Serum.

FROM observations on a hundred cases O. CIGNOZZI (*Il Policlinico*, Sez. Prat., March 1st, 1920) concludes that normal horses' serum, and still more so normal asses' serum, especially when it is employed early, has a well marked beneficial action on those forms of intra-uterine infection which may subsequently develop into severe and incurable puerperal fever. The daily dose should be 60 c.cm., and in mild cases two days' treatment is sufficient. In more severe and later cases injections should be given for from three to five days. Apart from a few cases of urticaria, no complications of any importance were observed. As a rule the fever disappeared in twenty-four to forty-eight hours, and in most cases did not return. Successful results were obtained in 90 per cent. of the patients, the action of the serum being most pronounced in cases following abortion. Involution of the uterus and adnexa took place rapidly, and parametritis and perimetritis were rare.

422. Malignant Myoma of the Uterus.

NEWTON EVANS (*Surg., Gyn., and Obstet.*, March, 1920) discusses the pathological characters of non-epithelial malignant tumours of the uterus. He agrees with most other observers in referring their origin to the muscular rather than to the connective tissue elements. The differentiation on histological grounds of simple and malignant conditions in suspicious fibroids is never easy, and the characters of the "fibroid undergoing sarcomatous degeneration" are rather nebulous. Newton Evans has examined 72 such tumours in a series of 4,000 operations for uterine fibromyomata in the Mayo clinic. He considers in detail the various characteristics on which stress has been laid by several authorities: (1) The increase in size of tumour cells as compared with normal muscle or benign muscle tumour cells; (2) shorter and plumper cells with nuclei more nearly oval than normal muscle or benign muscle tumour cells, rounded, and vesicular nuclei; (3) inequality in size and irregularity in shape and arrangement of the cells; (4) lack of differentiation of cells; (5) presence of very large cells, with hyperchromatic, single, or multiple nuclei (giant cells); (6) presence of mitotic figures, typical and atypical; (7) decrease or absence of stroma fibres between the cells; (8) thinness or absence of vessel walls. The only single constant microscopic evidence of definite malignancy is the presence of large numbers of mitotic figures. The author has been accustomed to count the number of mitotic figures seen in 100 oil-immersion fields, and, taking into account the thickness of the sections, he records the number in a cubic millimetre of tissue. He found that the tumours fell into three definitely delimited groups on this basis, and the subsequent history showed that those in which the mitotic figure count was above 2,000 were malignant. Another point brought out is that the presence, even in considerable numbers, of large giant cells without mitotic figures is not a sign of malignancy. The presence of cells showing direct nuclear division is compatible with the benignity of a tumour.

423. Omphalitis.

CREADICK (*Surg., Gyn., and Obstet.*, March, 1920), as the result of a microscopic investigation of the umbilical cord in 2,200 consecutive deliveries, has been able to find evidences of an inflammatory lesion in 43 cases. This consists in an extravasation of polymorphonuclear leucocytes into the wall of the umbilical vein, occasionally into the wall of one or both of the arteries, and into Wharton's jelly. These lesions vary in severity, implicating only a portion of the vein wall or involving all three umbilical vessels. Rarely thrombophlebitis exists. Usually the leucocytes are loosely disseminated, but occasionally may be so massed together as to resemble early abscess formation. The lesion is not pathognomonic of syphilis, for it was present in 40 cases in which there was no evidence of syphilis and absent in 29 cases of undoubted syphilis. The author is of opinion that it arises by the extension of bacterial infection from the placenta, and he was able frequently to demonstrate bacteria in the sections. The condition was usually associated with prolonged labour, after premature rupture of the membranes.

424. Reattachment of Fibroid.

DUJARIER and KHAN (*Bull. et mém. de la Soc. Anat. de Paris*, January, 1920) record a case of a movable tumour in the pelvis of a woman of 40 years, which caused pressure symptoms. At operation it proved to be a spherical fibroid of the size of two fists and was adherent to the sigmoid loop of colon by a pedicle. It had no attachment to the uterus or adnexa, though in all probability it was originally a pedunculated subserous uterine myoma, and having broken its connexion became secondly adherent to the colon. Microscopically it was a myoma with advanced mucoid degeneration.

PATHOLOGY.

425. Lethargic Encephalitis.

IN a paper recording several cases of lethargic encephalitis, K. GROSZ (*Wien. klin. Woch.*, February 26th, 1920) gives notes of a *post-mortem* examination of a patient, aged 35. The symptoms began with headache, giddiness, weakness, and paraesthesia of the right arm and leg, and paralysis of the left abducens nerve. Ptosis and somnolence supervened, the latter growing more intense during an illness of four months. The necropsy showed marked infiltration of the blood vessels of the brain with mononuclear cells. In several places this infiltration had extended to the parenchyma which in some places was involved quite apart from the infiltration of the blood vessels. There were also signs of neuronophagia, and the ganglion cells showed severe degenerative changes; a few perivascular haemorrhages were present. The distribution of the morbid changes in the central nervous system was very irregular, and there was hardly any infiltration of the spinal cord. The author points out that all his cases showed symptoms conforming to the type of encephalitis lethargica as defined by Economo.

426. Sugar Content of the Cerebro-spinal Fluid in Lethargic Encephalitis.

NETTER, BLOCH, and DEKEUWER (*C. R. Soc. Biol.*, March 20th, 1920), who have examined the cerebro-spinal fluid in fifteen cases of encephalitis lethargica, have found that the quantity of sugar present is almost always distinctly higher than normal. In one case no increase was found, but there were signs of medullary localization, and in another the fluid was withdrawn when the patient was moribund; in the remaining thirteen the increase of sugar was on the average 0.78 gram per litre. The authors regard such findings as signifying a special affinity of the virus for the mesencephalon and as produced by irritation of the glycogenic centre. There is no hyperglycaemia in these cases, much less glycosuria. The observation has no absolute value in diagnosis, for equally elevated readings may be obtained in other diseases (notably pneumonia with meningeal symptoms) and even in tuberculous meningitis. But it is not without use in the diagnosis of doubtful cases, and it clinched the diagnosis in four of the authors' cases.

427. Metastatic Solitary Cerebral Abscess.

ACCORDING to A. MOCHI (*Presse méd. d'Égypte*, February 15th, 1920) who records an illustrative case, this is a very rare condition. In 1853 Virchow showed that the primary suppurative lesion in cases of metastatic cerebral abscess was almost always in the lungs, and a few years later Böttcher found lung pigment in a metastatic cerebral abscess. These observations have been confirmed by all subsequent writers, who are agreed that cerebral abscess is very rare in ordinary pyaemia, whereas it is a relatively frequent complication of pulmonary suppuration. Out of 98 cases of severe pulmonary suppuration collected by Nather 8 developed a cerebral abscess. The majority of metastatic brain abscesses are caused by chronic suppurative processes in the lung, such as purulent bronchitis, bronchiectasis, empyema and pulmonary gangrene. Although pneumonia is a much more frequent disease than purulent bronchitis or bronchiectasis, the latter supplied a contingent of 51 per cent., whereas pneumonia was represented in the etiology of metastatic abscess by only 4 per cent. of cases.

428. Renal Adequacy.

CASTAIGNE (*Rif. Med.*, January 24th, 1920) supports the value of the methylene blue test of renal adequacy, but finds that there is a limit to its value, which depends on the substance selected for trial; if this is one of those drugs or salts secreted without any limitation, then the blue test is strictly accurate. Urea is secreted without limitation; therefore the blue test can be absolutely relied on as far as urea is concerned. But it is not so trustworthy in regard to substances secreted with limitation—for example, sodium chloride.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

429. A Form of War Haematuria.

Under the title "Haematuria of unusual origin," BENNETT and FRANKAU (*Quart. Journ. Med.*, 1919–20, xiii) describe a series of sixteen cases (seen in a casualty clearing station) which, though differing considerably from war nephritis, have hitherto been grouped in that category. The most prominent features were fever and haematuria: the onset was usually sudden, with a temperature rising to 100° or 102° F., pain in the shins, along the radial border of the forearms, and in the back, followed sometimes on the same day and always within a few days by well-marked haematuria and perhaps slight dysuria. In several instances the haematuria was the sole reason for seeking medical advice. The obvious blood disappears from the urine in a few days, though microscopic examination shows the presence of disintegrated red blood cells, pus and epithelial débris, and the shin and lumbar pains become more troublesome. Herpes labialis may appear about the fifth day of the disease; the temperature falls, but after an interval of a few days fever recurs, and sharp spiky relapses resembling those seen in trench fever are common. The distinguishing points from war nephritis are the copious haematuria with relatively small amount (0.1 per cent.) of albumin, which corresponds to the quantity of blood; the rarity of casts; the absence of oedema, of dyspnoea, and of raised blood pressure, and the greater intensity of the pain. In fact, the only justification for the inclusion of these cases in the category of war nephritis is the occasional occurrence of casts in the urine. Cystoscopic examination showed the signs associated with infective pyelitis or pyelonephritis. Cultivations of catheter specimens of urine sometimes showed streptococci; otherwise they were sterile.

430. Metahepatic Pleurisy.

A. FURNO (*Rif. Med.*, December 20th, 1919) states that Grocco of Florence in 1901, and other observers subsequently, pointed out that in cholelithiasis, especially at the time of gall-stone colic, a pleural rub might be heard on one or both sides, and that sometimes a pleural effusion might occur which was almost invariably on the right side, rarely bilateral, and always due to the primary hepatic condition. Pleurisy is most frequent in cholelithiasis, but it also occurs in other diseases of the liver, especially cirrhosis, hydatid disease, and carcinoma. Furno records 3 cases of dry pleurisy secondary to syphilitic disease of the liver which were cured by antispecific treatment, and emphasizes the importance of not mistaking such cases for primary tuberculous pleurisy. The frequency of pleurisy in hepatic disease, in contrast with diseases of the other abdominal organs, is due to the fact that four-fifths of the lymphatics of the liver pass into the thorax and communicate with those of the parietal and visceral pleura.

431. Treatment of Diarrhoea and Mucous Colitis by Zinc Oxide.

J. DURAND and H. DEJUST (*Bull. Soc. de Thér.*, January 14th, 1920) regard zinc oxide as preferable to the other astringents usually prescribed in acute diarrhoea, in which it exercises a precipitating action on mucin and serum albumin. It also possesses antispasmodic properties. It can be given in combination with small doses of opium when the colic is very severe or the diarrhoea excessive. In acute diarrhoea it is best to begin with 2 grams daily divided into ten pills of 0.20 gram each. The daily amount should then be reduced by one or two pills according to the rapidity of the results obtained. In chronic diarrhoea, in which the drug would have to be continued for a longer period, smaller doses would be required, for example, six pills daily, each containing 0.20 gram.

432. Arsenobenzol and Anaphylaxis.

To avoid the occurrence of anaphylaxis after injections of arsenobenzol, EMERY and A. MORIN (*Paris méd.*, January 24th, 1920) recommend the administration of very small and progressively increasing doses at frequent intervals. The doses advised are 0.02 gram, 0.03 gram, 0.04 gram, 0.06 gram, 0.08 gram, and 0.10 gram, which should be repeated daily for five or six days, when the really curative doses may be given at the usual intervals.

433. Central Pneumonia.

SOFRÈ (*Rif. Med.*, January 3rd, 1920) discusses the diagnosis of central pneumonia—that is, a pneumonia localized to the central part of one or other lobe of the lung and not spreading outwards. As is well known, the signs and symptoms of such a condition are often more conspicuous by their absence than their presence. According to Sofrè, the most constant is cough, which symptom, when all else may fail, can usually be observed. There are two physical signs to which the author attributes great diagnostic significance: (1) Localized hyper-resonance; (2) weakened vesicular breathing in the same area. When these two signs are present, coupled with symptoms suggesting pneumonia—cough, fever, rusty expectoration, etc.—they may be looked upon as strongly confirmatory of the diagnosis. The hyper-resonance is due to a temporary compensatory emphysema, and the same cause accounts for the weakened vesicular breathing. As the patch of pneumonia resolves so these two signs slowly disappear.

434. Aortic Disease.

G. HUBERT (*Muench. med. Woch.*, December 12th, 1919) classifies the physical signs of aortic disease into those obtained by percussion, auscultation, and *x*-ray examination. Changes in the vessel are not so frequently detected by percussion as is generally supposed, and the dilatation must be of considerable size before a distinct aortic dullness can be detected. In sclerosis of the aorta and also in uncomplicated aortic syphilis an increase of the normal aortic dullness is absent, although *x*-ray examination shows a definite abnormality. Dilatation of the descending thoracic aorta can never be detected by percussion, and even a considerable dilatation of the ascending part may escape notice if it is associated with pulmonary emphysema. Aortic sclerosis and aortic syphilis are most frequent in the fifth and sixth decades, when pulmonary emphysema is also very common. When there is a diffuse increase of the aortic dullness advanced disease is undoubtedly present, but whether it is due to sclerosis or syphilis cannot be determined by percussion. Auscultation is of much greater value. Accentuation or a ringing character of the second aortic sound may be found: (1) accompanying increase in the peripheral resistance without any disease of the vessel or valves, as in chronic renal disease; (2) as a transient phenomenon in excitable persons and in Graves's disease; (3) owing to disease of the vessel wall itself. A systolic murmur also possesses various degrees of significance: (1) It may be accidental and relatively unimportant. (2) It may be a sign of aortic stenosis. The diagnosis of this very rare valvular lesion, however, can only be made when a systolic murmur is associated with faintness or absence of the second sound, hypertrophy of the left ventricle, and an infrequent and slow pulse. (3) Another cause is disease of the aortic wall itself, due to syphilis or arterio-sclerosis, or a combination of the two. Lastly, *x*-ray examination is of the greatest importance in demonstrating pathological changes in the aorta — namely, abnormal width, increased pulsation, and abnormal depth of the shadow. The situation of the lesion is at once shown, and it is often surprising to find signs of a commencing aneurysm on *x* ray examination when clinically there is no evidence of it. The increased pulsation is due to loss of elastic tissue in the aortic wall and to its replacement by connective tissue or to specific infiltration. Whether the increase in depth of the shadow is due to dilatation of the vessel, and therefore to the presence of a larger column of blood, or to thickening of the wall, cannot be readily decided, but in Hubert's experience thickening of the wall is the principal cause.

435. Hysterical Vomiting.

HURST (*New York Med. Journ.*, January, 1920) considers that hysterical vomiting is much more frequent than is generally supposed. Consequently much of the persistent vomiting met with in practice can be cured by psychotherapy. Hurst classifies the causes of vomiting as follows: (1) Local, (2) reflex, (3) toxic, and (4) central. The first group includes vomiting produced by irritation of the stomach, causing gastritis and expulsion of the irritant. In military hospitals vomiting after "gassing" was produced by the swallowing of saliva in which "gas" was dissolved. In civil practice this form of vomiting is

commonly produced by food poisoning. In both cases if the vomiting persists after the relief of the gastritis, it is hysterical. The vomiting seen in young anaemic girls not infrequently arises from a food gastritis, and persists as hysteria. In persons who have had several operations, post-anaesthetic vomiting may be very severe, and is generally hysterical and the result of auto-suggestion. Reflex vomiting originates from some organ other than the stomach, and is commonly produced by abdominal diseases, as appendicitis, or by phthisis. Sea-sickness is another form of reflex vomiting. The passenger who prepares to be ill on crossing the Channel and the patient who, in phthisis, contracts the habit of vomiting after every meal, are both examples of hysterical vomiting caused by auto-suggestion. Toxic vomiting occurs in acute infections, as influenza or scarlet fever. The pernicious vomiting of pregnancy Hurst holds to be entirely hysterical, suggested by the normal period of either reflex or toxic vomiting in early gestation. He considers the urinary changes to be due to starvation. Vomiting of central origin due to tumours has no relation to hysteria. But vomiting as the physical concomitant of powerful emotion, as disgust or fear, is a fruitful source of hysterical persistence. The treatment consists in a confident and connected explanation to the patient of the circumstances producing his vomiting, and an immediate return to ordinary diet is usually tolerated.

436. Elimination of Acetone Bodies during Infectious Fevers.

B. S. VEEDER and M. R. JOHNSTON (*Amer. Journ. Dis. Child.*, February 20th, 1920), as the result of observations on forty-one children with scarlet fever, diphtheria, measles, and pneumonia, come to the conclusion that while an increased elimination of acetone bodies might occur in infectious diseases, this did not invariably take place. In the same patient it might occur during one infection and not during a second. It was not dependent on the severity of the infection or the degree of temperature, and its causation could not be explained by the decreased intake of food which is so constantly associated with an infectious process.

437. Atony of the Digestive Tract in Nervous Individuals.

ACCORDING to F. BARJON (*Lyon méd.*, February 10th, 1920), nervous individuals frequently show, on examination of their digestive tract, a characteristic radiological picture corresponding to a general atony of the entire system. This atony, which may be localized or generalized, is not, as a rule, accompanied by any symptoms, and is only detected by radiological examination. Every portion of the digestive system may be involved, separately or collectively. The most characteristic signs are found in the œsophagus, where the bismuth cachet, instead of descending regularly, makes a more or less jerky progress, with numerous stops. The characteristic appearances found in the stomach in these cases are ptosis and atony, with a slight delay in evacuating its contents. The passage of the bismuth meal through the small intestine is generally normal, but in a few cases there is a decided delay. In the large intestine pronounced ptosis is frequently observed, and there is an excessive delay in the passage of the bismuth. Surgical intervention is contraindicated in these cases.

438. Membranous Tracheo-bronchitis in Influenza.

DISCUSSING the pseudo-diphtheritic membranous tracheo-bronchitis of influenza, which has been described as a frequent and almost pathognomonic manifestation of this disease, HANSTEEN (*Norsk Magazin for Laegevidenskaben*, February, 1920) is sceptical about the diagnosis, suggesting that the omission of the qualifying term "pseudo" would bring this diagnosis more in line with the truth. Among his 250 necropsies on cases of influenza there were five in which this condition was found; on scrutiny these five cases of influenzal membranous tracheo-bronchitis could be reduced almost to *nil*, for many, if not all, were due to genuine bronchial diphtheria, the diagnosis of which was confirmed by bacteriological examination.

439. Tender Spots at the Root of the Neck in Abdominal Disease.

CADE and PARTURIER (*Rev. de méd.*, 1919, xxxvi) point out that tenderness on pressure between the two heads of the sterno-mastoid muscle may be due to abdominal as well as to intrathoracic disease. From examination of a number of cases they conclude that the presence of a tender spot confined to one side, or almost unilateral, is in favour of a visceral lesion in the upper part of the abdomen; when on the right side the lesion is probably in the liver (especially perihepatitis) or in the biliary tract (particularly the gall bladder and cholelithiasis). When the left side is tender a lesion of the stomach or duodenum is probable. The presence of these tender spots is not any guide to the nature of the lesion; it may be present in gastric ulcer, in pyloric stenosis from adhesions, and in gastric carcinoma. In the cases of splenomegaly, movable kidney, colitis, and carcinoma of the colon examined the tender spots were absent. In neurasthenics and in cases of coelialgia with multiple painful points in the abdomen, the cervical tender spots were bilateral.

SURGERY.

440. Primary Sarcoma of the Stomach.

BOHMANSSON reviews the subject of sarcoma of the stomach in a recent number of *Acta Chirurgica Scandinavica* (1920, 52). He records six cases from the Stockholm clinic and abstracts the literature of the subject. The stomach is an uncommon site for primary sarcoma, for whilst the general ratio of carcinoma to sarcoma, irrespective of site, is 95 to 5, the ratio as it affects the stomach is 99 to 1. These figures are based upon a collected series of 8,134 cases. Bohmansson combats Fenwick's figures, which give to sarcoma the proportion of 5 to 8 per cent. of all gastric tumours, basing his opinion on a more thorough microscopical examination of the pathological material. It is noteworthy that metastatic, secondary, sarcoma of the stomach appears to be much rarer even than the primary. Sarcoma of the stomach has a later age incidence than is usual for that neoplasm elsewhere, the majority of cases falling within the fifth and sixth decades of life. Only in lymphosarcoma is the average age below 40 years. As to site, the majority occur in the corpus ventriculi, the posterior wall is affected ten times more commonly than the anterior, and pyloric stenosis is rare. Three varieties, differing in their method of growth, may be distinguished—diffuse infiltrating, endogastric, and exogastric. The first type are usually spheroidal-celled or lymphosarcomata, the endogastric usually myosarcomata, the exogastric invariably spindle-celled sarcomata. The one constant clinical feature is the presence of a palpable tumour. Cachexia, anaemia, and wasting are common in spite of the absence of pyloric obstruction, which last accounts for the rarity of vomiting of the retention type. Radiological examination is of little value in distinguishing between carcinoma and sarcoma, but is of course of decisive importance as regards the question, "tumour or no tumour?" Perforation is commoner in sarcoma than in carcinoma, presumably because of the greater tendency of the former to degenerate after extensive intramural penetration. Operative removal is more often possible in sarcoma than in carcinoma, but the results are bad. Of the six new cases reported by Bohmansson, four are already dead and one has abdominal metastases.

441. Post-operative Prognosis of Cancer of the Breast.

S. F. HOLST (*Norsk Magazin for Laegevidenskaben*) has investigated the post-operative histories of 81 patients on whom operations for cancer of the breast were performed in Christiania between January 1st, 1907, and August 3rd, 1916. He reduces the number to 80 by withdrawing a case of Paget's disease, which had shown no relapse after operation. A comparison of the hospital cases with those seen in private practice showed that the latter included the highest proportion of early cases. The interval between the detection of the disease by the patient and its operative treatment was, on the average, over ten months, and in this connexion the author refers to the necessity for popular educational propaganda among women, who are often deplorably unobservant and negligent of painless swellings of the breast. A considerable portion of the 80 cases were inoperable, and, after an observation period of three years, only 16 showed no sign of relapse. The prognosis for cancer of the breast is still worse than these figures indicate, for they do not include cases remaining at home because they were too far advanced to be sent to a surgeon. Of the 21 cases in which there were no secondary deposits in the axilla at the time of operation, 66.7 per cent. were alive and well three years or more later.

442. Multiple Chancres.

R. BERNARD (*Le Scalpel*, March 13th, 1920) records two rare cases illustrating the coexistence of extragenital and genital chancres. In the first case the patient presented

a chancre of the cheek, the size of a five-franc piece, which also involved the tragus, antitragus, and lobule of the ear. It had been caused by the kiss of an infected woman on an abrasion due to a razor. The patient also had a chancre of the upper lip and of the penis. In the second case the patient presented a chancre of the penis and two extra-genital chancres, one on each lip. He had been infected by his wife, who had condylomata of the vulva and thighs.

443. Dental Chancre.

GOODMAN (*New York Med. Journ.*, 1920, 111) reports a very interesting case of syphilitic infection of the gum. The paper is entitled "Unmerited dental syphilitic chancre," and refers to an officer who had a tooth extracted by a civilian dentist in Porto Rico. Some two weeks later an ulcer appeared at the site of extraction. An immediate Wassermann test was negative, but two months later was strongly positive. There were no signs of genital infection. Such infections with dirty dental instruments must be rare nowadays.

444. Polypoid Form of Tonsillar Chancre.

G. PORTMANN (*Paris méd.*, February 28th, 1920) describes a new form of tonsillar chancre. The tonsil is moderately enlarged and shows an extensive but shallow ulcer almost on a level with the surrounding tissue, its floor being the site of more or less developed polypoid growths.

445. Salvarsan Treatment of Syphilis.

FABRY (*Med. Klinik*, November 23rd, 1920) states that the arsenical compounds, "silver salvarsan" and salvarsan sulphoxylate, recently introduced by Kolle, represent a decided progress in the treatment of syphilis. By the use of silver salvarsan, described as the most powerful spirillicidal arsenical compound known, it is possible to reduce considerably the dose of arsenic, owing to the presence of the antisyphilitic silver constituent. The characteristic feature of salvarsan sulphoxylate, which is a convenient preparation of salvarsan in a soluble form, is that it remains for a long time in the body. Hence it is specially suited for chronic intermittent treatment and for the treatment of syphilis without symptoms. In view of the fact that a Wassermann reaction which is positive at the end of a salvarsan course may sooner or later become negative spontaneously, Fabry recommends that patients who have undergone a long and energetic treatment should have considerable periods of rest, during which the reaction should be frequently examined: in other words, the treatment should not be continued blindly.

446. Gradenigo's Syndrome.

E. H. WHITE (*Amer. Journ. Med. Sci.*, February, 1920) reports two cases of paralysis of the sixth cranial nerve due to acute otitis, and gives a synopsis of the description provided by Gradenigo, who has collected 57 cases, and explains the syndrome on the hypothesis of a localized meningitis from extension of the middle-ear suppuration through atypical pneumatic cells connected with the region of the Eustachian tube and extending more or less completely to the tip of the pyramid. The characteristic features of the syndrome are acute suppurative otitis, usually with retention of pus, either partial or complete, in the middle ear; severe pain in the temporal and parietal regions; and sixth nerve paralysis occurring suddenly and usually from three to six weeks after the onset. The 57 cases were divided into three groups: (1) 24 cases without any complication, except perhaps more or less inflammation of the mastoid—these cases ran a favourable course; (2) 29 cases complicated by other lesions, such as facial paralysis, labyrinth irritation, or optic neuritis; and (3) 4 cases in which, in addition to the lesions in the second category, there was fatal meningitis.

447. Primary Suture in Brain Wounds.

SPEAKING at a meeting of the Nordisk kirurgisk Forening in Christiania, R. BÁRÁNY (*Tidsskrift for den Norske Laegeforening*, November 1st, 1919) referred to his experiences in Przemysl during one of the sieges. At first he treated all wounds of the brain by the open method. Although all but one of his cases of abscess healed, the ultimate results were disappointing, and 30 out of 39 cases terminated fatally. Then he adopted the method of excision, thorough cleansing of the wound, and primary suture in every case of less than twenty-four hours' standing. Of 16 cases thus treated, 12 healed by first intention; the remaining 4 terminated fatally. He calculates that this method improves the ultimate results by 60 per cent., as compared with the open method. The saving effected in time, nursing, dressings, etc., is also enormous.

448. Haemorrhage in Urethral Stricture.

ACCORDING to A. PASTEAU (*Journ. de méd. et de chir. prat.*, March 10th, 1920), haemorrhage in the course of urethral stricture may occur (1) apart from any examination, (2) during or after intraurethral exploration. Spontaneous haemorrhage is very rare and slight in amount. It may take place either at the end of micturition, when it is due to cystitis, or at the commencement of the act, when it is due to urethritis. Haemorrhage during or after intra-urethral exploration is much more frequent and may occur after a simple examination, after dilatation, or after a more serious operation, such as urethrotomy.

449. Treatment of Parotid Fistula by Resection of the Auriculo-temporal Nerve.

H. DE STELLA (*Le Scalpel*, March 6th, 1920) reports a case of parotid fistula following an operation on suppurating and caseous glands in the parotid region. After other methods had failed, de Stella resected the auriculo-temporal nerve. On the second day the salivary secretion was decidedly diminished, and about four weeks after the operation the fistula was closed. A similar case is reported by R. Villar (vide *Epitome*, February 7th, 1920, p. 22). The success of the operation is to be explained as follows: The auriculo-temporal nerve supplies the parotid gland with secretory fibres from the otic ganglion, to which they have been brought by the glosso-pharyngeal nerve via Jacobson's nerve and the lesser superficial petrosal. Resection of the nerve causes an arrest of the salivary secretion for a period sufficiently long to allow cicatrization of the fistula.

OBSTETRICS AND GYNAECOLOGY.

450. Ectopic Pregnancy.

STEIN (*Medical Record*, March 20th, 1920) records 43 operation cases, with 2 deaths. Sixty-eight per cent. occurred in multiparae; in the great majority there had been no lengthy period of antecedent sterility. Infection played little part in the etiology. A correct diagnosis was made in 60 per cent. of cases; in 12 out of 43 there had been no cessation of menses; in 13 cases during the few preceding days vomiting had occurred—probably a concomitant of shock; the blood picture was not significant except in frankly haemorrhagic cases. Enlargement and softening of the uterus and cervix were detected in 11 cases; the mass felt was rarely sausage-shaped, usually tender and not movable. After rupture or tubal abortion occurred a peculiar boggy crepitating condition could be felt, difficult of description, but absolutely characteristic of the presence of free blood in the peritoneal cavity. In 32 cases bilateral salpingectomy was performed; in 9 cases unilateral excision. Posterior coloptomy was done on three occasions, twice for diagnosis, once for treatment. Stein believes that every patient who has missed her regular period should be examined for and suspected of ectopic pregnancy. Operative intervention should be undertaken as soon as the diagnosis is verified, whether the tube is ruptured or not.

451. Causes of Puerperal Septicaemia.

D. BERRY HART (*Edin. Med. Journ.*, April, 1920) quotes figures to show that the death rate per thousand from puerperal septicaemia was, in England, 1.39 in 1911-14, as compared with 2.56 in 1881–90. Considering the advances made in treatment, this is not a remarkable fall from Boër's statistics of 8.4 per 1,000 (Vienna, 1822). While conceding that much of the present mortality is due to imperfect asepsis and antisepsis, Berry Hart believes that the remaining cases may be traced chiefly to the general employment of Credé's method of expulsion of the placenta during the third stage of labour. This leads to retention in the uterine cavity of fragments of unseparated placenta and membrane, which form a nidus for bacterial growth.

452. Accidental Perforation of the Uterus.

FRANKENSTEIN (*Zentralbl. für Gyn.*, March 13th, 1920) advises immediate laparotomy after accidental perforation of the uterus, even by an aseptic instrument during curetting. This advice, admittedly opposed to the usual teaching, is based on the consideration of one case. A primipara of 27 consulted a physician, who, in passing a sound, caused an accidental perforation of the uterus. No untoward consequences occurred during the ensuing fourteen days' rest in bed, but during the next two months there were severe attacks of abdominal pain and vomiting. X-ray examination showed an obstruction in the small intestine. After a month's trial of conservative

treatment laparotomy was performed: Douglas's pouch was found to be occupied by adherent coils of the small bowel, which at one point showed an acute kink and firm adhesions to the pelvic floor and rectum. Resection of 10 cm. was performed; the adnexa showed inflammatory changes, but were left intact. The patient was well a month later.

PATHOLOGY.

453. The Colloidal Gold Reaction

WARWICK and NIXON (*Arch. Int. Med.*, 1920, xxv, No. 2), who have employed Lange's "gold-sol" test in a large series of cases, agree with numerous other workers in America in regarding it as the most important reaction in routine examinations of cerebro-spinal fluid. Not only is it of value in syphilitic affections of the nervous system, but in the diagnosis of meningitis, disseminated sclerosis, myelitis, and brain tumours; it also furnishes important information such as is given by no other single test of spinal fluid. In the authors' cases parallel examinations were made of the cell count, globulin estimation, and Wassermann reaction. No alteration occurred in colloidal gold in the presence of spinal fluid if there was no syphilis and no involvement of the nervous system. All cases of general paralysis and tabo-paresis gave typical "paretic" reactions. In 74 cases of tabes the gold test was found to be the most valuable of all the spinal fluid reactions; in 9 cases it gave positive results when the other tests were negative, and in other 7 cases where only one other test was positive. Early cases gave well marked curves, but in 18 per cent. of clinically definite cases the reaction was negative. In cerebro-spinal syphilis 85 per cent. of the cases gave positive reactions, whilst only 48 per cent. showed a positive Wassermann reaction. Of the conditions other than syphilis and meningitis which gave well marked curves, disseminated sclerosis was the commonest; 55 per cent. of the authors' cases showed reactions either in the paretic or luetic zones, most frequently in the latter. Amongst 240 miscellaneous cases tested a few reactions were obtained in cases of syphilis. The paper is accompanied by a useful bibliography and a summary of previous work.

454. KELLERT (*Amer. Journ. Med. Sci.*, 1920, clix, No. 2) says that with scrupulous attention to cleanliness of apparatus there is no difficulty in preparing suitable samples of colloidal gold. Slightly opalescent samples give more pronounced curves than perfectly clear red solutions. The curves found in tabes and in tuberculous and syphilitic meningitis agreed with those given by other workers. There appeared to be a distinct correspondence between the globulin content of the spinal fluid and the degree of reaction with the gold test. In syphilis the latter provided positive results in 6 per cent. of cases in which the Wassermann reaction was negative though clinically syphilis was evident. Correct readings were obtained in 88 per cent. of cases of tuberculous meningitis, and in 80 per cent. of cases of acute meningitis. The reaction was found very useful in distinguishing between (1) tuberculous meningitis, and (2) poliomyelitis in children and syphilis in adults. Contamination of normal spinal fluids with blood produced luetic reactions, and so confused the interpretation of the results. The author regards the colloidal gold reaction as a most useful confirmatory reaction, of greatest value in syphilitic lesions of the nervous system, and of considerable importance in differentiating tuberculous from other forms of meningitis. The reaction has not yet been extensively employed in this country by neuropathologists, though the American reports would seem to warrant a thorough trial.

455. The Virus of Encephalitis Lethargica.

LEVADITI and HARVIER (*C. R. Soc. Biol.*, No. 11, March, 1920) inoculated an emulsion of the brain of a patient who died with the typical lesions of encephalitis lethargica into a monkey and two rabbits. One of the rabbits injected intracerebrally died on the eighth day with the symptoms and lesions of encephalitis (mononuclear meningitis, perivascular collections, and polymorphonuclear infiltration of the cortex). The monkey did not develop the disease. Once in possession of a virus active for the rabbit the authors were enabled to study its characters. It was found that the virus could be preserved through regular passages in the rabbit. It became a *virus fixé* producing death in these animals on the fourth, fifth, or sixth day, with symptoms of torpor, myoclonus, and meningeal irritation, and with the typical lesions of encephalitis. After seven passages in the rabbit the virus became pathogenic for monkeys. The virus cannot be cultivated by ordinary methods; it retains its properties in glycerin; it is easily filtrable through Chamberland bougies. It may be inoculated into the rabbit either by the cerebral route or by the peripheral nerves. Subcutaneous inoculation is without effect. The virus is different from that of poliomyelitis, which is not pathogenic to rabbits.

In a subsequent communication to the Society (*C. R. Soc. Biol.*, No. 12. 1920) the same authors showed that the virus injected into the anterior chamber of the eye caused death after an incubation period of seven days with typical lesions of encephalitis. The guinea-pig also was sensitive to the virus, but the incubation period seemed to be longer. The authors mixed an emulsion of the virulent brains of the rabbits with equal parts of serum from convalescent patients, but were unable to find any evidence of neutralization of the virus.

456. Kaposi's Sarcoma.

COLE and CRUMP (*Arch. Derm. and Syph.*, March, 1920), in reporting the clinical and histological details of two cases of the so-called idiopathic haemorrhagic sarcoma of Kaposi, one of which developed a lymphatic leukaemia in the course of the disease, record their attempts at transmitting the disease to animals. Justus in 1912 claimed to have produced multiple Kaposi lesions in a mouse by the injection of an emulsion made from the growing area of a case of the disease, and to have transmitted the disease through five generations of mice. Cole and Crump emulsified portions of tissue removed from their cases by grinding with sand and injecting the suspension into rats, guinea-pigs, rabbits, and cats. Transplants of tissue were also introduced subcutaneously, intraperitoneally, and into the testicle, but in no case was there the slightest trace of the disease in these animals. Confirmation of Justus's experiments is thus still lacking. Though the lesions of the disease are histologically unusual, Kaposi's sarcoma is probably an infectious granuloma, but experimental proof is much needed.

457. Haemorrhagic Encephalitis in Influenza.

HANSTEEN (*Norsk Magazin for Laegevidenskaben*, February, 1920), who performed 250 necropsies on the subjects of influenza, found in six cases punctiform haemorrhages in the brain, indicative of the haemorrhagic encephalitis reported by German pathologists as a comparatively common sequel to influenza. In two of his cases these haemorrhages were very slight and were limited to the white matter of the brain, but in three cases they were numerous and were found also in the central ganglia and in the walls of the lateral ventricles.

458. Comparative Investigations on the Wassermann Reaction in the Blood and Urine.

C. SIMON (*Bull. Soc. Franç. de Derm. et de Syph.*, January 8th, 1920) investigated the Wassermann reaction in the blood and urine of 166 syphilitic patients and of 35 non-syphilitic controls, and came to the following conclusions: (1) The urine of syphilitic patients, even when not albuminous, may yield a positive Wassermann reaction. (2) The reaction is not affected by the acidity or alkalinity, or hypotonic, isotonic, or hypertonic character of the urine, or the presence or absence of albumin. The quantity alone may have an influence, because the urine may contain non-specific anticomplemental substances. (3) The reaction appears late in the urine. It is usually negative in the primary stage, rarely positive in the secondary stage, and is most frequently positive in the tertiary stage or in hereditary syphilis. (4) In a little more than half the cases the result of the reaction is the same in the blood and in the urine. But in other cases the reaction may be positive in the blood and negative in the urine, or vice versa. In the majority of cases in which a difference is present the reaction is positive in the blood and negative in the urine, but in about one-fifth of the cases the reverse holds good. (5) This discordance, which is similar to that occurring between the blood and cerebro-spinal fluid, is difficult to explain in view of the close relationship between the blood and urine on the one hand, and on the other hand of the absence of renal alterations in most of the cases in which the reaction is positive in the urine only. (6) The discordance may have the same results from the diagnostic and therapeutic standpoint as in the cases of differences in the reaction in the blood and cerebro-spinal fluid. The Wassermann reaction should therefore be investigated in the urine as well as in the blood and cerebro-spinal fluid.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

459. Acute Myoclonic Encephalitis.

SICARD and KUDELSKI (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 29th, 1920) have recently observed 4 cases of acute encephalitis characterized (at their onset) by severe generalized shooting pains and a slight rise of temperature, and (at their height) by short rapid muscular jerks of the myoclonic type, affecting both upper and lower limbs as well as the face and diaphragm, with insomnia but without any ocular symptoms or modification of objective sensibility. The reflexes and sphincters were normal. The condition closely resembled Dubini's "electric" chorea. The cerebro-spinal fluid remained normal apart from a slight lymphocytosis and increase of albumin towards the close. The prognosis appeared to be very grave, as three of the four cases succumbed. The autopsy showed cerebral oedema, meningeal congestion, and inflammation of the choroid plexuses. In the subsequent discussion Netter expressed the opinion that these cases were due to the same cause as lethargic encephalitis; the symptoms were the result of the localization of the virus. In the following issue of the *Bulletin* the same authors recorded two fresh cases of the myoclonic type. In the first case the myoclonus was confined to the face and upper limbs, and was accompanied by a paresis of the extensor muscles of the arms, which was sometimes more marked on the right and sometimes on the left. In the second case the myoclonic jerkings, which had been preceded by severe pain in the limbs, were most marked in the diaphragmatic and abdominal region. Both cases recovered. The syndrome was distinguished from lethargic encephalitis by the absence of lethargy and ocular symptoms. In the subsequent discussion Carnot and Gardin reported a case of progressive ascending myoclonus in a man aged 19, which began in the lower limbs, invaded the abdomen with paralysis of the bladder, then the upper limbs, and finally the face. There were labial herpes and pulmonary hepatization. Death took place after seventeen days' illness. The autopsy showed gross lesions of the nerve cells in the cortex and medulla, and extensive thrombosis of the meningeal veins, which extended to a large part of the spinal cord.

460. Epidemic Encephalitis Simulating Acute Abdominal Disease.

C. MASSARI (*Wien. klin. Woch.*, March 4th, 1920) has observed six cases of epidemic encephalitis in which the clinical picture was at first dominated by abdominal symptoms. Several of these cases were sent to hospital as abdominal emergencies requiring immediate operation, and in one case laparotomy was performed in order to relieve acute intestinal obstruction. Parts of the small and large intestine were found in a state of maximum contraction, and the circumference of the contracted small intestine was reduced to that of the little finger. The contracted sections of the intestine were very pale; the sigmoid flexure was almost white. The patient died five days after the operation, and the necropsy showed pneumonia and numerous punctiform haemorrhages into the brain. Discussing the differential diagnosis in such cases, the author draws attention to the curious flushed condition of the patient's face, the bradycardia, the comparatively low temperature, and the short interval between abdominal palpation and the response of pain. In true peritonitis palpation provokes instant pain. The author refers to a recent paper by Dimitz, who has noticed that an early sign of epidemic encephalitis may be twitching of the diaphragmatic and abdominal muscles, accompanied by severe abdominal pain.

461. Involuntary Movements following Influenza and Lethargic Encephalitis.

P. MARIE and G. LÉVY (*La Médecine*, February, 1920) record fifteen cases following influenza or lethargic encephalitis characterized by involuntary movements of the limbs, trunk, or face, which varied from one patient to another, but nevertheless preserved distinct resemblances. The phenomena were unilateral or bilateral, and consisted of choreiform movements, rhythmical contortions, or a fine tremor resembling that of paralysis agitans. The autopsy showed lesions in the cerebral peduncles, especially in the locus niger, similar to those found in cases of lethargic encephalitis.

462. Lethargic Encephalitis with Relapse.

SICARD and KUDELSKI (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 29th, 1920) record a case in a woman, aged 20, who presented typical symptoms of lethargic encephalitis which disappeared in a fortnight's time. Ten days later the somnolence and diplopia reappeared, accompanied by paralysis of the Millard-Gubler type. The syndrome changed from one side to the other, the crossed paralysis being first localized in the right mesencephalon and then in the left. Complete recovery took place in about three months. No changes were observed in the cerebro-spinal fluid.

463. Meningeal Symptoms and Lethargic Encephalitis.

H. CLAUDE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 29th, 1920) records three cases with meningeal symptoms and narcolepsy, which were of interest, first, on account of their rapid and mild course, and secondly, because they formed intermediate types between meningitis and lethargic encephalitis. Two of the cases developed meningeal symptoms and spinal rigidity, Kernig's sign, retention of urine, diminution of the reflexes, and excess of albumin and lymphocytes in the cerebro-spinal fluid. After a short febrile period recovery took place apart from slight apathy, somnolence, and nuchal rigidity, which persisted. In the third case the disease began with headache, external strabismus, and inequality of the pupils, followed by somnolence. The cerebro-spinal fluid showed a great increase in albumin and cells. Subsequently slight spinal and nuchal rigidity developed. Gradual improvement took place, but a tendency to somnolence persisted.

464. Treatment of Lethargic Encephalitis.

PIERFRANCESCO (*Rif. Med.*, February 7th, 1920) reports 10 cases seen by him. The ages varied from 15 to 64. The incubation period varied from a few hours to five or six days, and in the majority of the cases presented influenza-like symptoms. In 2 cases the first symptom was diplopia, and in 2 others general choreiform movements. Somnolence usually appeared in the first week and lasted from a few days to several weeks—in 3 cases it failed altogether. Diplopia was present in 6 cases. The left elevator palpebralis was paretic in 5 cases, the right in 2. More or less marked paresis of the left facial nerve was noted in 6 cases. In one rapidly fatal case there was paralysis of the twelfth nerve. Where paralysis of the extrinsic muscles of the eye was present there was nearly always some affection of the external recti. True symptoms of meningeal irritation were never seen. Myoclonus and static tremor of the upper limbs was noted in 5 cases and 4 showed dynamic ataxia. The reflexes were abolished in 4 cases, normal in 3, rather active in 3. The pupils in 5 cases were small, in 3 dilated, and in 3 normal. No changes were seen in the fundus. Dermographism was marked in 4 cases, slight in 3. Lumbar puncture gave a clear fluid six times, the fluid was haemorrhagic twice, and in 2 cases the liquid had a dichroic appearance. In 6 cases it issued under weak pressure and in 4 cases under high pressure. The pulse and temperature were not specially characteristic. Death occurred in 6 of the cases—in 3 due to bronchopneumonia, in 2 from coma, and in 1 quite suddenly. Lumbar puncture, injections of colloidal silver, antistreptococcic serum, or phenol all gave equivocal results, but some advantage seemed to be gained from repeated hypodermic injection of iodine in small doses. Attempts to find the causative agent were not very successful, but in 1 case an organism was isolated—a Gram-resistant diplococcus with rounded ends and a tendency to group in small chains of six or eight. J. SABRAZÈS and C. MASSIAS (*Gaz. hebd. des Sci. Méd. de Bordeaux*, February 22nd, 1920) have successfully treated two cases of lethargic encephalitis by intraspinal injection of serum from patients convalescent from the disease. The first case, a youth aged 17, was given 35 c.cm. of serum which had been taken from his father. The second patient, aged 23, when *in extremis* received an intragluteal injection of 20 c.cm. of blood taken from the first case and two intraspinal injections of 40 c.cm. of serum from the same source. Rapid recovery took place in both cases.

465. An Epidemic of Hiccough.

G. GOTTI (*Gior. di Clin. Med.*, March, 1920) records an outbreak of 7 cases of hiccough occurring near Ravenna. It appeared to be related to lethargic encephalitis for the following reasons: (1) The simultaneous occurrence of the two outbreaks; (2) their epidemiological character; (3) the presence in many cases of encephalitis of clonus of individual muscles comparable to the clonus of the diaphragm which characterized the outbreak of hiccough. The duration of the hiccough was three to four days on the average; in a few seven to eight days. It did not seem to be affected by sedatives, purgatives, or strict diet, but disappeared spontaneously without leaving after-effects of any kind.

466. Weakness of the Right Facial Nerve in Epileptics.

L. RONCORONI (*Il Policlinico*, Sez. Prat., January 3rd, 1920) has observed that a weakness of the lower division of the right facial nerve is a common occurrence in epileptics. The sign is best demonstrated by making the patient open his lips while keeping the teeth closed. It will then be found that the right labial commissure is less widely open than its fellow, the angle of the mouth more depressed and the naso-labial fold less distinct. The condition is not a true paresis but merely a diminution of functional energy. It occurs not only in fully developed cases of convulsive epilepsy but also in *petit mal*. It is often associated with left-handedness. Both phenomena may be attributed to abnormal action of the left cerebral hemisphere, which being the more highly developed is more susceptible to hereditary morbid influences such as occur in epilepsy.

467. Facial Paralysis in Influenza.

A. POROT and N. SENGÈS (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 29th, 1920) record 3 cases of facial paralysis in soldiers in connexion with influenza. In 2 the complication occurred during the acute stage and was of short duration; in the third it developed a week after the temperature became normal, but had not entirely disappeared eight months after the onset. As regards predisposing causes, one patient had had signs of tuberculosis the year before and some pain in the ear. The second had had actual otorrhoea two years previously, but on the opposite side to the facial paralysis; the Wassermann reaction was positive in the cerebro-spinal fluid, but there was no other evidence of syphilis. The third patient was a neuropathic subject, so that all the cases might be regarded as having a diminished general or local nervous resistance. But the complication was mainly due to an extension of the naso-pharyngeal catarrh to the facial nerve via the Eustachian tube. Facial paralysis may thus be regarded as a local complication of influenza, which explains why it was less rarely met with than other affections of the peripheral nerves.

468. Influenza and Pulmonary Tuberculosis.

IN a paper based on the study of 150 cases of pulmonary tuberculosis and 210 cases of influenza between December, 1918, and July, 1919, at the Sandhof Municipal Hospital at Frankfort a. M., W. AMELUNG (*Muench. med. Woch.*, November 14th, 1919) comes to the following conclusions: The incidence of influenza among patients with pulmonary tuberculosis is slight. Only fifteen of Amelung's tuberculosis patients contracted influenza. The course of influenza is milder, especially in cases of slight tuberculosis than in the non-tuberculous. Persons who had formerly had no lung disease may develop pulmonary tuberculosis as a sequel of influenza, and in such cases the coincidence of the two diseases has a relatively unfavourable prognosis. The theoretical explanation of this action of the two diseases upon each other is that the tuberculous organism is in a state of constant defence, whereas the healthy organism succumbs to the sudden attack.

469. Primary Cancer of the Lung.

ROUBIER and BRETTE (*Lyon méd.*, January 10th, 1920) report the case of a syphilitic man, aged 51, who presented the following symptoms: (1) A mediastinal reaction shown by oedema of the face and arms, intermittent dysphagia, and dyspnoea without hoarseness. The apex beat was in the nipple line and the two pulses were equal. (2) Considerable enlargement of the liver with jaundice. (3) Dullness of the right pectoral region, due partly to a serofibrinous effusion, but mainly to a large non-pulsating mass sharply defined on radioscopy in the right side of the thorax. (4) A hard mass palpable in the supraclavicular fossa, which did not appear to be a gland but a prolongation upwards of the thoracic tumour. At the necropsy a large tumour was found formed by the upper lobe of the right lung, and a mass involving all the mediastinal organs. A similar tumour was found in the pancreas compressing the bile ducts. The diagnosis of aneurysm was at first suggested during life, but the presence of a supraclavicular mass on the right side was in favour of mediastinal cancer. The signs in the mediastinum predominated over those in the lungs, as is characteristic of the mediastinal form of primary cancer of the lung. The jaundice might be attributed to arsenical treatment, rather than to compression of the bile ducts by a pancreatic nodule. Histologically the growth was an atypical epithelioma.

SURGERY.

470. Statistics of Parrot's Pseudo-paralysis.

S. DE STEFANO (*La Pediatria*, February 15th, 1920) records 35 cases of Parrot's pseudo-paralysis; 18 were in males and 17 in females. The ages at which the condition began ranged from birth to 2½ months, 34.3 per cent. being found in the second half of the second month. In 9 cases the onset had not been determined as regards the family history; in 20 cases syphilitic infection of the parents was more or less certain; in 7 cases there had been one or more abortions, and in 7 cases only there was nothing suggestive of syphilis in the family history. Both upper limbs were affected in 15 cases, the right upper limb in 6, the left upper limb in 6, both lower limbs in 3, the upper and lower limbs in 4, and the left upper and lower limb in 1. In all but 7 cases other signs of congenital syphilis were present, especially rhinitis, enlargement of the spleen, and condylomata. The Wassermann reaction, which was tested in 23 cases, was positive in 16 and negative in 6, but in two of the latter the luetin test was positive. As regards the issue of the cases, 17 were lost sight of; of the remaining 18, 4 showed considerable improvement and 14 made a complete recovery.

471. Acute Appendicitis with Ileo-caecal Ectopia.

CORNIOLEY (*Rev. méd. de la Suisse rom.*, February, 1920) records a case, in a boy aged 9, who presented all the signs and symptoms of acute appendicitis including tenderness at McBurney's point. On laparotomy the caecum was not in its usual position, but was found beneath the liver where it represented the whole of the ascending colon. Curled up beneath it was an inflamed appendix, which was removed. Ectopia of the caecum is not very rare. Sometimes it may be situated in the pelvic cavity, or, on the other hand, in the lumbar, perirenal, or subhepatic areas, as in the present case. All these positions indicate an excess or arrest of movement of this organ in fetal life or in the first few years of extrauterine existence. The occurrence of tenderness at McBurney's point and its absence in the subhepatic region are explained by supposing the existence of a cutaneous area supplied by a spinal segment in which the sensory nerves of a definite part of the alimentary canal terminate.

472. Rhinoscleroma in Egypt.

ACCORDING to JOANNOVICH and MARASPINI (*Presse méd. d'Égypte*, March 1st, 1920), who report a case of ten years' standing in a woman aged 42, rhinoscleroma is endemic in Egypt, though it is probably often mistaken for some other condition. The onset is insidious, the affection usually starting in the nasal fossae and still more frequently at the choanae. It remains confined to the nasal fossae and nasopharynx for one or two years before it becomes manifested by a deformity of the external part of the nose. At an advanced stage, as in the writers' case, ulceration occurs; this is contrary to what has been stated by others. The symptoms at first consist of a diminution of the nasal airway, and later nasal obstruction may be complete. The interference with respiration increases as the disease extends towards the nasopharynx, later to the oropharynx, larynx, and finally to the trachea and bronchi. When the pharynx is invaded swallowing is painful, especially in the case of alcoholic and acid drinks. The nasal secretion becomes mucopurulent and offensive. On examination in the early stage there is a diffuse infiltration of the pillars, uvula, and soft palate. At a later stage the nose becomes larger and presents projections, and finally the process invades the upper lip, cheeks, and lower lids. The duration of the disease is indefinite, and no treatment is of any avail.

473. Early Gastric Cancer and Generalized Pulmonary Cancerous Lymphangitis.

G. TURRETTINI and I. GERBER (*Rev. méd. de la Suisse rom.*, March, 1920) record a case of gastric cancer in a woman, aged 30, which was remarkable in that it never caused pain or vomiting except during a period of jaundice. The tumour was only manifested clinically by thrombosis of the right innominate vein and internal jugular vein, which gave rise to considerable oedema of the face and arm. A few days before death the patient was suddenly seized with progressive dyspnoea; there were definite signs in the lungs. The autopsy showed carcinoma of the stomach, generalized carcinoma of the pulmonary lymphatics and lungs, and thrombosis of the superior vena cava and internal jugular vein.

474. Some Clinical Forms of Pulmonary Hydatid Cysts.

CREYX (*Journ. de méd. de Bordeaux*, March 25th, 1920) draws attention to the protean nature of the symptoms of hydatid disease of the lungs, and records six illustrative cases. In the first case the disease was entirely latent, a large cyst being found at the necropsy on a fatal case of osteomyelitis. The second case, which recovered, resembled one of acute tuberculosis with haemoptysis. In the third case pleurisy with effusion was simulated: rupture of the cyst followed thoracocentesis; after threatened asphyxia recovery took place. The fourth case simulated an intrathoracic tumour: recovery followed an operation in which a cystic cavity in the lung substance was opened and drained. In the last two cases the cysts gave rise to pulmonary suppuration. One recovered after thoracotomy; in the other death was due to cerebral abscess and streptococcal meningitis. At the autopsy cysts were found in the left lung, liver, and sacro-lumbar muscles.

475. Injections of Cow's Milk in Eye Diseases.

ACCORDING to S. G. MANSILLA (*Rev. de med. y cir. práct.*, December 14th, 1919), injection of cow's milk was introduced by Müller and Thanner of Vienna in 1916 not only for the treatment of ocular disease but for various general infections, such as influenza, bronchopneumonia, acute rheumatism, etc. As regards eye diseases, injection of sterilized cow's milk has been used in acute iritis, infective corneal ulcers, post-operative infections, trachoma, and eczematous keratitis. In addition to the Viennese writers already mentioned, favourable results have been obtained by Dimmer, Domec, Darier, Walther, and others. The injections have been in some cases intravenous, in others subconjunctival. Mansilla records six cases treated by intragluteal injections; five were examples of traumatic or spontaneous corneal infections accompanied by iritis and hypopyon, and one was an instance of lymphatic vascular keratitis. In the last case no improvement was observed, and in the five cases of corneal infection the improvement was marked in three, and less marked in two. The improvement is attributed by Müller to an increase in the hyperaemia and transudation into the inflammatory focus. The action of cow's milk is analogous to the "paraspecific" action of antidiphtheritic serum which Darier recommends in the treatment of acute infections of the eye, but the serum is preferable, as its injection does not cause any fever. On the other hand, sterilized cow's milk is always available, which is not the case with serum, especially in small villages. Moreover, milk can be used in cases in which anaphylaxis is likely to occur owing to the previous injection of serum. The injection of milk causes only slight pain, but four or five hours later there is a rise of temperature for ten to twelve hours. Improvement usually occurs after the second injection, and it is unnecessary to give more than six injections, the doses varying from 2 to 5 c.cm.

476. Thrombo-phlebitis of the Upper Limb.

ACCORDING to F. M. CADENAT (*Paris méd.*, March 27th, 1920), who has collected 24 cases from literature, thrombophlebitis of the upper limb is rare. It is manifested by a syndrome analogous to phlegmasia caerulea dolens of the lower limb, but, unlike it, is most frequently situated on the right side. It varies in duration from fifteen days to several months. As a rule it terminates by complete restoration of the function of the limb, and embolism has never been noted as a complication. The pathogenesis is not yet settled. Apart from phlebitis due to the extension of a local infection of the upper limb, it may be observed as the result of a violent effort or of thoracic traumatism. Thrombosis due to effort is probably caused by injury to the internal coat of the vein giving rise to coagulation of the blood, the circulation of which is already slowed by the forced expiration characteristic of effort. Thrombophlebitis of thoracic origin is probably secondary to a pleural infection. A number of cases of apparently spontaneous thrombo-phlebitis are due to a syphilitic lesion of the vein. The treatment consists in immobilization and suspension of the arm, followed by massage and mobilization after the third week.

477. Chancre of the Little Finger.

L. QUEYRAT (*Bull. Soc. de Derm. et de Syph.*, January 22nd, 1920) records a case in a girl aged 18, who presented an extensive syphilitic eruption and mucous tubercles on the palate and vulva. No trace of a chancre could be found until it was noticed that the patient had a dressing on her little finger, on examination of which a small primary lesion was found on the palmar aspect at the second interphalangeal joint. The patient had cut her finger with a mandoline string, and before it healed had contaminated the wound.

OBSTETRICS AND GYNAECOLOGY.

478. Blood Transfusion in Obstetrics.

LOOSEE (*Med. Record*, January 14th, 1920) records thirty-nine cases, with three deaths, of blood transfusion for acute haemorrhage—for example, placenta praevia, post-partum haemorrhage, ruptured ectopic gestation—and twenty-nine transfusions with no deaths for anaemia secondary to post-partum haemorrhage, with localized pelvic sepsis. The blood was usually obtained from professional donors, a list of whom (grouped according to their isohaemolysin and isoagglutinin reactions) has been kept for three years and is consulted when an emergency arises. If a donor of the same group as the patient could not be secured, the injection of blood from a Group 4 subject was found to be harmless. The donors were subjected to periodic Wassermann and agglutinin tests; the latter (and if time permitted the former) was repeated immediately before the transfusion, which sometimes amounted to 1,000 c.cm. Unmodified blood was employed in preference to citrated. The successful results included cases in which, when the transfusion was begun, no heart sounds were audible, respirations were as few as six per minute, and the median basilic vein was empty. Loosee believes that many lives were saved which would otherwise have been lost, and says that obstetric institutions should be prepared to perform the operation instantly and at any time.

479. Rupture of the Rectum during Labour.

DORSETT (*Surg., Gyn. and Obstet.*, March, 1920) reports a case of this exceedingly rare occurrence. The patient, aged 37, was admitted to hospital in a condition of profound shock thirty hours after a low forceps operation had led to delivery, which had been immediately followed by severe pain in the left side. The abdomen was tympanitic except over the uterus, and so greatly distended that the skin was torn at several places. Vaginal and rectal examination failed to reveal anything other than the conditions usual after delivery, and twelve hours after admission the patient died. Pyrexia was present. The *post-mortem* examination showed acute diffuse fibrinous peritonitis and a rupture of the rectum at its junction with the sigmoid. Inside the rectum was an old (syphilitic) stricture.

480. Pelvic Septic Phlebitis.

NYULASY (*Surg., Gyn., and Obstet.*, March, 1920) states that the majority of fatal cases of puerperal infection fundamentally associated with the interior of the uterus have shown pelvic septic phlebitis, so that the importance of any surgical measure calculated to diminish the mortality from this cause cannot be too much appreciated. In cases with recurring rigors, in which the thrombosed veins can be palpated, excision or ligature of the infected veins had occasionally given good results. But in most cases such an extrauterine lesion is not discoverable. If in a case of puerperal infection connected with intrauterine disease such as polypoid decidual endometritis the polypoid decidua and any adherent placenta be removed from the subinvoluted uterus at an early stage wherein fever, quick pulse, haemorrhage, or foul discharge are absent, the patient is practically certain to recover. But if, after some days, the patient continues to deteriorate from puerperal infection, a diagnosis of pelvic septic phlebitis may be arrived at by a process of exclusion. The author thinks that operation in such cases will save many lives, and he has been accustomed to open the abdomen as soon as he arrives at the diagnosis.

PATHOLOGY.

481. Morbid Anatomy of Lethargic Encephalitis.

P. GUIZZETTI (*Giorn. di Clin. Med.*, March, 1920) performed necropsies on 6 cases of encephalitis, aged 17 to 44, whose disease had lasted from six to thirty-five days. Macroscopically the case which died on the sixth day showed haemorrhagic encephalitis of the optic thalami and of the region round the aqueduct of Sylvius. The appearances were those of the polioencephalitis haemorrhagica superior of Wernicke with isolated or grouped punctiform haemorrhages. Two cases showed thrombosis of the posterior part of the superior longitudinal sinus, and in another two cases macroscopical examination of the brain and cord was practically negative. The microscopical changes in the three cases examined were as follows: (1) Collections of lymphocytes and pyroninophilous cells in the lymphatic sheaths of the veins; (2) centres of inflammatory infiltration. These lesions were most marked in the mesencephalon, less frequent in the medulla, and rare or entirely absent in the cord. They were pronounced in the optic thalami and pes hippocampi. Endocranial inoculations of rabbits were negative, and cultures of the mesencephalon were inconclusive or negative. As regards the other organs, the rhinopharynx showed hardly any changes, in two cases the tympanic cavity was congested and filled with a clear fluid, and in four cases there was hypostatic pneumonia. In contrast with influenza, which was epidemic at the time, there was never any diffuse tracheo-bronchial inflammation or enlargement of the lymph glands at the bifurcation of the trachea. Sometimes a few petechiae were found beneath the epicardium. The spleen was normal, and there were no changes of importance in the other organs.

482. The Etiology of Encephalitis Lethargica.

MAGGIORA and MANTOVANI (*Rif. Med.*, January 31st, 1920) found in blood broth cultures a small Gram-positive diplococcus; successive transplantations developed regularly both on human blood-agar and on Lubenau's medium. Cultures of the liquor gave negative results. Guinea-pigs injected with the blood died in five or seven days with symptoms of hypothermia, paresis of limbs, intense somnolence, and muscular tremors. Autopsy showed hyperaemia of all the organs and small punctiform haemorrhages of the brain, especially in the grey matter. In the blood of one animal injected with cerebro-spinal fluid a diplococcus like the one mentioned above was found. In serial passage through the guinea-pig the germ increases in virulence; it is anaërobic and very delicate, requiring special care in culture. It agglutinates in 1 per cent. dilution of the blood serum of the patient from whom it was isolated. It does not agglutinate with normal blood or typhoid blood. The Wassermann reaction was negative.

483. Congenital Absence of One Lung.

C. S. LEVY (*Amer. Journ. Med. Sci.*, February, 1920) records a case of congenital absence of the left lung, left bronchus, left pulmonary artery, and left pulmonary veins in a man aged 49 years. The right lung was very large, completely filling the right pleura and extending medially over the front of the mediastinum into the anterior part of the left hemithorax. The left primary bronchus was represented only by a small blind pouch. There was no left pulmonary artery, but the main trunk gave off three branches to the upper, middle, and lower lobes of the right lung. The left innominate vein opened direct into the right auricle. Among 22 collected cases of absence of one lung, 15 concerned the left and 7 the right lung. In 12 cases death occurred before the age of 1 year, and in 10 cases the age was between 8 and 70 years. In the previously reported cases the chest has been stated to be normal in contour, but in Levy's case it was asymmetrical, the left side being flat.

484. Parathyroid Epilepsy.

A. BISGAARD and J. NÖRVIG (*Hospitalstidende*, January 28th, 1920) have carried out a series of investigations on the metabolism of epileptics, with special reference to the ammonia in the blood and the ammonia regulation in the body. They found that whereas the amount of ammonia in the blood in normal individuals is fairly constant, it shows wide ranges in epileptics. Shortly before an attack there may be three times as much ammonia in the blood as in that of the normal person. This rise is demonstrable three hours before an attack, and is very considerable two hours later. It is also demonstrable in what the authors term the "psychic equivalent" of an attack, which may mature a day later. After comparing the calcium, ammonia, and albumin metabolism of hypoparathyroidism in animals with that of tetany and epilepsy in man, the authors maintain that the points of similarity are so numerous and striking that a convincing case can be made out for looking upon genuine epilepsy as related to faulty function of the parathyroids.

485. The Cerebro-spinal Fluid in Whooping-cough.

G. GENOESE (*Il Policlinico*, Sez. Prat., March 8th, 1920) examined the cerebro-spinal fluid of six whooping-cough patients, aged from 2½ to 6 years, with the following results: In every case it was perfectly clear, under increased pressure, with a normal albumin and chloride content and without a fibrinous reticulum. There was an absence of acetone, Boveri's reaction was negative, and there was no increase in the number of cells. The increase in reducing substances was thought to be mainly due to meningeal congestion caused by the violent and repeated attacks of coughing. Experimentally this view is confirmed by the fact that after spinal anaesthesia with stovaine or cocaine there is an increase in the sugar of the cerebro-spinal fluid without hyperglycaemia. In such cases there is a marked congestion from local irritation without inflammation, just as in whooping-cough, in which there is a disturbance of the cerebral circulation with subsequent stasis.

486. The Protein and Lipin Content of the Blood Serum in Nephritis.

IN normal persons the ratio of serum albumin to serum globulin in the blood serum is from 1.5 to 2 : 1, and some observers have reported a disturbance of this ratio in chronic nephritis. Freund reported diminution of the globulin, Erben found the serum globulin increased; Epstein, in addition to finding the serum globulin present in the blood serum of patients with chronic parenchymatous nephritis greatly increased, reported the presence of very large amounts of cholesterol. On these data he considers that these cases of parenchymatous nephritis are due to a constitutional disorder of a metabolic or endocrine nature, and that the renal or other manifestations are concomitant or secondary in point of development and importance. He also considers that the loss of protein through the continuous albuminuria causes a decrease in the osmotic pressure and so favours oedema, as does the marked increase in the lipin content of the blood. He therefore advises a diet rich in proteins and poor in fats. M. KAHN (*Arch. Int. Med.*, January, 1920) has examined the blood of 16 cases of chronic parenchymatous nephritis with well-marked oedema and of 7 with slight oedema, and has failed to find any case conforming to Epstein's endocrine nephrosis, which he therefore concludes must be very rare. A diet rich in protein and poor in fats failed to have any effect on oedema, and he considers it a rather risky undertaking. He also concludes that the albumin-globulin ratio in the blood serum is not markedly affected by various diseases.

487. Incidence of Protein Sensitization in the Normal Child.

H. M. BABER (*Amer. Journ. Dis. Child.*, February 9th, 1920) used the following method to determine sensitization. The inner side of the forearm was cleaned with alcohol and ether, and scratches were made two inches apart, the upper scratch serving as a control. One or two drops of protein in normal saline were placed on the scratch and the point of inoculation examined at five-minute intervals for half an hour. Positive reactions consisted of an urticarial wheal surrounded by an irregular area of redness. It was found that the incidence of sensitization in normal children was almost negligible, except in the case of salmon. In children presenting anaphylactic symptoms the articles of diet most commonly causing disturbance were oatmeal, potato, eggs, peas, rice, casein, beef juice, and chicken.

488. Spontaneous Rupture of the Abdominal Aorta.

E. DUHOT, M. PELLISIER, and P. MECQUET (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 5th, 1920) record a case in an alcoholic and probably syphilitic man, aged 32, in whom an attack of acute nephritis caused an increase of blood pressure followed by rupture of the abdominal aorta above the origin of the left renal artery. The vessel at this point showed a slight fusiform dilatation, but not of the size or character of a true aneurysm; in the intima were numerous patches of atheroma. Out of 103 cases of rupture of the aorta collected by Martin, in only 4 was the site of the rupture the abdominal aorta.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

489. Pericarditis with Effusion.

IN the absence of friction the diagnosis of pericardial effusion, notably from cardiac dilatation, is difficult. In order to determine the value of the diagnostic physical signs, especially Rotch's sign of dullness in the fifth intercostal space on the right side and Ebstein's view that the first evidence of a pericardial effusion is a rounding of the cardio-hepatic angle which is normally acute, C. S. WILLIAMSON (*Arch. Int. Med.*, February 16th, 1920) undertook an experimental study in thirty-three bodies. The pericardium was injected through the central tendon of the diaphragm with a mixture of gelatin and agar, which was perfectly fluid when warm but became hard in a short time. Careful percussion was carried out, and after twenty-four hours' interval the necropsy was performed so as to determine exactly the outline and position of the pericardium, which was then removed and frozen. The pericardium and heart as a whole, the heart alone, and the exudate alone, were next modelled and photographed. It was then found that the fluid first collects along the lower margin of the heart and about the apex, particularly on the diaphragmatic surface, and displaces the left lobe of the liver downwards. The only alteration in the position of the apex of the heart is a displacement downwards, which, however, is so slight as not to be detected clinically. The second situation in which fluid accumulates is over the great vessels, and the dullness thus produced is an important diagnostic sign. In no instance was there an obtuse cardio-hepatic angle or sufficient dullness in the fifth interspace to be of diagnostic value.

490. Hypertrophic Osteo-arthropathy in Carcinoma of the Pleura.

S. BAYNE-JONES (*Johns Hopkins Hosp. Reps.*, 1919, xviii) records a case in a negro, aged 16 years, whose clinical aspect was that of chronic intrathoracic disease of obscure nature with secondary hypertrophic osteo-arthropathy which began after the onset of the thoracic disease and progressed with it. The physical signs suggested an effusion in the left pleura, but no fluid was ever obtained by paracentesis; the patient had a raised temperature for months, and became much emaciated. The Wassermann and Calmette tests were negative. The necropsy revealed primary carcinoma of the left pleura, forming a large mass and enveloping the whole of the lung like a shell; this growth invaded the left lung, the pericardium, the diaphragm, the capsules of the liver, spleen, and left kidney; there were implantations of growth on the intestines and acute haemorrhagic peritonitis. Microscopically the growth was composed of large epithelial-like cells arranged in an alveolar or tubular manner with intervening fibrous tissue showing hyaline change and haemorrhages in parts. The nomenclature of a tumour arising from the mesothelial epithelium of the pleura is discussed, but the author considers the term "carcinoma" appropriate. The hypertrophic bone changes consisted of a regular deposit of new bone in a layer around all the bones of the skeleton; the layer of new bone was approximately of the same thickness on all the bones of the extremities. The periosteum was outside the most recently formed bone, and therefore apparently took an active part in the process. Microscopically the structure was that of normal bone without any evidence of inflammation, but was described as similar to that of the new bone formed in definite periostitis.

491. Preventive Inoculation against Rabies.

HAMBURGER (*Nederland. Tijdschr. v. Geneesk.*, February 18th, 1920) states that in 1919 nineteen persons received preventive inoculation against rabies at the Utrecht Serological Institute. All came from eastern provinces, and as Holland had been free of the disease within recent years it had probably been introduced from Germany. The results of the inoculation had so far been good. Of the 19 cases which had been inoculated from a few hours to twenty-nine days after being bitten none had contracted the disease. Paraplegia and rectal and cerebral paralysis, which have been described after anti-rabic inoculation, were not observed.

492. Congenital Pyloric Stenosis.

Il Morgagni (January 15th, 1920), discussing congenital pyloric hypertrophic stenosis, says the only certain sign is the presence of a tumour; repeated examination is sometimes necessary to find the tumour, which often may be felt while the child is being fed, or soon after. It can usually be detected outside the edge of the right rectus, and feels like a marble, easily slipping from under the finger. Visible gastric peristalsis, unless associated with a tumour, is of little value in diagnosis, as it may be due to simple spasm. Vomiting (of the "shot-out" type) is often violent, but the vomit is never tinged with bile. Constipation, with hard small motions, is common. In male children pyloric stenosis and phimosis almost always occur together, but whether the phimosis by causing urethral spasm sets up a reflex pyloric spasm, or whether the two conditions are due to a common cause—for example, changes in the adrenal glands—is uncertain. Attention is directed to the gastric symptoms usually at four to eight weeks. It is much more common in the male than in the female. Spasm plays a large part in the symptomatology, for stenosis has been found *post mortem* when there had been no symptoms during life. If the child is artificially fed the milk should be peptonized, and the stomach washed out with a mild alkaline fluid. For the constipation, enemata are to be preferred to cathartics given by the mouth; males should be circumcised. If medical treatment is unsuccessful in ten or twelve days and the child is wasting, vomiting, and going downhill, surgical procedure is necessary.

493. Rules for Combating Diabetes.

OWING to the importance of early treatment in diabetes, W. HOOGSLAG (*Nederland. Tijdschr. v. Geneesk.*, January 24th, 1920) makes the following proposals: (1) Every family doctor, specialist, and dental surgeon should examine the urine of every patient, irrespective of age, sex, or complaint; (2) whenever a case of diabetes occurs in a family the doctor should insist on examining the urine of each member of the family each year; (3) life insurance societies should make arrangements for each policy-holder to have his urine examined free of charge annually.

494. Abdominal Enlargement in War Prisoners.

GUARINI (*Rif. Med.*, January 10th, 1920) reports 40 cases of "large abdomen" occurring in soldiers who had been badly fed as prisoners of war. There was no marked neuropathic history; when in prison they had suffered severely from gastro-enteritis, due to bad feeding. The chief symptoms now are enlargement of the abdomen, especially in the upper part, inability to do hard work or to walk much, shortness of breath, and constipation. The enlarged abdomen looks very much like that of a woman seven or eight months pregnant, and is very resistant to palpation; on percussion most of the cases show some tympanites. In addition to the abdominal symptoms a good many of the cases have signs of catarrh at the apex and some are definitely tuberculous. Radiological examination shows gastric ptosis and marked meteorism, especially of the colon. Some writers attribute the dyspnoea to partial paresis of the diaphragm, but Guarini can find no evidence of paresis or of spasm of the diaphragm, and points out that a good many of these cases had pulmonary lesions in addition to their gastric troubles.

495. The Syndrome of the Geniculate Ganglion.

UNDER this title A. SOUQUES (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 5th, 1920) describes a rare symptom-complex characterized by herpes zoster of the external ear accompanied by facial paralysis and auditory disturbances on the same side. Several examples of the kind have been reported by J. Ramsay Hunt. The recognition of this syndrome, whether in its complete or incomplete form, that is, as auricular herpes alone or associated with facial paralysis, is of great importance, as it may explain the origin of certain obscure facial paralyses. In such cases, therefore, the possibility of this syndrome should be borne in mind, and the external ear carefully examined. The eruption may be very slight, and escape the notice both of the patient and doctor. Souques is of opinion that the prognosis of this form of facial paralysis is better than that of other forms.

496. Organic Hemiplegia after Poison Gas.

E. TERRIEN (*Paris méd.*, February 14th, 1920) records two cases of this kind. In the first a right hemiplegia developed six weeks after gas poisoning, was incomplete, and cleared up in a few weeks. In the second case complete left hemiplegia occurred three weeks after inhalation of the gas. Hysteria could be excluded in both cases, and the condition was probably due to embolism or arteritis of the Sylvian artery; but whereas in the first case the arterial lesions were slight, giving rise to a transient paralysis similar to that observed in other intoxications, such as Bright's disease and uraemia, in the second case the arterial lesions were more profound, causing necrosis of the corresponding nerve elements and degeneration of the pyramidal tract. The possibility of the hemiplegia being due to a haematoma in the Rolandic area is also suggested.

497. Albuminuria in Tuberculosis.

MAZZOLINI (*Riv. Osped.*, January 15th, 1920) is chiefly concerned with the albuminuria which occurs before the development of pulmonary tuberculosis. About half the cases of albuminuria occurring in tuberculosis are not directly due to tubercle, but to fever, gastric disturbance, or hepatic changes. Permanent albuminuria in tuberculosis without renal disease is very rare, but transitory forms are not uncommon. There is a group, called pretuberculous by Teissier, characterized by a moderate amount of albumin (mostly sero-globulin), often associated with much colouring matter and earthy phosphates, sometimes orthostatic in type, and commonly disappearing when the pulmonary localization has developed. This albuminuria is apt to be recurrent and excited by fresh outbursts of disease. Another form of albuminuria, described by Teissier as paratuberculous, differs in this respect, that if it is followed by phthisis the phthisis appears some considerable time afterwards, and not shortly, as in the pretuberculous cases. Usually there is a fairly well-marked tuberculous family history in these cases, and a good serum reaction can be obtained. Phthisis is much less likely to occur in the paratuberculous group of albuminurics than in the pretuberculous. The author goes on to discuss orthostatic types of albuminuria, and quotes some figures of Lüdke and Sturm, which showed that in sixty incipient tuberculous subjects fifty-three showed orthostatic albuminuria—that is, 88 per cent.—whereas in later stages of the disease it was 64 per cent. (second stage), and 56 per cent. (third stage). Other statistics are also quoted, tending to show the wisdom of considering the possibility of phthisis when orthostatic albuminuria is found.

498. Blood Pressure after Intravenous Novarsenobenzol.

L. DELL'AMORE (*Journ. de méd. et de chir. prat.*, January 10th, 1920) examined the maximum and minimum blood pressure before and after each injection during a course of novarsenobenzol given either in repeated small doses or in increasing doses. The instrument used was Pachon's oscillometer. Contrary to what might have been expected, the two pressures fell progressively during the course of treatment. A few days after each injection the blood pressure tended to rise again slightly. These results were not affected by the previous administration of adrenalin by mouth. Novarsenobenzol therefore appears to be a drug which lowers the blood pressure. Patients whose tension was originally low appeared to be less susceptible than others to its depressing action.

499. Emetine in Urinary Bilharziosis.

E. DEBBAS (*Presse méd. d'Égypte*, February 1st, 1920) has adopted the following method in twenty cases of urinary bilharziosis. The patient is given ten intradeltoid injections of emetine hydrochloride, with four days' rest between each injection. The first dose consists of 0.08 gram, the second of 0.12 gram, the third of 0.16 gram, and the remaining seven of 0.20 gram each. All the patients recovered and none had a relapse. Apart from vomiting, which occurred in five cases after the fourth injection, none showed any signs of intolerance. Intramuscular injections are regarded as superior to the intravenous injections recommended by Diamantis for the treatment of bilharziosis, in that they do not require any previous preparation of the patient. They are also more efficacious and less painful than subcutaneous injections.

500. Clinical Varieties of Chronic Chorea.

ACCORDING to N. NICCOLAI (*Riv. Osped.*, November 30th, 1919), similar heredity does not appear to be a constant feature in the etiology of chronic chorea. Sometimes there is a general neuropathic heredity or degenerative predisposition. Occasional cases are of very secondary importance. The anatomical lesions which give rise to the disease have not yet been determined either as regards their nature or their situation. Apparently, however, in the majority of cases they consist of irritative changes (degenerative or hyperplastic) of the lenticular nucleus and central cortex. Clinically Huntington's chorea does not differ from other forms of chronic chorea. Atypical varieties of chronic chorea occur which, however, cannot be grouped apart, since they present the fundamental characteristics—namely, heredity (in a wide sense), adult age of the patients, chronicity, and the frequent association of mental disturbance.

SURGERY.

501. Tuberculin Treatment of Bone Disease.

KLEINBERG (*Journ. Orthopaedic Surg.*, 1919, 1) discusses the value of tuberculin as a method of treatment for bone and joint disease, and refers to the conflicting but mostly favourable reports given by different investigators. The author's thirteen cases were observed closely during long periods of time. He concludes that tuberculin is a failure as far as any intrinsic merits of its own are concerned; in so far as the treatment necessitates very careful supervision and attention it may have some value, but the administration of tuberculin has none. Kleinberg points out that it is incorrectly assumed by tuberculin enthusiasts that tolerance to pure tuberculin means immunity to tuberculous infection. Tuberculin produces tolerance for tuberculin; but this substance does not contain all the toxins of the tubercle bacillus. Most of the so-called cures by tuberculin of tuberculous hips occur in cases of unrecognized Perthes's disease. In Kleinberg's cases autogenous vaccines from the flora of discharging sinuses were employed, but without effect.

502. Congenital Orbital Cyst.

CAVARA (*Rif. Med.*, November 8th, 1919) records a case of orbito-palpebral cyst with anophthalmos in the lower lid of a child, aged 8 months. The father of the child suffered from double complete aniridia and partial congenital cataract. The child was well developed generally, but in the left eye there was complete aniridia and slight microphthalmos. In the right eye there was no trace of ocular globe, but a cyst in the lower lid. On removal histological examination showed that the cyst might be looked on as a rudimentary embryonic eye, due to disturbance in the growth of the primary optic vesicle. There was no trace of any of the elements of the secondary optic vesicle. The anophthalmos in this case was real and not apparent.

503. Oesophageal Diverticulum.

ARROWSMITH (*New York Med. Journ.*, 1920, 111) describes two cases presenting oesophageal diverticula. The first patient was a male, 76 years of age, who had suffered for several years from increasing difficulty in swallowing. Latterly there was regurgitation. A radiogram showed the presence in the neck of a very large diverticulum, the inner opening of which could clearly be seen with the oesophagoscope. It was impossible to coax the endoscope into the oesophagus proper. A radical cure was performed by the Jackson-Gaub technique, but the patient died on the sixth day. The second case was a male of 44 years, presenting the very unusual anomaly of two distinct pouches, one above the other. As the case was not operated upon it was not clear that the lower pouch was a true diverticulum.

504. Prostatic Abscess.

A. RANDALL (*Annals of Surgery*, February, 1920) records a series of sixteen cases, eight of which were non-gonorrhoeal, being due to *B. coli*, *Staphylococcus aureus*, or other organisms. Of these eight cases some were latent and showed no symptoms pointing to the prostate. Randall believes that pus in macroscopic amounts is present in many of the acute gonorrhoeal cases, as in the cases of gonorrhoeal epididymitis, and advocates strongly both in gonorrhoeal and non-gonorrhoeal cases, early and free incision into the prostate by a perineal operation. Drainage into the rectum is not advisable, owing to the tension of the parts. Spontaneous rupture into the posterior urethra, or rupture on a sound in the urethra may be followed by persistent sinuses in the prostatic urethra and chronic prostatic infection.

505. A Case of Syphilitic Reinfection.

C. LAURENT (*Bull. de la Soc. Franç. de Derm. et de Syph.*, January 8th, 1920) records a case in a man aged 30, who consulted him for a chancre of the penis in January, 1914. Numerous treponemes were found in the lesion. The patient was treated with mercury and neo-salvarsan during the next five years, and when seen in April, 1919, the Wassermann reaction was negative. He consulted Laurent again in December, 1919, for two typical chancres, one on the lower lip and the other on the foreskin, which both showed numerous treponemes. The history of the infection explained their distribution. The presence of the treponemes excluded the hypothesis of tertiary chancriform syphilides, which was also negatived by the bipolar distribution of the lesions.

508. Inadequate Treatment and Meningeal Syphilis.

M. PINARD (*Paris méd.*, March 6th, 1920) records several cases to show how treatment which is not sufficiently vigorous may favour the development of meningeal syphilis. Equal danger attaches on this account to comparatively inactive drugs such as benzoate, biniodide, and mercury pills, small doses of active drugs, a single course of an active drug or several courses at too long intervals. At the onset of syphilis the treatment should be intensive and should be continued not only until all the clinical symptoms have disappeared, but also until the Wassermann reaction has become negative in the blood serum and cerebro-spinal fluid.

507. The History of Syphilis.

F. GRÖN (*Tidsskrift for den Norske Laegeforening*, March 15th and April 1st, 1920) has collected the evidence, brought forward of recent years, as to the existence of syphilis in the Old World. He refers to Iwan Bloch as having exploded the theory that syphilis was known to the Old World, and he maintains that Sudhoff has failed to prove the existence of syphilis in Europe before 1493. But, the author insists, this negative evidence does not prove that syphilis came from America. This theory has, however, survived recent criticism, and in the light of present knowledge it cannot be dismissed forthwith. The author does not commit himself unreservedly to this theory, but adopts an impartial attitude.

508. "Silver Salvarsan" in Syphilis.

LEVY-LENZ (*Deut. med. Woch.*, December 25th, 1919) agrees with many other writers in speaking highly of this new preparation. He has found that primary and secondary symptoms rapidly subside, and that no bad effects occur either during or after injection. Contrary to the method pursued by other authorities, who use 0.1 gram of silver salvarsan in 10 c.cm. of water and make the injection drop by drop, he gives 0.1 gram in 3 c.cm. of water and injects it in the ordinary way. In 62 cases in which he has employed this method he has seen no bad effects, apart from transient cerebral congestion in one case. Fever occurred in 3 cases, or about as frequently as after injection of ordinary salvarsan.

509. Hemiplegia following a Wound of the Upper Thoracic Region.

P. LANDE (*Gaz. hebd. des Sci. Méd. de Bordeaux*, March 21st, 1920) records a case very similar to those reported by Makins (*Lancet*, September 23rd, 1916). A man, aged 35, was wounded by a revolver in the upper part of the thorax on the left side. He was taken at once to hospital, where signs of right organic hemiplegia were found. Death occurred in thirty-nine hours. The autopsy showed a wound of the left carotid and recent softening of the left cerebral hemisphere due to embolism of the Sylvian artery. All the other organs, including the heart, were healthy.

510. Pseudarthroses of the Humerus.

DUJARIER (*Med. Record*, August 23rd, 1919) records 35 cases of pseudarthroses of the humerus, following wounds by projectiles. Two groups were recognized, in which the factors of loss of substance and infection were respectively predominant. Where there was much loss of substance the arm assumed an hour-glass contour, the bony defect being marked by a narrowing, so that the arm swung and could be twisted in all directions; the limb was useless, though the forearm and hand were normal. *X* rays showed the fractured ends to be pointed; sometimes small discrete fragments were found between them. Where infection predominated separation between the fragments was absent or only slight, the arm was less flail-like and a sort of callus was formed, the particular characteristic being the irregularity of the fragments, which appeared swollen and of indefinite contour. Intermediate fragments of variable form, size, and number were often present. Where regeneration had occurred the osseous reuniting band was usually incomplete, fragile, and flexible. *X* ray showed osteoporosis of variable extent. The adjacent articulations were often stiffened, but true ankylosis was not observed. The muscles were always injured and sometimes destroyed, but injury to the brachial artery was rare. The radial nerve was most apt to be injured. Generally it was found to be preferable to operate in cases where cicatrization had been complete for a certain time, though in sluggish fistulous cases suture might be carried out while suppuration was still present. Grafting with a full-sized graft, in order to restore the humerus to its proper length, was rarely indicated, since, even after successful grafting, the arm remained weak. The shortening did not give rise to any functional trouble, and in certain conditions rendered suture and repair easier. The following operative procedures were employed: (1) Plating in 16 cases (only suitable for those in which the fractured ends appeared to be sufficiently solid); (2) silver suture in 9 cases, resulting in 7 consolidations: (3) clamps were used in 2 cases, consolidation being obtained; (4) simple approximation without suture in 1 case in which a fistula was present and the condition of the fragments too bad for suture; (5) osteoperiosteal graft or grafts in 10 cases, with 2 failures; 25 consolidations were obtained in 33 cases, a percentage of 75.7.

511. Rare Herniae.

AT the Breslau Surgical Society GOEBEL (*Zent. f. Chir.*, 1920, 47) recorded examples of an obturator, an interstitial, and a lumbar hernia. The first presented a small loop of ileum in the left obturator foramen, discovered at laparotomy for obstruction. The foramen was nicked from without after cutting through the pectineus. The interstitial hernia occurred in a patient with double femoral hernia. During laparotomy for obstruction a loop of ileum was found in a hernial sac which led not only into the thigh, but also along the descending ramus of the pubes towards the true pelvis. It was in the latter portion that the bowel had become incarcerated, as, apparently, there was no external sign of hernia. The lumbar hernia was present in a miner who had had an injury to his back many years before. There was a reducible hernia just below the outer half of the twelfth rib, through the so-called trigonum lumbale superius.

512. Fibrous Tumours of the Hand.

R. DUCASTAING (*Paris méd.*, March 20th, 1920) describes three cases of this kind in which the lesions consisted of fibrous nodules which had developed insidiously without any accidental or occupational traumatism. There was no definite history of tuberculosis, but there were "arthritic and rheumatic" antecedents. Histological examination showed that the numerous newly formed vessels contained in the nodules were the site of an endo-vascular inflammation of the type described by Poncet, and that the centre of the nodules was infiltrated with very numerous granulations of haemoglobin. Clinically the condition was characterized by its insidious onset, almost complete painlessness, and slow course. In the first patient the nodules did not show any tendency to extend, in the second they were associated with camptodactyly, and in the third the condition was closely related to Dupuytren's contraction.

513. Urobilinuria and Gall Stones.

S. HANSEN (*Ugeskrift for Laeger*, March 25th, 1920) has carried out a series of investigations at the new communal hospital in Copenhagen in order to establish the relation, if any, of cholelithiasis to urobilinuria. He found Schlesinger's test for urobilinuria unsatisfactory, and elaborated a new test, quantitative as well as qualitative. He reports that gall stones at rest in the gall bladder do not provoke urobilinuria, and biliary colic fails to induce urobilinuria if the common bile duct is completely blocked. Otherwise biliary colic is almost invariably associated with urobilinuria. The author examined 50 cases of gall stones and 210 controls recruited from surgical cases, including 35 cases of acute appendicitis. In most of the controls there was no urobilinuria. The author has found his test for urobilinuria useful in the differential diagnosis of gall stones and other diseases; in some cases exhibiting a clinically typical picture of gall stones there was no urobilinuria, and no gall stones were found at operation.

OBSTETRICS AND GYNAECOLOGY.

514. Vulvo-vaginitis of Children.

BROOKE BLAND (*New York Med. Journ.*, March 20th, 1920) considers that gonorrhoeal infection of female children is comparatively common, though the infection is seldom the result of rape. It may become epidemic in institutions for girls, in babies' hospitals, and in pediatric wards. In such places or in families stringent precautions should be taken to prevent the disease spreading. Immediate isolation is necessary and everything used in the treatment should be sterilized. Special care should be taken to prevent eye infection. Considerable difficulty is frequently experienced in instituting active treatment owing to the natural timidity of the child. If the first treatments are painful subsequent treatments are rendered almost impossible. The author's plan has been to use copious cleansings of the vagina and vulva with simple warm water through a soft rubber catheter for the first two or three days, and then, the child's confidence having been gained, to employ weak solutions of Lugol's iodine, starting with a quarter of a teaspoonful to two quarts of warm water and gradually increasing this to one teaspoonful. Irrigation is performed morning and evening for the first three or four weeks, and is accompanied once a day by the instillation into the vagina of 20 minims of 25 per cent. argyrol. A pad moistened with the same drug is applied to the external genitals. The irrigations after a month or six weeks can be diminished to once a day and discontinued when four successive smears are negative. Vaccines have never given favourable results.

515. Vaginal Myomectomy.

ACCORDING to C. R. BELGRANO (*Il Policlinico*, Sez. Prat., March 22nd, 1920) vaginal myomectomy is indicated (*a*) for fibroids of the vaginal portion of the cervix, where it is easily performed; (*b*) for fibroids of the supravaginal portion of the cervix (transvaginal myomectomy of Czerny); (*c*) for sessile submucous fibroids of the body of the uterus; (*d*) in the case of certain readily accessible submural fibroids. The operation is all the more desirable when the tumour is infected or sloughing. Vaginal myomectomy may present serious dangers, such as haemorrhage which may require packing, inversion of the uterus, and perforation. Another danger consists in the fact that metrorrhagia may result owing to other fibroids being left in the uterus.

PATHOLOGY.

516. Specific Reaction of the Urine in Acute Peritoneal Infections.

O. SGAMBATI (*Il Policlinico*, Sez. Prat., March 1st, 1920) describes the following reaction which he regards as pathognomonic of acute peritoneal infections: 2 or 3 c.cm. of fuming nitric acid are added to 8 to 10 c.cm. of urine. If the reaction is positive, a more or less intense dark bluish-grey ring forms above the yellow ring of contact of the two fluids. This becomes more distinct if the test tube containing them is left for a time, when the colour becomes diffused and the urine assumes a dichroic appearance, being partly greyish-blue and partly reddish-brown. The intensity of the reaction is directly related to the severity of the infection. There is no relation between the presence of the reaction and that of the other chromogenic substances in the urine—for example, indol, skatol, or bile pigment. The reaction is usually an early sign of acute peritonitis, and often precedes any other sign. It rapidly diminishes as the general condition improves, and increases as it gets worse. It is therefore claimed to be of great prognostic value.

517. Ruoss's Test for Glycosuria.

ACCORDING to A. DE MATTA (*Amazonas Medico*, April–June, 1919) Ruoss's agent is prepared as follows: Dissolve 3.50 grams of pure copper sulphate crystals in 10 c.cm. of warm water. Allow it to cool and add 15 c.cm. of pure glycerin and 23 c.cm. of a solution of caustic soda (1 part of pure NaOH in alcohol with 2 parts of water). When the solution is cold add 5 c.cm. of a watery solution of potassium sulphocyanide (30 per cent.), and make up to 100 c.cm. with a 25 per cent. solution of sodium chloride. A fluid of a blue colour is obtained similar in appearance to Fehling's solution. The urine to be examined is added to Ruoss's solution and the mixture is boiled. If reducing sugars are present the same change of colour takes place as with Fehling's solution. The advantages claimed for Ruoss's reagent are that it is rapidly prepared and that it is insensitive to the action of ordinary drugs.

518. The Significance of Hyperglycaemia in Diabetes.

S. LINDBLOM (*Hygiea*, September 31st, 1919) has been stimulated by Engstrand's recent investigations into the relation of hyperglycaemia to diabetes mellitus to an enunciation of certain hypotheses which are largely based on Engstrand's material, but which do not tally with his conclusions. The author notes that the subjects of diabetes are often discharged from hospital much improved, without sugar in the urine. But their hyperglycaemia still exists. In health the formation and destruction of sugar in the body are evenly balanced; there is a state of stable equilibrium. When over-production threatens, hyperglycaemia ensues because the kidneys are comparatively impermeable to sugar. This hyperglycaemia provokes the system to diminishing the production and increasing the destruction of sugar, and it thus restores the sugar equilibrium. But in diabetes this reaction of the body to hyperglycaemia is impaired; the sugar equilibrium cannot be restored without sugar escaping into the urine. In other words, before the sugar content of the blood has become great enough to provoke the system to restore the sugar equilibrium the kidneys have let some of the sugar escape. Hyperglycaemia is, in a sense, helpful—a stimulus to the system to restore the sugar equilibrium. When, in diabetes, the permeability of the kidneys to sugar is diminished by renal sclerosis, hyperglycaemia reaches such a height that even though the responsiveness of the system to the stimulus of hyperglycaemia is lessened, the production of sugar is diminished and its destruction increased. Hence a partial or complete restoration of the sugar equilibrium. The author compares this beneficial action of hyperglycaemia with that of increased blood pressure in arterio-sclerosis. The latter helps to drive the blood through rigid arteries, the former is required to supply comparatively powerful stimuli to the sugar-regulating mechanism which is incapable of responding to normal comparatively weak stimuli. But just as a high blood pressure ultimately aggravates arterio-sclerosis, so hyperglycaemia tends to lessen the irritability of the mechanism regulating the production and destruction of sugar. The author has noted that the constant passage of sugar through the kidneys diminishes their permeability to sugar, and he makes the suggestion that sugar disappears from the urine because of, not in spite of, the persistence of hyperglycaemia.

519. Classification of Influenza Bacilli.

RIVERS (*Johns Hopkins Hosp. Bull.*, February, 1920) record an attempt to make a biological classification of thos Gram-negative, non-motile, haemoglobinophilic bacill which belong to the indeterminate group of influenz bacilli. His paper, which briefly summarizes the previou contributions on the point, is meant as a preliminary i the hope that others will give further assistance. H investigated the cultural characters of 32 strains isolate from normal throats since the epidemic, 5 strains fro influenzal meningitis, 14 strains from epidemic influenz and 2 strains of the *Bacillus pertussis*. With regard to th last, they were clearly separated from the other group by the facts that after a period of artificial cultivation the could be grown on plain media; that they formed neithe indol nor nitrites; and that they made milk very alkalin Of course some of the influenza bacilli failed to form ind or nitrites, but none was found to produce such a hig degree of alkalinity in milk. Rivers recommends that th following points should be considered when working wit a suspected *B. influenzae:* (1) Determination of haem globinophilic qualities, (2) colony formation, (3) haemolyt test, (4) Gram's stain, (5) morphology, (6) motility, (7) ind formation, (8) reduction of nitrates to nitrites, (9) amyla formation, (10) reaction in blood-milk-broth. The rea tions allow of subdivisions of the group. The auth calls attention to a particular group of ten strains (fi from the spinal fluid of patients with influenzal meningiti three epidemic strains, and two from normal throats) which growth and morphological characters were ide tical; they all formed indol, reduced nitrates to nitrite and made blood-milk-broth slightly acid in forty-eig hours. Another group of nine were characterized b amylase formation.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

520. Diphtheria Mortality.

DUBOURG and F. GUÉNARD (*Journ. de méd. de Bordeaux*, February 25th, 1920) give the statistics showing the mortality from diphtheria at the Children's Hospital at Bordeaux during the thirty years 1888–1917. In 1888 and 1889 the cases were nursed in a general ward, with an average mortality of 49 per cent. and a maximum mortality of 54 per cent. in 1888. From 1890 to 1893 the cases were put in a special block and there was a decided fall in the mortality, since it was 35 per cent. during this period. In 1894, with the creation of separate cubicles for each patient, it fell to 19.4 per cent., the lowest figure reached before the introduction of the serum. Since 1895, when serum was first employed, the average mortality has been 7.28 per cent., with a maximum of 15.5 per cent. in 1899–1900 and a minimum of 1.53 per cent. in 1907 (3 deaths among 195 cases). The number of operations for laryngeal diphtheria has also fallen considerably; in 1894 56 per cent. of the diphtheria admissions required tracheotomy. After the introduction of serum and before intubation became current the annual average of tracheotomies fell to 9.87 per cent. of the admissions. After the introduction of intubation the number of operations (intubations and tracheotomies) was 15.34 per cent. of the admissions.

521. Typhoid Meningitis.

G. LAROCHE and G. PEJU (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 5th, 1920) propose the following classification of meningeal manifestations in typhoid fever. (1) Meningeal syndromes with a clear fluid in which the cell and albumin content is little if at all affected and the culture is negative. This form is always mild and generally clears up rapidly without affecting the prognosis; it is most frequent at the onset. As a rule it is of short duration, but sometimes lasts several days or even weeks. (2) Typhoid meningitis, in which typhoid or paratyphoid bacilli are cultivated from the cerebro-spinal fluid (much rarer). The fluid is clear or turbid, but rarely purulent. The prognosis is grave, death being observed in about half the cases. (3) Suppurative meningitis due to secondary infection with staphylococci, pneumococci, streptococci, etc., with or without typhoid or paratyphoid bacilli. These forms of meningitis are always fatal. The writers record a case of mild typhoid meningitis in a man, aged 27, occurring during a relapse of typhoid septicaemia. The symptoms were slight and transient, but the cerebro-spinal fluid was tested and contained an extremely large number of typhoid-bacilli, which disappeared after two lumbar punctures. Recovery was uneventful.

522. Late Epilepsy due to Endocrinic Disturbance.

G. ÉTIENNE and G. RICHARD (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 5th, 1920), who had previously recorded two cases of late epilepsy associated with disturbance of the glands of internal secretion, report another case in a woman aged 30, who eight days before the end of her second pregnancy was seized with a convulsive attack; no albumin was found in the urine. Eighteen months later symptoms of myxoedema developed, the menses became scanty, and convulsive attacks occurred. Suprarenal disturbance was indicated by adrenalin glycosuria, and *x* rays showed enlargement of the hypophysis. Treatment by thyroid and ovarian extract was instituted and no further attacks took place.

523. Congenital Cyanosis with Large Ductus Arteriosus.

IN the course of ten days VARIOT and BOUQUIER (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 5th, 1920) observed four cases of generalized and pronounced cyanosis in newborn infants, which became worse during their bottle feeds. In no case was any murmur heard on auscultation in the precordial region. All the infants showed some degree of congenital debility, their weight ranging from 2,250 to 2,750 grams. On radioscopic examination two of them showed a widening of the cardiac area in the region of the right auricle. Three died in the first ten days, and the fourth at the age of 15 days. In all four cases a large patent ductus arteriosus was found *post mortem*, and almost identical pulmonary lesions, consisting in congestion and considerable solidification of the largest part of the pulmonary parenchyma. The surface of the lungs showed patches of emphysema, which were as extensive as those met with in death from asphyxia.

524. The Sign of the Palato-glossal Arch in Influenza.

H. B. L. VOS (*Nederland. Tijdschr. v. Geneesk.*, February 21st, 1920) regards the following sign of diagnostic value in the sporadic cases of influenza which are liable to precede an epidemic. An erythema extends from both tonsils for a width of not more than 1 to 4 mm. over both palatal arches, while the rest of the soft palate may and usually does remain completely unaffected. The sign may be present when there is no visible catarrh of the nose or pharynx.

525. The Pleuritic Type of Aortic Aneurysm.

G. RUBINO (*Riv. Osped.*, November 15th, 1919) records a case of aneurysm of the descending thoracic aorta simulating pleural effusion, associated with congenital aortic incompetence, in a man aged 36. He points out that the diagnosis of the two conditions, pleurisy and aneurysm, cannot be made by the presence of pulsation. Exploratory puncture is invariably fatal sooner or later in the case of an aneurysm, and in the case of an ecchinococcus cyst is the cause of death in 50 per cent. of the cases. Examination by *x* rays is indispensable.

526. Tuberculosis Complicated by Hypothyroidism.

T. STEPHANI (*Rev. méd. de la Suisse rom.*, February 20th, 1920) records a case in a man, aged 24, the subject of pulmonary tuberculosis, who developed a dry papular erythematous eruption of the face, followed by a branny desquamation of the scalp and whole body, the temperature being normal. At the same time the patient showed an extraordinary increase of weight and complained of having persistently cold feet. The possibility of thyroid insufficiency suggested itself, and thyroid extract in doses of 20 cg. daily was ordered. The effect was remarkably rapid. Within three or four days the desquamation diminished, and within a week all the skin symptoms disappeared.

527. Eczema and Tuberculosis.

G. MILIAN (*Paris méd.*, March 6th, 1920) considers that vesicular eczema is due to tuberculosis in 80 per cent. of cases, perhaps more, the remainder being caused by other diseases, such as gout, or possibly syphilis, and occasionally staphylococcal infection. Although he has no statistics, Milian has always found some form of tuberculosis in eczematous subjects. Occasionally vesicular eczema develops around a tuberculous skin focus. Possibly some forms of acute ezcema of drug origin are caused not by the tubercle bacillus itself but by its toxins. In conclusion Milian points out that the local and general treatment which is most successful in eczema is just that which is most suitable in tuberculosis.

528. Tuberculous Empyema.

DUBOFF (*Amer. Rev. of Tuberc.*, December, 1919) finds that the presence of tubercle bacilli in the exudate is the rule, that the exudate exerts a temporary favourable influence on the pulmonary tuberculosis, and may give rise to no symptoms for months. It tends to drain itself most commonly through the chest wall or bronchus, or both. Non-interference for as long as possible is the best treatment, with aspiration to relieve any pressure symptoms and prevent sinus formation. Thoracoplasty should only be performed when absolutely necessary to relieve fulminating symptoms.

529. The Diagnosis of Pulmonary Tuberculosis by Radioscopy.

A. DUMAS and A. CORONE (*Lyon méd.*, January 25th, 1920), who were in charge of the tuberculosis department in the Frency Army of the East at Salonica, state that in cases of confirmed tuberculosis radioscopy gives valuable information as to the extent, form, mode of onset, and course of the disease and the appearance of complications. In cases in which the diagnosis has not been confirmed bacteriologically, but where the stethoscopic signs are definite, radioscopy may confirm the diagnosis. In more doubtful cases it may render the diagnosis of tuberculosis probable, and in some instances facilitate an early diagnosis. In latent forms it may indicate an old lesion

at the apex, and so throw some light on the prognosis of subsequent attacks; but its chief value is shown in those cases in which the screen examination is negative. As compared with bacteriological examination, which decides what cases are definitely tuberculous, radioscopy in its turn decides which cases are definitely negative, provided that the *x*-ray findings agree with the clinical signs obtained by auscultation and examination of the general condition and weight of the patient.

530. The Blood Pressure in Pulmonary Tuberculosis.

P. J. L. DE BLOEME (*Nederland. Tijdschr. v. Geneesk.*, March 20th, 1920) examined the blood pressure by the auscultatory method with Riva-Rocci's instrument in 500 cases of pulmonary tuberculosis, and came to the following conclusions as regards its diagnostic and prognostic value: Cases with a blood pressure of 80 to 100 mm. could be recognized by other diagnostic methods, and estimation of the blood pressure was merely confirmatory. The cases of this kind which the writer saw died within six to twelve months, with the exception of a few patients who had a reading of 90 to 100 mm. (? essential hypotonus). The most important group consisted of men who had a blood pressure of 100 to 110 mm. Sphygmomanometry in such cases was of value, as the gravity of the condition was much more readily recognized by this than by other means. The most favourable cases were the patients of both sexes who had a reading of 110 to 150 mm. In individual cases the writer found that patients with low blood pressure were more liable to relapse than others. Those who had had a relapse showed a low blood pressure even after the general and local symptoms had subsided. Considerable improvements were accompanied by a rise of blood pressure. A distinct fall of blood pressure in a case in which the local process was apparently only advancing slowly indicated a more unfavourable course than might otherwise be supposed.

531. Latent Cirrhosis in Tuberculosis.

ACCORDING to MOUISSET (*Lyon méd.*, March 10th, 1920) lesions of the liver are very frequent in tuberculosis. Tubercles are very often found on histological examination, but the usual lesions are cirrhosis and fatty changes. There is no doubt that tuberculous infection can produce these lesions, but other etiological factors must not be forgotten. It is not uncommon in tuberculous patients for the autopsy to show very pronounced hepatic cirrhosis, of which during life there has been no evidence, such as ascites or development of collateral venous circulation. On the other hand, tuberculous patients who did present such symptoms were, in Mouisset's experience, almost always alcoholic. It may therefore be said that though tuberculous cirrhosis is frequent, it is usually latent when alcoholism does not complicate the cases. An exclusively tuberculous cirrhosis is mainly of pathological interest.

532. The Renal Manifestations of Cardiac Failure.

O. JOSUÉ and M. PASTURIER (*Paris méd.*, March 13th, 1920) point out that asystole may give rise to defective elimination of water by the kidneys, even when the latter are not diseased. During the period of asystole and oliguria it is impossible to determine the extent of renal involvement. It is only after the re-establishment of diuresis, and when digitalis treatment has been instituted, that one can tell whether the symptoms are due mainly to the heart or to the kidneys. In such circumstances the ureo-secretory constant supplies definite information. In a large number of cases it will show that the kidneys are completely intact, contrary to what might have been expected from clinical examination alone. In other cases it will show that though the kidneys are slightly affected, urea can be eliminated during the period of cardiac compensation. Such patients should not be regarded as cardio-renal subjects.

533. Skin Disease caused by a Pediculoid in a Cargo of Barley.

LOIR and LEGAGNEUX (*Paris méd.*, March 6th, 1920) record an outbreak of a skin disease which occurred among workmen at Havre, two or three hours after they began to unload a cargo of barley from a boat which had come from Bizerte; sixty-three men were affected. The forearm and hand were spared, but the trunk was attacked by an eruption which seemed to have been produced by a blistering substance. The lesions did not show any definite character; in a few cases there were some vesicles, but no burrows. The irritation caused was extreme and produced insomnia. The handling of the barley gave rise to a large amount of dust, on microscopical examination of which small acari were found, belonging to the family of *Tarsonemides* and the group of pediculoids. Rapid improvement followed the ordinary treatment for scabies. The hold of the boat was subjected to sulphur fumigation. Only a few men subsequently contracted a slight eruption.

SURGERY.

534. Ureteric Calculi.

A LARGE percentage of these stones pass spontaneously, and E. S. JUDD (*Annals of Surgery*, February, 1920) recommends expectant treatment in the early cases. Most small stones in the lower end of the ureter can be removed without a cutting operation by dislodging them with a ureteral catheter or small sound; this method is contra-indicated if renal infection is severe. In cases of chronic renal infection one may remove the stone and preserve the kidney, but in acute severe infection nephrectomy should be done before severe uraemia and toxaemia supervene. In cases of bilateral ureteral calculi open operation rather than intraureteral manipulation is advised; the side showing evidence of acute trouble is operated on first, but if there is no apparent difference the stone is first removed from the ureter on the side having the best renal function. In performing an open operation on the lower two-thirds of the ureter the straight rectus incision is used; after removing the stone the ureter is loosely sutured, the stitches not penetrating the mucosa.

535. Chondrodysplasia.

ACCORDING to H. L. DWYER (*Amer. Journ. Dis. Child.*, March, 1920), who reports four cases of this condition, three of which occurred in the same family, many variations of hereditary deforming chondrodysplasia may occur, ranging from multiple small cartilaginous exostoses causing the patient no trouble to great deformities with dwarfing, paralysis, and possible onset of malignancy. The disease manifests itself in infancy. One of Dwyer's patients, aged 20 months, is the youngest in whom the disease has been reported. It has much in common with chondrodystrophy of infancy and adolescence, and probably a close relationship exists between them.

536. Tuberculosis of the Appendix.

M. WARWICK (*Annals of Surgery*, February, 1920) states that this disease may be primary or secondary, and can often only be diagnosed after microscopical examination. It presents symptoms resembling very closely those of suppurative appendicitis, and may occur in ulcerative, hyperplastic, or miliary types. Infection occurs directly from the intestinal contents, from the blood, or by lymphatic routes.

537. Diagnosis of Arthritis by Microscopical Examination of a Regional Lymphatic Gland.

G. R. HULL (*Journ. Royal Naval Med. Service*, January, 1920) reports a case of arthritis of the wrist supervening four months after injury and of eight months' duration. The Wassermann reaction, examination of a prostatic bead for gonococci, and *x*-ray photograph of the joint for tuberculosis were all negative. Under local treatment there was temporary improvement, but subsequently four rather "elastic-feeling" glands above the internal condyle were noted, and microscopic examination of one of these, removed under novocain anaesthesia, showed histological evidence of tuberculosis.

538. Oxycephaly.

S. H. WATTS (*Annals of Surgery*, February, 1920) reports two cases of this condition, in one of whom (4 years of age) bilateral subtemporal decompression was performed. Marked optic atrophy was present in both eyes before the operation, after which, although the patient's vision appeared to be improved, the fundus oculi showed no change. Two years later there was almost complete ossification over the protruding brain. The increased intracranial pressure is apparently due to disproportionate growth of the brain and skull; internal hydrocephalus is rarely present in these cases. According to Watts, the cardinal signs of oxycephaly are (1) the unusual height of the skull, the apex being just behind the anterior fontanelle; (2) exophthalmos, due to the shallowness of the orbits; strabismus (usually divergent) and often nystagmus; (3) impaired vision, usually noticed between the second and sixth year of life, and possibly going on to complete blindness. The optic atrophy may be preceded

by "choked disc," but some observers consider it due to pressure on the nerve in the optic canal. There may also be headache and occasionally vomiting and fits. *X* rays show thinning of the skull, often wave-like depressions due to the convolutions, and premature synostosis of the parietal bones with the occipital and temporal bones; also compensatory enlargement in the frontal region and region of the sagittal suture. Watts recommends early decompression in these cases in order to prevent optic atrophy.

539. Non-Union in Compound Fractures.

DE FOREST WILLARD (*Annals of Surgery*, February, 1920) advises during the pre-operative period in non-union cases active and passive movements of the joints below the fracture, massage, and hot-bath treatment. A short course of deep heavy massage is used to determine whether or not the scar tissue in old infected areas is permanently healed. If the primary infection is mild and brief, operation is done four or five months after the sinuses have closed; after severe prolonged infection nine or twelve months are allowed to elapse. At the end of that time a ten days' course of heavy massage of the scar is carried out, and if it shows no reaction the scar tissue is dissected away from the soft parts and between the bones. A smear is taken from the deep tissues, and the wound is closed. If the smear is negative and the wound remains closed a second operation to repair the fracture is done within eight or ten days. Bone plates, which cause atrophy of bone, are not used. Heavy grafts are recommended for the femur and tibia; these grafts must reach the medullary cavity, must preserve their periosteum and endosteum, and must be of healthy non-sclerosed bone throughout. Hence sliding grafts are not recommended. Grafts $\frac{1}{8}$ in. thick, with a periosteal covering, laid subperiosteally in a shallow channel dug in the cortex of the bone, and held in place by suturing the periosteum of the bone over the graft, are recommended for smaller bones, such as the radius and ulna; they appear to stimulate repair more readily than the heavy graft.

540. Early Malignant Syphilis.

L. QUEYRAT (*Bull. Soc. Franç. de Derm. et de Syph.*, January 22nd, 1920) records two cases of this condition, which is distinguished from severe syphilis as follows: Severe syphilis is characterized by the coexistence of tertiary lesions (especially ulcers) and the macules, papules, and mucous tubercles of the secondary stage; in all these lesions treponemes can be found. In early malignant syphilis, on the other hand, a roseola and mucous tubercles are never seen; the condition usually but not invariably begins with an extensively ulcerated chancre, and in the secondary stage presents papulo-vesicular lesions, which subsequently became pustular, and finally ulcerated and encrusted. Treponemes can never be found. Other peculiarities of early malignant syphilis are the late date at which the serum reaction becomes positive, the failure to react to mercury and potassium iodide, its curability by salvarsan, the frequency of syphilitic fever, and the absence of visceral complications or nervous symptoms.

541. Sporotrichosis of the Genitals.

A. BRAINOS (*Paris méd.*, March 20th, 1920) records two cases of sporotrichosis of the penis in soldiers in whom the first diagnosis was chancre in the one and malignant ulcerative syphilide in the other. Local treatment had no effect, and it was not until bacteriological examination had shown the presence of *Sporotrichum beurmanni* and potassium iodide had been given that recovery took place. Brainos recommends that whenever an antisyphilitic test treatment is adopted for a local lesion of which the specific nature has not been confirmed clinically or by laboratory methods, potassium iodide should be associated with mercury or arsenical preparations.

542. "Vermilion" Proctitis in Secondary Syphilis.

ACCORDING to P. CARNOT and G. FRIEDEL (*Paris méd.*, April 3rd, 1920), proctitis in secondary syphilis has not previously been described. They report a case in a married woman, aged 24, who sought advice for symptoms of acute proctitis—namely, dysenteriform diarrhoea, a sensation of weight in the perineum, and extremely violent pain in the anus. Examination showed a generalized erosive recto-sigmoiditis with much congestion, two papillomata at the margin of the anus, and a fissure on the perianal skin. The intense red colour of the mucous membrane recalled the erythematous sore throat of secondary syphilis to which Dieulafoy had given the name of vermilion angina. A typical roseola was also present, and the Wassermann reaction was positive. Rapid recovery took place under treatment by injections of mercury biniodide followed by intravenous injections of arseno-benzol.

543. Sarcoma of the Prostate.

F. C. HERRICK (*Annals of Surgery*, February, 1920) records a case of this disease in which the tumour was readily enucleated suprapubically, but rapidly recurred. The most common symptom is obstruction to urination and possibly to defaecation. Perineal fullness and tension are complained of, sometimes pain. Rectal examination reveals a tumour of uniform balloon-like consistency. Differentiation must be made from syphilis, tuberculosis, and cancer. A prostatic tumour in adolescence is probably sarcomatous, and in a man of less than 50 is possibly so.

544. X-Ray Carcinoma.

POTHERAT (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46) records a case of epithelioma of the right hand arising in the site of an *x*-ray dermatitis. This dermatitis, the result of fifteen exposures for warts sixteen years previously, led to much scarring, with deformity of the hand, the cicatrix frequently breaking down. Two years ago the scar, after giving way, failed to heal, and a deep ulcer formed, which proved to be a carcinoma involving not only the tendons but the metacarpal bones.

545. Value of Pyelography.

THE value of pyelography is emphasized by LEGUEU (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46), who records a case of hydatid cyst of the kidney, in which hydatids had been found in the urine. A pyelogram, made to establish the relationship of the cyst to the kidney, showed clearly a large rounded cyst opening into the superior calyx. Legueu judged from this plate that a conservative removal of the cyst might be effected without sacrifice of kidney substance; he performed a partial resection of the cyst, formalinization of the remainder, and closure without drainage.

OBSTETRICS AND GYNAECOLOGY.

546. The Ripe Human Graafian Follicle.

A. THOMSON (*Journ. of Anat.*, 1919, 54) records the result of his researches into the minute anatomy of the human Graafian follicle. He believes that the average size given in the textbooks is too large, 5 mm. being the largest size reached by any healthy follicle in his series, bigger sizes being degenerate. The discus proligerus may be situated at any point on the wall of the follicle and is by no means constantly placed at a point opposite that at which the follicle is to rupture. In many of Thomson's cases the discus was situated superficially—a position more advantageous than the deeper one to the escape of the ovum. The author gives photomicrographs of the origin of the so-called bodies of Call and Exner from the breaking down of follicular cells. The method of expulsion of the ovum from the ruptured follicle is critically examined. Thomson brings forward evidence in support of the theory that the ovum tends to become, if not free in the liquor folliculi, at any rate free from the membrana limitans externa. Thomson believes that ovulation may occur at other times than at menstruation. Under the influence of intense sexual excitement women are occasionally cognizant of strange internal happenings, which may be due to the rupture of a ripe follicle. The author has found smooth muscle not only within the stroma and mesovarium, where it was already well known to be present, but actually in the external theca of the wall of the follicle itself. Under the influence of adrenalin the ovary may be seen to contract, so it is presumably controlled by the sympathetic system.

547. Transvesical Suture of Vesico-vaginal Fistulae.

MARION (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46) describes a case of vesico-vaginal fistula cured by suture, a transvesical route being used. The woman had a large fistula following parturition, involving the inferior wall of the bladder and anterior vaginal wall. The neck of the uterus presented in the bladder. Five previous surgical interventions had been fruitless. Marion opened the bladder suprapubically and found a fistula 7 cm. long by 3 cm. wide, running from the neck of the bladder to the isthmus of the uterus. The two ureteric orifices were seen at the edges of the fistula, one on each side, and about half-way along it. The edges of the defect were freshened

and the vaginal wall was separated from the vesical. Three layers of interrupted sutures were placed in the vaginal wall and the bladder defect was closed with fine catgut. A Pezzer's catheter was introduced per urethram and the suprapubic wound firmly closed. The patient was nursed on the face and side for five or six days, and the catheter was removed on the sixteenth day. A perfect cure resulted, and cystoscopy showed the fistula to be firmly cicatrized. Marion has repeatedly insisted on the value of the transvesical route; of thirteen vesico-vaginal fistulae treated in this manner in 1918, he had thirteen cures.

548. Spinal Cord Tumour and Pregnancy.

CARL MEYER (*Zentralb. f. Gyn.*, March 6th, 1920) refers to a case, reported in 1913 by Bogdanowitsch, of spontaneous labour in a woman suffering from complete paralysis of the body and lower limbs. This patient, a 13-para, showed from the third month of pregnancy symptoms of a tumour in the cervical portion of the cord. She was brought to hospital in a moribund condition, and preparations were made for Caesarean section. Before the operation could be started labour began spontaneously, and the child was born without artificial interference. The patient died two days later from involvement of the respiratory centre of the medulla. Meyer describes the case of a primipara, aged 23, who had been treated five years before for rheumatic affections with angina and bradycardia. In January, 1919, she began to complain of pains between the shoulders, to which were soon added pruritus of the arms, chest, and back, together with weakness of the right knee. Later pain was felt in the whole of the right leg. These symptoms appeared to coincide with the beginning of pregnancy, during the course of which there developed spasms of the lower limbs, especially the right. Abdominal reflexes were absent; speech remained unaffected, and there were no eye symptoms. A diagnosis of multiple sclerosis was first made, but later a tumour was suspected. The onset of labour was marked by severe vomiting; of the actual process of expulsion of the child the patient had little cognizance other than a sensation of stretching in the right half of the vagina; no pain was felt. Six weeks later she died, and a tumour of the cord was found at the level of the upper dorsal and lower cervical vertebrae; microscopic examination showed it be a spindle-celled sarcoma.

PATHOLOGY.

549. The Anaphylactic Nature of Asthma.

PAGNIEZ (*Rif. Med.*, February 14th, 1920, and *Presse Méd.*, No. 7, 1920) assumes that true idiopathic asthma is due to a condition of anaphylaxis set up by various proteins in sensibilized subjects. The particular protein concerned can sometimes be discovered by a cuti-reaction test, and the patient desensibilized by a course of vaccines. Unfortunately a certain number of asthmatics do not appear to be sensibilized, or at any rate the particular protein to which they react cannot be discovered. On the other hand, some asthmatics have received much benefit from suitable vaccine treatment, relief being obtained for quite two years. At present the results obtained are uncertain. Cardiac, renal, and emphysematous asthma belong to a different group.

550. Agglutinability of Micro-organisms Cultivated on Acid and Alkaline Media.

G. CAPONE (*Lo Sperimentale*, Fasc. v-vi, 1919) as the result of his investigations came to the following conclusions: (1) Cultivation in acid broth of bacilli of the typhoid and paratyphoid group was followed by a change into organisms which could be identified with Lingelsheim's Q form. (2) Organisms of the typhoid, paratyphoid, and dysentery groups grown on acid broths were more susceptible to the attack of agglutinins. (3) Organisms of the typhoid and paratyphoid group which had been grown for a long time in markedly alkaline broth lost to some extent their agglutinability.

551. Precipitin Reaction in Tuberculosis.

DURAND (*Rif. Med.*, November 29th, 1919, and *Tubercolosi*, vol. xi, f. 6, 1919) has examined 522 tuberculous patients (in 100 tuberculosis could not be established clinically) with regard to the serum-precipitin, agglutination, and deviation of the complement tests. The precipitin test was positive in definite acute tuberculosis; agglutination and deviation were less positive in severe cases; agglutination and precipitation only exceptionally gave positive results in doubtful cases. In incipient or masked phthisis deviation of the complement proved the most useful for diagnosis. The serum-precipitin test has undeniable value in diagnosis, but is less valuable than agglutination, especially in early or suspected cases.

552. Resemblances between Oriental Sore and Epithelioma.

MACADAM (*Brit. Journ. Surg.*, April, 1920) describes the histological characters of seven cases of ulcerated oriental sores, sometimes called Delhi sore, Baghdad boil. A granulomatous form of lesion was found, with round-celled infiltration, the cells being mostly lymphocytes and large endothelial cells; no giant cells were present, as had been reported by previous observers, the surface epithelium showed much proliferative downward infiltration, with the presence of numerous cell-nests. The histological appearances presented considerable resemblances to those of squamous epithelioma, and it is suggested that difficulties of diagnosis may occur in the case of soldiers who have returned to civil life. The *Leishmania tropica* is present during the first few months, but disappears in old-standing lesions, from which a smear should be made by examining material removed by a spoon from the deeper layers of the ulcer. There is no record of an oriental sore having become carcinomatous; that of Macadam's cases which in its histological appearances most resembled a carcinoma was readily cured—as were all the others—by intravenous injections of antimony tartrate.

553. Detection of Glucose in Urine.

HAINES'S solution has previously been used for the detection of glucose in urine. HAINES, POND, and WEBSTER (*Journ. Amer. Med. Assoc.*, 1920, 74) have now devised a solution which can be employed as a contact-ring test. The solution consists of copper sulphate 5 grams, glycerin 250 c.cm., potassium hydroxide 20 grams, distilled water to 1,000 c.cm. The copper sulphate is dissolved in the glycerin and an equal amount of water, gently heated. Some makes of glycerin will cause a slight reduction of the copper, but after standing for forty-eight hours in a warm place the supernatant fluid can be decanted or filtered off. The advantage of the solution is that it keeps indefinitely, and will detect amounts of sugar higher than 0.03 per cent., which figure is about the highest limit of the so-called "normal" urine sugar. About 5 c.cm. of Haines's solution should be heated to boiling in a test tube and then 10 to 20 drops of urine run down the side of the tube with a dropper. If sugar is present to a greater extent than 0.1 per cent., a brick-red or yellowish ring will appear at once at the junction of the two fluids. If the amount of sugar is less than this it is necessary first to precipitate the phosphates with a few drops of liquor potassii.

554. Unusual Variety of Hour-glass Stomach.

LAGOUTTE (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46) records a case of hour-glass stomach in which there was no sign of ulceration. The opaque meal showed on the screen a large proximal pouch; three hours later the distal pouch was partly filled. At operation a typical bilocular stomach was found, the two portions being joined together by a canal which was no wider than a pencil but quite supple, with no evidences of ulceration or of adhesions. A mediogastric resection was performed, followed by end-to-end suture, without gastro-enterostomy. Histological examination of the part removed showed evidences of an old gastritis with some sclerosis but no fibrous stricture. It may be that such cases, of which Lagoutte has published another, are localized forms of linitis plastica, or even of tuberculosis or syphilis.

555. Frequency of Gall Stones.

E. and M. HESSE (*Russki Vratch*, 1914, 30?, vide *Zentralbl. f. Chir.*, 1920, 47) have analysed the 17,402 autopsies carried out at the Obuchov Hospital, Petrograd, and found gall stones present in 4.75 per cent. of the female cases and 0.73 per cent. of the males, so that gall stones appear to be relatively rather rarer in Russia than in Western Europe. In women the stones led to complications more commonly than in men, although in 84 per cent. of the total cases they had given rise to no clinical signs. There is a possible fallacy in this last statement, as much depends on the care with which the clinical notes were made. One may assume, however, that in 84 per cent. of the gall-stone cases there had been no jaundice and probably no colic. The observers found a causal relationship between cholelithiasis and carcinoma of the gall bladder.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

556. Influenza and Lactation.

M. ROLLANDINI (*La Pediatria*, February, 1920), from his experiences at the university pediatric clinic at Turin, states that suspension of breast feeding when the mother has developed influenza and the establishment of artificial feeding is of no advantage to the infant, for the following reasons: (1) Artificial feeding diminishes the resistance of the infant to contagion. (2) Suspension of breast feeding in a sick woman is more likely to cause rapid and permanent cessation of the lacteal secretion than in health. (3) Sudden weaning facilitates the development of diseases of nutrition. Rollandini has seen a large number of cases of acute gastro-enteritis (some fatal). (4) Influenza is a disease which spreads with such rapidity that whenever it has invaded a family it does not usually spare anyone. Rollandini therefore concludes that it is the doctor's duty to encourage the continuation of breast feeding during the mother's influenza, except in cases of very severe complications, but that all possible precautions should be taken to prevent contagion. The child should be left in the mother's room as short a time as possible. The mother should not speak to or kiss the child, and refrain from coughing and, if possible, keep a handkerchief over her mouth while the child is at the breast.

557. Influenza Immunity.

H. C. HALL (*Ugeskrift for Laeger*, March 4th, 1920) investigated the histories of 500 patients admitted to hospital with typical influenza. The criteria he adopted in ascertaining whether they had previously suffered from influenza or not were (1) a history of typical symptoms; (2) occurrence of these symptoms during the months of 1918–19 when the epidemic was raging; and (3) the simultaneous existence of other cases of influenza in the patients' neighbourhood. He found that only in 8.2 per cent. had reinfection occurred. The percentages of reinfection among fatal and non-fatal cases were practically the same, being 8.6 and 8.1 respectively. If it be assumed that 50 per cent. of the inhabitants of a town develop influenza during its first wave, these figures of the author's would suggest that influenza confers considerable immunity. In support of this view he also refers to the immunity shown by the staff of his hospital, whose infection with influenza was hardly ever followed by a second attack, although they were daily exposed to reinfection.

558. Influenza and Tuberculosis.

R. BURNAND (*Rev. méd. de la Suisse rom.*, March, 1920) discusses the action of influenza on pre-existing tuberculosis, and comes to the following conclusions: (1) A previous attack of tuberculosis does not convey any immunity to influenza. (2) In about 75 to 90 per cent. of cases of chronic tuberculosis in which influenza develops the acute disease runs its course as an intercurrent affection without having any effect on the evolution of the tuberculous lesions. (3) Fifteen to 25 per cent. of cases of tuberculosis undergo a considerable reactivation of their lesions as the result of an attack of influenza. This recrudescence, however, if suitably treated, is generally mild and transient; cases of acute tuberculosis ending fatally as the sequel of influenza are rare. (4) It is the doctor's duty, however, in cases in which tuberculosis is suspected, to prevent the development of post-influenzal tuberculosis by ordering a change of climate or residence in a sanatorium immediately after convalescence.

559. Serum Treatment of Tuberculous Meningitis.

G. ÉTIENNE (*Rev. méd. de l'Est*, March 1st, 1920) records a case of tuberculous meningitis in a man, who was treated by lumbar puncture and intrathecal injections of Vallé's antituberculous serum. Although death occurred the results were encouraging. Decided improvement followed the injections at first, but the most striking results were, first, the disappearance of tubercle bacilli from the cerebro-spinal fluid, and secondly, the diminution of the meningeal reaction, shown by progressive fall in the number of the lymphocytes (from 8 to 4) and of the albumin content (from 0.80 to normal) in the cerebro-spinal fluid.

560. Asthenic Tuberculosis.

PLICQUE (*Il Morgagni*, February 5th, 1920) says that patients suffering from asthenic tuberculosis, although having little fever, lose flesh, become anaemic, and show conspicuous failure of strength and appetite. Their blood pressure is low; they do not show the typical pigmentation of Addison's disease, but often develop little café-au-lait coloured spots. Contrary to what is noticed in the ordinary phthisic, these patients are very sensitive to cold and sudden changes in temperature, and hence not good subjects for routine open-air treatment. One can frequently observe on the skin of the abdomen the white line associated with adrenal insufficiency; this line can be brought out by drawing the finger over the skin. Polyuria is, as a rule, not present, but phosphates are increased doubly or trebly. This asthenic type of phthisis was common amongst the early prisoners of war. Some cases seemed to follow influenza, but it is very probable that in a good many cases the so-called influenza was really the beginning of the phthisis. In treatment adrenal gland given in powder is decidedly useful, 0.30 gram of the dried extract of the whole gland being given three times a day for ten days and then left off for an equal time. To lessen the phosphate loss it is useful to give calcium carbonate, calcium phosphate, sodium chloride, and magnesia.

561. A Prodromal Sign of Tuberculosis.

AHN (*Le Scalpel*, February 21st, 1920) states that during the war examination of the lungs of children or adults debilitated by malnutrition or physical or mental strain often showed the existence of zones of impaired resonance which were regularly situated in the same positions, and formed a spiral line which was usually interrupted at definite points, but was sometimes continuous and quite distinct. The line starts at the spine of the third dorsal vertebra, and passes outwards to the upper and inner angle of the scapula, then downwards and inwards along its inner margin, and subsequently outwards, downwards, and forwards to the axilla. It then turns inwards and forwards parallel with the sixth rib, and ends at its cartilaginous extremity at a point which is usually specially tender. The line thus formed has the appearance of a capital S, which passes round the thorax describing a spiral curve, and practically corresponds to the course of the large interlobar fissure. It may be attributed to congestion of the areas separating the antero-superior from the postero-inferior lobes. As a rule the line is broken up into the following segments: (1) A juxta-vertebral segment corresponding to the origin of the fissure in the neighbourhood of the third dorsal vertebra; (2) a juxta-scapular segment at the edge of the scapula; (3) an axillary segment; (4) an epigastric segment at the anterior extremity of the sixth rib. The presence of this line or one of its segments indicates an enfeeblement of the organism, and shows that the individual is predisposed to acute or chronic bronchial affections, and in such cases tuberculosis is likely to develop when the general resistance is lowered.

562. The Double Crural Murmur in Aortic Incompetence.

ACCORDING to C. PEZZI (*Arch. des mal. du coeur*, December, 1919) the double murmur described by Traube in 1867 in the femoral artery in cases of aortic insufficiency is a very inconstant phenomenon, although not so rare as was once thought. It occurs also in mitral disease, and does not, as Traube imagined, always indicate a very pronounced valvular lesion; it is not present in all cases of aortic insufficiency. Pezzi, who has never found it in patients with a perfectly compensated valvular lesion, believes that it only appears when more or less obvious signs of myocardial insufficiency exist.

563. Functional Aortic Incompetence.

ACCORDING to J. BRET (*Arch. des mal. du coeur*, November, 1919) aortic incompetence not connected with a valvular lesion is a symptom of secondary importance in the course of chronic nephritis, whether associated or not with adherent pericardium; it may also be regarded as a fairly frequent manifestation of the cardiac disturbances seen in patients with hypertension. A case of Corrigan's syndrome in which there is not a true diastolic hypotension should suggest the diagnosis of functional disturbance. Bret states that the causes of functional

aortic insufficiency are as follows: (*a*) Lesions found at the origin of the ascending aorta, especially patches of hypertrophic aortitis projecting above the sigmoid valves and preventing their closure; (*b*) the well-marked projection of the interventricular septum into the aortic vestibule as the result of hypertrophy of the myocardium, sometimes increased by dilatation of the right ventricle.

564. Paraplegia in Malaria.

F. SABATUCCI (*Il Policlinico*, Sez. Prat., February 16th, 1920) records two cases in soldiers who, after contracting malaria in Albania, began to suffer from paraesthesia and weakness in the lower limbs. Intermittent claudication then developed, and finally complete paraplegia with sphincter disturbance, bedsores, and trophic ulcers. There was a loss of all kinds of sensibility, most marked in the distal segments. The paraplegia, at first flaccid, later became spastic, but under vigorous quinine treatment gradually improved, until only slight spastic paraparesis remained in one case; in the other the symptoms were a little more pronounced. The condition was probably due to malarial arteritis in the lower part of the dorsal cord and some of the lumbar segments.

565. Congenital Paralysis of the Right External Rectus.

GINESTOUS (*Gaz. hebd. des Sci. Méd. de Bordeaux*, February 15th, 1920) reports a case in a girl, aged 7 months, who showed complete internal strabismus of the left eye. On ophthalmoscopic examination there was slight hypermetropia, as is the rule at that age, but no lesions were detected in the fundus. The infant's heredity and personal history were excellent, and no other abnormalities were present. Functionally strabismus could be excluded, and the condition was therefore congenital, being due to absence of the muscle, a vicious insertion, or a congenital abnormality of the centres of the external rectus.

566. Auriculo-ventricular Heart-block in Children.

J. A. E. EYSTER and W. S. MIDDLETON (*Amer. Journ. Dis. Child.*, February, 1920) have collected from literature twenty cases of heart-block in children, nearly all of which were definitely or probably of congenital origin or occurred during the course of severe and usually fatal diphtheria. They also record a personal case of partial auriculo-ventricular dissociation which developed in a child, aged 2 years, apparently in connexion with an acute nose and throat infection in which the cultures showed only *Staphylococcus pyogenes aureus*. The child, who was kept under observation for two years, developed normally, and was in apparently good health. At the time of writing the cardiac condition was that of a well compensated mitral lesion associated with a 2 to 1 auriculo-ventricular block, with a ventricular rate between fifty and sixty.

567. Acute Meningococcal Meningitis with Multiple Arthritis.

M. PEHU and H. EPARVIER (*Lyon méd.*, February 25th, 1920) record a case in an infant, aged 4 weeks, admitted to hospital with swellings of the right great toe (resembling gout), and the metacarpo-phalangeal joints of three fingers. There was also a slight degree of nuchal rigidity and opisthotonos. On lumbar puncture a yellow fluid was obtained containing polymorphonuclears, but no organisms. Meningococci, however, were obtained from the left foot. In spite of serum treatment cachexia set in, and death occurred in four weeks' time. Although cerebro-spinal meningitis is relatively frequent in the child, it is rarely met with quite so early in life. As a rule, the joint manifestations are limited and discrete. In the present case, however, the arthritis was multiple and of various degrees, ranging from simple swelling to suppuration.

568. Lethargic Encephalitis.

P. NAUWELAERS and M. MEUNIER (*Le Scalpel*, March 27th, 1920) record two cases observed by them at the Hôpital St. Pierre, Brussels. The first case, which recovered, occurred in December, 1917—that is, before the epidemic of lethargic encephalitis developed in France or England. During the first stage of the disease three puzzling signs occurred—namely, intense salivation, tremor of the upper limbs, and profuse perspiration. The ocular signs were ill marked, consisting merely of unilateral paresis of accommodation. The peculiarities of the second case were the neuralgia accompanying the onset, slight contracture of the lower limbs, tremors of the upper and lower limbs during the first few days, and the rapid course of the disease, which ended fatally within a fortnight

SURGERY.

569. Abdominal Migration of Testicle.

IT is well known that in childhood the cremasteric reflex is very active, and the testis is apt to be drawn up so as to enter the inguinal canal; among human beings, however, cases in which the testis periodically enters the abdomen, remains there for a space, and then appears again, are very rare. Such a case is reported by MURARD (*Lyon chir.*, 1919, 16). A boy, 16 years old, had suffered for many years from occasional violent pains; at the age of 13 these were found to coincide with the sudden disappearance of the left testis, which would remain inside the abdomen for five days until another violent, almost anginal, pain announced its return. These sudden disappearances occurred every month, but when Murard examined the boy the testis had been absent for fifteen days. At operation an open vaginal process was found, but the testis could not be felt through the ring. Traction on the cord, however, brought it to view, and it was easily replaced and anchored in the scrotum. The epididymis was absent, the vas ending blindly.

570. Simple Ulcer of Colon.

PROUST (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46) reports a case, operated upon by Soupault, in which a simple ulcer of the colon perforated. The ulcer was situated 10 cm. above the tip of the caecum, and its rupture gave rise to symptoms hardly distinguishable from those of appendicitis. The report led to a discussion, during which Bazy and others reported similar cases. These ulcers are "simple"—that is to say, they are not the result of dysenteric or specific organisms, and have no dependence on disease of the colon or appendix, nor on distension of the gut above a stricture; their cause is unknown. They give rise to symptoms and signs of acute peritonitis, and are very fatal from the liberation of faecal material in the peritoneal cavity.

571. Pseudo-malarial Gonococcal Fever.

M. BLOCH and P. HÉBERT (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 4th, 1920) report the case of a soldier, aged 25, who contracted gonorrhoea in December, 1917, and in the following March at frequent intervals had sudden attacks of fever which were not affected by quinine, but were accompanied by severe pain in the joints and a generalized papular and purpuric eruption, most marked on the limbs. The condition exactly resembled certain cases of meningococcal infection which have been described by Netter and others, and the diagnosis could only be made by finding that the diplococcus isolated from the blood was not agglutinated by antimeningococcus serum; antigonococcus serum, however, was effective. Antimeningococcus serum, which some writers have found effective in the articular localizations of the gonococcus, proved useless, but an antigonococcus auto-vaccine cured at once the fever, arthralgia, and skin eruption, though it had no effect on the urethritis and epididymitis.

572. The Two-stage Operation of Partial Colectomy.

C. H. DOWD (*Annals of Surgery*, February, 1920) writes in favour of the two-stage or many-stage operation in certain cases of carcinoma of the colon from the hepatic flexure to the end of the sigmoid, where nearly 70 per cent. of carcinoma cases above the rectum are found. In order to carry out a one-stage operation successfully in this part of the colon the patients should be fairly strong, and the colon should be nearly empty and comparatively free from fat. The one-stage procedure has a mortality rate three times greater than the many-stage method. In performing the two-stage operation the portion of bowel and the adjacent glands must be freely mobilized. Mayo begins the clamping of the spur ten or twelve days after the primary operation; its division is complete in six more days. A few days later the colostomy is closed by an extraperitoneal operation. The only disadvantages of the operation are delay in healing, unpleasant convalescence, and the possible occurrence of hernia.

573. Cysts of the Thyroglossal Tract.

W. E. SISTRUNK (*Annals of Surgery*, February, 1920) considers it probable that in many cases the portion of the thyroglossal tract lying near the hyoid bone retains its epithelium and opening into the mouth through the foramen caecum. At some period infection occurs and closes the opening into the foramen caecum; the accumu-

lating fluid then travels downwards, following the track made by the thyroid during its descent, and appears as a tumour in the mid-line of the neck near the hyoid bone. The operation, as performed by Sistrunk, consists in freeing the cyst as far as the hyoid, removing a portion of the centre of that bone, and then, without any attempt to isolate the duct, coring through the tissues from this point to the foramen caecum, removing with the duct the surrounding tissues for about one-eighth of an inch on every side. This includes a portion of the raphé joining the mylohyoid muscles, a portion of each geniohyoglossus muscle, and the foramen caecum. The opening into the mouth is then closed and the edges of the hyoid are approximated by suturing the soft parts. In order to recognize any lateral branches the sinus may be first injected with methylene blue.

574. Surgical Treatment of Goitre.

Mode of Anaesthesia.

COTTIS (*Med. Record*, April 17th, 1920) advises as a routine anaesthetic ether given by the colon, the administration being begun while the patient is in bed. Local anaesthesia is indicated in old people, in cases of large goitres of long standing, and in extremely toxic cases; in the latter it permits one to observe how well the patient is standing the operation. If the patient becomes restless in such cases, it is best to discontinue the operation and to pack the wound with Dakin's solution. Cottis suggests that the occurrence of thyrotoxic symptoms during operations conducted under local anaesthesia is due to the injection of adrenalin; he has met the condition less frequently since he has omitted the use of this drug.

The Relation Existing Between the Amount of Gland Removed and the Permanence of Relief.

575. BEILBY (*loc. cit.*) points out that (1) removal of one lobe of the gland in exophthalmic goitre may give temporary relief but will not effect a cure; (2) if a portion only of one lobe is left and its blood supply is undisturbed, it hypertrophies and a recurrence of symptoms may be expected; (3) where sufficient gland tissue is removed the toxic symptoms frequently disappear; this relief is a permanent one if the remaining gland tissue is not left in a condition such that hypertrophy may take place. Experience has proved that patients derive little or no lasting improvement from operations in which one lobe only is removed; if improvement does occur it is only for six to twelve months, during which time hypertrophy of the remaining part of the gland takes place, and in the end the same amount of thyroid tissue is present as was there before the operation. He has found that when a portion of the gland is removed and the circulation of one lobe is left intact the reaction is more severe than when a subtotal resection has been done. The result of operation depends not so much on the total amount of tissue left as upon its distribution and blood supply. If one-third or one-fourth of the total amount of gland tissue remains and a portion of one lobe retains an undisturbed blood supply, hypertrophy and a return of toxic symptoms are likely to occur; if, on the other hand, some amount of gland tissue is left in the form of small scattered bits there is little likelihood of these pieces becoming hypertrophied. The general tendency of operations has been to leave too much rather than too little thyroid tissue.

576. Gunshot Wounds of the Bladder.

L. FRASSI (*Il Policlinico*, Sez. Chir., February 15th and March 15th, 1920) states that as compared with wounds of the abdomen wounds of the bladder are relatively rare. Clinically they may be classified as intraperitoneal and extraperitoneal. Isolated lesions of the bladder are very rare, and may be associated with retention of the projectile. In the majority of cases vesical wounds, both intra- and extra-peritoneal, are accompanied by lesions of the neighbouring organs, such as the small intestine, the rectum in its extra-peritoneal portion, the urethra, joints, vessels, and nerves. The bladder is usually wounded by the projectile penetrating the perineal, sciatic, or sacral region; less frequently by an anterior abdominal route. Vesical wounds are most frequently complicated by wounds of bone, which are liable to give rise to severe osteomyelitis. Sequestra are formed, and fistulous tracks develop which may open into the bladder and cause severe and obstinate cystitis, with formation of calculi requiring operative interference. Treatment of vesical lesions will in exceptional cases be non-operative—for example, when the wounds are small and there is no evidence of complications. The treatment of intraperitoneal wounds of the bladder is always laparotomy, which should be performed in order to determine what lesions have occurred, to repair perforations of the intestines and bladder, to prevent the escape of urine and blood into the peritoneal cavity, and to establish free drainage. Expectant treatment—which consists in tying in a catheter and excising the wound—is sufficient in a large number of extraperitoneal wounds of the bladder, but such cases require to be watched, so that further operation may be carried out if necessary. Suprapubic lithotomy should be performed when there is (1) reason to suspect the existence of severe lesions of the bladder in its lower quadrant; (2) retention of the projectile; (3) a lesion of the rectum; and (4) continuous haemorrhage.

577. Blood Changes in Influenza.

KINSELLA and BROUN (*Journ. Amer. Med. Assoc.*, April 17th, 1920) studied the clotting time, the platelet count, the fragility of the red cells, and the number of leucocytes, in forty patients with influenza between the third and sixth day. With the method used the clotting time was longer than that of normal patients. Platelet counts were made in twenty-one cases; the reduction in the majority of the cases was very definite. As in the case of clotting time, the reduction of platelets was independent of the stage of the disease or of the presence of secondary infections. The reduction of platelets and the delay in clotting time took parallel courses, and were independent of the number of leucocytes present. In general, influenza was attended by an absence of leucocytosis, often extending to leucopenia.

578. Chronic Vesiculitis and Enlarged Prostate.

ACCORDING to G. MARION (*Journ. d'Urologie*, Tom. ix, No. 1, 1920), the presence of a painful swelling of the vesiculae seminales in patients with enlarged prostate should suggest the idea of cancer, whatever the characters of the prostatic lesion may be. The affection of the vesiculae should not be regarded as necessarily indicating extension of the growth; it may merely be a retrograde dilatation, the ejaculatory ducts being invaded by the cancer. In such cases removal of the new growth is by no means contraindicated, and removal of the vesiculae does not appear to aggravate the prognosis of prostatectomy.

OBSTETRICS AND GYNAECOLOGY.

579. Hypernephroma of Uterus.

HARTMANN and PEYRON (*Gynéc. et Obstét.*, Revue Mensuelle, Paris, vol. i, No. 1, 1920) report a case of hypernephroma of the uterus. A primipara, aged 58, began in January, 1917, four years after the menopause, to suffer from irregular haemorrhages and abdominal pain. On January 9th, 1919, she was found to be very anaemic and to have a hard rounded tumour arising in the pelvis and reaching the umbilicus; the os was dilated and friable masses were becoming polypoid. After the uterus had been emptied by a vaginal operation, its cavity admitted the whole of the sound, including the handle; the uterus was continuous with the abdominal tumour. Microscopic examination of the fragments of tumour showed a structure resembling that of the glomerular and fascicular zones of the adrenal cortex. On March 11th, her general condition having improved, total hysterectomy was performed. The adnexa showed inflammatory changes only; the external appearance of the uterus suggested a fibromyomatous condition, and its cavity was occupied by a soft friable gangrenous mass arising from the left and posterior aspects of the wall, and showing histologically a structure resembling that of adrenal cortex. Twice during the ensuing eight months fragmentary non-ulcerated vaginal metastases of similar structure to the primary tumour were removed and 0.05 cg. of radium was applied for forty-five minutes; on December 20th she was quite well. Hypernephromata of the broad ligaments are not unknown, but the authors believe this to be the first recorded case of such a tumour of the uterus.

580. Bilateral Tubal Pregnancy.

BROSSMANN (*Zentralb. f. Gyn.*, February 14th, 1920) alludes to the difficulty of determining whether cases of bilateral frequency occur simultaneously or by a process of superfetation, and refers to illustrative cases in the literature. His own case, he thinks, supports the possibility of a bilateral simultaneous tubal pregnancy. A woman of 37, who had already had seven normal pregnancies, was operated on for ectopic pregnancy with haematocele in Douglas's pouch; the right tube was found to be ruptured and contained an embryo 6 to 8 mm.

long, while the left tube, still intact, contained an embryo 16 to 18 mm. long. Sixteen days before operation, however, haemorrhage had occurred, and the death of the embryo in the right tube had presumably taken place, whereas that in the left tube had continued to develop. Both ovaries contained a corpus luteum.

581. Pregnancy and Body Weight.

MOMM (*Zentralb. f. Gyn.*, March 6th, 1920) confirms the previous work of Zangemeister (*Zeitschrift f. Geb. u. Gyn.*, Bd. lxxviii, Heft 2), who investigated the changes in body weight during pregnancy. Zangemeister found that from the twenty-seventh week onwards there is normally a steady average increase of 58 grams a day until two days before the end of pregnancy, when the patient suddenly loses about one kilogram in weight. The amount lost varies with the size, age, etc., of the mother, whereas the increase in weight up to this date has depended on the increase in weight of both the fetus and the mother. It is true that the liquor amnii decreases somewhat in the last stage of pregnancy, but the sudden and considerable loss of body weight reported cannot be ascribed to this alone. The practical application is that the onset of labour at term can be readily predicted by a system of careful weighing of the patient during the later weeks of pregnancy, and thus time is allowed for the necessary preparations to be made. In Momm's clinic the weighing of in-patients took place daily at 6 a.m. for ten days before the expected date of confinement, and careful estimations were made of intake of food and drink for several hours beforehand; catheterization of the patient was also performed and a rectal injection given. Momm's results correspond approximately with those of Zangemeister.

PATHOLOGY.

582. Artificial Acquired Immunity to Influenzal Pneumonia.

J. BUCHHOLTZ (*Ugeskrift for Laeger*, April 8th, 1920) gave a polyvalent streptococcal and pneumococcal vaccine as a prophylactic against pneumonia to those of the nurses at his hospital who, early in January, 1920, had not hitherto contracted influenza. According to the scheme of dosage advocated by the Serum Institute which supplied the vaccine, three injections were to be given of $\frac{1}{4}$, $\frac{1}{2}$, and 1 cm. respectively at intervals of four days. But the local reaction to the second injection was usually so violent that the author dared not give more than $\frac{1}{2}$ cm. at the third injection. Of the 66 nurses inoculated, 18 were given only one injection, and of these 6 contracted influenza, complicated in 2 cases by pneumonia. Of the 27 who were given two injections 8 contracted influenza. None of these cases was complicated by pneumonia. Of the 21 who were given three injections only one developed influenza, and this case was uncomplicated by pneumonia. The author concludes that prophylactic inoculation against influenzal pneumonia is shown by these figures to be of great value.

583. The Pathogenesis of So-called Ano-rectal Syphiloma.

JERSILD (*Ann. de Dermat. et Syph.*, vol. 1, No. 2, 1920) has made a careful clinical and pathological study of six cases of the condition to which Fournier gave the name *syphilome ano-rectal*. The condition is characterized by a peri-anal infiltration, consisting of firm rounded tumours following the radial folds, together with a constriction of the lower portion of the rectum. Very frequently the condition is accompanied by fistulae, which originate in the mucous membrane below the stenosis. In most cases there coexists a nodular indolent hyperplasia of the external genitals, especially in women, in whom the disease is more frequent. Against Fournier's idea that the condition was a tertiary syphilitic manifestation there have been brought forward several arguments: (1) a good many cases have neither a history nor clinical signs of syphilis; (2) the microscope does not reveal the characteristic lesions of syphilis; and (3) specific treatment produces no amelioration of the lesion. Some have attributed it to gonorrhoeal proctitis, or to inflammation of Bartholin's gland spreading to the rectum. The disease is of a very chronic indolent type, and there may or may not be definite ulcerations. Jersild gives the histories of two of his cases in which the condition had existed for several years, and both of these cases presented recent syphilitic eruptions, which responded promptly to antisyphilitic remedies without any amelioration of the local disease. This would seem to rule out of court the syphilitic nature of the lesion. In another case the patient was clinically and serologically free, whilst two gave a history of syphilitic infection several years before the onset of rectal symptoms. The fixed localization of the rectal infiltration indicates some anatomical factor, and the frequent coexistence of vulvar elephantiasis leads one to believe that the same pathological process is at work in both. Jersild imagines that the condition originates from some peri-anal lesion (such as chancre, soft sore, wounds, etc.), with an arrest of the lymphatic circulation of the inguinal glands and their afferent vessels. An ano-rectal adenitis occurs, and, owing to the anatomical arrangement of the lymphatics of the anus and anal canal, there results a lymph stasis. The author proposes to designate the condition "ano-rectal elephantiasis." In this country it is often referred to as "chronic infective ulceration of the rectum."

584. Nerve Regeneration after Impregnation with Alcohol.

BARTHÉLEMY (*C. R. Soc. Biologie*, April 17th, 1920) has studied experimentally the effects of injection into nerves of certain fixation fluids. The intravenous injection of alcohol or osmic acid has been extensively employed in the treatment of intractable facial neuralgia; judging by the anaesthesia produced by this method it is believed that a physiological section of the nerve occurs. Usually the relief is temporary, and after a certain lapse of time the trouble recurs and there is a return of sensitiveness in the area of innervation. On the average, if the nerve trunk has been actually injected, the period of relief is eight months to a year. As this corresponds with the time necessary for nerve regeneration, it is supposed that the nerve injected first degenerates and then regenerates. Barthélemy has given experimental proof that this theoretical deduction is correct. By injecting alcohol or osmic acid into the sciatic nerve of dogs and rabbits he found that degeneration occurred and then regeneration, just as in section and secondary suture, but with the difference that in the former case the regeneration occurred in a more orderly fashion without exaggerated reaction phenomena and without the production of false neuromata. In secondary suture of nerves neuroma production is constant if the cut ends are placed in apposition, but if there be interposed between the ends a segment of nerve which has been fixed in alcohol regeneration occurs without neuroma formation.

585. Protein Sensitization in Asthma and Hay Fever.

SANFORD (*Minnesota Medicine*, April, 1920) records the result of 800 tests made during the last two years at the Mayo clinic. As a rule no patient was tested unless he was suffering from asthma or hay fever. More than 500 cases were entirely negative in their skin reaction, though tested with numerous proteins. Some eighteen or more proteins dissolved in decinormal sodium hydroxide were used. Sanford found that more than 200 cases gave definite skin reactions; 28 reacted positively to some of the animal emanations, the majority of these being to horse dander. No less than 100 cases reacted to one or several of the proteins derived from food, the greatest number of reactions being to egg white; 25 patients had marked positive reactions to grain—wheat, rice, and rye being the common kinds; 28 patients were sensitive to vegetable proteins. Fruit apparently had little to do with asthma, though in several instances banana gave marked reactions. In 365 tests with *Staphylococcus pyogenes aureus* and *albus* there was not a single reaction. The most interesting group, and one that gave very definite results, was made up of those persons sensitive to pollens. Persons sensitive to animal emanations may be desensitized for a considerable period by repeated injections of safe but increasingly large doses of the offending protein. In the case of persons sensitive to food proteins attempts at desensitization did not meet with marked success, and the careful elimination of the offending substances from the diet would seem to be the chief method of control. Patients sensitive to pollens offered much greater prospect of successful treatment; in such cases treatment was commenced at least twelve weeks before the earliest date of pollination, starting with a dilution less than that necessary to produce a positive skin reaction, the weekly injections being gradually increased until a few tenths of a cubic centimetre of 1 to 100 extract was attained. The history of the case enabled one to narrow down the list of proteins possibly responsible for the asthma or hay fever.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

583. Acute Suppurative Hypophysitis as a Complication of Purulent Sphenoidal Sinusitis.

T. R. BOGGS and M. C. WINTERNITZ (*Johns Hopkins Hosp. Reports*, 1919, xviii) are not cognizant of any reported instance of acute inflammation of the pituitary and therefore record such a case, arising by extension from purulent sphenoidal sinusitis, and exhibiting signs (hyperglycaemia and glycosuria) that the function of the gland was impaired. A woman, aged 43 years, was admitted to hospital with fever, albumin, casts, acetone and diacetic acid in the urine, and symptoms of intracranial inflammation, possibly abscess or encephalitis. Direct and endoscopic examination of the nasal and pharyngeal cavities showed that the external orifices of all sinus ducts were normal. The patient died two days after admission, and the necropsy proved that primary purulent inflammation of the sphenoidal sinus had extended through the sella turcica to the pituitary, which was dark red in colour and extremely friable; the demarcations of the gland were obscured by granulation tissue. There was subacute haemorrhagic basilar meningitis spreading to the right Sylvian fissure with acute encephalitis on that side. The pus from the sphenoidal sinus, from the base of the brain, and the blood from the heart contained *Staphylococcus aureus*. Microscopically the pituitary was acutely inflamed. Lumbar puncture immediately after death gave clear fluid with 450 cells per c.mm., of which 25 were white cells—namely, mononuclears 19, polymorphonuclears 6—and the rest red blood cells.

587. Dangers of Medication by Subcutaneous Injection.

O. THOMSEN (*Hospitalstidende*, March 18th, 1920) found that during the recent epidemic of influenza in Copenhagen at least 10 cases of gas phlegmon occurred as a direct sequel to the injection of drugs. Most of these cases terminated fatally, and several of them were investigated at the Serum Institute. The phlegmon originated in all cases at the site of injection of oil of camphor, caffeine, and other stimulants. The infecting organism was the Welch-Fraenkel bacillus or other members of a group possessing the common feature of spore formation. The author blames both pharmacists and the medical profession for these accidents. With regard to the former, their sterilization of drugs for injection is inadequate as far as spore-forming micro-organisms are concerned. As for the medical profession, the author suggests it is not generally realized that, under certain conditions, the introduction of pathogenic micro-organisms under the skin may be far more dangerous than into the peritoneal cavity. With regard to such drugs as cocaine, which cannot be boiled with impunity, Thomsen advocates filtration through a Chamberland or Berkefeld filter. He has analysed a variety of drugs, including preparations of morphine, cocaine, caffeine, etc., after their passage through filters, and has found that the Berkefeld filter transmits these drugs without loss. He concludes that the trouble and cost of securing absolute sterility of drugs for injection are not insuperable obstacles; and he recommends the adoption of definite rules for the preparation of these drugs by the Danish Pharmacopoeial Commission, advised by a bacteriologist.

588. Immunity and Bradycardia in Influenza.

REVIEWING the experiences of the Öresunds Hospital with regard to the epidemics of influenza in 1918 and 1919, V. FRIIS-MÖLLER (*Hospitalstidende*, January 21st, 1920) draws special attention to two points: (1) Not one of his patients had suffered from the epidemic of 1889 and 1890. Nine stated that they had suffered from influenza at some period between 1893 and 1918. Fifty patients had already suffered from one or more attacks during the present epidemic. These attacks dated back five weeks to several months earlier, and in the intervals these persons had been perfectly well. In these cases of relapse the last attack was the most serious, and was fatal in some cases. (2) Though it was commonly stated that bradycardia is peculiarly characteristic of influenza, the author found this symptom only in a few, most often in uncomplicated cases. As a rule the pulse was 110 to 120 during the first few days. It slowed down with the fall of the temperature, reaching normal in a few days. Then it fell for the next two or three days to 40 to 60, after which it returned to the normal rate. The marked bradycardia occurring after the fall of the temperature was not peculiar to influenza, for the same phenomenon has been observed in several other infectious diseases.

589. The Action of Influenza on Tuberculosis.

IN a discussion on the relation of influenza to tuberculosis JÖRGENSEN (*Norsk Magazin for Laegevidenskaben*, February, 1920), judging by the notifications of tuberculosis and the death rate therefrom, found no evidence to show that influenza is responsible for any appreciable reactivation of tuberculosis. Indeed, in 1918, 82 fewer cases of tuberculosis were notified in Christiania than in 1917. The death rate from tuberculosis appeared to be unaffected by the influenza of 1889–90. TILLISCH (*Norsk Magazin for Laegevidenskaben*, March, 1920), on the other hand, has come to the conclusion that influenzal infection is a very serious factor in tuberculosis. In 223 out of 532 cases of tuberculosis the disease was complicated by influenza. Among these there were 57 in which the already active tuberculosis was aggravated. There were also 53 cases in which the tuberculous infection had been latent for a considerable period, and its recrudescence coincided with an outbreak of influenza. In nearly two-thirds of these cases the tuberculosis had been latent for six years or more. In another group of 69 cases the first sign of tuberculosis coincided with an attack of influenza; in these cases, too, the tuberculosis was no doubt of old standing though it had not been previously detected. Of six patients treated by artificial pneumothorax and contracting influenza only one escaped with impunity, the remainder being dead or dying. Tillisch also considers the rapidly progressive character of many cases of tuberculosis complicated by influenza to be a further proof of the sinister part played by this disease.

590. Treatment of Laryngeal Tuberculosis with Carbon Arc Light.

N. R. BLEGVAD (*Hospitalstidende*, February 11th, 18th, 25th, and March 3rd, 1920) gives an account of his experience, during the past two and a half years, of exposures of the whole body to carbon arc light in 74 cases of tuberculosis of the larynx. During the first week of treatment exposures to four powerful arc lamps (20 ampères) were given for fifteen minutes every day. Every week the duration of the exposures was increased by fifteen minutes, and finally each exposure lasted an hour. Most of the patients were in Turban's third stage of pulmonary tuberculosis, yet the laryngeal disease was arrested in 17 cases, and in 35 other cases definite improvement was effected. The disease was stationary in 6 cases and progressive in 16 in spite of this treatment. Local treatment with the galvano-cautery was found to be a useful supplement to this procedure; the combination of the two gave better results, in the author's opinion, than any other method. He finds that tuberculosis of the larynx frequently runs a course independent of that of the lungs, and it is therefore necessary for the larynx to receive special treatment.

591. Subcutaneous Injections of Sodium Bromide in Mental Disease.

C. JÖRGENSEN (*Hospitalstidende*, January 7th, 1920) has been very favourably impressed by the sedative action of sodium bromide injected hypodermically. At the Frederiksberg Hospital the results of giving sodium bromide by the mouth in psychoses with exaltation proved so unsatisfactory, even when as much as 24 grams were given in the twenty-four hours, that it fell into disuse. The introduction by Levison of subcutaneous injections of normal saline solution in phases of exaltation has proved a success, and this treatment is still practised at the author's hospital, for hallucinations and the toxic psychoses. He has, however, modified it by substituting sodium bromide for the sodium chloride in the saline solution, and he has found that 7 grams of sodium bromide given in the course of two hours were well tolerated. He has increased the dosage to 9 grams in 1 litre of water, so that if two injections be given in one day the patient receives as much as 18 grams in the twenty-four hours. He gives details of several cases to illustrate the efficacy of this treatment and its superiority over other remedies, such as chloral, veronal, opium

derivatives, and hyoscine; but as the administration of these is comparatively easy, he reserves the injections of sodium bromide for the most refractory cases, which the above drugs failed to control.

592. Rapid Institutional Treatment of Scabies.

M. OPPENHEIM (*Wien. klin. Woch.*, January 29th, 1920) notes that of all the methods advocated during the war for the rapid treatment of scabies, only two have proved reliable for ambulant treatment. These are the modified Wilkinson and the modified Hardy treatments. With an experience of over 20,000 cases, he has come to the conclusion that the modified Hardy treatment is perfectly harmless and absolutely reliable. He has seen barely half a score of relapses, and these were due to faults of the nurses, not of the treatment. In his advocacy of the establishment of centres for Hardy's rapid treatment, he observes that if the attendances at hospital for 1917 and 1918 be compared, a tenfold increase in the incidence of scabies in Vienna is revealed.

593. The Incubation Period of Typhus.

ACCORDING to P. H. KRAMER (*Nederl. Tidjschr. v. Geneesk.*, March 13th, 1920) widely divergent estimates have been given of the incubation period in typhus. It is generally supposed to be nine to twelve days; in one of Kramer's cases, however, it was shown to be eight days only. At the beginning of the epidemic in Rotterdam (1918–19) contacts were isolated for fourteen days, but subsequently this period was extended to eighteen days, two suspects having developed the disease three days after release from quarantine.

594. Mixed Typhoid and Paratyphoid Infection.

A. PIRERA (*La Medicina Pratica*, February 29th, 1920) records a case in a man, aged 23, remarkable for the exceptional character of the temperature, which showed a well marked tertian type, exactly like that of malaria, except that the rise of temperature usually occurred during the day instead of the evening. Moreover the fever ceased without the aid of quinine, which was only given during the first few days of the disease and without any effect. Bleeding, on the other hand, proved remarkably successful, the temperature falling to normal after the second bleeding on the twelfth day.

595. Subarachnoid Meningeal Haemorrhage.

P. MAURIAC and E. FERRÉ (*Journ. de Méd. de Bordeaux*, March 10th, 1920) record three cases of subarachnoid meningeal haemorrhage in soldiers. In the first case the cause of the haemorrhage could not be determined; in the second the meningeal haemorrhage was associated with convulsive uraemia, and in the third case the haemorrhage followed extraction of teeth.

596. Primary Tricuspid Endocarditis.

RÉMOND and MINVIELLE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 30th, 1920) record a case in a man aged 39 who had had four attacks of acute articular rheumatism and was admitted to hospital with signs of heart failure. On auscultation a presystolic rumble was heard, and a systolic bruit which was most distinct below the sterno-xiphoid articulation. On radioscopy the cardiac shadow was increased in size in all its dimensions, especially on the right, where it presented a convexity most marked in the right auricle.

597. Yellow Fever in Ecuador.

C. A. ELLIOTT (*Arch. Int. Med.*, February 16th, 1920) describes the morbid appearances and clinical features of 70 cases of yellow fever observed between July and September, 1918, at Guayaquil (an endemic centre of the disease), where it is considered impossible that a native can grow to maturity without contracting the disease, and therefore, if recovery occurs, becoming immune. None of the houses from which the patients came were screened, and mosquitos, often in great numbers, were constantly present. The onset of the disease was rapid, and the fever was usually low and short, accompanied by slow pulse, congestion of the face, sclerae and gums, and followed by an afebrile period of apparent intoxication with increasing jaundice, haemorrhages and nephritis. Prompt death or rapid and complete recovery occurred. Death occurred most frequently on the eighth day. Out of 50 cases 19, or 38 per cent., proved fatal. Bad prognostic signs were rapid pulse, uraemic manifestations, such as air hunger, restlessness, coma, and delirium, with oliguria progressing to anuria. The greatest difficulty in diagnosis occurred in cases of malaria in which yellow fever supervened; and in cases of cerebral malaria the diagnosis might be impossible except at necropsy. Clinically, yellow fever resembled infectious jaundice, the differences—the more prominent jaundice and slight degree of haemorrhage in yellow fever—being chiefly those of degree. Death was due to uraemia from intense degeneration of the cells of the convoluted tubes of the kidney, the glomeruli and collecting tubules being unaffected. The lungs nearly always showed haemorrhages, and hepatic changes—haemorrhages, fatty degeneration and necrosis of the cells—were prominent. The complete restitution of all the viscera was remarkable, no evidence of impaired hepatic or renal function appearing in those patients who recovered.

598. The Combined Method of Percussion and Auscultation for Detecting Enlarged Hilus Glands.

W. M. NAESSENS (*Nederl. Tijdschr. v. Geneesk.*, March 13th, 1920) describes the following method for detecting enlarged glands at the pulmonary hilus. The patient is examined in the sitting position, the head bent forwards; the doctor then percusses the back directly with the right middle finger, and at the same time places the end of the stethoscope about 5 cm. from the percussing finger, and auscultates, the percussion beginning at the lower border of the lungs, and working upwards about 2 to 4 cm. from the vertebral column. The percussion note over the lung containing air is loud, metallic, and high pitched, but over an enlarged bronchial gland it is duller, lower pitched, and not metallic. Care must be taken not to percuss a bone. Glandular swellings of any size are detected with certainty even when percussion or auscultation alone fails to do so, though small swellings may escape notice.

SURGERY.

599. Operations for Embolism.

IN a review of the literature of operations for embolism, not including embolism of the pulmonary arteries, H. SUNDBERG (*Hygiea*, January 16th, 1920) finds that only in six out of twenty cases was the operation a permanent success. Of these six successes four were achieved by Swedish surgeons. He contributes the following case to the list: A farmer of 63, suffering from heart disease, had been in hospital nine days, when he suddenly felt pain in his left foot. The pain extended up his leg, and was accompanied by numbness and weakness of the limb, which later became cold, white, and pulseless. About twelve hours afterwards the femoral artery was opened through an incision made under local anaesthesia just below Poupart's ligament. The upper end of the clot was about 2 cm. above the division of the common femoral artery into the deep and superficial branches. By gentle traction the author succeeded in pulling out the clot in its entirety; it measured 86 cm., the exact length of the limb from the site of the operation to the sole of the foot. The artery was closed with silk sutures passed through the outer and middle coats of the artery without traversing the internal lining. The patient wrote two months after his discharge from hospital that all was well with his leg.

600. Treatment of Tetanus.

A. MONTEFASCO (*La Medicina Pratica*, March 31st, 1920) treated seventeen cases of tetanus during the war, with eight recoveries and nine deaths, a mortality of 52.9 per cent. He employed either magnesium sulphate alone, or more frequently a combination of magnesium sulphate and antitetanic serum, which was given intrathecally or subcutaneously when the condition of the patients did not permit of lumbar puncture. Magnesium sulphate was always given subcutaneously in doses of 1 c.cm. of a 1 in 40 solution every three or four hours, and the serum in doses of 100 units for several days in succession.

601. Closure of Colostomy.

KINSCHERF of Kaiserlautern (*Zentralbl. f. Chir.*, 1920, 47) describes his method of closing colostomy wounds; the technique is entirely extraperitoneal. An incision is carried round the colostomy 1 cm. away from it, extending to but not opening the peritoneal cavity. The colostomy is temporarily closed with a stitch. The peritoneum is now separated as widely as possible from the deep aspect of the abdominal wall, so that the colostomy opening is freely mobilized and can be drawn out of the wound; conversely, the colostomy can be pushed back into the abdomen and is then situated at the bottom of a peritoneal funnel. After this mobilization has been accomplished

the stoma is trimmed and carefully sutured. On replacing the bowel the peritoneum should be susceptible of approximation over it and may be held in position by a suture or two, though this is not essential. The abdominal wall is closed in layers with a strip of iodoform gauze for drainage.

602. Submucous Lipoma of the Caecum Causing Intestinal Obstruction.

L. LONGO (*Il Policlinico*, Sez. Chir., March 15th, 1920) states that benign tumours of the intestine (of which lipomata are the rarest) are very infrequent, and, as a rule, are only discovered at operation. In 1899 Hiller, one of the first to write on intestinal lipomata, found only 25 cases on record, and Hellstrom in 1907 collected only 45. In 1913 Cicala described a case of lipoma of the caecum which gave rise to intussusception, and collected 14 other cases of intestinal lipoma. The tumour may be situated in any part of the intestine; unlike other benign intestinal tumours it is usually single. Longo records a case in a woman, aged 47, who suddenly developed intestinal obstruction. At operation, in addition to a dilated adherent gall bladder, a submucous lipoma of the caecum was found; cholecystectomy and removal of the tumour resulted in a rapid recovery.

603. Annular Pancreas.

U. BENEDETTI (*Il Policlinico*, Sez. Chir., March 15th, 1920) records an example of this anomaly, of which only six cases have been previously recorded, four being discovered *post mortem* and two at an operation for intestinal obstruction. Benedetti's case occurred in a soldier who, while recovering from multiple gunshot wounds of the limbs, suddenly developed symptoms of intestinal obstruction. Examination of the urine and faeces showed nothing abnormal. Operation was contraindicated by the general condition of the patient. The autopsy showed the descending part of the duodenum to be encircled by the head of the pancreas. The oedematous condition of the pancreas suggested an inflammatory condition, but no histological examination was made. Benedetti points out that Giannelli has recently shown that in teleostean fishes the pancreas normally surrounds the intestine, so that the annular pancreas in man may be regarded as a vestige.

604. Plastic Repair of Urethral Stricture.

STERN (*Journ. Amer. Med. Assoc.*, 1920, 74) describes his method of treating urethral stricture by a plastic operation. The patient is placed in Macalpine's position so that the perineum is practically horizontal; this makes the operation much easier. The essential step of the procedure is the liberation of the corpus spongiosum from the triangular ligament, exposing the strictured urethra beneath it. This is excised and a plastic repair carried out, the defect being sutured in such manner that no constriction is left. A catheter is left in, and the wound closed in layers. No leak occurs, and in other respects Stern's results have been good.

605. Technique of Epididymectomy.

STERN (*Surg., Gyn., and Obstet.*, 1920, 30) describes a simple technique for epididymectomy. To remove the testis and leave the epididymis is easier than to perform the reverse; the essential of Stern's method is the separation of the body of the epididymis from that of the testis, which is effected by pushing a pair of scissors through from the outer to the inner side, the tips being inserted into the digital fossa. If the scissors are now opened the epididymis will be left attached merely by its upper and lower poles. These connexions may then be severed without any danger of interfering with the vascular pedicle of the testis. The vas, if extensively diseased, may be followed up to the internal ring.

606. Sodium Taurocholate in the Prophylaxis of Gonorrhoea.

CASTELLANI (*Ann. di Med. Navale Coloniale*, February, 1919), finding that bile and its salts inhibit the development of the gonococcus, recommends as a preventive solution 2 to 4 grams of sodium taurocholate dissolved in 30 grams of neutral glycerin. The author experimented on two subjects who volunteered; in one, pus rich in gonococci, after being mixed for three minutes with this solution, was instilled within the meatus; in the other a few drops of the solution were introduced, and three minutes afterwards pus containing gonococci was instilled. Five minutes later urination and soap and water lavage were performed; both subjects remained free from gonorrhoeal infection.

607. Hot Air Treatment of Naevi.

MOUCHET and VIGNAT (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46) have previously demonstrated the excellent results obtainable in the treatment of cutaneous naevi by treating them with hot air. They have now applied the method to a subcutaneous naevus. A very small skin incision was made and the edges were widely retracted and protected with cold water compresses. A jet of air at a temperature of 750° C. was then projected upon the naevus. The coagulated material was scraped away and the jet once more applied, these steps being repeated until the whole angioma had been destroyed. The minute skin wound was sutured and healed by first intention; an admirable cosmetic result was produced.

608. Chorion-epithelioma of the Testis.

ACCORDING to F. L. GRAPIOLO and C. SPADA (*Rev. Sud-Americana di Endocrinologia*, March 15th, 1920), chorion-epithelioma of the testis is very rare. Woglom, in 1917, recorded 2 cases of his own and collected 65 others from the literature. Hartmann and Peyron, in 1919, recorded 27 personal cases. The present writers report the first case to be described in the Argentine Republic. The patient was aged 37, and the clinical course was suggestive of an acute infection. The appearance of jaundice on the seventh day, the enlargement of the spleen, and the remittent pyrexia suggested the diagnosis of spirochaetosis icterohaemorrhagica, but examination of the urine and inoculation of guinea-pigs proved negative. After a streptococcus had been isolated from the blood the possibility of streptococcal septicaemia was considered. It was only after death that the characteristic metastases in the liver and retroperitoneal tissues suggested examination of the testes, in one of which the primary tumour was found. It was remarkable that the tumour had developed, not in the right testis, which was retained in the inguinal canal, but in the normally situated left testis, and that there had been no signs of the disease in the testis during life although the tumour had undergone necrosis.

OBSTETRICS AND GYNAECOLOGY.

609. Tuberculosis of the Cervix.

CHARLANNE (*Bull. et Mém. Soc. Anat. de Paris*, March, 1920) records the case of a multipara of 40, who had previously suffered from lupus of the face. Two years after an operation for prolapse (during which the cervix was found to be quite healthy) she complained of leucorrhoea and abdominal pain. Examination showed the presence of an excavated ulcer with diffuse infiltration of the cervix; microscopical examination of a portion which had been excised confirmed the diagnosis of tuberculosis. Giant cells but not tubercle bacilli were found. Ascites has since developed.

610. A Test of the Patency of Fallopian Tubes.

SEVERAL recent communications, especially in the American medical journals, have testified to the value of intraperitoneal injections of oxygen in conjunction with *x*-ray examination in the diagnosis of obscure abdominal conditions. No ill effects, as a rule, have attended the pneumoperitoneum produced by inflation of the abdominal cavity by the gas. It has occurred to RUBIN (*Journ. Amer. Med. Assoc.*, April 10th, 1920) to make use of this tolerance of the peritoneum for oxygen and the ability to detect the gas by radiography as a diagnostic procedure in determining the patency of the Fallopian tubes. If the gas injected into the uterine cavity under a certain pressure would pass into the Fallopian tubes it ought to reach the peritoneal cavity in patients with patent tubes, and set up an artificial pneumoperitoneum identical with that produced when injected by direct abdominal puncture. If, on the other hand, both tubes were occluded, no such condition could result. Preliminary experiments with extirpated uteri and adnexa showed that the gas readily escaped by the fimbriated extremity, but when the tubes were occluded by pathological processes or by ligature no gas escaped. The method was then applied to the living patient, and was successful in the first case in demonstrating the patency of the tubes. Altogether 55 cases of sterility with different clinical histories and physical findings were tested by means of oxygen insufflation of the uterus without any untoward symptoms or sequelae. All the patients, except two in the hospital wards, were allowed to go home within a few minutes of the examination; and all were followed

up and carefully examined for complications, none of which appeared. In some cases the results confirmed the clinical diagnosis of probably closed or patent tubes, but in others the test showed that the tubes were open where there were reasons to suspect that they were closed, and vice versa. The author claims that the method has practically the value of an exploratory laparotomy in determining the continuity of the lumen of the Fallopian tubes, and he dismisses the dangers of embolism and infection, at any rate in cases which are not acute, as hypothetical.

611. Cancer of Cervix: Implantation of Graft on an Intracorporeal Polypus.

CHAUVIN and ROUX (*Bull. et Mém. Soc. Anat. de Paris*, March, 1920) record the examination of the uterus removed by operation from a case of squamous epithelioma of the cervix uteri. The growth, which was of a fungating type, did not extend beyond the internal os: above this level the endometrium was thick and congested. A small polypus growing from the fundus swung on a well-defined pedicle within the cavity of the corpus uteri. The extremity of the polypus was capped by a pale-coloured excavated ulcer, which microscopically presented the character of a squamous-celled epithelioma, with cell nests; histologically the endometrium showed glandular endometritis only. The occurrence of malignant implantation-grafts in the genital tract usually takes place in a direction towards the exterior; the appearance of retrograde implantation, as in this case, affords an additional argument against the operation of simple amputation of the uterine neck for malignant disease.

612. After-results of Extended Hysterectomy.

FAURE (*Bull. et Mém. Soc. Chir. de Paris*, March, 1920) gives his results in about 80 cases of cancer of the neck of the uterus treated in the last fifteen years by extended hysterectomy, with an operative mortality of 10.84 per cent. Of 70 cases, 53 per cent. have been cured and 47 per cent. have had recurrences; of the latter, 3 cases lived between four and six years after operation. Of the 36 cases cured, 11 were operated on less than three years ago, 10 between three and six years ago, 7 between six and nine years ago, and 8 between nine and twelve years ago. Recurrences were commonest in the first year, and it was exceptional for them to occur two years after the operation. Faure believes that "proliferative" cases in which the vagina is occupied by exuberant vegetations come definitely within the operable category, and afford a much less grave prognosis than the infiltrating and ulcerating varieties. Discussing the part played by radium in treatment, the author says that its pre-operative application renders it difficult subsequently to perform a wide hysterectomy. He is strongly against the recently suggested abandonment of operation in favour of radium therapy. He recounts one exceptional case in which, at laparotomy in 1913, the uterus was found to be fixed and adherent, and the condition was judged to be inoperable; the patient received radium treatment and was in perfect health seven years afterwards. Comparing the subsequent results in those in whom after operation radium was and was not applied, Faure finds that 44 patients who received radium treatment furnished 50 per cent. of recurrences, and 23 who did not have this treatment showed 40 per cent. of recurrences.

613. Vaginal Dilatation by Champetier de Ribes's Bag during Labour.

SAXE (*Gynéc. et Obstét.*, vol. i, No. 1, 1920) records the results of eighteen years' employment of this method, proposed by Pinard in 1905. A bag of 400 to 600 c.cm. capacity was placed in the vagina and filled with sterilized water. In a series of 172 primiparae, with 155 controls in which no bag was used, labour was shortened by thirty-five minutes on the average; perineal tears (never complete) occurred in 25 per cent. of cases, as compared with 40 in the control series. The fetal mortality was 1 in 21 as compared with 1 in 9.

614. The Wassermann Test in Pregnant Women.

H. GOODMAN (*Surg., Gyn., and Obstet.*, April, 1920) found that among 1,320 pregnant women 87 per cent. gave a negative Wassermann reaction. Only 6.7 per cent. gave a "4+" positive reaction, and in 2 per cent. more of the cases the Wassermann test was "3+." Of the Wassermann-negative multiparae, 37 per cent. had suffered one or more miscarriages as compared with 52 per cent. of the "4+" cases. Only one woman among the 1,320 gave a history of having been known to be infected with syphilis, although approximately one woman out of each eleven gave a strongly positive Wassermann reaction.

PATHOLOGY.

615. The Etiology of Chronic Gastric Achylia.

K. FABER (*Ugeskrift for Laeger*, April 1st, 1920) gives a critical review of the literature of gastric achylia since 1892, when Einhorn first introduced this term. The author shows that the claims of conflicting theories as to the origin of gastric achylia must still be regarded as unsettled. He believes, however, that in the overwhelming majority of cases the disease can be adequately accounted for by various toxic and catarrhal conditions of the stomach itself, but there are a certain number of cases in which it is at present impossible to correlate the achylia with any definite local disease of the stomach. As in the case of nephritis of unknown origin, it is probable that further research will reveal hitherto unknown exogenous causes. The author admits that congenital constitutional anomalies may possibly play a part, but he argues that in the past these endogenous factors have been accepted without sufficiently critical scrutiny.

616. Septicaemic Endocarditis.

ACCORDING to E. MÜNZER (*Zentralbl. f. inn. Med.*, April 17th, 1920) von Funke and G. Salus have recently described cases of mild endocarditis in a large proportion of which the *Streptococcus viridans* was isolated from the blood. Unlike the cases previously described by Münzer, there was no history of rheumatism; rigors, well marked tachycardia, and enlargement of the spleen were absent, and all the patients without exception—thirty-eight in number—recovered. Münzer concludes that the presence of streptococci in the blood of patients suffering from endocarditis does not justify any prognostic conclusions. On the other hand, the occurrence of rigors and enlargement of the spleen are very unfavourable signs. In all cases of septicaemic endocarditis which can be detected at an early stage by examination of the blood, treatment by anti-streptococcal serum should be tried first, and should be followed by intravenous injections of collargol and salvarsan. Finally, removal of the spleen should be considered.

617. Experimental Haemorrhagic Pancreatitis.

BINET and BROCQ (*C. R. Soc. Biologie*, March 20th, 1920), following up the previous experiments of Brocq and Morel, in which acute or subacute haemorrhagic pancreatitis was produced by the injection of bile into the canal of Wirsung, have been able to obtain the same lesion in animals by the injection into the duct of intestinal juice obtained from a fistula of the small intestine in a human subject. The clear transparent fluid from this fistula was viscous and alkaline, was free from formed elements and was proved to contain enterokinase. Its injection into the pancreatic duct of a dog produced a typical haemorrhagic pancreatitis with fat necrosis. Evidently the enterokinase activated the trypsinogen *in situ*. Similar phenomena were brought about by the injection of calcium chloride, which also activates the trypsinogen, whilst no such results were obtained with physiological saline or with sodium fluoride, the latter of which inactivates the pancreatic reactions.

618. Primary Hydatid Cyst of the Spinal Meninges.

RAUZIER and GIRALD, in a paper read before the Société des Scientifique Médecine et Biologie de Montpellier (*La Grèce Médicale*, April, 1920), record a case of primary hydatid cyst developing in the spinal dura mater and rupturing spontaneously into the subarachnoid space. The freeing of the daughter cysts gave rise to a chronic diffuse meningitis. Clinically the case was characterized by a progressive flaccid paraplegia. Lumbar puncture gave a clear albuminous liquid, poor in chlorides, containing 71.4 lymphocytes per cubic millimetre. The patient died, after four months' illness, from bronchopneumonia.

619. Cause of Epilepsy.

LALOR and HADDOW (*Med. Journ. of Australia*, March 20th, 1920) compare epilepsy with eclampsia and other toxaemic conditions. They suggest that idiopathic epilepsy is a toxaemia, and emphasize the importance of the liver and kidneys in the etiology of idiopathic epilepsy. Preliminary investigations only have been made, but in *post-mortem* examinations of 25 epileptics they found an average ratio of brain weight to liver weight of 35 to 33 compared with the normal ratio of 12 to 15. Fatty or fibrotic changes or other morbid conditions of the liver were found in 40 per cent. Observation of patients showed that the fits occurred after a period of diminished nitrogen excretion. In two cases the administration of ammonium carbonate increased the number of fits.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

620. The Influence of Scarlet Fever on Vaccinia.

D. IONESCO (*Bull. et mém. Soc. Méd. des Hôp. de Bucarest*, May 28th, 1919) records a case showing that scarlet fever not only does not prevent the regular development of vaccinia, but even appears to increase the receptivity of the organism for the vaccine virus. The patient was a woman who had been unsuccessfully vaccinated at the age of 1, 8, and 15, although vaccination of her brother at the same time and with the same lymph proved successful. At the age of 23 she was vaccinated at the end of the incubation period of scarlet fever, and three days later the vaccine lesions began to develop, and pursued their normal course with all the local and general symptoms of primary vaccination. The attack of scarlet fever was one of moderate intensity, without any complications, and convalescence was uneventful. It was therefore in no way affected by the concomitant vaccinia. On the other hand, the scarlet fever appeared to have rendered the organism more susceptible to the vaccine virus.

621. Renal Manifestations of Cardiac Failure.

O. JOSUÉ and M. PASTURIER (*Paris méd.*, March 13th, 1920) point out that asystole may give rise to renal manifestations, even when the kidneys are not damaged. During the period of asystole and oliguria it is impossible to determine the extent of renal involvement. It is only after the re-establishment of diuresis, when digitalis treatment has been instituted, that we can tell whether the symptoms are due mainly to affection of the heart or of the kidneys. In such circumstances the ureo-secretory coefficient supplies definite information. In many cases it will show that, contrary to what might have been expected from clinical examination, the kidneys are completely intact; in other instances, that although the kidneys are slightly affected, urea can be eliminated during the period of cardiac compensation. Such patients should not be regarded as "cardio-renal" subjects. Apart from cardiac oliguria the renal function is competent, and the renal symptoms are the result of cardiac failure.

622. Continuous Suppurative Acrodermatitis.

ACCORDING to E. BODIN (*Paris méd.*, March 6th, 1920), this name was given by Hallopeau in 1890 to a peculiar eruption affecting the extremities, and especially the hands, which was neither eczema, dysidrosis, nor an ordinary pustular infection. Bodin, who has seen six cases in the course of a few years, is of opinion that if the disease were better known more examples would be published. The onset usually occurs without any obvious cause, but sometimes the patient attributes the first lesions to an injury of the fingers or the hand. In some cases the characteristic eruption follows persistent erythematous and desquamating lesions, but as a rule the affection starts near the nails like an ordinary whitlow. The remarkable feature of the lesions is that, whether they remain localized in one or more fingers or extend to the hand, they continually relapse. The eruption is formed by pustules varying in diameter from 1 to 4 mm., each surrounded by a red areola. In three or four days' time the pustules break down and discharge their contents. There follows a stage of desquamation lasting from ten to twenty-five days, and attacks of pustular eruption and desquamation succeed one another for an indefinite period, at intervals varying from days to weeks. The general condition is not affected. Treatment of any kind is ineffectual.

623. Treatment of Secondary Meningitis by Intraspinal Injection of Autogenous Serum.

T. M. SANDERS (*Amer. Journ. Med. Sci.*, February, 1920) records a case of post-influenzal meningitis successfully treated by the intrathecal injection of the patient's own blood serum. When successfully combating pneumonia—with a falling temperature and a high leucocytosis—the patient showed signs of meningitis, and lumbar puncture yielded a turbid polymorphonuclear cerebro-spinal fluid. Cultures failed to establish the nature of the infecting organism. The patient's blood serum was injected intrathecally, on the ground that immune bodies exist in the serum in practically all infectious diseases, and that thus the immune serum is brought into direct contact with the inflamed meninges and the micro-organisms there, the choroid plexus ordinarily preventing the free passage of immune bodies from the blood stream into the subarachnoid space. In addition the patient, who eventually recovered, was given intravenous injections of blood from convalescents from influenzal bronchopneumonia. The intrathecal injection of autogenous serum is advocated in cases of secondary meningitis when an efficient specific immune serum is not available.

624. Trophoedema in Chronic Mania.

E. COULONJOU, E. TERRIEN, and R. SAQUET (*Paris méd.*, March 13th, 1920) describe two cases of chronic mania in women, aged 45, complicated by trophoedema, which was neither familial nor hereditary. In one case the trophoedema affected the left leg and began at 16, in the other the right leg, beginning at 39. The writers suggest that the trophoedema and psychosis in each case were due to disturbance of the sympathetic nervous system and the glands of internal secretion.

625. Polycythaemia in Juxta-pyloric Ulcer.

H. I. BING (*Ugeskrift for Laeger*, March 11th, 1920) has investigated the subject of polycythaemia in relation to duodenal ulcer. In 1914 Friedman found this combination in twenty-five cases. The same relationship has been observed in four cases by Danish writers, and in the first case of juxta-pyloric ulcer examined by the author for polycythaemia he found the red cells numbered 7 millions in the blood taken from the ear, and 8.2 millions in that taken from the skin of the abdomen. He does not, however, accept Friedman's view that this polycythaemia is due to an increased amount of adrenalin in the blood. The author suspects that the factors promoting polycythaemia in these cases are gastric hypersecretion, delayed passage of food from the stomach, and the frequent attacks of vomiting, which may be expected to reduce the amount of water in the blood. In support of his views he gives details of a case with analyses of the chloride content of the urine, blood, and gastric juice.

626. An Epidemic of Throat Disease due to the Pneumococcus.

A. HEINDL (*Wien. klin. Woch.*, March 18th, 1920) has investigated a recent epidemic of angina faucium caused by the *Diplococcus lanceolatus pneumoniae*. When this germ was found in pure culture the disease began on one side of the throat only, spreading to the other side at a later stage. The tonsils were covered by a white or whitish-green membrane, not unlike that of diphtheria, and though the rise of temperature was not great there was considerable dysphagia. There was moderate, almost indolent, swelling of the neighbouring lymphatic glands, as observed in diphtheria or Vincent's angina. The duration of the disease was four to eight days, during which there was progressive anaemia, with severe constitutional disturbances. The usual remedies proved useless; salicylic acid, tincture of iodine, hydrogen peroxide, diphtheria serum, and a polyvalent staphylococcal serum all failed. The administration in two cases of what the author terms "pneumonia serum" was strikingly successful.

627. Autohaemotherapy in Anaemia.

CRESPIN and ATHIAS (*Bull. Soc. de Thérap.*, March 10th, 1920) have treated cases of anaemia (in which administration of normal horse serum and other methods had failed) by subcutaneous injection of the patient's own blood. Considerable improvement occurred in forty-eight or even twenty-four hours, with a moderate and sometimes considerable increase of the red cells and occasionally of the leucocytes. Only a small quantity of blood was required—namely, 5 to 10 c.cm. in adults and 3 to 5 c.cm. in children. In most cases only a single injection was sufficient, and it was exceptional for a second or a third to be needed. In the case of anaemic infants whose blood could not be obtained, their mothers' blood was injected. It is remarkable that this "homotherapy" as it was called, was only successful when the mother was also in a state of pronounced anaemia. In cases where the mother was plethoric no results were obtained; in explanation it is

stated that the blood of anaemic persons contains active haemopoietic substances, the power of which is probably exalted by passage into the subcutaneous tissue.

628. Treatment of Cerebro-spinal Meningitis.

P. FOTI (*La Pediatria*, April 1st, 1920) treated with anti-meningococcic serum 22 cases in children aged up to 12 years. There were 13 recoveries, 5 deaths, and 4 cases in which the result was not ascertained. On subtraction of the latter the mortality was reduced to 22 per cent. In the majority of the cases the effect of the serum was immediate, the cerebro-spinal fluid becoming less turbid after the first few injections, and lymphocytosis replacing polymorphonucleosis, with simultaneous disappearance of meningococci. The serum was most beneficial when used early, but even in advanced cases in which it was not employed till the fortieth or forty-seventh day excellent results were obtained. The amount of serum injected varied from one case to another; as a general rule four to five injections of 20 c.cm. were sufficient. The mortality was highest in infancy.

629. Oral Auscultation.

F. HAMBURGER (*Wien. klin. Woch.*, March 11th, 1920) maintains that listening for adventitious breath sounds by the open mouth is a valuable diagnostic method, frequently ignored by reason of its simplicity. He tells of a child whose father had recently died of pulmonary tuberculosis being brought to the clinic; examination of his chest was negative, and he had been dressed again when the author put his ear to the child's mouth and heard definite fine râles. The child was undressed, and after exhaustive examination a small patch of fine moist sounds was heard in the left scapular region. Oral auscultation is helpful as a rapid guide to active lesions of the respiratory system, but it should supplement, not supersede, the ordinary examination of the chest. When this shows adventitious sounds over the lungs, oral auscultation is seldom negative. On the other hand, adventitious sounds heard over the lungs may be so fine, faint, and few, that their existence is in doubt, whereas the sounds heard near the mouth are quite definite. In cases of central pneumonia the chest signs may be absolutely negative, while adventitious sounds may be clearly heard by the oral method, although they do not indicate the site of the lesion.

630. Transfusion of Blood in Pernicious Anaemia.

O. SCHEEL and O. BANG (*Norsk Mag. for Laegevidenskaben*, March, 1920) achieved success by the transfusion of large quantities of blood in a severe case of pernicious anaemia. The patient, a man aged 33, was admitted to hospital moribund. The red cells numbered 850,000, and the percentage of haemoglobin was 19. After 900 c.cm. of blood, taken from four persons and treated with sodium citrate, had been injected into a vein there was an immediate improvement. The red cells rose at once to over two millions, and later to over three millions. The patient, who had been very weak and dyspnoeic and only partially conscious, was up and about twelve days later.

631. Treatment of Influenza by Fixation Abscess.

L. PROBST (*Rev. méd. Suisse rom.*, March, 1920) recommends the use of Fochier's fixation abscess in all cases of severe influenza. The technique, which is very simple, is as follows: (1) Inject with aseptic precautions 1 c.cm. of oil of turpentine under the skin of the front of the thigh. (2) Do not incise until there is fluctuation and the temperature has become normal. (3) Make a free opening and drainage. (4) If necessary, relieve by application of an ice-bag the local pain caused by the abscess formation.

632. Infantile Spastic Hemiplegia.

R. VAGLIO (*La Pediatria*, March 15th, 1920) records 46 cases of infantile spastic hemiplegia which were observed during the quinquennium 1913–1918 at the Naples University Paediatric Clinic. One was due to trauma at birth, in 25 syphilis could be established (in 19 with certainty, in 6 with great probability), in 3 the cerebral lesion was connected with measles, 4 were associated with pertussis, influenza, typhus, and empyema respectively, and in 12 the origin could not be determined. A certain proportion of the latter were possibly due to Heine-Medin's disease, and in others the possibility of a cerebral lesion of tuberculous nature could not be excluded. In 26 cases the paralysis was preceded and generally accompanied by convulsive attacks often of a definitely epileptic character. The lesion affected the two limbs almost equally in 16 cases; in 22 it was most pronounced in the upper limb and in 8 in the lower limb. In 27 cases the right side was affected, and in 19 the left side. Only 6 cases were associated with mental disturbances, which varied from the severest forms of idiocy to a mere retardation in intellectual development. In 2 cases athetotic movements were present, and in 1 choreic movements of the affected limbs. In 2 cases there were ocular lesions. The onset was sudden in 29 cases and gradual in 16.

633. Dilatation of the Colon in Children.

A. E. MEYERS (*Amer. Journ. Dis. Child.*, March, 1920) believes that, in addition to muscular hyperplasia, there is another condition present in dilatation of the colon in children—namely, spasm due to an excess of starch in the diet. He reports six cases in children aged from 4 to 9 years, in whom the constipation was cured by a starch-free diet and the administration of atropine sulphate.

SURGERY.

634. Varicose Eczema and Perivenous Sympathetic Nerves.

R. LERICHE (*Lyon Chir.*, 1919, 16) describes a case of varicose veins complicated by severe and intractable weeping eczema of the ankle and lower two-thirds of the leg. Leriche, having seen removal of the perivascular sympathetic nerve fibres lead to intense contraction of the vessel wall, performed a femoral "sympathectomy" in the middle of the thigh, followed by removal of two groups of varicose veins, without interfering with the saphena. The operation resulted in the complete cure of the eczema. The author believes that in such cases eczematous troubles are due to interference with the perivenous sympathetic nerves by the swollen and distended veins.

635. Varices of the Upper Limbs.

BERSON (*Il Morgagni*, December 5th, 1919, and *Thèse de Paris*, 1919) has only been able to collect 14 cases of this rare condition. When present they are usually congenital, but may be traumatic. They are most often unilateral and confined to the superficial veins, but in some cases all the veins are affected. Secondary trophic changes may occur in the skin, muscles, or bone. Loss of power in the arm may be present; hyperaesthesia is not uncommon. The ordinary complications of varicose veins (haemorrhage, ulceration, phlebitis) are seldom seen in varix of the arm. No treatment, as a rule, is required.

636. Treatment of Varicose Ulcers.

STEARNS (*Journ. Amer. Med. Assoc.*, 1920, 74) describes a method of treatment for patients who refuse to "lie up." The first step is the cauterization of the ulcer with fused silver nitrate. The leg is then elevated for twenty-four hours and Unna's dressing applied (gelatin 2 parts, zinc oxide 1 part, glycerin 3 parts, water 4 to 6 parts, mixed in a water bath); over it a single layer of bandage is wound. The following day a window is cut out over the ulcer, and the slough cleaned away with a sharp curette until the surface is clean and bleeding; the edges, which will now be found somewhat undermined, are cut away by curved scissors and placed in normal saline solution. Firm pressure is made with dry gauze until the oozing is arrested. The excised skin margin is now coiled in the centre of the ulcer as a graft and oil-silk protective placed over it. A sterile dressing and a firm roller bandage are applied; the leg is elevated for three days longer, when dressings with scarlet-red ointment are commenced. In sensitive patients the area of the ulcer should be anaesthetized by injection of 1 per cent. novocain around it. The paste dressing is left on for a fortnight, when it can be reapplied if necessary.

637. Post-operative Tetanus.

TETANUS following a "clean" operation is rare. HUGGINS (*Surg., Gyn., and Obstet.*, 1920, 30) records the case of a woman of 48 who died eleven days after panhysterectomy. The wounds healed by first intention, and no tetanus organisms could be recovered from the operation field, nor from the catgut employed. The patient stated that she had had two previous attacks, lasting for some hours, on occasions when she had been nervous and overworked; this suggests that she may have been a tetanus carrier.

Only in one recorded case of post-operative tetanus has the catgut used been proved to be infected with the tetanus bacillus. Huggins suggests that it would be well to give prophylactic doses of antitetanic serum before all pelvic operations, as was ordered by the Surgeon-General U.S.A. during the war.

638. Subperitoneal Cholecystectomy.

TIXIER (*Lyon Chir.*, 1919, 16) presented before the Société de Chirurgie de Lyon a patient on whom he had performed subperitoneal cholecystectomy. Tixier propounded the method in 1903. The gall bladder is exposed in the usual manner, and the peritoneum on its inferior visceral surface incised longitudinally as far as the neck of that viscus. The flaps of peritoneum are dissected back until the junction of the cystic with the common bile duct is reached. The duct is incised, and the hepatic and common bile duct are explored. After ligature of the cystic artery the gall bladder is removed; a drain is placed in the bile duct and laid against the denuded gall bladder bed, and the previously reflected peritoneal flaps are accurately sutured over it. In this way the biliary drainage track is entirely extraperitoneal. Tixier admits that it is sometimes difficult, or even impossible, to perform his operation, but when it can be done it is "simple and elegant."

639. Plastic Surgery of Facial Burns.

H. D. GILLIES (*Surg., Gyn., and Obstet.*, 1920, 30) describes the various methods applicable to the treatment of severe facial deformities, especially those produced by burns, of which cordite burns are among the most disfiguring and most destructive. He discusses the technical value of flaps (including the tubed pedicle grafts), Wolfe whole-thickness skin grafts, and Thiersch grafts. The author is opposed to the method of cutting needlessly large flaps in order to allow for shrinkage. He believes that they should be cut the precise size of the area they have to cover; a little stretching of the graft seems to be beneficial. Close adherence of the graft to the bare area is obtained by moulded dental-impression wax. An outline of complete facial replacement is as follows: (1) The forehead is replaced by a Wolfe graft; (2) eyebrows are grafted from a strip of scalp from the mastoid region; (3) movable eyelids are provided by the Gillies-Esser graft; (4) the nose is renovated by a Wolfe graft; (5) the upper lip is replaced by a hair-bearing graft from the scalp; (6) cheek, chin, and lower lip are reconstructed by flaps (often tubed pedicle flaps) from the neck and chest.

640. Treatment of the Vascular Form of Tuberculous Keratitis.

BONNEFON (*Journ. de Méd. de Bordeaux*, April 10th, 1920) recommends the following procedure: After application of a 2 per cent. solution of cocaine a galvano-cautery provided with a platinum loop, or a single loop of platinum wire mounted on a glass rod, is brought to white heat and, without touching the cornea, is brought close to it several times for one or two seconds; atropine ointment and a dressing are then applied. The vascular elements are thus destroyed without damage to the eyeball.

641. Radiography of the Abdomen after the Introduction of Oxygen into the Peritoneal Cavity.

MALLET and BAUD (*Journ. de Radiologie et d'Électrologie*, No. 1, vol. iv, 1920) relate their experience of this method of *x*-ray examination in a comprehensive illustrated paper. The technique is fully described; drawings are given of the various instruments employed, together with detailed description as to their use. The authors lay stress upon the value of this method in abdominal cases in which the usual radiographic examination has proved inconclusive, and especially in certain conditions of the liver and kidneys, such as tumours, cysts, etc. Peritoneal bands and adhesions can be demonstrated by this proceeding, which appears to be devoid of danger if the necessary precautions are adopted. (See BRITISH MEDICAL JOURNAL, April 10th, 1920, p. 511.)

642. Intussusception in Typhoid Fever.

MORETON (*Brit. Journ. of Surg.*, April, 1920) records a case of acute intussusception occurring in the course of typhoid fever, and gives from the literature abstracts of ten other cases of this rare complication. A woman of 24 had an attack of typhoid fever the course of which was marked by constipation. On the forty-seventh day the temperature suddenly fell to 97.8°, and she had a severe attack of vomiting. The pulse rate was not raised, the abdominal distension was not increased, the liver dullness remained normal, and the abdomen moved well on respiration. Next day the pulse rate rose from 120 to 140, the temperature remaining about the same, and colicky pain became localized in the right iliac fossa. Vomiting continued, and three small stools were passed; they contained no blood. There was slight leucocytosis, but there seemed to be no definite indication for operation. The next day there were acute pain and tenderness; an ill-defined resistant mass could be felt in the right iliac fossa. Operation showed this to be an entero-colic intussusception, which was reduced without difficulty. No localized swelling, such as an enlarged Peyer's patch, which might have been a causative agent, was found.

643. Treatment of Cystitis with Colloidal Silver.

KOLLER (*Korrespondenzblatt f. Schweiz. Aerzte*, 40, 1919) advocates for treatment of cystitis the injection into the bladder by Guyon's catheter of 1 or 2 c.cm. of colloidal silver, which is retained for five hours; the injection is repeated every two days. Successful results were obtained in catheter cystitis following childbirth, and in paralytic stricture, and prostate cystitis, but not in cystitis due to tuberculous infection or to stone. Intravenous injections of silver are said often to be useful in pyelitis; albuminuria is not a contraindication.

OBSTETRICS AND GYNAECOLOGY.

644. Venous Thrombosis, Pulmonary Infarction and Embolism following Gynaecological Operations.

HAMPTON and WHARTON (*Bull. Johns Hopkins Hospital*, April, 1920), from an examination of hospital statistics, found that venous thrombosis occurred in 205 cases out of 21,000 perineal and abdominal operations; this incidence of about 1 per cent. corresponds closely with figures reported from other clinics. Of the 205 cases 81 per cent. followed abdominal operations, especially removal of large tumours of the uterus or ovary. The authors were unable to confirm, either by clinical examination or at autopsy, the existence of special changes in the cardiac musculature. In 66 per cent. the vessels of the left leg were affected, in 24 per cent. of the right, and in 9 per cent. of both legs. There were single cases of thrombosis in the left arm, in the superficial veins of the head and neck, and in the mesenteric veins respectively. In addition to these cases, in which the diagnosis of thrombosis was either clinically evident or confirmed *post mortem*, Hampton and Wharton believe that many cases, particularly those occurring during the second and third weeks of convalescence, were undetected. The most important etiological factors are infection and trauma. Practically all cases were associated with a slight rise in the temperature curve. Phlebitis and thrombosis of the leg veins when associated with pain and swelling were rarely followed by fatal embolism. During their clinical observation of cases of post-operative thrombosis the authors noticed that certain of the patients developed pulmonary complications—usually called pleurisy or pneumonia—which clearly seemed due to infarcts. Among 40 cases diagnosed as post-operative pleurisy, 80 cases as post-operative pneumonia and bronchopneumonia, and 50 cases as post-operative bronchitis, the authors found 34 cases of undoubted pulmonary infarction. Pulmonary infarction occurs most often in the same class of cases and during the same period of convalescence as femoral thrombophlebitis; it may precede pulmonary embolism. The clinical picture which results is stated to be characteristic: sudden sharp pain in the chest, increase in the pulse rate, elevation of the temperature, cough, dyspnoea, haemoptysis, friction rub, râles, local impairment of the percussion note, with changing breath sounds, and more especially cyanosis and shock; before the onset of infarction the temperature has nearly always been febrile. Haemoptysis is present in 36 per cent. only of cases. In 41 per cent. of the cases of pulmonary infarction there was venous thrombosis with pain and swelling of the leg; this clinical association is considered to be strong confirmatory evidence in diagnosis. In 10 per cent. of the cases the first infarction was followed by one or more others.

645. Turpentine Injections for Salpingitis.

FUCHS (*Zentralb. f. Gyn.*, January 10th, 1920) records his experience of thirty cases of inflammation in the uterine appendages, of which five were known to be of gonorrhoeal origin. In seven cases he had very marked success; the rest reacted to the treatment more or less favourably. The urine was carefully watched. The treatment consisted in

the injection of 5 c.cm. of a mixture containing 4 parts of ol. terebinth., 2 parts eucupin, and 16 parts ol. olivae every four days. After about three weeks the injection was given once a week only. The site selected was two finger-breadths below the crest of the ilium in the posterior axillary line, the needle pushed in deeply to the bone. Although in some cases pain was felt twenty-four to thirty-six hours after injection, no local abscess or serious inflammatory reaction resulted in a series of 200 injections. In many of the cases—acute and chronic—relief from pain was obtained from the time of the second injection, large pelvic masses rapidly diminished, haemorrhage was largely controlled, and the general condition of the patient improved.

646. Corpus Luteum in Pernicious Vomiting of Pregnancy.

CARDOT, in a thesis recorded in *La Médecine* (April, 1920), describes a case of uncontrollable vomiting in a woman two months pregnant, in whom examination showed the presence behind and to the right of the uterus of a small cystic mass. At operation there were found in the right ovary a small serous cyst the size of a walnut, and a larger cyst of the corpus luteum, which contained serous fluid and a concretion; pregnancy continued normally. The author suggests that ovariotomy is indicated in a woman suffering from hyperemesis gravidarum whenever examination reveals ovarian enlargement.

647. LACOURBE (*loc. cit.*) ascribes the condition to functional insufficiency of the corpus luteum of pregnancy, and recounts treatment of five cases by hypodermic injection of corpus luteum extract. He advocates that the same procedure be employed prophylactically in aggravations of the normal vomiting of early pregnancy when it is feared that the condition will become pernicious.

648. GROSSE (*Rev. Franç. de Gyn. et d'Obstét.*, November, 1919), from a consideration of 52 cases, concludes that the corpus luteum of pregnancy is not indispensable to the early development of the embryo; its removal does not necessarily lead to abortion. Double ovariotomy, however, is to be avoided in the first months of gestation. The value of many reports of ovariotomy which are to be found in literature is diminished by their omission to indicate whether the corpus luteum was preserved—wholly or partially—or removed.

PATHOLOGY.

649. Technique of the Colloidal Gold Reaction.

MARGARET WARWICK (*Minnesota Med.*, April, 1920) insists that the absolute purity of the water used in preparing the reagents is essential to success. The water should be trebly distilled in a glass still without rubber connexions, and as many drinking waters have undergone chemical purification these should not be employed. Spring water is recommended. All the glass utensils used should undergo a preliminary cleansing, being first thoroughly rinsed with equal parts of hydrochloric and nitric acid, washed in running tap water until all the acid is removed, and then washed with distilled spring water. Once this is done the process need not be repeated if the glass ware is kept specially for the reaction, simple rinsing in distilled water being sufficient. The gold reagent is prepared as follows: In a 2-litre flask 1,000 c.cm. of specially distilled water are heated slowly to 50° C., and then more rapidly to 60° C., when 10 c.cm. of 1 per cent. gold chloride and 7 c.cm. of potassium carbonate are added. At 80° C., 10 drops of 1 per cent. oxalic acid are added. At 90° C. the flask is removed from the flame and slowly, drop by drop, 5 c.cm. of 1 per cent. formalin are put in. The flask is shaken until a pink colour appears, slowly changing to violet and then to a deep dark red, clear to both direct and transmitted light, and occasionally with a light golden shimmer. Further, the proper solution must fulfil the following tests: (*a*) It must remain unchanged in the presence of a known normal spinal fluid; (*b*) it must give a typical curve with a known paretic fluid; (*c*) 5 c.cm. of it must be precipitated in one hour by 1.7 c.cm. of 1 per cent. sodium chloride, and, most important of all, (*d*) it must be neutral to 1 per cent. alizarin red in 5 per cent. alcohol. Slightly acid or slightly alkaline solutions will give untrustworthy results, so that it is of vital importance to have a neutral solution. In a rack there are set up eleven clean test tubes; in each is placed 1 c.cm. of 0.4 per cent. sodium chloride. To the first tube is added 0.8 c.cm. of the salt and 0.2 c.cm. of the spinal fluid, making 2 c.cm. of a 1 to 10 dilution. From this tube 1 c.cm. of the mixture is transferred to the second tube, making a dilution of 1 to 20, and this is carried on to the tenth tube, which has a dilution of 1 to 5,120, the last cubic centimetre from this tube being rejected. Then to each tube is added 5 c.cm. of the colloidal gold solution. As the eleventh tube contains only saline and colloidal gold it serves as the control. A positive reaction, if present at all, begins at once, and then intensifies for several hours, being complete at eight to twelve hours. All syphilitic curves appear the same at first but differentiate later, so that they must not be read too early. On the other hand, a test which shows no commencing changes after half an hour should be discarded, as none will appear later. Colour reactions may be represented by numbers: thus an unchanged fluid is 0, a bluish-red colour 1, a reddish-blue 2, a deep blue 3, a grey-blue 4, and colourless 5. All readings must be done in daylight, holding the tube against the sky. The so-called paretic curves show the first few tubes completely precipitated, giving a colourless solution, while lesser changes may appear in the remaining tubes—for example, 5555431000. The syphilitic curve shows the first one or two unchanged with a maximum colour change (usually 3, seldom beyond 4) in the fourth or fifth tube—for example, 0023311000. This includes both tabes and cerebrospinal syphilis, as the reaction does not differentiate between them. The so-called meningitic curve, which does not distinguish between different types of meningitis and myelitis, consists of a curve showing colour change in the right half of the tubes with a maximum reaction in the seventh or eighth, as 0000013310. This gold sol reaction, while requiring careful technique, is now so much simplified as to be within the reach of any laboratory worker.

650. Glycogen in Diabetes following Extirpation of the Pancreas.

PAULESCO (*C. R. Soc. Biologie*, April 24th, 1920) examines the hypothesis that in this form of diabetes the liver and muscles have lost their power to fix glucose in the form of glycogen. He set out to find whether this incapacity of the tissues to form glycogen was absolute or relative, whether it was the direct effect of pancreatic insufficiency or only a secondary and contingent phenomenon. In the former case it might be the cause of the diabetes and in the second case it would be merely the consequence. To that end he practised total ablation of the pancreas in dogs, accompanied at the same time by the extirpation of a lobe of the liver, and at the autopsy he took the liver, myocardium, and muscles for analysis. He found that after total ablation of the pancreas the power of the liver to retain the glycogen was considerably reduced, but it was not annihilated, the quantity fixed being as much as from 0.8 to 2.985 grams per 100 grams of tissue and the same for the muscles. With regard to the myocardium, its power to fix glycogen remained normal. Consequently the power of the tissues to form and store glycogen is not abolished; the incapacity is only relative, and is a consequence and not the cause of the diabetes.

651. Tuberculosis of Ovarian Cysts.

FORGUE and CHAUVIN (*Revue de Chirurg.*, November and December, 1919) have collected thirty-five examples of this condition, which is relatively rare. Three forms are distinguished: (1) A tubo-ovarian form in which discrete lesions are found on the internal lining of the cyst; (2) a superficial form in which tuberculous deposits occur in the outer layers of the cyst wall; (3) an intraparietal form in which the lesions are seated in the interstitial remains of the cystic organs. Tuberculosis of ovarian cysts is always secondary; usually the primary seat is in the peritoneum or tubes. Tubercle bacilli are very rarely found; the cytological examination of the fluid shows a well-marked lymphocytic reaction.

652. Poisoning by Ripe Olives.

As a consequence of five outbreaks of olive poisoning (four of which were due to the toxin of *Bacillus botulinus*, Type A), DE BORD, EDMONDSON, and THOM (*Journ. Amer. Med. Assoc.*, May 1st, 1920) investigated bacteriologically 610 containers; from these samples many different organisms were isolated, among them was *B. botulinus*. In all the material which was found to be infected with *B. botulinus*, the odour from the container, or the odour of the olives when removed, was distinctly offensive. The authors urge that more efficient sterilization should be employed in order to prevent further outbreaks of botulism. Shipping or holding in brine solutions, if tolerated, should be so modified as to exclude any undesirable fermentations.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

653. Haemolytic Familial Splenomegaly.

BIFFIS (*Il Policlinico*, November 1st, 1919) reports eight cases of this disease, observed directly; the jaundice did not appear until 22 to 25 years of age, although usually in this affection it appears soon after birth. The absence of jaundice may make diagnosis difficult, but the acholuria and the fragility of the blood will help. In all the author's cases the jaundice was light, but varied in intensity; there was no inconvenience attached to it, the faeces were normal in colour, and bile pigment was absent from the urine. There was no true anaemia; the globular resistance was diminished in each case. The cervical glands were enlarged, and the patients could bear very little exertion and soon got tired. It is well to remember that jaundice is not an essential symptom; out of fifteen cases (including the present eight) it was absent in eight. Further experience of splenectomy in these cases did not substantiate the early hopes; even where it appeared successful at first permanent cure was rare. Probably the spleen is not the only haemolytic organ; the lymphatic glands, the liver, and the bone medulla have haemolytic powers. It is curious that after splenectomy the blood fragility in these cases is often unchanged; possibly the blood fragility may be the primary cause. The jaundice, when present in these cases, is not very easily explained; the author accepts the view that it is pleiochromic, but this does not explain why bilirubin is not present in the urine, nor why the common symptoms of cholaemia are not present. The degree of jaundice is not usually in proportion to the general symptomatology; this is true especially of the familial or congenital cases.

654. The Renal Function in Scarlet Fever.

B. S. VEEDER and M. R. JOHNSTON (*Amer. Journ. Dis. Child.*, March, 1920), from examination of seventeen cases of uncomplicated scarlet fever and two cases complicated by nephritis, found that though the functional changes occurred in nephritis and paralleled fairly closely the urinary changes, the albumin appeared in the urine before the changes in renal function took place. They conclude that as a routine measure the examination of the urine for albumin as usually carried out is of greater value than functional tests in announcing the onset of nephritis. The functional tests employed were phenolsulphonephthalein excretion and estimation of non-protein nitrogen for evidence of retention.

655. The Diagnostic Significance of Enlarged Intercostal Glands.

S. PLASCHKES (*Wien. med. Woch.*, March 18th, 1920) calls attention to enlargement of the intercostal glands in the mid-axillary line, notably in the fourth space on the left side, and the fifth space on the right. These enlarged glands occur singly or in chains, and their size varies from that of a lentil to that of a bean. Sometimes they form a single packet easily visible when the arm is raised and the chest is arched on the same side. They are usually freely movable and indolent, or only a trifle tender. In emaciated persons the lymphatic vessels communicating with these glands are also palpable. Discussing the significance of these glands, the author points out the comparative frequency with which they are found enlarged among soldiers on active service. In a skin hospital he has found them enlarged in more than half the cases of scabies, but he failed to establish any definite relation between this condition of the intercostal glands and pulmonary tuberculosis. *Post-mortem* examinations in a large fever hospital also showed no constant correlation of enlargement of these glands with morbid changes in the lungs, pleurae, diaphragm, or neighbouring structures. The author concludes that this enlargement is usually the result of affections of the skin of the lower part of the chest and of the epigastrium, but in certain cases it may be a response to chronic inflammatory changes in the peritoneum and pleura. He refers to a work published in 1907 by Hochsinger, who found this condition in 52 out of 1,540 necropsies on infants, and who interpreted it as an indication of tuberculosis of the lungs, or bronchial and mediastinal glands.

656. The Diagnosis of Metallic Rales in Infancy.

A. CAVAZZANI (*La Pediatria*, March 15th, 1920) has devised the following method for differentiating cavernous metallic râles in the chest from pseudo-cavernous sounds of gastric origin. The child is placed horizontally on its right side, so that the region of the stomach is uppermost; its lower limbs are then slowly raised so that the abdomen is above the thorax, and the air contained in the stomach is displaced towards the greater curvature. This displacement can be accelerated by moderate pressure over the lower ribs, on the left side, synchronously with the respiratory movements; the inversion of the gastric contents can be verified by percussion. On auscultation at the base of the thorax the metallic or amphoric character will be found to have disappeared in cases in which pulmonary cavities do not exist, and to persist in cases in which they are present.

657. The Regional Cuti-reaction in Children.

C. PESTALOZZA (*La Pediatria*, February 15th, 1920) states that in 1916 Pisani suggested performing the cuti-reaction at the site of the tuberculous focus, instead of on the arm, as is usually done, as he had observed that the reaction was usually more intense in the skin over the affected viscus than in the corresponding region on the opposite side or on the arm, and in many cases the reaction was positive over the diseased area and negative in the arm. In 1918 Pollitzer reached similar conclusions from a study of 40 cases in children. Da Gradi, studying the reaction in 75 adults, obtained less decisive results. Pestalozza performed the regional cuti-reaction in 72 children, using human tuberculin on the right arm, bovine tuberculin on the left arm, and both tuberculins at the tuberculous focus, about 4 cm. distance from one another. In 27 the reaction was negative, both over the focus and in the arm. In the other cases, though the regional cuti-reaction was often more intense than that performed at a distance, in none of the cases was the regional reaction positive and that taken at a distance negative, so that the absence of this finding deprives the regional cuti-reaction of much of the practical value which it appears to possess in adults.

658. Convalescent Serum in the Treatment of Influenzal Pneumonia.

O. BANG (*Norsk Mag. for Laegevidenskaben*, March, 1920) betrays no enthusiasm for this treatment which he tried in ten cases. Two cases terminated fatally, and another developed empyema in spite of the treatment. One patient became worse soon after an injection, and died a little later. The most successful cases were those in which small doses were given (7.5 c.cm. of serum).

659. Medical Treatment of Hepatic Abscess.

L. MANINI (*Il Policlinico*, Sez. Prat., March 15th, 1920) records a case of hepatic abscess following amoebic dysentery in a man aged 44. Bacteriological examination of the chocolate-coloured fluid withdrawn by an exploring syringe was negative, and only detritus was found, but, as Pontano has shown, the absence of the cellular elements found in ordinary pus is pathognomonic of amoebic hepatic abscess. The patient was given at intervals of from four to eight days four series of injections of emetine hydrochloride, each consisting of 12 cg., 3 or 4 cg. being injected daily for three or four days. The last two series were merely given as a safeguard; after the first two series the patient appeared to have recovered almost completely.

660. Epidemic Coma.

R. JAKSCH (*Zentralbl. f. inn. Med.*, March 20th, 1920) since the middle of last January has seen a large number of cases at Prague, characterized by fever and delirium, which recovered without any further nervous disturbances apart from transient ocular palsies and a certain degree of somnolence. In many cases, however, the course of the disease was quite different. After an initial stage of cortical irritation coma set in and lasted from eight to fourteen days, during which the respiration was unusually deep and laboured and all signs of meningeal irritation were absent. Bacteriological examination of the blood, cerebro-spinal fluid, urine, etc., was negative. Jaksch thinks that the condition is due to an influenzal toxin, as the literature shows that such cases repeatedly occur after epidemics of influenza.

661. Treatment of Lethargic Encephalitis by Neo-salvarsan.

M. FOURRIER (*Bull. Soc. de Thérap.*, April 14th, 1920) reports a case in a girl, aged 17, who showed typical signs of lethargic encephalitis. No benefit was derived from the administration of urotropine by mouth and injections of camphorated oil, but improvement immediately followed an intravenous injection of 0.30 cg. neo-salvarsan, and became more pronounced after two more injections. Complete recovery took place.

662. Typhoid Bacilli in a Fixation Abscess.

ACCORDING to R. DAMADE (*Journ. de Méd. de Bordeaux*, March 25th, 1920) the pus in a fixation abscess produced by oil of turpentine is generally sterile. Exceptions to this rule are chiefly found in typhoid fever, and have been reported by Carles and Lesieur. Damade records a severe case of this disease in which typhoid bacilli were isolated from a fixation abscess. The explanation of their presence is unknown.

663. The Prevention of Tuberculosis.

W. J. DOBBIE (*American Review of Tuberculosis*, 1920, iv, 23) discusses this subject. (1) In the case of infants under 3 years of age he says that the tuberculous mother should not be allowed to come in contact with her child; the tuberculous father should not be allowed to live in the house. (2) In children over 3 years of age infection is likely, but the resistance should be increased by giving good food, fresh air, and the like. (3) Infection of adults has in all probability occurred in childhood. The treatment should seek to increase the powers of resistance so as to prevent increase of the infection or a lighting-up of a dormant condition. Dobbie recommends institutional treatment for those who have no homes or bad homes, and for those who require education which cannot be given at home. Those consumptives who decline all precautions, and are thus a menace to others, should be made to go to a tuberculosis department in a penal institution.

SURGERY.

664. Compression Neuritis by First Rib.

WHEELER (*Dublin Journ. Med. Sci.*, 1920, 66) describes an advanced case of compression of the lower cords of the brachial plexus by a normal first rib. The patient was an athletic male of 35 years who had suffered from painful cramps and whose right hand had become progressively weaker during the four past years. He had been treated for "writer's cramp" neuritis, and syringomyelia. The interossei were practically non-existent and the muscles supplied by the median as well as the ulnar nerve were weak: he could not fully extend the wrist or fingers. The patient volunteered the statement that the gripping power of the fingers depended greatly on the position of the arm. When it was raised above his head he could write on a blackboard steadily and with ease, but he could not pick up a tea-cup from the table. Wheeler resected the middle portion of the first rib; the case is too recent for any marked improvement to have occurred.

665. Sarcoma of the Small Intestine.

ACCORDING to A. CHARRIER (*Journ. de Méd. de Bordeaux*, April 25th, 1920), who records an illustrative case in a man aged 53, sarcoma of the small intestine is a rare event. Lecène, in his thesis published in 1904, could find only 75 cases in the literature, and even to-day there are hardly more than one hundred, the majority of which have occurred in adults. One of the most remarkable features of the tumour is that it runs its course with a minimum of clinical signs, especially at the onset, when its recognition is of so much importance. It does not as a rule produce stenosis, so that Koenig's sign (exaggerated peristalsis and attacks of severe colic followed by diarrhoea) is very seldom met with. In this respect Charrier's case was exceptional, as it gave rise to a gradual partial obstruction. Resection of the intestine was performed in two places. The patient recovered from the operation and remained in good health for three months, at the end of which time a relapse occurred. On laparotomy, the peritoneum was found to be studded with fine granulations, and the coils of the small intestine were adherent to one another. Death took place a fortnight later. Histological examination showed the growth to be a spindle-celled sarcoma.

666. Cicatricial Stenosis of the Oesophagus.

C. GORIS (*Le Scalpel*, April 17th, 1920) records 9 cases of cicatricial stenosis of the oesophagus due to swallowing caustic soda. He concludes that, however long and narrow it may be, a stricture is curable, provided that the lumen of the oesophagus is preserved; if the tube is no longer permeable, gastrostomy is indicated.

667. Vasostomy in Gonorrhoea.

BELFIELD, who believes that infection of the seminal vesicles occurs early and is a potent factor in prolonging discharge, describes (*Journ. Amer. Med. Assoc.*, 1920, 74) the technique of vasostomy for the treatment of vesiculitis. The vas is exposed through a short inguinal incision and punctured with a fine-pointed bistoury. A piece of silkworm gut is pushed down the lumen of the vas and over it, as a guide, a blunt hypodermic needle is made to enter. Ten c.cm. of methylene blue solution (1 in 25,000) are injected; the patient is requested to micturate. If the urine is tinged it is clear that the needle is correctly placed, and 20 c.cm. of collargol (5 per cent.) are injected. If the colour fails to appear in the urine the technique is faulty and must be corrected. Finally a silkworm gut suture is left in the vas to facilitate further injections. Indications for the performance of vasostomy are not given, but, according to Belfield, the injection of collargol into the vesicles is a cure for many gonorrhoeal conditions.

668. Primary or True Rhinoliths.

H. ABRAND (*Rev. de laryng., d'otol. et de rhinol.*, May 15th, 1920) records two cases of this condition. The first was in a woman, aged 65, who for thirty-five years had suffered from a purulent fetid nasal discharge following puerperal fever. The diagnosis of nasal polypus was made, but operation was refused. Later the condition was regarded as epithelioma of the nasal fossae, and owing to the unfavourable prognosis connected therewith palliative treatment only was instituted. On examination by Abrand an enlarged inferior turbinate bone was found and a rhinolith weighing 33 grams and shaped like an inverted molar was removed. Recovery took place. In the second case, which occurred in a man aged 60, the subject of chronic rhinitis and ethmoidal cellulitis of unknown duration, the head of the inferior turbinate was also enlarged.

669. The Germicidal Value of Potassium Mercuric Iodide.

MACFARLAN (*Amer. Journ. of Med. Sciences*, April, 1920) says that potassium mercuric iodide is a powerful germicide, acting in high dilutions; the presence of organic matter—for example, human serum-albumin—only diminishes its potency to a relatively slight degree. It is readily soluble in water, alcohol, and acetone, and is far less toxic and irritating than mercuric chloride.

670. Strangulation of Stomach in Hernia.

SPIEGEL of Buda-Pesth (*Zentralbl. f. Chir.*, 1920, 47) describes a case of strangulation of the stomach in the sac of a left femoral hernia. The subject, a woman 55 years old, had intestinal obstruction; there was a femoral hernia the size of a child's head. At operation a large part of the stomach, a portion of transverse colon and gastro-colic omentum, and a coil of lower ileum were found in the sac. The stomach was dusky in colour and dilated, but regained its normal colour when liberated. The patient, who recovered, had a severe dorsal kypho-scoliosis, so that the distance between the symphysis pubis and tip of the ensiform was only 7 inches. Spiegel states that only 1 case has been recorded in which the stomach was found in a femoral hernia; there are 8 cases of such discovery in inguinal herniae, of which 4 were incarcerated.

671. Treatment of Vincent's Angina by Chromic Acid.

W. DUBREUILH (*Journ. de Méd. de Bordeaux*, March 25th, 1920) has found the use of arsenobenzol (in local applications and injections) and methylene blue unsatisfactory in the treatment of Vincent's angina and allied conditions, and recommends the local application of a saturated solution of chromic acid on a swab. The patient should be made to gargle with hydrogen peroxide (1 in 10) so as to prevent the swallowing of chromic acid in the saliva; this gargling should be repeated frequently. As a rule the ulcer becomes clean the next day, and it is only rarely necessary to make a second application towards the fourth or fifth day. The same treatment may be employed for all lesions of the same kind due to the fuso-spirillar infection.

672. Serum Treatment of Ulcus Molle.

J. REENSTIERNA (*Hygiea*, April 30th, 1920) eulogizes the use of an antistrepto-bacillus serum, obtained from sheep, in the treatment of ulcus molle. One of his patients was a man of 37, whose ulcus molle on the penis was soon followed by a suppurating bubo in the left inguinal region. In spite of more than a year's energetic treatment with common remedies no improvement was effected. A few days after the intragluteal injection of 15 c.cm. of the serum rapid improvement began, and the ulcer quickly healed. More than two months later this recovery was maintained, and the large cavity formed by ulceration in the left inguinal region was not only obliterated, but was also covered by a new growth of skin.

673. The Thigh Rotation or Obturator Test.

COPE (*Brit. Journ. of Surg.*, April, 1920) records a diagnostic sign which may be of assistance in some cases of appendicitis in which the appendix is situated in the pelvis and lies against the upper part of the lateral wall, so that rectal examination may be negative. To perform the test the surgeon stands on the right of the patient and slightly flexes the thigh so as to relax the psoas muscle. By fully rotating the limb at the hip, first internally and then externally, the obturator internus is put through a full range of movement; the sign is present if the patient complains of hypogastric pain. Since the fascia covering the obturator internus is fairly dense, the sign is not obtained unless the inflammation is considerable. It has been found useful in pelvic conditions other than appendicitis, such as ruptured ectopic gestation.

674. Stenosis of Duodeno-jejunal Flexure by Ulcer.

GUÉRIN (*Lyon Chir.*, 1919, 16) reports a case of stenosis of the duodeno-jejunal flexure originating in adherence of a gastric ulcer. For the pancreas to be affected by a lesser curvature or pyloric ulcer is not uncommon, but the duodeno-jejunal junction usually escapes. Guérin's patient suffered two or three hours after meals from vomiting and epigastric pain radiating into the back. This state of affairs lasted with intermissions for twenty-six years. At operation an ulcer was found 2 in. below the cardia on the lesser curvature, adherent to the pancreas and mesocolon. Fuller exposure revealed an extrinsic stenosis at the duodeno-jejunal angle, due to extension of the ulcer. Posterior gastro-enterostomy was performed, a large button being used. The author believes that reflex pyloric spasm, preventing emptying of the stomach, played no small part in the case, for the stenosis was not complete.

675. Bullet in the Pulmonary Artery.

VIANNAY (*Lyon Chir.*, 1919, 16) remarks that observations have already been published on projectiles in great vessels such as the aorta and superior vena cava, but none (in France) on such foreign bodies in the pulmonary artery. In his case there was a large haemothorax and a haemopericardium, and *x*-ray examination demonstrated a bullet near the hilus of the left lung moving synchronously with the heart beats. Viannay operated twenty days after the date of wounding, and was able to control haemorrhage by compression of the root of the lung between finger and thumb; he clearly saw the tear in the pulmonary artery. After the compression was relaxed haemorrhage was so violent that he had to close the opening by haemostatic forceps, and then by ligature. He was unable at the time to be certain whether he had ligatured the whole pulmonary artery or only a branch; the subsequent occurrence of massive gangrene of the lung decided this point. Viannay thinks that it would have been better to have done a primary pneumectomy, but doubts if the patient would have recovered.

876. Rupture of Crucial Ligaments.

DUVAL (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46) describes a case in which the internal lateral and both crucial ligaments of the right knee were ruptured by the fall of a heavy case on the outer side of the limb. Seven days later Duval performed an arthrotomy, and finding both crucial ligaments torn across proceeded to repair them, basing his operation on the Allwyn Smith and Hey Groves technique. A pedunculated musculo-tendinous flap was taken from the thigh and carried through a hole bored in the internal condyle to the intercondyloid notch. Here the graft was sutured to the stumps of the two crucial ligaments. The internal lateral ligament was repaired with a strip of fascia lata. The wound healed by first intention, and gave an admirable result without lateral mobility or antero-posterior subluxation.

OBSTETRICS AND GYNAECOLOGY.

677. Round Ligament Tumours.

MOENCH (*Med. Record*, April 17th, 1920) records the case of a three-para of 39, in whom during six months a lump in the right groin had increased from the size of a walnut to that of a grape fruit; there had been no pain. A hard, slightly nodular mass was felt over the ramus horizontalis of the right os pubis, extending downwards into the labium majus and upwards for 3½ in.; the skin was slightly reddened and adherent at the summit of the growth. At operation a very vascular tumour, together with the adherent portion of skin and several enlarged inguinal glands, was removed; the thickened round ligament passed directly into the growth. The patient refused to undergo *x*-ray treatment. At first she seemed quite well; but within four weeks she showed symptoms of metastases in the abdomen, lungs, and brain. Microscopically the main part of the tumour consisted of a myofibroma with hyaline degeneration. In some small areas the tissue had been replaced by a dense growth of small round cells with very dark nuclei showing frequent and often irregular mitoses; in some places these areas were necrotic. The stump of the round ligament showed hypertrophy and hyperplasia of its constituents but no appearances of malignancy.

678. J. DUCUING (*Gynéc. et Obstét.*, April, 1920) records the case of a girl of 5, who had on both sides a soft lobulated irreducible tumour, resembling in appearance a large inguinal hernia and obscuring the abdominal rings. At operation the external ring had to be enlarged, the tumours extending for some distance along the round ligaments. This is said to be the first recorded case.

679. Uterine Fibroids and X Rays.

CHIFOLIAU (*Bull. et Mém. Soc. Chir. de Paris*, 1920, 46) describes his findings at operation in six cases of uterine fibroids which had been treated previously by *x* rays. No diminution of the size of the fibroids was found, although haemorrhage had been arrested or diminished in five of the six cases. The two largest fibroids, previously treated with twenty-six and twenty exposures respectively, presented no unusual appearances. In three cases the uterus was hard and diffusely sclerotic, no definite fibroid tumour being present. Adhesions were also found in one case to the rectum and in another to cystic ovaries, the uterus itself being fixed. Chifoliau concludes that as a rule the use of *x* rays for uterine fibroids is ineffectual.

680. Ascaris lumbricoides in the Fallopian Tube.

NACKEN (*Zentralbl. f. Gyn.*, April 3rd, 1920) describes the case of a woman of 21, who complained of abdominal pain, and in whom there was a tender sausage-shaped tumour of the right adnexa. The diagnosis was made of pyosalpinx (probably gonorrhoeal, although gonococci were not found), and after two months' expectant treatment, during which pain and irregular haemorrhages ceased, the tumour became less tender and the abdomen was opened. The right tube, which was swollen and tense, was adherent at its free end to a loop of ileum, with which it communicated by a narrow opening; the adhesions were divided and the intestine sutured. Pus exuded from the tube, and the extremity of a round worm (which proved to be 25 cm. long) was visible. The worm was removed and the tube and appendix were excised.

681. The Permeability of the Placenta to Mercury.

SOLI (*Riv. Osped.*, February 15th, 1920) reports a case of acute mercury poisoning in a pregnant woman, causing premature birth. The child died fourteen days later from mercurial poisoning and bronchopneumonia; in addition to the pulmonary lesions, its kidneys showed tubular nephritis in process of cure, with almost complete restitution of the renal parenchyma. There were also some slight changes in the salivary glands, probably due to mercurial poisoning, and slight alterations in the intestine and liver.

682. Spinal Anaesthesia in Pelvic Operations.

MORGAN (*St. Bartholomew's Hosp. Journ.*, May, 1920) records 24 cases of hysterectomy (including four of the extended operation), twelve operations on the adnexa, and four Caesarean sections carried out under anaesthesia by

stovaine given intrathecally after preliminary subcutaneous injections of scopolamine and morphine. In 14 cases at the beginning or end a little general anaesthetic had to be given. In the majority of cases there was complete amnesia. Eleven cases had post-operative paresis of the bladder and rectum.

683. The Significance of Rieder's Cells in Gynaecology and Obstetrics.

ACCORDING to F. MACCABRUNI (*Ann. di Ostet. e Ginecol.*, September–October, 1919), the presence in the blood of Rieder's cells—as certain atypical leucocytes with a malformed nucleus are called—does not possess great diagnostic value. A high percentage in carcinoma of the uterus appears to indicate a bad prognosis, only a small number being present in operable cases. In ordinary cases of fibroids, ovarian cysts, or endometritis the cells are absent. Maccabruni has found them in normal pregnancy in perfectly healthy women, especially towards the end of gestation. They may also be present in labour, especially in the last stage. In the normal puerperium they rarely exceed 1 per cent. of the total leucocytes, but in grave generalized puerperal infections their percentage may be increased. Maccabruni concludes that the appearance of Rieder's cells in the blood indicates an increased activity or a disturbance of the whole organism, including the blood-forming organs. The principal causes of their appearance are thought to be anaemia and intoxications generally.

684. Vaginal Cyst with Mixed Epithelial Lining.

J.-P. and G. TOURNEUX (*Bull. et Mém. Soc. Anat. de Paris*, March, 1920) record the removal from the lateral wall of the vagina of a cyst the size of a cherry. It contained viscous fluid and was lined by epithelium, which in various places changed abruptly from a pavement to a cylindrical or cubical character. The authors suggest that it arose from inclusion of an aberrant outgrowth from the primitive utero-vaginal canal in the region of the transition of its lining from squamous to cylindrical epithelium.

685. Epithelioma Developing in a Fibroid Polypus of the Uterus.

J.-P. and G. TOURNEUX (*Bull. et Mém. Soc. Anat. de Paris*, March, 1920) found on microscopical examination that a squamous-celled carcinoma had developed in a small fibrous polypus, which arose in the interior of the uterus and hung down into the vagina. The polypus had apparently been present for about three years.

PATHOLOGY.

686. Experimental Chronic Gastric Ulcer.

ALTHOUGH it is comparatively easy to produce acute ulceration and even perforation of the animal stomach by experimental means, it is well known that to produce a chronic ulcer resembling the callous gastric ulcer of man is very difficult. The only chronic ulcers of human type which have been found in animals have been formed accidentally; they are the ulcerations which commonly occur in the small isolated portions of stomach which Pavlov, in particular, has used for the investigation of the physiological properties of the gastric juice. Careful histological examination has shown that these ulcers closely resemble gastric ulcers in man. By giving alkaline washes and bismuth injections, and by frequent removal of the gastric juice from the pouches, the occurrence of these ulcers—which has been attributed to stasis of the secreted fluid—has been prevented. Experimental attempts to produce ulcers have given varying findings. Payr, noticing endarterial changes in the ulcers removed at operations in man, tried to produce ulcers by arterial injections of various kinds. According to the amount injected he caused perforation of the stomach or chronic ulceration, rarely adherent to the pancreas, and occasionally of "hour-glass" type. The lesions on the whole tended to spontaneous repair. Payr believes that the essential factor in the passage of an ulcer from the acute to the chronic state is alteration of vascular supply, and that an obliterative arteritis produces chronicity. He found that section of the nerves, vagus or sympathetic, might sometimes be followed by occurrence of an ulcer. Attempts to produce ulcers by traumatism have not been successful; large exsections or destructions of gastric mucosa heal very readily, leaving but a small scar behind. SANTY (*Lyon Chir.*, 1919, 16) has made some fresh observations on this point: he removed a circle of the whole thickness of the mucosa and submucosa 3 in. in diameter; twenty-eight days later cicatrization was perfect, a small groove covered by mucous membrane marking the site of the extirpation. Santy criticizes the experiments of Katzenstein, who found that all tissues other than gastric mucosa were readily digested by the gastric juice, and claimed that by injection of dilute hydrochloric acid into the mucosa he was able to destroy the defensive antipepsin. Santy repeated these experiments, and found that the acid acted as a corrosive; in one cat perforation followed in forty-eight hours. In another experiment, one and a half months after the injection, only a small cicatrix showed the site of the injection. There can be little doubt but that it is the acid and not the pepsin of the gastric juice which leads to ulceration, for the vast majority of ulcers lie in the stomach and suprapapillary duodenum. Santy makes no mention of Rosenow's work on the elective action of streptococci—that is, the power of organisms cultivated from an ulcer to induce another ulcer in an animal into which they are injected.

687. Colloidal Gold Reaction.

NIXON (*Minnesota Med.*, April, 1920) considers that the colloidal gold reaction, which has been so simplified as to be within the reach of an ordinary laboratory, is unquestionably the most sensitive and valuable of the various tests used in the study of the spinal fluid. It does not replace other tests, but is of independent value; it is of special importance in the early diagnosis of neurosyphilis, and gives the first indications of involvement of the nervous system. Cases with no involvement of the central nervous system give no colloidal gold curves. Nixon has made a parallel examination of cerebro-spinal fluids with the gold sol test, with the Nonne test for increased globulins, with the cell count, and with the Wassermann reaction. In dementia paralytica a gold curve is obtained in 95 per cent. of the cases, a positive Wassermann reaction in 90, increase of globulin in 85, and a pleocytosis (that is, a cell count of 6 or more) in 75 per cent.; the average cell count lies between 35 and 40 cells per cubic millimetre in paresis. In tabes dorsalis a positive gold reaction was obtained in 80 per cent., a positive Wassermann reaction in 55, and a positive Nonne reaction and a pleocytosis in less than 50 per cent. Well-marked curves may be found in quite early cases, and the gold reaction is the first one to appear. In cerebro-spinal syphilis 85 per cent. of cases showed some reduction, 75 per cent. giving definite curves, whilst the globulin reaction was positive in 63 and definitely positive in only 41 per cent., and 45 per cent. gave a pleocytosis; in 18 per cent. the colloidal gold reaction was the only indication of abnormality of the spinal fluid. Of conditions other than neurosyphilis and meningitis giving a well marked curve multiple sclerosis was the one most frequently seen; about half of the cases gave definite reduction, whereas the Nonne test was positive in only 10 per cent. In disseminated sclerosis the average cell count was 14, in comparison with 1.6 in normal fluids—a point which is of interest as indicating a toxic etiological factor. In brain or cord tumours reductions were obtained in 50 to 60 per cent. of cases. The condition could be differentiated from that of meningitis by the fact that the Nonne test was usually negative or faintly positive and the cell count low or normal, whereas in meningitis the Nonne test was strongly positive and there was a high cell count. While emphasizing the non-specificity of the various colloidal gold curves, the so-called "paretic," "luetic," and "meningitic," Nixon is strongly of opinion that they are of definite diagnostic value when corroborated by other reactions or clinical findings.

688. Isolated Congenital Dextrocardia.

ACCORDING to LAUBRY and ESMEIN (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 4th, 1920) isolated congenital dextrocardia is a rare anomaly, there being barely 60 cases on record, of which hardly 30 have been verified by autopsy. They record a case in a soldier aged 29 in whom the diagnosis was confirmed by radioscopic examination. The left side of the chest showed a remarkable congenital deformity, being hollowed out anteriorly into a large triangular depression, with its apex downwards, and with the atrophied nipple and a large hairy naevus in the centre. The pectoral muscles in the depressed area were atrophied. The writers, like Apert, attribute the dextrocardia to intrauterine trauma, which had caused the deformity of the thorax, thereby producing displacement of the heart.

689. Juvenile Carcinoma.

HAGEDORN (*Zentralbl. f. allg. Path. u. path. Anat.*, Bd. 27, 121) gives a brief account of a very rapidly growing carcinoma of the stomach in a girl 13 years old. There were numerous metastases.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

690. Localized Forms of Vertebral Rheumatism.

A. LÉRI (*Journ. de méd. et de chir. prat.*, March 25th, 1920) states that vertebral rheumatism is most frequently localized in the lumbar spine, where it is characterized by lumbo-sacral pain, which frequently radiates to the buttocks, thighs and legs, and by a forward inclination of the trunk. The disease is not peculiar to old persons, nearly all Léri's patients being aged from 20 to 40. Lumbar rheumatism runs its course, like every other form of chronic rheumatism, with more or less prolonged paroxysms of pain interrupted by remissions. The disease is distinguished from camptocormia or hysterical bent back by *x*-ray examination, which shows various deformities of the vertebrae. Rheumatism of the dorsal spine is much more difficult to determine, because as a rule the *x*-ray pictures are indefinite. In a certain number of cases, however, Léri has been able to attribute obstinate intercostal or abdominal neuralgia or (in one instance) crural monoplegia to chronic dorsal rheumatism. Cervical rheumatism may be manifested (1) merely by painful symptoms, with or without disturbance of objective sensibility and reflectivity, or (2) by amyotrophic paralysis simulating a primary amyotrophy or one due to paralysis of a peripheral nerve.

691. Transmission of Tubercle Bacilli by Table Utensils.

CUMMING (*Journ. Amer. Med. Assoc.*, April 17th, 1920) experimented with spoons used by patients suffering from pulmonary tuberculosis. He found that eleven out of thirty-one guinea-pigs inoculated with the water in which spoons had been washed died from tuberculosis; six out of twenty-four died after inoculation by the centrifuged deposit from the water in which the spoons had been rinsed. Three animals out of seven gave positive results after being injected with scrapings from the hands of tuberculous patients. Cumming believes that this mode of transmission is frequent.

692. The Treatment of Chronic Polyarthritis.

A. FABER (*Hospitalstidende*, May 12th, 1920) has found that among cases of chronic polyarthritis at the Silkeborg Bath the knee and ankle were concerned in 70 to 80 per cent. In his experience the traumatic factor in the causation of this disease is not adequately recognized; in many of his cases artificial supports of the instep, even when there was no flat-foot, afforded relief. In many cases cycling proved beneficial. One of his patients, aged 30, had suffered from hydrarthrosis and osteoarthritis of both knees, and, in spite of various forms of physical treatment, had been reduced to a state of invalidism for many years; he regained his mobility when he took to cycling. The author finds treatment by venous stasis effective in some cases, and points out that in polyarthritis of the hand the ring finger sometimes escapes. Another remedy he has tried with some success is intramuscular injection of milk; every three to five days 5 to 15 c.cm. of boiled milk are injected. The ensuing reaction of articular pain and fever lasts about twelve hours. This treatment has also proved beneficial in gonorrhoeal arthritis, iritis, and conjunctivitis. In half the number of cases of chronic polyarthritis in which he injected milk the author observed no beneficial result; in the remainder there was often great relief from pain, and the range of movement about the affected joints was increased. In one case this improvement lasted for a considerable time. The author considers this effect of injections of milk to be due simply to the rise of temperature provoked.

693. H. JANSEN (*Ugeskrift for Laeger*, May 13th and 20th, 1920), writing from an experience of 333 cases treated during the last five years, states that, in prescribing massage, baths, etc., the stage of the disease and the patient's general condition and peculiarities must be studied. As a rule, Jansen begins with mud packs and baths, deferring the more intensive thermo-therapy and mechano-therapy till a later stage. Diathermy he considers of doubtful value and by no means safe. He considers a lacto-vegetarian diet to be harmful; the drugs he recommends are iron, arsenic, and small doses of a salicyl compound given over a long period. He has found injections of collargol effective in some acute forms of the disease, but not in the chronic forms. Of physical remedies the Finsen light bath is, in his opinion, one of the most effective, but he thinks that radium emanations promise to be useful, provided the present timid system of dosage is revised.

694. Myotonic Form of Lethargic Encephalitis.

H. CLAUDE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 4th, 1920) records three cases of a myotonic form of lethargic encephalitis in which the patients showed changes of muscular tonus independently of any involvement of the pyramidal system. In two cases the physiognomy was absolutely expressionless, although somnolence was not a pronounced feature. On attempting to move the limbs considerable muscular rigidity was encountered. One of the patients resembled a case of paralysis agitans owing to his mask-like expression, muscular rigidity, and tremor of the hands. Claude suggests that the peculiar appearance presented by the patients was due to changes in the locus niger.

695. Parotitis in Typhus.

BONNET and DE NABIAS (*Lyon Chir.*, 1919, 16) give an account of parotitis as seen by them during the outbreak of typhus in Rumania in 1917. This complication was frequent and severe; there were massive swellings of the face and neck, and sometimes deafness and discharge from the ears, caused not by otitis media, but by separation of the bone and cartilage of the external auditory meatus. This was brought about by the dissecting and softening powers of pus from the parotid, and led to dislocation of the aural cartilages from the head. The pus generally showed a mixed infection, the streptococcus predominating. The authors believe that the parotitis was the result of an ascending infection by Stenson's duct; in support of this view they state that they were always able to prevent or minimize the occurrence of parotid infection by the use of an iodized water mouth-wash. The authors distinguish three clinical forms: (1) A simple inflammation; (2) a phlegmon with general enlargement of the gland, little pus formation, and often the occurrence of a residual abscess; (3) a necrosing or dissecting type. The last variety causes more or less complete destruction of the gland, and after distending the parotid bed and sheath bursts through into fresh planes; thus the finger introduced into the sponge-like tissue would pass inwards to the pharynx, downwards into the neck, and upwards to the zygoma. Treatment by incision was the rule; Bonnet and de Nabias prefer a posterior incision, beginning at the mastoid and following the ramus of the jaw a finger-breadth behind it. Carrel-Dakin treatment was found valuable.

693. Recurrent Haematemesis in Chronic Obliterative Pylephlebitis.

P. CARNOT and J. LÉOBARDY (*Paris Méd.*, April 3rd, 1920) report the case of a soldier, aged 20, admitted to hospital with the diagnosis of gastric ulcer. In the course of two years he had shown evidence of various disturbances in the territory of the portal vein—namely, gastro-enteritis and a first attack of haematemesis in October, 1917; and indigestion, ascites, and severe haematemesis in September, 1918, and January, 1919. After admission to hospital in July, he had a fourth attack of haematemesis accompanied by splenomegaly and ascites in September, and a last and fatal attack of haematemesis in October. The autopsy showed thrombo-phlebitis throughout the portal system. The condition was probably caused by infective micro-organisms of intestinal origin.

697. Treatment of Leprosy.

SIR LEONARD ROGERS (*Indian Medical Gazette*, April, 1920) gave to the Calcutta Leprosy Conference an account of the recent use of chaulmoogra and other oils and their derivatives for the treatment of leprosy. Chaulmoogra oil itself has been used for many years, but is so nauseating that few patients can take it for extended periods. Heiser, in the Philippines, employed it by intramuscular injection. From 1915 onwards Rogers prepared and tested various chemical products from different varieties of chaulmoogra and hydnocarpus oils. In this way were obtained sodium gynocardate, a salt of the fatty acids having the lower

melting points, and sodium gynocardate A, more correctly named sodium hydnocarpate, the corresponding salt of the higher melting point acids. The latter proved more useful, but when injected subcutaneously produced painful induration and was but slowly absorbed. More rapid improvement followed its intravenous injection, although the irritant effect of the drug on the vessel walls often caused inflammatory obliteration of the veins. As a consequence of its intravenous injection there ensued a local inflammatory action accompanied by pyrexia, absorption of diseased tissue, and disappearance of the leprosy bacilli. With the help of Dr. Sudhamoy Ghose a parallel preparation of sodium morrhuate was made from cod-liver oil. In a similar way the sodium salts of the unsaturated fatty acids of linseed and soya bean oils have been prepared and tried: the sodium salt of the acids contained in soya bean oil is less irritating than the hydnocarpate, and its trial promises to give good results. Chemical experiments are being made by Ghose and others with other oils, and with the preparation of ethyl esters of unsaturated fatty acids. Ethyl morrhuate is being used with success, and Hollmann and Dean, in June, 1919, reported encouraging results from ethyl esters of different fatty acid fractions of chaulmoogra oil. The results of several series of clinical observations are tabulated by Rogers, Muir, Neve, and Cathew.

698. Clinical Notes on Influenza in 1918-19.

BERTOLINI (*Rif. Med.*. December 13th, 1920), in view of the belief that quinine prevents influenza and that malarial patients get influenza less frequently than others, refers to cases of malarial subjects who suffered from influenza even while the plasmodium could be found in the blood; also to 115 cases of influenza occurring among 118 malarial suspects. He states, moreover, that if malarial patients do contract influenza the mortality is above the average. Tuberculous subjects do not seem to catch influenza easily—for example, out of 43 tuberculous patients taken at one hospital, 26 had never suffered from influenza, and another series of figures gave out of 500 tuberculous subjects only 8 per cent. as attacked with influenza; but as usual there are figures pointing the other way. As a matter of experience tuberculous lesions are rarely found *post mortem* in those dying of influenza. Authorities differ as to the course of influenza in tuberculous subjects; the majority say that it is not severe. If influenza on the whole spares people already suffering from some other disease, its incidence is frequent among the young and healthy; in autopsies made on influenza patients it is rare (6 to 11 per cent.) to find any other lesion. The presence of another infection, by raising the defensive powers of the organism, may prevent the development of influenza germs. In healthy individuals the influenza germ causes a rapid production of defensive substances, especially bacteriolysins, which by dissolving many bacteria put into circulation endotoxins causing an acute intoxication.

SURGERY.

699. Magnesium Sulphate in Tetanus.

REVERDIN and BEUF (*Lyon Chir.*, 1919, 16) publish a brief account of the Blake method of treatment of tetanus. This consists in lumbar puncture, the withdrawal of 10 or 15 c.cm. of cerebro-spinal fluid and the injection of 10 c.cm. of warm sterile magnesium sulphate in 10 per cent. solution. The drug has anaesthetic and paralysing effects, so that the spasms and convulsions are largely or entirely controlled. The injection into the theca is made daily until recovery is sure; 90 c.cm. was the largest amount administered to any of the cases in this small series. Treatment with antitetanus serum, morphine, and chloral was employed at the same time, for, although it would be interesting to compare the precise therapeutic value of different treatments, the authors considered that in so grave an affection all known means of attack should be employed. Of five cases treated without magnesium sulphate four died; of six cases treated with magnesium sulphate five recovered. Serum was not given in such large doses as Dean, for example, employed; 30 c.cm. per diem, given subcutaneously, was regarded by the authors as high dosage.

700. Treatment of Spinal Injuries.

H. W. MARSHALL (*Boston Med. and Surg. Journ.*, 1920, 182) discusses the conservative treatment of injuries of the spine. The paper refers particularly to the results of injuries and the capacity to work. Those vertebral lesions only in which there is no cord injury are referred to. Radiography to-day allows a positive diagnosis of vertebral fracture to be made in cases which would formerly have been labelled "back sprain." Marshall concludes that such injuries are not permanently crippling, and that the patients frequently develop a high degree of physical efficiency, sometimes within a few months. Mechanical appliances are required very commonly for considerable periods of time, and indications are given as to the best kind of apparatus to apply. The author favours a very light flexible steel pelvic band with light steel uprights. He examines the credentials of the inlay bone graft, and concludes that it can have but little effect in relieving a crushed vertebral body from compression. Such operations are not uniformly beneficial, and fair or excellent recoveries are so common without surgical intervention in healthy young adults that bone grafts are not warranted in the majority of workmen's cases. These conclusions are based on a study of thirty cases of vertebral fracture.

701. Decompression of the Spinal Cord in Tuberculosis of the Spinal Column.

FLOECKINGER (*Amer. Journ. of Surg.*, March, 1920), discussing the treatment of tuberculosis of the spine, urges simple decompression to prevent complete destruction of the cord by pressure. If suspension only of function has taken place, without degeneration of the nerve fibres of the cord, the prognosis is good. Nothing more than simple decompression is necessary; there is no need to open into and scoop out the granuloma. These cases should not be drained. Should the granuloma be incised during the operation the débris should be carefully scooped out, the wound dried, mopped out with lysol or phenol solution, and then dried again and sprinkled with powdered iodoform. Closure of the wound can be effected by covering the cord with a strip of the erector spinae muscle. The fascia is then closed with figure of eight sutures obliterating all dead spaces; a plaster jacket is applied and tuberculin treatment is begun. Improvement is gradual, and the results of tuberculin treatment are most promising provided it is never given more often than once a week, the daily fluctuation of temperature being used as a guide to the opsonic index. Removal of the spinous processes and the arches of the vertebrae does not affect materially the strength of the spinal column.

702. Cauterization of Gastric Ulcer.

PAUCHET, who believes that in ulcers of the body of the stomach gastro-enterostomy is of little use, and reserves gastrectomy for intractable cases—those with unrelieved pain or with large ulcers—describes (*Lyon Chir.*, 1919, 16) the operation that he performs for the treatment of gastric ulcer by Balfour's cautery method. He uses local anaesthesia with infiltration of the solar plexus. Balfour's technique is closely followed, including the dissection upwards of the peritoneal flap of the lesser curvature. Pauchet exposes the posterior wall of the stomach and separates adhesions to the pancreas by the route which he has previously described—that is, by "wiping" the great omentum off the transverse colon, and so entering the lesser sac of peritoneum between greater curvature and colon. After cauterization and suture of the ulcer he turns the omentum up over the stomach to reinforce the site of the ulcer. He concludes by performing posterior gastro-enterostomy.

703. Conservative Treatment of Sarcomata of Long Bones.

IN a paper based on the study of 147 conservative operations, E. ESTOR and A. AIMES (*Rev. d'Orthopéd.*, May, 1920) state that in recent years, chiefly owing to the influence of the Lyons school, there has been a tendency to adopt a conservative treatment in operations for sarcomata in long bones. This tendency is based on the following observations: (1) The frequent discrepancy between the prognosis founded on histological appearances and the clinical course of the tumour; (2) the limitation of the lesions (in the early stages at least), sarcoma being at first an encapsulated tumour, which does not develop like carcinoma by infiltration, but by an excentric displacement of the neighbouring soft parts; (3) there is rarely an invasion of the glands; (4) the patients refuse to undergo mutilating operations; (5) the functional results observed after conservative operations are good; (6) radical operations are "distressingly unsuccessful." Whatever method is employed nothing is of any avail against metastases, which are often clinically latent. Three conservative operations have been tried, but simple removal of the tumour is only rarely indicated.

The choice usually lies between resection and amputation or disarticulation. If the operation is performed at an early stage good results will be obtained from resection, especially in the upper limb, where the results are even better than those obtained by radical operation. In the lower limb, where it is important to obtain a solid limb and avoid shortening, conservative treatment is open to discussion, but bone grafts, which fulfil these conditions, will enable resection to be carried out. Amputation and disarticulation are indicated in most round-celled sarcomata, in rapidly advancing tumours, and in those which have undergone ulceration or have invaded the soft parts to a great extent. Conservative treatment is indicated in myeloid sarcomata, in encapsulated spindle-celled tumours, sarcomata of slow development and recent growth, and cerebral sarcomata.

704. Tuberculosis of the Hernial Sac in the Child.

M. MUTEL and C. MATHIEU (*Rev. méd. de l'Est*, March 1st, 1920) state that out of 900 radical cures for inguinal hernia in the child performed by A. Broca up to 1897, tuberculosis of the sac was found in 15. Of 136 cases of tuberculosis of the hernial sac at all ages collected by Cotte 46 were in children under 10 years of age. By extending the age up to 15 the writers were able to find 56 cases, including those of Cotte. The male sex was by far the most frequently affected (in 53 out of 56 cases) probably because inguinal hernia is much more frequent in boys than in girls. Among 40 cases in which the date was available the writers found 26 in which tuberculous peritonitis existed before the hernial infection. In 9 cases the tuberculosis was secondary to lesions of the genital system, the disease having spread from the testis or epididymis. The tuberculous process might invade either the sac or its contents separately, or in some cases simultaneously. The organ most frequently involved was the omentum. The immediate prognosis in the child was less unfavourable than in the adult, as the hernial sac in the former is practically never occupied by intestine. Of the 56 cases collected by the writers 8 were fatal, most of the patients dying from two months to two years after the operation. This shows that the remote should be more guarded than the immediate prognosis.

705. Teeth Extraction and Heart Disease.

P. J. CALVY (*Journ. Amer. Med. Assoc.*, May 1st, 1920) cites cases in which an organic infection of the heart was made worse by extraction of teeth. He ascribes this to lack of drainage of the infected area, the tooth socket being filled with a firm clot of blood; septic absorption follows.

706. Experiments with Intraperitoneal Narcosis.

P. PERAZZI (*Ann. di Ostet. e Ginecol.*, September–October, 1919) injected dogs and rabbits intraperitoneally with solutions of various narcotics, such as ether, veronal, chloral hydrate, and morphine, the best results being obtained with the last two drugs, which, in relatively small doses and diluted in saline solution, rapidly produced narcosis. Naked-eye and microscopical examination one or two days later showed that only slight and transient changes were produced in the peritoneum.

OBSTETRICS AND GYNAECOLOGY.

707. The Corpus Luteum and Pregnancy.

ROETTER (*Zentralb. f. Gynäk.*, March, 1920) records eight cases of early pregnancy (in all of which the last menstruation had occurred more than six weeks previously); after unilateral ovariotomy, even when the corpus luteum of pregnancy had been removed, the gestation continued. The presence of the corpus luteum graviditatis is not therefore, after the sixth week, indispensable in order that pregnancy may continue.

708. Haemorrhage from the Ovaries.

BAROLIN (*Med. Klinik*, January, 1920) refers to the conflicting views which are held as to the cause of haemorrhage from the ovary; the majority of authors believe it to originate in the follicles or corpus luteum cysts, but the opinion has been expressed that it is invariably due to early ovarian or tubal gestation. The author, from a study of four cases which came to operation, and in one of which serial sections were made, believes that in his cases the bleeding proceeded from the follicles and corpora lutea.

709. Uretero-Cervical Fistula after Forceps Delivery: Incision: Spontaneous Cure.

TOSSETTI (quoted in *Zentralb. f. Gynäk.*, March, 1920) records the case of a woman in whom, thirteen days after delivery by high forceps operation, a fistula of the ureter manifested itself by an extraperitoneal infiltration, causing swelling above the left side of the symphysis pubis. The tumour was not affected by catheterization of the bladder, but urine escaped from the vagina as a result of pressure upon the swelling. The patient's condition grew worse and the extravasation continued to increase. On the twenty-second day, the bladder having been pushed upwards, the swelling was incised from the anterior vaginal vault, and a large amount of foul urine thus evacuated. The wound was drained, and a catheter was allowed to remain in the bladder. The fistulous opening gradually closed, and on the forty-third day the dribbling ceased. Subsequent cystoscopy showed normal appearances in both ureteral orifices. Tossetti suggests that the fistula was not directly a result of injury to the ureter but a sequel of pressure-necrosis.

710. "Maceration of the Living Child."

MEYER-RUEGG (*Zentralb. f. Gynäk.*, April, 1920) records another example of the condition described under this name by Lorenzen. Labour began in a 1-para aged 30 twenty-five days after the time as reckoned from the last menstruation, and after three days a very large child was delivered by forceps. The membranes ruptured on the first day; the total amount of liquor amnii appeared to be very small and throughout delivery it exhibited a bright yellow colour. Over the whole of the child's body were patches of exfoliated epidermis, some as long as 4 cm.; there was no erythema, vesication, or other eruption, but the hands had a sodden appearance. The stump of the umbilical cord showed an appearance of maceration. The child was healthy and vigorous, and the skin was clean after the fourth day. These conditions were attributed to the effect of meconium acting in considerable concentration in scanty liquor amnii. A similar case, in which the liquor amnii did not contain meconium, is described by Brauns (ibid.) under the name of "lamellar desquamation."

711. Radiography of the Third Stage of Labour.

WEIBEL (*Archiv f. Gynäk.*, March, 1920) has examined radiologically the expulsion of the placenta, and concludes that the frequently expressed opinion that the placenta becomes detached in the majority of cases during the second period of labour is incorrect; this does not occur even in semi-precipitate cases. Detachment may begin in the centre or in any portion; the loosened placenta always leaves the uterus with the edge first, and may or may not be folded. From the form and surface of presentation of the placenta no deductions as to the mode in which it became detached in the uterus can with justice be made. The author suggests that Schultze's and Duncan's modes of expulsion should no longer be described.

712. Bilateral Malignant Ovarian Cystoma and Pregnancy.

MASSART (*Bull. et Mém. Soc. Anat. de Paris*, March, 1920) records the case of a woman of 25, two months pregnant, in whom the size of the abdomen was unduly large, and masses the size of an orange were found on each side of the uterus. At operation the left ovary was found to be cystomatous, and on its surface were numerous vegetations; a small portion of the right ovary was unaltered, and lay between the two portions of a cystoma, the surface of which also exhibited vegetations. The adnexa were removed on both sides; the uterus was left, and the course of the pregnancy is being watched.

713. Puncture of the Uterus for Hydramnios.

E. WORMSER (*Zentralb. f. Gynäk.*, 1920, 44) reports a case of hydramnios unsuccessfully treated by uterine puncture. There had been five pregnancies, all except one being accompanied by hydramnios; in the two last the fetus was hydrocephalic. The Wassermann reaction was negative. In the seventh month of the sixth pregnancy an attempt was made to save the child by uterine puncture. The needle was inserted first to the left and then to the right of the umbilicus; 1,750 c.cm. of liquor amnii were withdrawn, and during the operation the height of the fundus diminished by 3 cm. Six days later fetal heart sounds and movements were absent; subsequently labour was artificially induced. It is stated that Bumm first performed this operation in 1900.

PATHOLOGY.

714. Experimental Meningitis.

WEED (*Arch. Med. Belges*, January, 1920) has carried out large series of experiments with a view to discovering the factors which determine development of meningitis from organisms circulating in the blood stream. It was first necessary to select organisms which, when introduced directly into the subdural spaces of experimental animals, could be relied on to cause typical generalized lepto-meningitis. One of the most effective for cats (the animals chiefly employed) was *B. lactis aërogenes;* when introduced subdurally this organism was found to produce a lepto-meningitis which would prove fatal in twenty-four to forty-eight hours. Doses of this organism and of others which had somewhat similar properties were next inoculated intravenously in cats, but were found to produce only a temporary bacteriaemia, without usually any severe symptoms. In no case did simple intravenous injection give rise to meningitis. Weed's next step was to try the effect of puncturing the lumbar theca or the cervical dura through the atlanto-occipital space in animals which had received intravenous doses of organisms while the bacteriaemia was still at its height, and withdrawing one or two cubic centimetres of cerebro-spinal fluid. In a considerable proportion of cases this combined procedure led to fatal meningitis. Further experiments proved that the part played by spinal puncture was not that the needle carried in organisms locally, but that the fall of pressure in the cerebro-spinal fluid caused stasis in the meningeal veins, which afforded facilities for infection of the meninges by the organisms in the blood stream. It was demonstrated, in fact, that in bacteriaemic animals, in order to bring about generalized meningeal infection, it was sufficient to produce a temporary stasis in the cerebral vessels by compression of the jugulars. In conclusion, Weed expresses the opinion, backed to some extent by clinical observations, that the performance of lumbar puncture in human cases where bacteriaemia is present is attended by the risk of producing fatal leptomeningitis.

715. Observations on Mexican Typhus.

WOLBACH and TODD (*Annales de l'Inst. Pasteur*, March, 1920) find that the vascular and cutaneous lesions of Mexican typhus are identical with those of European typhus. The lesion consists essentially in a proliferation of the vascular endothelium. The small vessels and capillaries may be completely obstructed by these cells, and the larger vessels have their lumen blocked by fibrinous and cellular thrombi. The authors are of opinion that the perivascular infiltrations, which in more advanced stages may be very pronounced, are composed of mononuclears derived from the vascular endothelium. The accumulation of the endothelial cells constitutes the first stage of the morbid process; then the thromboses supervene. Localized exclusively in the endothelial cells of the vessels, in large masses, were large collections of micro-organisms of the Rickettsia group (extremely small coccal or bacillary forms, usually in couples, often lanceolated, and surrounded by a halo or clear zone). As these parasites were never found in other cells, and as they were arranged in large collections, they appear to be different from those of Rocky Mountain spotted fever. The authors propose the name of *Dermacentroxenus typhi* for these parasites.

716. Aseptic Renal Pyuria.

B. RUNEBERG (*Finska Läkaresällskapets Handlingar*, March and April, 1920) devotes 144 pages to a discussion of pyuria of renal origin in which bacteriological examinations prove negative. These cases have commonly been regarded as tuberculous—an attitude which the author considers unjustifiable. At a surgical hospital in Helsingfors in the period 1900–1918, there were 56 cases of aseptic renal pyuria in which there was no previous history of gonorrhoea. Of these, 30 were operated on and 26 were treated on conservative lines. In 11 of the operative cases the affected kidney was macroscopically tuberculous; this diagnosis was confirmed by microscopic examination. In 3 other cases there was no macroscopic sign of tuberculosis, but careful microscopic examination proved the condition to be tuberculous. Thus, only in 14 of the 30 operative cases was tuberculosis found. Among the 26 cases treated on conservative lines only 4 seemed to be definitely tuberculous. It would thus appear that tuberculosis existed in barely a third of the cases of renal pyuria in which micro-organisms could not be demonstrated by direct examination or cultivation.

717. Tonsillar Abscess: Acute Mixed Leukaemia: Leukaemic Tubal Infiltration.

THALER (*Zentralb. f. Gynäk.*, April, 1920) describes the case of a nullipara of 22, who in the autumn of 1918 had influenza, and in August, 1919, began to have fever, headache, and debility. About this time it was noticed that bleeding did not cease after a menstrual period, and this haemorrhage persisted in uncontrollable form until the date of her death. An examination of the blood made on September 14th showed severe anaemia with haemoglobin 15 per cent., erythrocytes 1,004,000, leucocytes 35,000 (lymphocytes 65 per cent., monocytes 20 per cent., myeloblasts 6 per cent.). She died on September 18th. The autopsy showed profound anaemia, small multiple infiltrations in the kidneys and liver, slight enlargement of the spleen and cervical lymph glands, and a tonsillar abscess. On the peritoneum of both broad ligaments were semi-purulent exudations, and both the Fallopian tubes contained pus, from which a streptococcus was isolated. Histological examination of the tubes showed the existence of a leukaemic infiltration of their walls and lumen; the deposits exhibited both lymphocytic and myeloid elements. The uterus and ovaries were normal. The author discusses the bearing of this case on the view recently advanced that leukaemia is an abnormal reaction to septic infection.

718. Camphor Oil Tumours.

HOOK and WANDER (*Arch. Dermat. and Syph.*, March, 1920) direct attention to a condition which may be puzzling unless the history gives a clue to its origin. They have had experience of six cases and they present them as evidence of the danger of indiscriminate use of camphor oil injections for collapse or in the treatment of very severe illnesses. In all probability the lesions are due not to camphor or to the vegetable oil (generally olive) in which it is dissolved, but to the liquid paraffin which has sometimes been used as a vehicle. The effect of paraffin injections has been investigated and it is probable that these camphor oil tumours are of the same nature as the so-called "paraffinomas." In all the cases the condition was first observed some considerable time after injection, in the earliest two weeks and in the latest eighteen months afterwards. They all gave the history that following the injection of camphor oil for a previous severe illness deep tumours appeared, generally on the outer aspects of the lower third of one or both arms, and occasionally in the shoulders, thighs, or breast. The tumours were of months' or years' duration. When not inflamed they showed a doughy or concrete-like infiltration, varying from the size of a walnut to that of an orange, and were generally lobulated. Instead of being rounded in outline they were linear, with definite sharp angles limiting them from the adjacent normal muscular tissue, and bead-like infiltrations of the same character, but smaller, could be traced toward the axilla or around the periphery, simulating secondary nodules of a malignant growth. The skin surface was sometimes elevated and discoloured. Some of the tumours were only discovered by palpation; they lay nearly always deep in the muscle or the connective tissue. The tumours might not be painful or even tender; when inflamed they were accompanied by colour changes of the skin from red to deep purple. Necrosis was not present in any of the tumours. Histologically they showed the appearance of fibromata of honeycombed appearance, the holes, of various sizes, representing globules of oil. Thickening of blood vessels was a noticeable feature in the tumours. No giant cells were found in the particular tumours examined, but examination of others might have been expected to reveal them in abundance. Indeed, in one case at least the pathologist reported the condition as tuberculous, presumably on account of the presence of these foreign body giant cells.

719. The Influence of the Ovaries on Adrenalin Hyperglycaemia.

BAILLOD (*Korrespondenzblatt f. Schweiz. Aerzte*, 50, 1919) has investigated the action of adrenalin injections (which normally produce hyperglycaemia) in women in whom ovarian function is in abeyance or diminished. After ovariotomy and *x*-ray treatment, and in those past the menopause, the effect of adrenalin injection upon the blood-sugar content is quicker and more pronounced, and is produced by smaller doses than in normal women; the alteration of effect is more conspicuous after ovariotomy with complete destruction of ovarian influence than after the diminution of ovarian influence which follows *x*-ray treatment or the onset of the climacteric. Similar findings resulted from experiments on rabbits.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

720. Abscesses Caused by Typhoid Bacilli.

F. RATHERY and BONNARD (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 4th, 1920) report two cases of severe typhoid fever in which abscesses containing typhoid bacilli appeared in convalescence at the site of a previous trauma—an operation scar in one case and a fixation abscess in the other. The time which elapsed between the trauma and the development of the abscess was twenty-one days in the operation case and twenty-seven days in the other. In the subsequent discussion WIDAL also reported three cases of abscesses containing typhoid bacilli which developed during convalescence from typhoid fever—in the first case at the site of injections of caffeine and normal saline, in the second near a tuberculous gland, and in the third in an ovarian cyst.

721. Encephalitis Lethargica in Austria.

ENCEPHALITIS LETHARGICA, which von Economo was the the first in Austria to describe, has again appeared in epidemic form in that country. In the *Wien. klin. Woch.*, April 1st, 1920, STIEFER, and also SZIGETI, give accounts of various types of cases seen during January and February of this year. The clinical features described do not differ greatly from those recorded over here. A relatively large proportion of patients showed choreiform or athetotic movements at some stage of the disease, and in two instances the involuntary muscular contractions resembled those seen in myoclonus. Delirium, amounting almost to mania, seems to have been common. Drowsiness occurred at one time or another in most of the cases, as did ocular palsies. Spinal forms of the disease were also noted; no late manifestations are recorded. The abdominal and muscular pains which in some instances were complained of suggest to Szigeti that a link exists between encephalitis lethargica and influenza—a theory which has found support in this country; he admits, however, that he is unable to furnish any proof for the hypothesis. The chief interest in the papers lies in the various forms of treatment adopted. Salvarsan and intravenous injections of antistreptococcal serum met with no success. One case, indeed, died shortly after intravenous administration of salvarsan. Szigeti, however, treats symptoms by the somewhat novel method of hypnosis. In his experience noisy delirious patients who are quite unaffected by drugs yield easily to hypnotic suggestion; sleep is induced, and on waking they show marked improvement. For drowsiness he recommends lumbar puncture with fairly extensive withdrawal of fluid. The patient is said to come out of his stupor, his tongue cleans, and he takes an interest in his surroundings. The improvement lasts two or three days, when the puncture has to be repeated.

722. Mental Disorders Associated with Old Age.

SAVAGE (*Journ. of Mental and Nerv. Dis.*, March, 1920) deals with the clinical aspects of mental disorders associated with old age, and their possible complications. The term "denudation" is used to illustrate the loss of memory for recent events which occurs very commonly in old age; the author shows that though a patient may be deficient in recent memory, he may be quite capable of realizing the extent and value of his property, and of giving instructions for its disposal. Loss of control occurs as the higher cerebral centres cease to function and the lower react too vigorously; this is very evident in the restlessness of old age. A familiar example is the old lady who is never satisfied with the tidiness of the house, but constantly rearranges the ornaments and dusts the rooms. Men, on the other hand, often develop grandiose ideas, and launch into extravagant schemes of business, or enter into marriage for a second or third time. Loss of higher control, leading to a feeling of well-being and of sexual potency, causes many old men to form associations with loose women, or to behave indecently towards young girls or boys; it is of considerable medico-legal importance. Frequent masturbation may be practised even by nonagenarians. Sleeplessness is a common accompaniment of senility, and the nocturnal insomnia is not affected in any way by the amount of sleep taken during the day. Depression, or senile melancholia, is a symptom of importance. The author emphasizes the fact that a senile melancholic is a potential suicide, and the most suicidal in this class is the merchant who develops the idea that he is ruined. Another mental disorder of old age is hallucination; hallucinations of smell appear to be most common. The author quotes instances of old men who constantly complain of the drains or of the cooking in their homes, and cites one or two instances where the hallucinations have been strong enough seriously to influence conduct. Hallucinations of sight are nearly as common.

723. The Diagnosis of Malaria.

G. QUARELLI (*Il Morgagni*, Archivio, March 31st, 1920) reviews the literature and records the results of his observations on about 600 cases in which he had employed provocative injections. The drugs used were adrenalin 1 in 1,000 solution, strychnine 3 to 5 mg., 8 to 12 drops of a 1 per cent. alcoholic solution of nitroglycerin in 2 to 3 c.cm. of distilled water (given intramuscularly), emetine hydrochloride (intravenously or intramuscularly), arsenobenzol 0.8 to 0.10 gram (intravenously). The most effective means of producing an attack were nitroglycerin, in which positive results were obtained in 72 to 74 per cent. of cases; emetine hydrochloride, which gave positive results in 58 to 59 per cent., and strychnine, which gave positive results in 58 per cent.

724. Pulmonary Tuberculosis following a Chest Wound.

DAGUET (*Rev. Méd. de l'Est*, March 1st, 1920) maintains that before any causal relationship between a chest wound and pulmonary tuberculosis can be admitted the following conditions must be fulfilled: (1) The diagnosis of tuberculosis must be definitely established and the disease must be in an acute stage with tubercle bacilli in the sputum; (2) the pulmonary lesion must be situated on the same side as the wound and as far as possible in the same region as the wound itself; (3) the onset of the tuberculous process should occur as soon as possible after the wound. Daguet records a case in which these conditions were fulfilled. The patient was a soldier, aged 24, who received a penetrating shell wound in the anterior superior part of the left side of the chest on September 28th, 1918. The wound did not heal completely till August 15th, 1919. The patient began to cough and lose flesh in February, 1919. Examination in August, 1919, showed active tuberculosis of the left apex and numerous tubercle bacilli in the sputum.

725. Exophthalmic Goitre and Tuberculosis.

GALLOTTI (*Rif. Med.*, January 24th, 1920) discusses the importance of signs of exophthalmic goitre in the early diagnosis and treatment of pulmonary tuberculosis. He says these signs not infrequently accompany pulmonary tuberculosis, both in the early stages and the course of the disease—sometimes they may be looked upon as a probable symptom of a latent phthisis. When enlargement of the thyroid is present in tuberculosis, the tuberculosis often pursues a mild course. In cases of phthisis complicated by exophthalmic goitre treatment of the thyroid may have a favourable effect on the pulmonary condition.

725. The Sham Feeding Test in Diseases of the Stomach.

DUPUY (*Paris méd.*, April 3rd, 1920) states that the test of sham feeding introduced by P. Carnot in 1904 is the practical application of Pavlov's well known experiments. After preliminary catheterization of the stomach before breakfast to determine if there is any stasis (in which case the stomach is completely emptied), the patient is given an appetizing meal of ten minutes' duration, which he is told to masticate slowly without swallowing, the food and saliva being spat out (after mastication). He is then left for ten minutes, and is told not to swallow but to spit out any saliva secreted. At the end of that time the catheter is again passed. In normal cases 60 to 90 c.cm. of clear fluid, without any food particles, is withdrawn. The free hydrochloric acid varies from 1.64 to 1.80, and the total acid from 1.80 to 1.96 per cent. In 8 cases of cancer of the stomach Dupuy found that the total acidity was below 1 in seven cases, and that there was an absence of free hydrochloric acid in seven cases also. The peptic power always remained below normal, and the coagulation of milk was retarded. The quantity of gastric juice secreted after sham feeding was usually increased in cases of prepyloric or pyloric ulcer, and there

was always an excess of hydrochloric acid even after recovery. The total acidity was parallel with the amount of free hydrochloric acid. In duodenal ulcer the secretion was usually increased. In dyspepsia following gall stones there was an excess of secretion and of hydrochloric acid. In nervous dyspepsia the character of the secretion varied, being normal, exaggerated, or defective in amount and acidity. In tabes the secretion was often entirely absent. In alcoholism hyperchlorhydria was usually present in the early stage, but later the amount of hydrochloric acid diminished, falling in extreme cases as low as 0.365. In tuberculous patients with anorexia the quantity of gastric juice withdrawn after sham feeding was normal; the fermentation activity was more diminished than was its acid content.

727. Staphylococcal Meningitis Treated by Intrathecal Injections of Colloidal Tin.

ROCAZ (*Gaz. hebd. des Sci. méd. de Bordeaux*, May 9th, 1920) recounts a case of meningitis in a boy of 8 in whom lumbar puncture gave a fluid which showed polymorphonuclear leucocytosis, and from which *Staphylococcus aureus* was isolated; he rapidly became worse in spite of repeated lumbar punctures and intrathecal injections of antimeningococcic serum and of 5 c.cm. of collargol. After four intrathecal injections of 1 c.cm. of colloidal tin there was striking improvement, and he was discharged in a fortnight.

728. Influenza Masks.

IN support of his contention that the wearing of masks is an effective prophylactic against influenza, A. JOSEFSON (*Hygiea*, February 29th, 1920) records the results achieved during the recent waves of influenza in the medical wards of the Maria Sjukhus. The wearing of gauze masks, closed at the sides, was compulsory for all the hospital attendants. Only 2 of the 18 attendants in contact with cases of influenza contracted the disease. This comparative immunity was the more significant as the attendants on the surgical side of the hospital, where masks were not worn, showed no such immunity. Turning from statistics to isolated cases, the author mentions the experience of a medical superintendent who wore a mask during one wave of the epidemic and who escaped the disease till, during another wave, he dispensed with this precaution.

729. Psychoses following Influenza.

S. C. ROSSI (*Anal. de la Facultad di med.*, December, 1919) records nine cases of manic-depressive psychosis in patients aged from 18 to 45, which developed during the period of asthenia characteristic of convalescence from influenza. He attributes the psychosis to suprarenal insufficiency (produced by influenza), on the following grounds: (1) Other observers have noted manic-depressive psychoses following influenza. (2) It is well known that influenza affects the suprarenals, and that adrenalin in small doses is one of the means of treating the infection. (3) Other patients with the manic-depressive psychosis under Rossi's care showed signs of suprarenal insufficiency without having had influenza.

730. Pulmonary Emphysema due to Syphilis.

EDELMANN (*Rif. Med.*, January 24th, 1920, and *Wien. klin. Woch.*, No. 49, 1919) says that emphysema in comparatively young people may be due to syphilis. It is recognized now that changes in the ascending aorta, once thought to be arterio-sclerotic, are more likely to be syphilitic, whilst true arterio-sclerosis is localized more often in the descending and abdominal aorta—at any rate this is true of cases occurring before fifty years of age. Syphilis may produce emphysema by the destructive action of the syphilitic virus on the elastic fibres of the lung tissue, or by affecting the pulmonary capillaries and causing secondary atrophy of the alveolar septa. A similar pathological emphysema may be caused by tuberculous lesions of the alveoli and interbronchial vessels.

731. Rheumatoid Arthritis Treated by Autogenous Vaccine Prepared from the Endometrium.

ROBERTSON (*Edin. Med. Journ.*, May, 1920) records the case of a woman who had had rheumatoid arthritis for two and a half years. The existence of pathological symptoms of the urogenital organs was denied, but examination showed much creamy pus coming from the external os uteri. From a uterine swab was cultivated an anaërobic diphtheroid bacillus, vaccines of which (unlike those prepared from other sources) produced on subcutaneous injection a well marked reaction of pain. The rheumatoid condition was very greatly improved.

732. Cardiospasm.

ARONSON (*New York Med. Journ.*, April 10th, 1920) considers cardiospasm from the medical viewpoint as a spasmodic contraction of the cardia without any underlying organic disease. Occurring at any age, and most frequently in females, it sometimes accompanies a functional disturbance, or it may result from swallowing hard and imperfectly masticated food, or from too rapid swallowing. Occasionally mental excitement is a cause, and it may follow habitual gas swallowing. It may be either acute or chronic. When acute, it is generally sudden in onset and of short duration; a burning sensation, substernal pain, and dysphagia are experienced. Pressure is required to force the accumulated food into the stomach; at times this is impossible, and regurgitation gives relief. In the chronic form the dysphagia may be marked, and diffuse dilatation of the oesophagus results from the continual efforts to force food into the stomach; owing to lack of nourishment the patient's general health suffers. Diagnosis is best made by means of x rays. Treatment in acute cases is directed to the nervous system and the nutrition of the patient; to overcome the spasm large bougies may be introduced and allowed to remain *in situ* for a considerable time. Hypnotic suggestion, sedatives, and injections of eucaine have been recommended. In chronic cases careful feeding is necessary, and in some cases oesophageal lavage prior to feeding through a tube. Drugs are useless, and treatment by means of bougies and dilators has been successful in a large number of cases. The value of radical cure by operation is undecided, as the operations (other than plastic procedures and stretching from below after gastrotomy) are too few for any conclusions to be drawn as to the superiority of surgical over medical treatment.

SURGERY.

733. Treatment of Compound Fractures: Standard Splints.

ORR (*Journ. of Orthopaedic Surg.*, April, 1920) emphasizes the points to be observed during the first ten days' treatment of compound fractures—namely, restoration of normal relationship of injured parts, and maintenance therein until healing occurs, the ultimate function being as carefully considered as final anatomical position; these points are said to be frequently disregarded in practice. With the Thomas splint properly applied, femur and leg fractures can be immediately adjusted and can be efficiently immobilized afterwards. In fracture of the neck of the femur plaster-of-Paris applied by the Whitman method will maintain immobilization in a proper line for sufficient time; it is often of use also in open fractures of the upper arm and elbow, the elbow being flexed and the hand—except in a few cases in which future employment requires it to be placed palm downwards upon a table—supinated or dorsiflexed. Weights and pulleys are rarely used for traction only, but are often of value (in the Balkan frame) for arm and leg suspension or as an aid to the patient in lifting himself from the bed. Any degree of traction needed, whether for the femur or other bones, can be obtained by the proper use of the Thomas splint, and it is important that everyone should unite in using methods which have been found universally applicable rather than any particular one which depends for its success upon the personal skill of a few surgeons. Anyone can be taught to use the Thomas splint properly in its application to all kinds of cases, and it is urged that the four or five standard splints used throughout the American Expeditionary Force should gradually come into general use, and that most of the other methods and apparatus should be discarded. Even individual modifications of these standard splints usually detract from rather than add to their utility.

734. Double Ureters.

L. P. CARVE (*Anal. de la Facultad de Med.*, January and February, 1920) states that Motzfeld, in 1916, found duplication of the ureters in only 23 out of 4,500 autopsies, or 0.51 per cent., whereas Foirier and Bostrom estimate its frequency at 3 per cent., and Weigert at 10 per cent. The duplication may be unilateral or bilateral, and coexist with malformations of other parts of the urinary tract or of other organs. In rare cases the upper ureter may have an abnormal opening—for example, into the vulva, vagina, rectum, urethra, vesicula seminalis, or ejaculatory duct; the opening in such cases is usually filiform or constricted. The lower ureter opens into the bladder in the usual position. The vesical orifice of the upper ureter, when it

does open into the bladder, is always smaller than that of the other ureter, and may be situated in various positions —for example, close to the lower orifice or at any distance between it and the neck of the bladder. The kidney in such cases is increased in size, is frequently lobulated, and always has a larger number of vessels than in normal conditions. Symptoms may be absent (in which case the condition is only discovered at autopsy) or they are of a vague character, in no way resembling those of renal disease, consisting in a sensation of weight in the epigastrium, continuous girdle pain, attacks resembling appendicitis, gastro-intestinal disturbance, and frequent micturition. The urine in such cases may be clear, with only a slight trace of albumin and without any other abnormal elements. The diagnosis can be made by cystoscopy; it is easy to recognize accessory ureteral orifices provided the urine is clear and the bladder normal, but their recognition is very difficult if an infective process exists, especially pyonephrosis and cystitis. Treatment depends on the degree and extent of the lesions discovered. It can only be palliative if the lesions are bilateral. If there is a stricture of the ureteral orifices and of the ureter itself with slight renal lesions, dilatation of the ureter or section of the meatus by diathermy is indicated. In other cases nephrectomy may be required.

735. A Peculiar Case of Foreign Body in the Throat.

D. J. DE LEVIE (*Nederland. Tijdschr. v. Geneesk.*, May 1st, 1920) records the case of a man, aged 58, who, directly after eating a pear, had violent pain in the throat, vomited blood, and had a choking attack. A skiagram of the lungs taken a few days later was negative. During the next three months he suffered from pain in swallowing and pain in the right occipital region and right ear. On examination by the writer the glands at the right angle of the jaw were enlarged, and there was tenderness to pressure at this spot. No signs of a foreign body could be seen in the mouth or throat, but the right pharyngo-epiglottic fold was swollen and tender. These symptoms, together with the history, suggested the diagnosis of a foreign body; this was confirmed by a skiagram, in which a needle was seen in the pharyngeal wall, its eye directed forwards and upwards. The following day, with the exception of 1 cm. which broke off, the needle was removed; subsequent recovery was uneventful. The needle had probably been accidentally driven into the pear by the saleswoman while polishing it with her sleeve.

736. Dorsal Juvenile Kyphosis.

H. SCHEUERMANN (*Ugeskrift for Laeger*, March 18th, 1920) has examined 105 cases of juvenile dorsal kyphosis, and in 60 of them he has found this condition practically uncomplicated by lateral curvature; in the remaining 45 cases there was a slight degree of lateral curvature. This dorsal kyphosis of puberty differs in certain essential features from other forms of spinal curvature; it is quite distinct from the round back due to relaxed muscles. Only in 12 per cent. of his cases were the patients females, and this sex disparity was the more striking as other deformities of the spine affect girls more often than boys. The determining factors in the kyphosis of puberty are the patient's age and occupation. A considerable proportion of the author's patients were lads of 16 employed on the land. But there was not in every case a history of heavy work with much weight-lifting; in one case the patient was a student working for his matriculation. The author's *x*-ray examinations have convinced him that the disease is analogous to the commonest spinal deformity in horses, and that the cause is deformity in the lines of growth between the bodies of the vertebrae and their epiphyseal rings. It is not, as commonly taught, due to insufficiency of the muscles of the back. Owing to its kinship to osteochondritis deformans juvenilis coxae, it should be termed "osteochondritis deformans juvenilis dorsi."

737. Disease of the Orbit Originating in the Nasal Sinuses.

S. H. MYGIND (*Ugeskrift for Laeger*, March 4th and 11th, 1920) discusses in much detail the relation of orbital disease to inflammatory conditions of the nasal sinuses. He records 24 cases, in 8 of which there were endocranial complications, which proved fatal in 5 cases. Seven of the patients exhibited leptomeningitis, from which 3 recovered. Altogether there were 6 deaths—that is, a mortality of 24 per cent. This compares unfavourably with the combined mortality of 12.7 per cent. of similar cases published by other writers. The author suggests that this discrepancy is due to the tendency to publish successful rather than unsuccessful cases. With regard to indications for treatment, he considers great protrusion of the eye as alarming, especially if it has developed rapidly. Other signs indicating a serious condition and calling for operation are violent pain, general malaise, albuminuria, rigors, severe headache, and vomiting. Severe oedema of the orbit and eyelids is less serious than rapidly progressive protrusion of the eye. The most slender evidence of endocranial complications warrants immediate operation; in the absence of the symptoms already referred to, operative treatment may be deferred, for as a rule a day's delay throws the required light on the subject. A disease with a mortality of 24 per cent. justifies an operation even on suspicion. The only operation advocated by the author is free exposure of the orbit and the affected sinuses. The mere incision of the orbit to empty an abscess is inadequate.

OBSTETRICS AND GYNAECOLOGY.

738. Conservative Operation for Chronic Pyosalpinx.

BREWITT (*Zentralbl. f. Gynäk.*, May 1st, 1920) records 12 cases of chronic pyosalpinx, in which the pelvic organs were found to be adherent to one another, there was evidence of congestion and inflammatory exudation in the pelvic peritoneum, and one tube was found to be distended with serous or purulent fluid. The operation performed was as follows: The patient being placed in the high pelvic position, the intestines were shut off by swabs. The pyosalpinx was punctured at its most prominent part by a thick cannula, and its contents were aspirated. Sterilized oil of turpentine, in slightly less amount than that of the fluid withdrawn, was now injected, and the site of injection sutured with fine catgut; 4 or 5 c.cm. of the same preparation were then introduced into the uterine and fimbriated extremities. Adherent coils of intestine were gently freed from the adnexa by means of a swab. The omentum was brought into the pouch of Douglas and sutured there by three or four catgut stitches with the object of shutting off the pelvic from the general abdominal cavity, and of bringing an increased blood supply to the pelvic organs. Bacteriological examination of the aspirated fluid was not undertaken, but in 10 of the 12 cases the gonococcus was found in the external genitals. No rise of temperature took place after the operation, and the after-history was uniformly good. The inflamed masses disappeared in the course of four to six weeks, when the uterus was found in all cases to be freely movable, and the adnexa were less, or not at all, tender. In three cases pregnancy followed within a few months of this treatment.

739. Prenatal Care.

HIRST (*Therap. Gaz.*, April, 1920) describes the following procedure as employed by the "best specialists": (1) Taking histories; (2) first vaginal examination during the third month; (3) giving advice to the patient as to the hygiene of pregnancy; (4) estimation of the blood pressure and weight every two weeks; (5) alternating with these, routine examinations of the urine every two weeks; (6) a thorough examination four weeks prior to labour, including pelvimetry, fetometry, palpation, and auscultation; (7) weekly examinations of urine and blood pressure alternating during the last month. In hospital practice Wassermann reactions should be examined and routine vaginal smears taken. The despondency of pregnancy should be remembered; allusion is made to thirteen cases of insanity recorded by Fordyce Barker, in which pregnant wives of doctors lost their wits by reading their husbands' textbooks on obstetrics.

740. Mammary Hypertrophy Treated by Subcutaneous Injections of Human Milk.

PATEL (*Gaz. hebd. des Sci. méd. de Bordeaux*, May 9th, 1920) records the case of a woman of 22 who had been married but never pregnant, whose breasts became enlarged after an attack of influenza, and had an estimated weight of 5 kilograms each. The patient demanded amputation, but Patel treated her by subcutaneous injections, made at ten days' intervals, of 5 c.cm. of human milk. The organs began to grow smaller after the fifteenth day, and in a few weeks presented the appearance of deflated balloons. They have been stationary in size for four months, and do not show any alterations at the time of menstruation.

741. Bilateral Mammary Hypertrophy.

ZEPHIRINO DE AMARAL (*Bol. da Soc. de Med. e Cir. de São Paulo*, September, 1919) records the case of a 3-para, Italian, aged 22, whose breasts had increased in size during five and a half months' pregnancy so as to be 70 cm. in circumference at the base and 83 cm. in maximum circumference, the nipple being 28 cm. from the sternum. The breasts were movable and exhibited no fluctuation nor induration; their weight caused dyspnoea. Treatment by thyroid extract, pluriglandular extract, and by iodine failed. The diagnosis had been made of simple hypertrophy, diffuse adenoma, or adenofibroma. De Amaral proposes to interrupt gestation, and, if this fails, to amputate.

742. Primary Cancer of the Ovary in a Girl of Thirteen: Ablation: Cure.

PELISSIER (*Bull. et Mém. Soc. Anat. de Paris*, March, 1920) records the case of a girl of 13 in whom in April, 1916, an abortive attack of appendicitis was thought to have occurred. Two months afterwards right ovarian cyst was diagnosed. At operation in July the right tube was removed, together with a kidney-shaped ovarian tumour the size of an ostrich's egg. The interior of the tumour showed much haemorrhage and necrosis; microscopic examination showed it to be carcinoma of pseudo-papillary character. No recurrence has occurred during the three and a half years which have elapsed.

743. Pessary for Cystocele.

REMY (*Rev. Méd. de l'Est*, April, 1920) has designed for cystocele a new pessary consisting of three concentric celluloid rings.

PATHOLOGY.

744. Experimental Gastric Ulcer.

K. NICOLAYSEN (*Norsk Mag. for Laegevidenskaben*, March, 1920) has investigated in rabbits the effects of subcutaneous injections of a 5 per cent. solution of pilocarpine hydrochloride, with special reference to the stomach. Altogether twenty-five animals were experimented on, and in every case a microscopic examination was made of the stomach. It was found that some of the animals were peculiarly sensitive to the drug—an observation suggesting that certain rabbits, like certain human beings, are "vagotonic." The eosinophilia observed in these hypersensitive rabbits confirmed this hypothesis as to their "vagotonic" disposition. Of 10 animals given from 10 to 35 cg. pilocarpine, administered in two or more injections of 5 cg. each, 9 showed morbid changes in the mucosa of the stomach. In 3 of these cases there were also erosions or ulcers of the duodenum. Discussing the possibility that pilocarpine may cause erosions of the stomach simply by increasing the amount of free hydrochloric acid in the gastric secretion, the author refers to investigations showing that these changes in the stomach occurred even when the amount of free hydrochloric acid was reduced below normal. On the other hand, in the total absence of hydrochloric acid no erosions developed.

745. The Urine in Tropical Climates.

W. J. YOUNG (*Annals Trop. Med. and Parasit.*, December, 1919) studied the urine of twenty-five white men during the hot months in North Queensland. The average volume excreted was 782 c.cm. daily; the daily excretion of sodium chloride was 7 grams as against 15 grams in Europe, and the total nitrogen showed a similar but not so pronounced diminution. Albuminuria was found among 11.7 per cent. of 360 men, and 4.9 per cent. of 303 women.

746. The Pathogenesis of Cerebral Haemorrhage.

PARLETTI (*Rif. Med.*, January 24th, 1920) throws doubt on the current views as to cerebral haemorrhage being exclusively due to changes in the blood vessels and increased endo-arterial pressure. He thinks we might go back to the ex-vacuo theory in a modern form. So far from bleeding people who suffer from cerebral haemorrhage he says it would be better, especially as a preventive, to increase the intracranial pressure by injecting artificial serum into the spinal canal. He believes that haemorrhage is induced by some enlargement of the space between the brain and skull, and subsequent distension of the veins and small arteries, until they burst, so that by injecting serum into the spinal canal the intracranial pressure would be increased and the tendency to haemorrhage checked. The premonitory symptoms of cerebral haemorrhage (giddiness, headache, etc.) are, he believes, better explained by supposing that there is diminished endocranial pressure and consequent expansion of the vessels, than by assuming that they are due to a permanently altered state of the blood vessels. Possibly in advanced age the cerebral fluid tends to diminish as part of the senile shrivelling of tissues.

747. Avian Leukaemia.

V. ELLERMANN (*Ugeskrift for Laeger*, February 26th, 1920) describes various forms of leukaemia in hens—that is, a lymphatic, a myeloid, and an intravascular lymphoid form—some of the cases in the last class including purely anaemic forms. In February, 1917, he acquired a live hen from which he has been able to reproduce the disease in twelve successive generations. It was found that the virulence of the disease, as shown by its increasing brevity, was augmented by successive inoculations. This increased virulence did not, however, affect the frequency with which inoculated hens proved immune; throughout these experiments 60 to 70 per cent. of them did not develop the disease. As with other strains he has experimented on, the author found that this strain, too, gave rise to more than one form of leukaemia; thus, myeloid and intravascular lymphoid disease were provoked, and in one case the disease assumed the lymphatic form. In the case of the intravascular lymphoid form, the haemolytic action of the serum on the erythrocytes of rabbits was reduced; this was not the case with the myeloid form. Immunity to the disease could not be induced by the subcutaneous injection of virulent material containing the filtrable virus. Inoculation of hens with the blood of human beings suffering from leukaemia gave negative results.

748. The Criminological Value of a Fourth Horizontal Frontal Convolution.

PITRES and LANDES (*Journ. de Méd. de Bordeaux*, April 10th, 1920) state that though Benedikt and several other writers attributed criminological importance to duplication of the convolutions of the frontal lobe, this anomaly has been found in a relatively high proportion of persons who are not criminals. They describe the autopsy on a man aged 26, who had been executed for the rape and murder of a girl aged 6, the findings being as follows: Thoracic and abdominal organs normal; a few slight stigmata of degeneration in the skull and face; weight of brain much below the normal (1.032 kg. as compared with the average 1.360 kg.), thickening and adhesions of the dura mater, and an incomplete duplication of the second frontal convolution on both sides. Examination of the brain was otherwise negative.

749. The Diazo Reaction in Epilepsy.

P. MASOIN (*Bull. de l'Acad. Roy. de Méd. de Belgique*, July, 1919) studied the diazo reaction of the urine in epilepsy. This reaction was not obtained in normal subjects. He concludes that the absence of a diazo reaction in epilepsy justifies a favourable prognosis; its presence implies a fatal prognosis in two-thirds of the cases, and is regarded as evidence of a state of metabolic derangement and autointoxication.

750. Acetonuria in Influenza.

G. IZAR (*Il Policlinico*, Sez. Prat., April 19th, 1920) in a large number of cases of influenza has found in the urine acetone and diacetic acid either separately or together. They were present not only in cases with visceral localizations but also in uncomplicated cases. Izar is inclined to the view that some of the symptoms of influenza, such as vomiting, somnolence, and dyspnoea, when this is not due to circulatory, respiratory, or renal disturbance, may be attributed, in part at least, to acetonaemia. Six illustrative cases in patients aged from 6 to 58 years are recorded.

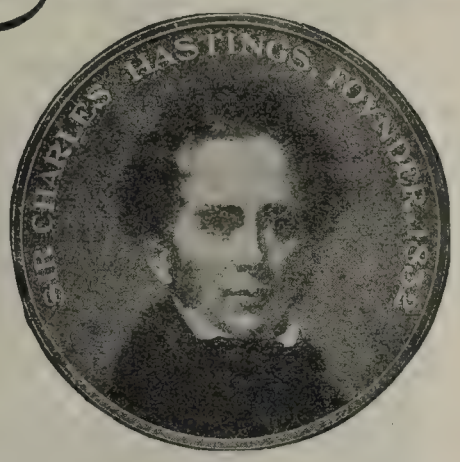
751. The Luetic Reaction of Sachs and Georgi.

FROM examination of 706 specimens of blood and 103 of cerebro-spinal fluid, S. T. BOK (*Nederl. Tijdschr. v. Geneesk.*, April 17th, 1920) came to the following conclusions: (1) The luetic reaction of Sachs and Georgi requires a much shorter time to perform than the Wassermann reaction, and is more reliable owing to its greater simplicity; (2) it is more sensitive than the Wassermann reaction both as regards the blood serum and the cerebro-spinal fluid; (3) non-specific positive results may occur with the reaction of Sachs and Georgi, but if the quantitative method is used, the index in such cases is usually only 0.1, and never higher than 0.2; (4) the reaction may enable one to obtain a deeper insight into the chemistry of syphilis than has hitherto been possible.

R.M.A.L.
BR.
920
.3104

The

British Medical Journal



UNIVERSITY OF ILLINOIS LIBRARY
AUG 1 1920

The Journal of the British Medical Association.

INCLUDING AN EPITOME OF CURRENT MEDICAL LITERATURE.

WITH SUPPLEMENT.

No. 3104. SATURDAY, JUNE 26, 1920. **Price 1/-**

OXFORD MEDICAL PUBLICATIONS

COMMON INFECTIONS OF THE KIDNEYS.
With the Colon Bacillus and Allied Bacteria.
By FRANK KIDD,
M.B., B.C.(Cantab.), F.R.C.S.Eng., Surgeon to London Hospital; Surgeon in Charge of Genito-Urinary Department, London Hospital: Member of the International Society of Urology.
With an additional Chapter on the BACTERIOLOGY OF THE URINE, by Dr. PHILIP PANTON, Clinical Pathologist, London Hospital.
Demy 8vo. Cloth. 336 pages. Illustrated in Colour and Black and White.
Price 18/- net. Just Published.

INFECTIOUS DISEASES:
A Practical Text-Book.
By CLAUDE BUCHANAN KER, M.D., F.R.C.P.Edin., Medical Superintendent, City Hospital, Edinburgh; and Lecturer on Infectious Diseases to the University of Edinburgh.
Second Edition. Crown 4to. Cloth. Pp. 640. Illustrated by 68 Charts and 32 Plates, 12 of which are in Colour. Price £2 2s. net. [*In the Press.*

HENRY FROWDE AND HODDER & STOUGHTON,
17, Warwick Sq., Newgate Street, London, E.C. 4.

NOW READY.
THE CIRCULATORY FAILURE OF DIPHTHERIA.
By M. ESTHER HARDING, M.D., B.S.,
With an Introduction by
Sir JAMES GALLOWAY, K.B.E., C.B., M.D.
Including many diagrams. Demy 8vo, 10s. 6d. net.
UNIVERSITY OF LONDON PRESS, LTD.,
18, Warwick Square, E.C. 4.

NOW READY.
Demy 8vo. Pp. xxvj. + 264. Cloth 10s. 6d. net.
NEUROLOGICAL AND OTHER PAPERS.
Reprinted from the writings of
JOHN MICHELL CLARKE, M.A., M.D.(Cantab.), F.R.C.P.
Bristol: J. W. ARROWSMITH, Ltd.
London: SIMPKIN, MARSHALL & Co., Ltd.

Crown 4to. 22 pp. Illustrated. 1s. net; postage 1d.
SUDDEN DEATH UNDER LIGHT CHLOROFORM ANÆSTHESIA
By A. GOODMAN LEVY, M.D.
JOHN BALE, SONS & DANIELSSON, LTD.,
83-91, Great Titchfield Street, London, W. 1.

THE EXTRA PHARMACOPŒIA
VOL. I.
See Announcement on Back Cover.

Just Published. With 2 Plates and other Illustrations. Crown 8vo. 5s. net. Postage 5d.
BACKWATERS OF LETHE.
SOME ANÆSTHETIC NOTIONS.
By. G. A. H. BARTON, M.D.,
Anæsthetist to the Hampstead General and Royal National Orthopædic Hospitals; formerly Anæsthetist to the Throat Hospital (Golden Square), &c. Author of "A Guide to the Administration of Ethyl Chloride."
London:
H. K. LEWIS & Co. Ltd., 136, Gower Street, W.C. 1.

See also Advertisement Page 3 and
Stand 1.
B.M.A EXHIBITION, CAMBRIDGE,

Just Published. SECOND EDITION.
Price 10s. 6d. net, postage 6d. extra.
TWILIGHT SLEEP.
By CECIL WEBB-JOHNSON, M.B., Ch.B., Capt. R.A.M.C.(T.F.), late Officer Commanding Station Hospital, Dum Dum; Specialist in Midwifery, 8th (Lucknow) Division. With a Foreword by COMYNS BERKELEY, M.C., M.D., F.R.C.P., Obstetric and Gynæcological Surgeon to Middlesex Hospital.
A carefully considered treatise, the result of years of experience, setting forth the advantages and disadvantages, method of administratoin, details of technique, particulars and results of cases.
BUTTERWORTH & Co., Bell Yard, Temple Bar, (S. S. Bond) London, W.C. 2.

SECOND EDITION. In Two Vols. 45/- net.
DEFORMITIES
INCLUDING
DISEASES OF THE BONES AND JOINTS.
A TEXT-BOOK OF ORTHOPÆDIC SURGERY.
By A. H. TUBBY, C.B., C.M.G., M.S.
Illustrated by 70 Plates and over 1,000 Figures, and by Notes of Cases.
2ND EDITION.—"The standard text-book in English on the subject."—*The Lancet.*
1ST EDITION.—"Standard work on the subject in the English language."—*Brit. Med. Jour.*
MACMILLAN & Co., LTD.,
St. Martin's Street, London, W.C.

[COPYRIGHT]

NOTICE.
THE MEDICAL DIRECTORY.
The issue for 1921 is now in preparation, and the circulars have been sent out. All practitioners should now make their returns to the Editors. A fresh circular, if needed, will be sent on application.
The return from military to civil life, the purchase of new practices and the obtaining of new appointments will render the next issue more indispensable than ever.
Owing to the large demand subscriptions should be sent without delay. Terms 21s. to those who prepay.
ADVERTISERS should take advantage of the much enhanced circulation, and forward their orders to the Advertisement Manager.
THE MEDICAL DIRECTORY.
7, Great Marlborough Street, London, W. 1.

NOW READY. Demy 8vo.
Pp. xvi + 366. Price 12s. 6d. net. Postage 6d.
A MANUAL OF NEURASTHENIA.
By IVO GEIKIE COBB, M.D., M.R.C.S., Neurologist, Ministry of Pensions; late Assistant to Out-patient Physician, the Middlesex Hospital; formerly Neurologist, Brinnington Section, Second Western General Hospital.
BAILLIÈRE, TINDALL & COX,
8, Henrietta Street, Covent Garden, London, W.C.2.

NOW READY. Crown 4to. Pp. 220. With 180 Illustrations. Price 12s. 6d. net. Postage 1s.
WAR AGAINST TROPICAL DISEASE.
By ANDREW BALFOUR, C.B., C.M.G., M.D., Director-in-Chief, Wellcome Bureau of Scientific Research.
BAILLIERE, TINDALL & COX,
8, Henrietta Street, London, W.C. 2.

NOW READY. Demy 4to. Pp. viii.+92, with Original Figures. Price 12s. 6d. net. Postage 1s.
X-RAY ATLAS OF THE SYSTEMIC ARTERIES OF THE BODY.
By H. C. ORRIN, O.B.E., F.R.C.S., F.R.S.M.(Lond.)
BAILLIERE, TINDALL & COX,
8, Henrietta Street, London, W.C.2.

ESSAYS ON THE
SURGERY OF THE TEMPORAL BONE.
By Sir CHARLES BALLANCE, K.C.M.G., C.B., M.V.O., M.S., F.R.C.S.,
Consulting Surgeon to St. Thomas's Hospital, &c.
Illustrated by 125 Plates (40 in colour), and 120 Figures.
In 2 volumes. Medium 4to. Price 5 guineas
MACMILLAN & Co., LTD.,
St. Martin's Street, London, W.C.

REGISTERED AS A NEWSPAPER.] [ISSUED WEEKLY

SCHALL & SON

(W. E. SCHALL, B.Sc. Lond.)

Established 1887.

The oldest established firm devoted solely to Electro-medical and X-ray Apparatus.

BRITISH PROPRIETARY. BRITISH CAPITAL.

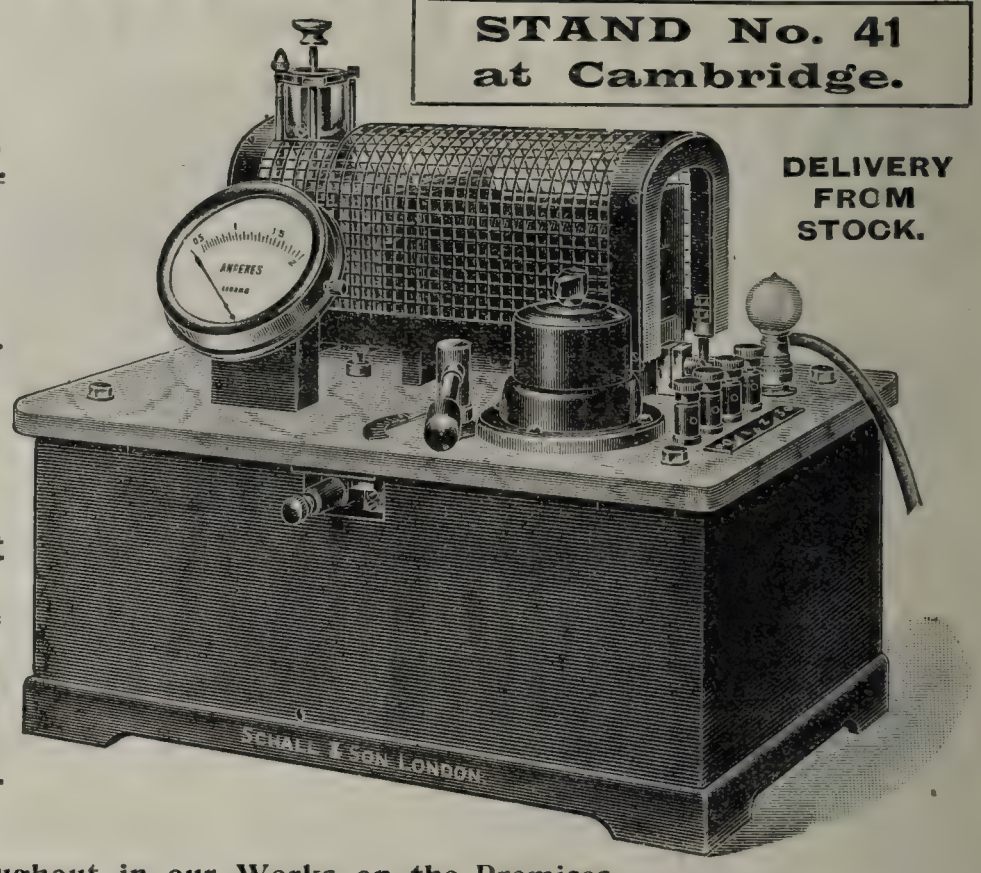
STAND No. 41 at Cambridge.

THE ILLUSTRATION SHOWS A

NEW PORTABLE DIATHERMY APPARATUS

(REGISTERED DESIGN)

for Cold Cautery in Ear, Nose, Throat and Bladder, and Local Diathermy.



DELIVERY FROM STOCK.

THE "PANTOSTAT"

(EARTH FREE UNIVERSAL APPARATUS)

AND

ALL OTHER TYPES OF ELECTRO-MEDICAL AND X-RAY APPARATUS.

Manufactured throughout in our Works on the Premises—

71/75, NEW CAVENDISH STREET, LONDON, W. 1.

A large Illustrated Catalogue will be sent free to any Medical Man desiring it.

DUNLOP MAGNUM



The latest and best development of the tyre that made motoring possible.

TRADE MARK

British Medical Journal.

JUNE 26TH, 1920.

CONTENTS.

ORIGINAL ARTICLES.

A Lecture on the Early Symptoms and Diagnosis of Diseases of the Spinal Cord. By Sir F. W. MOTT, K.B.E., M.D., F.R.S. 857

The Labyrinthine Reactions of Experienced Aviators. By DAVID RANKEN, M.S., F.R.C.S., Squadron Leader, R.A.F. Medical Service 860

The Effects of Radium Treatment on War Injuries in the Neighbourhood of Nerves. By WALTER C. STEVENSON, M.D., Captain R.A.M.C., Home Hospitals Reserve 862

On Poisoning by Arsenobenzol Compounds Used in the Treatment of Syphilis. By ALEXANDER G. R. FOULERTON, F.R.C.S. 864

MEMORANDA.

Treatment of Ringworm. By W. P. ELFORD, M.A., M.D. 867

Simple Paroxysmal Tachycardia. By A. C. SHARP, M.D. 867

Obstruction due to Adhesions of the Pelvic Colon. By DONALD M. MACLEOD, L.R.C.P. and S.Edin. 867

REPORTS OF SOCIETIES.

EDINBURGH OBSTETRICAL SOCIETY:

Fetal Intracranial Haemorrhage during Birth 868

REVIEWS.

The After-treatment of Wounds and Injuries 868

Pulmonary Syphilis 869

Diathermy 869

Notes on Books 869

LEADING ARTICLES.

THE ETIOLOGY OF LOBAR PNEUMONIA. 875

THE TREATMENT OF MALARIA 875

THE WEEK.

Sir Clifford Allbutt's Portrait 876

The Production of Clean Milk 876

Recent Work on Human Metabolism 877

Complement Fixation Test in Syphilis. 877

Ante-natal Respiratory Movements 877

An Institute of Hygiene in Paris 878

Retrograde Absorption by the Kidney ... 878

The Fundus of the Eye after Death 878

GENERAL ARTICLES AND NEWS.

The Report of the Irish Public Health Council. By THOMAS HENNESSY, F.R.C.S.I. 870

THE TREATMENT OF MALARIA 872

VITAL STATISTICS OF ENGLAND AND WALES 874

MEDICAL NOTES IN PARLIAMENT:

The Threatened Western Extension of Typhus 879

State Grants to Universities 879

MEDICAL NEWS 885

LOCAL NEWS.

ENGLAND AND WALES—

British Association at Cardiff 880

The Coroners' Society 880

Whole-time Medical Appointments in Worcestershire 880

Infants and Children's Homes and Hospitals 880

SCOTLAND—

Hospital and Nursing Services 880

Small-pox in Glasgow 881

AUSTRALIA—

Friendly Societies and Nursing Benefits 881

Federal Control of the Public Health. 881

INDIA—

State Leper Hospital, Kashmir 881

Kashmir Medical Mission 881

CORRESPONDENCE.

Future Provision of Medical Services. By W. Gordon, M.D., F.R.C.P.; and J. I. Halstead, M.B., Ch.B. 882

Fees for the Treatment of School Children. By J. Lionel Stretton, L.R.C.P., M.R.C.S. 883

Panel Practitioners and Vaccination. By A. Kennedy Glen, M.R.C.S., L.R.C.P. 883

Sanatorium Hospital for the Well-to-do. By Mrs. E. Malcolm 883

The Rockefeller Foundation Gifts. By G. Blacker, M.D., F.R.C.P. 883

The Polish Red Cross Society of Great Britain. By the Bishop of London, and Others 884

OBITUARY.

Robert H. Rains, M.R.C.S. 884

James Middleton, M.B., C.M. 884

F. C. Smyth, M.D. 884

THE SERVICES.

Deaths in the Services 884

LETTERS AND ANSWERS.

Income Tax 885

Sunburnt Potatoes 886

The Prevention of Influenza 886

VACANT APPOINTMENTS 886

The SUPPLEMENT contains:—

CURRENT NOTES:

State-aided Patients in Voluntary Hospitals: Conference at Cambridge.

A Development of Contract Practice in Scotland.

Meeting of Scottish Committee.

Annual Meeting at Cambridge: Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found in the centre of the JOURNAL, between pages 872 and 873. It contains abstracts of articles, chiefly from the foreign press, on Medicine including Therapeutics, Surgery, Obstetrics and Gynaecology, and Pathology.

ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, 1920.

CAMBRIDGE, June 25th to July 3rd.

REPRESENTATIVE MEETING, JUNE 25TH AND FOLLOWING DAYS.

PRESIDENT'S ADDRESS, TUESDAY EVENING, JUNE 29TH.

SECTIONS AND DEMONSTRATIONS, JUNE 30TH—JULY 2ND.

INDEX TO ADVERTISEMENT PAGES.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated :—

UNIVERSITY, HOSPITAL, Etc. VACANCIES— Pp. 40 and 43-49.

ASSISTANTS, PRACTICES, Etc. Pp. 41-43.

MEDICAL SCHOOLS, Etc.— Pp. 39 and 40.

NURSING INSTITUTES— Pp. 49 and 50

PUBLISHERS— Pp. i and iv of Cover, also pp. 2-5.

ANÆSTHETICS— P. 4.

ASSURANCE COMPANIES— Pp 7, 33, 35 and 43.

BOOTMAKERS, Etc. P. 32.

BRASS NAME PLATES— P. 4 and 34.

CHEMISTS, Etc. P. iii of Cover, also pp. 4, 10-12, 15-19, 21-23, 25-27, 30 and 34.

DISPENSING BOTTLES— P. 34.

FOOD PREPARATIONS— Pp. 11-13, 24, 27, 31 and 33-35.

MEDICAL AND SURGICAL APPLIANCES— P. ii of Cover, also pp. 4, 6, 7, 9. 14, 20, 28-30 and 32-35.

MINERAL WATERS— Pp. 27 and 31.

MOTORS, TYRES, Etc.— P. ii of Cover, also pp. 6, 8, 28, 33, and 35.

PENCILS, TYPEWRITERS, Etc. Pp. 32 and 34.

SANITARY PREPARATIONS— P. 27.

SANATORIA AND HOSPITAL BUILDINGS, Etc. P. 34.

TAILORING AND UNDERWEAR Pp. 34 and 35.

TOBACCO AND CIGARETTES— P. 30.

VACCINE LYMPH— P. 31.

BATHS, SPAS, Etc.— P. 38.

HEALTH RESORTS— P. 38.

HOMES AND ASYLUMS— Pp. 35-38.

HYDROS.— P. 35.

INEBRIETY, Etc.— P. 36.

SANATORIA— P. 39.

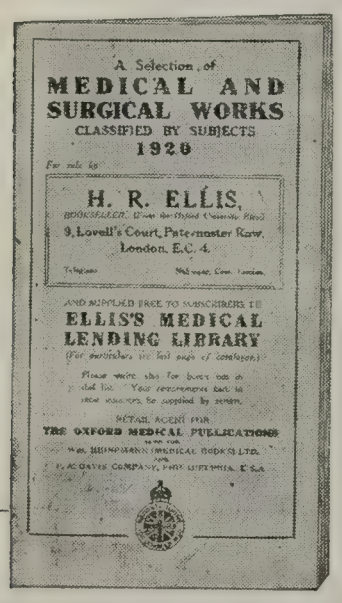
SCHOOLS, Etc.— Pp. 39 and 40.

TUTORS AND LECTURERS— P. 39 and 40.

HOUSE AGENTS— P. 43.

TRANSFER AGENTS— Pp. 50-52.

MISCELLANEOUS— Drs.' A/c Forms—P. 43. Miscellaneous—Pp. 42 and 43.



ELLIS'S MEDICAL LIBRARY

(Medical, Surgical, Veterinary, Dental)

STAND No. 89

AT THE

CORN EXCHANGE, CAMBRIDGE,

JUNE-JULY, 1920.

NATIONAL SCHEME FOR DISABLED MEN

POSTAL ADDRESS:—

H. R. ELLIS Bookseller, Exporter and Importer

(From the Oxford University Press),

9, LOVELL'S COURT, PATERNOSTER ROW, LONDON, E.C. 4.

This useful Catalogue free on application.] (100 yards from St. Paul's Cathedral).

THIRD EDITION. Fully revised and enlarged. Thrice reprinted. Completing 22,000 copies. With 39 Coloured Plates and over 300 Illustrations. Large 8vo. Fully-detailed General Index, containing upwards of 60,000 References. **£2 2s.** net. Postage **9d.**

AN INDEX OF DIFFERENTIAL DIAGNOSIS OF MAIN SYMPTOMS.

Edited by HERBERT FRENCH, C.B.E., M.A., M.D.Oxon., F.R.C.P.Lond., with the co-operation of 22 distinguished contributors.

SEVENTH EDITION, twice reprinted. 24th Thousand. Fully Revised. Over 1,100 Pages. **30s.** net. Postage **9d.**

AN INDEX OF TREATMENT.

A Complete Guide to Treatment in a Form Convenient for Reference.

Edited by ROBERT HUTCHISON, M.D., F.R.C.P., and JAMES SHERREN, C.B.E., F.R.C.S., in conjunction with 87 distinguished contributors.

SECOND EDITION. Extensively Revised and Enlarged. Large 8vo. **30s.** net. Postage **9d.**

AN INDEX OF PROGNOSIS AND END-RESULTS OF TREATMENT.

Edited by A. RENDLE SHORT, M.D., B.S., B.Sc.Lond., F.R.C.S.Eng., in conjunction with 24 distinguished contributors.

The above Three Companion Volumes, if ordered as a complete set, £4 10s.

Bristol: JOHN WRIGHT & SONS, Ltd., Publishers. London: SIMPKIN & CO., Ltd

JUST PUBLISHED.

Crown 4to. 452 + xx pages. Price **47/6** net, postage and packing 1/-. 349 Illustrations (4 in Colour).

Dr. THOMAS LEWIS' LATEST WORK ON THE HEART.

"THE MECHANISM AND GRAPHIC REGISTRATION OF THE HEART BEAT."

By THOMAS LEWIS, M.D., F.R.S., F.R.C.P., D.Sc.

Being an Enlarged and Revised Edition of "The Mechanism of the Heart Beat."

A work of first-rate importance which reveals the latest results of Heart Research.

SHAW & SONS, MEDICAL PUBLISHERS, 7, 8, & 9, Fetter Lane, Fleet Street, E.C. 4.

LEWIS'S PUBLICATIONS.

FOURTH EDITION, thoroughly Revised and greatly Enlarged. With 74 Plates and many other new Illustrations. Demy 8vo, 25s. net, postage 1s., abroad, 1s. 3d.

DISEASES OF THE NOSE AND THROAT.

By **HERBERT TILLEY,** B.S.Lond., F.R.C.S.Eng., Surgeon to the Ear and Throat Department, University College Hospital; Teacher of Laryngology and Otology, University of London

"Mr. Tilley has rendered a notable service to British laryngology in producing a fourth edition of his well-known book.....is so comprehensive that it should be a valuable book of reference, whilst it is not too large to serve as an ordinary text-book."—*British Medical Journal.*

NOW READY. THIRD EDITION, Revised and Enlarged. With 9 Plates and 72 other Illustrations. Demy 8vo, 18s. net, postage 1s.

MIND AND ITS DISORDERS.

A Text-book for Students and Practitioners.

By **W. H. B. STODDART,** M.D.Lond., F.R.C.P., Lecturer on Mental Diseases, St. Thomas's Hospital; Examiner in Psychology and Mental Diseases to the University of London.

"This is one of the most readable works on Mental Disorders with which we are acquainted."—*Medical Press.*

"The work is an able presentation of the whole subject and fulfils its object as a text-book for students and practitioners. The illustrations are well produced, and the book is printed in clear type, and there is a good index."—*Medical Review.*

FOURTH EDITION, Thoroughly Revised. With Illustrations. Crown 8vo, 5s. net; post free, 5s. 5d.

THE DIAGNOSIS AND TREATMENT OF HEART DISEASE.

Practical Points for Students and Practitioners.

By **E. M. BROCKBANK,** M.D.Vict., F.R.C.P., Hon. Physician, Royal Infirmary, Manchester, &c.

"The Text is practicable and reliable as ever."—*Lancet.*

Demy 8vo. With 126 Illustrations (3 in Colours) from Original Drawings and Photographs. 12s. net; post free, 12s. 9d.

THE PATHOLOGY OF TUMOURS.

By **E. H. KETTLE,** M.D., B.S., Pathologist, St. Mary's Hosp., and Lecturer on Pathology, St. Mary's Hosp. Medical School, London.

"Dr. E. H. Kettle is to be congratulated on having produced a very useful volume.....A very special word of praise must be given to the illustrations.....They are admirably chosen and beautifully reproduced."—*British Medical Journal.*

"We have every confidence in recommending Dr. Kettle's work as a convenient and useful handbook."—*The Lancet.*

JUST PUBLISHED. FOURTH EDITION, Revised and Enlarged. With 2 Plates. Crown 8vo, 7s. 6d. net; post free, 7s. 11d.

THE SEXUAL DISABILITIES OF MAN AND THEIR TREATMENT AND PREVENTION.

By **ARTHUR COOPER,** M.R.C.S., L.R.C.P., Consulting Surgeon, Westminster General Dispensary, formerly House Surgeon Male Lock Hospital, &c.

"The text has been brought up to date.....This little book has undoubtedly helped to fill a gap in the knowledge of the average student of medicine."—*British Medical Journal.*

NOW READY. THIRD EDITION, Thoroughly Revised. With many Illustrations. 15s. net; post free, 15s. 8d.,

THE DIAGNOSTICS AND TREATMENT OF TROPICAL DISEASES.

By **E. R. STITT,** A.B., Ph.G., M.D., Medical Director, U.S. Navy; Graduate, London School of Tropical Medicine; Commanding Officer and Head of Department of Preventive Medicine, U.S. Naval Medical School, &c.

"May be consulted with advantage by all students of tropical medicine."—*The Lancet.*

SECOND Edition. Crown 8vo. 3s. net.; post free, 3s. 4d.

THE CHILD'S DIET.

By J. SADLER CURGENVEN, M.R.C.S., L.R.C.P.

"The information given is trustworthy.....and conveyed in a form which any intelligent layman can be expected to assimilate without misunderstanding. Above all, it is practical."—*The Hospital.*

"We can recommend this small text-book with confidence as being one of the most practical and helpful yet published on the subject of the feeding of children."—*Medical Press.*

With 23 Illustrations. Crown 8vo, 3s. net; post free, 3s. 4d.

LECTURES on MEDICAL ELECTRICITY to NURSES.

An Illustrated Manual.

By J. DELPRATT HARRIS, M.D.Durh., M.R.C.S., Senior Surgeon and Hon. Medical Officer-in-Charge of Electrical Department, Royal Devon and Exeter Hospital, &c.

"Thoroughly up to date. It can be confidently recommended."—*Medical Chronicle.*

Just Published. With 1 Plate and 18 other Illustrations. Royal 8vo. 7s. 6d. net; postage 6d.

THE EXACT DIAGNOSIS OF LATENT CANCER.

An Enquiry into the True Significance of the Morphological Changes in the Blood.

By O. C. GRUNER, M.D.

".....Comes up to the high standard which we have previously noted in works by this author.....will certainly repay perusal with interest."—*West London Medical Journal.*

Nearly Ready. SECOND Edition. Fourth Impression. Post 8vo.

ÆQUANIMITAS:

With other Addresses to Medical Students, Nurses, and Practitioners of Medicine.

By Sir WILLIAM OSLER, Bart., M.D., F.R.S., Regius Professor of Medicine, University of Oxford, &c.

"Written with all the breadth of view and the beauty of style which make Prof. Osler's writings so characteristic and so valuable."—*The Lancet.*

B.M.A. EXHIBITION, CAMBRIDGE.—STAND 1.

*** *Complete CATALOGUE post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower St. & 24 Gower Place, W.C. 1.

Publishing and Wholesale Office: 28, GOWER PLACE, W.C. 1.

HENRY KIMPTON'S NEW PUBLICATIONS

ARTERIOSCLEROSIS AND HYPERTENSION.

Including Blood-Pressure.

By LOUIS M. WARFIELD, M.D., F.A.C.P.

THIRD EDITION, REVISED AND ENLARGED. Royal octavo, 265 pages, with 60 Illustrations. Cloth. Price **24**/- net.

AFTER-TREATMENT OF SURGICAL PATIENTS.

By WILLARD BARTLETT, M.D., F.A.C.S., and Collaborators.

TWO VOLUMES. Royal octavo, 1088 pages, with 438 Original Illustrations and 1 Plate. Cloth. Price **60**/- net.

HANDBOOK OF DISEASES OF THE RECTUM.

By LOUIS J. HIRSCHMAN, M.D., F.A.C.S.

THIRD EDITION, REVISED AND ENLARGED. Royal octavo, 378 pages, with 233 Illustrations, mostly Original, and 4 Coloured Plates. Cloth. Price **30**/- net.

BURKE'S VENEREAL PROBLEM. Crown 8vo. 224 pages. Price **7/6** net.

BROWN'S SURGERY OF ORAL DISEASES. 3rd Edition. Royal 8vo. Price **36**/- net.

DAVIS'S PLASTIC SURGERY. Royal 8vo. 785 pages. 864 Illustrations. Price **42**/- net.

HARE'S PRACTICAL THERAPEUTICS. 17th Edit. Royal 8vo. 1023 pages. Price **30**/- net.

HERTZLER'S PERITONEUM. Two Vols. Royal 8vo. Price **60**/- net.

MACLEOD'S PHYSIOLOGY AND BIOCHEMISTRY. 2nd Edition. Royal 8vo. Price **42**/- net.

SUTTON'S DISEASES OF THE SKIN. 3rd Edition. Royal 8vo. Price **42**/- net.

NEW CATALOGUE FREE ON REQUEST.

HENRY KIMPTON, 263, HIGH HOLBORN, LONDON, W.C. 1.

SKIN DISEASES IN GENERAL PRACTICE.

By HALDIN DAVIS, M.B.Oxon.. F.R.C.S.,
Dermatologist to the Royal Free Hospital.
Price 17/- net. Illustrated by 7 Coloured Plates and 62 Photos.

". . . The notes on treatment are particularly good."—*British Medical Journal.*

". . . can be confidently recommended to students and physicians."—*London Hospital Gazette.*

Published by
HENRY FROWDE & HODDER & STOUGHTON,
17, Warwick Sq., Newgate Street, London, E.C. 4.

A REPORT OF THE WORK

CARRIED OUT AT THE

RADIUM INSTITUTE, LONDON,

From JAN. 1st, 1919, to DEC. 31st, 1919.

By A. E. HAYWARD PINCH, F.R.C.S.,
Medical Superintendent.

(Published with the Authority of the Committee.)

Medical Practitioners may obtain copies of the same, post free, on application to THOMAS A. GARNER, Secretary, 16, Riding House Street, W. 1.

BRASS NAME PLATES,

For the Profession.

The Plates are manufactured in stout metal, deeply engraved, mounted on polished mahogany blocks, with fastenings ready for fixing.

COOKE'S (Finsbury), **LTD.,**
Brass Plate Engravers, Memorial Brasses, &c.
FINSBURY PAVEMENT HOUSE, LONDON, E.C. 2.
Telephones: London Wall 573 and 6179.
SEND FOR NEW ILLUSTRATED CATALOGUE.

STAMMERING,

CLEFT PALATE SPEECH, & LISPING.

By Mrs. BEHNKE,

Price 1s. 6d. net, postage 3d., of Miss BEHNKE, 39, Earl's Court Sq., S.W. 5., who receives Stammerers for treatment, and Singers and Speakers for Voice Training. References to Medical Practitioners.

"The method is scientifically correct, and perfectly effective."—*Guy's Hospital Gazette.*

"*Tycos*" Sphygmomanometer

for the quick and accurate determination of both DIASTOLIC and SYSTOLIC readings of Arterial Blood Pressure. Obtainable from all reputable dealers.—Particulars free from SHORT & MASON, Ltd., Macdonald Road, Walthamstow, London, E. 17.

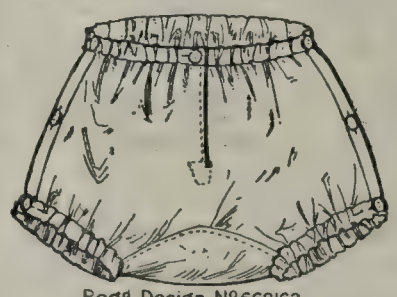
CULTURE MEDIA.

Freshly prepared and standardised weekly.

In tube or in bulk.

Apply—
Laboratories of Pathology and Public Health,
6, Harley Street,
London, W. 1.

Blattis is the only absolutely efficient remedy for exterminating COCKROACHES and BLACKBEETLES. 2/-, 3/6, or 6/- per tin, post free from HOWARTHS, 471, Creukesmoor, SHEFFIELD.



Reg[d] Design No 668162.

The "SISTER DORA"
RETAIN-ALL
SANITARY NAPKIN
AND
BED SAVER.
CASH WITH ORDER, 21/-

Agent and Sole Manufacturer—
"SISTER DORA," 4, Saunders Street, SOUTHPORT, Lancs.
Agents: Messrs. JAMES WOOLLEY, SONS & Co., Ltd., Manchester.

CATALOGUE OF SECONDHAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE.

Telephone: CITY 1706.



Half Sets of Osteology, Articulated Skeletons and Disarticulated Skulls. Secondhand Surgical Instruments, Osteology, and Microscopes bought, sold and Exchanged.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C. 2.

SALAMON'S ÆTHER AND CHLOROFORM

As exclusively used by the most eminent anæsthetists in the Kingdom. Anæsthetical and analytical reports on application to
SALAMON & CO., Ltd., Manufacturing Chemists,
RAINHAM, ESSEX. *Est. 1878*

J. & A. CHURCHILL

NOW READY. NEW EDITION.

SEVENTH EDITION. With 20 Engravings. Two Vols. £3 3s. net, postage 1s. 3d.

TAYLOR'S PRINCIPLES AND PRACTICE OF MEDICAL JURISPRUDENCE.

Edited by **FRED. J. SMITH**, M.D., F.R.C.P., Lecturer on Forensic Medicine, London Hospital Medical School.

"For the lawyer as well as the medical practitioner this standard work is invaluable. In every branch of law into which medical considerations enter it may always be consulted with profit."—THE JUSTICE OF THE PEACE.

With 504 Original Illustrations. Two Volumes, 27s. net, postage 1s. 3d.

WARREN'S TEXT-BOOK OF SURGERY.

By **RICHARD WARREN**, M.D., M.Ch., F.R.C.S., Assistant Surgeon to London Hospital.

THE PRACTITIONER says:—*"The work shows great care in its compilation .....A very valuable asset to surgeon and student alike."*

NOW READY. With 10 Illustrations. 9s. 6d. net, postage 3d.

A SYNOPSIS OF DENTISTRY.

By **BAYFORD UNDERWOOD**, Lecturer in Dental Anatomy and Physiology, University College Hospital.

NOW READY. With 16 Illustrations. 7s. 6d. net, postage 3d.

A SYNOPSIS OF PHARMACOLOGY.

By **DOUGLAS COW**, M.D., Examiner in Pharmacology, University of Cambridge.

Now Ready. New (3rd) Edition. With 51 Illustrations. 7s. 6d. net, postage 5d.

A MANUAL FOR MIDWIVES.

By C. N. LONGRIDGE, M.D., F.R.C.S., and JOHN BRIGHT BANISTER, M.D., F.R.C.P., F.R.C.S.

With 188 Illustrations. 18s. net, postage 1s.

TEXT-BOOK OF NERVOUS DISEASES

By W. ALDREN TURNER, M.D., F.R.C.P., and T. GRAINGER STEWART, M.B., M.R.C.P.
Physicians, National Hospital for the Paralysed & Epileptic.

Now Ready. New (2nd) Edition. Much Enlarged. With Frontispiece. 7s. 6d. net, postage 6d.

NOTES ON CHEMICAL RESEARCH.

By W. P. DREAPER, O.B.E, F.I.C.

SECOND EDITION. With 11 Plates. 6s. net, postage 4d.

ATLAS OF DENTAL EXTRACTIONS.

Shows how to extract Teeth with a minimum number of Appliances and without a Dental Chair.

By C. E. WALLIS, Dental Surgeon, King's Coll. Hospital.

"Should prove of great practical value."—THE LANCET.

ELEVENTH EDITION. With 12 Plates, 85 Text-figures. 28s. net, postage 1s.

TAYLOR'S MEDICINE.

By **Sir FREDERICK TAYLOR, Bart.**, M.D., Past President of the Royal College of Physicians.

"Sir F. Taylor, as a teacher of long experience, sets forth the present state of knowledge clearly and briefly.....The volume is well balanced, well adapted to its purpose, and fully up to date."—BRITISH MEDICAL JOURNAL.

By A. HAIG, M.D.Oxon., F.R.C.P.,
Senior Physician to the Metropolitan Hospital.

URIC ACID IN THE CLINIC.

5s. net, postage 6d.

Assisted by KENNETH G. HAIG, L.R.C.P.Lond., M.R.C.S.Eng.

SEVENTH EDITION. With 75 Illustns. 14s. net, post. 1s.

Uric Acid as a Factor in the Causation of Disease.

SECOND EDITION. 2s. 6d. net, postage 5d.

Uric Acid: an Epitome on the Subject.

6s. net, postage 5d.

AN EPITOME OF MENTAL DISORDERS.

By E. FRYER BALLARD, M.B., B.S.Lond., Capt. R.A.M.C.(T.)
Medical Officer, Mental Block, Military Hosp., Brighton.

NEW (2ND) EDITION. With 22 Illustns. 10s. 6d. net, post. 5d.

BOX'S POST-MORTEM MANUAL.

A Handbook of Morbid Anatomy and Post-mortem Technique.

By CHARLES R. BOX, M.D., B.S.Lond., F.R.C.P., F.R.C.S.

Now Ready. 3s. 6d. net, postage 3d.

MODERN SPIRITISM: its Science & Religion.

By A. T. SCHOFIELD, M.D., Vice-Pres., Victoria Institute, &c.

With 21 Plates and 42 Text-figures. 21s. net, postage 1s.

DISEASES OF THE STOMACH:

With Special Reference to Treatment.

By CHARLES D. AARON, Sc.D., M.D., Professor of Gastro-enterology, Detroit College of Medicine.

With 53 Illustrations. 10s. 6d. net, postage 6d.

VENEREAL DISEASE: Its Prevention, Symptoms, and Treatment.

By **HUGH WANSEY BAYLY**, M.C., late Surgeon R.N. (Temp.), Captain (Acting Major), R.A.M.C.T.F.

With 4 Coloured Plates and 13 Text-figures. 10s. 6d. net, postage 8d.

DIET AND DISEASE IN INFANCY.

By **H. C. CAMERON**, M.D., F.R.C.P., Assistant Physician and Physician, Children's Department, Guy's Hospital.

"A most satisfactory presentation of modern methods.....we hope it will find a large circle of readers."—EDINBURGH MEDICAL JOURNAL.

THIRD EDITION. With 18 Plates and 319 Text-figures. 16s. net, postage 1s.

PARSONS' DISEASES OF THE EYE.

By **J. H. PARSONS**, D.Sc., M.B., B.S., F.R.C.S., Temp. Colonel, A.M.S., Ophthalmic Surgeon, Univ. College Hospital.

SIXTH EDITION. Revised and Enlarged. With 6 Plates in Colour. 185 Text-figures. 21s. net postage 1s.

PRACTICAL PHYSIOLOGICAL CHEMISTRY.

By **P. B. HAWK**, M.S., Ph.D., Professor of Physiological Chemistry, Jefferson Medical College, Philadelphia.

NEW (3RD) EDITION. With 52 Plates in Colour, and 257 Figures in the Text. 36s. net, postage 1s.

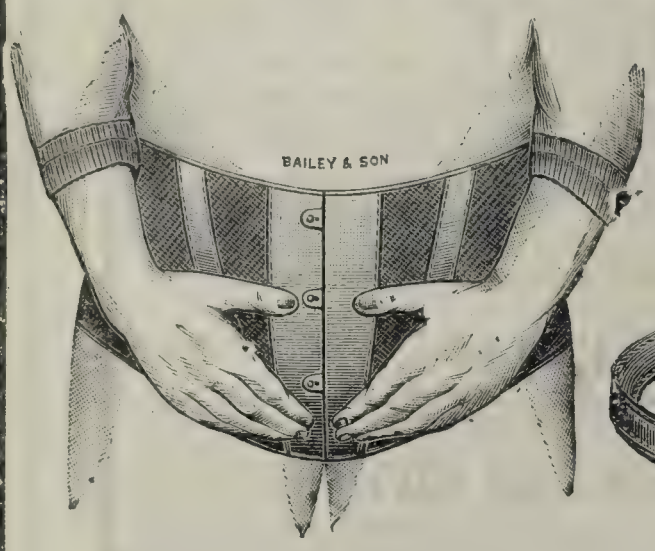
THOROUGHLY REVISED AND BROUGHT UP TO DATE.

SEQUEIRA'S DISEASES OF THE SKIN.

"By the inclusion of all the important advances made in dermatology during the war, the book has been brought entirely up to date. The illustrations are numerous and good and the text not too complicated.....It is concise, and each disease is dealt with methodically. This new edition deserves even greater success than the previous ones."—EDINBURGH MEDICAL JOURNAL.

London: J. & A. CHURCHILL, 7, Great Marlborough Street, W. 1.

W. H. BAILEY & SON'S

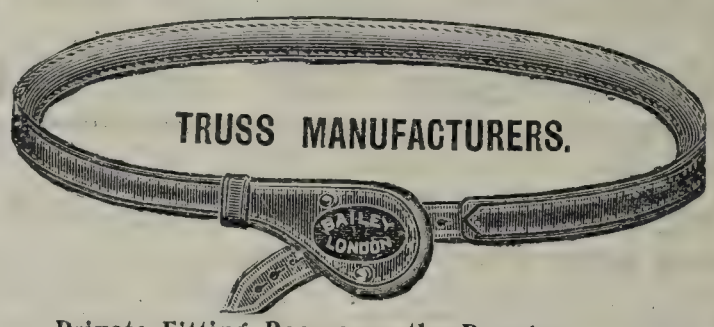


MANUFACTURERS OF ALL KINDS OF

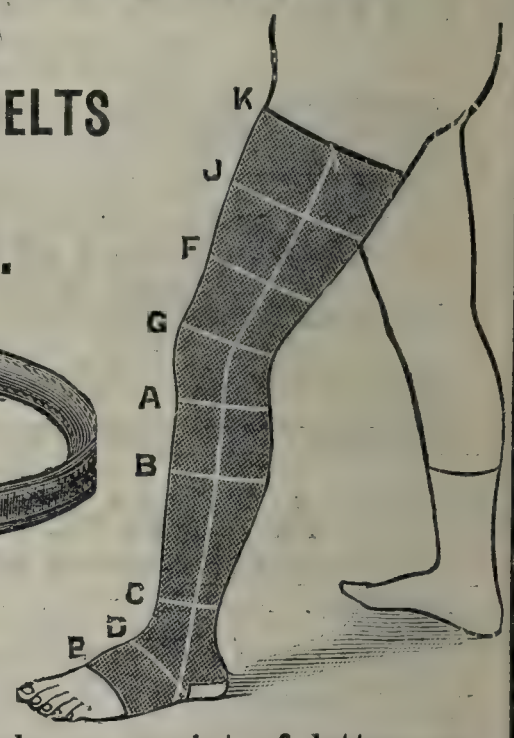
TRUSSES, ABDOMINAL BELTS

AND

ELASTIC STOCKINGS.



TRUSS MANUFACTURERS.



Telegrams: "Bayleaf, London."
Telephone: Museum 1484.

Private Fitting Rooms on the Premises.

MESSRS. W. H. BAILEY & SON are prepared to send (immediately on receipt of letter or telegram) thoroughly Competent Assistants, Male and Female, to attend patients at their homes, and to take Doctor's instructions. They personally superintend the making and fitting of the Appliance throughout, thus ensuring the best possible results.

38, OXFORD STREET & 2, RATHBONE PLACE, LONDON, W. 1.



Are you getting a Discount off your Tyre Bills?

IF NOT, WHY NOT?

We are the only Tyre Firm recognising the Medical Practitioner as a commercial user and allowing him

15% DISCOUNT,

WITH A FURTHER

3¾% FOR CASH

SEVEN DAYS.

We will allow you for a Trial Order,

25% NETT OFF LIST

WRITE TO-DAY FOR COMPLETE LIST

GENERAL TYRE & RUBBER COMPANY,

Motor Tyres, Solid and Pneumatic, and General Rubber Goods,

7, 8, 9 & 10, Jessel Chambers, 88/90, Chancery Lane, London, W.C. 2.

H. G. SUTCLIFFE. H. HATTAL. Telegrams: "Tyredom, Holborn, London."

Eastman Dupli-Tized X-Ray Film

"One of the biggest advances in X-Ray photography has proved to be the 'Dupli-Tized' Film—*i.e.*, a film coated with emulsion on both sides of the celluloid."

Extract from a recent lecture by Major G. W. C. Kaye, O.B.E., M.A., D.Sc., reported in the Journal of the Röntgen Society for April, 1920.

The film referred to by Major Kaye is the Eastman Dupli-Tized X-Ray film. It is made in the following sizes:—

$6\frac{1}{2} \times 4\frac{3}{4}$, 8 × 5, $8\frac{1}{2} \times 6\frac{1}{2}$, 10 × 4,
10 × 8, 12 × 10, 14 × 11, 17 × 14

Kodak Limited, Kingsway, London, W.C. 2.

INVESTMENT AND LIFE ASSURANCE

The Medical Insurance Agency has arranged special terms of Assurance for Medical Men with the

EQUITY AND LAW LIFE ASSURANCE SOCIETY.

Terms and Full particulars will be given on application to

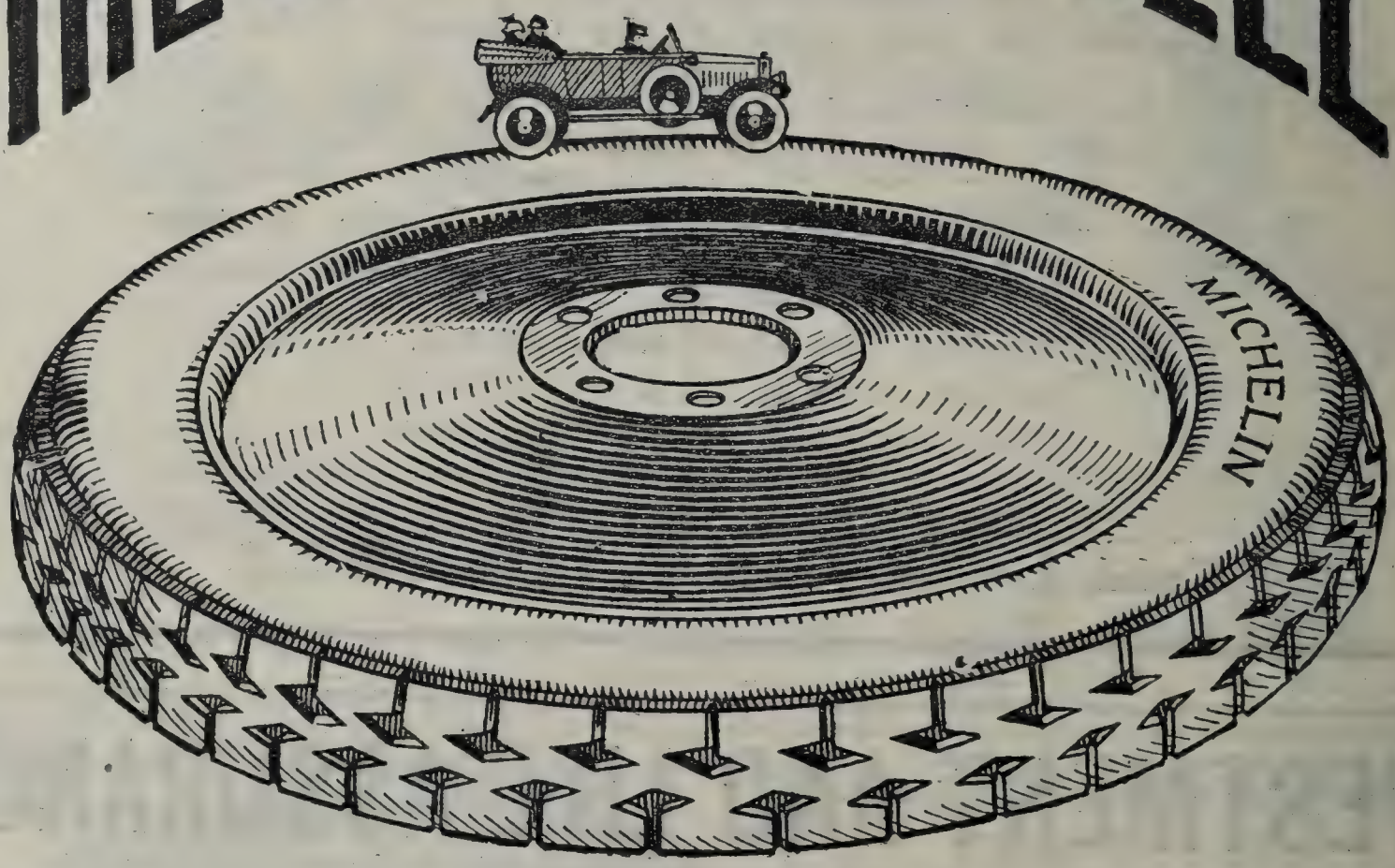
THE AGENT AND SECRETARY, Dept. E, Medical Insurance Agency, 429, Strand, W.C. 2.

The Equity and Law Life Assurance Society was established in the year 1844 and has accumulated funds of over £5,000,000.

Some of the schemes of Assurance particularly recommended are:—

Whole Life With Profit Assurances.
Endowment Assurances With Profits.
The new scheme of Whole Life Assurances, without profits, at exceptionally low rates of premium specially applicable to Family Provision and to meet Death Duties.
New scheme of non-profit Endowment Assurances at reduced rates.
Educational Endowment Assurances.
Assurances for a short Term of Years and Partnership Assurances.

THE MICHELIN WHEEL





SIMPLE
SMART
STRONG
AND
INEXPENSIVE.

SPECIFY IT ON YOUR NEW CAR.

B. 1. 39

X-RAYS AND ELECTRO-MEDICINE

B.M.A. EXHIBITION, CAMBRIDGE.

A Word of Apology to our numerous Medical Friends.

We regret that owing to pressure of work in our Factory we have not been able to exhibit as usual at the Annual Meeting. Our Models, however, are becoming so well known as hardly to need the publicity afforded by an Exhibition.

We are still "busy as ever" manufacturing to the full capacity of our Factory, and the following are some Special Lines upon which we are concentrating at present, and of which we can give good deliveries:—

X-RAYS:

Complete Coil Outfits for Rapid and General Radiography.
The Cubicle System for Therapy.
The "Diascope" for Screening.
The Scott-Dean Couch and Compressor.
"Zenith" X-ray Tubes.

ELECTRO-MEDICINE:

The Wilson "Polystat."
The Modulator.
Galvanic and Faradic Wall Boards.
The "Leucos" Lamp, &c., &c.

Your enquiries will receive prompt attention and a personal visit to our Factory in London will be welcomed.

A. E. DEAN & CO.

Manufacturers of X-ray and Electro-medical Apparatus of the highest quality,

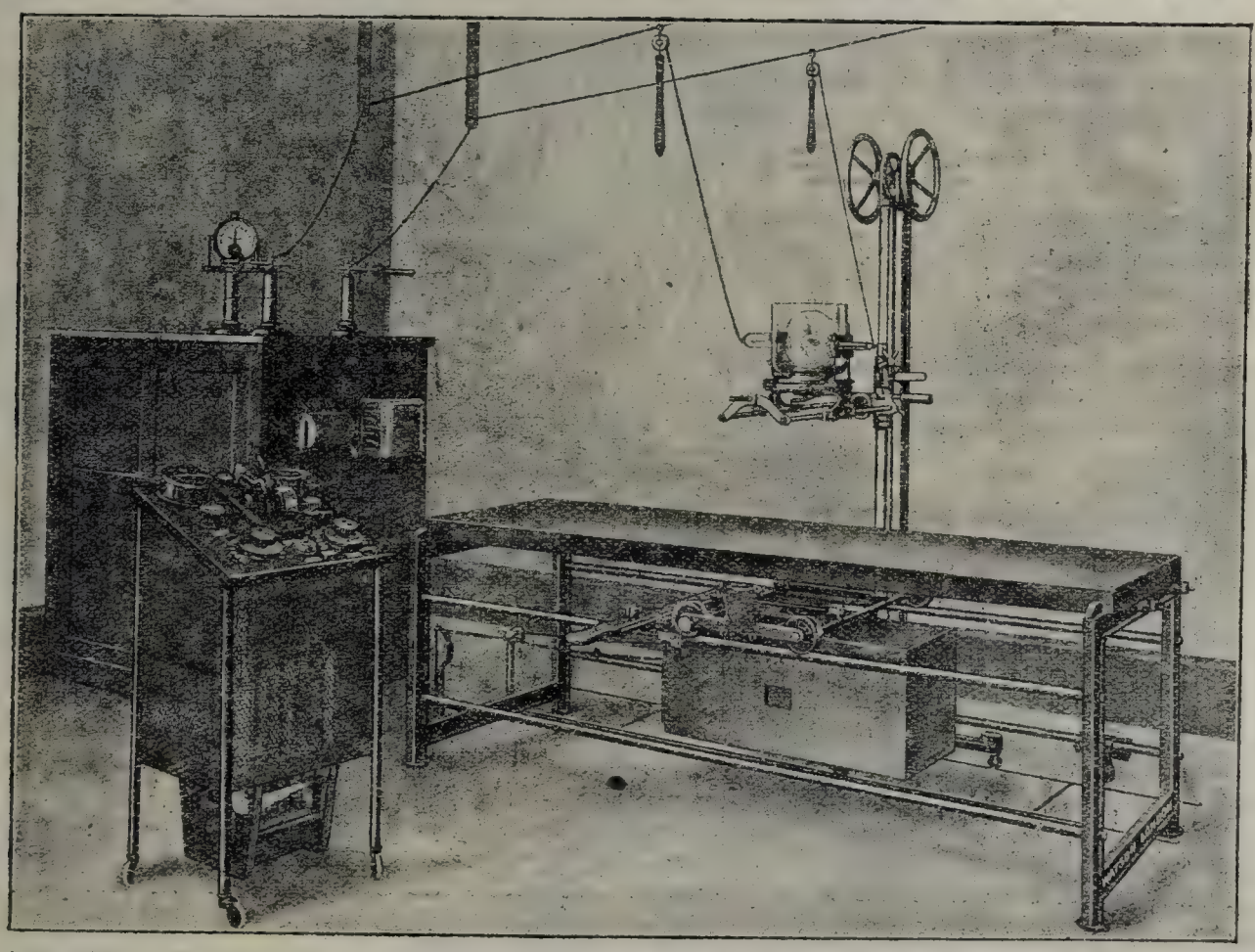
LEIGH PLACE, BROOKE STREET, HOLBORN, LONDON, E.C. 1.

WATSON & SONS
(ELECTRO-MEDICAL) LTD.

Estab. over 80 Years.

SUNIC HOUSE, PARKER STREET, KINGSWAY, LONDON, W.C. 2.

SUNIC



SUNIC

Unit comprising High-Tension Transformer Set 10 K.V.A., with Switchtable fitted with Auto-Transformer and Series Regulation Coolidge Heating Filament Control and Meter, shown in conjunction with "Sunic" Mark IV. Tube Stand and "Sunic" Mark I. Couch in combination.

IMPORTED AND TESTED ACCORDING TO BOARD OF TRADE REGULATIONS.





A Great Advance in Soap Chemistry

As a result of sixteen years of strenuous work in chemical research and its practical application, "Sapon" Soap—a British Invention, developed with British Capital—has been perfected.

It is the greatest advance in the chemistry of Soap since that article was first manufactured.

Ordinary Soap consists of Fat deglycerined and saponified with Caustic Soda.

"SAPON" SOAP

is derived from Carbohydrates, which, when treated by the Company's patented process, yield Ammonia, Methylamine, and Trimethylamine. These Nitrogenous compounds are highly emulsifying agents, and do **NOT** combine with Lime or Magnesia Salts in water, as all fat-derived soaps do. Hence, no "scum" or insoluble lime soap is formed, even in the hardest water when "Sapon" is used.

A Harley Street Doctor writes:—

"I have found your 'Sapon' Soap most effective in clearing a muddy greasy skin. In one particular case in which I advised its use the result was very striking—a healthy pink complexion replacing a dull muddy one."

Skin Diseases.

The Amines and Amido bodies in "Sapon" Soap are readily soluble in water. They are germicidal but non-injurious, owing to their colloid nature. Besides their efficiency as cleansers, they have a wonderfully sedative action. This action is intensified by the addition of 10% of saponified Birch Root Tar in

"SAPON" RUSSIAN TAR SOAP.

A member of the Medical Profession writes:—

"I find your Russian Tar Soap gives wonderful results in irritable skin diseases, such as Scabies, Eczema, Pruritus, Insect Bites, Acne, etc."

A medical officer of a large Public Institution writes:—

"I find your Soap of the greatest use in keeping off fleas from my own body, which is a happy hunting field for their onslaughts."

The following is the best method of application: Moisten the Soap, rub it on the part affected and allow it to dry.

Free Samples will be sent to any member of the Medical Profession on receipt of a postcard to:—

SAPON SOAPS, LIMITED, Sapon House, London Bridge, E C. 4.

Valentine's Meat-Juice

In the **Treatment** of **Weak Babies**, in the **Gastric** and **Enteric Troubles** of **Infants** and in the **Wasting** and **Febrile Diseases** of **Children**, the **Ease** of **Assimilation** and **Power** of **Valentine's Meat-Juice** to **Sustain** and **Strengthen** has been **Demonstrated** in

Hospitals for Children.

The quickness and power with which **Valentine's Meat-Juice** acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

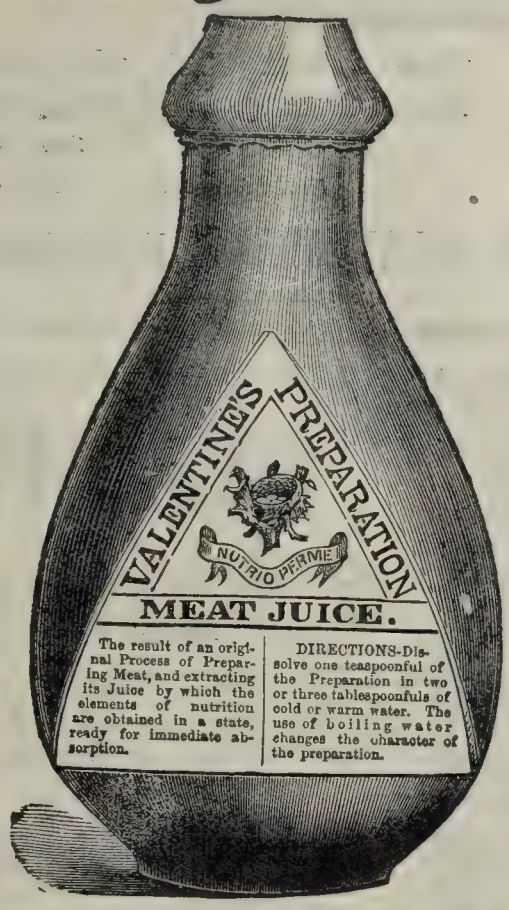
Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.

B 110



'DIGALEN'
'OMNOPON'
'SEDOBROL'
ETC.

MEDICAL EXHIBITION. CAMBRIDGE. JUNE 1920.

PLEASE VISIT STAND No 47

For 'ROCHE' Products

THE HOFFMANN LA ROCHE CHEMICAL WORKS LTD.
7 & 8, IDOL LANE, LONDON, E.C.3.



MARTINDALE'S
AMYL NITRITE CAPSULES.

3/- per Box.

The promptest physiological remedy for use in Angina Pectoris, Hæmorrhage, Hæmoptysis, threatened Fainting and Collapse, and as an Antidote to Chloroform.

Full Literature on request. *Please specify MARTINDALE'S—the Original make.*

W. MARTINDALE, Manufacturing Chemist, **10, New Cavendish Street, London, W. 1.**

Telegraphic Address.—"Martindale," Chemist, Wesdo, London. *Telephone Nos.*—Gerrard 4688; Paddington 1797.

GOLD MEDAL International Congress of Medicine, London, 1913.



"MIST. PEPSINÆ CO. c. BISMUTHO"
(HEWLETT'S).

COMPOSITION.—Pepsin, Bismuth, Sol. Opii Purif., Hydrocyanic Acid (P.B.), Tinct. Nux Vomica, &c.

An elegant preparation, miscible with water, invaluable in Gastric Catarrh, Pyrosis, Carcinoma, and all forms of atonic and Irritative Dyspepsia.

DOSE: HALF TO ONE FLUID DRACHM DILUTED.

Packed, for dispensing only, in 10, 22, 40, and 90-oz. Bottles.
Physicians will please write "Mist. Pepsinæ Comp. (Hewlett's)."

INTRODUCED AND PREPARED ONLY BY

C. J. HEWLETT & SON, Ltd., Wholesale & Export Druggists, 35 to 42, Charlotte Street,
LONDON, E.C.

The Standard Hæmatinic.
"BI-PALATINOIDS"
(No. 500)
OF NASCENT FERROUS CARBONATE.

"The employment of Bi-Palatinoids places the administration of exceedingly unstable compounds like ferrous carbonate, phosphate and arsenate, upon a sounder and more scientific basis."—**The Lancet.**

With Combinations,
"BI-PALATINOIDS"
e.g., Aloes, Arsenic, Cascara, Sodium Arsenate Strychnine, &c.

Samples and Literature on application to

OPPENHEIMER, SON & CO., Limited,
179, QUEEN VICTORIA STREET, LONDON, E.C. 4.
ENTIRELY BRITISH HOUSE SINCE FOUNDATION IN 1891.



CONSTANTLY RECOMMENDED by the FACULTY

Children Fed on CHAPMAN'S Entire Wheat Food grow strong and big-boned. They are as full of natural life as kittens.

Wheat contains everything we require as food, but it must be all of the Wheat for much of the goodness is in the husk.

CHAPMAN'S Food is a substitute for milk and far safer.

CHAPMAN'S ENTIRE WHEAT FOOD

BY APPOINTMENT *TO H.M. THE KING.*

To Enlighten: Not to Frighten

In the final report of the Committee (appointed by the Government) on the production and distribution of milk, under the heading "PRESENT STATE OF MILK SUPPLY," a table is given showing the excessive bacteria content of some of the milk supplied to Mothers attending Infant Welfare Centres:

Mothers! Nurse Your Babies; if you can't—get

NESTLÉ'S MILK

the Milk that's always Pure.

Send for NESTLÉ'S BABY BOOK post free on application to

NESTLÉ'S 6—8, EASTCHEAP, LONDON, E.C. 3.

VITAMINES

FOR

MALNUTRITION
UNDER-DEVELOPMENT
CONVALESCENCE.

VITMAR, the new scientific food-adjunct for children, has been proved by exhaustive biological tests to contain the three principal vitamines.

VITMAR contains no drugs, but consists of pure highly nutritious foods, carefully blended by a difficult and delicate process, to preserve the vitamines. VITMAR IS NOT A SUBSTITUTE FOR FRUIT JUICE.

SOLD IN JARS BY ALL CHEMISTS. FULL PARTICULARS TO DOCTORS ON APPLICATION.

Manufactured only by

CALLARD & CO. ***Food Specialists,***

CALLARD, STEWART & WATT, Ltd.

74, Regent Street, London, W.



FRONT VIEW

THERE IS NO IMITATION OF THE CURTIS ABDOMINAL SUPPORT.

The ***original*** and ***only*** satisfactory support recommended by leading Physicians and Surgeons, and prescribed by them in practice for the past 10 years.

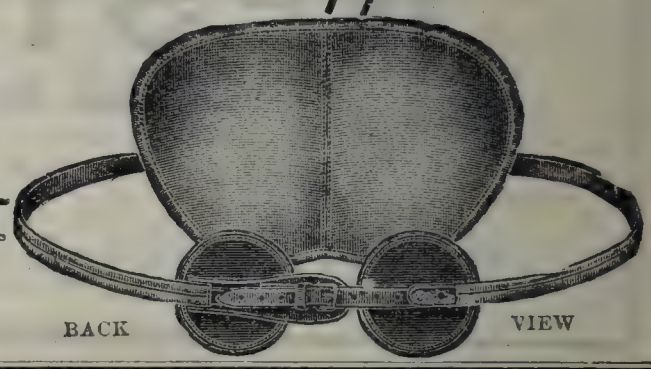
Write for List to—

WALTON & CURTIS, Ltd.,

8, Old Cavendish Street, W.

Directors:
H. E. CURTIS.
L. V. CURTIS.

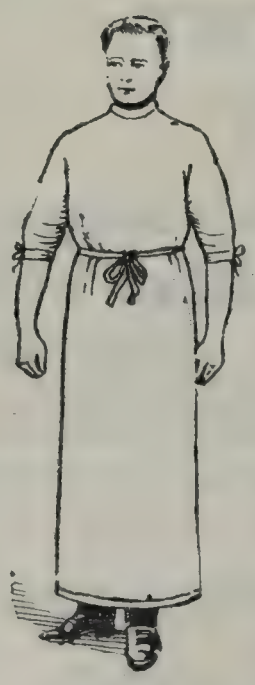
Telephone: Mayfair 1608.
Telegrams: Mayfair 1608.



BACK VIEW

Maw's Sterilizable Aprons

FOR GENERAL SURGERY AND MIDWIFERY USE



HERE illustrated is an Operation Overall or Apron with half sleeves. It is strongly made of best quality white drill in three sizes. Washable and sterilizable. We cannot repeat when the present stock is exhausted.

Kindly state height and chest measurements when ordering.

Price 12/6 each; 35/- for three.



Telephone City 7
Pte. Branch Exchange

S·MAW·SON·& SONS·LTD Surgical Instrument Manufacturers.

DESK H, 7/12 ALDERSGATE ST LONDON·E·C·1·ENGLAND.

British Medical Association.

PARKE, DAVIS & CO.,

ARE EXHIBITING AT CAMBRIDGE

Biological Products

AND

Pharmaceutical Preparations,

INCLUDING

SERUMS, notably Antidysenteric Serum and Hemoplastin (Hæmostatic Serum).

BACTERIAL VACCINES (St. Mary's Hospital), notably Anti-Rheumatic Vaccine, Diphtheria Bacillus Vaccine, Mixed Gonorrhœa Vaccine, Pollacine (*Pollen Vaccine*) and the Hay Fever Diagnostic Test.

PHYLACOGENS, notably Pneumonia Phylacogen.

HORMONE PREPARATIONS, notably Mammary Gland Substance Tablets, Orchic (Testicular) Substance Tablets, Tetraglandular Tablets, Thyroprotein.

A NEW LOCAL ANÆSTHETIC, Apothesine, which is less toxic than cocaine.

They are also Showing a Selection of MEDICAL EQUIPMENTS, HYPODERMIC CASES, &c.

Medical men attending the B.M.A. meeting are cordially invited to visit

STAND No. 12.

PARKE, DAVIS & CO., 50, BEAK STREET, REGENT STREET, **LONDON, W. 1.**

Telephone REGENT, 3260. Telegraphic Address: "CASCARA, LONDON."

FELLOWS' COMPOUND SYRUP OF HYPOPHOSPHITES

SYR. HYPOPHOS. COMP. FELLOWS

Fellows' Syrupus Hypophosphitum

A concentrated mineral pabulum, possessing unrivalled therapeutic propertics in all Wasting Diseases, which have been termed "Demineralizations" by modern clinicians.

Supplies the organism with those indispensable mineral elements:
Manganese Potassium Sodium Calcium Iron
together with the dynamic action of quinine and strychnine.

"THE STANDARD TONIC."

Samples and Literature upon request.

FELLOWS MEDICAL MANUFACTURING CO., Inc.
26 Christopher Street
New York

"Semprolin" *(Trade Mark)*

"SEMPROLIN" Emulsion
WITH
Phenolphthalein.

This combination of Liquid Paraffin with Phenolphthalein suggested by an eminent London consultant has proved peculiarly effective. It forms an ideal laxative for delicate women, children, or convalescents. Exceptionally successful in the treatment of mucous colitis.

THE W B SEMPER FIDELIS Co Ltd

Emulsion

Containing 60% of the Purest High Viscosity Liquid Paraffin.

ISSUED as Plain Emulsion; and also in 12 combinations, *e.g.*, Iron, Bismuth and Pepsin, Salol.

In 8 oz. and 16 oz. Bottles.
Samples Free to Medical Men.

THE Wm. BROWNING CO., Ltd.,
Albert Works, Park St., N.W. 1.



Liquor Dyspepticus Sedativus — Boots —

(BISMUTH AND PEPSIN).

MORPHIN. HYDROCHLOR.	... ...	gr.	1/32
PEPSIN		gr.	i.
TR. NUCIS. VOM.		m.	viiss.
ACID HYDROCYAN. DIL.		m.	ii.
SPT. CHLOROFORMI.		m.	v.
LIQ. BISMUTHI	ad	m.	xxx.
Dose ...	3 ss. ex aqua.		

This product, distinctively coloured, presents a convenient concentrated and stable preparation for rapid dispensing, which on dilution forms a bright elegant mixture.

1 lb., 6/3 ... 5 lb., 26/3 (including bottles).

Also prepared omitting the Pepsin or the Morphine.

□ □

Linctus Heroini, Pini et Terpini Hydratis

— Boots —

TERPIN. HYDRAT.		gr.	1
HEROIN. HYDROCHLOR.		gr.	1/16
OL. PINI.		q.s.	
VEHIC.	ad	3	1
Dose ...	3 i.		

A palatable and most agreeable preparation, the highly sedative effects of which are not marred by untoward reactions. Special care has been taken to ensure the attainment of the full therapeutic contents in stable solution.

1 lb. 8/6 ... 6 lb. 46/3 (including bottles).

These preparations are for use of the Medical Profession only.

Prepared under the strictest analytical control by qualified pharmacists only.

GUARANTEE.

BOOTS PURE DRUG COMPANY LIMITED, guarantee these preparations to be in conformity with the declaration of formula on the label.

Supplies of Boots Specialities may be obtained through any of the 600 Branches of Boots the Chemists.

BOOTS PURE DRUG COMPANY LIMITED,

MANUFACTURING CHEMISTS AND MAKERS OF FINE CHEMICALS. **NOTTINGHAM.**

SIR JESSE BOOT, Managing Director.

Corpus Luteum "Armour"

can always be relied upon.

THE particular conditions for which Corpus Luteum (Armour) will be found serviceable, and to which its use should be limited, are (1) functional amenorrhœa or scanty menstruation; (2) dysmenorrhœa of ovarian origin; (3) manifestations of physiologic or artificial menopause, such as nervous or congestive disturbances or reflex origin; (4) "neurasthenic" symptoms during menstral life; (5) where the function of one ovary is impaired, or one ovary has been removed, and the compensatory activity of the other is insufficient; (6) hyperemesis in the early months of pregnancy.

Always Specify—CORPUS LUTEUM "Armour."

Litera ure on the Endocrine Gland Preparations on request.

ARMOUR & COMPANY LTD.

QUEEN'S HOUSE, KINGSWAY, LONDON, W.C. 2.

Armour's LABORATORY PRODUCTS

We offer:

Desiccated Powder (1 oz. bottles) 1 grain represents 5 grains fresh substance.

Tablets, 5 grains (in bottles of 100)

Capsules, 2 grains (in bottles of 50)

Capsules, 5 grains (in bottles of 50)

SAVARESSE'S MEMBRANOUS CAPSULES



NOT MADE OF GELATINE

NO NAUSEA
NO REPEATING

Savaresse's Capsules afford the best means of administering Ol. Santal Flav. The Oil is the finest quality distilled in our own Laboratories from Mysore Sandal Wood and the membranous envelope in which the oil is contained prevents the Capsule bursting until it reaches the digestive juices of the intestines. Nauseous eructations are thereby prevented.

In tins containing 22 Capsules each 10 drops. **Free Sample on request.**

EVANS SONS LESCHER & WEBB Limited,

56, Hanover Street, Liverpool. 60, Bartholomew Close, London, E.C. 1.

Glykeron and Glyco-Heroin

ARE SYNONYMOUS APPELLATIONS AND ARE NOW KNOWN AS SUCH TO ALL DISPENSING PHARMACISTS

THESE designations may now be used interchangeably by the physician when prescribing the preparation originally known only as Glyco-Heroin (Smith).

As a safeguard against having worthless imitations of the preparation dispensed, it is suggested that the physician use the name

GLYKERON

which is non-descriptive and more distinctive, when prescribing GLYCO-HEROIN (SMITH) for **Cough, Asthma, Phthisis, Pneumonia, Bronchitis, Laryngitis, Whooping-Cough and kindred affections of the respiratory system.**

DOSE — The adult dose is one teaspoonful every two hours, or at longer intervals as the individual case requires.

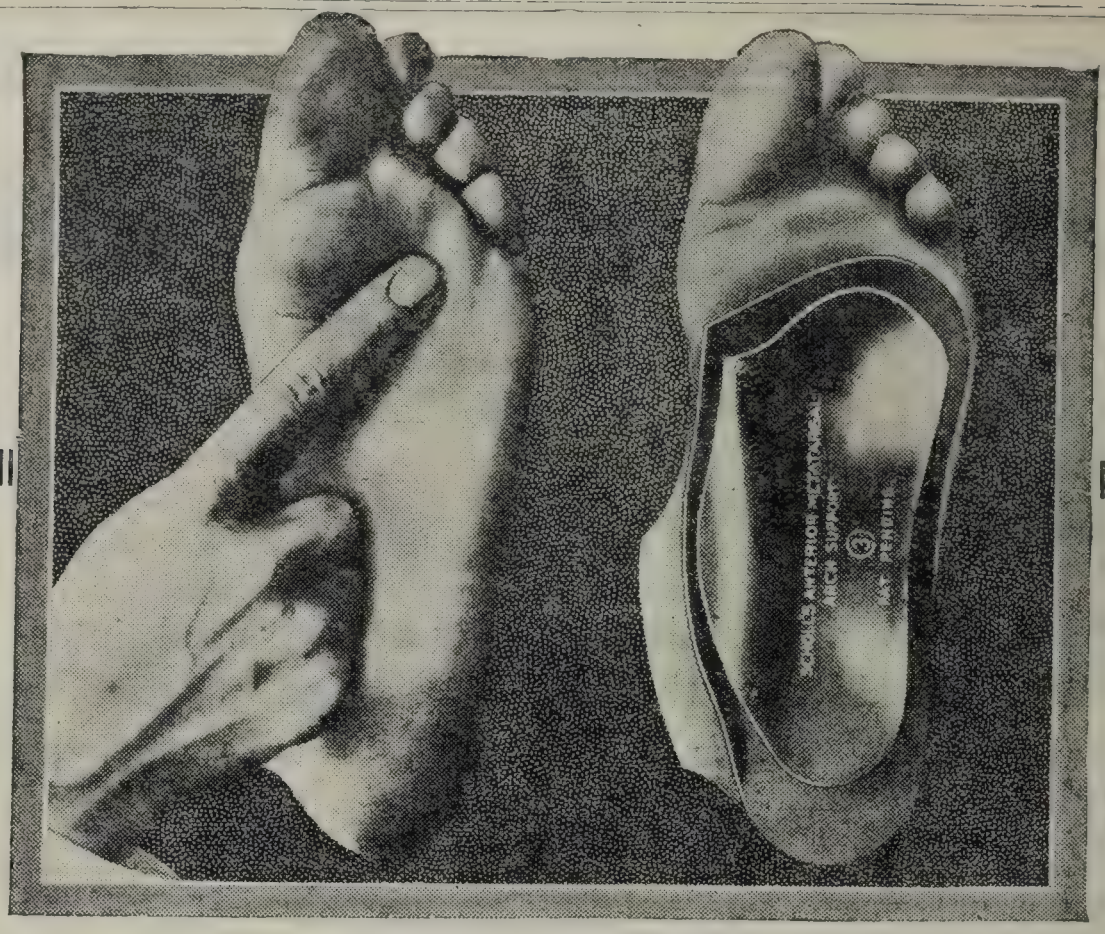
For children of ten years or more, the dose is from one-quarter to one-half teaspoonful; for children of three years or more, five to ten drops.

The composition of GLYCO-HEROIN (SMITH) has not been modified in the slightest degree.

MARTIN H. SMITH COMPANY

New York, U.S.A.

SOLE BRITISH AGENTS:
T. CHRISTY & CO., OLD SWAN LANE, LONDON, E.C. 4.



The Treatment of Foot Ailments.

The value of SCHOLL'S Foot Comfort Appliances is gaining increasing recognition among medical men. SCHOLL'S Appliances are anatomically correct, and afford marked relief from the outset—the patient's confidence is immediately gained, thus ensuring regular wear until normal conditions are fully restored,

SCHOLL'S
Corrective Foot Appliances

give instant relief, and ultimately permanent correction in cases of Metatarsalgia, Hallux Valgus, Pes Cavus, Bunions, Corns—every form of acquired foot trouble.

There are SCHOLL Dealers in every locality, specially trained in Foot Anatomy so as to be able to carry out your instructions with intelligence and exactness.

Name of nearest SCHOLL Dealer and full particulars of SCHOLL Appliances sent on request

THE SCHOLL Mfg. Co., Ltd., 1-2a, Giltspur Street, London, E.C. 1.

Distributing Centres in Every Country in the World.



SCHOLL'S BUNION REDUCER

protects the sensitive inflamed area from pressure. Reduces the enlargement by absorption, and stops shoe bulging. Rights and Lefts in men's and women's sizes. Each **2/6**



SCHOLL'S TOE-FLEX

straightens distorted, crooked toes, restores normal muscular action and corrects bunions. Worn comfortably in ordinary size shoes. Each **2/-**



SCHOLL'S FOOT-EAZER

affords comfort and relief in a moment to tired aching feet, weak arches, flat feet, etc. Worn comfortably in ordinary size shoes. Price per pair **10/6**

THE ORIGINAL COLLOIDAL PREPARATIONS FOR MEDICINAL USE.

CROOKES'

COLLOSOLS

Collosols are pure and stable colloidal solutions, isotonic and isomorphic with the elements of the body.

Collosols are tested by ultra-microscopic, bacteriological, and clinical experiment.

Collosol Iodine

containing Iodine in its most active condition. In all forms it is stainless, non-irritant, and avoids the disadvantages of Potassium Iodide and of Tincture of Iodine. It is prepared as:—1. Aqueous: 2. Pasta; 3. Oil; 4. Ointment. Indications: **Tuberculosis, Syphilis, Eczema** and other **Skin** affections, and **Chilblains.**

Collosol Argentum.

A non-toxic and non-irritant colloidal silver germicide and antiseptic, for general use, by topical application, injection and internal administration. Indications: Septic and infective **Wounds, Influenza, Tonsillitis, Hæmorrhoids, Cystitis, Colitis, Gonorrhœa, Diarrhœa, Bacillary Dysentery,** and affections of the **Throat, Nose, Ear** and **Eye.**

Collosol Cuprum.

A colloidal suspension of Copper, for intramuscular injection. For use in cases of inoperable Carcinoma, etc.

Collosol Manganese.

A colloidal suspension of Manganese for intramuscular injection, of proved value in septic conditions of the blood. Indications: **Furunculosis, Acne, Seborrhœic Eczema, Quinsy** and **Gonorrhœa.** (Vide *British Medical Journal*, April 20th, July 20th, August 17th and October 5th, 1918.)

Collosol Ferrum.

Collosol Iron is of established efficacy in Anæmia and Chlorosis. Given orally, colloidal iron is rapidly diffused in the stomach, and a large proportion of it is readily absorbed by the amino-acids formed in the process of digestion, and so hæmoglobin is synthetised.

Collosol Sulphur.

A colloidal sulphur suspension for internal administration and for use as baths. In this form taken internally the sulphur is entirely absorbed and avoids intestinal irritation.

Collosol Ferromalt.

A combination of Pure Malt extract with Colloidal Iron, rich in protein, diastase and vitamines—the essentials for perfect carbohydrate metabolism. In this colloidal suspension Iron does not cause constipation or digestive troubles.

Collosol Ferromalt with Hypophosphites.

Collosol Ferromalt with Glycerophosphates.

Collosol Selenium.

A Colloidal suspension of Selenium, for intramuscular injection. For use in cases of inoperable Carcinoma, &c. (Vide *British Medical Journal*, Oct. 11th, 1919, p. 463.)

THE CROOKES LABORATORIES,

British Colloids Limited,

22, CHENIES STREET, TOTTENHAM COURT ROAD, W.C. 1.

CORYTON'S

Telephone: MUSEUM 3663 and 3697.

The Original Brand of
DETOXICATED VACCINES

(PREPARED BY GENATOSAN LTD.)

IMPORTANT NOTICE.

IT is most essential, to ensure successful treatment, to employ a vaccine which is *actually detoxicated.* All Vaccines sent out by us have been detoxicated personally by the discoverer of the process.

A goodly number of the leading Venereal Experts in London, Edinburgh, Brussels, &c., are using our Detoxicated Gonococcal Vaccine, and one of them, writing in the *Practitioner*, Jan., 1920, claims that it is "the best obtainable," and marks an "extremely important advance in vaccine therapy."

Since the discovery of the detoxication of the Gonococcus, the process has been applied with equal success to most of the other pathogenic organisms.

Detoxicated Vaccines (Polyvalent) are now prepared by us for:

1—Influenza and Pneumonia.

2—Common Colds and Catarrhs,
e.g. Coryza and Bronchitis, etc.

3—Gonococcus Infections.
(A) Pure Gonococcal Vaccine for acute Gonorrhœa, Gonorrhœal Rheumatism and Epididymitis.
(B) Gonococcus + Secondary Organisms, for Gleet, Prostatitis and other chronic Gonorrhœal Infections.

4—Staphylococcus Infections,
e.g. Acne, Furunculosis, Boils, Abscesses, Osteomyelitis, etc.

5—Streptococcus Infections.
Abscesses, Septicæmia, Puerperal Fever, Erysipelas, Rheumatism and Arthritic affections, Pyorrhœa, and Tonsillitis, etc.

6—Bacillus Coli Infections,
e.g. Cystitis, Pyelitis and Bacilluria, Colitis, etc.

7—Tuberculosis.
Limited quantities of Detoxicated Tubercle Bacillus are now available,

8—Cerebro-spinal Meningitis.

These vaccines can be given with safety not only for prophylactic, but also for curative purposes. Their non-toxicity renders them *specially suitable* for administration during the course of an *acute infection.*

Cure Tests for Gonorrhœa.

PROVOCATIVE VACCINE AND ANTIGEN.

We are now able to supply a special form of non-toxic gonococcal vaccine, which is not only of therapeutic value, but which also acts as a powerful provocative test for cure.

In addition we supply a superior form of gonococcal antigen for use in the complement fixation test.

Particulars may be obtained on application to

GENATOSAN LIMITED (British Purchasers of The Sanatogen Company)

12, Chenies Street, London, W.C. 1. (Chairman: The Viscountess Rhondda).

PIONEERS AND EMPIRE BUILDERS: No. 55
SECOND PERIOD, 500,000 *(speculative)* to circa 8000 B.C.

Implicit Confidence can be placed in

TRADE MARK **'WELLCOME'** BRAND

Sera and Vaccines

For Prophylaxis and Treatment

'WELLCOME' Brand	Concentrated Diphtheria Antitoxin
,,	Diphtheria Antitoxic Serum
,,	Anti-streptococcus ,,
,,	Anti-colon Bacillus ,,
,,	Anti-meningococcus ,,
,,	Anti-dysentery ,,
,,	Anti-typhoid ,,
'WELLCOME' Brand	Coryza Vaccine
,,	Gonococcus ,,
,,	Influenza ,,
,,	Pneumococcus ,,
,,	Staphylococcus ,,
,,	Streptococcus ,,

They are reliable because they are prepared with scientific care and precaution, under ideal conditions and expert supervision.

A comprehensive series is issued under the 'WELLCOME' Brand.

A few examples worthy of note are here shown.

See also Wellcome's Medical Diary

Prepared at the Wellcome Physiological Laboratory

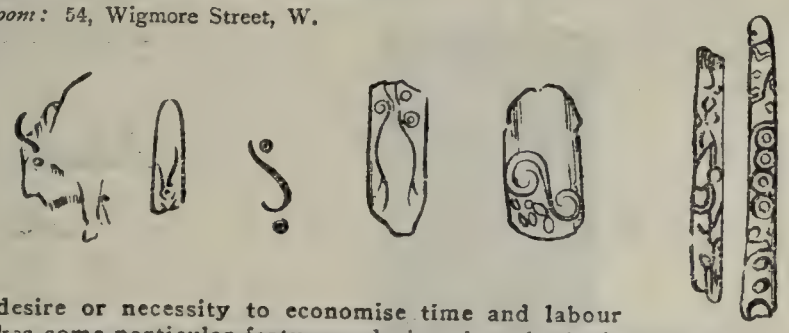
Distributed by

BURROUGHS WELLCOME & CO., LONDON
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN
SHANGHAI BUENOS AIRES BOMBAY

All communications intended for the Head Office should be addressed to SNOW HILL BUILDINGS, LONDON, E.C. 1

London Exhibition Room: 54, Wigmore Street, W.

LATE PALAEOLITHIC PIONEER WORK IN ORNAMENTAL DESIGN: EVOLUTION OF THE SPIRAL.—In the primitive arts of all time, ornament is derived in great part from conventionalised imitations of drawings of animals. This is no less true of the ornamental art of the Reindeer Age than of the designs with which the Australians, for example, adorn their shields and clubs. The artist always tends to take as a motive for his design the animals with which he is mostly pre-occupied. Limitations of space and the desire or necessity to economise time and labour prevent his representing the whole animal; he therefore takes some particular feature and gives it a rhythmic arrangement in a series. The bison and the ox provided the Magdalenian artist with the elements he needed to produce one of the oldest ornamental forms—the spiral—whose evolution was formerly attributed to the ancient Egyptians. With the aid of the accompanying illustrations the designs may be traced back to the horn and the eye of the bison. The ornamentation is taken from fragments of incised reindeer horn and bone; the two objects on the right, showing the application of the decoration, seem to have been pendants.



CULTURE PHASE: PALAEOLITHIC (Magdalenian Division)

COPYRIGHT

The VOICE OF EXPERIENCE approves

'Allenburys' Foods

	Fat	Casein	Albumen
Cow's Milk - - -	3·0	3·0	0·5
Human Milk - - -	3·5	1·0	1·2
The 'Allenburys' Milk Food No. 1 -	3·33	1·12	1·00
The 'Allenburys' Milk Food No. 2 -	3·06	1·0	0·81

"It is a fatal error to expect the milk of a foreign species to be immediately adapted to and utilized by the human infant; the differences between that of the woman and that of a lower animal would indicate, even when given to the newly born with normal functions, that we must wait until the delicate digestive and assimilative organs can make use of the material designed for a more vigorous animal."

—A Member of the English Speaking Conference on Infant Mortality.

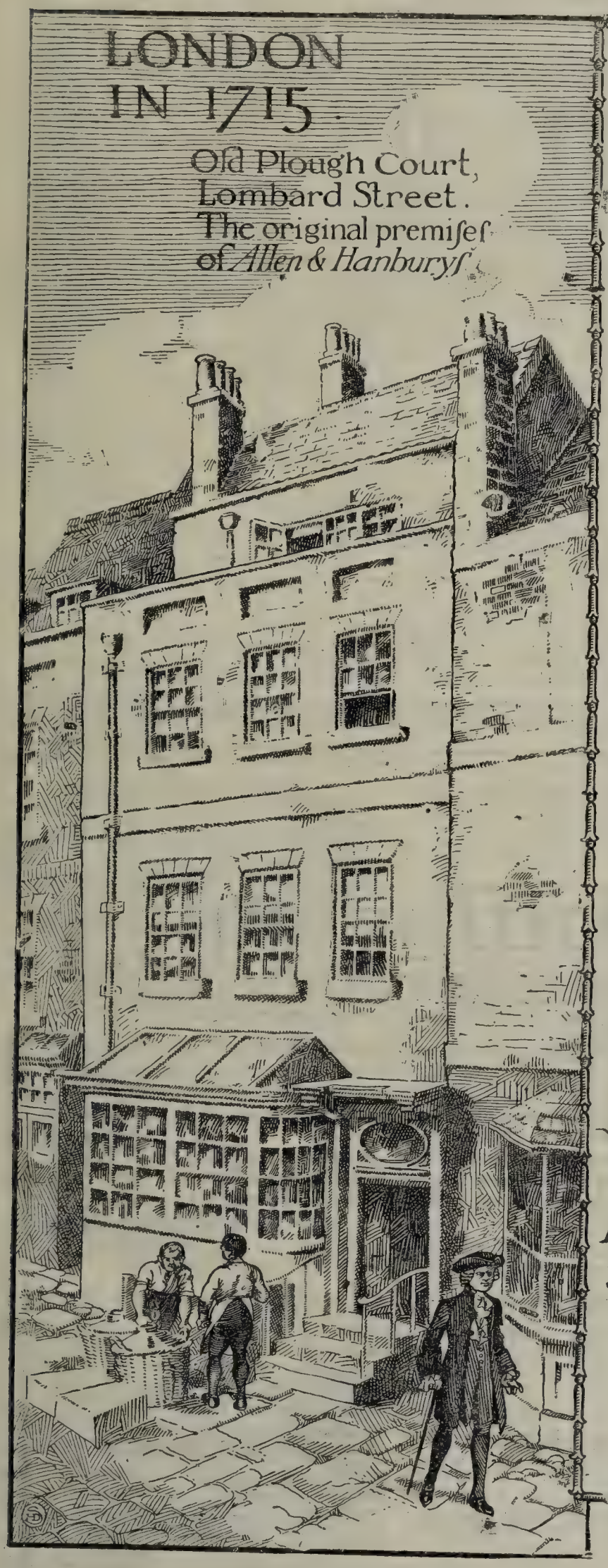
It follows that until such time as the digestion is developed the best food is that which approximates most closely in its composition to the maternal milk.



Allen & Hanburys Ltd., London.

City House: 37, LOMBARD STREET, E.C. 3

West End House: 7, VERE ST., W.1



May we have the pleasure of a visit from you at Stand N° 63 at the CAMBRIDGE EXHIBITION, June 29th to July 2nd

Allen & Hanburys Ltd
37, LOMBARD STREET, E.C.

The Symbol of Quality for 2 Centuries.

HOWARDS' Standard ETHER

for producing

ANÆSTHESIA.

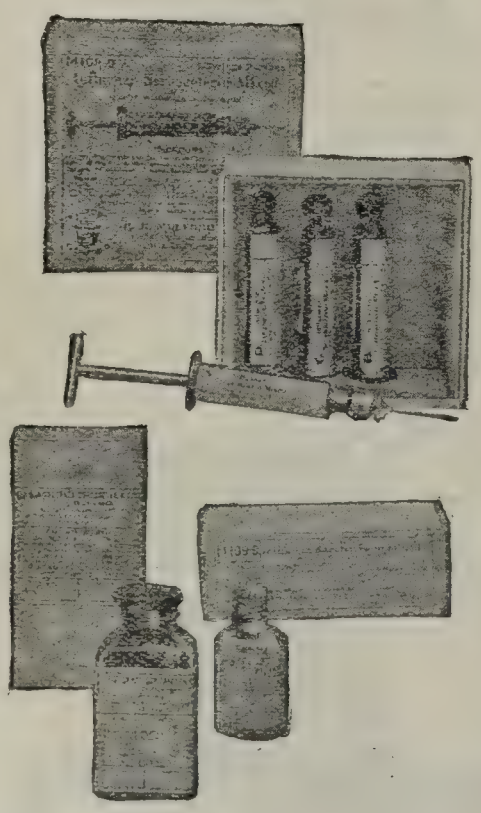
AS USED BY THE LEADING HOSPITALS & INSTITUTIONS. HOWARDS & SONS have supplied the London Hospital for many years past with all the Anæsthetic Ether which has been required, and it has given entire satisfaction during the whole of the period. ¶ It was from Howards that the Army Medical Department drew a very large proportion of their supplies of Anæsthetic Ether throughout the War.

ORDER THROUGH YOUR WHOLESALER

1-lb. ½-lb. ¼-lb. patent grip bottles

MANUFACTURED BY HOWARDS & SONS LTD
ILFORD (Estab. 1797) LONDON

Makers of Howards' Quinine, Aspirin Tablets, Calomel, Pure Epsom Salts, Sodii Bicarb, etc



Always specify "Mulford" on your orders and prescriptions.

Influenza

The experience of physicians who have used Mulford Influenza Serobacterin Mixed, in industrial institutions and private practice, has confirmed their belief in its efficiency, both as a prophylactic and therapeutic agent.

The formula of Mulford Influenza Serobacterin Mixed has been maintained unchanged since its introduction, in 1910, but in the meantime, particularly during the influenza epidemic of 1918, new strains of bacteria have been added, thus increasing its polyvalency and efficiency. These bacteria include:

Influenza Bacillus (Pfeiffer)	**Pneumococcus (types I, II, III, IV)**
Streptococcus (hemolytic and viridans)	**Micrococcus catarrhalis**
Staphylococcus (aureus and albus)	**Bacillus Friedlander**

Influenza Serobacterin Mixed is supplied as follows:
M 109-0—4-syringe . 1 immunization
M 109-9—5 mils . . 2 immunizations
M 109-4—20 mils . . 8 immunizations

As immunity is only relative, there is an advantage in four injections, beginning with a small initial dose, progressively increased, thus affording a more complete and lasting immunity.

Thomas Christy & Co., 4 Old Swan Lane, London

General Agents for Great Britain and Ireland

Literature and supplies may be obtained from

BOMBAY, INDIA—E. Stella & Co.
DURBAN, SOUTH AFRICA—Victor S. Welsford
SYDNEY, AUSTRALIA—Potter & Birks, Ltd.
TORONTO, CANADA—W. Lloyd Wood

H. K. Mulford Company

Manufacturing and Biological Chemists

Philadelphia, U. S. A.

42538

MULFORD LABORATORIES

"Nutresco" MAXIMUM NUTRESCO IN MINIMO Super-Foods

REGD. TRADE MARK.

THESE foods are all based upon the employment of digested BEEF—in a solid or fluid form—together with the other Food Constituents.

This result has only been possible owing to the means—long sought—of producing scientifically and in a wholesale manner the products of Meat in a state of ultimate and complete digestion, (albumoses and peptones.)

Some of the Company's Preparations are as follows:—

"CARNESCO," A Meat Extract. Guaranteed to contain at least 80% of the albumoses and peptones of fresh Beef.

"BOVESCO." A Beef Tea. Very palatable and nourishing by reason of its high percentage of digested Beef products. "Bovesco" is prepared Seasoned or Unseasoned.

"VINESCO." A really nutritive Wine composed of a high-class Port. Guaranteed to contain a proteid content of 3% soluble, tasteless, and fully-digested Beef. An ideal nutritive stimulant in Influenza and for Convalescent use.

NUTRESCO INVALID FOOD. Composed of semi-digested starches and soluble proteids of Beef and Milk. Very digestible, sustaining and palatable.

"NEURESCO." A tonic powder preparation, containing a high percentage of soluble proteid matter derived from Beef, eggs and milk. Rich in organic phosphorous and in the vitamine principles.

"MALTESCO Nos. I, II, III." An excellent Malt Extract of high diastatic power, containing additions of the principles of digested Beef in varying proportions. Maltesco III has also an addition of 15% Cod Liver Oil.

A special Convalescent MALTESCO COURSE is put up by the Company consisting of four 1-lb. jars graduated so as to contain increasing proportions of their fat and proteid contents. This "COURSE" has been found of especial value in ensuring a progressive and sustained treatment leading to a well established convalescence. Very palatable.

"SYRESCO." A Syrup of Peptones containing the fully-digested Beef-principles in a fluid and palatable form.

NUTRESCO CHOCOLATE, CARNESCO CARAMELS, NUTRESCO BISCUITS, ETC., ETC.

Nutresco Preparations are ideal for use in states of mal-nutrition or faulty assimilation whether organic or functional in origin, and most of these Preparations are equally suited to every-day use by reason of their palatability and highly nutritive qualities. Copies of Analytical Reports and Medical opinions on application. All packets, etc., contain the Company's guarantee as to composition and percentage.
World wide Patents. Gold medals, etc. Striking clinical testimony. Nutresco Preparations are obtainable from—

Messrs. J. BELL & CROYDEN, Ltd., 50, Wigmore St., London, W.1.

Samples forwarded gratis on receipt of Physicians card to—Manager, NUTRESCO HOUSE, DOLBEN STREET, BLACKFRIARS, S.E. 1.

NUTRESCO LTD., Johannesburg, London, Southampton.

"MAXIMUM IN MINIMO."

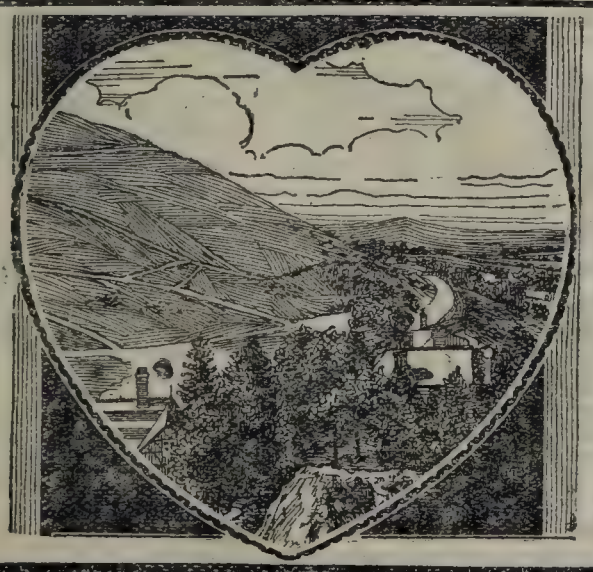
"SANITAS" FLUID

NATURE'S PURIFIER

Sprayed about rooms it oxygenates and vitalises the air.
Wounds and sores rapidly heal when dressed with it.
Invaluable as a Mouth-wash, Tooth-wash, and Gargle.
Delightful addition to the Bath Water.
Tender Feet immediately relieved by sponging.
Mosquito and other Insect Bites prevented by sponging with it.
Should be added to all water used for washing in infectious cases and cold sponging the skin in Fevers.
Stains on white goods removed by its use.
Sore throat quickly relieved by gargling or spraying.
A bottle should be placed in every lavatory (after inverting the patent cork for sprinkling. | Destroys all bad smells.

The "SANITAS" Co., Ltd., Limehouse, London, E. 14.

Disinfectant Manufactures by Appointment to H.M. THE KING.



"From the heart of the Malvern Hills."

BURROW'S MALVERN TABLE WATERS

(STILL and SPARKLING)

have been proved by analysis time after time to be the purest Table Waters obtainable. The charm of these waters can be summed up in these two words—purity and softness. Those who are in the habit of drinking hard water full of lime, iron or chalk, would indeed be delighted if they knew they could obtain at a moderate cost, a perfectly pure soft water for daily use.

Enquiries from the Medical Profession invited, and particulars of special terms for personal consumption will be forwarded on application to W. & J. BURROW, Ltd., THE SPRINGS, MALVERN, or from the Sales Management, 26, LONDON ST., PADDINGTON, LONDON, W. Telephone: Padd. 1810.

Distributing Centres: *London—Liverpool—Brighton—Southampton—Newcastle—Leeds.*





The

COOLIDGE X-Ray Tube

keeps X-Ray practice abreast of X-Ray theory

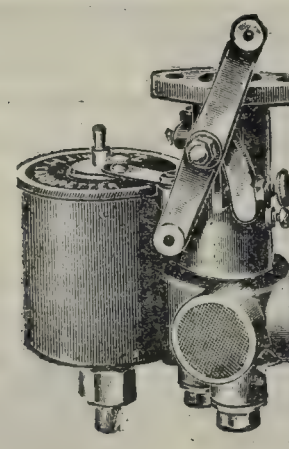
For Sale by all the Principal Dealers and by

The **British Thomson-Houston Co. Ltd**

(Owners of the British Patents.)

Mazda House, 77 Upper Thames Street, London E.C. 4

202



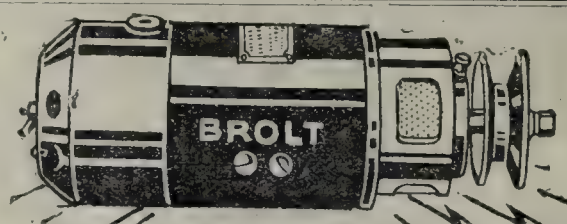
Just as good on benzol as on petrol

THE ZENITH Carburetter

Send for Booklet.

ZENITH CARBURETTER CO., Ltd., 40–42, Newman St., W.1. 'Phone: MUSEUM 4812—4813.

BROLT Electric Lighting and Starting Equipment adds a note of distinction to every car on which it is fitted, and it acts with unvarying speed and constancy, defying the most adverse weather conditions.



IT is not the cheapest Car Lighting and Starting Equipment, but on the basis of dependability and enduring service it is unquestionably the least expensive. You will have no Lighting and Starting troubles if your Car is BROLT Equipped.

Write for the "Book of the Brolt."

BROLT

ELECTRIC EQUIPMENT FOR MOTOR VEHICLES

Write for the "Book of the Brolt."

BROWN BROTHERS, LIMITED, Gt. Eastern Street, London, E.C. 2, and 15, Newman Street, W. 1,

with which is amalgamated JAMES THOMSON & SON, (Motor Factors), Ltd.

Branches: GLASGOW, MANCHESTER, EDINBURGH, BIRMINGHAM, CARDIFF, NEWCASTLE-ON-TYNE.

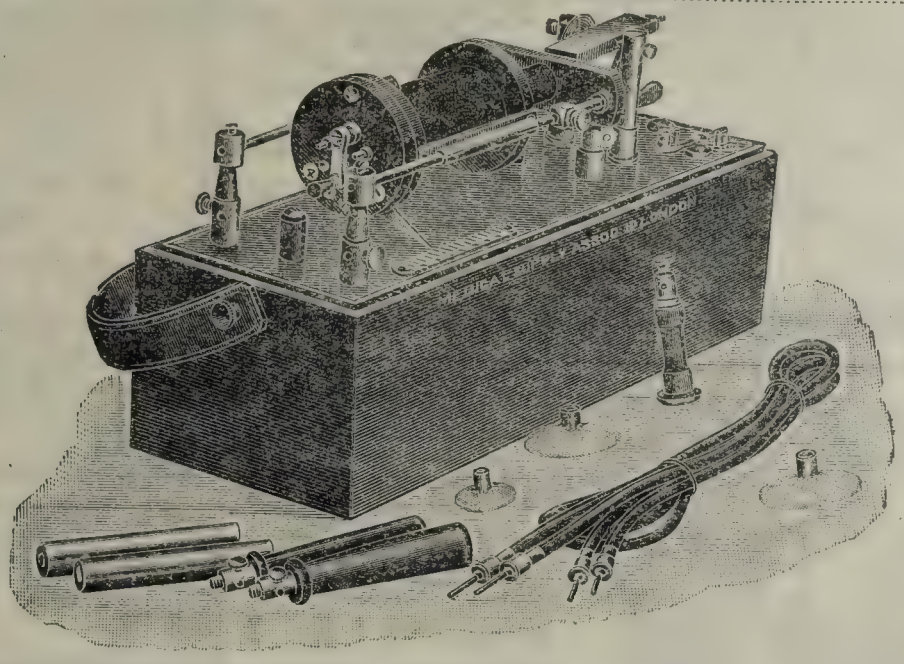
The NEW 'PHYSIO' FARADIC WAVE APPARATUS

THE LATEST AND BEST FARADIC APPARATUS ON THE WORLD'S MARKET.

LOGICAL.

THE GREAT WAR advanced Medical Electricity 100 years, therefore, Electro-therapeutics is the livest branch of medicine to day.

GET IT NOW and take your Diploma in July.



PRACTICAL.

60 to 3,000 electrical impulses per minute.
Weight 9 lbs.
Dimensions, 5" x 8" x 14"

Send for List No. 16 L.

Price
£8 : 13 : 3
complete.

Immediate Delivery.

"AN ELECTRICAL GYMNASIUM FOR INJURED AND WASTED MUSCLES."
"B_3" muscles can be drilled into "A^1" See page 1067, *Lancet*, December 13th, 1919.

The "PHYSIO" Faradic Wave Apparatus can be employed for local applications of Professor Bergonie's treatment, *i.e.* on localised groups of muscles only, as in cases of double chin, prolapsed abdomen, paresis, constipation, after treatment of wounded limbs, &c. The muscular contractions obtained with this apparatus are quite painless and of extraordinary magnitude. Four secondary windings are provided ranging from very thick to very thin gauge. The apparatus is portable and does not necessitate connection to electrical main. Surging currents can also be obtained as well as interrupted.
There is no part of the body too delicate to be treated with this apparatus.

THE "PHYSIO" FARADIC WAVE APPARATUS COVERS A RANGE OF TREATMENTS HITHERTO UNKNOWN.

It delivers to the Patient surging or interrupted currents at the control of the operator.

Awarded Grand Prix for Electrical Apparatus at the last International Medical Congress, the Actual Manufacturers.

THE LARGEST X-RAY AND ELECTRO-MEDICAL SHOWROOMS IN GREAT BRITAIN.

Dr.————, Physician-in-Charge Electro-Medical Department Royal————Hospital writes:—
"Please send us a further six 'Physio' Coils, those that we have in use already give entire satisfaction. Would it be possible for you to make us any allowance for the ordinary Faradic Coils we are now using."—M.D.

Dr.————, Physician-in-Charge Electrical Department St.————Hospital, writes as follows:—
"I have already informed you of the high opinion I have formed of your new 'Physio' Apparatus."

The MEDICAL SUPPLY ASSOCIATION, Ltd.
Head Office:—167/185, GRAY'S INN ROAD, LONDON, W.C. 1.
Branches:—Edinburgh, Glasgow, Dublin, Belfast, Cardiff, and Sheffield.

"NORVIC" CRÉPE BANDAGE (REGD)

SUPERIOR ENGLISH MANUFACTURE. FAST WOVEN EDGES.
Extremely elastic, but contains no rubber.

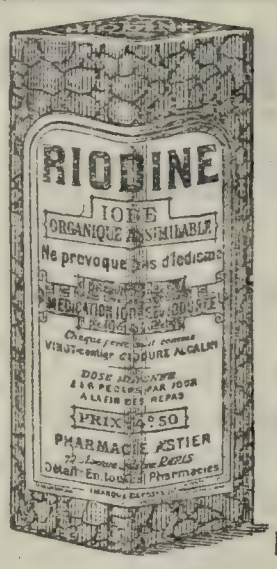
Invaluable for binding. Displaces rubber and elastic web. More durable and one-third the cost. The Norwich Crepe Bandages, containing wool, will provide warmth, and do not absorb grease readily. Self-clinging and self-adjusting. Perfectly cleansed, sterilised, resiliency entirely restored by washing in hot soft water (with addition of a little soap). The edges will not fray out nor ravel. Made and supplied to the leading wholesale houses, neatly wrapped in labelled packages. Commended by the medical and nursing professions.

Send for prices and samples to the Sole Manufacturers;—

The Norwich Crape Co. (1856) Ltd. (St. Augustine's Silk Mills), Norwich.
London Buyers can obtain Samples and Prices from Mr. T. EASTAWAY, 7, Wool Exchange, E.C.2.
Provisional Selling Agents: FREESE & MOON, LTD., 59, Bermondsey Street, London, S.E. 1.



"As fit as a fiddle."



RIODINE

$(C_{18}\ H_{33}\ O_3\ I\ H)_3\ C_3\ H_5$.

An organic derivative of Iodine.

Never gives rise to Iodism.

THERAPEUTICAL INDICATIONS.—Cardio-vascular and Chronic Respiratory Diseases, Scrofula, Lymphatism, Obesity, and in all cases requiring the use of either Iodine or Iodides, especially when these disagree with the patient.

ASTIER LABORATORIES: 45, Rue du Docteur Blanche, PARIS.

For Samples and Literature address:

WILCOX, JOZEAU & CO., 49, Haymarket, London, S.W.
Australasia: Messrs. Joubert & Joubert, 552, Flinders St., Melbourne.
Canada: Messrs. Rougier Bros., 63, Notre-Dame St. East, Montreal.
India: Messrs. Irigoin & Crotier, P.O. Box 130, Bombay.
India: Messrs. Irigoin & Crotier, 48, Radha Bazar St., Calcutta.



JOHN PLAYER & SONS

beg to draw the attention of connoisseurs to

"PERFECTOS" No. 2

Cigarettes. They are distinguished by a superb delicacy, the result of a matchless blend of the Finest Virginia Tobacco.

"PERFECTOS FINOS" are a larger Cigarette of the same quality.

"PERFECTOS" No. 2

VIRGINIA CIGARETTES.

10 - 10½d. 20 - 1/9 50 - 4/3 100 - 8/-

P244 **JOHN PLAYER & SONS, NOTTINGHAM.**

The Imperial Tobacco Co. (of Great Britain and Ireland), Ltd.



BELDAM

ALL BRITISH TYRES.

For Grip and Long Mileage.

THE principle which governs the Beldam V design of tyre achieves the following results:—

1. Prevention of punctures and skidding by the flexible Vs.
2. Resiliency and speed because the tread is deep and narrow.
3. Long life, as the rubber is thickest where the wear is greatest.

Write for booklet "Testimony" which gives the opinions of experienced users of Beldam Tyres.

The Beldam Tyre Co. (1920) Ltd.
Brentford - Middlesex.

Godbold

ALLIANCE DRUG AND CHEMICAL CO.

34, Leadenhall St., London, E.C. 3.

Established 1812—Reorganised 1902.

The Company specializes in providing the Medical profession at ***the lowest possible*** *inclusive prices (no charge for Bottles, &c., or Cases, &c.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved Formulæ as used by the London and other Hospitals.*

We append a few sample prices for guidance of the great saving that can be effected, and in many instances our Clients have written us stating we have saved them

40 per cent.

of their usual Yearly Account for Drugs. This saving is not reflected in the quality of our Goods, but is primarily due to not employing ***TRAVELLERS,*** *thus saving the purchaser the* ***cost*** *of the Travellers' Salaries and expenses which greatly enhance the prices the usual Drug Houses have to charge.*

NOTE.—Only Terms Net Cash with order without discount, or orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

PLEASE WRITE FOR NEW DETAILED PRICE LIST.
JUST PUBLISHED.

INFUSIONS CONCENTRATED.

1-7 in 6lb. Bottles.

Aurant @ 3/5 lb.	Gentian @ 1/8 lb.
Aurant Co. @ 3/5 lb.	Rhei @ 5/- lb.
Columbæ @ 1/11 lb.	Senegæ @ 7/2 lb.
Cinchon Acid @ 3/10 lb.	

Lassars Paste, 14 lbs. @ 1/10 lb.; 1 lb. @ 2/2 lb.
*Lin. Belladon. Meth., 5 lbs. @ 7/9 1 lb. @ 8/- lb.
*Liq. Æther Nitros (Sp. Ether Nit. Substitute 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/10 lb.
" " Aromat., 6 lbs. @ 1/2 lb.
Morph. Hydrochlor. P.B., 1 oz. @ 17/6 oz.
Petroleum Jelly Flav. P.B., 7 lbs. @ 1/- lb.

PILLS TASTELESS COATED.

Potass. Iodid. P.B., 3 lbs. @ 17/8 per lb.
Soda Sulphas Feathery cryst., 7 lbs. @ 3d. lb.
Sp. Æther Nit. P.B., 4½ lbs. at 6/- lb.; 1 lb. @ 6/4.
Sp. Amon. Aromat. P.B., 5 lbs. @ 4/11 lb.
Syr. Cascara Aromat. P.B., 6 lbs. @ 3/- lb.
" Glycero-Phosph. Co., 6 lbs @ 3/- lb.

SYRUPS.

Aurant, P.B., 7 lbs. @ 2/3 lb.
Easton B.P., 7 lbs. @ 2/7 lb.
Ferri Iodid. P.B., 7 lbs. @ 2/3 lb.
Ferri Phosph. Co., 7 lbs. @ 1/6 d. lb.
Hypophosph. Co., B.P.C., 7 lbs. @ 2/3 lb.
Pruni. Virg., B.P., 7 lbs. @ 1/11 lb.
Rhamni, 7 lbs. @ 2/ lb.
Rhei, P.B., 7 lbs. @ 2/1 lb.
Scillæ, P.B., 7 lbs. @ 1/5 lb.
Sennæ, P.B., 7 lbs. @ 1/11 lb.
Tolut, P.B., 7 lbs. at 1/8 lb.

TABLETS COMPRESSED.

	Per 1000
Blaud's (Sugar-Coated), gr. 5	5/6
Nitroglycerini, P.B., gr. 1-50th	5/9
Perchloride of Mercury (Coloured)	15/-
One Tablet in 1 pint of Water is equivalent to 1-1000.	
Thyroid Gland, gr. 5	15/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

*TINCTURES.

In 5-lb. Bottles.

	B.P.	Aquos.		B.P.	Aquos.
Belladon ...	5/9	2/4	Hyoscyam ...	5/9	2/6
Benzoin Co.	6/6	—	Nucis Vom.	4/8	1/9
Camph. Co.	4/4	2/1	Opii ...	6/-	4/8
Card. Co. ...	3/5	1/6	Quin. Amon.	5/-	—
Gentian Co.	3/4	1/7	Rhei Co. ...	3/10	2/4

Ung. Acid Boric P.B., 28 lb. pail @ 1/9 lb.
" Hydrarg. P.B., 7 lbs. @ 5/4 lb.
" " Ammon., 7 lbs. @ 2/11 lb.
" Ichtamolis B.P.C., 7 lbs. @ 3/6 lb.
" Zinci Ox., Benz, 28 lbs. @ 2/6 lb.

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted.

Osmos Reduces Excessive Blood Pressure and Arterial Tension.

Physicians who have prescribed Osmos Aperient Water give gratifying accounts of the marked relief it affords to plethoric and gouty patients. Owing to its diffusive action Osmos is a perfectly safe remedy. Its regular use keeps the circulatory system clear and promotes even pressure in the arteries. There is good reason to regard Osmos as a valuable means of combating premature arterial degeneration.

Osmos The Great British Aperient Water

TEST OSMOS CLINICALLY

A sample bottle will be sent gratis and post free to physicians on request.

Osmos, Crown Wharf, Hayes, Middlesex.

Supplied by all Chemists at 2/6 per bottle.

FOR INFANT FEEDING

As a diluent of cow's milk, whether Fresh, Dried or Condensed, there is nothing to equal BARLEY WATER made from

Robinson's "PATENT" Barley

Prepared from the choicest selected BARLEY and guaranteed to be free from adulteration.

For INVALIDS.

In cases of FEVER and other ailments where a cooling drink is needed, nothing soothes so much the parched thirst as BARLEY WATER made from ROBINSON'S "Patent" BARLEY (flavoured with lime juice or lemon squash if permitted by doctor).

NEARLY 100 YEARS REPUTATION. FIRST INTRODUCED 1823.

J. & J. COLMAN Ltd., NORWICH (with which is incorporated KEEN, ROBINSON & CO., Ltd., LONDON)

CALLARD'S DIABETIC FOODS

Are Always Reliable.

FREE SAMPLES TO DOCTORS.

CALLARD & CO.,

Food Specialists,

74, REGENT STREET, LONDON, W.1.

Dr. CHAUMIER'S CALF LYMPH

GLYCERINATED AND REINFORCED

THE CHEAPEST AND MOST ACTIVE LYMPH.

PREPARED UNDER THE

Most Minute Antiseptic Precautions.

Supplied in Tubes, sufficient to vaccinate 1 or 2 persons at **8d.** each. 10 persons at **1s. 3d.** per tube. 25 persons at **2s. 3d.** per tube. Collapsible tubes (40 vaccinations) **3s. 9d.** each.

Packing and postage 2d. in addition.

Agents for Great Britain

ROBERTS & CO.,

76, New Bond St., LONDON, W.



VENUS PENCILS

Obtainable in all 17 degrees
Blacklead 6B-9H, also copying
Of all Stationers.
'VENUS' 173/5. Lower Clapton Road, London, E.5.



OXYGEN PROPERLY ADMINISTERED by means of an EFFICIENTLY DESIGNED APPARATUS



might have saved
THOUSANDS OF LIVES during the recent epidemic.

We make such an apparatus embodying the latest designs and recommendations of an eminent authority on the subject.

IT IS EXTREMELY SIMPLE, EFFECTIVE & ECONOMICAL in use of OXYGEN

WITH OUR APPARATUS THERE IS NO WASTE OF OXYGEN.

All Oxygen Supplies.

SIEBE, GORMAN & CO., Ltd., 187, Westminster Bridge Road, London, S.E.1.
Specialists in Breathing Apparatus for Diving, Flying, Mountaineering, Mining, Work in Poison Gas, and for medical purposes.
Telegrams: "SIEBE, LAMB, LONDON." Telephone No. HOP 3401 (2 lines).

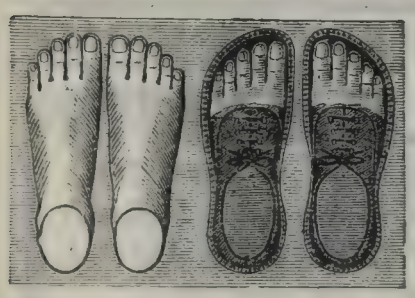
Because it is *very rich in Vitamines*, there is no tonic food more serviceable in wasting diseases.

"ROBOLEINE"

Delicate children say there is no tonic food that they find so palatable.

OPPENHEIMER, SON & CO., Limited,
179, QUEEN VICTORIA STREET, LONDON, E.C.4.
Entirely British House since Foundation in 1891.

Samples and Literature on application.



DOWIE & MARSHALL, LTD.,

BOOTMAKERS (EASY.)

455, WEST STRAND, CHARING CROSS, LONDON.

Registered at Stationer's Hall. (Established 1824.) ["G.P.O. Telephone No. 9015 Central."

The instructions of the Profession intelligently carried out in the Departments for LADIES, GENTLEMEN, and CHILDREN, and especial attention is given to the Treatment of Weak Ankles and Flat Feet.

Illustrated Catalogue Gratis, in which is instruction for Self-measurement.

DOWIE & MARSHALL, Ltd., 455, West Strand, Charing Cross, LONDON.

'K' BOOTS AND SHOES equally essential to the comfort and health of Practitioner and Patient.

MOTOR CAR INSURANCE
MOTOR CYCLE INSURANCE.

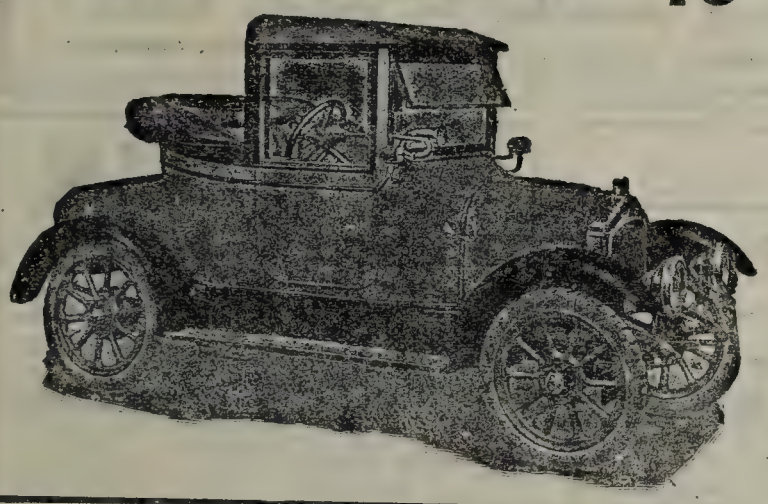
THE WHITE CROSS MOTOR CAR POLICY

THE "WHITE CROSS"
DOCTOR'S POLICY
SPECIAL BENEFITS for MEDICAL MEN ONLY.

APPROVED BY
THE MEDICAL INSURANCE AGENCY.

Full Particulars on request. THE SECRETARY, 429, Strand, W.C.

The SINGER "10" AN IDEAL DOCTORS CAR.

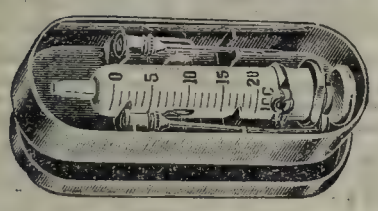


THE NEAT AND HANDSOME DESIGN OF THE SINGER "10" WILL ALWAYS IMPRESS THE OBSERVER AT A GLANCE. BUILT THROUGHOUT BY HIGHLY SKILLED WORKMEN FROM THE FINEST MATERIALS PROCURABLE, WE HAVE NO HESITATION IN RECOMMENDING IT TO STAND THE HARD WEAR AND TEAR WHICH A MEDICAL PRACTITIONER'S CAR IS SUBJECT TO.
WE ARE NOW BOOKING ORDERS, WHICH WILL BE PLACED ON OUR WAITING LIST, DELIVERIES OF WHICH WILL BE MADE STRICTLY IN ROTATION.

Write to day for full particulars—

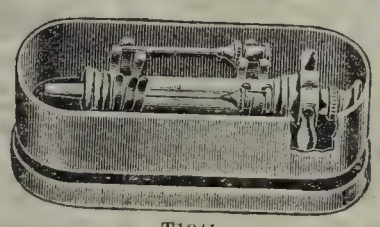
SINGER & CO., LTD.,
AND 17 HOLBORN VIADUCT, LONDON, E.C.
COVENTRY, ENG.

HYPODERMIC AND SERUM SYRINGES.



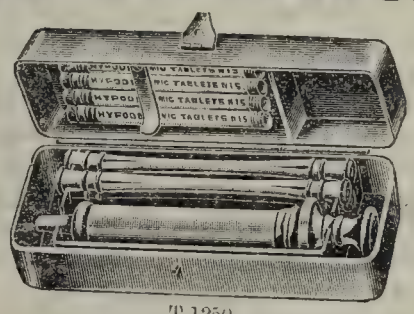
T1230
"ALL GLASS" COMPLETE

20 mm.	1 c.c.	2 c.c.
5/6	5/6	6/6
5 c.c.	10 c.c.	20 c.c.
9/6	11/6	15/6

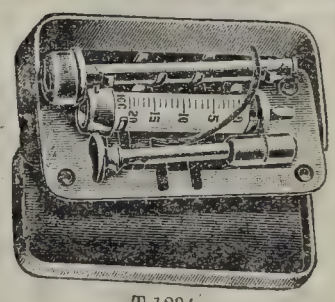


T1241
"ALL METAL" COMPLETE

20 mm.	1 c.c.	2 c.c.
5/6	6/-	7/6
5 c.c.	10 c.c.	20 c.c.
9/6	12/6	15/-



T 1250.
"ARMY PATTERN"
With 6 Needles and 4 Tubes of Tablets, **15/-**



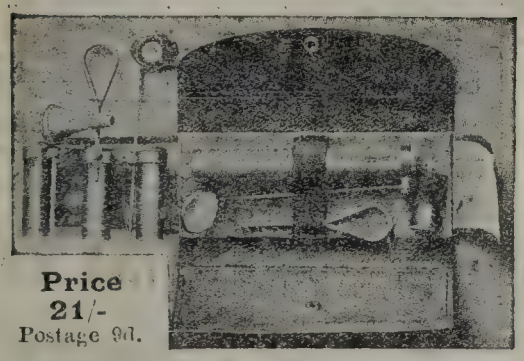
T 1234
"RECORD COMPLETE."

20 mm.	1 cc.	2 c.c.
8/6	9/6	11/6
5 c.c.	10 c.c.	20 c.c.
15/-	18/-	25/-

NEW BARRELS FITTED TO YOUR BROKEN "RECORD" SYRINGES.
20 mm. or 1 c.c., 5/6; 2 c.c., 6/6; 5 c.c., 8/6; 10 c.c., 9/6; 20 c.c., 11/6.

SURGICAL MANUFACTURING CO., Ltd., 83-85, Mortimer Street, London, W.

THE "AURORASCOPE" (Regd.) (DEES)
G.P. POCKET THROAT and EAR OUTFIT.



Price 21/-
Postage 9d.

(Patent applied for)

This marvellous pocket instrument enables the doctor and novice to get, at the bed-side and in daylight, a complete and perfect illumination and view of the Drum of the Ear, Naso-Pharyngeal Space including Epiglottis and Vocal Cords, the External Dioptric Media, the Fundus Oculi, the Nasal and Accessory Sinus, Transillumination of the Antrum, and Dental Caries. It can also be used for Retinoscopy. Its uses have been demonstrated at Medical Societies. Dozens of unsolicited testimonials from Specialists, Consulting Physicians and Surgeons have been received, who testify to its merits and far-reaching utility.
Stocked by all leading Surgical Instrument Manufacturers and Drug Stores.
Supplied to Hospitals, Tuberculosis Dispensaries, Welfare Centres, and Borough Councils.

PRICES: Best Quality Outfit in silk-lined Leather Case or Wallet with Spherical Lens Attachment, complete and recommended, £2 2 0. Reg. Post 9d.
Second Quality, without Magnifying Lens Attachment, £1 1 0. Reg. Post 6d.
Adaptor, Flex Wire (Conversion), including Special Battery for four hours permanent lighting, 12/6. Postage 3d.

AURORASCOPE COMPANY, Ltd., Fulwood House, Fulwood Place, Holborn, W.C. 1. (next to Chancery Lane Tube Station)
where demonstrations are given daily.

SULPHAQUA

LARGELY AND SUCCESSFULLY PRESCRIBED IN

SKIN DISEASES, RHEUMATISM, GOUT, NEURASTHENIC CONDITIONS IN ARTHRITIC SUBJECTS, &c.

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.

Employed in BATH and TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. Relieves intense Itching and Pain, is WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel. Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhœa of the Scalp. Largely used in dermatological practice.

SULPHAQUA SOAP

In Boxes of ½-doz. and 1-doz., BATH CHARGES, 2 doz. TOILET CHARGES, and ¼-doz. SOAP TABLETS.

Samples and Literature on request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Drug Houses in Canada, Australia, New Zealand, South Africa, India, &c.

CAMBRIDGE MEDICAL EXHIBITION

DEMONSTRATIONS

OF THE CELEBRATED

"P.K." ARTIFICIAL HAND AND ARM

GIVEN DAILY AT THE

P.K. STAND No. 90.



Drawing from an actual photograph showing carpenter using the "P.K." arm.

The hundreds of spontaneous testimonials received from armless men fitted with the P.K. Arm and Hand form the greatest possible proof of usefulness and success.

The hand is the strongest, most efficient, most natural in appearance. The elbow can be securely locked in *any* position and the forearm set and fixed to any angle across the body.

The most simple in construction yet with the widest range of use its simplicity ensures a freedom from getting out of order.

It is fixed with the smallest amount of body harness; can be worn a whole working day without fatigue and will grip as firmly as with the human hand, and as effectively use anything from a pencil to a pickaxe.

Surgeons and others interested are invited to send for full particulars which will gladly be forwarded free.

"P.K." ARM LTD.,

8, Southampton Row, Kingsway, London, W.C. 1. or 1, Clarence Street West, Belfast.

KOND'S

EUONYMISED COCOA.

A delicious Beverage, taking the place of Tea, Cocoa, or Coffee.

Euonymin taken is a hot infusion as incomparably more direct than in any other form.

Recent Testimonial.—"30 years ago your Cocoa cured me of Stomach and Liver-troubles and Constipation and still keeps me right." E.G., December, 1919.

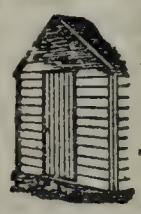
SOLD IN TINS 1s. 6d. & 2s. 6d.

from Grocers or Chemists;
or from the Wholesale Depôts;

MAY, ROBERTS & CO., LTD.,
9, Clerkenwell Road, LONDON, E.C.

WOOD, IRON & ASBESTOS

Buildings of every Description.



GREEN HOUSES, FRAMES, POULTRY APPLIANCES AND RUSTIC WORK.

Illustrated List Post Free.

T. BATH & CO., Ltd.,
18, Savoy Street, London, W.C.2.

Buy Dispensing Bottles before they get dearer.

Coal and Wages are advancing again.

6-oz. & 8-oz.	... ...	*33 6 per gross.*
3-oz. & 4-oz.	... ...	*31 -* ,,
2-oz.	... ...	*28 -* ,,

CRATES charged at *5s. 6d.* each, returnable. Orders over £10 carriage paid. CASH WITH ORDER

H. JESSOP (Dept. B), 27, Westgate, Burnley.

TYPEWRITING, DUPLICATING, TRANSLATIONS.

SCIENTIFIC WORK A SPECIALITY.
OLIVE BEAMISH, 93, Bishopsgate, E.C. 2.

HAVE YOUR SUIT TURNED

FR CO. *For Free Descriptive Booklet write* FR CO.

THE INVISIBLE REPAIR CO
(Dept. M.J.) St. Martin's Court, Ludgate Hill, E.C.
ONLY ADDRESS)

WAR MEMORIAL TABLETS

In Brass, Bronze & Copper. *Send for Booklet 18.*

F. OSBORNE & CO. LTD.,
Artist-Craftsmen and Engravers,
27, EASTCASTLE ST., OXFORD ST., LONDON, W. 1.
Estab. 1874. Telegrams: Oscraft, Wesdo, London.

P | A

You have probably insured your business and home to protect yourself against fire.
Have you insured your life to protect your family against your early death?
INSURE YOUR LIFE *and* HOME with the PRUDENTIAL ASSURANCE Co., Ltd.

C | LD.

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY AND REPAIR ALL MAKES of Typewriters and Duplicators. Office Furniture.



Write for Bargain List 82.
Est. 1884. (Holborn 4810).

74, CHANCERY LANE (Holborn End), W.C. 2, and at 92, QUEEN ST., CHEAPSIDE END, E.C. 4. (Bank 8325.

THE STAFFORD MOBILE PUP.

THE GAMEST OF ALL MOTOR SCOOTERS.

Invaluable as a means of transportation to medical men.

Speed 4 to 25 miles p.h., will climb any hill with ease.

Price **46 Guineas,** or complete with seat and lighting set **50 Guineas** (plus carriage)

IMMEDIATE DELIVERY.

A. & D. FRASER, 38, Herriet St., Pollokshields, Glasgow

Telephone: No. 289 South.

GUY'S HOSPITAL PARABOLIC REFLECTOR LAMP,

As supplied by us to Guy's and many other Hospitals for the past 20 years.

Practitioners will find this Lamp most useful in the Surgery; also in the Home as a personal lamp for reading or writing, being perfectly safe to carry about. It burns the ordinary oil and is free from smoke or smell, giving a concentrated light of 30 candle power.



SENT POSTAGE PAID TO ANY ADDRESS

8/6

If abroad postage extra.

To Practitioners in country and abroad where gas or electric light is not available THIS LAMP is of thorough practical use.

Send for particulars—

J. BRUCE,

232, Borough High St., London, S.E.

CIVIL & SPORTING CLOTHES.

Medical men requiring stylish DRESS can secure well-tailored clothes made to measure in 24 hours, or they can select same from our READY for SERVICE MODELS. Finest materials at most reasonable prices.

Suits and Overcoats in great variety from £8 8s.

Patterns to suit all tastes post free on application.

A PERFECT FIT GUARANTEED.

Visitors to London can leave Record Measures or order and fit same day.

HARRY HALL, 207, OXFORD STREET, W.1.
149, CHEAPSIDE, E.C.2.

'PHONES: MUSEUM 820-821, CITY 2086.

As SUPPLIED to H.R.H. The Princess Royal of England and H.R.H. The Crown Princess of Sweden.

HUMANIZED MILK

Prepared only by

The AYLESBURY DAIRY COMPANY, Limited,

31. St. Petersburgh Place, BAYSWATER, W.

Telephone No. "PARK 226."

SAMPLES FREE TO MEMBERS OF THE MEDICAL PROFESSION.

VICTORY BONDS

purchased NOW will not be available for the payment of Death Duties for their full face value until six months have elapsed.

THE VICTORY BOND POLICIES

issued by the

NATIONAL PROVIDENT INSTITUTION

provide for the payment of the full amount of the face value of the Bond from the date of issue.

Particulars post free on application to—

48, GRACECHURCH STREET, E.C.2.

DROITWICH BRINE BATHS for RHEUMATISM, &c.

WARNING.—The Public are warned that the TREATMENT CAN ONLY BE OBTAINED AT DROITWICH in the NATURAL BRINE.

Treatments include Nauheim Baths and Aeration Baths (modern adaptation of celebrated French Whirlpool System).

LOVELY HOLIDAY DISTRICT. GOOD HOTELS, &c.

Illustrated Booklet post free from

J. H. HOLLYER,

15, Corbett Estate Offices, Droitwich (Worcs.),

SPECIAL FACILITIES TO MEDICAL MEN.

Bournemouth.—Doctor wishes to receive RESIDENT PATIENT or CONVALESCENT into own house, high and bracing position with sea view. Good walks near golf course. Terms 6-8 guineas per week.—Address, first instance, No. 5530, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Lady (mental or senile decay) received into doctor's family. Cheerful home life and surroundings. Large garden, near town. Address, first instance to M.A., M.D., 35, Glazbury Road, West Kensington.

HOME FOR FEEBLE-MINDED,

BRUNTON HOUSE, LANCASTER.

There are now a few vacancies in this well-appointed private establishment. It is easily accessible from Lancaster, overlooks Morecambe Bay, and possesses extensive gardens and grounds, with tennis and croquet lawns. Varied scholastic and manual instruction. Individual attention is given to pupils by experienced staff under a Resident Physician and Lady Matron. Terms on application to—

Dr. W. H. COUPLAND.



CATERHAM SANITARIUM.

Battle Creek System. All Baths, Massage, and Electricity. Bergonié Chair and Diathermy. Telephone 88. T.A. "Hydro," Caterham.

Medical Superintendent:
Dr. F. C. SHONE.

BOURNEMOUTH HYDRO.

With finest Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath.
Every kind of Massage.
Every kind of Electricity.
Every kind of Diet.
Carlsbad and Vichy Waters, &c.
High Frequency. Electric Lift.

Prospectus from Secretary. *Telep.* 311.

Resident Physician:—W. JOHNSON SMYTH, M.D.

SMEDLEY'S HYDRO, MATLOCK.

[*Established* 1853]

LARGEST AND MOST COMPLETE.

Resident Physicians: { G. C. R. HARBINSON, M.B., B.Ch., B.A.O.(R.U.I.)
{ R. MACLELLAND, M.D., C.M.(Edin.)

Unrivalled suites of Baths for Ladies and for Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Weir Mitchell treatment, an Electric Installation for Baths and Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Roentgen X-Rays, Nauheim Baths, etc. Special provision for Invalids. Milk from own farm. Large Winter Garden. Night attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Prospectus and full information on application to **H. CHALLAND, Managing Director.**

Telegrams—"SMEDLEY'S, MATLOCK." Telephone—No. 17.

YARROW CONVALESCENT HOME, BROADSTAIRS

EXCLUSIVELY FOR CHILDREN OF WELL-EDUCATED PEOPLE OF VERY LIMITED MEANS

100 Beds. Boys, ages 4 to 12. Girls, ages 4 to 14. ***Charge a minimum of 15/- a week for each child.***

The usual stay is four weeks, but some wards are reserved for serious cases requiring special treatment, and for these a lengthened stay may, under some circumstances, be granted, and the age limit raised to 14 for Boys and 16 for Girls.

The Home faces the sea, and is open all the year, being as well adapted for winter as for summer residence.

There is a well-equipped operating theatre and a complete X-ray installation.

PARTICULARS CAN BE OBTAINED FROM THE SECRETARY, 6, HOLBORN VIADUCT, LONDON, E.C.1.

NEWMAINS RETREAT, NEWMAINS, LANARKSHIRE,

Licensed under the Inebriates Acts.

The House is devoted to the care of LADIES of the upper classes only, who can be treated either under the Acts or as Voluntary Patients. The place stands high and the estate is extensive, with bracing air and in good shelter. It is very retired and beautiful, well situated for the treatment of Inebriety, Narcomania and other perversions, Neurasthenia, Hysteria, and Minor Mental Ailments.

No patient under Certificate of Insanity can be received.

References:—Dr. G. M. ROBERTSON, Dr. YELLOWLEES, Dr. RISIEN RUSSELL, Dr. OSWALD, and others.

Terms and particulars on application to "Superintendent, The Retreat, Newmains, Lanarkshire." Nearest Station: Hartwood, Cal. Rly

TREATMENT OF INEBRIETY AND THE MORPHIA HABIT, ETC.

CAPEL LODGE RETREAT & SANATORIUM,

Near FOLKESTONE.

Situated on the SUNNY CLIFFS OVERLOOKING THE SEA, for the Treatment and Cure of Alcoholic and Drug Inebriety—14 acres of private grounds. Billiards, &c., &c.
Terms from 4 guineas weekly. For particulars apply E. NORTON, M.D., Capel Lodge, near Folkestone.

INEBRIETY.

MELBOURNE HOUSE, LEICESTER
PRIVATE HOME FOR LADIES.

Prin.: HY. M. RILEY, Assoc. Soc. Study of Inebriety.
For Terms and Particulars apply Miss RILEY or PRINCIPAL. Nat. Telephone: 769, Leicester.

INEBRIETY.

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of **gentlemen** under the Act and privately. Established 1883 by an Association of prominent medical men and others for the study and treatment of Inebriety.

For particulars, apply to F. S. D. HOGG, M.R.C.S., &c., Resident Medical Superintendent.
Telephone: 16 Rickmansworth.

CLARENCE LODGE,

CLARENCE ROAD, CLAPHAM PARK.

Stations: Clapham Road and Clapham Common

LICENSED HOME FOR MENTAL AND NERVE CASES.

Treatment under eminent Alienist.
Terms from £5 5s. weekly.
Mrs. THWAITES, Resident Licensee.
T.N: 494 Brixton.

CITY OF LONDON MENTAL HOSPITAL,

DARTFORD, KENT.

Under the Management of a Committee of the Corporation of the City of London.
PRIVATE PATIENTS are received at the rate of two or three guineas weekly.
Apply to the MEDICAL SUPERINTENDENT.

SPRINGFIELD HOUSE,

Near BEDFORD.
(Telephone No. 17.)

A PRIVATE HOME FOR MENTAL CASES,

TERMS FROM 4 GUINEAS PER WEEK.
(including Separate Bedrooms for all Suitable Cases without extra charge).

For forms of admission, &c., apply to the Drs. BOWER, as above, or at 5, Duchess Street, Portland Place, W. 1, on Tuesdays, from 4 to 5.

ST. ANDREW'S HOSPITAL,

FOR MENTAL DISEASES

NORTHAMPTON.

For the Upper and Middle Classes only.

President—The Rt. Hon. THE EARL SPENCER, K.G.
This Registered Hospital is pleasantly situated in 118 acres of park and pleasure grounds.
Every facility is provided for cricket, football, hockey, croquet, lawn tennis, bowls, golf, motoring, boating and gardening.
Voluntary boarders as well as certified patients of both sexes are received for treatment.
Private rooms with special attendants in the Hospital or in villas in the grounds can be arranged.
The Hospital has a branch establishment at

MOULTON PARK,

two miles from the Hospital, where there is a farm of 473 acres, which supplies the Hospital with meat, milk, and other farm produce.

BRYN-Y-NEUADD HALL, LLANFAIRFECHAN.

The Seaside House of St. Andrew's Hospital, is beautifully situated in a park of 331 acres, close to the sea, and in the midst of the finest scenery in North Wales. Patients can enjoy good cricket, lawn tennis, croquet, golf, trout fishing and bathing.
Patients or Boarders may visit this branch for long or short periods, and can have Private Rooms in Villas in the Park.
For terms and further particulars apply to the Medical Superintendent, St. Andrew's Hospital, Northampton. TELEPHONE No. 56.

BARNWOOD HOUSE

HOSPITAL FOR MENTAL DISEASES,

BARNWOOD near GLOUCESTER

Telephone: No. 7. Barnwood.

Exclusively for PRIVATE PATIENTS of the UPPER AND MIDDLE CLASSES.

This Institution is devoted to the care and treatment of persons of both sexes at moderate rates of payment.
Voluntary boarders not under certificates are admitted.
Under special circumstances the rates of payment may be reduced by the Committee.
The MANOR HOUSE for Ladies only, which is entirely separate from the Hospital and standing in its own grounds, will be utilised exclusively for voluntary patients.
For further information apply to ARTHUR TOWNSEND, M.D., the Medical Superintendent.

BATH.

Lansdown Crescent.

THE ST. CATHARINE NURSING HOME.

Beautiful position. Electric Light and Lift. Central heating. Dietetic and Electrical treatment. Plombieres douche. All chemical investigations.
Telephone: 1119. *Telegrams:* "Nursing," Bath.

HOME FOR CHRONICS AND MATERNITY CASES

From £5 5s. per week and upwards. Nurses supplied at shortest notice to any part. Telephone: Otley 67.—Apply, MATRON, WHARFEDALE NURSING AND NURSES' HOME, Leeds Road, Otley, Yorks.

BISHOPSTONE HOUSE, BEDFORD.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Terms from 6½ gns. weekly. Apply, Medical Officer, or Mrs. PEELE. *Telephone 708.*

THE GRANGE,

NEAR ROTHERHAM,

A HOUSE licensed for the reception of a limited number of ladies of unsound mind. Both certified and voluntary patients received. This is a large country house with beautiful grounds and park, 5 miles from Sheffield. Station, Grange Lane, G.C., Railway, Sheffield. Telephone No. 34, Rotherham
Resident Physician—GILBERT E. MOULD, L.R.C.P., M.R.C.S. Consulting Physician—CROCHLEY CLAPHAM, M.D., F.R.C.P.E.

BROOKE HOUSE,

CLAPTON, LONDON, N.

A HOME for the treatment of a limited number of Ladies and Gentlemen suffering from Nervous and Mental Diseases.
Stands in extensive grounds, and is well adapted for the treatment of Nervous disorders according to modern methods.
Resident Physician—GERALD JOHNSTON.
Railway Station: Clapton. *Telephone:* 1648 Dalston.

STRETTON HOUSE,

Church-Stretton, Shropshire.

A Private HOME for the treatment of Gentlemen suffering from Mental diseases. Bracing hill country. See "Medical Directory," p. 1899.—Apply to Medical Superintendent. 'Phone, 10 P.O Church-Stretton

In Beautiful Country. 18 miles from London

Littleton Hall, Brentwood, Essex.

(400 feet above sea-level). A HOME for a few LADIES Mentally Afflicted. Voluntary Boarders Received. Large grounds. Liverpool Street half-an-hour. Stations: Brentwood, 1 mile; Shenfield, 1 mile. Vacancy. For terms, &c., apply Dr. HAYNES. Telephone & Telegrams: "Haynes, Brentwood, 45."

Home

for the care and treatment of

Mentally Afflicted Ladies.

OTTO HOUSE,

47, North End Rd., West Kensington, W. 14.

The Home stands in large grounds close to West Kensington Station.

For Terms, apply to Miss BRODIE,
Resident Lady Superintendent.
Telephone: Hammersmith 1001,

MRS. SUTHERLAND,
(Licensed Proprietress.)

THE EMPIRE NURSING HOME, VINCENT SQUARE, S.W. 1.

(LATE EMPIRE HOSPITAL FOR PAYING PATIENTS).

THIS NURSING HOME
IS OPEN FOR THE RECEPTION OF
PRIVATE PATIENTS,
under the original management.

42, Private Rooms.
All cases are under the supervision of their own Medical attendants.
Inquiries should be addressed to
THE LADY SUPERINTENDENT.

"Telegrams, RELIEF, OLD CATTON." *Telephone,* 290 NORWICH.

THE GROVE, OLD CATTON,

NORWICH.

A High-class Private Nursing Home for Ladies desiring **Curative Treatment** for Nervous Affections. **Hysterical** and **Borderland Cases** in the early stages, and those suffering from **Insipient** mental trouble are received as **Voluntary Boarders.** Apply to the Misses MCLINTOCK, or to CECIL A. P. OSBURNE, F.R.C.S.E., Medical Superintendent.

CHEADLE ROYAL.

A HOSPITAL FOR MENTAL DISEASES,

CHEADLE, CHESHIRE,

and its seaside branch,

CLAN-Y-DON, COLWYN BAY, NORTH WALES.

The object of the above is to provide the most efficient means for the cure of mental diseases in those who belong to the **upper and middle classes.**
Voluntary boarders as well as certified patients are received for treatment.
For terms and further information apply to the Med. Supt., J. SUTCLIFFE, M.R.C.S., &c., at Cheadle or he may be seen at 72, Bridge St., Manchester, on Tuesdays and Fridays from 2 to 3.
TEL.: 208 "Cheadle Hulme," 3594 "Manchester."

Coton Hill Mental Hospital,

near Stafford.

Chairman of the Committee of Management, The RIGHT HONOURABLE THE EARL OF DARTMOUTH.—This Hospital, which is beautifully situated in a high and healthy position, with extensive grounds, cricket field, lawn tennis courts, golf links, &c., is devoted to the care and treatment of the mentally afflicted of the upper and middle classes. Terms on application. Private rooms with special attendants in the Hospital, or semi-detached villas in the grounds can be arranged.
For further particulars apply to R. W. HEWSON, L.R.C.P. & S.Edin., Medical Superintendent

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private HOME for the care and Treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Proprietor, Dr. MCCLINTOCK.

HAYDOCK LODGE, Newton-le-Willows, LANCASHIRE.

A PRIVATE MENTAL HOSPITAL FOR THE UPPER AND MIDDLE CLASSES ONLY, EITHER VOLUNTARY, OR UNDER CERTIFICATE.

Patients treated and classified according to their social and mental condition. Terms from £2 2s. 0d. Private apartments on special terms.
Established for 60 years. Under the same management 25 years. Recovery rate 50 per cent. Situated midway between MANCHESTER and LIVERPOOL.
Two miles from Newton-le-Willows Station on the L. & N. W. Railway, connecting it with all parts.

Medical Staff.

Resident Medical Proprietor CHARLES T. STREET, M.R.C.S., L.R.C.P., LIVERPOOL: 47, Rodney Street. Telephone 2456 Royal. Liverpool.
Resident Medical Superintendent J. C. WOOITON, M.R.C.S.ENG., L.R.C.P.LOND. Dr. STREET. Thursday: 2 till 4.
Visiting & Consulting Physicians: Sir JAMES BARR, LL.D., M.D., F.R.C.P., 72, Rodney St., Liverpool. G. E. MOULD, Physician for Mental Diseases to the Sheffield Royal Hospital, The Grange, Rotherham.

Consulting Rooms—
MANCHESTER: Winter's Buildings, St. Ann's Sq. Dr. P. G. MOULD; Dr. G. E. MOULD, Tuesday and Thursday 12 to 1.30. Telephone 7611 Manchester. Other days by appointment.

For admission apply Resident Proprietor, Haydock Lodge, Newton-le-Willows. Tele.: "STREET, Ashton-in-Makerfield." For further particulars and forms of Tel.: 11 Ashton-in-Makerfield.

CAMBERWELL HOUSE, 33, PECKHAM ROAD, S.E.

Telegrams: "Psycholia, London." Telephone: New Cross 1057.

For the Treatment of Mental Disorders.

Completely detached villas for mild cases. Voluntary Boarders received. 20 acres of grounds. Cricket, tennis, croquet, squash racquets, bowls, and all indoor amusements. Senior Physician: FRANCIS H. EDWARDS, M.D., M.R.C.P. An Illustrated Prospectus giving full Particulars and Terms, may be obtained on application to the SECRETARY.

HOVE VILLA, BRIGHTON.—A Convalescent Branch of the above.



NORTHWOODS HOUSE,

WINTERBOURNE, near BRISTOL.

FOR PRIVATE TREATMENT OF MENTAL DISEASES.

Situated in a large park in a healthy and picturesque locality, easily accessible by rail via Bristol, Winterbourne, Patchway, or Yate Stations. Uncertified Boarders received.—For further information see Medical Directory, page 2053. Terms moderate. Apply to Dr. J. D. THOMAS, Resident Physician and Licensee, for full particulars.

BRISLINGTON HOUSE, near BRISTOL.

ESTABLISHED 1804.

A PRIVATE MENTAL HOSPITAL for the care and treatment of persons of the upper and middle classes of both sexes.
The House is situated on an estate of 200 acres and has extensive pleasure grounds and a Farm connected with it. It lies between Bristol and Bath, 3 miles from Bristol Station, and within 2½ hours' journey from London.
In addition to the main building there are several villas, completely detached and pleasantly situated in their own grounds, where there is accommodation for suitable cases. Patients can be received without certificates as Voluntary Boarders.
For terms and further particulars apply to the Medical Superintendent. *Tel.:* "Fox, Brislington." *Telephone:* "No. 2 Brislington.

EARLY TREATMENT OF MENTAL DISORDERS.

MILLFIELD, YORK (For Gentlemen).

Established by a Committee of the Society of Friends **for the treatment of nervous maladies and borderland cases** on a voluntary basis.
Millfield stands in about eight acres of grounds at the South East boundary of the City and has been purchased and equipped specially for the purpose. No certifiable persons can be received.
Applications for admission may be made to the Matron, Millfield, Hull Road, York, or to the Secretary, A. Fred Burgess, 107, Heslington Road, York.

THROXENBY HALL, near SCARBOROUGH (For Ladies).

Under the management of the same Committee. For the treatment of nervous disorders under similar conditions to Millfield, York.
Throxenby Hall is about two miles from Scarborough and is delightfully situated near the Raincliffe Woods.
Applications to the Matron at Throxenby Hall, Scarborough (Tel. 282), or to A. Fred Burgess as above.

LAVERSTOCK HOUSE,

Near SALISBURY.

A PRIVATE HOME FOR THE CARE AND TREATMENT OF MENTAL DISORDERS,

Separate Villas available for suitable cases.

VOLUNTARY BOARDERS RECEIVED WITHOUT CERTIFICATES.

For terms and particulars apply to MEDICAL SUPERINTENDENT.

Tel.: JACKSON, LAVERSTOCK. 'Phone: 12 SALISBURY.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

President: The Right Hon. the EARL MANVERS.

This Institution is exclusively for the reception of a limited number of **Private Patients** of both sexes, of the **Upper and Middle Classes,** at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements, affords every facility for the relief and cure of those mentally afflicted.

For terms, &c., apply to the Medical Superintendent.

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, LANCASHIRE.

For the CARE and TREATMENT of Ladies and Gentlemen MENTALLY AFFLICTED, with or without certificates. Consultations at 31, Rodney Street, Liverpool, every Monday and Thursday afternoons by appointment. For terms apply MEDICAL SUPERINTENDENT. Tel. No. 8 Formby.

THE MOAT HOUSE,

Tamworth, Staffordshire.

Stations: L. & N.W. and Midland Railway.

A HOME for the TREATMENT of a few Ladies suffering from NERVOUS and MENTAL AFFECTIONS.

The House stands in grounds of 10 acres and within 5 minutes drive of either station.

For terms, etc., apply to Resident Licensees, EDWARD HOLLINS, M.A.Cantab., or (Mrs.) S. A. MICHAUX; or to the Medical Attendant, Dr. LOWSON. (Telephone No. 60 Tamworth.)

ST. GEORGE'S RETREAT,

Burgess Hill, Sussex.

An old-established licensed house under the management of the "Augustinian Sisters," for the treatment of LADIES MENTALLY AFFLICTED. Grounds nearly 300 acres. Drives and motoring. Marine, Brighton Residence for change. Voluntary boarders taken. Separate Villa for Feeble-Minded cases. Visiting Physicians. London 1¼ hours.—For terms apply to the Superioress.

Telephone: (Post Office 90).
Telegrams: "Wivelsfield Green."

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea level, facing S.; 14 acres of ground.—For terms apply to the Resident Medical Superintendent, W. W. HORTON, M.D.
Nat. Tel. 130.

THE ROYAL EARLSWOOD INSTITUTION

FOR MENTAL DEFECTIVES, REDHILL, SURREY.

(Formerly the EARLSWOOD ASYLUM).

FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION, and needing SPECIAL TRAINING in useful occupations, SCHOOLS, FARMING, and various TRADE WORKSHOPS.

ALL outdoor games, EXCELLENT BAND by Male Staff.

Apply to the Secretary, Mr. HARRY HOWARD, 14–16, Ludgate Hill, London, E.C. 4. 'Phone: City 5297.

BARNSLEY HALL,

BROMSGROVE.

Mental Private Patients of both Sexes are received in connection with the Worcestershire Mental Hospital. Extensive private grounds in the beautiful Lickey District. *Terms: Thirty Shillings Weekly* For further particulars and necessary forms apply to the MEDICAL SUPERINTENDENT.

The best of attention and advice, and the greatest benefit to be obtained from Spa Waters and Baths, is available under - - - - - ideal conditions at - - - - -

CELEBRATED BRITISH SPAS.

BATH has been in active service for 2,000 years. The hot springs still yield 500,000 gallons daily of health restoring waters rich in Radium emanation possessing remarkable therapeutic effects.

BUXTON, situated in the centre of Derbyshire's lovely "Peak District," claims the highest altitude of any town in the Kingdom. Mineral waters rich in radio activity. Luxurious modern bathing establishments.

CHELTENHAM has no rival in respect of sylvan beauty. A first-class town with every convenience, luxury, and amusement. Spa waters comprise Magnesia, Alkaline, Sulphate, Saline, and Chalybeate Springs.

DROITWICH Brine Baths, renowned throughout the world. The countryside is delightful, orchards, deep lanes, wooded heights, gabled cottages, and bright gardens.

HARROGATE possesses not only the finest variety of mineral waters in the world, but also those attractive features which make it a pleasure resort as well as a health-giving Spa.

LLANDRINDOD WELLS.—The principal Spa of lovely Wales. Thirty Mineral Springs. Complete installation of modern apparatus affording the best forms of Continental Spa treatment.

WOODHALL SPA, situated in the prettiest part of Lincolnshire, surrounded by pine woods and heather-clad moors. Famous for Bromo-Iodine natural mineral waters.

Full particulars of any Spa free on request to the SPA DIRECTOR of the Spa in question, or of all the Spas from Hon. Secretary, Spa Federation, Room 11, Harrogate.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.

A PRIVATE HOME for the treatment of Ladies and Gentlemen suffering from Mental and Nervous Affections.

Highly situated, facing Finsbury Park.

Voluntary Boarders received without certificates.

For particulars apply to the Resident Physician.

Telephone No. 888 (North).

Telegrams: "Subsidiary, London."

THE COMMITTEE OF THE

NEWPORT MENTAL HOSPITAL, CAERLEON,

are prepared to receive a limited number of paying patients into the Hospital at moderate charges.

For terms, please apply to the MEDICAL SUPERINTENDENT.

NURSING HOME

ON THE SURREY HILLS.

For MEDICAL, SURGICAL AND CHRONIC CASES Beautiful gardens and surroundings. Every care and comfort.—KENLEY HOUSE, KENLEY, SURREY

"Collingwood," Cheltenham, Spa.

A REFINED NURSERY HOME for Children of any age up to seven years. Very limited number taken, home sympathies, freedom, and care.

Inclusive terms. Highest references.

Prospectus on application.

Miss DUTTON (Higher Certificate N.F.U.).
Miss ADAMSON (Qualified Hospital Nurse).

Medical man receives one good-class RESIDENT PATIENT (nervous, borderland, or mental). Every comfort and the interests of home life. Well-appointed country house (fine billiard room), and farm land. Driving, riding, motoring, golf, &c.—Dr. DUFF, Collington Rise, Bexhill-on-Sea, Sussex. 'Phone: 11 Cooden.

Doctor has a vacancy in his Country House for an INVALID, CONVALESCENT or NERVE CASE. Sun lounge, tennis, croquet, golf, music, bridge. From 7 gns. weekly.—Dr. ALEXANDER, Chertsey. Tel. 194.

THE GRANVILLE HOTEL

On the East Cliff **RAMSGATE** Overlooking the Sea.

Suite of Baths equipped with the most Modern Installation and Appliances for Scientific Medical Treatment—comprising Turkish Bath, Russian Vapour Bath, Radiant Light and Heat, High Frequency and Sinusoidal Current, also Professor Bergonié's Apparatus for the treatment of Rheumatoid Arthritis, Muscular Affections, Spinal Curvature, Colitis, Neurasthenia, &c.

Tariff and Full Particulars of Treatment on application to the Manager.

SPECIAL WEEK-END TERMS. GARAGE. TENNIS COURTS.

Telephone: Ramsgate 12. **THE FINEST HOTEL ON THE COAST.** Telegrams: "Granville Hotel."

DISENTIS "THE SWISS GASTEIN"

The Strongest Radium Spring of Switzerland

Mild Alpine climate, chalybeate spring, with manifold walks in middle altitude on level or slightly rising ground, midst pleasant scenery and idyllic peace. - - - - - - Recommended by Medical authorities in the following cases: weakness and convalescence, chlorosis and anemia, nervousness and mental overwork, impaired digestive organs especially of nervous origin, etc. Treatment with the radio-active water is recommended for nervous troubles, neuralgia, migraine, inflammation of the nerves, ischias and nervous debility, etc.

Stay at the

KURHAUS DISENTISERHOF

For information and to reserve accommodation apply to any office of THOS. COOK & SON, Chief Office, Ludgate Circus, London E.C. 4.

TOR-NA-DEE SANATORIUM, DEESIDE, MURTLE, SCOTLAND,

Situated on gravel soil. High average sunshine during winter months combined with low rain fall.

60 Beds

Terms :

£6 6/- Weekly

For the Sanatorium Treatment of Pulmonary Tuberculosis and Allied Diseases.

RESEARCH LABORATORY

THROAT ROOM

X-RAY INSTALLATION

OPERATING THEATRE

Medical Director - - - - DAVID LAWSON, M.D., F.R.S.Ed.
Senior Physician - - - - IAN STRUTHERS STEWART, M.D.Ed.
(Formerly Senior Assistant Physician at the Banchory Sanatorium)
Assistant Physician - - - I. M. JOHNSTON, M.B.Ed., D.P.H.

Matron and staff of fully qualified nurses in residence.

Officers recommended by the Scottish Branch of the British Red Cross Society obtain priority in regard to admission. This Branch of the Society is prepared to contribute £1 11s. 6d. per week towards paying the fees of Officers whose admission meets with their approval.

Apply—DR. STRUTHERS STEWART, Murtle, Deeside, Scotland.

MENDIP HILLS SANATORIUM, FOR THE OPEN-AIR TREATMENT.

Specially built, facing South. 300 acres of Sanatorium grounds—meadow and woodland; sheltered pine avenues. Altitude 800 feet, magnificent view for miles south; hot-water radiators and electric light. Special features are breathing, singing, and graduated exercises, walking and tramping continuous inhalation; decided success; electric treatment. Individual attention. *Resident Physician*—C. MUTHU, M.D., M.R.C.S., L.R.C.P.

For particulars, apply, SECRETARY, Hillgrove, Wells, Somerset.

DUFF HOUSE,
BANFF, SCOTLAND.

TREATMENT OF DISORDERS OF THE STOMACH AND INTESTINES, INCLUDING TROPICAL DISEASES; DIABETES

and other complaints which need skilled chemical bacteriological and protozoological investigation and dietetic treatment.

The House is fitted with laboratories, X-Ray Installation, Medical Baths, Central Heating, and Lifts.

The climate is mild, and the rainfall the lowest in Scotland,

Apply, THE SECRETARY, Duff House, Banff.

GRAMPIAN SANATORIUM
KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-Air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 feet above sea-level. Sheltered situation in pine wood. Graduated walks.

Electric light throughout building and in shelters.

Inoculation Treatment available for patients—24 beds. One or two vacancies during July and Aug. Terms 5 and 6 gs. per week inclusive. For further particulars, apply to Dr. FELIX SAVY, Medical Superintendent, Grampian Sanatorium, Kingussie.

EPILEPSY.

THE DAVID LEWIS COLONY

stands in its own grounds of 180 acres, and is situated in a beautiful part of Cheshire, 2½ miles from Alderley Edge Station, and 14 miles from Manchester. Electric light throughout. The Colony system ensures the social life and employment most suitable for those who suffer from Epilepsy. Patients certifiable under the Lunacy or Mental Defective Acts are *not eligible* for admission. Two Resident Physicians. Terms for middle and upper class patients from 38/- a week upwards, according to accommodation and requirements. Private rooms can be provided.—For further information apply to the Director, Dr. ALAN MCDOUGALL, Warford, near Alderley Edge, Cheshire.

EPILEPSY.

COLTHURST HOUSE SCHOOL,
Warford, Alderley Edge.
(Under the Management of the Committee of the David Lewis Colony.)

Home life; Medical care; School Education most suitable for Boys subject to Epilepsy. Terms 38/- weekly.—Further particulars may be obtained from Dr. ALAN MCDOUGALL, The Colony, Warford, Alderley Edge.

Colwyn Bay.—A retired Doctor will be pleased to receive into his Home in September one or two Permanent PAYING GUESTS (gentlemen preferred). Very comfortable home and every attention. State all particulars to "Colwyn," Bushwood, St. James Road, Edgbaston, Birmingham.

Doctor, married, has suite of rooms, two bedrooms, sitting room and bathroom, all opening out of one another, and can take a PATIENT, with attendant if necessary. Surrey village.—Address, No. 5717, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Trained Nurse offers comfortable BOARD-RESIDENCE to gentlemen, middle-aged delicate, or needing kind care and attention.—"A," 21, Ashbourne Avenue, Golders Green, N.W. 4.

EPSOM COLLEGE.

(Established in 1855 as a Public School with a Royal Medical Foundation.)

An ELECTION to SEVERAL HOME SCHOLARSHIPS for daughters of medical men of the value of about £30 a year will shortly be awarded. Candidates must be nine years of age and not over twelve, and must be necessitous orphan daughters of medical men who have been for not less than five years in independent practice in England or Wales.

Applications must be sent in by the morning of the 14th July on forms to be obtained at 49, Bedford Square, W.C. 1.

J. BERNARD LAMB, Secretary.

18th June, 1920.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.

(University of London).

PRIMARY F.R.C.S.

A SPECIAL COURSE in ANATOMY and PHYSIOLOGY will commence on Monday, June 28th.

Anatomy, Morphology, and Embryology, at 11 a.m.—Professor THOMAS YEATES.

Physiology and Histology, at 2 p.m.—Professor T. SWALE VINCENT.

For further particulars, apply to The Dean, The Middlesex Hospital, W. 1.

ST. MARY'S HOSPITAL MEDICAL SCHOOL,

(University of London.)

FINAL F.R.C.S. COURSE.

A Course of Instruction in Clinical Surgery, Surgical Anatomy, Surgical Pathology and Bacteriology, with Tutorial Classes in preparation for the Final F.R.C.S. Course in November next, will commence on Wednesday, September 1st.

Time-Table and particulars may be obtained from the Secretary.

DIPLOMA IN PUBLIC HEALTH.
UNIVERSITY OF CAMBRIDGE.

LECTURES and PRACTICAL INSTRUCTION in the subjects of the Examination will begin 25th JUNE and 11th OCTOBER, 1920, at the UNIVERSITY LABORATORIES, PEMBROKE STREET, CAMBRIDGE.

Hygiene, Chemistry, and Physics: Mr. J. E. PURVIS.

Bacteriology and Preventive Medicine: Dr. GRAHAM-SMITH.—Special Lectures by Professor NUTTALL, on Protozoal Diseases, and by Dr. SHIPLEY, on Animal Parasites.

Practical Sanitary Administration, Hospital Administration, School Hygiene, Sanitary Law, &c.: Dr. LAIRD, M.O.H. for Cambridge, and Dr. ROBINSON, M.O.H. for the Cambridgeshire County Council.

Further particulars may be obtained from Mr. J. E. PURVIS, Public Health Chemical Laboratory, Cambridge.

Queen Charlotte's Lying-in HOSPITAL and MIDWIFERY TRAINING SCHOOL, Marylebone, N.W.

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing obstetrical complications and operative midwifery, about one-half the total admissions being primiparous ones.

Certificates awarded as required by the various Examining Bodies. For rules, fees, &c., apply to ARTHUR WATTS, Secretary.

CHESHIRE.

MARLBOROUGH COLLEGE,
(formerly Buxton),
Tytherington Hall, nr. Macclesfield.

Magnificent Modern Mansion. Park 70 acres. Lovely locality. Altitude 500 feet. Sound education. Individual attention.

Centre for Oxford Local Examinations.

Principal, Miss ASHMALL-SALT.

N.B.—Special Terms to Medical Men.

F.R.C.S.(Edin.)

A TUTORIAL CLASS for the next Examination commences shortly.

Particulars from CHAS. R. WHITTAKER, F.R.C.S., Anatomical Department, Surgeons' Hall, Edinburgh.

The Grange, Buxton.—SCHOOL FOR GIRLS from 10 to 19 years. Thorough general education, with great attention to health. Elder girls may specialise in Art, Music, Literature, or Languages. New Domestic Science branch for girls over 18. Tennis courts and field for Hockey and Cricket. Prep. for Exams.—Principal, Miss L. C. DODD.

F.R.C.S.Edin.

The TUTORIAL CLASS for the next Examination will commence shortly, Correspondence Tuition if desired.—For particulars apply FRED. GRAHAM, M.D., F.R.C.S.Ed., 16, Mayfield Gardens, Edinburgh.

VALUABLE BOOK FREE!

Are you preparing for any Medical or Surgical Examination?

Send Coupon below for our valuable publication

"Guide to Medical Examinations."

PRINCIPAL CONTENTS

- The Examinations of the Conjoint Board.
- The M.B. and M.D. Degrees of all British Universities.
- How to pass the F.R.C.S.Exam.
- The M.S.Lond. and other Higher Surgical Examinations.
- The M.R.C.P.
- The D.P.H. and how to obtain it.
- The Diploma in Tropical Medicine

Do not fail to get a copy of this Book before commencing preparation for any Examination. It contains a large amount of valuable information.

Send for your Copy now!

The Secretary, MEDICAL CORRESPONDENCE COLLEGE, 3, Wimpole Street, Cavendish Square, London, W. 1.

Sir,—Please send me a copy of your "Guide to Medical Examinations" by return.

Name .....

Address.....

Examination in which interested .....

SCHOOLS for BOYS and GIRLS, TUTORS for ARMY, and ALL EXAMS.

Messrs. J. & J. PATON, having an intimate, unique, and up-to-date knowledge of the BEST SCHOOLS and TUTORS in this country, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION regarding ESTABLISHMENTS which can be THOROUGHLY RECOMMENDED.

The age of the pupil, district preferred, and rough idea of fees should be given. 'Phone, write, or call.

J. & J. PATON, Educational Agents, 143, Cannon Street, London, E.C. 4. Telephone 5053 Central.

M.D. THESIS.

Skilled Assistance given in the preparation of M.D. Theses for all Universities. Apply for particulars and free booklet, "Hints on Writing a Thesis for the M.D. Degree," to the SECRETARY, Medical Correspondence College, 3, Wimpole St., London, W. 1.

LONDON SCHOOL of TROPICAL MEDICINE

Endsleigh Gardens, N.W. 1.

The summer Session of the School opened on Monday, the 3rd May, 1920.

The following Session will commence on Monday October 4th.

For Prospectus and further particulars apply to The Secretary, London School of Tropical Medicine, Endsleigh Gardens, N.W., or to the Head Office, Seamen's Hospital, Greenwich, London, S.E.

POST-GRADUATE COLLEGE,

West London Hospital, Hammersmith, W. 6.

The Hospital Practice is reserved exclusively for Post-graduates, and a Reading and Writing Room is provided for them. Prospectus from the DEANS.

UNIVERSITY EXAMINATION POSTAL INSTITUTION.

17, RED LION SQUARE, LONDON, W.C. 1

Principal: Mr. E. S. WEYMOUTH, M.A.(Lond.)

POSTAL OR ORAL PREPARATION FOR ALL MEDICAL EXAMINATIONS

SOME RECENT SUCCESSES.

M.D.(Lond.), 1901-19; (6 Gold Medalists during 1913-18 - - **239**

M.S.(Lond.), 1902-19 (including 3 Gold Medalists) - - - **17**

M.B., B.S.(Lond.), *Final* 1906-20 (8 successful May, 1920) **108**

Primary F.R.C.S.(Eng.), 1906-20 - **67**

Final F.R.C.S.(Eng.), 1906-20 (Primary 10, Final 11 successful May, 1920) **41**

M.R.C.P.(Lond.), 1914-20 (6 successful April, 1920) **36**

D.P.H. (Various) 1906-20 - **159**

F.R.C.S.(Edin.), 1918-20 - **11**

M.R.C.S, L.R.C.P. *Final* 1906-20 (7 successful April, 1920) **130**

M.D.(Durh.) (Practitioners) '06-20 (including 6 during 1918-1920) **27**

M.D. Various. By Thesis. Numerous successes. Also **M.B. (Cantab.), &c., L.M.S.S.A., Triple Qualification,** &c.

Advice given about Medical Preliminary Examination to select, with coaching if desired.

ORAL CLASSES start early in July for the Second and Final Conjoint, M.B., B.S., and F.R.C.S.Edin.; also for Primary Fellowship Physiology, including Histology and Chemical Physiology.

Complete set of excellent slides for Medical Pathology.

North-East London POST-GRADUATE COLLEGE

PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM, N. 15.

VACATION COURSE.

A Special Post-Graduate Course will be held from July 19th to 31st, including morning demonstrations on clinical and laboratory methods, and afternoon demonstrations on groups of selected cases, general hospital practice, and clinical lectures, with demonstrations in affiliated special hospitals.

The fee for the Course is 3 guineas, or 2 guineas for 1 week.

Syllabus and further particulars may be obtained from A. J. WHITING, M.D., Dean.

University of Glasgow.

LECTURESHIP IN OPHTHALMOLOGY.

The University Court of the University of Glasgow will shortly proceed to the appointment of a Lecturer in Ophthalmology in place of Dr. A. Maitland Ramsay, resigned.

Applicants must hold the post of Surgeon to an Institution in Glasgow for the treatment of diseases of the eye, and must possess the necessary clinical facilities for the instruction of students.

Further particulars as to the duties, emoluments, etc., may be had on application to the Secretary of the University Court, the University, Glasgow.

University of Glasgow,
June, 1920.

Liverpool School of Tropical MEDICINE.

The next COURSE OF INSTRUCTION will be conducted in the New Laboratories of the School, and will commence on MONDAY, 13th SEPTEMBER, 1920. The date of the D.T.M. Examination is 14th December, 1920.—Apply to the SECRETARY, School of Tropical Medicine, University of Liverpool.

Final Fellowship.

A COURSE in Clinical and Operative Surgery, Surgical Pathology and Surgical Anatomy will commence on August 16th. For further particulars apply to the Dean, Medical School Office, Guy's Hospital, London Bridge, S.E. 1.

OPERATIVE SURGERY.

London School of Clinical MEDICINE.

THE SEAMEN'S HOSPITAL, Greenwich.

A Course of Operative Surgery, specially adapted to the needs of general practitioners, will be held from June 21st to July 28th, meeting on Mondays, Tuesdays, and Wednesdays, at 2.30 p.m.

Inclusive fee for the Course, Ten Guineas.

Application to be made to the DEAN at the Seamen's Hospital, Greenwich, from whom further particulars can be obtained.

Guy's Hospital Medical SCHOOL.

PRIMARY FELLOWSHIP COURSE.

There will be a Course in Anatomy and Physiology for the November Examination. The preliminary Meeting to arrange times of classes will meet on Tuesday, July 6th at 10 a.m. in the Anatomy Lecture Theatre.

Teachers:—

ANATOMY.....Professor T. B. JOHNSTON.
PHYSIOLOGY...Professor M. S. PEMBREY and Mr. T. I. BENNETT.

For further particulars apply to the Dean, Medical School Office.

University College, Galway.

THE PROFESSORSHIP OF ANATOMY.

The Governing Body invites applications for the Professorship of Anatomy. If present conditions as to fees and salary had obtained, the average stipend of the holder of the Chair for the last three years would have been £678. During the last year the Professor received in addition to his ordinary stipend a bonus of £113. Applications must reach the Secretary on or before 31st October, 1920.

Further particulars can be obtained from the Secretary.

Royal College of Physicians OF LONDON.

The next PROFESSIONAL EXAMINATION for the MEMBERSHIP will commence on Tuesday, July 20th.

Candidates are required to give 14 days' notice in writing to the Registrar of the College, with whom all certificates and testimonials required by the By-laws are to be left at the same time.

J. A. ORMEROD, M.D.,
Pall Mall East, S.W. Registrar.

University of Manchester.

The Council is about to appoint a LECTURER in ANATOMY at a Stipend of £500 per annum. A knowledge of Histology is desirable.

Applications should be sent not later than 5th July to the Registrar, from whom further particulars may be obtained.

Society for Relief of WIDOWS and ORPHANS of MEDICAL MEN.

A QUARTERLY COURT of the Directors of the above Society will be held at 11, Chandos Street, Cavendish Square, W. 1, on Wednesday, 7th July, at 5.30 p.m., to elect members and conduct the usual business.

EDWARD J. BLACKETT, Secretary.
11, Chandos Street, W. 1, 25th June, 1920.

Stammering, Consultant is

willing to accept cases for treatment by Psychoanalysis.—Address, No. 4916, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

St. Mary's Hospital Institute OF PATHOLOGY AND RESEARCH.

Principal:
Sir ALMROTH WRIGHT, K.B.E., C.B., F.R.S.

Applications are invited from qualified medical practitioners for two RESEARCH STUDENTSHIPS. These are tenable for six months, and may be renewed for a second period of six months.

The Institute comprises the following departments:—Anatomy and Embryology, Physiology, Pathology, Chemical Pathology, Clinical Bacteriology, Systematic Bacteriology and Immunology.

The student, who will receive an honorarium at the rate of £200 per annum, may elect to carry out his researches in any one of these departments, and would be required to work under the direction of the head of the department concerned.

Preference will be given to old St. Mary's Students

For further particulars apply to the Secretary, Institute of Pathology and Research, St. Mary's Hospital, Paddington, W. 2, to whom applications must be sent not later than first post, June 30th.

Wanted.—A well-qualified ASSISTANT with view to replacing retiring partner. Non-panel practice of £4,000. Must have held house appts., be a good anæsthetist for all types of operation, and should anticipate physician status of the practice, and willing to take on X-ray and electro-therapeutic side of practice. Usual bonds. £415, BRIT. MED. JOUR. Office, 429, Strand, W.C. 2.

Wanted.—Young Graduate, Scotsman, as ASSISTANT. Private practice, town in Straits Settlements. Salary £700 a year increasing yearly. Good climate and prospects.—Address giving full particulars, No. 5223, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted by M.B., B.Ch., ex- H.S., aged 29 years, an ASSISTANTSHIP, with view to Partnership, in a Practice in or near Birmingham. Free end of July. Small capital available.—Address, No. 5537, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted immediately, an indoor ASSISTANT. Salary £360 per annum. Usual bond.—Apply, Dr. FARMER, Manor House, Ferryhill, Co. Durham.

Wanted, single indoor ASSISTANT for large Practice in Monmouthshire.—Address, with full particulars, No. 5429, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted for Cardiff, well- qualified ASSISTANT, single (outdoor), £600–£700. Must be energetic and able to cycle.—Motor bicycle available. — Address, No. 5702, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted immediately, experi- enced ASSISTANT (outdoor), panel and general practice in large town in County Durham. Salary £600 per annum. Partnership in 12 months. Ex-H.S. or H.P. preferred.—Address, with references, No. 5705, B.M.J. Office, 429, Strand, W.C. 2.

Wanted, Assistantship, after June, by married man, M.B., C.M.(Glas.), Good walker and cyclist. Small furnished house essential. — Address, No. 5700, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted.—Well-qualified ASSISTANT with view to Partnership in twelve months if mutually satisfactory, in old-established practice in Sussex near S. Coast. Salary £400 per annum with unfurnished house and rates. Address, stating full particulars, No. 5726, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted, short preliminary ASSISTANTSHIP, with view to Partnership (half-share), by M.B., B.Sc., M.R.C.S., L.R.C.P., ex-Capt. R.A.M.C., ex-H.S., free after August. Age 28. Married. Small capital.—Address, No. 5826, BRIT. MED. JOUR. Office, 429, Strand, W.C.

Wanted an Assistantship with view to PARTNERSHIP by a middle aged Edinburgh graduate. Has had over 15 years' experience. An engagement as LOCUM would be entertained in the meantime.—Address, No. 5831, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2

Wanted. — Assistant with Hospital experience for middle and working class Practice in West Riding Town. British nationality. Good anæsthetist. Partnership later if suitable. Good opportunity for keen young man. £450 p.a. and rooms. Commission on midwifery.—Address, No. 5608, B.M.J. Office, 429, Strand, W.C. 2.

Wanted Assistant, Indoor, (man or woman) for a mixed panel and private Practice. Share offered later if mutually satisfactory. Cyclist. Energetic. State age, experience, qualifications, references, photo if possible.—No. 5727, BRIT. MED. JOUR., 429, Strand, W.C. 2.

Wanted.—Assistant who has held resident hospital appointments (Public School or 'Varsity man preferred), for middle-class and panel practice in pleasant suburb of large midland town. View to partnership later if suitable.—No. 5823, BRIT. MED. JOUR. Office, 429, Strand.

Wanted.—Indoor Assistant for general Practice in Hull. Temperate, loyal. Principal lives outside city £450 per annum. Usual bond.—Address, No. 5610. BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted, young, qualified ASSISTANT to help in Sanatorium work in the N. of England. Indoor with Medical Superintendent. Time for reading and original work.—Address, No. 5698. BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted, Qualified Assistant, Outdoor, rooms, fire, light, and attendance provided, colliery and panel practice, in South Wales. Must be steady, not afraid of work, single, cyclist, well up in obstetrics and surgery, and be prepared to purchase Partnership, if suitable, in 3 months time. Salary £450 p.a. State age, qualifications, when registered, experience, and references. Address, No. 5701, B.M.J. Office, 429, Strand, W.C. 2.

Wanted for Eday, Orkney a duly qualified MEDICAL OFFICER to commence duties immediately. £10 per week, inclusive of board and lodging, or a 4 roomed unfurnished house, rent free. For further particulars apply to Clerk, Parish Council, Eday.

Wanted.–Matron experienced in Care and Feeding of Infants for Home of about 40 babies and to Lecture to Probationers. Apply giving qualifications, references and salary required to Matron, 50, Southwell Street, Bristol. Probationers also wanted.

Assistant wanted immediately for colliery district in South Wales. Must be sober, reliable, energetic, unmarried. M.B., B.S., preferred, not essential. £400 live in, £500 live out when house available. Mids., Court, &c., fees. Usual bond.—Address, No. 5710, B.M.J., 429, Strand, W.C.

Assistantship wanted with a view to Partnership later, by M.B., Ch.B., Glasgow, recently demobilised.—Address, No. 5707, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

Assistant wanted with view to Partnership if desired, indoor if single, good house provided if married. Half increase. Private and panel practice. State age, experience, and other essential particulars. Usual bond. Apply, Dr. ABCARIUS, "Overhouse," Burslem.

Assistant, outdoor, wanted in October next. Under 30 years of age, unmarried. Well qualified. Preference given to a London man who desires a permanency.—Address, stating full essential particulars, No. 5824, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Assistant, with view to Part- nership, wanted by two Medical Women in London.—Address No. 5827, BRITISH MEDICAL JOURNAL Office, 429, Strand W.C. 2.

Assistantship, with view to PARTNERSHIP required, 31, married, small capital. Qualified 6 years, 12 months' Hospital appointment.—Address, No. 5723, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

An outdoor Assistantship in South Wales mining Practice. Partnership offered to suitable man. Motor kept. Salary £450.—Address. No. 5735, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Medical.—Assistantship with view to Partnership. Northumberland. Receipts £2,500, increasing.—ROBERT FLEMING, S.S.C., 21, Hill Street, Edinburgh.

Required for Panel Practice near the City Part-time qualified ASSISTANT Three mornings and three evenings weekly. — Address, No. 5711, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Part-time Services wanted for Practice near City. Afternoons 1—6 free. Suitable for man doing Hospital or Special work. Address, No. 5725, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

M.B., Ch.B., experienced in Mental Work, desires POST in Private Asylum. Excellent testimonials. — Address No. 5734, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Medical Officer wanted by the PARISH COUNCILS OF KILDONAN AND LOTH, Sutherlandshire, to enter on his duties on 12th August, or as may be arranged. Applications with five copies of testimonials to be lodged on or before 30th June, with the Inspector of Poor of Kildonan, Helmsdale who will give all necessary information to intending applicants. There is a considerable private practice and also a large insurance practice available.

Medical Officer wanted for the PARISH OF NORTHMAVINE, to enter on duty soon as can be arranged. Net guaranteed income not less than £400 per annum. Applications with testimonials to be lodged with the Clerk of the Parish Council, Swarthoull, Northmavine, Shetland.

M.B., B.Ch., B.A.O., requires OUTDOOR ASSISTANTSHIP. Young, splendid references.—LEE & MARTIN, Ltd., Medical Agents, 71, Temple Row, Birmingham.

Medical Officer Wanted.— Resident Medical Officer wanted for the OCHILTREE DISTRICT of the Parish of Ochiltree, AYRSHIRE. Salary from the Parish Council (exclusive of Medicines and Lunacy Fees) £25 per annum. Good Panel and District Practice could be secured in addition. Applications to be lodged on or before 1st July, 1920, with references, to ROBERT HAY, Clerk to the Parish Council, Ochiltree by Cumnock, Ayrshire.

Assistant Medical Officer required for WEST AFRICA. Age about 30, preferably single. Good opportunity for acquiring experience in tropical diseases. Term of service 12 months in the Colony under agreement. Inclusive salary at the rate of £650 per annum, with additional allowance whilst acting in absence of Senior M.O. First class passage, quarters and allowance for travelling expenses provided.—Write, stating age, giving full particulars of past experience, to Box 678, SMITH'S, 21, Bush Lane, London, E.C. 4.

Ship's Surgeon.—Messrs. ELDER, DEMPSTER & Co., Limited, have a few vacancies for Surgeons in their West African Service. Pay £20 per month. Fees allowed for attendance on passengers. Length of voyage varies from six to ten weeks, according to particular route.—Apply, Medical Superintendent, Messrs. ELDER, DEMPSTER & Co., Limited, Colonial House, Liverpool.

FOR LOCUM TENENS APPLY TO
Mr. PERCIVAL TURNER
The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals.
4, ADAM STREET, STRAND, LONDON, W.C.2.
Teleg.: "Epsomian, London." 'Phone: Gerrard 399.
After 5 p.m.—'Phone: Epsom 695.

Wanted Locum (single) from July 18 for three months in pleasant colliery area. Work not heavy. Two other doctors co-operate. Suit young recently qualified man. 9 guineas and expenses.—Dr. REDWOOD, Terrace House, Rhymney.

Wanted by an experienced woman doctor, L.R.C.P. & S.Ed., &c., M.D. Brux., LOCUM TENANCY or ASSISTANTSHIP, seaside. South or West Coast preferred.—Address, No. 5825, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted by Medical Woman, WORK as LOCUM, after Sept. 1st. Preferably sea. Cyclist. Not institution.—Address No. 5715, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

LOCUMS
LEE & MARTIN, LTD.
71. TEMPLE ROW, BIRMINGHAM.
Telegrams—"Locum, Birmingham."
Telephone—1116 Central.

Locum wanted (male), for three weeks from about August 6th, at undermentioned address. No midwifery. Ten guineas per week. Would suit an ex-R.A.M.C.—Apply, Dr. P. R., 161, Barking Road, Canning Town, E. 16.

Locum Tenens wanted June 30th for about two weeks. General Practice in Midlands. Must be abstainer and cyclist. Gentleman or Lady. Indoor. Send essential particulars and copies of references.—Address, No. 5821, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

A Doctor not long disposed of his Practice desires to do long or short LOCUMS. London preferred but not essential. Disengaged June 30th. Well up in panel and private work. Good recent references.—Address "Medicus," 61, Ledbury Road, Bayswater, W.

Medical Practitioner, man or woman, required to act as LOCUM, for one calendar month from July 4th, for Medical Superintendent of small private asylum near London Twenty five guineas, all found. Return travelling expenses.—Address, No. 5703. BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Locum Tenency required by experienced Practitioner (Scotsman) third week in July for fortnight or shorter period. Preferably Wales or Midlands.—Address No. 5829, BRITISH MED. JOURNAL Office, 429, Strand, W.C. 2.

Locum Tenens.—Wanted on July 16th for two weeks in light country Practice. Preferably a motor cyclist. Send essential particulars and references, Dr. PATTERSON, Eastbury, Lambourne, Berks.

LOCUM TENENS PROVIDED.

Apply to

ARNOLD & SONS,

6, GILTSPUR STREET, LONDON, E.C.1

Telegrams: "Instruments, London." Telephone 5240 City. 3 Lines.

Doctor, well-qualified, recently demobilised, experienced in general, medical, surgical, and V.D. works, ex-H.P. and H.S., married, requires LOCUM TENENCY or ASSISTANTSHIP. Address, No. 5695, B.M.J. Office, 429, Strand, W.C.2.

Ex-Capt. R.A.M.C., ex-H.S., wishes to act as LOCUM for ten or twelve days in July. Would prefer Manchester, Liverpool or Seaside. Excellent testimonials.—Address No. 5699, BRIT. MED. JOUR. Office, 429, Strand, W.C.

Medical Woman, M.B.— Experienced, disengaged shortly, wishes to undertake one or two Holiday LOCUMS, or a short Assistantship. Hospitality for a sister desirable.—Address, No. 5712, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Final year Medical, with previous experience as H.P., H.S., and Anæsthetist, would help Hospital or Asylum. Resident, or act as DISPENSER or Surgery Attendant, July to October.—Address No. 5733, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Doctors requiring Lady Dis- PENSERS should write to Mr. J. E. WALDEN, Westminster College, 112, St. George's Rd., S.E.1 (only address), where for nearly 25 years Ladies (many of them daughters or relatives of medical men have been trained and sent as Dispensers to Doctors, Hospitals, &c. No fees to Medical Men. Daughters and other relatives of medical men now being trained here.

Secretary-Dispenser, qualified lady, desires POST with Doctor or Hospital, excellent testimonials and experience. Would accept holiday posts.—Address, No. 5708, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Lady Dispensers, qualified and experienced can be obtained from the LONDON COLLEGE OF PHARMACY FOR LADIES (conducted by Medical Men for the supplying of Hospitals and the Profession with Dispensers) Preparations for Examinations.—7, Westbourne Park Road, London, W.2.

Lady Dispenser-Book-keeper, Hall qualification, requires post, permanent or locum. 11 years' private and hospital experience. Excellent testimonials. Free July 3rd.—Address, stating terms, No. 5716, BRITIH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Lady Dispenser, Hall Cer- tificate, desires post with Doctor or Institution. Experienced. Good reference.—Address No. 5832, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Dispenser.—Lady, Hall qualification, four years' hospital experience desires POST. Temporary or permanent. Please state terms and particulars. —Address, No. 5822, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

Lady working Housekeeper required for Bedfordshire. Plain cooking and knowledge of dispensing. Family of two. Maid. State age, salary, etc.—Address, No. 5639, BRITISH MEDICAL JOURNAL Office 129, Strand, W.C. 2.

Practice in North Wales.— For Sale. 1,400 Panel, 600 Private. Thoroughly genuine.—Apply, H.H. & Co. Ltd., 2, Bridge Street, Manchester.

Wanted a country or country town PRACTICE producing not less than £1,000 p.a. Good house and garden essential. Can settle at once. Send details in confidence to "T," c/o ARNOLD & SONS, Transfer Dept., 6, Giltspur Street, London, E.C. 1. (Opposite St. Bartholomew's Hospital).

Wanted.—In Yorks., Lancs. or neighbouring counties, panel and private PRACTICE of about £1,000 p.a. in or near hospital town. Country not entertained.—Address, No. 5609, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

Wanted, lock-up Surgery in City, West-End, or within easy reach of Richmond.—Send full particulars, in confidence, to E. A., care of ARNOLD & SONS, Transfer Dept., 6, Giltspur Street, London, E.C. 1. (Opposite St. Bart's Hospital).

Wanted by M.B., middle and working class PRACTICE in London with proportion of panel. Income about £1,000.—Apply, BLUNDELL & Co., Walter House, 418/422, Strand, London, W.C. 2.

Wanted.—By M.B., B.S., a country town PRACTICE or PARTNERSHIP, preferably near the sea, in northern half of England. Advertiser recently disposed of own practice. Age 38, married, no family. A good garden is essential. Address details in confidence, No. 5709, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted Practices and Part- NERSHIPS.—Messrs. ARNOLD & SONS, Surgical Instrument Manufacturers (Est. 100 years), are in urgent need of Practices or Partnerships for several of their clients who are anxious to settle down at once.—Send full particulars in confidence, ARNOLD & SONS, Transfer Dept., 6, Giltspur Street, London, E.C. 1. (Opposite St. Bartholomew's Hospital).

Wanted.—Practice or PARTNERSHIP returning over £1,000 a year in residential district in South of England by experienced well-qualified Practitioner with ample means and ready to buy at once. — Details, in confidence, No. 4723, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C. 2.

Wanted, by Venereal Specialist, M.R.C.S., L.R.C.P., SHARE or ASSISTANTSHIP in V. D. practice or post in venereal clinic. Two and a half years' experience in venereal work. Testimonials and full particulars on application.—Address, No. 5721, BRIT. MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Wanted by M.B., D.P.H., a Country PRACTICE in the South of England. Income about £1,000.—Apply, BLUNDELL & Co., Walter House, 418/422, Strand, W.C. 2.

Wanted. — A large Panel PRACTICE in London, £4,000 available. Can negotiate at once, send details in confidence to "M," c/o ARNOLD & SONS, 6, Giltspur Street, London, E.C. 1. (Opposite St. Bartholomew's Hospital).

Wanted in London, Suburbs or within thirty miles, good general PRACTICE with panel. Receipts £1,000 a year or more. Necessary capital available.—Apply, PEACOCK & HADLEY, 19, Craven Street, Strand, W.C. 2. (No charge unless sale effected).

For Sale.—A good-class colliery PRACTICE in County of Durham. Income about £2,000. A well appointed house and garden which will also be sold. Any length of introduction.—Address, No. 5606, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

For Sale.—Country Practice near large town, Yorkshire. £850 per annum. easily worked. Panel 650. Appointments £50 per annum. Good house and garden.—Address No. 5618. BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

For Disposal, Practices or PARTNERSHIPS.—Messrs. ARNOLD & SONS, Surgical Instrument Manufacturers (Est. 100 years), have been instructed to privately dispose of a large number of really good Practices and Partnerships. Gentlemen are requested to state their requirements and amount of capital available. No charge to purchasers.—Address, ARNOLD & SONS, Transfer Dept., 6, Giltspur Street, London, E.C. 1. (Opposite St. Bartholomew's Hospital).

For Disposal.—Practice and RESIDENCE, with nice garden, Midlands, near large town. Excellent opportunity for young energetic man. No agents.—Address, No. 5696, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

For Disposal.—Country Prac- TICE. South Midlands. Easily worked, good opportunities for young man. Very good residence, with nice garden, which must be purchased. Owner retiring.—Addresss No. 5695, BRIT. MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Required, London cash and panel PRACTICE of not less than £1,000 p.a. Open to negotiate at once. Can pay £600 down and the balance by arrangement. Send particulars in confidence to "J. O." c/o ARNOLD & SONS, Transfer Dept., 6, Giltspur Street, London, E.C. 1. (Opposite St. Bartholomew's Hospital).

Dental Surgeon wishes to hear of suitable locality to start PRIVATE PRACTICE.—L. D. S., No. 5719, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

General Practice for Sale. PRACTICE (middle class) in Scottish University town, and suitable house and garden for sale. Partnership with view to succession would be entertained. Easy terms.—Address No. 5713, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2

Yorks.—A general Practice situated in an industrial district producing over £1,300 p.a. Panel list 1,160. Fees 2s. 6d. upwards. Several appointments held. Nice house situated in a central position, containing 8 rooms, small garden, etc, Rent £40 p.a. Premium £1,500. Quote Folio 1200, ARNOLD & SONS, Transfer Dept, (Opposite St. Bartholomew's Hospital.

Warwickshire. — Semi-rural in mining district. Population about 5,000. Receipts over £1,000. Panel 870. Rent of house £50, can be purchased.—For full particulars, apply No. 1852, REYNOLDS & BRANSON, Ltd., Briggate, Leeds.

Non-dispensing and non-panel PRACTICE. Income over £2,000. Short introduction. Vendor retiring. Premium £1,575. Particulars from MARSDEN & MARSDEN, Solicitors, Blackburn.

Midlands. — £2,000 a year. Old-estab. PRACTICE. Panel over 3,000. Good house available with garden. Personally investigated. — Apply, No. 6793, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C.2.

London Practitioner, whose wife is convalescent after operation, desires to EXCHANGE for one month his easily worked Practice (no night work or Midwifery, short hours) and comfortable house (away from surgery) with one in a bracing locality (East Coast, or North), where motor is kept and work not too heavy. Or would entertain other suitable propositions.—Address, No. 5724, BRITISH MEDICAL JOURNAL Office, 429, Strand.

Warwickshire.—A cash and panel PRACTICE, situated in a mining district (very pretty country). Receipts over £1,100, panel 857 at 13/-. Fees 2/6 upwards. Very few midwifery cases taken. Population 5,000. Nice large house containing 4 bedrooms, etc., large garden and garage; rent £50 p.a. Premium £1,200.—Quote Folio 1196, ARNOLD & SONS, Transfer Dept., 6, Giltspur Street, London, E.C.1. (Opposite St. Bart's Hospital.)

A small Panel Practice wanted to purchase in seaside town on East Coast.—Address, 5722, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Lancs. Town.–Partnership for Sale in good Practice. Nice house, garden, garage. Price £2,000 or would let. Receipts over £3,400. Panel 2,500. Price for Half-share, £3,000 part deferred. Scope for Surgery.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 8, King St.

Yorks.—Large West Riding Town. Receipts about £1,000. Panel 140, non-dispensing. Rent of house £41. Lease expires 1925, can be renewed. Valuable appointment about £600, transferable.—Apply, No. 1851, REYNOLDS & BRANSON, Ltd, Briggate, Leeds.

Death Vacancy.—Yorkshire. £900 a year. Old-estab. Unopposed. Held 40 years. Locum in charge. Panel 460. Choice of houses. Premium only £800.—Apply, No. 6800, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C.

Manchester.–Valuable Panel and Private PRACTICE for Sale. Pleasant surburban, residential and industrial district, established 18 years. Spacious house, and large premises and specially adapted for doctor, specially built, self contained and adapted, private entrance, garage. Panel nearly 1,000. Fees 3/6 upwards. Receipts £1,150 increasing. Great scope. Detached property also for Sale, low chief.—Address, No. 5697, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2

South Coast.—A Partner re- quired in an old established general Practice situated at a favourite seaside resort producing over £2,000 p.a. Panel 2,200, ample scope to increase. Single man preferred, under 40, premium £1,600 for 1/3 Share. — Quote folio 1258, ARNOLD & SON, Transfer Dept., 6, Giltspur Street, London, E.C. 1. (Opposite St. Bartholomew's Hospital).

Northwoods House, Winterbourne, nr. Bristol. PARTNERSHIP offered in above Private Asylum.—Application to be addressed to the Resident Licensee.

Branch Practice.—One of the most Beautiful Valleys in North Wales.—Old-established. Average receipts £550. Panel 400. House.—LEE & MARTIN, LTD., 71, Temple Row, Birmingham.

Breconshire.—Mixed General PRACTICE. Well established. Receipts £1,900. Scope. Panel 1,200.—LEE & MARTIN, LTD., 71, Temple Row, Birmingham.

Warwickshire.—Semi-Rural and Private PRACTICE. Receipts £1,113. Unlimited scope. Panel 870. Good fees. Good House. Lease.—LEE & MARTIN, LTD., 71, Temple Row, Birmingham.

Leicestershire.—Mixed General PRACTICE. Receipts £1,422. Panel 1,617. Good House. Lease. Good fees. Scope.—LEE & MARTIN, LTD., 71, Temple Row, Birmingham.

Staffordshire. — Partnership. Receipts £2,600. Panel 1,900. One Third Share for disposal. Good fees.—LEE & MARTIN, LTD., 71, Temple Row, Birmingham.

Lancashire.—Old-established PRACTICE. Receipts £3,400. Half share for sale. Panel 2500 and increasing. Reasonable offer.—LEE & MARTIN, LTD., 71, Temple Row, Birmingham.

Midlands. — Town Practice. Population over 200,000. Receipts about £1,500. Panel about 1,600. Excellent house with garden and garage, rent £90. Lease expires 1925. —Premium and full details on application to No. 1849, REYNOLDS & BRANSON, Ltd., Briggate, Leeds.

Lancs. Town.—Old-established PRACTICE. House not yet available, but good rooms can be had with use of Vendor's surgery, &c. Receipts £700, with great scope. Panel 500. Price £700.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 8, King St.

Nursing Home and Institute. South Coast. Old-estab. Net profits £1,000 a year. For further information.—Apply, No. 6799, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C.

Partner wanted by medical woman in a growing town, easy reach of London. Small panel and appts. General work, great scope for increase. Early succession possible. Address, No. 5830, BRITISH MEDICAL JOURNAL Office 429, Strand, W.C. 2.

Practice or Partnership wanted immediately by an experienced practitioner who has held several hospital appointments and served with the R.A.M.C. Income £800 to £1,000. London preferred.—Address, No. 5539, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

London.—For Sale, with Immediate Possession, MEDICAL MAN'S HOUSE, with all desirable advantages; corner house, main road, with residential and poorer district; always occupied by Professional Man; close City, West End, trams, omnibuses at door to all parts, also Tube and trains 4 minutes; very large garden, room for garage; no other medical man for considerable distance. Lease 25¾ years. Ground rent £5. Price for quick sale £1,200. May be viewed any time before five p.m.—Address BROWN, 76, Marquess Road, Canonbury, London, N.1.

Ventnor, I. W.—Sale, with possession, of a BEAUTIFULLY SITUATED PROPERTY, affording special advantages for use as a Sanitorium, Hospital, Convalescent Home, Hotel, Boarding house, School, Club, or any other purpose where large accommodation is required. Unless meantime disposed of by private contract, MARVIN'S in conjunction with FRANCIS PITTIS & SON, are instructed by the Owner to sell by auction, at the Royal Hotel, Ventnor, on Tuesday, 6th, July, 1920, at 3 p.m. punctually, the VALUABLE FREEHOLD PROPERTY known as "HYGEIA," occupying a high and most healthy position in the Bellevue Road. Consisting of a very commodious modern house, specially built for use as a nursing home, together with garage, laundry, etc., and about two acres of ground. The purchaser will have the option of taking the appropriate modern furniture at a valuation, if he so desires.

Also in separate lots, TWO LONG LEASEHOLD RESIDENCES, almost adjoining "Hygeia," known as "Castle View" and "St. Catherines," let on short tenancies at rentals amounting to £85 per annum. Ground rent £10 each house.

Particulars and conditions of sale may be obtained of the vendors solicitors, Messrs. Damant and Sons, Cowes, I. of W. or together with inspection orders, of the Auctioneers, FRANCIS PITTIS & SON, Marlborough House, Ventnor, I. W., and Messrs. MARVIN, Princes Buildings, Cowes, I. W.

Established 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.,)

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET, CAVENDISH SQUARE, W. 1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS IN HARLEY STREET AND LEADING MEDICAL POSITIONS

Telephone: 2412 Paddington.

WITH VACANT POSSESSION.

BOURNEMOUTH, WESTBOURNE.

In a central position close to the sea and centre of Bournemouth. Suitable for a Doctor or Dentist.

SALE BY AUCTION OF THE ATTRACTIVE DETACHED FREEHOLD RESIDENCE Known as "PINE COIGN" POOLE ROAD, BOURNEMOUTH, WEST.

3 Reception Rooms, 6 Bed and Dressing Rooms, Bathroom, Excellent and well arranged Offices, Greenhouse and well kept grounds.

MESSRS HANKINSON & SON will offer the above for Sale by Auction at the Central Hotel, Bournemouth, on WEDNESDAY, JUNE 30TH, 1920 at 3 p.m. precisely.

Solicitor:—G. J. PIERCY Esq., Winchester House, Fir Vale Road, Bournemouth.

Auctioneers:—Messrs HANKINSON AND SON, The Square, Bournemouth, and at 63, High Street, Camberley, Surrey.

To let, with immediate POSSESSION. "The Wilderness," Silverstone, Northamptonshire, (4 miles from Towcester, 7 miles from Brackley, 6 miles from Buckingham). Very pretty old-fashioned COUNTRY RESIDENCE containing Drawing and Dining Rooms, Kitchen, Scullery, Dairy, Cellar, 4 Bedrooms, Dressing Room, Store Room, Coach House or Garage, Stabling, Piggeries, 1 acre Orchard, Good Kitchen and Pleasure Gardens. Populous rural district, would suit a medical man.—Apply, J. PENDERED & SON, Limited, Estate Agents, Wellingborough.

Manchester.—Wanted by Genito-Urinary Surgeon (V.D.) CONSULTING ROOMS, two if possible, in St. John Street or other medical area. Hot and cold water essential. Would be glad to hear of any which may be available in future.—Add. No. 5704, B.M.J. Office, 429, Strand.

For Sale.—Complete High Frequency Outfit. Comprising 12 inch coil, mercury brake, switchboard, D'Arsonval apparatus with Oudin's Resonator. Never been used, guaranteed to be in first-class working condition. For particulars, apply, No. 5648, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

For Sale, Midwifery Bag complete, Craniotomy Set, 30 Nose and Throat Instruments, Dental Case. £20 or offers entertained.—MURRAY, M.D., 97, Browning Road, Manor Park, E.

For Sale.—High Frequency APPARATUS, including 10" Coil, Oil Condenser, Gas Interrupter, Resonator, Brush Electrode full connections, Milli Amp Meter, Shelves and Fixtures, Resistance Board, good condition.—Apply HUBERT D. CARTER, Ltd., Edison House, Abergele Road, Colwyn Bay.

Microscope.—"Leitz" MONOCULAR, 1st grade, quick, slow motion, divided draw-tube, triple nose-piece, rotating stage, rack-centreing sub-stage, 2-Iris diaphragms, plane concave reflectors. Oculars 1, 3, 4. Objectives 3, 6, 1/12 oil immersion. New.—BURRELL, 46, Lyndhurst Road, Thornton Heath.

Bacteriological Incubators.—Gas or Electric. Wanted to buy several. Say inside measurements and temperature limit.—Address, No. 5720, BRITISH MEDICAL JOURNAL Office 429, Strand, W.C. 2.

Valuable X-ray Apparatus, used by the late Dr. Codd, Wolverhampton, for sale.—Apply, LEESON, 110, Colmore Row, Birmingham.

LANDAULETTE FOR SALE.

1914 12/14 h.p. DELAHAYE LANDAULETTE, equipped acetylene and oil lights, Stepney wheel and tyre, upholstered Bedford Cord, one occasional seat, **£825.**

This Car has had very little use indeed and is in condition practically equal to new. Being of small size and very attractive appearance, low tax and economical to run from all points of view, is particularly suited for a Doctor's use.

Any trial or examination invited.

CLEVELAND CAR COMPANY, Ltd., GRANGE ROAD, DARLINGTON.

Telephone: 2720. Telegrams: "Automobile, Darlington."

To Medical Men who value real home comforts, good cooking, and attendance, Bathroom, quiet room for reading. Convenient for tubes and hospitals. Well known for many years to the Medical Profession and highly recommended.—Apply, Mrs. TAYLOR, 23, Stonor Road, Kensington, W.14,; off Avonmore Road; 2 minutes W. Kensington and Addison Road Stations.

Wanted, second-hand MICROSCOPE, 1/12th, 1/6th, and 2/3rd objective.

Apply to ADKINS, 14, Bedford Circus, Exeter.

Wanted.—Ship Surgeon's UNIFORM (P. S. N. Co.) in good order. Chest 40. Height 5 ft. 10 ins.—Address, "L. B." 2 Cranmore Villas, Cranmore Lane, Aldershot.

For Sale, new Radium APPARATUS for the preparation of Radio-Active water. £75 or offer.—Write, RADIUM, 22, Charing Cross, S.W.

I.M.S. Mess Kit for Sale. By West End tailor. Practically new. Height 5ft. 9in.; Chest 36in.—Address, No. 5835, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Govt. factory sale.—2,000 6ft. FOLDING FORMS, 5/- each. 1,000 6ft. FOLDING TABLES 17/6 each, on rail London. These are practically new and very strong, suit hotel proprietors, caterers, manufacturers, institutions, etc.—HUNTER, 38, Denman Street, London Bridge, S.E. (2 doors from station) and 159, South Lambeth Road, S.W.8.

Perry 11.9 h.p. two-seater CAR for Sale. Double dickey seat. Electric lighting set. Tyres good, trial by appointment. £500 or nearest offer.—Address, No. 5828, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Motor Insurance at Lloyds.

Write to the M.M.I. ASSOCIATION, 1, Cushon Court, E.C.2, for special Doctor's Policy. Lowest premium, fullest benefits, prompt settlements. Compensation for loss of car.

Doctor's Special Motor POLICIES AT LLOYDS.

Unique benefits, moderate premiums, immediate repairs. Full particulars sent on application.

L. ALDRIDGE & Co., Ltd., 23, Bucklersbury, E.C. 4.

Doctors' A/c Forms printed in best style—250, 15s.; 500, 20s.; 1,000, 30s. Letter heads, Post Card heads, Calling Cards, &c., at equally moderate rates. Samples sent,

R. ANDERSON & SON, Printers, 1, HILL PLACE, EDINBURGH.

Kelling Sanatorium, Holt, Norfolk.

ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Assistant Resident Medical Officer to the above Sanatorium. Salary £450, rising to £500 in six months, if suitable. The post is open to a married man as a small house is available on the Sanatorium property. Previous experience in the treatment of Pulmonary Tuberculosis will be considered an advantage.

Applications, stating age and experience, with copies of three recent testimonials, endorsed "Assistant," should be posted to reach the Secretary not later than Wednesday, July 7th, from whom also any further particulars may be obtained.

Bradford Royal Infirmary.

RESIDENT SURGICAL OFFICER with previous hospital experience wanted to supervise the work of the four House Surgeons, and be generally responsible for the surgical work of the Infirmary. Candidates must be single and legally qualified. Salary £250 with board and residence. There are 215 beds and six Resident Officers.

Applications, stating age and qualifications and previous experience with copies of recent testimonials to be received by the undersigned not later than Wednesday, 14th July. Notice will be sent to selected candidates.

J. J. BARRON, Secretary.

HONORARY ASSISTANT ANÆSTHETIST.

Central London Throat and EAR HOSPITAL, Gray's Inn Road, W.C.

There is a vacancy for Honorary Assistant Anæsthetist. Attendance two mornings a week 9 to 10 and occasionally on emergency. Applications, RICHARD KERSHAW, Secretary.

Municipality of Bloemfontein
(O.F.S.) SOUTH AFRICA.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

Applications are invited from Medical Men, not over 40 years of age possessing the Diploma of Public Health, State Medicine, or other similar degree, for the position of Medical Officer of Health to the City.

Salary £800 per annum, rising to £1,000 per annum in 3 equal annual instalments. Three years' agreement. Passage paid to Bloemfontein.

Preference will be given to gentlemen who have had previous Municipal experience, and who know both the Official Languages (English and Dutch).

The successful candidate must provide his own Motor Car, for which a transport and maintenance allowance of £150 per annum will be given.

The Officer appointed will be required to carry out the usual duties of a Medical Officer of Health, act as Doctor in charge of the Isolation Hospital, Poor People and Native Dispensary, attend to examinations and accidents to Staff, and generally to administer the work of the Council as laid down in the Public Health Acts, especially in connection with the Tuberculosis and Venereal Diseases provisions.

If the selected candidate does not know both Official Languages, he will be required to make himself conversant with same within 12 months.

Applications, accompanied by at least three recent testimonial (copies), and stating age and qualifications, to be sent to the undersigned (from whom further particulars can be readily obtained) not later than Monday, 5th July, 1920.

By Order of the Council,
DAVIS & SOPER, Ltd., Agents,
54, St. Mary Axe, London, E.C.3.
17th June, 1920.

Rhondda Urban District
COUNCIL.

ASSISTANT SCHOOL MEDICAL OFFICER AND MEDICAL OFFICER OF HEALTH.

The above Council invite applications from qualified Medical Practitioners of either sex to act as whole-time Assistant School Medical Officer and Medical Officer of Health, under the direction, supervision and control of the Council's Medical Officer, at a salary of £600, rising by annual increments of £25 to £650 a year, travelling expenses by rail or tram necessarily incurred in the performance of the duties being allowed.

The duties will at present mainly consist of the Medical Inspection of children attending the schools controlled by the Council and the preparation of periodical returns and reports bearing thereupon. The successful applicant will also be called upon to perform other duties pertaining to the Health Department of the Council to an extent and with a frequency depending upon the developement of the Councils Public Health Schemes.

The officer appointed will be subject to two calendar months notice on either side, and will be required to devote his or her whole time to the service of the Council and to reside within the Rhondda Urban District.

Canvassing by or on behalf of candidates is prohibited.

Applications, endorsed "Assistant School Medical Officer" giving age, sex, qualifications and experience, and accompanied by copies of not more than three recent testimonials, must reach the undersigned not later than Tuesday, the 6th July, 1920, on forms obtainable from the Medical Officer of Health.

The Council Offices, Pentre, Rhondda. 19th June, 1920.
WALTER NICHOLAS, Clerk to the Council.

The Secretary of State for the
COLONIES is prepared to receive applications for the post of RADIOLOGIST in the FEDERATED MALAY STATES.

Salary $7,200-$8,400 (£810-£9 0) by two annual increments of $ 00 and a further increment of $600 if confirmed. Three years agreement and six months probation in first instance. Private practice as Radiologist allowed. Must possess medical qualification registrable in United Kingdom. Candidates under 40 years of age preferred.

Further particulars and forms of application can be obtained from the Assistant Private Secretary (Appointments) Colonial Office, Downing Street, London, S.W. 1.

No testimonials should be submitted until an application form has been obtained.

City of Bradford.

ODSAL SANATORIUM.

Wanted a Male RESIDENT MEDICAL OFFICER (Single) for the above Sanatorium. Salary £350 per annum, plus war bonus, with board and residence. Forms of application, which should be returned not later than July 8th, may be obtained from the undersigned.

JOHN J. BUCHAN,
Medical Officer of Health.
Town Hall, Bradford

County Borough of
SOUTHAMPTON.

ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation invite applications for the position of Assistant Medical Officer of Health, at a salary of £600 per annum, to carry out duties in connection with the Port, including the operation of the Aliens Order, 1919, Regulations under the Public Health (Regulations as to Food) Act, 1907, and the Regulations with respect to Cholera, Yellow Fever and Plague, etc.

Preference will be given to candidates with special experience in Port Sanitary work, Infectious Fevers, and the treatment of Venereal Disease.

The appointment will be subject to the approval of the Ministry of Health.

The gentleman appointed will be required to devote the whole of his time to the duties of the office, and to act under the direction of the Medical Officer of Health.

Forms of application may be obtained from the Medical Officer of Health, Municipal Offices, Southampton.

Applications on the prescribed form, endorsed "Assistant Medical Officer of Health," and stating age, qualifications, experience, etc., together with copies of not more than three recent testimonials, must be delivered at the Town Clerk's Office, Municipal Offices, Southampton, before noon on the 10th July next.

R. R. LINTHORNE,
21st June, 1920. Town Clerk.

Gravesend Hospital.

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post which will be vacant on July 16th, 1920.

The Hospital contains 72 Beds and Cots, and has an Out-patient and Casualty Department.

Owing to the unique situation of the Hospital, at the entrance to the Port of London, many accidents and interesting cases are treated, and the post affords an excellent opportunity for Surgical experience.

Salary £200 per annum, with Board, Residence, and Laundry, will be paid to the successful applicant.

Applications, with copies of three recent testimonials, should be sent to the undersigned immediately.

C. E. CHAPMAN,
June 2nd, 1920. Secretary.

Salisbury General Infirmary.

Wanted, HOUSE SURGEON and ASSISTANT HOUSE SURGEON, male or female. Salary £200 and £150 respectively, with apartments, board, lodging, and washing. Candidates must be unmarried, fully qualified and registered.

Applications, with testimonials, to be sent to the Secretary not later than the 3rd July next, of whom the rules relative to the duties may be obtained on application.

The duties will commence on the 17th day of July, 1920. S. BUCHANAN SMITH,
Dated the 21th day of June, 1920. Secretary.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION.
(140 beds.)

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment is for six months, which may be extended for similar periods by re-election from time to time. Salary at the rate of £175 per annum, with board, residence and laundry. Candidates, who must be fully qualified, should send in their applications, stating age and nationality and accompanied by not less than three testimonials of recent date to the undersigned.

G. HURFORD, Secretary.
Gloucester, June 3rd, 1920.

Rotherham Hospital.

Wanted, JUNIOR HOUSE SURGEON, male, qualified. Salary £150 with board, lodgings and washing. Applications with copies of recent testimonials to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Hull Royal Infirmary,
Hull.

Wanted at once, ASSISTANT HOUSE SURGEON, salary £150 per annum, with board and residence.

Applications, together with copies of recent testimonials, should be addressed to
B. BROOKS, Secretary.

Dumfries & Galloway Royal
INFIRMARY.

Wanted a fully qualified RESIDENT HOUSE SURGEON. Salary £150. Apply giving full particulars with testimonials to Mr. J. SYMONS, Treasurer, 84, Irish Street, Dumfries, on or before 10th July, 1920.

City of Manchester.

THIRD ASSISTANT RESIDENT MEDICAL OFFICER to the BAGULEY SANATORIUM for TUBERCULOSIS.

The Public Health Committee require the services of a qualified Male Medical Officer with experience in the treatment of Tuberculosis.

Applicants must be registered medical practitioners, under forty years of age, unmarried, and have held house appointments in a General Hospital for a period of six months, and be conversant with bacteriological methods.

The salary will be £300, plus bonus, with board, lodgings, and laundry.

Applications, stating fully the training, qualifications, and experience, with age, and three recent testimonials, endorsed on the envelope "Medical Officer, Bagulay Sanatorium," to be addressed to the Town Clerk only, and not to members of the Committee or Council, not later than July 3rd, 1920.

The gentlemen appointed will be required to contribute to the Corporation Officers' Thrift Fund, and to execute their deed of service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

THOMAS HUDSON, Town Clerk.
Town Hall, Manchester, June 19th, 1920.

The Children's Hospital,
Birmingham.

RESIDENT MEDICAL OFFICER.

Applications are invited for the above post, which is the Senior Resident appointment.

Candidates must have held previous resident appointments at a Hospital, and be qualified and registered. Salary £150, with board, residence and laundry.

The appointment is tenable for one year and the officer eligible for re-election for a second year.

Applications, with Certificate of Registration and not more than three testimonials, should be addressed to the undersigned not later than July 8th
HAROLD F. SHRIMPTON, House Governor.

The Children's Hospital,
Birmingham.

VISITING ANÆSTHETISTS.

The Committee of Management invites applications for Two Visiting Anæsthetists—a Senior Anæsthetist, to attend three mornings a week, at an honorarium of £75 a year, and a Junior Anæsthetist, to attend two mornings a week at an honorarium of £50 a year.

The appointments will be made at a meeting of the Committee of Election, to be held in the Board Room, Steelhouse Lane, on Monday, July 12th, at 11.45 a.m.

Applications should be addressed to the undersigned, not later than July 8th.
HAROLD F. SHRIMPTON, House Governor.

The Children's Hospital,
Birmingham.

HONORARY DENTAL SURGEON.

A vacancy has occurred on the staff of this Hospital for an Honorary Dental Surgeon.

Candidates must possess a general or dental diploma of the Royal College of Surgeons of London, Edinburgh or Dublin, or a degree in Dental Surgery of a British University.

The appointment will be made at a meeting of the Committee of Election to be held in the Board Room, Steelhouse Lane, on Monday, July 12th, at 11.45 a.m.

Applications should be addressed to the undersigned not later than July 8th.
HAROLD F. SHRIMPTON, House Governor.

Wolverhampton & Staffordshire
GENERAL HOSPITAL.

A HOUSE SURGEON wanted at once. The hospital contains 210 beds, including the usual special departments, and is recognised by the various examining bodies for a part of the requisite attendance on medical and surgical practice. Candidates must be registered under the Medical Acts.

The appointment is for six months, with a salary at the rate of £200 per annum, board, furnished rooms and laundry provided.

Application, with copies of testimonials to the undersigned.

W. H. HARPER,
House Governor and Secretary.
Wolverhampton. 16th March, 1920.

Leicester Royal Infirmary.

There are Two Vacancies for HOUSE SURGEONS. Appointment for six months. Salary at the rate of £200 per annum, with board, apartments, and washing.

Applications, with copies of recent testimonials, to be made to the House Governor and Secretary at the Infirmary.

18th June, 1920.

APPOINTMENTS—Important Notice.

(a)—British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.		
ENGLAND.	**WALES**	**WALES** (*continued*).
MIDDLESBOROUGH, SOUTH BANK, & ESTON. (*Medical Aid Associations or Workmen's Clubs*).	LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (*Workmen's Medical Scheme.*)	GARW VALLEY. (*Workmen's Medical Aid Society.*)
DERBYSHIRE. (*Medical Officer to Tibshelf Colliery.*)	MARDY, GLAMORGAN. (*Workmen's Medical Scheme.*)	GILFACH GOCH, GLAMORGAN. (*Workmen's Medical Scheme.*)
NOTTINGHAMSHIRE. (*All Colliery Appointments.*)	OGMORE VALLEY. (*Workmen's Medical Scheme.*)	OAKDALE, MON. (*Medical Officer for Model Village and Cottage Hospital*).
WORCESTER. (*Amalgamated Friendly Societies' Medical Association.*)	TONYREFAIL and COED ELY, GLAMORGAN. (*Workmen's Medical Scheme.*)	**PUBLIC HEALTH.**
		DEVON COUNTY COUNCIL. (*Assistant School Medical Officer.*)
		WORCESTERSHIRE COUNTY COUNCIL. (*Assistant County Medical Officer*).

(b)—Colonial.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (*All Friendly Society Appointments.*)	Dr. R. H. TODD Hon. Sec., New South Wales Branch), B.M.A. Building, 30-34, Elizabeth Street, Sydney, N.S.W.	QUEENSLAND. (*Brisbane Associated Friendly Societies and Australian Natives Association.*)	Dr. R. MARSHALL ALLAN, (Hon. Sec., Queensland Branch), Adelaide Street, Brisbane.	VICTORIA. (*All Friendly Society Lodge Appointments.*)	Dr. J. W. DUNBAR HOOPER (Hon. Sec., Victorian Branch), 2, Collins Street, Melbourne, Victoria.
				WESTERN AUSTRALIA. (*All Appointments*).	Dr. C. H. SHEARMAN (Hon. Sec., Western Australian Branch), No. 6, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address: 429, Strand, W.C. 2.
June 22nd, 1920.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary.

The Sheffield Royal Hospital.

VACANCY FOR RESIDENT.

Applications are invited for the post of ASSISTANT CASUALTY OFFICER. Salary £150 per annum, with board, washing and residence in the Hospital. Candidates must be registered Medical Practitioners and unmarried. Applications with copies of testimonials to be addressed to me as early as possible.

JOE W. ROBINSON, Secretary.
The Board Room, 21st May, 1920.

The Royal Infirmary,

Sheffield (363 beds).

The Weekly Board of Management invite applications for the following posts:—
ONE HOUSE SURGEON.
ONE HOUSE PHYSICIAN.
The salary attached to each anpointment is £150 per annum with board and residence.
Applications together with copies of recent testimonials should be addressed to
JNO. W. BARNES, Secretary.
Board Room, May, 1920.

Victoria Hospital Burnley.

(100 Beds.)

Wanted an additional HOUSE SURGEON. Salary £250, with residence, board, and washing. Candidates, who must be fully qualified, are requested to send in their application, with copies of testimonials, as early as possible, to F. A. HARGREAVES, Hon. Sec., 7, Grimshaw Street, Burnley.
This Hospital is approved by the London University for the purpose of M.B. and M.S. Examination.

Leeds Public Dispensary.

Wanted at once, fully qualified RESIDENT MEDICAL OFFICER. Salary, £200, with board, residence and laundry. Separate sitting room, Women eligible. Applications, with copies of three recent testimonials, to be addressed to the Secretary of the Faculty, Public Dispensary, North Street, Leeds.

Royal Isle of Wight County

HOSPITAL, Ryde.

Wanted immediately, RESIDENT MEDICAL OFFICER (Male), doubly qualified and registered. Ophthalmic experience essential. Salary at the rate of £250 yearly. Apply, enclosing copies of testimonials, etc., to Secretary, before June 20th.

Rochdale Infirmary and

DISPENSARY. (110 Beds.)

Wanted a SENIOR HOUSE SURGEON. Unmarried Salary £200 per annum, with board, residence and laundry. No outside visiting.
Also a JUNIOR HOUSE SURGEON, unmarried. Salary £125 per annum, with board, residence, and laundry, No outside visiting.
Applications, with testimonials, stating age, nationality, etc., to be sent to the undersigned, endorsed "House Surgeon."

T. ELVYN KERSHAW, F.A.A.,
Infirmary Office, Secretary.
Rochdale, 24th May, 1920.

Royal Sussex County Hospital

Brighton.

JUNIOR HOUSE SURGEON (Male) required. He must hold a Medical and Surgical qualification of the United Kingdom, and be duly registered under the Medical Act.
He must be unmarried and when elected under thirty years of age. Salary £130 per annum, with Board, Residence and Laundry. Applications with proof of the above qualifications together with copies of recent testimonials, must reach the Secretary not later than 30th June, 1920.

L. W. LANCASTER-GAYE, Secretary.

Prison Medical Service.

A few vacancies exist for MEDICAL OFFICERS, Class II. Salary £300 rising by £15 per annum to £500, with quarters, or an allowance in lieu. The pay is subject to a bonus, which at present, on a salary of £300, is £228 17s. 6d. These posts are pensionable and there are prospects of promotion to higher rank.
Candidates must be fully qualified and registered and have had some asylum experience. Age 25-35 but preference will be given to those under 30. Forms of application can be obtained from the Secretary, Prison Commission, Home Office, London, S.W. 1.

West Herts Hospital,

Hemel Hempstead, Herts
(24 miles from Euston).—90 beds.

Wanted. RESIDENT MEDICAL OFFICER (only one kept). To commence duties on July 9th. Rooms, board and washing. Salary £200. Particulars to be obtained of and applications enclosing copy of recent testimonials, to be sent at once to

ROBERT BUTTERFIELD,
Clerk to the Hospital.

St. Mark's Hospital for

CANCER, FISTULA, and other DISEASES of the RECTUM, City Road, E.C.

In accordance with the laws of the Hospital, the Committee of Management will proceed to appoint an HONORARY ASSISTANT SURGEON, who must be a Fellow of the Royal College of Surgeons, England.
Applications, accompanied by copies of testimonials, should reach the Secretary at the Hospital on or before Saturday, 10th of July.

By Order of the Board,
H. W. G. COOPE, Secretary.

St. Mark's Hospital for

CANCER, FISTULA, and other DISEASES of the RECTUM, City Road, E.C.

In accordance with the laws of the Hospital, the Committee of Management will proceed to appoint an HONORARY SURGEON. The Senior Assistant Surgeon is a candidate for the post. The applicant must be a fellow of the Royal College of Surgeons, England. Applications, accompanied by copies of testimonials, should reach the Secretary at the Hospital on or before Saturday, 10th of July.

By Order of the Board,
H. W. G. COOPE, Secretary.

St. Mark's Hospital for

CANCER, FISTULA, and other DISEASES of the RECTUM, City Road, E.C.

HOUSE SURGEON wanted.—Must be doubly qualified. Salary £150 per annum, board, lodging, and washing. Applications, with copies of three recent testimonials, to be forwarded to the Secretary at the Hospital on or before Saturday, 10th of July.

King Edward VII. Hospital,

CARDIFF.

HOUSE SURGEON required. One with experience in Ear, Nose and Throat work preferred. Candidates must be registered in Medicine and Surgery under the Medical Act.
The appointment will be for six months subject to renewal.
Salary at the rate of £200 per annum, with board, residence and laundry.
Applications endorsed "House Surgeon," stating age, qualifications, etc., with copies of recent testimonials, should be sent to the undersigned, from whom particulars may be obtained.

LEONARD D. REA,
June 16th, 1920. General Superintendent.

Worcestershire County COUNCIL.

ASSISTANT COUNTY MEDICAL OFFICERS.

The above Council are about to appoint Seven Assistant County Medical Officers, and applications are now invited for these posts.

The duties will be (1) to undertake the Medical Inspection and Treatment of School Children, (2) to act as Assistant Tuberculosis Officers, (3) to supervise Maternity and Child Welfare work, and (4) to undertake the examination of Mentally Defectives under the various Acts. Applicants will be expected to have had experience in these subjects.

Candidates, either male or female, must be registered medical practitioners of suitable experience and qualifications (Diploma in Public Health desirable), and be between 25 and 45 years of age. The persons appointed will be required to reside in the districts assigned to them by the County Council, to devote the whole of their time to the work, and will be subject to the directions of the County Medical Officer.

The salary of each Medical Officer will be £500 per annum, rising to £550 by two equal annual instalments, in addition to allowances for travelling and personal expenses.

Experience in motor driving is desirable.

The engagements will be subject to three months notice on either side.

Applications (on forms to be obtained from the County Medical Officer), accompanied by not more than three recent testimonials, must be received by 12 noon on Monday, the 5th July, 1920, addressed to the County Medical Officer, 29, Foregate Street, Worcester, and endorsed "Assistant County Medical Officer."

Canvassing disqualifies, and neither the names of the members of the County Council, nor of the Committee, will be supplied.

C. H. BIRD,
Clerk of the County Council.

Shirehall, Worcester,
15th June, 1920. [G. 70]

Worcestershire County COUNCIL.

SCHOOL OCULIST.

The above named Council are about to apppoint a School Oculist, who must be specially experienced in eye diseases and their treatment, and competent to undertake the correction of errors of refraction.

The duties will be to examine, and where necessary to treat, the eyes of children in the County Schools.

Applicants, either male or female, must be registered medical practitioners of suitable experience and qualifications, and be between 25 and 45 years of age. The person appointed will be required to reside in the district assigned to him or her by the County Council, to devote the whole of his or her time to the work, and will be subject to the directions of the County Medical Officer.

The salary will be £500 per annum, rising to £550 by two equal annual instalments, in addition to allowances for travelling and personal expenses.

Experience in motor driving is desirable.

The engagement will be subject to three months notice on either side.

Applications (on forms to be obtained from the County Medical Officer), accompanied by not more than three recent testimonials, must be received by 12 noon on Monday, the 5th July, 1920, addressed to the County Medical Officer, 29, Foregate Street, Worcester, and endorsed "School Oculist."

Canvassing disqualifies, and neither the names of the members of the County Council, nor of the Committee, will be supplied.

C. H. BIRD.
Clerk of the County Council.

Shirehall, Worcester,
15th June, 1920. [G. 71.]

Fife County Council.

TUBERCULOSIS OFFICER.

Applications are invited from Medical Practitioners (men or women) for above Appointment. Salary £550 per annum, rising by biennial increments of £50 to a maximum of £650 per annum, with reasonable travelling expenses.

The duties are whole time, and are under the direction of the County Medical Officer.

Applications, stating age, qualifications and experience, with copies of not more than three testimonials, to be lodged by the 30th inst.

G. PRATT YULE,
County Medical Officer.

County Buildings, Cupar Fife,
15th June, 1920.

Gloucester County Asylums.

JUNIOR ASSISTANT MEDICAL OFFICER required. Male, Single. Salary £300 per annum, with board, apartments, and laundry. Subject to the provisions of the Asylum Officers' Superannuation Act, 1909—Apply, with copies of three recent testimonials, to the Medical Superintendent.

Worcestershire County COUNCIL.

SCHOOL DENTIST.

The above Council are about to appoint a School Dentist (who must be a registered Dental Surgeon), and invite applications for the post.

The duties will primarily consist in examining the teeth of School Children in the County, remedying dental defects, and such other dental work as may be ordered by the County Council.

The Candidate selected will be under the supervision of the County Medical Officer, and be required to devote the whole of his time to the work.

The salary will be £450 per annum, rising by two equal annual instalments to £500, in addition to allowances for travelling and personal expenses.

A motor car and dental appliances will be provided by the Council, and applicants must be able to drive a motor.

The engagement will be subject to three months notice on either side.

Applications (on forms to be obtained from the County Medical Officer), accompanied by not more than three recent testimonials, must be received by 12 noon on Monday, the 5th July, 1920, addressed to the County Medical Officer, 29, Foregate Street, Worcester, and endorsed "School Dentist."

Canvassing disqualifies, and neither the names of the members of the County Council, nor of the Committee, will be supplied.

C. H. BIRD,
Clerk of the County Council.

Shirehall, Worcester,
15th June, 1920. [G. 72.]

The General Hospital, Birmingham.

RESIDENT MEDICAL OFFICER.—Applications are invited for the post of Resident Medical Officer. Candidates must be Graduates of Medicine of a University of the United Kingdom, and registered.

Salary £155 per annum (inclusive of fees as Special Panel Doctor to the Domestic and Nursing Staffs), with residence, board, and laundry.

The appointment will be made for one year in the first instance, and subject to renewal for a further year.

Applications, with certificates of registration and copies of testimonials, should be sent, by July 24th, to the undersigned, from whom further information may be obtained.

The appointment will be made at 12 noon on Friday, July 30th, when Candidates will be expected to attend.

The selected Candidate will be required to take up duty on September 15th.

A. H. LEANEY, House Governor.

June 14th, 1920.

The General Hospital, Birmingham.

Applications are invited from qualified medical practitioners (men or women) for the post of RESIDENT ANÆSTHETIST. The appointment will be for six months in the first instance, and will be renewable.

A salary of £100 will be paid plus board, lodging and laundry.

Applications with certificates of registration and copies of recent testimonials, should be sent by July 1st, to the House Governor, from whom particulars may be obtained.

The General Hospital, Birmingham.

Applications are invited for the following Resident Appointments—

1. HOUSE SURGEON from December 15th, 1920, to April 30th, 1921.
2. HOUSE SURGEON from November 1st, 1920, to April 30th, 1921.

The holders of the above posts will be required to act as Casualty House Surgeon for three months from August 1st.

Applications are also invited for the posts of HOUSE SURGEON and HOUSE PHYSICIAN for six months from August 15th. The holders of these posts will not be required to act as Casualty House Surgeon.

Candidates, who must be fully qualified and registered, should send in their applications to the undersigned on or before July 27th, 1920, together with certificates of registration.

A. H. LEANEY, House Governor.

Great Northern Central HOSPITAL, Holloway, London, N.

Applications are invited for the post of CASUALTY OFFICER. The appointment is for six months from 15th July. Salary at the rate of £200 per annum, with board, residence and laundry.

Applications accompanied by copies of testimonials should be sent by the 28th inst. to the undersigned, from whom forms of application and particulars of the post can be obtained.

GILBERT G. PANTER,
15th June, 1920. Secretary.

East Suffolk County Education COMMITTEE.

ASSISTANT SCHOOL MEDICAL OFFICERS.

The above-named Committee are requiring one whole-time Male Assistant School Medical Officer, and one whole-time Female Assistant School Medical Officer. Applications are invited from registered medical practitioners. The duties are mainly inspection of school children and direction of Medical treatment. Salary £500 per annum with scale travelling expenses, and the appointment will be subject to three months notice on either side. Preference will be given to applicants possessing experience in refraction work.

Applications, accompanied by copies of three recent testimonials, must reach the Secretary, Education Office, County Hall, Ipswich, not later than 28th June, 1920.

Wigan Infirmary.

(Fully equipped General Hospital—160 beds.)

Wanted immediately, SENIOR HOUSE SURGEON. Salary £250 per annum, with board, apartments, and washing. Excellent opportunity for Surgical work. Doubly registered. Applications, stating age, nationality, and qualifications, with copies of testimonials, to be sent to the undersigned at once.

HEDLEY LUCAS,
Gen. Supt. and Secretary.

Wigan Infirmary.

Vacancies occur for
An HONORARY SURGEON,
An HONORARY PHYSICIAN,
An ASSISTANT HONORARY SURGEON,
An ASSISTANT HONORARY PHYSICIAN,
who must be legally registered to practice medicine and surgery, and reside preferably within 6 miles of the Infirmary.

Applications with copies of two recent testimonials, stating age, qualifications, etc. to reach the undersigned (from whom further information can be obtained) by Monday, June 28th.

HEDLEY LUCAS,
Gen. Supt. and Secretary.

By order of the Board of Management of the Wigan Infirmary.

Bristol General Hospital.

CASUALTY HOUSE SURGEON.—The Committee invites applications for this appointment. Salary at the rate of £175 per annum, with board, residence, etc., provided in the house. The appointment is for six months. Candidates must be registered under the Medical Acts, and produce testimonials of good personal character and ability, and must have had recent experience in the administration of anæsthetics.

Applications, stating age, qualifications, and experience, with copies of testimonials, should be forwarded to the undersigned immediately, from whom further particulars may be obtained.

THOMAS W. GREGG, Secretary.

City of Cardiff Education COMMITTEE.

Applications are invited from registered and duly qualified Dentists for the post of whole time DENTIST in the department of the School Medical Officer.

The duties which will commence on 1st September 1920, include the inspection and treatment of dental defects in school children. The treatment will be carried on in the Dental Clinic; the inspection in the schools at times to be arranged by the School Medical Officer. The officer appointed will be required to reside within the City of Cardiff and to abstain from private practice, and he will not be allowed to accept any other appointment.

Commencing salary £400 per annum, rising annually by £25 to £500, subject to three months notice on either side.

Applications, with copies of three recent testimonials, to be sent to the undersigned not later than the 7th July, 1920.

City Hall, Cardiff. EDWARD WALFORD,
June, 1920. Medical Officer of Health and School Medical Officer.

Middlesbrough Education COMMITTEE.

APPOINTMENT OF SCHOOL DENTIST.

The Middlesbrough Education Committee invite applications for the appointment of School Dentist.

The officer appointed must be a duly qualified and registered dentist, and will be required to act under the direction of the School Medical Officer. He will not be allowed to engage in private practice. Salary £400 per annum.

Applications, stating age, qualifications and experience, accompanied by copies of not more than three recent testimonials, should reach the undersigned as early as possible, but in no case later than Wednesday, 7th July, 1920.

Education Offices, EMMERSON BECKWITH,
Middlesbrough. Director and Secretary.
15th June, 1920.

County Borough of Barrow-IN-FURNESS.

ASSISTANT MEDICAL OFFICER OF HEALTH AND CLINICAL TUBERCULOSIS OFFICER.

Applications are invited for the above appointment, at a salary of £500 per annum, plus a present war bonus of 10 per cent. (£50).

Candidates must be fully qualified and registered Medical Practitioners, with experience in the Diagnosis and Treatment of Tuberculosis, and must devote their whole time to the duties of the office. The successful candidate will be required to assist in the general administrative work of the Department, and in the Medical Inspection of School Children, and, if required, to act as Consulting Officer to the Local Insurance Committee, and will be under the direction of the Medical Officer of Health and School Medical Officer.

Particulars of the duties may be obtained on application to the Medical Officer of Health, Town Hall, Barrow-in-Furness.

Applications, stating age, experience, and qualifications, and endorsed "Assistant Medical Officer," and accompanied by copies of not more than three recent testimonials, must be received at my office not later than Monday, 28th June.

Canvassing, either directly or indirectly, will be deemed a disqualification.

By order. L. HEWLETT, Town Clerk.
Town Hall, Barrow-in-Furness.

Manchester Royal Infirmary.

Applications are invited for the appointment of HOUSE SURGEON TO THE SPECIAL DEPARTMENTS.

Candidates must be duly qualified. The successful Candidate will be provided with board, residence and allowance for washing during his term of office, and receive a salary of £50 for the first six months of residence, and £100 for the second six months.

Applications must be sent in addressed to the Chairman of the Medical Board, at once.

By Order, FRANK G. HAZELL,
General Superintendent and Secretary.
Royal Infirmary, Manchester, 14th June, 1920.

Manchester Royal Infirmary.

Central Branch, Roby Street.

SECOND RESIDENT MEDICAL OFFICER, £100.

The Board of Management of the Manchester Royal Infirmary invite applications. The appointment is for six months. Remuneration at the rate of £100 per annum, with board and residence.

Candidates must state age, and send 12 copies of their application and testimonials to the undersigned at once.

By Order, FRANK G. HAZELL,
Gen. Supt. and Secretary.

Manchester Royal Infirmary.

The Medical Board are prepared to receive applications for the appointment of HOUSE SURGEONS.

Candidates must possess a legal qualification, and be registered.

The successful candidates will be provided with Board, Residence, and allowance for Washing, during their term of office, and receive a salary of £50 for the first six months of residence, and £100 for the second six months.

Candidates must forward certificates of having been taught the administration of anæsthetics.

Applications must be sent in, addressed to the Chairman of the Medical Board at once.

Canning Town Women's

SETTLEMENT HOSPITAL,
Balaam Street, Plaistow, E. 13.

Wanted, for the beginning of September, a qualified woman as RESIDENT MEDICAL OFFICER for Hospital and out-patients. Salary, £150 per annum.

Applications, with testimonials and previous experience to be sent not later than July 8th, to the Hon. Sec., Miss WOOD, at the above address.

Canning Town Women's

SETTLEMENT HOSPITAL,
Baalam Street, Plaistow, E. 13.

Applications are invited from qualified medical women who must be graduates in medicine for the post of HONORARY ASSISTANT PHYSICIAN to the above Hospital. Applications with testimonials to be sent not later than July 8th, to the Hon. Sec. Miss WOOD, at the above address.

County Borough of Walsall.

TEMPORARY TUBERCULOSIS OFFICER.

Wanted, Temporary Tuberculosis Officer for five weeks' holiday duty about third week of July.

Salary £10 10s. per week inclusive.

Apply, Tuberculosis Officer, 3, St. Paul's Close, Walsall.

County Borough of Rotherham

SCHOOL MEDICAL OFFICER.

The Education Authority invite applications from registered Medical Practitioners (male) for the position of School Medical Officer. Commencing salary £650 per annum.

The officer appointed will be required to devote his whole time to the School Medical Service and will act under the supervision of the Medical Officer of Health.

It is desirable that candidates should possess experience in School Hygiene, the X-ray treatment of Ringworm, and in the study of Diseases of Children.

Applications, stating age, qualifications and experience, accompanied by copies of not more than three recent testimonials, must reach the undersigned not later than Saturday, 3rd, July, 1920.

Canvassing will disqualify.

Education Offices, Rotherham. JAS. A. MAIR, Secretary for Education.

London County Council.

Applications are invited for positions as 6th and 7th ASSISTANT MEDICAL OFFICERS in the London County Mental Hospital Service. Candidates must be single men not more than 35 years of age, and must be registered to practise both in medicine and surgery in England. Candidates appointed will be pensionable under the Asylums Officers' Superannuation Act, 1909. Preference will be given to those persons who have served or offered to serve with H.M. Forces.

Salary £300 a year, rising by annual increments of £25 to £400 a year, without emoluments; also, at present, temporary additions amounting to from £228 to £273 a year. Charges made for board, lodging, &c. (at present two guineas weekly).

Full particulars and conditions of appointment on form of application (on which alone application can be made) obtainable from the Asylums Officer, London County Council, 13, Arundel Street, Strand, London, W.C. 2.

JAMES BIRD,
Clerk of the London County Council.

East Suffolk County Education COMMITTEE.

DENTAL SURGEON.

Applications are invited from registered dental practitioners for the post of whole-time Dental Officer to work under the supervision of the County Medical Officer of Health. Duties are mainly those of inspection and treatment of dental defects in school children, but the successful candidate may be required by the County Medical Officer to complete the scheme for dental treatment as relating to public health outside. Salary £500 per annum, with scale travelling expenses and the appointment will be subject to three months' notice on either side.

Applications accompanied by copies of three recent testimonials must reach the Secretary, Education Office, County Hall, Ipswich, not later than 28th June, 1920.

Borough of Dover.

APPOINTMENT OF ASSISTANT MEDICAL OFFICERS OF HEALTH.

The Corporation of Dover propose to appoint Two Assistant Medical Officers of Health and invite applications from Medical Practitioners who hold a Diploma in Sanitary Science.

The applicants appointed will be required to act principally in the following capacities:—

(*a*) Assistant School Medical Officer and Medical Officer to Maternity and Child Welfare Centre.

(*b*) Medical Inspector under the Aliens Order.

The salary in each case will be £550 per annum, increasing by annual increments of £25 to £650.

Further details of the duties, and terms and conditions of the appointments, may be obtained of the undersigned, to whom applications accompanied by copies of not more than three recent testimonials must be delivered by the 29th inst.

R. E. KNOCKER, Town Clerk.
Town Clerk's Office, Dover. 15th June, 1920.

Parish of Fulham.

THIRD ASSISTANT MEDICAL OFFICER.

The Guardians of the above-named Parish require a Third Assistant Medical Officer at their Infirmary, St. Dunstan's Road, Hammersmith, W.6. The appointment will be made subject to the approval of the Ministry of Health.

Salary at the rate of £300, increasing £25 yearly to £350 per annum, with board, furnished apartments, and washing, subject to provisions of Poor Law Officers' Superannuation Act, 1896.

Candidates should apply personally or by letter to the Medical Superintendent of the Infirmary.

E. J. NOTT, Clerk to the Guardians.
Guardians' Offices, 129, Fulham Palace Road, Hammersmith, W.6.
22nd June, 1920.

The Hospital for Sick CHILDREN,

Great Ormond Street, London, W.C. 1.

A MEDICAL REGISTRAR and PATHOLOGIST is required on the 8th July.

Candidates are invited to send in their applications addressed to the Secretary, with not more than three testimonials, written specially for the purpose, at or before 12 o'clock, Monday, 5th July, 1920.

The appointment is made for one year, but may be held subject to re-election for a period of three years, Salary £200 per annum and allowance for substitute for holiday, £12 12s.

Candidates must be registered medical practitioners, and must have held a responsible hospital appointment and be prepared to take up the duties on the 8th July.

All candidates must appear before the Joint Committees at their meeting on Wednesday, 7th July, 1920, at 5 p.m.

Forms of application, copy of the rules for, and details of the duties of the appointment will be supplied on application to the Secretary.

By order of the Committee of Management,
June, 1920 JAMES McKAY, Acting Secretary.

The Hospital for Sick CHILDREN,

Great Ormond Street, London, W.C. 1.

A CASUALTY MEDICAL OFFICER is required on the 8th July, 1920.

Candidates, must be registered Medical Practitioners, and are invited to send in their applications addressed to the Secretary, before 12 o'clock, on Monday, 5th July, 1920, accompanied by copies of not more than three testimonials given specially for the purpose.

The appointment is made for one year, but may be held subject to re-election for a period of three years. The appointment is non-resident. Salary £200 per annum with luncheon.

All candidates must appear before the Joint Committees at their meeting on Wednesday, 7th July, 1920, at 5 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary, at the Hospital.

By order of the Committee of Management,
June, 1920. JAMES McKAY, Acting Secretary.

Ancoats Hospital,

Manchester.

HOUSE PHYSICIAN required on or about 1st August next. Salary £150 per annum. Six months appointment.

Two JUNIOR HOUSE SURGEONS required on or about 1st August next. Salary £100 per annum. Six months appointment.

Candidates must be doubly qualified and registered. Applications stating age and full particulars to be forwarded to the undersigned on or before Monday, 19th July.

By order of the Board,
HERBERT J. DAFFORNE, Secretary.

City of York Education COMMITTEE.

FULL-TIME SCHOOL DENTIST.

Applications are invited for the post of School Dentist. Candidates must be duly qualified registered dentists. Salary £400, rising by increments of £25 to £500. List of duties may be obtained from the undersigned.

Canvassing directly or indirectly will disqualify candidates.

A form of application will be forwarded on receipt of a stamped, addressed foolscap envelope, and must be returned on or before the 1st July, 1920, to

J. H. MASON, Secretary.
Education Offices, Yorks.

Mildmay Mission Hospital,

Austin Street, Bethnal Green, E.

Wanted at once, JUNIOR RESIDENT MEDICAL OFFICER for Outpatient Department.

Wanted in July, SENIOR RESIDENT MEDICAL OFFICER for Inpatients. Candidates must be fully qualified and registered, and are expected to be in sympathy with the religious work of the hospital.

Salary £120 per ann., with board, residence, and laundry. Applications to the Medical Registrar.

Staffordshire General INFIRMARY, Stafford.

Wanted, a HOUSE SURGEON for the above Institution, to take up the duties on the 15th July next. Candidates must possess a Diploma from the College of Surgeons in London, Edinburgh, or Dublin, or a Degree of Surgery from one of the Universities, and a qualification in Medicine which shall entitle to register.

Applications, stating age, qualifications, and experience, accompanied by copies of three recent testimonials, must reach me by first post on Wednesday, the 30th inst.

Salary £250 per annum, with board, lodgings, &c.

A. E. COLLINS, Secretary.
Stafford, 21st May, 1920.

Urban District Council of HENDON.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

The above Council invite applications for the position of Medical Officer of Health and School Medical Officer, at a commencing salary of £750 per annum (inclusive of war bonus) rising by annual increments of £50 to £1,000 per annum.

Office accommodation and clerical staff are provided by the Council, and reasonable travelling expenses will be allowed.

A Second Medical Officer (woman) will also subsequently be appointed in consultation with the Medical Officer of Health.

Applicants must be fully qualified Medical Practitioners and possess a Diploma in Public Health, and have had experience as a Medical Officer of Health or Assistant Medical Officer of Health.

Applicants to be not under 30 or over 45 years of age. In cases however where applicants have served with H.M. Forces, and who are over the maximum age, the period of service with H.M. Forces will be allowed as a deduction from the age limit. The gentleman appointed will be required to reside within the district.

Particulars of service in H.M. Forces (if any) will be required. Forms of application and conditions of appointment may be obtained from the undersigned.

Applications endorsed "Medical Officer of Health" accompanied by copies of three testimonials to be sent in by Thursday, the 8th day of July, 1920.

Canvassing will be deemed a disqualification.

Dated this 21st day of June, 1920.

Town Hall, Hendon, N.W.4. HENRY HUMPHRIS, Clerk to the Council.

West London Hospital,

Hammersmith, W.6. (160 beds.)

Applications are invited for the post of ASSISTANT SURGEON. The present Surgical Registrar is a Candidate, but the election will be an open one.

Candidates must be Fellows of one of the Royal Colleges of Surgeons of England, Edinburgh, or Ireland. The successful candidate will be required, in addition to other duties, periodically to deliver Surgical Courses of Lectures to the Nurses and to undertake such teaching for the Post Graduate College as the Board may approve.

Applications, with copies only of testimonials, must reach me by Wednesday, July 21st. Candidates must attend the Medical Council on Friday, July 23rd, at 4.30 p.m., and prior to that date call upon and send copies of application and testimonials to each member thereof. They must not canvass Members of the Board, but nevertheless must send copies of application and testimonials to each member thereof, and be in attendance at a Meeting of the Board, who will elect on Tuesday, July 27th, at 5 p.m. H. A. MADGE, Secretary.

Royal Edinburgh Hospital

FOR SICK CHILDREN.

Wanted for this Hospital Four RESIDENT MEDICAL OFFICERS, to enter on 15th October next. Information as to duties, &c., can be obtained from the ordinary physicians and surgeon at the Hospital. Thirty copies of applications and relative testimonials to be lodged on or before 17th July, with Messrs HENRY & SCOTT, W.S., 20, St. Andrew Street, Edinburgh. No applications will be received after that date.

Tynemouth Victoria Jubilee INFIRMARY.

HOUSE SURGEON required at once. Applicants must be doubly qualified and registered. Salary £200 per annum, with board, residence and laundry.

Applications, stating essential particulars, including age, and accompanied by copies of recent testimonials to be addressed to the undersigned, from whom all particulars may be obtained.

The Hospital contains 50 beds and cots, and an outpatient department, where accident cases are received.

T. E. ROWELL, Secretary.

33, Bedford Street, North Shields.

DENTAL DEPARTMENT OF UNIVERSITY COLLEGE HOSPITAL.

National Dental Hospital,

Great Portland Street, W. 1.

Vacancy for MEDICAL SUPERINTENDENT. Hours 9 to 1. Week days. Salary £250. Applicants must hold a registrable Medical qualification as well the L.D.S. Applications, with testimonials, to be sent on or before July 14th to

M. P. COLLINGS, Clerk to the Dental Department.

The Royal Alexandra Hospital

FOR SICK CHILDREN, Brighton.—(67 beds)

A HOUSE SURGEON required. Salary at the rate of £100 a year, with board, lodging and washing. Good experience. Ample time for study. No canvassing allowed. Further particulars may be obtained of A. F. GRAVES, Secretary.

The Miller General Hospital

FOR SOUTH EAST LONDON, Greenwich Road, London, S.E. 10.

The Board of Management invite applications for the following posts:—

RESIDENT CASUALTY OFFICER, salary £150 per annum, board, lodging and laundry; applicants must previously have held the post of House Physician or House Surgeon at a General Hospital.

Particulars as to duties can be obtained on application.

HOUSE SURGEON, the appointment will be for six months with a salary at the rate of £100 per annum, board, lodging and laundry. Applications with copies of not more than three testimonials to the Secretary, on or before July 3rd, 1920.

The Miller General Hospital

FOR SOUTH EAST LONDON, Greenwich Road, S.E.10.

Applications are invited for the post of HONORARY PHYSICIAN to In-patients and Out-patients.

Applicants shall be Graduates in Medicine of a University of the United Kingdom or Members or Fellows of The Royal College of Physicians of London, Dublin or Edinburgh. The appointment is for three years, at the expiration of which term the holder will be eligible for re-election.

Applications stating age, qualifications, with copies of not more than three recent testimonials, to be sent to the undersigned on or before July 3rd, 1920. (Signed) J. H. ROBINSON, Chairman.

The Miller General Hospital

FOR SOUTH EAST LONDON, Greenwich Road, S.E.10.

ORTHOPŒDIC SURGEON required to In-patients and Out-patients. Applicants must be Fellows of the Royal College of Surgeons of England and not engaged in general practice. The appointment will be for three years at the expiration of which term the holder will be eligible for re-election.

Applications, stating age, qualifications, with copies of not more than three recent testimonials, to be sent to the undersigned, on or before July 3rd, 1920. (Signed) J. H. ROBINSON, Chairman.

Brompton Hospital

SANATORIUM, Frimley.

The Commitee of Management of the Hospital for Consumption and Diseases of the Chest, Brompton, invite applications for the post of ASSISTANT RESIDENT MEDICAL OFFICER at the Sanatorium. Salary £250 per annum, with board and residence. Candidates must be registered Practitioners, and must have held a resident hospital appointment for six months. Applications, with testimonials, must be sent in to the undersigned at the Hospital at Brompton on or before Tuesday, June 29th.

FREDERICK WOOD, Secretary.

Brompton Hospital, S.W. 3, June, 1920.

Hospital for Consumption and DISEASES of the CHEST, Brompton.

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are four vacancies). The duties include work in the Out-patients' Department as well as in the Wards. Further particulars may be obtained from the undersigned, to whom applications, with testimonials, should be addressed not later than Wednesday, July 21st.

Candidates are required to attend the Medical Committee on Wednesday, July 28th, at 4.30 o'clock. The appointment is for six months, with an honorarium of 30 guineas.

Applications received from qualified women.

June, 1920. FREDERICK WOOD, Secretary.

Hospital for Consumption

and DISEASES of the Chest, Brompton, S.W.

The Committee of Management invite applications for the post of ASSISTANT RESIDENT MEDICAL OFFICER. Candidates, who will be required also to undertake the duties of a House Physician, must be registered Practitioners, and must have held a resident Hospital appointment for six months. Salary £150 per annum, with board and residence.

Applications, with testimonials, to be sent in on or before June 29th, 1920.

FREDERICK WOOD, Secretary.

Brompton, June, 1920.

Essex County Hospital,

Colchester.

Required in July, 1920, a HOUSE PHYSICIAN (Male) experienced in Anæsthetics. Salary £200 per annum, with board, washing and residence in the Hospital. Candidates must be duly qualified and registered.

Applications, with copies of three recent testimonials, to be sent on or before Wednesday, 30th June, to ALFRED G. BUCK, Secretary.

County Borough of Croydon.

PUBLIC HEALTH DEPARTMENT.

ASSISTANT MEDICAL OFFICER OF HEALTH —MATERNITY AND CHILD WELFARE WORK.

Applications from properly qualified Medical Women are invited for the position of Assistant Medical Officer of Health for the purposes of Maternity and Child Welfare. The lady appointed will be entrusted mainly with duties (under the Medical Officer of Health) in connection with this section of Public Health work.

Salary £500 per annum, with four annual increments of £25 to a maximum of £600.

Applications, upon forms to be obtained from the Public Health Department, Town Hall, Croydon, to be sent (accompanied by copies of not more than three testimonials of recent date) to the Medical Officer of Health, Town Hall, Croydon, not later than 11 o'clock in the forenoon of Thursday, the 1st day of July, 1920.

Canvassing will be a disqualification.

JOHN M. NEWNHAM, Town Clerk.

Town Hall, Croydon, 8th June, 1920.

County Borough of Croydon.

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

Notice is hereby given that the Council are prepared to receive applications from duly qualified medical practitioners, between the ages of twenty-five and thirty-five years for the appointment of Second Assistant Medical Officer of Health and Assistant School Medical Officer.

Applicants must be medical men holding a special qualification in State Medicine or a Diploma in Public Health, and preference will be given to applicants who:—

(1) Have had some definite experience of school medical work.
(2) Have enjoyed special opportunities for the study of diseases in children.
(3) Have had experience in infectious diseases.
(4) Have held one or more resident hospital appointments.

The person appointed will be required to devote the whole of his time to the duties of the office.

The salary will be £500 per annum rising by annual increments of £25 to a maximum of £600 and will be subject to a percentage deduction in accordance with the provisions of the Superannuation Scheme adopted by the Council under the Croydon Corporation Act, 1893.

Applications must be sent to the Medical Officer of Health, Town Hall, Croydon, with copies (not originals) of not more than three testimonials of recent date, not later than 11 o'clock in the forenoon of Thursday, the 1st day of July, 1920, endorsed "Assistant Medical Officer."

Canvassing will be a disqualification.

Dated this 8th day of June, 1920.

JOHN M. NEWNHAM, Town Clerk.

The Town Hall, Croydon.

City of Leeds.

ASSISTANT MEDICAL OFFICER FOR MATERNITY AND CHILD WELFARE.

Applications are invited from qualified and registered Medical Women for the post of Assistant Medical Officer for Maternity and Child Welfare. Applicants must have had experience in a general hospital subsequent to qualifying, and also experience in the treatment of children's diseases, either in a sick children's hospital or in wards of a general hospital set apart for children. Experience in the treatment of diseases of women and the possession of the D.P.H. would be considered additional qualifications. The salary offered is £500 per annum.

Intending Candidates should apply in the first case to the Medical Officer of Health, 12, Market Buildings, Vicar Lane, Leeds, for particulars as to the duties of the appointment and for form of application.

Applications, together with copies of three recent testimonials, endorsed "Maternity and Child Welfare Officer," should be delivered to the undersigned not later than Wednesday, June 30th.

ROBERT E. FOX, Town Clerk.

Leeds, 12th June, 1920.

City of Leeds Tuberculosis SANATORIUM.

The Health Committee invite applications for the post of Resident ASSISTANT MEDICAL OFFICER of the Tuberculosis Sanatorium at Killingbeck (180 beds) from registered medical practitioners of either sex. Applicants must be unmarried, and preference will be given to those who have had experience in the diagnosis and treatment of tuberculosis.

Salary £300 per annum with board, residence, and laundry.

Applications, stating age and experience, together with copies of three recent testimonials, endorsed, "Medical Assistant, Tuberculosis," should be delivered to the undersigned not later than Wednesday, June 30th.

ROBERT E. FOX, Town Clerk.

Leeds, 12th June, 1920.

Parish of Hammersmith.

DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.

The Guardians of the poor of the above named Parish are prepared to receive applications for the appointment of Medical Officer for the No. 3 District of the Parish.

Salary £130 per annum (no war bonus) in addition to the authorised Extra Medical Fees allowed for Midwifery and other cases.

The Guardians will also be prepared to enter into a Contract with the successful candidate for the performance of Public Vaccination for the above district, with remuneration according to the minimum rates named in the Vaccination Order of the Local Government Board (now Ministry of Health). The amount paid in respect of this appointment for the year ended 31st December, 1919 was £71 12s. 0d.

District No. 3 includes that part or portion of the Parish comprised in Parochial Wards Nos. 2 and 5 and that portion of the No. 6 Ward south of the Grand Junction Canal as defined by the London County Council dated 24th July, 1900.

Candidates must be duly registered in accordance with the Medical Act of 1858 and possess Certificate of Proficiency in Vaccination and the gentleman to be appointed will be required to reside within the above District, to attend at the Dispensary, Cathnor Road each weekday and to perform the several duties prescribed in the Orders of the Local Government Board (now Ministry of Health).

Applications accompanied by copies of three testimonials of recent date, must be sent in on or before 10 a.m. on Tuesday, 6th July, 1920, upon printed forms which may be obtained by sending to me a stamped addressed foolscap envelope.

Canvassing the Guardians personally is strickly prohibited.

S. M. JONES,
Clerk to the Guardians.
206, Goldhawk Road, W. 12. 16th June, 1920.

County of Renfrew.

ASSISTANT MEDICAL OFFICER OF HEALTH AND MEDICAL SUPERINTENDENT DARNLEY INFECTIOUS DISEASES HOSPITAL.

Applications are invited from qualified Medical Practitioners for the post of Assistant Medical Officer of Health and Medical Superintendent Darnley Infectious Diseases Hospital, Nitshill, near Glasgow.

The duties as Assistant Medical Officer of Health will be mainly in connection with Maternity and Child Welfare schemes.

The salary will be £350 per annum, with board and residence at the Hospital and travelling expenses.

Particulars of duties and conditions of appointment can be obtained from the undersigned, to whom applications (with copies of three testimonials) should be sent by July 3rd, 1920.

G. G. BUCHANAN,
County Medical Officer.
County Buildings, Paisley, 17th June, 1920.

Belgrave Hospital for

CHILDREN (Incorporated),
Clapham Road, S.W. 9.

The Committee of Management invite applications for the post of HOUSE SURGEON, which will become vacant on July 31st. Applicants must be fully qualified and registered. The appointment is for six months, with board, residence and washing provided. Salary at the rate of £100 per annum.

Applications, with copies of testimonials, to be forwardrd to the undersigned, from whom further particulars may be obtained.

By order,
THOMAS CLAPHAM. Secretary.

Bolton Infirmary and

DISPENSARY (150 Beds, mostly Surgical, including Children's Wards.

Applications for the appointment of SECOND HOUSE SURGEON are invited from Ladies having a registered Medical and Surgical qualification. Salary £250 per annum, with board, residence, and attendance. The resident staff is composed of three Lady House Surgeons.

Applications, stating age, with copies of testimonials, should be forwarded to the undersigned, from whom further particulars may be obtained.

ALBERT E. BRISCOE,
Secretary.

Mansfield and District

HOSPITAL.

The Board of Management of the above Hospital (102 beds) invite applications for the post of HOUSE SURGEON, from ladies or gentlemen. Salary £250 per annum with residence, board and laundry.

Applications, accompanied by not more than three recent testimonials should be sent to the undersigned at the hospital, not later than Wednesday, the 30th instant.

A. H. LIMB, Secretary.
14th June, 1920.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited for the appointments of ASSISTANT SURGEONS (three) to the Hospital.

Candidates must be Fellows of the Royal College of Surgeons, England.

Applications, accompanied by copies of recent testimonials, should be sent to the Secretary on or before 10th July, 1920.

REGINALD R. GARRATT, Secretary.

Royal Free Hospital,

Gray's Inn Road, W.C.

Applications are invited for the post of HONORARY ANÆSTHETIST. Information in regard to the times of duty may be obtained from the Secretary, to whom applications should be addressed on or before the 10th July, 1920.

REGINALD R. GARRATT, Secretary.

Royal Free Hospital,

Gray's Inn Road, W.C.

Applications are invited from fully qualified Medical practitioners for the post of HOUSE PHYSICIAN. Salary £50 per annum with board, residence, &c. Duties to commence August 1st, 1920. Also SECOND HOUSE PHYSICIAN AND ANÆSTHETIST, £50 per annum, with board, residence for August 1st, 1920. Applications must be submitted on or before 10th July, 1920.

REGINALD R. GARRATT, Secretary.

West End, Hospital for

NERVOUS DISEASES
73, Welbeck Street, W. 1.

Applications are invited for the post of PHYSICIAN for Gynæcological Cases.

Candidates must be Fellows or Members of the Royal College of Physicians of London and Graduates in Medicine of one of the Universities of the U.K. Applications with copies of recent testimonials should be sent to the undersigned before 10th July.

D. D. KIRKALDY WILLIS, Secretary.

Croydon General Hospital.

JUNIOR HOUSE SURGEON required at once. Applicants must be duly qualified and registered. Salary £150 per annum, plus Board, Residence and Laundry. Applications, stating age, etc., accompanied by copies of recent testimonials to be sent to

GEORGE H. DAMS, Secretary.

House Surgeon wanted for

the SEAMEN'S HOSPITAL, Albert Dock, Connaught Road, E.

£100 per annum, with board, residence, and washing.—Apply SECRETARY, Seamen's Hospital, Greenwich, S.E.

House Physician wanted for

the DREADNOUGHT HOSPITAL, Greenwich.

£100 per annum, with board, residence, and washing—Apply SECRETARY, Seamen's Hospital, Greenwich, S.E.

West Riding County Council,

MIDDLETON-IN-WHARFEDALE SANATORIUM, near ILKLEY.

ASSISTANT MEDICAL OFFICER (Non-resident.)

The County Council of the West Riding of Yorkshire invite applications for the appointment of an Assistant Medical Officer (non-resident) for the Middleton-in Wharfedale Sanatorium, near Ilkley.

The salary will be £500 per annum.

Further particulars and form of application may be had from the undersigned, by whom all applications must be received not later than the 5th July, 1920.

FRANCIS ALVEY DARWIN,
County Hall, Clerk of the County Council.
Wakefield. 10th June, 1920.

The Hospital for Sick

CHILDREN, Newcastle-upon-Tyne. (74 beds.)

Applications invited for SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS. Salary £250 and £200 per annum respectively, with board, residence and laundry. Duties to commence beginning of July. Applications, stating age, and copies of testimonials, to be sent to the Secretary, Mr. Neil Brodie, Star Buildings, 26, Northumberland Street, Newcastle-upon-Tyne.

Huddersfield Royal Infirmary.

SENIOR HOUSE SURGEON wanted at above. Salary £250 per annum, with board, apartments and laundry.

Applications from fully qualified candidates to be addressed, together with copies of testimonials, to the Secretary, Mr. JOSEPH BATE, Royal Infirmary, Huddersfield.

Cossham Memorial Hospital,

Kingswood, Bristol.

Wanted at the beginning of July, RESIDENT MEDICAL OFFICER, fully qualified. Salary £200, with board, laundry, and attendance.

Apply, Secretary.

ST. LUKE'S HOSPITAL.

ESTABLISHED 1751.

PRIVATE NURSING STAFF DEPARTMENT.

TRAINED NURSES for **MENTAL** and **NERVOUS CASES** can be had immediately. Apply to LADY SUPERINTENDENT, 19, Nottingham Place, London, W.1. Telephone: Mayfair 5420.

NORTHERN BRANCH.—Apply, LADY SUPERINTENDENT, 57, Clarendon Rd., Leeds. 'Phone: Leeds 2616.

ARMY & NAVY MALE NURSES CO-OPERATION.

Patroness: HER MAJESTY, QUEEN ALEXANDRA

This Society supplies fully-trained Medical, Surgical or Mental Male Nurses, Valet-Attendants and Masseurs of unquestionable character, who have been thoroughly trained in the Naval and Military Hospitals.

Address: SECRETARY, 11A, Welbeck St., London, W
Tel: Restoring, London. T/N: 2534 Mayfair.

MALE AND FEMALE NURSES' TEMPERANCE ASSOCIATION.

Telephone, PARK 3901. *Telegrams*, "KENURSATON, NOTTING, LONDON."

Qualified Nurses, Masseurs and Masseuses for all Cases.

69, PALACE GARDENS TERRACE, (Late THE MALL), KENSINGTON, LONDON, W. 8.

Nurses Insured **against Accidents.** **Terms from £2 4s. 6d. to £3 13s. 6d.** Apply Secretary

THE LONDON TEMPERANCE NURSES CO-OPERATION

18, ADAM STREET, PORTMAN SQUARE, LONDON, W. 1.

Telephone: MAYFAIR 2302. **Telegrams: "NURSLONTEM, LONDON."**

Supplies Fully Trained Hospital Nurses, also

Mental and MALE Nurses

Nurses Insured against Accident. APPLY, SECRETARY.

MENTAL NURSES ASSOCIATION, Ltd.

(MALE and FEMALE)

54, George Street, Manchester Sq., W.1.

Telephone: MAYFAIR 2287.
Telegrams: "ISOLATION, LONDON."

Superior Mental Nurses (Male and Female) supplied at a moment's notice Day or Night for Nerve and Mental Cases.

NURSES FULLY INSURED AGAINST ACCIDENT. **Apply SECRETARY.**

TEMPERANCE LONDON: 43, NEW CAVENDISH STREET. MANCHESTER: 176, OXFORD ROAD.
GLASGOW: 28, WINDSOR TERRACE. DUBLIN: 47, MESPIL ROAD.

TELEGRAMS:
Tactear, London. Tactear, Manchester.
Surgical, Glasgow. Tactear, Dublin.

TELEPHONES:
London, 1277 Mayfair.
Manchester, 5213 Central.
Glasgow, 477 Central.
Dublin, 531 Ballsbridge.

MALE NURSES CO-OPERATION, LTD.

Superior trained Male Nurses for Medical, Surgical, Mental, Dipsomonia, Travelling and all cases. Nurses reside on the premises, and are always ready for urgent calls, Day or Night. Skilled Masseurs and good Valet Attendants supplied.
Terms from **£3 3-**
Apply, THE SECRETARY.

MALE NURSES LTD.

Telephone 5969 MAYFAIR
(TEMPERANCE) ASSOCIATION
24, NOTTINGHAM ST., W.1.
Telegrams "CENTLEST, LONDON."

FEMALE NURSES

Telephone 5969 MAYFAIR
(TEMPERANCE) ASSOCIATION
24, NOTTINGHAM ST., W.1.
Telegrams "CENTLEST, LONDON."

CERTIFICATED HOSPITAL NURSES (MALE AND FEMALE) AVAILABLE DAY AND NIGHT FOR MEDICAL, SURGICAL, MENTAL, AND ALL CASES.
TERMS £2 2/- to £3 3/- ALL NURSES ARE FULLY INSURED AGAINST ACCIDENT. M. J. QUINLAN, SECRETARY.

MALE NURSES

TEMPERANCE CO-OPERATION, LTD.
TRAINED MALE NURSES AND VALET ATTENDANTS for MENTAL, MEDICAL, TRAVELLING AND ALL CASES.

LONDON—10, THAYER ST., MANCHESTER SQ., W.1.
BIRMINGHAM—75, HAGLEY ROAD.
MANCHESTER—237, BRUNSWICK STREET (*Facing Owens College*)
EDINBURGH — 7, DORPHICHEN STREET.

	Telephones:	*Telegrams:*
London:	538 PADDINGTON	ASSUAGED, LONDON
Birmingham:	2106 MIDLAND	ASSUAGED, BIRMINGHAM
Manchester:	4699 CENTRAL	ASSUAGED, MANCHESTER
Edinburgh:	2715 CENTRAL	ASSUAGED, EDINBURGH

Terms from £2 12 6 to £3 13 6
ALL NURSES ARE FULLY INSURED AGAINST ACCIDENT.
Please address all communications. W. WALSHE, Secretary.

Tel. 2253 MAYFAIR. THE CO-OPERATION OF Telegrams: "NURSINGDOM, LONDON."

TEMPERANCE MALE AND FEMALE NURSES,

60, WEYMOUTH STREET, PORTLAND PLACE, LONDON, W.
Reliable and experienced Nurses for al cases at all hours. Special Staff for Neurasthenia and Nerve Cases.
Nurses Insured against Accident. Terms £2 2s. to £3 3s. M. SULLIVAN, *Secretary*, or Lady Superintendent.

Telephone: PADDINGTON 2437.
Telegrams: "ASSISTIAMO, LONDON."

MENTAL NURSES
Male or Female.

MEDICAL NURSES

MALE NURSES

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York Street, Baker Street, London, W.1
(Mrs.) MILLICENT HICKS, *Superintendent*
W. J. HICKS, *Secretary*.

THE MANCHESTER MEDICAL AND SCHOLASTIC ASSOCIATION, LTD.

8, KING STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c. undertaken.
ASSISTANTS & LOCUM TENENS SUPPLIED.
PRACTICES for sale. Particulars on application

London Hospital Private

NURSING STAFF.—TRAINED NURSES for Adults and Children for Medical, Surgical, Maternity, or Massage Cases can be had immediately.
Apply Matron, London Hospital, Whitechapel.
Telephone: No. 5020 Avenue.
The nurses on the private staff return to the wards between their cases after sufficient rest, so that their work and knowledge are kept thoroughly up to date.

St. John's and St. Thomas's

HOUSE.—Trained and experienced MEDICAL, SURGICAL, MATERNITY NURSES and MASSEUSES can be obtained by application, personally or by letter, to the Sister in Charge, 12, Queen's Square, W.C.1. (Tel. No. 5099 Central), or to Matron, St. Thomas's Hospital (Tel. 4191 Hop). Telegraphic address: "Private Nurses, London."

LEE & MARTIN, LTD.,

THE BIRMINGHAM MEDICAL AGENCY,
71, TEMPLE ROW, BIRMINGHAM.
TELEGRAMS: "Locum, Birmingham." TELEPHONE: 1116 Central, B'ham.

Transfers of Practices and Partnerships arranged
Accounts Investigated & Income-tax Returns prepared
"LOCUMS" AND ASSISTANTS SUPPLIED.

DR. J. FIELD HALL,

(FIELDHALL LIMITED)
MEDICAL TRANSFER AGENT,
28, Craven Street, Strand, W.C.2.
Telephone: 4667 GERRARD.
Telegrams: "FIELDHALL, WESTRAND-LONDON."

MR. J. C. NEEDES,

(P. W. Needes. F. B. Needes).
Medical Partnership and Conveyancing Agency
8, DUKE STREET, ADELPHI, W.C.2.
(Late 1, ADAM STREET, ADELPHI.)
Telegrams: "Acquirement, Westrand, London."
Telephone: Gerrard 3543.
For List of Practices for Sale, see next week's Journal.

MILDMAY NURSING INSTITUTION,

9 & 10, NEWINGTON GREEN, N.
Fully trained NURSES for Medical, Surgical, Maternity, and Fever Cases to be had immediately on application to the Superintendent.
Telegraphic Address: "NURSING, LONDON.
Telephone: No. 141 Dalston."

THE

Medical Agency,

WATERGATE HOUSE,
York Buildings, Adelphi, W.C. 2.

Managing Director: J. A. BRASIER.
Telegrams: "Tubercle, London."
Telephone: Gerrard 8954.

1. KENT. Prettiest village in county. Main line Station in place. ONE-HALF in Two Practices combined, but some miles apart. Upwards £800 p.a. Increase assured. Freehold House and most attractive grounds, 2½ acres. Premium £3,500 for whole.
2. EAST COAST. Third PARTNER required in September next for first-class increasing Practice in leading town with good Hospital. ONE-SIXTH SHARE, worth £750 p.a., to commence with.
3. MIDLANDS. In leading Manufacturing town. Clean residential district. Sound, increasing MIDDLE-CLASS and PANEL PRACTICE. Receipts 1919 £1,422, for 1920 to date about £1,000. Detached convenient house, garden. Rent £90 p.a. Premium £2,000.
4. PARTNERSHIP. Good London Suburb. In excellent old-established Non-Panel PRACTICE. Desirable residential neighbourhood. Receipts upwards £3,000 p.a. ONE-THIRD or HALF-SHARE. Convenient terms. (Sale of whole would be entertained.) Moderate expenses. Fair premium.
5. SUFFOLK. PARTNERSHIP in pleasant country town with hospital. Third partner required for ONE-FOURTH SHARE (to yield over £1,000 p.a.) in desirable prospering Practice. Senior partner retiring in few years. Fine opening. Two years purchase.
6. SOUTH COAST.—PARTNERSHIP in favourite health resort and important centre. ONE-THIRD SHARE to produce over £1,000 p.a. Further share soon. Young energetic practitioner desired. Good house. Premium £1,600 down.

ESTABLISHED OVER 40 YEARS.

Mr. PERCIVAL TURNER

4 & 5, Adam Street, Strand, W.C. 2.

Telegrams: "EPSOMIAN, LONDON." *Telephone:* GERRARD 399.
After Office Hours—EPSOM 695.

LOCUM TENENS provided—no charge to Principals.
Every description of AGENCY and ACCOUNTANCY work undertaken.

PARTNERSHIPS FOR DISPOSAL.

No. 6786. SOUTH WEST COUNTY.–£2,700 a year. Seaside Re-ort. Increasing. Half Share & early succession. Hospital.
* „ 6785. LONDON SUBURB, W.—£2,000 a year. Increasing non-panel, easily worked. 1/3 Share and 1/2 later. Income guaranteed.
* „ 6781. LONDON, W.—£2,400 a year. Panel 2,000. Third Share for Sale after short assistancy. Personally known.
* No. 6770. HOME COUNTY.—Over £3,000 a year Old-estd. Partner retiring. 1/3 or 1/2 Share for sale. Good fees. House available.
* „ 6752. LONDON, S.W. — £1,800. Old established, 1/2 Share easily worked.
„ 6687. MIDLANDS.—£2,500 a year. Business Town. Old-established. Half Share. Panel 2,000.

PRACTICES FOR DISPOSAL.

* No. 6790. RESIDENTIAL SUBURB.—£1,200 a year. Very old good class non-dispensing, non-panel. Good fees. Easily worked. Good house on lease.
„ 6789. LANCASHIRE.—£1,200 a year. Small Town. Easily worked. Panel 900. Small house. Good garden.
* „ 6777. NORTH WEST COUNTY.—£2,500 a year. Residential district. Good fees. Vendor retiring. 2,000 panel. Personally visited.
* „ 6773. EASTERN COUNTY—£1,700 a year. Old estab. family Practice. Small Town. Good Fees. Good House.
„ 6758. CORNWALL. £650 a year. Old-estd. Unopposed. Panel 250. Good house, large garden, meadow, etc.
No. 6756. NORTH WALES.—£1,000 a year. Small town, good house.
* „ 6719. LANCASHIRE.—£1,500 a year. Very old-established. Non-panel. Non-dispensing. Good fees. Good house. Hospital town.
„ 6714. NORTHUMBERLAND.—£1,600 a year. Non-dispensing. Easily worked. Coast Town. Panel 700.
„ 6690. WEST COAST.—£1,200 a year. Seaside Resort. Non-dispensing. Detached house for sale. Small panel.
„ 6595. DURHAM.—£1,900 a year. Non-panel. Old-established. Held 27 years. Busy town.

NOTE.—*Practices marked with an asterisk have been personally investigated or visited by Mr. Turner.*

Full details of any of the above and of many others for disposal not advertised will be sent free on application to Mr. PERCIVAL TURNER as above.

[ESTABLISHED 1868]

PEACOCK & HADLEY,

(Mr. A. HADLEY)

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C. 2.
Telegram : Herbaria, Westrand—London.
Telephone : Central 1112.
LOCUM TENENS and ASSISTANTS supplied.

FOR SALE.

1. NORTH ENGLAND. — Unopposed country PRACTICE, easily and economically worked. Receipts from £800 to £900 a year, scope for increase. House with garden for sale. Premium 1½ years' purchase.
2. WEST LONDON.—Good-class, non-dispensing PRACTICE held many years by the vendor. Receipts average £1,200 a year. Fees 5/- to 10/6. Good family house, pleasantly situated. For sale with practice. Price £3,000 or near offer.
3. SOUTH LONDON. — Old established private PRACTICE, held several years by vendor. Receipts from £2,500 to £3,000 a year. Good house, garden, garage, &c., on lease. Long introduction given. Suit two friends.
4. LEICS.—Town and country PRACTICE. Receipts about £1,000 a year (panel and appointments £700). Very good house, lawn, and garage. Rent £57. Premium £1,400.
5. NORTHERN TOWN.—Middle-class PRACTICE, non-panel. Held 25 years by vendor. Receipts last year, £1,950. Fees good. Commodius family residence. surgery, &c. Will be let or sold. Premium £1,500. Introduction as desired.
6. NORTH DEVON.—PARTNERSHIP. Town and Country Practice. Receipts average £2500, including public appointments and panel. Good house available. Half Share £2,250, or smaller share in proportion.
7. HANTS.—Small PRACTICE with scope for increase in large town. Receipts about £500 per annum. Panel 350. Ten-roomed house in working class district. Rent £45. Premium £500 cash.
8. EASTERN SUBURB.—NUCLEUS of a Practice with vacant possession of a nice villa residence with garden. Rent £50. Receipts about £200, mostly panel. Premium £100.

LOCUM TENENS PROVIDED.—Several reliable and capable gentlemen available for town and country Practices at short notice.

No charge to purchasers or for enquiries.

Established 1860.

MR. HERBERT NEEDES,

2299 Mayfair 199, PICCADILLY, W. 1

Mr. NEEDES has had 35 years' experience in the SALES of PRACTICES and PARTNERSHIPS.

VALUATIONS and AUDITS on behalf of PURCHASERS.

Reliable LOCUMS provided.

1. SOUTH-WEST COUNTY.—PRACTICE of £500–600 in a pleasant town of about 6,000 with Hospital. Panel over £200. Capital house and grounds at moderate rent. Suit an active Junior or one seeking easy occupation. Price only £400.
2. LONDON, S.E.—A Panel of 2,500 with scope for good private PRACTICE by any active man will be transferred by means of a Partnership introduction of 12 months or less. House in main road at £45 on lease. Premium required £1,250. Vendor an old client.
3. IN A VERY ATTRACTIVE Country within 90 miles.—A good-class unopposed PRACTICE held by the Vendor 30 years and returning about £1,400 a year with scope. Panel and appts. over £500. Very pretty residence with garage, gardens, greenhouse, &c. Price for Goodwill and Freehold £2,800 of which £500 can remain on Mortgage.
4. PARTNER required in a leading, good-class Practice within easy distance of Manchester. Receipts last year over £5,000. Fourth or Third Share at 1½ years' purchase on the net profits. Incomer must be active and capable. Can act as L.T. as preliminary.
5. FIRST-CLASS COUNTRY PRACTICE within 50 miles and returning over £1,500 a year can be acquired by means of a PARTNERSHIP with view to succession as arranged. If single, buyer can reside with vendor until a suitable house is available.
6. BUCKS.—Growing PRACTICE of £500–600 a year in charming district with only two opponents. Capital society, golf and train service. For a time buyer must occupy apartments or a furnished house, or he can purchase a residence from £1,000 upwards.
7. PLEASANT residential Suburb.—A PRACTICE of over £2,000 a year including a panel value of £700 with ready-money payments of £600 at good fees. No mids. and very little night work. Excellent compact corner residence on lease at £100. 3 to 6 months intro. Premium £2,600.

BLUNDELL & CO.,

Walter House, 418–422, Strand, W.C.2
(Entrance Bedford Street.)
Telephone: 7148 GERRARD.
Cable Address: (via Eastern) "RECALLABLE, LONDON."
LOCUMS SUPPLIED.

Cumberland. — Working-class PRACTICE in good town. Receipts £1,500. Panel 1,500. Low rent.

Gloucestershire. — Urgent, owing to illness. Old-established, unopposed PRACTICE of £800 in beautiful district. Panel 600. Appointments £130. House and garden. Rent £20. Station. Scope.

Herefordshire. — Unopposed PRACTICE of £700. Rent £35.

East London.—Practice of £3,000, including 3,500 panel. Rent £75. Premium £1,000.

Wales.—Country town in beautiful district. Receipts over £1,300. Panel 350. Appointments £120. Good house and garden. Rent £75. Welsh unnecessary.

Death Vacancy. — Old-established, non-panel PRACTICE in Midland manufacturing town. Receipts average £2,750. Plenty of scope for panel, etc. House can be rented.

Devon.–Unopposed Practice of £1,400 average in nice country district. Appointments £150. Panel 400. Good house and garden. Rent £50. School near.

Isle of Man. — Unopposed seaside PRACTICE of £500 with scope up to about £800. Good house can be bought or smaller house taken. Station. Prem. £500.

Salop. — Easy terms. — Unopposed PRACTICE of £700 in beautiful district. Panel and appts. £330. Rent £47.

Staffs. — Old-established PRACTICE of over £2,000. Panel 2,300. Good house to be let.

Northern County.—Old established PRACTICE in beautiful country town with Infirmary. Receipts over £2,000, including Panel and Appointments about £1,000. Good society and many county families in the practice.

Midlands.—Partnership with succession to sound practice in nice town. Receipts last year £2,400. Panel 2,200. Good house rent £70. Schools, etc. Chance of small hospital appointment.

Partnership.—Half-share of £2,750 in beautiful seaside place in South-West of England. Panel 1,300. Some appointments. Good house. Rent £75. Hospital with private wards and scope for surgery.

London, W. — Partnership. Quarter or larger Share of £3,600. Good fees. Hospital and scope for Surgery.

South Wales.—Good money-making PRACTICE. Receipts over £2,000. This year should be £3,000. Panel £650. Good house. Rent £120.

London, N.W.—Partnership. Share worth £1,000 in good-class Practice in residential district. Partner should be able to do a certain amount of midwifery.

West Coast.—Good class PRACTICE of £1,800 in nice residential seaside place with cottage hospital. No panel. Good house can be bought.

Lincs.—Unopposed Practice in prosperous agricultural district. Receipts £1,400. Panel £400. Good house and garden.

East Coast.—Old-established PRACTICE of about £1,400 in nice seaside place. Panel £600. Rent £45.

Midland County Town.—Old-established PRACTICE of £1,400 (now £1,700). Panel 1670. Appointment £200. Good house, rent £90. Great scope for an active man.

Lancs.—Unopposed Practice of £2,000. Appointments and panel £1,200. House available. Premium £2,000.

Electro Therapeutics.—Old-established PRACTICE in good town in the South. Receipts average £866. With scope. Good house. Rent £70. Good fees.

Purchasers stating their requirements can have Particulars of other Practices not advertised.

THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED.

(Established in 1880 by Mr. G. B. Stocker).

22, CRAVEN STREET TRAFALGAR SQUARE, W.C. 2.

Telegraphic Address; "TRIFORM, WESTRAND, LONDON." *Telephone No. 1854 (Gerrard).*

Practices and Partnerships for Disposal.

SOUTH MIDLANDS.—(1) Country PRACTICE about £2,400 including appointments worth £300 and panel 1,500 (about). Two houses. Premium 1½ years' purchase. Would suit two friends.

LONDON, S.E.—(2) PARTNERSHIP in old-established middle and working class Practice. About £2,300 per annum in outlying suburban district. Panel 1,350. Premium one-half share 1½ years' purchase.

NEW ZEALAND (NORTH ISLAND).—(3) Unopposed Country PRACTICE in centre of large and flourishing agricultural and dairying district. Receipts last year over £2,300. Specially built house. Premium £1,500.

LONDON, S.W. (within mile of Victoria).—(4) PARTNER required in well-established Practice, about £3,000, increasing. Panel 2,000. Fees 5/- to £1 1s. Share up to one-half with succession in 3 to 5 years.

LONDON, N.E.—(5) Middle-class PRACTICE about £2,500. Panel 1,20[illegible]. Semi-detached house (8 bedrooms). Garden. Premium 1½ years' purchase.

LONDON WEST (6) PARTNERSHIP in better-class practice of over £3,000 p.a. No panel, no dispensing. Preliminary assistantship. Share up to one-third at 2 years' purchase.

EASTERN COUNTIES.—(7) PARTNER required in increasing practice of well over £2,000 p.a. in first rate town. Panel nearly 2,000. One-third share (£800 p.a. guaranteed) would be sold for £1400. Unlimited scope.

MIDLANDS.—(8) Important town. Old-established middle and working-class PRACTICE of over £3,000 p.a. including public medical service, private club and panel of 1,907. Corner house (six bedrooms, &c.), rent £47. Premium £4,000.

WEST MIDLANDS.—(9) PARTNER required in old-established country practice about £2,000 p.a. (rapidly increasing). Panel 950. Premium for one-third share £1,000. Knowledge of surgery would be an advantage.

SOUTH-WEST MIDLANDS.—(10) Easy access of county town. PARTNERSHIP (with preliminary assistantship) in old-established unopposed country practice of £3,500 p.a. Panel about 1,200. Premium for one-third share, two years' purchase. Cottage hospital.

SURREY.—(11) PARTNER required in practice about £2,500 p.a. In pleasant outlying district. Panel 1,300. Corner house (6 bedrooms, &c.), rent £50. Premium one-third share, one-and-a-half years' purchase.

FASHIONABLE INLAND WATERING PLACE.—(12) Non-dispensing PRACTICE. Receipts 1919 £1,457. House contains 7 bedrooms, etc. Premium 1½ years' purchase. Excellent educational advantages.

SOUTH COAST.—(13) PARTNERSHIP in good-class non-dispensing Practice about £6,000 p.a. in seaside resort. No panel. Premium, one-fourth share 2 years' purchase. Knowledge of surgery advantageous.

NORTH OF ENGLAND.—(14) Country town near cathedral city. Well-established Practice about £600 p.a. Panel 721. Rent £38. Premium £900. Scope for increase.

SOUTH MIDLANDS.—(15) Unopposed country PRACTICE in beautiful district. Cash receipts 1919 £811. Panel 380. Good house (7 bedrooms) with very good garden and garage. Price for house and Practice £4,500.

BUCKS.—(16) Good-class PRACTICE about £400 p.a. in most attractive residential district. Small select panel.

LONDON.—(17) One of the best suburbs. PARTNER required in really good-class non-dispensing Practice of £3,570 (rapidly increasing). No panel. One-third Share at 2½ years' purchase. Preference given to one unmarried.

SOUTH OF ENGLAND.—(18) Country town. Old-established PRACTICE about £1,300. Panel 500. Visits 3/6 to 21/-. Very good house (7 bedrooms, &c.). Hospital. Premium 1½ years' purchase.

MIDDLESEX.—(19) Small PRACTICE worth about £500, in good residential district. Small panel. Visits mostly 10/6. Detached house (8 bedrooms, etc). Premium £400. Scope.

EASTERN COUNTIES.—(20) Unopposed country PRACTICE about £1,600 p.a. in centre of fruit-growing district. Panel 750 about. Modern detached house. Rent £41. Premium 1½ years' purchase.

SOUTH WEST OF ENGLAND.—(21) PARTNERSHIP in country Practice about £1,200 close to large town on coast. Convenient and pretty house. Rent £35. Premium one-half share £800.

SOUTH WALES COAST. — (22) Country PRACTICE worth about £2,000 p.a. including appointments about £300 and a panel of 560. Visits 3/6 to £2 12s. 6d. Rent £35. Premium £2,200. Ample scope.

CHESHIRE.—(23) PARTNERSHIP in mixed town Practice about £4,000 p.a. Panel nearly 4,000. One-fourth share at one years' purchase after preliminary Assistantship.

MIDLANDS.—(24) Well-established mixed PRACTICE about £1,500 in mining district near large town. Panel 875. Rent £50. Premium £1,200. Unlimited scope.

SOUTH-WEST OF ENGLAND.—(25) PARTNERSHIP in country Practice in beautiful district near the coast. Half-share (£800 p.a. guaranteed) at two years' purchase with succession ultimately.

WEST OF ENGLAND.—(26) Old-established PRACTICE over £1,500 p.a. in suburbs of large city. Panel 900. Good house. Premium £2,100. Considerable scope.

LINCS.—(27) Old-established unopposed country PRACTICE over £1,500 a year, near coast. Panel 600. Pretty house with garage and good garden. Premium £1,500.

HOME FOR MENTAL AND NEURASTHENIC PATIENTS.—(28) In delightful and healthy bracing district. Fees up to £15 15s. Average net profits past three years £1,230 p.a.

MANCHESTER.—(29) Good middle-class PRACTICE over £2,000 p.a. Select panel. Fees 5/- to 15/-. Midwifery £5 5/- upwards. Well-situated house with good garden. Premium 1 year's purchase.

KENT.—(30) Industrial town. Well-established mixed Practice about £1,600 p.a. Panel about 1,400. Double fronted corner house. Rent £40. Premium 1½ years' purchase, part by instalments.

STAFFS.—(31) Well-established PRACTICE in industrial and manufacturing district on outskirts of large town. Income about £2,500. Panel 1750. Good house with electric light, garage, etc.

EASTERN COUNTIES.—(32) PARTNER required in sound old-established Practice in good town. Large panel. House contains 8 bedrooms, &c. Premium for Share about £2,000 p.a. 2 years' purchase.

WITHIN 15 MILES OF LONDON (33) ASSISTANT required in well-established mixed town Practice, about £5,000 p.a. Share to be agreed upon after 6 months at 2 years' purchase.

EASTERN COUNTIES.—(34) Old-established PRACTICE in country town. Average receipts £1,962 per annum. Panel 1,000. Good house (6 bedrooms, etc.). Rent £65. Premium 1½ years' purchase.

SOMERSET.—(35) PARTNER required in very old-established country Practice. Receipts 1919 nearly £1,400 (increasing). Panel 1,700. One-half share after preliminary Assistantship of six months. Premium £1,100 by easy payments.

SOUTH WALES.—(36) Country town on coast. Very old-established PRACTICE over £2,000 p.a. Panel 1,100. Detached house in own grounds. Rent £80. Premium £2,000 on easy terms. Scope for surgery.

SOUTH COAST.—(37) Seaside resort. PARTNER required in good-class non-dispensing Practice. Over £3,500 per annum. No Panel. Visits up to £1 1s. A 5/16 share at 2 years' purchase. Hospital, and considerable scope for Surgery. Further share in short time.

HOME COUNTY.—(38) Residential country town. PARTNER required in good-class non-dispensing Practice. Income about £3,000. No panel. Visits up to £2 2s. Not much midwifery. Premium one-third share, 2 years' purchase.

HOME COUNTY.—(39) PARTNERSHIP in old-established increasing Practice about £2,100 in beautiful country district. Small panel. Visits 5s. to £2 2s. Premium one-third share, 1½ years' purchase.

NORTH EAST ENGLAND, COAST.—(40) Compact and easily worked PRACTICE about £1,700. Panel 650. Excellent house. Premium £2,100.

SOUTH-WEST OF ENGLAND. (41) Unopposed country PRACTICE about £700 p.a. in beautiful part. Good house and six acres ground. Premium for practice £950.

LONDON.—(42) Residential District to the West. PARTNER required in Practice about £3,600. Panel 1,600. One-fifth Share at 1½ years purchase. Hospital in place.

MIDLANDS.—(43) Old-established PRACTICE in first rate hunting district. Over £1,700. Panel 900. One opponent. Cottage Hospital. Premium £2,400.

ESSEX—SUBURBAN DISTRICT.—(44) Partnership in old-established PRACTICE. Receipts 1919 £5,360. No panel. Premium for share £700 (possibly more) two years' purchase.

SOUTH WEST COAST.—(45) Partnership in country PRACTICE about £2,100. Panel 850. Premium one-half share £1,800.

NORTH OF ENGLAND.—(46) Country PRACTICE. Receipts 1919 £1,700. Panel 800. One opponent. God house (6 bedrooms). premium 1½ year's purchase. Great scope.

NEW ZEALAND (NORTH ISLAND).—(47) Unopposed country PRACTICE in prosperous district. Income well over £1,000 p. a. Nearest opponent 40 miles. Good Hospital and Maternity Home. Premium £500.

NORTH OF ENGLAND. — (48) Country PRACTICE, £500/£600 p.a. Small panel. Rent £22. Premium £500.

LONDON, N.W.—(49) One of the best suburbs. Very old-established, good-class, non-dispensing PRACTICE about £1,000. No panel. Practically no midwifery. Excellent house. Prem. 2 years' purchase.

In addition to the above the Association has for disposal numerous other Practices and Partnerships.

ASSISTANTS AND LOCUM TENENS SUPPLIED. RESIDENT PATIENTS INTRODUCED.

SCHOOLS AND TUTORS FOR BOYS AND GIRLS IN ALL PARTS OF THE COUNTRY AND ABROAD RECOMMENDED.

Revised and amplified edition of MEDICAL PARTNERSHIPS, TRANSFERS and ASSISTANTSHIPS (Barnard & Stocker). Published by the Association, price 12/6 (by post 13/-).

All enquiries to be addressed to Mr. A. V. STOREY, General Manager.

Printed and published by the British Medical Association at their Office, 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

A Cause and a Complication

In practically every case of hemorrhoids, fissure, fistula, proctitis, prostatitis, etc., there is a history of constipation. One primary indication for treatment is to maintain free easy bowel movements without straining.

Nujol is the ideal agent for such purpose.

Nujol softens, moistens, lubricates, promotes peristalsis, absorbs toxins, protects irritated or inflamed mucus.

Nujol is non-absorbable, non-digestible, free from all impurities.

Nujol brings about and maintains regular easy bowel movement.

Nujol may be given for any length of time in any dose required.

Nujol Laboratories

STANDARD OIL CO. (NEW JERSEY)
NEW YORK - - - - - U.S.A.

Sole Distributors for the U.K.: ANGLO-AMERICAN OIL CO., LTD., Minerva House, Bevis Marks, London, E.C.

For India: Muller & Phipps (India), Ltd., Bombay, Calcutta, Madras.

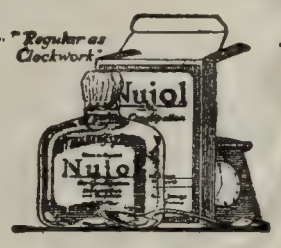
ANGLO-AMERICAN OIL CO., LTD., Minerva House, Bevis Marks, London, E.C.

Please send sample of **Nujol.** Also booklet **"Wages of Neglect"—Hemorrhoids.**

Name.....

Address.....

.....



We are exhibiting at B.M.A. Exhibition, Cambridge—STAND 32.

Alcresta Tablets of Ipecac in Amebic Dysentery
and in Endamebic Pyorrhea

The oral administration of the ipecac alkaloids is proving more advantageous than the hypodermatic injection of emetine, especially in the treatment of endamebic carriers and in the prevention of relapses.

UNCOATED AND DISINTEGRATING—CAUSE NO NAUSEA



Each tablet contains the alkaloids (emetine and cephaeline) from ten grains of Ipecac, U. S. P., held in an adsorption compound with hydrated aluminum silicate. The tablets disintegrate but this adsorption compound passes through the acid contents of the stomach and releases the alkaloids only in the alkaline intestinal secretions—thus preventing gastric disturbances.

Ten or twenty tablets, representing one hundred or two hundred grains of ipecac, may be given in a day without vomiting or nausea.

Distributed through the Drug and Dental Trades in bottles containing 40 and 500 tablets. Further information on request.

Agents for Great Britain
JOHN MORGAN RICHARDS & SONS, LIMITED
46 Holborn Viaduct, London, E. C.

Made only by
ELI LILLY & COMPANY
INDIANAPOLIS, U. S. A.

IMPORTANT ANNOUNCEMENT.

NEARLY READY. SEVENTEENTH EDITION, 1920. Vol. I. **27/-** net; postage 6d.

THE
EXTRA PHARMACOPŒIA

By MARTINDALE and WESTCOTT.

(Vol. II. will be issued later).

The LATEST
and
MOST VARIED
INFORMATION
on
CHEMISTRY,
PHARMACY, THERAPY,
and
ALLIED SCIENCES.



EXTENSIVE
ALTERATIONS
and
ADDITIONS.

THE FIRST
BOOK OF ITS KIND
SINCE
THE WAR.

The Result of Five Years Study of THE TREND OF MEDICINE.

DESCRIPTIVE LEAFLET ON APPLICATION.



Please send me *(post free)* a copy of
Volume I. of the EXTRA PHARMACOPŒIA, 17th Edition, 1920, alone, for which I enclose **27/6.**
Also Volume II. when issued, the latter to be invoiced when ready.
(Strike out if not required).

Name _____

Address _____

Date _____

This Order may be sent to any Bookseller or direct to—

H. K. LEWIS & CO. Ltd., Medical Publishers, 136, Gower Street, London, W.C. 1.
Publishing Office—28, Gower Place, W.C. 1.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 000991429